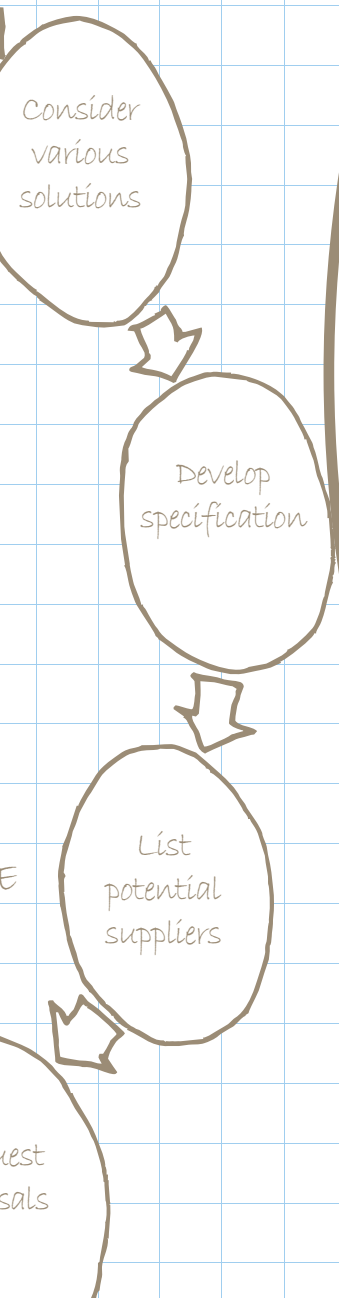
PROCUREMENT MANAGEMENT

Key Concepts and Practices



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EDITORS
Llewellyn Roberts
Robert Trent

PRODUCTION EDITORS
Sanjeev Bisnath
Pierre Esterhuyzen
Logan Pillay
Rochelle Pillay

PROJECT MANAGER
Kovashnee Gordhan

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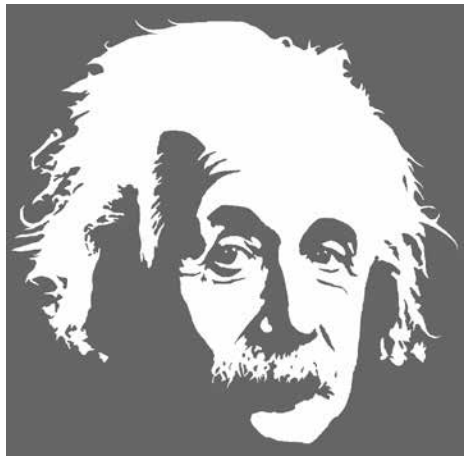

Insanity: doing the same thing over and over again but expecting different results.

Quote popularly attributed to Albert Einstein

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AUTHORS
Richard Chinomona
Yusuf Justin Holcraft
Chengedzai Mafini
Khathutshelo Makhitha
Kenneth Mathu
David Pooe
Gary Ralph
Llewellyn Roberts
Robert Trent

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2 Theunis Street, Bedford Gardens, Johannesburg
Telephone +27 (0) 11 622 4770
email: crownmag@crown.co.za

CONTENTS

FOREWORD

The Eskom Power Series is a comprehensive series of technical reference books used primarily by power utilities around the world. Based on the success of this series and the Institute of People Management's acknowledgement that there is a global trend towards professionalism, the Professional Development Series was conceived. This series is aimed at developing the various professions within South Africa so that large state owned enterprises and the private sector can grow and thus facilitate job creation in the country. Unlike the Power Series, this new series will have a much broader readership including executives, professionals, technical staff, non-technical staff, managers and academics residing in the private sector, government State Owned Companies (SOCs) and academic institutions. There was a fair amount of debate as to which should be the first book within the series. The question posed was which area could add the most benefit to businesses and the general consensus was that a book on procurement would add significant value. Most practical books currently available focus on supply chain management with little insight into the procurement challenges faced by organisations.

Boston Consulting Group (BCG), in partnership with Wharton University in USA, performed a roundtable with about 30 European Chief Procurement Officers (CPOs). This survey discussed the most challenging topics facing procurement. People training and development was identified as the key challenge for procurement. Based on this study and work done within the Eskom procurement department, this book will be a valuable resource for the training and development of procurement professionals and other staff. Being Volume 1 of the Professional Development Series, the procurement book will provide guidance to leaders, managers, professionals, staff, academics and students. It does not represent present practice within Eskom or any other organisation but rather aims to develop the international best practice for procurement that companies should adopt. Contributors have been sourced locally and internationally to give the book a good balance between international best practice and local challenges. They are academic thought leaders in procurement with extensive experience. The chapters have been written in a practical yet academically rigorous way.

Companies should move away from transactions to lifelong ongoing Supplier Relationship Management (SRM) philosophies. This concept is introduced in Chapter 5 where it is confirmed that suppliers can contribute to the competitive advantage of an organisation. This creates a win-win situation for the organisation and the supplier. Nobel Prize winner Nelson Mandela stated: "If you want to make peace with your enemy, you have to work with your enemy. Then he becomes your partner." He used this philosophy to work with the former government to develop South Africa's first democracy. Companies can learn from his approach by creating trust relationships with suppliers. Employees within companies can use it to develop trust relationships between the various departments, thus forming the basis for Employee Relationship Management (ERM), which can significantly improve delivery on procurement projects. During a mentorship programme presented in the project procurement department in Eskom it was apparent that

good communication between the technical departments and procurement is key to improving procurement projects.

During development of this book, ethics, competence, fairness and corruption were raised as major concerns in procurement. The World Federation of Engineering Organisations (WFEO) is regarded as a trusted advisor to international organisations on corruption in infrastructure projects. It has confirmed that corruption is a management issue. The BS 10500 standard was developed with procurement and other commercial control measures. A new ISO management standard is also being developed. Based on these developments, which cover the issues of ethics, fairness and corruption adequately, these subjects are not covered in this book.

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Thavanthiran (Logan) Pillay PrEng
Head (Engineering Centre of Excellence)
Eskom Academy of Learning

PREFACE

Over the past 20 years it has become clear that certain macro trends and forces are changing procurement and supply management groups. As firms rely on fewer suppliers to provide increasing amounts of value across all sorts of areas and as the compensation that suppliers receive consumes an increasing amount of corporate revenue, procurement and supply management begins to look quite important. Continuous pressure to reduce costs also ensures that the procurement group must become an important contributor at corporate level.

Welcome to the exciting world of procurement and supply management. It's a world where the traditional and often reactive function called purchasing is replaced with a forward-looking and progressive approach to sourcing called procurement and supply management. It's a world that requires shifting from a focus on transactions with a large supply base to one where procurement professionals routinely achieve the lowest total cost for goods and services with a more select group of suppliers.

A challenge when operating in this environment is having personnel with the right knowledge, skills and abilities. The quest to develop the knowledge and capabilities of the procurement professional is one of the primary motivations behind this book. As an executive leader of a global logistics company commented, 'We must not be content with executing the day-to-day tasks at hand but, more importantly, we must focus on the future and vision of our organisations, ensuring that supply management is strategically placed at the forefront.' This can only be accomplished with the right people.

The central objective of this book, which is organised into three distinct sections, is to help the reader contribute to the development of a procurement and supply organisation that provides reliable sources of supply and, eventually, competitive corporate advantage. The following discusses the three sections and their chapters.

The first section in the Procurement Book includes three chapters that provide a foundation for establishing a procurement and supply management organisation. Chapter 1, Principles of Supply Chain and Procurement Management, presents the principle components of supply chain management and procurement. It discusses the relationship between the supply chain and procurement; examines some of the supply chain and procurement principles that have been put forward; and stresses the importance of supply chain and procurement management.

Chapter 2, The Procurement Process, covers the key steps in the purchasing process and the requirements for ensuring that this process is carried out effectively. This includes a review of some important topics that relate to the procurement process, including understanding procurement objectives; key steps in the sourcing process; types of purchases; evaluating the importance of purchased items and services; managing the sourcing process; and improving the sourcing process.

Chapter 3, The Planning, Organising, Leading and Control (POLC) of Procurement, discusses the four important aspects of procurement featured in the title. These functions are strategically important for any organisation as they form the foundation of an effective procurement function which, in turn, affects the success or failure of a company. The chapter also explains key concepts related to these four functions within the context of procurement.

The second section includes two chapters that focus on how procurement and supply groups begin to elevate the contribution they make at a corporate level. Chapter 4, Procurement as a Support and Strategic Function within Companies, focuses on the contribution that procurement can make to a firm's competitive position and how this contribution should be linked to a firm's goals and objectives. The chapter also addresses the evolution of procurement strategies, including strategies that can be adopted to help ensure the achievement of corporate objectives and strategies.

Chapter 5, Supplier Relationship Management and Development and Supply Base Localisation, shows how certain areas contribute to the success of an organisation. Several critical supplier-oriented issues are presented, including supplier evaluation and selection, Supplier Relationship Management (SRM), supplier development, supply-base localisation, the Black Business Supplier Development Programme (BBSDP) and dispute resolution.

The final section in the book presents a set of essential tools and techniques that should be part of the toolkit of every procurement and supply professional. Chapter 6, Total Cost of Ownership, explores the concept of total cost of ownership, which is a philosophy for developing an understanding of all relevant supply chain related costs tied to a transaction or process. Total cost modelling, a key part of this chapter, requires a determination of all the costs related to the procurement of a given product or service to arrive an accurate accounting of true costs.

Chapter 7, Negotiation, places this topic within the context of procurement and describes it as a process by which parties attempt to resolve a conflict or reach an agreement. The chapter is a practical guide that explains how to prepare for a negotiation by itemising all potential issues that may be discussed in the negotiation.

The book concludes with Chapter 8, Purchasing Analysis Tools and Techniques. This chapter presents three techniques that procurement professionals can apply across value analysis, process improvement tools and techniques, and project management.

These chapters are not intended to be a comprehensive presentation of a particular topic. Entire books are available that address many of the subjects presented here. The challenge is to organise a large body of information in a way that works for, rather than against, the reader by presenting the more important aspects of each topic. It is about seeing how the different elements that comprise procurement and supply management come together to help create competitive advantage at the corporate level.

Robert Trent Ph.D.

PRINCIPLES OF SUPPLY CHAIN AND PROCUREMENT MANAGEMENT

Authors: Richard Chinomona and Mercy Makhitha

SYNOPSIS

Adopting supply chain management as a critical element of corporate strategy has emerged as a clear trend in the past decade. This is because organisations have begun to recognise the benefits of developing collaborative relationships with supply chain members and leveraging their core competencies to compete as part of a larger supply chain. In addition, supply chain practitioners can build a sustainable competitive edge if they completely understand their customers' needs. By understanding what customers want, where and when they want it, how they receive it and what they are willing to pay for the products and services, companies are able to effectively procure the necessary resources to meet the customers' needs or expectations.

This chapter presents the principle drivers of supply chain management and procurement. It begins with a discussion of the relationship between the supply chain and procurement, and then goes on to examine some of the supply chain principles that academics have put forward. This is followed by a discussion of procurement principles. The chapter concludes with a section on the importance of the management of supply chain and procurement. By the end of this chapter, it should be clear how procurement and supply chain principles support supply chain management in practice.

1.1 INTRODUCTION

The concept of supply chain management has received increasing attention from academics, consultants and business managers [1]. Businesses can no longer ignore the importance of supply chain management for building a sustainable competitive edge and improved business performance [2, 3].

A supply chain encompasses the various participants who perform a sequence of activities by moving physical goods or services from a point of origin to a point of consumption [4, 5]. The goal is to maximise customer value and achieve a sustainable competitive advantage [6]. It encompasses the planning and management of all activities involved in product development, sourcing, procurement, production and all logistics management activities, as well as the information systems needed to co-ordinate these activities [7]. Supply chain management also includes co-ordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers and customers [8].

The concept of supply chain management is based on two core ideas. The first is that practically every product that reaches an end user represents the cumulative effort of multiple organisations. These organisations are referred to collectively as the supply chain. Put simply, a supply chain involves participants from the supply point of origin (upstream) to the ultimate consumer (downstream). These are the source suppliers, manufacturers, distributors, retailers and customers.

The second idea is premised on the notion that supply chain management integrates supply and demand management within and across companies. Unfortunately, many organisations pay attention only to what is happening within their firms and therefore fail to understand the importance of the entire chain of activities that ultimately delivers products to the final customer. Consequently, this has led to disjointed and often ineffective supply chains.

As noted, the main purpose of this chapter is to discuss the principles of supply chain management and procurement. However, procurement will be discussed from the perspective of integrated supply chain management. Procurement plays a critical role in the implementation and management process of supply chains. New developments in managing supply chains are forcing procurement departments to implement new practices and adopt new ways of handling the interface between buyers and suppliers and to integrate internal and external production and product development activities. For the individual procurement officer, this can often be a difficult process of unlearning old practices and adapting to new realities.

1.2 THE RELATIONSHIP BETWEEN SUPPLY CHAIN MANAGEMENT AND PROCUREMENT

Supply chain management can also be described as the integrated management and control of the flow of information, materials and services from the suppliers of the raw materials, through the factories, warehouses and retailers, and finally to the end customers [9]. It includes systems management, manufacturing and assembly, sourcing and procurement, production scheduling, order processing, inventory management, warehousing and customer services [10]. Procurement is only one aspect of supply chain management and involves ensuring that goods or services get to the customer at the right time, price, quality, quantity and place [9].

Procurement is thus defined as a process that involves the acquisition of property, plant and/or equipment, goods, works or services through the purchase, hire, lease, rental or exchange from any source other than the buying organisation [11]. It encompasses the purchasing function, stores, traffic and transportation, incoming inspection and quality control and assurance, supply market research, supplier management and improvement and negotiation and contracting. It is referred to as performing the five rights: getting the right product quality, in the right quantity, at the right time, for the right price, from the right supplier [12, 13]. Figure 1.1 illustrates the relationship between supply chain and procurement.

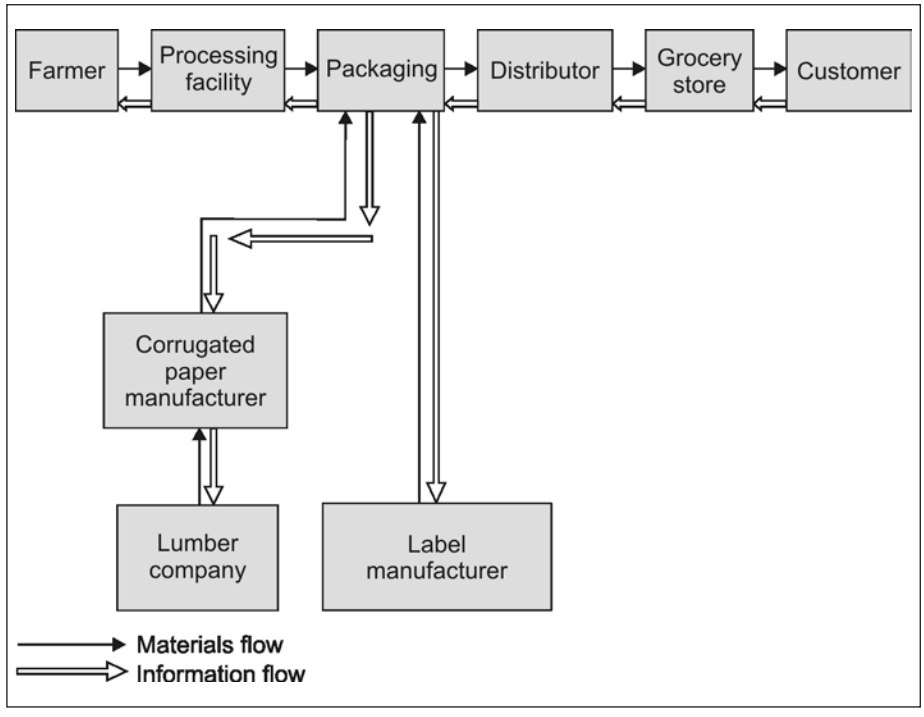


Figure 1.1: An example of supply chain management and procurement.

Figure 1.1 shows how a company that manufactures breakfast cereal purchases grain from the farmer and processes it to make the cereal. Apart from the cereal, it also purchases paperboard from a paper manufacturer and labels from a label manufacturer. The paper manufacturer, in turn, purchases trees to make paper, while the label manufacturer purchases semi-finished stock to make labels. After making the cereal and packaging it, the cereal manufacturer sends the cereal to the distributor. The distributor then ships the product to the grocery store, which then sells it to the end customer.

As materials or products move from one source to another, information flows between members. But it is worth remembering that members are only willing to share information where there is trust. This is important because information flow is necessary to ensure that the right product is delivered to the right place, at the right time and at the right price.

Figure 1.1 is a simple illustration of supply chain. Supply chains can become more complex in organisations with multiple products, technologies and processes. In some organisations, such as automobile manufacturers, the supplier networks include thousands of supplier organisations providing items ranging from raw materials, such as steel and plastics, to complex assemblies and sub-assemblies, such as transmissions, brakes and engines [13]. For the purposes of this chapter, procurement, purchasing and buying are used interchangeably.

1.3 SUPPLY CHAIN PRINCIPLES

A competitive advantage will exist only if there are certain key attributes in a supply chain. The guiding principles presented below are drawn from various theoretical and empirical studies.

1.3.1 IDENTIFY AND SATISFY CUSTOMER NEEDS

Supply chains are expected to lower operating costs and deliver value-added products and services to meet the needs of the ultimate customers. As mentioned above, a fundamental aspect of supply chain management is to ensure that the ultimate customers receive the right products and services at the right place, time and price. Therefore, supply chain partners cannot operate their businesses effectively if the information on the ultimate customers' needs is missing. In order to get the information on customer needs, it is necessary to apply classical market research techniques, construct an information infrastructure to capture customer transaction data, and store and analyse this data from an operational perspective. In essence, identification and satisfaction of customer needs should be the premise for constructing an efficient and effective supply chain.

1.3.2 ADOPT A LEAN PHILOSOPHY

In supply chain management, a 'lean' philosophy is generally described as a systematic approach to identifying and eliminating waste through continuous improvement of a product at the pull of the customer in pursuit of perfection [14]. Lean production therefore encompasses a wide variety of management practices, such as the just-in-time inventory management system, efficient quality systems, integrated work teams, an effective supplier management approach, and so forth [15]. Lean practices create synergies that lead to a streamlined and high-quality system that produces finished products at the pace of customer demand, with little or no waste [14].

Companies that have adopted a lean approach have reduced internal lead times; created processes that are more predictable and repeatable; reduced work-in-process inventories; applied just-in-time delivery strategies; and worked to reduce setup times dramatically. Furthermore, lean practices substantially reduce indirect costs and improve the use of physical space, in addition to creating cross-trained, empowered and more highly motivated workers. However, for maximum supply chain efficiency, all partners are expected to engineer, align, and execute their processes in line with lean practices. In a nutshell, lean practices should be extended to all supply chain operations so that the supply chain can respond quickly to market demand fluctuations, reduce wastages and maximise its profitability.

1.3.3 CREATE A SUPPLY CHAIN INFORMATION INFRASTRUCTURE

Supply chains require an information infrastructure that supports electronic brokerage and contracting, meeting and collaboration, product advertising,

payments and banking, business transaction processing, and on-line information services. An information infrastructure also fosters electronic access to external environment data on market opportunities, external firms, customers, market research, global finance and economics. In addition, an information infrastructure supports the exchange of operational data relating to design, marketing, finance, manufacturing, distribution and legal issues. Furthermore, an information infrastructure supports the collaboration of supply chain partners in areas such as the timeous sharing of demand information, inventory statuses, daily capacity usage requirements, evolving marketing plans, product and process design changes and logistics requirements.

1.3.4 INTEGRATE BUSINESS PROCESSES

An information infrastructure allows business processes and systems to be integrated, making collaboration between supply chain partners easier. The integration of business processes is the most vital aspect and the pivot on which the success of the whole supply chain operation rests. It requires real-time information sharing and planning among the partners across the supply chain. Business processes must therefore be established both intra- and inter-organisationally to support the supply chain's strategic objectives.

These processes, coupled with the information infrastructure, support the efficient flow of material along the supply chain. Great emphasis has been placed on understanding business processes within organisations, but it is also essential to understand what processes must be built inter-organisationally to leverage and enhance partners' capabilities. These inter-organisational processes must be designed to take advantage of the information that drives daily supply chain decisions.

1.3.5 UNITE DECISION SUPPORT SYSTEMS

An information infrastructure and access to the Internet drive software development and underpin process support, electronic data interchange, decision support, database support, etc. Software specialists have designed and built Decision Support System (DSS) environments that optimise supply chains [15]. They therefore have a substantial impact on operating behaviour and, consequently, on overall supply chain performance. How much they enhance this performance depends on the accuracy of the data that is put into the system and the modelling approaches employed.

1.3.6 DEVELOP STRATEGIC ALLIANCES AND MANAGE RELATIONSHIPS

Over the past two decades, strategic alliances and relationship management have become increasingly important ways of improving a firm's competitiveness within the supply chain environment. For instance, forming strategic alliances with suppliers and customers allows manufacturers to focus on the core activities of providing quality products and services [16]. Besides, closer buyer-supplier relationships offer numerous technical, financial and strategic advantages [17].

A strategic alliance has been defined as a purposive relationship between two or more independent firms that involves the exchange, sharing, or co-development of resources or capabilities to achieve mutually relevant benefits [3]. However, once formed, these strategic alliances need to be developed through effective relationship management. Examples of strategic partnerships that have been successful include the Sony-Ericsson alliance and La Tapatia Tortilleria and El Aguillea Tortillas alliance. In the La Tapatia Tortilleria and El Aguillea Tortillas partnership, the strategic alliance opened the new market of California to fresh tortillas. Neither of the companies had the production ability to service the market alone, but together they were able to capture a huge market and become very successful.

1.3.7 DEVELOP PERFORMANCE MEASURES

The importance of measuring performance cannot be overstated since it affects strategic, tactical and operational planning and control. Measuring performance has an important role to play in setting objectives and determining future courses of action. Performance needs to be measured across the supply chain so that suitable action can be taken to ensure that the performance of the entire supply chain remains optimum. Performance measures are usually applied in the context of supply chain activities or processes such as planning, sourcing, making or assembling, delivery and customer satisfaction.

Planning procedures include activities such as order entry methods, order lead times and customer order paths. The order entry method determines the way and extent to which customer specifications are converted into information and exchanged along the supply chain. Order lead time, derived from the total order cycle time or order-to-delivery cycle time, refers to the time between the receipt of the customer order and the delivery of the finished goods to the customer. Measuring the time spent in the different channels of the customer order path allows one to identify the non-value-adding activities that need to be eliminated [18].

Evaluation of supply links includes the evaluation of suppliers, strategic level measures, tactical level measures and operational level measures. The evaluation of suppliers in the context of the supply chain involves the measurement of efficiency, flow, integration, responsiveness and customer satisfaction at the strategic, operational and tactical level. Strategic level measures include comparing lead time against the industry norm, quality level, cost-saving initiatives and supplier pricing against market. Tactical level measures include gauging the efficiency of the purchase order cycle time, booking-in procedures, cash flow, quality assurance methodology and capacity flexibility. Operational level measures include the day-to-day technical representation, adherence to developed schedule, ability to avoid complaints and the achievement of defect-free deliveries.

1.4 PROCUREMENT PRINCIPLES

In 2010, the United Nations Office for Project Services produced a procurement manual that identified four key procurement principles: best value for money; equity, fairness, integrity and transparency; effective competition; and the best interests of the organisation and its clients [19].

1.4.1 BEST VALUE FOR MONEY

The concept of best value for money is central to any procurement activity. It can be defined as the trade-off between price and performance that provides the greatest overall benefit under the specified selection criteria. The application of the best value for money principle in the procurement process means selecting the offer that represents an optimum combination of factors, such as appropriate quality, service, life-cycle costs and other parameters to best meet the defined needs.

The principle of best value for money is applied throughout the procurement process in order to attract the offer that most effectively meets the stated requirements of the end user. In order to obtain best value for money, one should maximise competition wherever possible; simplify the tender process while minimising financial risk factors for the organisation; carefully establish the evaluation criteria (in order to select the offer with the highest expectation of meeting clients' needs, in accordance with the evaluation parameters set out in the tender documents); consider all costs (including indirect costs, such as life cycle costs, maintenance costs and sustainable procurement considerations); ensure impartial and comprehensive evaluation of offers in a timely manner; and ensure selection of the contractor whose offer has the highest degree of realism and whose performance is expected to best meet the specified requirements at the lowest overall expense to the organisation.

1.4.2 EQUITY, FAIRNESS, INTEGRITY AND TRANSPARENCY

To achieve best value for money, the procurement process must guard against collusion and must be conducted on the basis of clear and appropriate regulations, rules and procedures that are applied consistently to all potential suppliers. The manner in which the procurement process is carried out must give all internal and external stakeholders of the organisation the assurance that the process is fair.

Fairness can be defined as being free from favouritism, self-interest, or preference in judgment. In essence, fairness is similar to just, equitable, impartial, unprejudiced, unbiased, objective and dispassionate treatment. Whereas 'just' stresses conformity with what is legally or ethically right or proper, 'equitable' implies justice dictated by reason, conscience and a natural sense of what is fair. 'Impartiality' refers to a lack of favouritism and 'unprejudiced' means without preconceived opinions or judgments. 'Unbiased' implies absence of a preference

or partiality; whereas 'objective' implies a detachment that permits impersonal observation and judgment.

Another important principle necessary to guarantee best value for money is integrity. This relates to a soundness of moral character, having a sense of honesty and truthfulness in regard to personal and organisational behaviour. It means adhering to commonly accepted moral and ethical principles; impartiality and incorruptibility; and avoiding any behaviour that may be construed as inappropriate.

A fair process also requires transparency, which is defined as the process by which reliable, timely information about existing conditions, decisions and actions relating to organisational activities are made accessible, visible and understandable. Transparency means unimpeded visibility and openness in all transactions. It ensures that all information on procurement policies, procedures, opportunities and processes are clearly defined and made known simultaneously to all interested parties.

1.4.3 EFFECTIVE COMPETITION

Effective competition is best explained as a situation in which at least three independent contractors acting on their own (not in collusion) effectively compete for the same business opportunity and submit a responsive bid. Organisations attempt to foster effective competition in all procurement processes as a means of ensuring fairness, integrity, transparency and achieving best value for money. In a quasi-public organisation, competition is imperative and should be encouraged in order to obtain the best value for the money.

1.4.4 BEST INTERESTS OF THE ORGANISATION AND ITS CLIENTS

This principle is based on the ultimate objective of procurement, which is to add value to the organisation and its clients in fulfilling their goals and objectives. Undertaking procurement in the interest of the organisation and its clients means carrying out procurement activities in the manner that best enables the organisation and its clients to reach the general and specific objectives of the project agreements, in compliance with applicable procurement procedures.

By applying these principles in the procurement process, organisations ensure effective and purposeful implementation of their activities by avoiding a wastage of resources; producing the most appropriate solutions at all times; and addressing the needs of the organisation and its clients. For instance, the ultimate objective of a power utility such as Eskom could be the effective and efficient provision of electricity to all its clients. In such a case, the procurement objective, amongst others, would be to acquire the needed production supplies with precision and in time in order to satisfy its clients' power needs.

1.5 THE IMPORTANCE OF PROCUREMENT WITHIN AN ORGANISATION

The recent economic recession, globalisation, changing consumer needs, and competition have forced organisations to review their competitive space. Purchasing is a strategic function within the organisation that can directly influence the 'bottom line'. For example, some organisations spend half or more of their sales revenue on purchasing. The effective and efficient use of financial resources through a sound procurement process therefore contributes to the achievement of the operational and strategic goals of a project. Efficient procurement practices generate savings on resources that would have been lost through poorly managed procurement [9].

There are three major benefits to managing procurement effectively:

- **Cost** – Since many organisations spend up to 50% of their revenue on procurement, it represents a great opportunity for saving [14]. Significant savings can be achieved through the effective and efficient use of financial resources when purchasing.
- **Quality** – Procurement has a direct impact on quality. For example, the quality of raw materials used in the production of products affects the quality of the end product. Since procurement is responsible for purchasing the raw materials, the quality of what it buys affects the quality of the end product.
- **Technology** – Procurement can improve products and process designs and help introduce new technology into the company's offerings of products and services [10, 11].

Further benefits include:

- **Building relationships and driving innovation** – These days, procurement officers see building relationships with suppliers as another means to reduce the cost of products or services. Working closely with suppliers also helps to stimulate innovative ideas on how to continually add value to the organisation's products and services.
- **Reducing time to market** – Procurement acts as a liaison between suppliers and the production and engineering departments. It can encourage collaboration during the product development stages, which reduces material costs and improves material quality and product development times.
- **Organisations are facing increasing competition** – Procurement can contribute to the organisation's market share by purchasing products and services at the best possible prices whilst ensuring that deliveries are always received on time.
- **Inventory costs** – Constantly rising inventory costs have compelled organisations to optimise their inventory levels. Procurement plays an important role in maintaining an appropriate balance [9, 13].

To achieve the strategic goals of the organisation, and to ensure a continuous flow of inputs that support the business's operations, the procurement function

must identify and exploit all opportunities available to it. Inputs provided by the procurement function include:

- The raw materials, intermediate goods, services and information needed in the production of goods and services. In the case of Eskom, coal and water are the inputs necessary for generating electricity.
- The finished goods, services and information required for resale or for operational purposes.
- The capital goods, moving assets, consumables, services and information needed to equip and support the operation of the business [20].

1.5.1 ROLES AND ACTIVITIES PERFORMED BY THE PROCUREMENT FUNCTION

There are various roles and activities performed at different levels of management within the procurement function. The purchasing function seeks to obtain the highest-quality goods and services at the lowest possible cost at the right time and place. Therefore its roles and activities are as follows:

- Procurement carries out an ongoing analysis of price and cost trends. Since the cost of purchasing represents the largest share of organisational costs, it is therefore the role of procurement to analyse the price and cost of sourcing products and services to ensure that they are sourced at the lowest possible cost.
- Top management within the function develops and sets policies for soliciting and evaluating the proposals, quotes and suppliers.
- Procurement determines the needs and specifications of organisational customers.
- The function estimates the future needs of the organisation, which are then communicated to suppliers.
- Procurement must ensure that material and/or services sourced meet the required minimum quality standards so that the end product or service will meet expectations at an acceptable cost.
- Procurement is expected to measure supplier performance on an ongoing basis.
- Procurement draws up contracts and negotiates mutually acceptable terms with suppliers.
- Procurement is expected to conduct market research in order to identify new suppliers and the needs of organisational customers.
- Procurement expedites the delivery of shipments, where necessary, and to exercise inventory control.
- Procurement is responsible for finding or developing best-in-class suppliers. The success of procurement depends on its ability to align supply-based decisions with the organisation's strategic priorities; and to identify or develop suppliers, analyse their capabilities, select appropriate suppliers and work with suppliers to obtain continuous improvement.
- Procurement is responsible for keeping inventory at an optimum level to reduce the cost involved in maintaining large inventories. Some organisations

hold large inventories to ensure uninterrupted material flows but this can lead to increased costs and the tying up of capital that could be used more appropriately elsewhere.

- Procurement must ensure an uninterrupted flow of the materials, supplies and services required to operate the organisation. This prevents stock-outs or late deliveries of materials, components and services, which can be extremely costly in terms of lost production, reduced profit or revenue and customer goodwill.

Procurement also plays an important role in improving the organisation's competitive position. Procurement does this by identifying opportunities in the supply chain that can contribute to revenue enhancement, asset management and cost reduction. Procurement can source goods and services at the lowest total cost of supply, provide access to new technologies, and then design flexible delivery arrangements, fast response times, access to high-quality products or services and product design and engineering assistance [10, 12, 21].

1.6 LEVELS OF PROCUREMENT MANAGEMENT WITHIN AN ORGANISATION

Three levels of procurement typically exist within an organisation.

1.6.1 STRATEGIC PROCUREMENT MANAGEMENT

Strategic procurement planning takes place at the highest management level. It involves devising long-term plans that must be aligned with the vision and mission of the organisation. Strategic procurement objectives enable the organisation to ensure the availability, at competitive prices, of the inputs that are needed to produce the finished products that the organisation delivers to its customers; ensure that the organisation is located in an area that enables it to gain easy and efficient access to physical resources; decide on the shape and size of the procurement function and the level of authority or seniority assigned to procurement management; institute procedures through which specific needs are reported; and select new suppliers and develop and maintain long-standing and mutually beneficial relationships with them [20].

Positions at this level of management include the procurement director and the procurement manager or merchandise director, in the case of a retail organisation. The procurement director is the most senior or top-level executive within an organisation's corporate level or major division, such as a Strategic Business Unit (SBU). The director has formal authority and is responsible for managing the organisation's or the SBU's purchasing, buying or sourcing functions for the procurement of goods and services from external suppliers [10]. In some organisations, the top position within the procurement function is the procurement manager and not the procurement director. This depends on the organisation's structure.

1.6.2 TACTICAL PROCUREMENT MANAGEMENT

This second level of management is executed at middle-management level. Procurement planning and management is medium-term and includes the implementation of the procurement organisation that the strategic management has decided upon.

The objectives of tactical procurement are to conduct on-going logistical analyses, including trade-off analysis, to ensure that the most cost-effective levels of inventory are maintained. The objective is also to ensure the sufficient and timeous flow of procured items to support the operations while avoiding excessive inventory volumes that tie up capital that could be invested productively in alternative opportunities. Other objectives include conducting research about new products, materials development and technological innovations; studying various inventory control systems available in the market and implementing the most appropriate one for the business; and studying the most appropriate materials flow systems and implementing the best one.

Additional objectives involve receiving and processing intra-organisational requisitions and bills of materials to ensure continuation of the business operations while advising top management, in conjunction with the finance entity, on entering into contracts with the chosen suppliers. Tactical procurement personnel may also be actively involved with developing new and current suppliers [20].

1.6.3 OPERATIONAL PROCUREMENT MANAGEMENT

This is a lower level of management and comprises short-term planning and the execution, monitoring and control of procurement operations. Activities performed at this level are guided by middle management. The objectives at this level are to:

- Conduct inventory analysis and stock-taking.
- Reduce inventories through scheduling.
- Maintain and improve relationships with suppliers.
- Assist suppliers by supplying technical and administrative support.
- Timeously share operations schedules with suppliers.
- Pay supplier invoices on time.
- Adhere to suppliers' contract clauses.
- Co-ordinate incoming traffic with a view to receiving procured inputs on time and returning goods that do not meet requirements [20].

Operational procurement management is concerned with the day-to-day operations associated with procurement. These individuals are responsible for ensuring that the right quality and right quantities of products are delivered at the right time and right place.

1.7 THE IMPACT OF PROCUREMENT ON OTHER FUNCTIONS

The procurement function has an influence on the activities performed by other functions. Procurement officers have to act on an equal footing with their internal customers and suppliers/business partners. It is crucial for the procurement officers to examine their relationships with key internal functions/business partners in design engineering, operations, marketing/sales, and accounting/finance. Procurement officers also have to ensure a continuous supply of inventory to internal business partners to maintain the internal relationships.

1.7.1 THE PRODUCTION AND ENGINEERING FUNCTION

The production function depends on the procurement function to ensure efficient production processes and lower manufacturing costs. Procurement also has to ensure the timely and correct supply of materials to avoid production stoppages and products of poor quality as well as the optimal utilisation of facilities.

1.7.2 THE MARKETING FUNCTION

The procurement function relies on the marketing function to understand the needs of customers. The constant contact between the procurement function and suppliers enables procurement to identify products with good market potential and can help marketing to extend its product range. Marketing depends on procurement for the timely availability of stock.

1.7.3 THE ADMINISTRATIVE AND FINANCE DEPARTMENT

The administrative function relies on procurement for purchases of products such as computers, office furniture and stationery. Finance is more interested in factors such as stock-keeping, conditions of payment and cash flows that affect the procurement budget [22].

1.8 CENTRALISED VS DECENTRALISED PURCHASING

Top management must make the decision on whether to centralise or decentralise the procurement function. This is a major issue within large organisations. With centralisation, the authority and responsibility for the procurement function are assigned to a central function; and with decentralisation the authority and responsibility for the procurement function are dispersed throughout the organisation. Some large organisations opt for a hybrid structure where authority and responsibilities are shared between the central procurement function and business units, divisions or operating plants [10]. However, whether an organisation centralises or decentralises its function depends on the pressures it is facing.

1.8.1 ADVANTAGES AND DISADVANTAGES OF A CENTRALISED PROCUREMENT FUNCTION

Centralisation of the procurement function offers several advantages [10]:

- **The co-ordination of purchase volumes** – The larger volumes that result from centralising purchases lead to favourable prices. The centralisation of the procurement function does not only lead to centralisation of sourcing of products and materials but also of the ordering process. This may lead to decreased responsiveness to manufacturing needs. Thanks to advances in technology, some organisations identify common product items between divisions or SBUs for centrally co-ordinated sourcing. This helps organisations to achieve a reduction in material costs by combining purchase volumes while at the same time recognising the operating requirements of divisions or SBUs.
- **The reduction of duplicated procurement effort** – In decentralised procurement functions it frequently happens that individual SBUs or divisions develop their own purchasing policies, procedures and systems, leading to duplication of effort. Centralisation reduces this duplication and in turn reduces the cost of duplication.
- **The ability to develop and co-ordinate procurement strategy** – Centralisation facilitates the development of an organisation-wide procurement strategy. Such a strategy provides operational direction and enables the organisation to align the procurement function with other functions.
- **The ability to co-ordinate and manage company-wide purchasing systems** – The latest technology is important for the procurement function and influences how the function operates. It allows the organisation to co-ordinate the procurement requirements across the SBUs and divisions of the organisation. Centralisation prevents each division from developing its own procurement systems, which can sometimes end up being incompatible and increasing the cost of operations.
- **The development of purchasing expertise** – Centralised procurement leads to the development of specialised knowledge and support for the individual buying units. These include expertise with regard to purchasing negotiations, international procurement, the legal aspects of procurement, training and development programmes, supplier quality programmes, purchasing research, total cost of ownership and many others.

Centralised procurement can also have disadvantages. During the early stages of product development, the engineering department is deeply involved with the design, which can be difficult to achieve with remotely centralised procurement functions. Next, there is sometimes a great need to co-ordinate purchases with production schedules. This is particularly the case when low volumes are ordered frequently and the supplier organisation is expected to guarantee just-in-time deliveries. This might not be cost effective when the procurement function is centralised. Finally, a centralised procurement system may not be suitable in cases where procurement officers need to buy from the local communities. Organisations buy locally to remain in good standing with the communities in which they operate.

1.8.2 ADVANTAGES AND DISADVANTAGES OF A DECENTRALISED PROCUREMENT FUNCTION

There are several advantages associated with decentralisation. These include the following:

- **Decisions can be made faster in a decentralised procurement environment,** avoiding delays in procuring the necessary products and services. This also allows the organisation to be responsive to market needs and demands without having to wait for approval from head office.
- **Procurement personnel from different SBUs or divisions understand their operational requirements better** than those from centralised environments since they are more familiar with their own products, processes, business practices and customers.
- **Most new product development happens at the SBU or divisional level.** Decentralisation can therefore support and facilitate faster new product development processes, which, in turn, can result in a competitive advantage for the organisation. The procurement function can bring key suppliers in during the early stages of the new product development process. This will allow them to evaluate the long-term requirements and develop strategic plans.
- **Ownership.** Ownership is based on the notion that local procurements staff understand and support the objectives of the SBU or division and that centralised staff are unable to achieve these objectives. Local staff tend to be more committed to the goals and objectives of the SBU or division than the staff from a centralised office [10].

There are also disadvantages to decentralisation. Decentralisation often places too much emphasis on local sources, ignoring wider supply opportunities. Next, the SBU or division preferences may not be congruent with corporate preferences. And, it may be more difficult to communicate between SBUs or divisions, resulting in a lack of standardisation. This implies that divisions or SBUs might not communicate the specific requirements of certain products or materials. Finally, the cost of supply is relatively high since products and materials are bought in small orders which lead to the organisation foregoing volume discounts. Administration costs might also be higher owing to duplication of effort and small orders placed instead of one large order in case of centralised procurement [10].

1.9 TYPES OF BUYING ORGANISATIONS

Organisations of different types are involved in procuring goods and services and for different purposes.

- **Commercial organisations** – Commercial organisations consist of industrial distributors, Original Equipment Manufacturers (OEM), users and retailers. The commercial organisations differ in terms of product use but are similar

in terms of buyer behaviour and associated communication needs [21].

- **Government** – Government is the biggest of all the customers. It buys to meet socio-economic objectives and spends billions annually. Government's procurement budget is spent on various activities such as public hospitals, schools and for the running of government departments.
- **Institutions** – These include private universities, hospitals and schools [21].
- **Public organisations/parastatals** – such as Eskom, Telkom, and the SABC that buy for operational and production purposes.

1.10 TYPES OF PRODUCTS

Procurement officers buy different kinds of goods and services, which include the following:

- **Raw materials** – These include products that have not been processed or have only undergone a small degree of processing. They are the basic materials in the production process. They become part of the final/ manufactured products. Examples include water and coal, which Eskom uses to generate electricity.
- **Semi-finished goods** – Semi-finished products are also known as manufactured products since they have been processed. They need further processing before they can be used. These products become visible in the final product and include products such as steel and rolled wire.
- **OEM or component parts** – OEMs are products that are purchased for resale or are assembled into the final product without any further processing. An example of this would be an alternator in a motor engine.
- **Capital equipment** – Capital items are usually the most expensive purchases and are also known as installation products. These include large equipment used in production processes and require significant financial investment. This may include machines used in the production, power generating equipment and buildings [10, 12]. For example, Eskom has spent billions building power stations.
- **Accessory equipment** – These are products used to facilitate production and include products such as personal computers, hand tools, desktop printers or tool boxes.
- **Finished goods** – Finished goods are goods that require no further processing. They are bought for resale or for use within the organisation, such as stock bought for resale by a retail organisation.
- **Maintenance, Repair and Operating materials (MRO)** – These products are not directly required for the production process but are important for the continued operation of the organisation, such as office and cleaning supplies.
- **Services** – This includes transportation, advertising, banking and maintenance services. Some services, such as transportation, can affect the operation of an organisation. For example, if a transportation contractor failed to deliver the organisations' products on time, the organisation would suffer [12, 23].

Purchasing products and services poses risks for the organisation in terms of availability of supply, difficulty and costs of securing the products and services. The procurement function therefore has to develop a comprehensive picture of the procurement profile and the procurement needs of the organisation. This involves conducting the spend analysis of the past and projected spends for materials/products and services as well as analysing the risks associated with securing the goods and services. This helps the organisation to categorise purchases of goods and services according to the difficulties of securing them and their relative expenditure. Table 1.1 shows the categories of purchases, their characteristics and possible strategies for reducing the risks associated with purchases.

Table 1.1: Categories of purchases [10, 23].

Category	Typical characteristics	Possible strategies
Routine (low risk and low spend)	Usually low value and low volume items. • Represent routine procurement processing. • Typically represent up to 90% of the organisation's suppliers. • The suppliers are often small businesses. • Transaction costs can be greater than the value of the items themselves. • There are generally competitive local supply markets for these items.	Minimise administrative efforts by: • Procurement at the lowest practical level (decentralised). • Encouraging local suppliers to view the organisation as a valuable client, resulting in lower transaction costs. • Focusing ordering and payment terms with suppliers on transaction efficiency (direct debiting, aggregation of orders, monthly accounts, payment cards, etc.).
Leverage (low risk and high spend)	Commodities commonly used across the entire organisation with high volume. • Represent commodities where there is potential for reduction of inventory management, handling and storage costs. • Mature and competitive supply markets. • Markets are served by a few suppliers with extensive distribution networks.	Total cost reduction and high service levels from suppliers by: • Establishing automated supplier interfaces to minimise process-related costs for high-volume standard goods. • Ensuring regular management information reports on the nature of this expenditure to keep strategic focus. • Establishing long-term agreements to simplify procurement, coupled with automated paying systems. • Regionalising supply by using local suppliers that are agents for centralised arrangements. • Forming collaborative initiatives with other organisations to build leverage, target off-peak periods in supply markets.

Category	Typical characteristics	Possible strategies
Bottleneck (high risk and low spend)	Highly specialised goods, services or works. • Procurement is often undertaken by technical experts rather than procurement professionals. • Technical specifications are inappropriately detailed and limit the supply base. • Often there are only a few potential suppliers.	Reduce the organisation's market vulnerability and secure on-going supply by: • Identifying alternative sources of supply and/or substitute goods or services. • Holding extra stock where possible reduces risk. • Developing supplier capabilities and/or changing demand requirements. • Ensuring long-term agreements may secure supply from key suppliers. • Encouraging new supply participants into the market. • Considering local supplier development strategies. • Developing contingency plans to deal with potential disruptions to supply. • Developing performance or functional specifications to ensure a wider sourcing base. • Developing a mixture of technical expertise and procurement skills to manage supply.
Strategic (high risk and high spend)	Represents goods, services or works that are critical to the organisation. • It is often a complex 'bundle' or 'package' of goods and associated services. • Requires innovative solutions and high-level expertise from suppliers. • The suppliers' attitude to the organisation (whether or not they consider the organisation a valued customer) has a high impact on the value and quality of the goods, services or works delivered. • The category represents very few transactions and there are often very few suppliers available. • The costs in offering contracts are substantial for both the procuring organisation and the supplier.	Manage relationship and performance through regimes and systems which are essential to secure value for money and reduce risk by: • Encouraging effective supplier relationship management for complex and costly bundles of goods and services. • Correctly understand supplier needs and agree on performance management criteria and interfaces. • Maintaining regular communication with suppliers to ensure innovation and continuous service level improvements. • Encouraging local suppliers with an incentive to deliver long-term value rather than suppliers for which the business is not significant. • Helping to develop suppliers' performance levels.

1.11 THE PROCUREMENT PROCESS

Each individual involved in the procurement of goods and services goes through a process before making the final decision of which products and services to procure, from whom to procure them, how much to pay and why it is necessary to procure the items. The procurement process differs, depending on whether procurement officers are buying for projects or are buying products and services. It is important to note that different people at different levels of management within the procurement function play different roles during the procurement process. The stages in the procurement process include:

- **Identifying the need** – A need may arise from any function, for example, production requiring raw materials for production purposes or administrative departments requiring office furniture for internal use. User functions sometimes fail to identify needs in time, which could result in urgent needs, creating challenges for the procurement officers.
- **Describing the product or service needed** – As soon as the need for products and services arises, it is communicated to the procurement function using the required document, such as a standard purchasing requisition. The information contained in the requisition includes the date, originating department, account to be charged, complete description of the material or service required and quantity, date material or service needed, special shipping or service delivery instructions as well as the signature of the authorised requisitioner.
- **Searching for potential suppliers** – It is important to have a supply base from which to source products. In cases where appropriate suppliers are unavailable, procurement officers assume responsibility for finding potential suppliers. They also maintain relationships with existing suppliers.
- **Evaluating and selecting suppliers** – This is the stage at which procurement officers select a supplier, whether local or international, small or large.
- **Ordering** – Takes place after the negotiation process has been completed with regard to price, delivery arrangements and product requirements.
- **Performance evaluation** – After suppliers have been selected and have supplied the products, they are evaluated to determine if they are supplying according to agreement or as stipulated in the contract. Those who supply satisfactorily stand a chance of receiving additional orders in future, while those who fail might be removed from the organisation's supplier database. Figure 1.2 shows the stages in the procurement process.

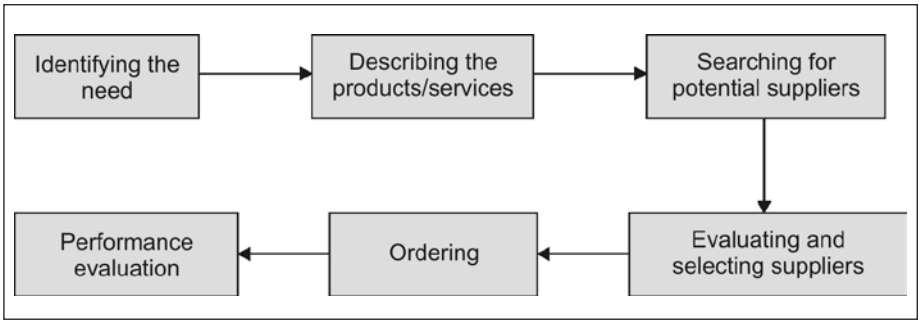


Figure 1.2: The procurement process.

1.12 PROCUREMENT DOCUMENTS

In order to adhere to the principles of fairness, integrity and transparency, the procurement function maintains documents for every purchase made. The types of documentation kept depend on the organisational requirements and differ from one organisation to another; they would, however, include the following:

- Requisitions.
- Requirement definitions (notes, correspondence, communication with the requisitioner, justification of brand name preferences, etc.).
- Sourcing information, including justification of the procurement method and type of competition. For example, if buying from a monopoly where there is only one supplier.
- A signed short list.
- A signed solicitation document, including attachments such as specifications and terms of reference.
- A statement of work, Bills of Quantities (BOQ) and proof of insurance (copies of cover letters, copies of emails, fax receipts, etc.).
- Amendments to solicitation documents (including Procurement Agency or function approval of amendments), and any other clarifications and correspondence with suppliers.
- The designation of the bid opening panel and evaluation team by the head of the business unit.
- A copy of the bid receipt report.
- The bid opening report.
- All offers received (technical and financial).
- Copies of any bid security received from the supplier (the originals are to be kept in a safe).
- Evaluation report.
- Minutes of clarifications (if any).
- The request for award, or submission, addressed to the contracts and property committee.
- Minutes of the contracts and property committee.
- Original contract.
- Copies of any advance payment guarantees or performance security received

from the supplier (the originals are to be kept in a safe).
- Bid protests.
- All correspondence with the contractor.
- Amendments to contracts.
- Any required progress reports and/or other proof of delivery of milestones as provided for in the contract.
- Proof of receipt of goods.
- Receipt and inspection reports.
- The acceptance report from the requisitioner or end user.
- Certificate of substantial completion.
- Certificate of final completion.
- Insurance claims.
- Proof of payment.
- Supplier evaluation reports [9].

It is the responsibility of the procurement directors or managers to ensure that all documentation is filed for future reference. The procurement policy within the organisation will also determine what documentation will be kept and for how long.

1.13 TRENDS AND DEVELOPMENTS IN PROCUREMENT

The environment within which organisations operate is dynamic. This requires that organisations study and adapt to changes/forces taking place both within and outside their organisations in order to remain competitive. For example, the advancement in information technology is one of the developments in the market that has had an impact on how sourcing is carried out in large organisations. Some of the major trends and forces affecting the procurement function are:

- **Global sourcing** – Owing to competitive pressure, ongoing financial and economic crises, and consumer demand for greater value for money, organisations are increasingly expanding their supplier bases by sourcing products and services globally from low-cost countries. Some organisations have also set up international purchasing offices in different regions of the world to facilitate global sourcing. Procurement officers are driven by cost targets and therefore source suppliers globally to achieve these targets.
- **Supplier development** – Supplier development is a major issue, particularly in South Africa where government requires that large organisations also source products and services from small businesses. Some of these small organisations lack the resources and capabilities to meet the needs of large organisations, which compel large organisations to develop and support them so as to improve the performance of small organisations. Supplier development is discussed in detail in Chapter 5.
- **Electronic procurement (e-procurement)** – The procurement function benefits from using the Internet to procure goods and services. E-procurement improves efficiency and facilitates the development of effective buyer-supplier relationships.

- **Green supply chain** – National governments across the globe have become stricter in their environmental regulations. Consumers have also become more environmentally conscious, preferring to buy goods and services from organisations that are environmentally friendly. This has influenced the procurement function in that it too has to consider environmental aspects when sourcing from suppliers. Organisations are therefore increasingly creating procurement policies that emphasise sourcing products and services that are less environmentally damaging.
- **Product life cycles have become shorter** – Customers have become more selective and critical, which requires shorter product lead times and faster, more flexible distribution decisions.
- **Buyer-supplier relationships** – Procurement officers develop and maintain relationships with their internal and external business partners and concentrate on strategic partnerships with a few select suppliers. The mutual benefit of the buyer-supplier relationship is discussed in Chapter 5.
- **Procurement contribution to the bottom-line**. Procurement has increased in importance and has become a strategic function that contributes to organisational profit [12, 20].

1.14 CONCLUDING REMARKS

Chapter 1 has laid the foundation for what follows in subsequent chapters. It has discussed the relationship between supply chain management and procurement management; the principles of supply chain and procurement management; procurement functions; procurement processes; procurement documents used and procurement organisations. Procurement management was discussed from a supply chain management perspective. The key types of products and services that procurement is typically engaged to procure were also discussed. The chapter concluded with the importance of supply chain and procurement management, including key trends and developments.

1.15 REFERENCES

[1] Croom S.R., Romano P. and Giannakis M., Supply chain management: An analytical framework for critical literature review, European Journal of Purchasing and Supply Management, Vol. 6 (Issue 1), 2000, pp. 67-83.

[2] Li S., Rao S.S., Ragu-Nathan T.S. and Ragu-Nathan B., Development and validation of a measurement instrument for studying supply chain management practices, Journal of Operations Management, Vol. 23 (Issue 6), 2005, pp. 618-641.

[3] Kale P. and Singh H., Managing strategic alliances: What do we know now, and where do we go from here?, Academy of Management Perspectives, Vol. 23 (Issue 3), 2009, pp. 45-62.

[4] Sukati I. *et al.*, The study of supply chain management strategy and practices on supply chain performance, Procedia-Social and Behavioral Sciences, Vol. 40, 2012, pp. 225-233.

[5] Crandall R.E., Crandall W.R. and Chen C.H., Principles of supply chain management, Florida, CRC Press, 2010.

[6] Lewicka D., Creating innovative attitudes in an organisation-comparative analysis of tools applied in IBM Poland and ZPAS Group, Journal of Asia Pacific Business Innovation & Technology Management, Vol. 001, 2011, pp. 001-012.

[7] Sufian M.Q., Alignment of information systems with supply chains: Impacts on supply chain performance and organizational performance, unpublished, PhD thesis, University of Toledo, Toledo, 2010.

[8] Tseng F-M., Chiu Y-J. and Chen J.S., Measuring business performance in the high-tech manufacturing industry: A case study of Taiwan's large-sized TFT-LCD panel companies, Omega: The International Journal of Management Science, Vol. 37, 2000, pp. 686-697.

[9] Muckstadt J.A. *et al.*, The five principles of supply chain management: An innovative approach to managing uncertainty, http://time.dufe.edu.cn/wencong/supplychain/008.pdf, Accessed on 15 June 2014.

[10] Leenders M.R. *et al.*, Purchasing and supply management: With 50 supply chain cases, New York, McGraw-Hill, 2006.

[11] African Capacity Building Foundation, Applying best-practice principles in procurement – a refresher, Lessons note, October 2003.

[12] Weele A.J., Purchasing and supply chain management: Analysis, strategy, planning and practice, 4th ed., London, Thomson, 2005.

[13] Hugo W.M.J., Badenhorst-Weiss E.H. and Van Rooyen D.C., Purchasing and supply management, 4th ed., Pretoria, Van Schaik Publishers, 2002.

[14] De Haan J., Naus F. and Overboom M., Creative tension in a lean work environment: Implications for logistics firms and workers, International Journal of Production Economics, Vol. 137, 2012, pp. 157-164.

[15] Farris J.A. *et al.*, Critical success factors for human resource outcomes in Kaizen events: An empirical study, International Journal of Production Economics, Vol. 117, 2009, pp. 42-65.

[16] Kannan V. R. and Tan K. C., Just in time, total quality management, and supply chain management: Understanding their linkages and impact on business performance, Omega: The International Journal of Management Science, Vol. 33 (Issue 2), 2005, pp. 153-62.

[17] Wong C.Y., Arlbjorn F.S. and Fohansen F., Supply chain management practices in toy supply chains, Supply Chain Management: An International Journal, Vol. 10, 2005, pp. 367-378.

[18] Gunasekaran A., Patel C. and Tirtiroglu E., Performance measures and metrics in a supply chain environment, International Journal of Operations and Production Management, Vol. 21, Issue (1/2), 2001, pp. 71-87.

[19] United Nations Organisation for Project Services, Procurement manual, Procurement Practice Group, Rev. No. 4, 1 September 2010.

[20] Pienaar W.J. and Vogt J.J., Business management logistics: A supply chain perspective, 3rd ed., Cape Town, Oxford University Press, 2009.

[21] Fill C. and Fill K.E., Business-to-business marketing: Relationships, systems and communications, Harlow, Prentice Hall Financial Times, 2005.

[22] Lysons K. and Farrington B., Purchasing and supply chain management, 7th ed., New York, Prentice Hall, 2006.

[23] Dwyer F.R. and Tanner F.T., Business marketing: Connecting strategy, relationships and learning, 4th ed., Boston, McGraw-Hill Irwin, 2009.

THE PROCUREMENT PROCESS

Author: Llewellyn R. Roberts

SYNOPSIS

In order to support organisational objectives, the purchasing group within an organisation must work to ensure that the sourcing process is carried out efficiently and effectively. This is the process used to identify users' requirements; identify and qualify suppliers; bid to, negotiate with and select suppliers; approve purchases; release and receive purchase requirements and monitor and measure supplier performance.

This chapter covers the key steps in the purchasing process and the requirements for ensuring that this process is carried out efficiently and effectively. The chapter introduces the following topics:

- Procurement objectives.
- Key steps in the sourcing process.
- Types of purchases.
- Importance of item and service purchased.
- Managing the sourcing process.
- Improving the sourcing process/best practices.

2.1 INTRODUCTION

Effective procurement of goods and services helps to contribute to the competitive advantage of an organisation. The sourcing process links the various entities in a supply chain; and effective sourcing helps assure the quality of goods and services supplied in that chain. The quality of the goods and services that serve as an input affects finished product quality and hence customer satisfaction and return on investment. Input costs comprise a significant portion of total costs in many industries. With the importance of procurement as a determinant of revenues, costs and supply chain relationships, it is easy to understand why it has recently been receiving more attention from practitioners and academics.

Procurement can be a relatively complex process that is difficult at times to define, understand and manage. Depending on the circumstances, procurement can be defined, in a narrow sense, as the process of acquiring goods and services for the firm. The procurement process is, however, more than just the culmination of an activity; it is the successful completion of a series of activities that often cut across organisational boundaries. To formalise the definition, then, procurement consists of all those activities necessary to acquire goods and services consistent with user requirements.

In order for procurement to be effective, it must be well managed, must integrate and link with other functions within the firm as well as with suppliers and customers and, ultimately, must support organisational goals and objectives. In this chapter we cover the various aspects of the sourcing process and what is required to be effective in that process.

2.2 PROCUREMENT OBJECTIVES

The objectives of a modern purchasing organisation go far beyond the traditional objectives of purchasing. The key objectives for a purchasing organisation are covered in this section and include supporting operational requirements; managing the procurement process; working with other functional groups; supplier management; supporting organisational goals and objectives; and developing sourcing strategies.

2.2.1 SUPPORTING OPERATIONAL REQUIREMENTS

Procurement has an important role to play in supporting the day-to-day operational requirements of a firm. It accomplishes this through the acquisition of raw materials, components, sub-assemblies, finished goods, maintenance and repair items and services. Procurement supports supply chain functions including, for example, transportation and distribution centre functions. In this regard, procurement would play a role in ensuring that end customers receive replacement parts or finished products. Procurement supports engineering functions and technical groups within an organisation during new plant or product development, commissioning and installation of new machinery and provision of replacement parts.

Modern enterprises are also looking to concentrate on core competencies and this has seen a dramatic rise in outsourcing to, and reliance on, external suppliers to provide not only materials and products but also services, including, for example, information technology support, design services, etc. In addition, global business activity continues to increase. Companies are looking to foreign countries to provide sources of services and products at lower costs, including lower labour costs. This presents a whole new set of challenges for today's procurement organisation.

As more emphasis is placed on the use of external suppliers, including global suppliers, procurement's role must include the close support and management of these suppliers to ensure an uninterrupted flow of high-quality goods and services. Procurement has a key responsibility to meet the needs of its internal and external customers; in this regard, by buying products and services:

- From the best sources.
- At the correct specifications.
- At the right price.
- In the correct quantities.
- Delivered at the right time.
- To the satisfaction of internal and external customers.

Ultimately, procurement must support the strategic objectives of the greater organisation, including helping to ensure overall profitability and an adequate return on investment for the organisation's shareholders [1].

2.2.2 MANAGING THE PROCUREMENT PROCESS

Procurement must effectively manage the internal processes involved in procuring goods and services. This includes, for example, developing and improving procurement processes, developing budgets and managing procurement against these budgets, implementing procurement information systems, etc.

The procurement function deals with procurement of raw materials and components, and with capital equipment, project procurement, spare parts procurement for after-market service, defective returns and the warranty replacement process with suppliers. The procurement function works closely with procurement logistics or inbound supply chain. A procurement professional needs to have operational knowledge of: logistical activities in a supply chain network; the various agencies; policies; customs rules; taxation; commercial, logistical and customs documentation; as well as commercial trade rules and terms.

All of the above must be accomplished using finite resources, including managing the employees within the procurement group, managing budgeted funds for procurement, managing information, time and knowledge. Procurement management, therefore, is responsible for the effective and efficient management of the resources at its disposal [1].

2.2.3 WORKING WITH OTHER FUNCTIONAL GROUPS

The procurement group within an organisation must effectively support and collaborate with other functional groups within the organisation and includes, for example:

- Procurement synergies and working with other functions such as research and development, marketing or engineering.
- Co-decisions between hierarchical levels.
- Procurement-led, cross-project procurement management.

In order to achieve this objective, procurement must understand the requirements of the various functions within an organisation from a purchasing perspective, including spend, specifications and quality requirements, total costs and so on. It must develop a close working relationship with other functions to fully support these functions.

Figure 2.1 illustrates, and provides an example of, the types of knowledge and insights that procurement personnel need to have of various functional groups to provide effective support for these groups.

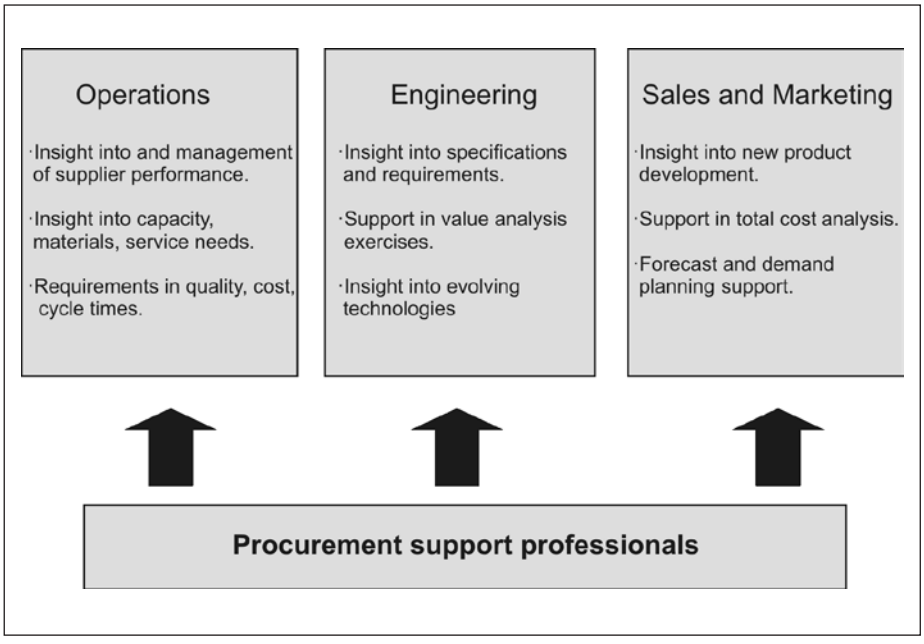


Figure 2.1: Procurement plays a vital support role within an organisation.

2.2.4 SUPPLIER MANAGEMENT

Many companies understand the key role that procurement plays in overall supply chain management and that supplier relationships are a vital part of successful procurement strategies. 'Good suppliers do not grow on trees' is a saying often quoted by procurement professionals. This is especially true when companies look to reduce their overall spend or consolidate the total number of their suppliers, frequently in conjunction with Total Quality Management (TQM) programmes or Just-in-Time (JIT) production and inventory systems.

The strategy to use a smaller number of suppliers/vendors frequently means an alliance or partnership with suppliers/vendors because of the need to ensure an adequate supply of quality materials over time at an optimum total acquired cost. The partnership/alliance concept encompasses more than just the procurement process, since these days companies are developing partnerships throughout the supply chain. For example, partnerships are also evolving with transportation companies, contract logistics companies (third-party providers), and other channel members.

Supplier management objectives include pursuing better relationships with fewer better suppliers and developing reliable, high-quality sources of supply. This objective includes procurement working directly with selected suppliers to improve their capabilities.

2.2.5 SUPPORTING ORGANISATIONAL GOALS AND OBJECTIVES

One of the most important, if not the most important, objectives for procurement is to support overall organisational goals and objectives. It is therefore vital to understand how procurement can contribute effectively to organisational objectives and strategy. It is also important to understand how the organisational objectives and strategy can properly reflect the contribution and opportunities offered in the supply chain. By linking to and supporting corporate strategies (see Chapter 6), the procurement function becomes a valuable strategic partner within the organisation [1].

2.2.6 DEVELOPING SOURCING STRATEGIES

Procurement must be forward looking. In today's world, firms face the challenge of prospering despite stiff, often global, competition. Procurement needs to relate effectively to outside environments, including social, economic, political, legal and technological. It also needs to anticipate changes, to adjust to these changes, and to identify and make the best of opportunities. In order to do this, procurement needs to formulate and execute strategic plans that will play a major role in generating future earnings and will be critical for survival.

In progressive firms, procurement is actively involved in the corporate planning process and can provide supply market intelligence that contributes to strategic planning. Procurement is responsible for the development of effective sourcing strategies (see Chapter 4) and should play an integral role in the development of overall corporate strategies.

2.3 KEY STEPS IN THE PROCUREMENT PROCESS

The procurement process is a cycle that consists of a number of distinct stages. These vary in different organisations and may have different names; and are dependent on whether procurement is sourcing a new item or an item that has been previously purchased. The procurement process includes the purchase of goods and services. The effective and efficient accomplishment of procurement activities can help to maximise value for buyers and suppliers.

2.3.1 IDENTIFY USER NEEDS

The sourcing process usually starts by identifying or anticipating the goods or services needs of a user. (This could be an individual or group within the procurement professional's firm.) In some cases, existing needs must be re-evaluated because they change.

The process begins either with a user or user group within the firm communicating a need to the procurement group and/or an individual within procurement identifying a need within the firm. Once this need has been identified, the sourcing process can start [1].

2.3.2 IDENTIFY AND EVALUATE POTENTIAL SUPPLIERS

Once a user's or users' need has been identified it then becomes necessary to identify a qualified supplier or suppliers. Approved suppliers for a product or service may already exist as could, for example, be the case for a repetitive purchase. For items where a supplier does not currently exist, or where the organisation wishes to re-evaluate the supply base, this activity involves the identification of all possible suppliers that might be able to satisfy the user's needs.

It is important at this stage to include, where appropriate, possible suppliers that have not previously been used. Identifying all possible suppliers, especially in today's global business and supply environment, can be a challenge and often requires extensive research.

Once potential suppliers have been identified (and these could include current suppliers to fulfil a current contract or a new user requirement from these suppliers) it is then necessary to evaluate them. An important step here is to pre-screen possible sources of supply to identify those suppliers that meet a minimum set of criteria. Pre-screening reduces the number of potential suppliers to those that can satisfy the user's demands. In some instances, and for some goods or services, pre-screening can be a relatively simple task. In other instances, items of a complex nature will require more time and effort.

With the potential pool of suppliers reduced to those that can meet the user's requirements, the next step is to determine which supplier or suppliers can best meet the user's requirements. This could be accomplished through the use of competitive bidding if the procurement item or items are fairly simple or standard and there are a sufficient number of potential vendors. If these conditions do not exist, a more elaborate evaluation may be necessary, using for example, engineering tests.

Procurement professionals, when evaluating potential suppliers, use various performance criteria. These criteria would include suppliers' past performance, quality performance or capabilities, technical performance or capabilities, cost and price, delivery performance or capability and other key metrics [1].

2.3.3 BIDDING, NEGOTIATION AND SUPPLIER SELECTION

Supplier selection starts once a shortlist of qualified suppliers has been developed. Identifying qualified suppliers is different from reaching a contract agreement with a supplier or suppliers. Two methods for making a supplier selection decision are competitive bidding and negotiation (covered in more detail in Chapter 6). Competitive bidding involves requesting bids from suppliers with whom the buyer is prepared to do business. The process typically begins with the buyer sending a request for quotation to a supplier or suppliers.

Buyers use competitive bidding when price is the dominant decision driver and the required item has relatively straightforward specifications, including items which are, for example, low cost and low risk to the buying firm and where many potential suppliers exist. Competitive bidding is often used for large projects, including construction projects. It is also sometimes used to narrow the number of suppliers down to the few suppliers with whom the buyer will negotiate.

Negotiation is used when items purchased are new and/or complex and where specifications may not be well defined. It is often also used for the purchase of high-cost and high-risk items to the firm.

After bids have been received and/or the negotiation process has taken place, the buyer will select the supplier and then progress to authorising the purchase through a purchase approval process [1].

2.3.4 PURCHASING APPROVAL

Once the supplier or suppliers have been selected, approval is granted by procurement to procure the product or service. Several different means for this exist, depending on the system in place within procurement, including the drafting of a purchase order and the issue of a blanket purchase order/material purchase release.

The development/drafting of a purchase order is an important step. Almost all purchase orders include standard legal conditions that the order is subject to, including:

- Item description.
- Material specifications.
- Quantity required.
- Quality requirements.
- Price.
- Delivery date and method.
- Ship-to address.
- Purchase Order (PO) number.
- Order due date.
- Name and address of purchasing firm.

Each time an item is required, procurement will issue a purchase order for that item. This may or may not require negotiation around that item, depending on the nature or price of the item and so on.

In the case of a blanket PO, an open order is typically issued which covers repeated purchases for an item or items and is issued for a period of time over which the items are required by the buying firm (often a period of one year). A blanket purchase order eliminates the need to issue a PO each time there is a requirement for goods or services. Once a blanket purchase order is established between a supplier and buyer, the ordering of an item simply requires an order

release, which is often accomplished electronically. This process makes the sourcing process easier and reduces purchase transaction costs.

Blanket POs are typically applied where items are used on a regular basis, including, for example, maintenance items. When using this type of PO, the buyer and supplier will together evaluate the anticipated demand for an item, or family of items, over a given period of time and will agree on the terms of the agreement. This will include, for example, quality levels, quantity required and any quantity discounts that will apply, delivery lead times, terms and conditions of payment, etc. Buyers will also typically reserve the right to cancel a blanket PO in the case of non- or poor performance on the part of the supplier.

Buyers will use material releases to order items covered by a blanket PO. This material release typically specifies the required part number, quantity required, and unit and quantity price, required receipt date, ship to address and method of shipment. Material releases are often used to provide visibility to the supplier ahead of time of forecast material requirements for the buyer as well as actual requirements. For example, a firm may provide a supplier with a 12-month forecast for items required of which the first four months are for actual orders, with quantities required against these orders, and the remaining eight months represent forecast requirements. This in turn helps suppliers to plan their production and/or shipment schedules accordingly [1].

2.3.5 RELEASE PURCHASE ORDERS AND RECEIVE GOODS

In this step, POs are released and orders are received. Many organisations accomplish the transmittal of orders electronically through, for example, Electronic Data Interchange (EDI) or the Internet. In some firms, once a contract is negotiated and signed, the internal end user may be responsible for releasing orders/materials requirements covered in the contract and the procurement group does not become directly involved in these day-to-day transactions. Procurement is, however, still responsible for monitoring the status of open POs, expediting orders and so on.

The shipping and receiving process involves the use of several documents, typically including a material packing slip, bill of lading, and discrepancy report as outlined below:

- **Material packing slip:** The material packing slip travels with the goods and is a document used to describe the contents of the shipment. It will reference a specific PO and release number for tracking purposes as well as for auditing purposes. The packing slip is used by the user organisation to check the actual quantity received against the quantity listed on the packing slip and against the ordered quantity on the order/order release to ensure that these match. This step is carried out to determine whether suppliers have over or under delivered items and to ensure that the items received are the items that were ordered.
- **Bill of lading:** Transportation carriers will issue a bill of lading, which records

the quantity of goods delivered to a location on a specific date. The bill of lading details the number of boxes or containers delivered. (Other details regarding the shipment appear on the packing slip and are the supplier's responsibility.) The bill of lading helps to ensure that the carrier is protected against wrongful allegations that the carrier damaged, lost or otherwise tampered with goods delivered.

- **Discrepancy report:** A receiving discrepancy report will detail any discrepancies on a shipment or shipments noted by the receiving department of the buyer organisation. The procurement group or inventory management personnel often become involved in following up on and resolving discrepancies with the selling organisation.

Just-In-Time (JIT) manufacturing and purchasing systems allow firms to eliminate most receiving documentation. Honda manufacturing, for example, has eliminated the need for packing slips and inbound material inspection through its JIT system [1].

2.3.6 EVALUATE SUPPLIER POST-PURCHASE PERFORMANCE

Once the product and/or service have been delivered, the supplier's performance must be evaluated to determine whether it has truly met the end user's needs. A firm needs to establish if the supplier has performed according to expectations by using a formal supplier performance measurement system. If supplier performance did not satisfy the user's needs, the causes for this variance must be identified and corrective action carried out.

A major decision to be made here is the frequency and nature of the evaluation. It tends to vary by firm. However, there is general consensus amongst firms that evaluation is necessary and should be carried out regularly, with feedback on performance being provided to suppliers.

2.4 TYPES OF PURCHASES

Every organisation buys different types, or categories, of goods and services. This section outlines the goods and services that an organisation typically purchases.

2.4.1 RAW MATERIALS

This category would include items like crude oil, iron ore, copper, coal, lumber, and so on. It can also include agricultural raw materials such as wheat, cotton and corn. Typically, a raw material is characterised as a material where the supplier has conducted little or no processing and it is purchased in its 'raw' state. Raw materials are often categorised according to a grade of material [1].

2.4.2 SEMI-FINISHED PRODUCTS AND COMPONENTS

This category includes all the items purchased from a supplier that will support the sub-assembly/final assembly requirements of an organisation. This can include components, sub-assemblies, sub-systems and systems.

2.4.3 FINISHED PRODUCTS

Most organisations purchase finished items from a supplier, either for internal use or for possible resale to an end customer. An organisation may also re-brand an item, produced by and/or supplied by a supplier, for sale to its own customers. As mentioned earlier in this chapter, many firms are concentrating on their core competencies and, as an integral part of this, have outsourced to other firms the manufacture of items used in the final product they provide. In this case, procurement typically works closely with suppliers of engineered items to ensure conformance to specifications and to quality requirements [1].

2.4.4 MAINTENANCE, REPAIR AND OPERATING ITEMS

Maintenance, Repair and Operating (MRO) items include those items that do not go directly into a firm's product or products. This category includes spare parts, office supplies, cleaning supplies, oils and grease and so on. A procurement group within an organisation would typically provide a blanket order for these types of supplies.

2.4.5 PRODUCTION SUPPORT ITEMS/PACKAGING SUPPLIES

These types of items include the materials required to protect products during the internal handling and/or shipping process and include pallets, boxes, containers, wrapping and other packaging materials. These materials are of key importance in directly supporting the production and shipping of items and help to ensure protection against damage while products are in transit, internal or external to the organisation.

2.4.6 CAPITAL EQUIPMENT

Capital equipment refers to assets that are intended for use for one year or more. There are several categories of capital equipment including standard equipment that has no special/tailored design requirements for the user, such as standard materials handling equipment (forklift trucks, conveyors, etc.), computers, office furniture and so on. A second category of capital equipment would be items that have specific design requirements for the end user, such as specialised trucks (for example, for a package transport firm like UPS or FedEx), specialised tools, machinery and so on. The purchase of these types of capital equipment typically requires close technical and engineering collaboration between the buyer and supplier.

Capital equipment is distinguished from other types of purchases in that it may

not be purchased with regular frequency, typically requires large sums of money to procure (hence the meaning of the word 'capital' in capital equipment) and is typically highly sensitive to economic conditions.

With capital equipment, buyers do not usually switch suppliers often and may have very few or only one key supplier. The relationship between buyer and supplier often lasts for years and may include such activities as co-design of engineered items, close collaboration to reduce total costs and joint quality improvement projects [1].

2.4.7 SERVICES, INCLUDING THIRD-PARTY LOGISTICS SERVICES

Many firms depend on external contractors for certain services. For example, a firm may hire a cleaning company to clean its offices every day; or a firm that provides gardening services to keep its gardens maintained. Typically, a firm will engage a contractor for a long period of time (months to years) and will negotiate contracts with these service providers accordingly.

Transportation and distribution services are specialised third-party forms of services. Procurement departments have, over the past several years, become engaged in buying these types of services from certain firms and are often involved in the management of inbound and outbound materials flows. It is now fairly common for major firms to have their procurement group evaluate and select logistics services providers, and procure these types of services in similar fashion to procuring other, more standard, types of services as described above.

2.5 IMPORTANCE OF ITEM AND SERVICE PURCHASED

The products and services purchased by a company are not all the same. Some products are more important and require greater procurement attention. By applying the same procurement strategies, tactics and resources to supplying a computer manufacturer with paper clips and computer chips, the differences in criticality of each item to the firm's survival and profitability is overlooked. That is, the computer company can survive without paper clips but not without computers.

A quadrant technique presented in Chapter 4 enables the supply manager to assess the importance of each product or service being purchased. The quadrant technique uses a two-by-two matrix to determine a procured item's relative importance on the basis of value and the number of suppliers that comprise the supply market.

2.6 MANAGING THE PROCUREMENT PROCESS

Managing the procurement process can be difficult for a multitude of reasons, ranging from inflexible organisational structures to inflexible organisational

cultures. What must be remembered when dealing with these activities is that all firms are different and will have different requirements for the procurement process.

2.6.1 STEPS IN THE PROCUREMENT PROCESS

A four-step approach can be used and adapted to a firm's particular needs. Based on the previous discussion of the procurement process activities, the following process can be used to maximise effectiveness:

- **Determine the type of purchase** – In the procurement process, the type of purchase will usually dictate the complexity of the entire process. For example, a straight re-buy will mean that all the procurement activities were completed when the purchase was a new buy or a modified re-buy. A modified re-buy may not require all of the activities, but a new buy would normally require performing all of the activities.
- **Determine the required levels of investment** – The procurement process requires two major types of investments by the firm: time and information. The individuals involved in making the purchase expend time. Generally, the more complex and important the purchase, the more time would be spent on it. Information can be internal and external to the firm. Internal information is gathered around user requirements and the implications that the purchase will have for the firm. External information concerning the item to be purchased may be gathered from supply chain members, from potential suppliers, professional journals and other sources. The more complex and important the purchase, the more and better the information that is needed for the procurement process to be effective. By determining the type of purchase (which is also a function of the user's needs), the procurement professional can determine the levels of investment necessary in the procurement process. Problems can occur when not enough or too much investment is made to satisfy a particular user's needs. Determining the level of investment needed in time and information to adequately meet a user's requirements is firm specific. Once the level of investment is decided, the procurement process can take place.
- **Perform the procurement process** – This includes performing those activities necessary to make a purchase, in an effective manner and to satisfy the user's requirements. In this step the procurement professional should also collect data on the time and information used in making a specific purchase. The ability to measure the investment and how well a user's needs were satisfied is important to the final step in managing the procurement process.
- **Evaluate the effectiveness of the procurement process** – This is a control step that asks two questions:

  - Were the user's needs satisfied?
  - Was the investment necessary?

  The goal is to invest the appropriate level of time and obtain the required levels of information to satisfy the user's needs. If the procurement process

is not effective, this can be traced to various causes including, for example, not enough investment, not performing the proper activities, or mistakes made in performing one or more of the activities. When the procurement process is not effective, procurement management should determine why and take corrective action to make sure that future purchases will be effective. If the purchase satisfied the user's needs at the proper level of investment, the procurement process can be considered effective and can serve as a reference for future purchases.

Thus, although the procurement process is complex, it can be managed effectively as long as procurement management develops a systematic approach for implementing it. A key factor in achieving efficiency and effectiveness in this area is the development of successful supplier (vendor) relationships. In fact, many professional procurement/materials managers agree that in today's global marketplace strong supplier relationships should be developed to create and sustain a competitive advantage. Some companies go so far as to refer to suppliers (vendors) as partners and/or stakeholders in their company. When vendors are 'partners', companies tend to rely more on them to provide input into product design, engineering assistance, quality control, and so on.

The buyer-supplier relationship is important and deserves special discussion. The next section provides additional discussion of supplier relationship management.

2.6.2 SUPPLIER RELATIONSHIP MANAGEMENT

Many successful companies have recognised the key role that procurement plays in supply chain management and that supplier/vendor relationships are a vital part of successful procurement strategies. As mentioned, this is especially true when companies reduce the total number of their suppliers, frequently in conjunction with Total Quality Management (TQM) programmes or Just-In-Time (JIT) production and inventory systems.

At this stage, procurement professionals recognise that quality management necessitates quality materials and parts. That is, the final product is only as good as the parts that are used in the process. Also, they recognise that the customer satisfaction process begins with procurement.

Another dimension of the supplier relationship is that procurement contributes to the competitive advantage of the company, whether the advantage is one of low cost, differentiation, or a niche orientation. Therefore, the procurement management programme has to be consistent with the overall competitive advantage that a company is seeking to attain in the marketplace, i.e., firms may approach the procurement process differently, depending on the products and/or services provided, target markets, supply markets and so on.

2.7 IMPROVING THE PROCUREMENT PROCESS AND BEST PRACTICES

There are a variety of tools and techniques that the modern procurement professional can use to improve the sourcing process. In addition, sourcing best practices exist, within leading organisations, which can be leveraged to improve existing sourcing processes. This section outlines these tools and techniques, and provides examples of best practices.

2.7.1 E-PROCUREMENT AND ELECTRONIC PURCHASING

Electronic procurement (also known as e-procurement) is a way of using the Internet to make it easier, faster and less expensive for businesses to purchase the goods and services they require. While e-procurement is a general term that covers a wide assortment of techniques, such as reverse auctions, its overall goal is to streamline the purchasing process so that businesses can focus more management time on earning revenue and serving customers.

Implementing an electronic procurement system offers a company many benefits. Purchases are easier to track because they are done over the Internet and the company's managers can easily see who made which purchases without having to wait to receive a monthly revolving credit statement. Furthermore, many companies incorporate product specifications into their e-procurement systems. Also, e-procurement saves time. Buyers do not need to leave their desks or make phone calls to suppliers in order to place orders; they simply go through the Internet. And, because suppliers receive the order almost immediately, they can fulfil and ship it much faster than with the traditional procurement methods.

E-procurement does not work for all items purchased by a firm. Items of strategic importance to the firm are typically not purchased using e-procurement, for example, specially designed engines for a package transportation vehicle. Non-critical items such as, for example, stationery, are better suited to the use of these types of systems [2].

2.7.2 PROCUREMENT CARDS

Procurement cards are, essentially, credit cards provided to internal users to allow these internal users to purchase low-cost items without going through the procurement group to accomplish this. These types of cards work well where there are low-cost items required on an *ad hoc* basis and/or where an established supplier for a low-cost item does not currently exist and/or where the supplier is not covered by some other purchasing system. The users make the buying decisions up to the value allowed on the procurement card and within the user department budget allowed for these types of items.

The monetary value of items purchased and covered by procurement cards is typically low. In these cases, the cost of involving the procurement group in a supplier search and qualification exercise would typically outweigh the cost of the item purchased [1].

2.7.3 LONG-TERM PURCHASE AGREEMENTS

Long-tern purchase agreements, as opposed to blanket purchase orders, are set up to cover the purchase of higher value/cost items over a long period of time. Typically, these agreements are set up for a time period of one to five years with review and renewal during that period based on a supplier's ability to conform to performance expectations (including quality, quantity, cost, damages, etc.). Long-term purchase agreements can reduce transaction costs by eliminating the need for time-consuming renewal for each purchase and/or a group of purchases.

In addition, once a buyer and supplier have reached agreement on the terms of the contract, it often becomes possible to shift the material-releasing responsibility to users. Material releasing should ideally be accomplished electronically, as opposed to manually, to save more time and cost [1].

2.7.4 PROCUREMENT PROCESS REDESIGN

From time to time the processes and procedures used in procurement should be evaluated to determine if these processes and procedures could be improved. Re-design efforts can lead to reduced cycle times for transactions, simplified processes and procedures, reduced costs and improved service levels.

The procurement process affects many individuals and groups within an organisation. Users in every department within an organisation can benefit from a procurement process re-design initiative [1].

2.7.5 ELECTRONIC DATA INTERCHANGE

EDI involves the computer-to-computer exchange of information. It can be used to support transactions between a buyer and a seller, allowing for greater efficiencies and streamlined communication. This, in turn, can lead to less time and lower costs in the procurement process.

2.7.6 ELECTRONIC CATALOGUES

Procurement groups typically use this approach in conjunction with other low value/cost item purchase systems. Electronic catalogues provide a user-friendly way of accessing information about a seller's products and/or services. The key benefit of using electronic catalogues is their low-cost search capability, and, if users order directly from these catalogues (using a procurement card for instance) cycle times and ordering costs can be reduced [1].

2.8 CONCLUDING REMARKS

This chapter provided an overview of the purchasing process, including the key objectives and functions; key steps in the purchasing process/the purchasing

cycle and types of key documents used to manage the purchasing cycle. The chapter also pointed out the many different types or categories of purchases in addition to buying production items, capital equipment, and maintenance items. Procurement can be responsible for buying services, packaging supplies, MRO items, capital equipment and even jet aircraft in some cases. There is no 'one-size-fits-all' approach to all the purchasing functions. Purchases can vary according to type, relative importance, cost, quantities, relative quality, delivery timeframes and volumes. There are rarely procurement experts for every commodity and so many procurement departments have personnel responsible for procuring different items.

Procurement personnel tend to have one thing in common, that is the opportunity to effectively manage large amounts of resources through the procurement process. By using e-procurement tools, for example, procurement can satisfy user requirements, increase value-added time, and focus on the use of their professional time to improve the procurement process itself.

2.9 REFERENCES

[1] Monczka D., Trent R. and Handfield R., Purchasing and supply chain management, 3rd ed., Mason, South Western Publishers, 2005.

[2] EPIQ, Advanced supply management, articles, eProcurement: Electronic Procurement, http://www.epiqtech.com/Electronic-Procurement.htm, Accessed on 2 February 2013.

THE PLANNING, ORGANISING, LEADING AND CONTROL OF PROCUREMENT

Authors: Richard Chinomona and Kenneth Mathu

SYNOPSIS

This chapter discusses four important aspects of procurement, namely Planning, Organising, Leading and Controlling (POLC). These procurement functions are strategically important for any organisation as they form the foundation of an effective procurement function, which, in turn, affects the success or failure of a company. The chapter also defines and explains key concepts related to these four functions in the context of procurement.

3.1 INTRODUCTION

The procurement landscape has experienced a number of important changes. Among these are the continuous and rapid technological innovations that have allowed procurement practitioners to become ever more effective and efficient in their profession. As a direct result, the pace of globalisation has continued unabated. Another factor worth mentioning is the way in which the economic meltdown of 2008 forced organisations to search for ways in which to reduce costs and implement lean policies. Increasingly, organisations such as Eskom are looking to the procurement function to create and deliver new value.

3.2 PLANNING FOR PROCUREMENT

Planning is a management function that forms the foundation for all others. When planning is properly conceived and implemented, it serves as an important mechanism for extracting, distributing and allocating resources [1].

3.2.1 DEFINITION OF PROCUREMENT PLANNING

Procurement planning has been defined as a process of determining the procurement needs of an entity while ensuring that acquisitions are made timeously at the most competitive price available [2]. Procurement planning involves, for example, determining whether or not to acquire certain production inputs from outside suppliers and, if so, how to acquire those inputs, what quantity of inputs to acquire, what price would be acceptable and when to acquire the required inputs.

Procurement planning further involves identifying potential suppliers of the required production inputs. In this regard, procurement practitioners need to decide what degree of control they want to retain in the acquisition process.

Procurement planning also requires the purchasing department to actively consult with internal users or customers (such as the operations department) regarding the options and alternatives available to acquire the required production inputs. For instance, the procurement department may need to discuss with the user department issues such as purchase estimates, product specifications, make-or-buy decisions, and outsourcing opportunities [3].

3.2.2 IMPORTANCE OF PROCUREMENT PLANNING

Few will argue the importance of planning across a supply chain. Planning is not concerned with future decisions but with the future impact of decisions made today [4]. This means that the procurement plan will impact on the future performance of a company.

It is important that procurement planning is done properly because well-crafted procurement plans are more likely to produce the desired results for a company [5]. Procurement planning ensures that the procurement department's objectives are aligned with the company's overall goals. It calls for the procurement department to identify organisational requirements rather than merely functional requirements. This involves, amongst other things, identifying the production input needs and the right suppliers.

A defective procurement plan not only wastes resources, it also exposes a company to operational and reputational risks. A good procurement plan will lead to, inter alia:

- Better requirements definitions. This will increase the likelihood of receiving strong offers, which, in turn, will facilitate the evaluation process, lead to appropriate products for the company, and easier contract management.
- Improved sourcing as a result of suppliers being managed in a more effective and efficient manner.
- Fewer last-minute actions.
- Fewer repetitive, labour-intensive procurement activities.
- Fewer delays and shorter lead times.
- Reduced transaction costs as a result of consolidated procurement actions.
- Development of Key Performance Indicators (KPIs) for milestones and accountabilities and monitoring systems.
- Obtaining best prices for aggregate requirements.
- Establishment of criteria to measure effectiveness of the procurement function.
- Development of long-term agreements.

Good procurement planning is essential for optimising the contribution of the procurement function towards achieving the company's strategic goals.

3.2.3 PROCUREMENT PLANNING STEPS

Specific tasks form part of an interrelated and interactive procurement management process:

- Establishing procurement objectives.
- Creating a procurement action plan.
- Drawing up a procurement schedule.
- Developing procurement budgets.
- Establishing procurement policies, procedures and rules.

The procurement planning task encompasses setting of the vision, mission, goals and objectives for the procurement department. It also involves problem solving, decision making and policy making. Procurement planning best practice requires the analysis of contractual risk and market research.

3.3 ORGANISING FOR PROCUREMENT

Once the procurement planning is complete (although plans are always subject to revision as new or better information becomes available), the plans have to be put into action. However, in order to do this, the procurement department must organise itself appropriately. Organising for procurement entails combining activities so that procurement objectives and organisational goals can be accomplished. This encompasses such tasks as establishing the right organisational design and delegating authority.

Organisational design refers to the process of assessing and selecting the structure and formal system of communication, division of labour, co-ordination, control, authority, and responsibility required to achieve organisational goals. An organisation's design, including the specific features put in place to support that design, is much more than what an organisational chart can ever depict. Procurement executives must think about how their organisational design and structure can enable substantial improvements in performance and operational excellence. Specific types of organisational structures are presented later in the chapter.

Organising for procurement is part of the overall management process and should therefore be conceptualised concurrently with the planning, leading and controlling functions of the business [6]. Since the business environment determines the procurement strategy to be adopted; and as the procurement strategy influences the structure of the procurement department, this means that organising for procurement should change as the business environment changes.

3.3.1 ORGANISING PROCESS IN A PROCUREMENT DEPARTMENT

The organising process starts with making decisions on how, when, by whom, and with which resources various tasks will be achieved. While there is no general consensus among the academics on the number of stages in the organising process, the following six steps are suggested [6]:

- **Gathering information** – To build an effective and efficient procurement department, it is imperative to have accurate and up-to-date information, such as the physical, human and financial resources available to the department or the company for achieving its objectives.

- **Identifying and analysing activities** – The procurement department needs to identify which crucial activities it is mandated to undertake in order to

achieve the company goals. The identified procurement activities ought to be further broken down into specific tasks to be accomplished by specific staff members in the department.

- **Classifying activities** – It is important that a duplication of activities by different departments in the same organisation be avoided. Duplication of activities can be costly and is a recipe for inter-departmental conflict. It is therefore necessary for the procurement department to identify related procurement activities and to prevent such duplication.

- **Allocating staff** – Once divisions or sections have been established in a procurement department, the next step is to identify the number of staff members required, together with the skills they need to possess.

- **Assigning authority and responsibility** – After allocating staff members to their respective divisions, the procurement managers ought to assign authority and responsibilities to each divisional office. At this stage, the duties of each staff member should be clearly spelt out in order to foster co-operation among staff members. Conflicts that might tear apart the department may arise if the assigned authority and responsibilities are not clearly set out.

- **Facilitating work** – When all the structures of the procurement department have been established, the management of the department should facilitate work by ensuring that the staff members are informed of work methods, so that the procurement plans are carried out properly and timeously.

3.3.2 BASIC PRINCIPLES OF ORGANISING FOR PROCUREMENT

Certain principles affect or may come into play when organising procurement.

3.3.2.1 The Co-ordination Principle

Co-ordination refers to the synchronisation and integration of procurement activities, responsibilities, and command and control structures to ensure that the resources of a company are used most efficiently in the pursuit of procurement objectives. The co-ordination principle requires procurement managers to define the chain of command, unity of command and extent of control. The chain of command refers to the line of authority that stretches from the top leadership to the lower ranks of the organisation. The unity of command refers to the notion that each employee should answer to only one immediate superior, while extent of control refers to the number of employees directly reporting to a procurement manager.

3.3.2.2 The Authority Principle

Authority is the power or right to give orders, make decisions, enforce obedience and use resources. However, the power wielded also depends on how the procurement department is structured. In other words, it determines

whether the holder has line authority, staff authority, line and staff authority, functional authority or project authority. Line authority refers to direct authority that a procurement manager has over the subordinates under his or her line of command. Staff authority refers to the authority limited to giving advice. Functional authority refers to the power to issue orders to line subordinates in an established area of responsibility that is wielded by staff specialists. Project authority refers to the horizontal authority of a project manager, which can be extended to different departments in a company.

3.3.2.3 The Responsibility Principle

When an employee accepts a job offer in the procurement department, he or she agrees to perform the duties assigned to the offered job. In other words, the employee accepts responsibility to perform the duties of the assigned job.

3.3.2.4 The Accountability Principle

Besides being responsible, employees are also expected to be accountable for their actions in the procurement departments. Accountability means that employees in the procurement department must perform the tasks of a job correctly. Failure to do so means they will be held to account by their superiors.

3.3.2.5 The Delegation Principle

When a procurement manager allocates to a subordinate the responsibility and authority to make decisions, it is termed delegation.

3.3.2.6 The Specialisation Principle

The specialisation principle calls for employees with special skills to be appointed to work in divisions of the procurement department where they apply their special skills and knowledge.

3.4 ORGANISATIONAL STRUCTURE

The organisational structure of a business helps the business to achieve its goals by providing a framework (system or plan) for procurement managers to divide responsibilities, allocate authority, co-ordinate activities, control performance, and hold procurement officers accountable for their work. It is therefore imperative for a procurement department to adopt an appropriate organisational structure that facilitates the achievement of departmental objectives and company goals.

3.4.1 LINE ORGANISATIONAL STRUCTURE

This is a simple hierarchy where lines of authority run vertically from the top levels of management to the lower ranks.

3.4.2 LINE AND STAFF ORGANISATIONAL STRUCTURE

This type of structure has vertical lines of authority for its basic functions, but staff specialists are added to perform more complicated functions. They support the line management hierarchy by giving advice. Figure 3.1 depicts the organogram of the line and staff organisational structure.

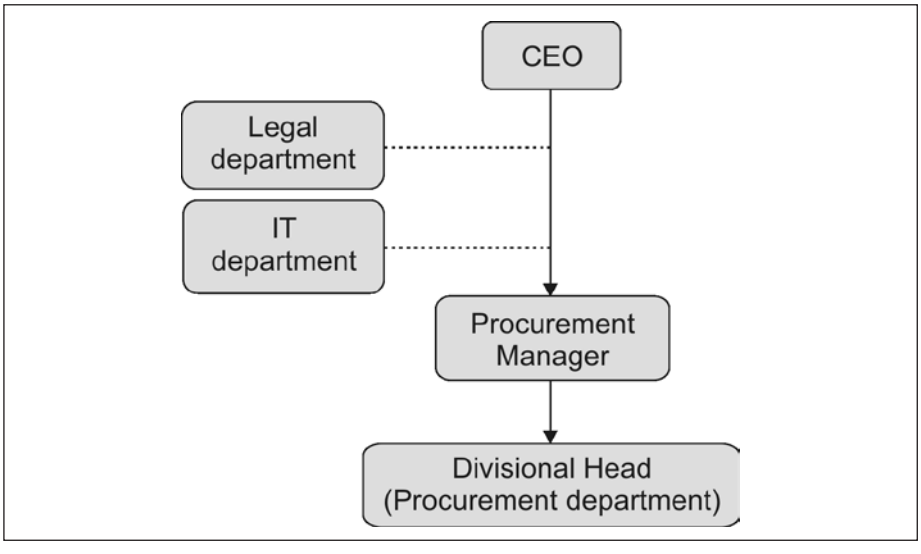


Figure 3.1: Line and staff organisational structure.

3.4.3 FUNCTIONAL ORGANISATIONAL STRUCTURE

In this structure, the procurement manager has line authority over the procurement activities. The procurement manager has authority to set goals and to implement procurement plans within his or her jurisdiction. Figure 3.2 is an organogram of the functional organisational structure.

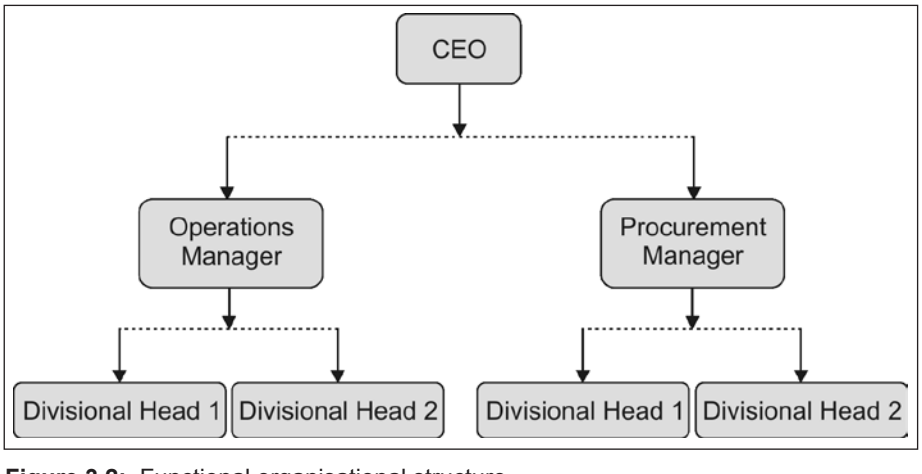


Figure 3.2: Functional organisational structure.

3.4.4 DIVISIONAL ORGANISATIONAL STRUCTURE

These are self-contained divisions where divisional managers have the authority to make decisions and take responsibility for the procurement activities under their jurisdiction. Figure 3.3 depicts the divisional organisational structure.

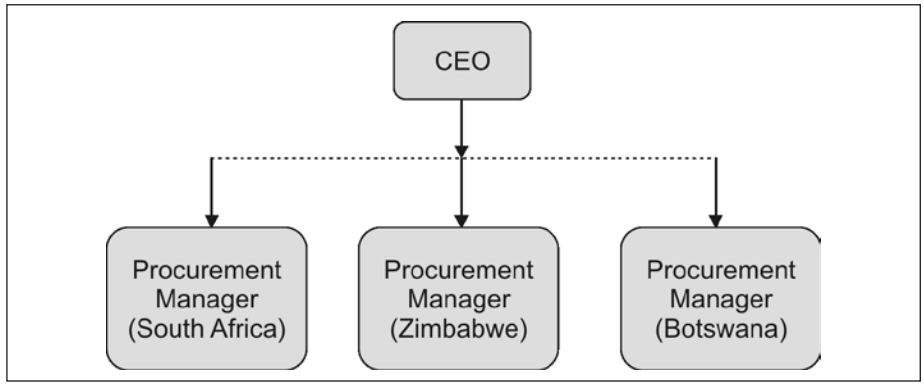


Figure 3.3: Divisional organisational structure.

3.4.5 MATRIX ORGANISATIONAL STRUCTURE

This type of organisational structure has horizontal and vertical lines of authority. While the horizontal divisional lines ensure co-ordination across functional departments, the vertical functional lines of authority ensure control inside functional departments. Figure 3.4 is the organogram of the matrix organisational structure.

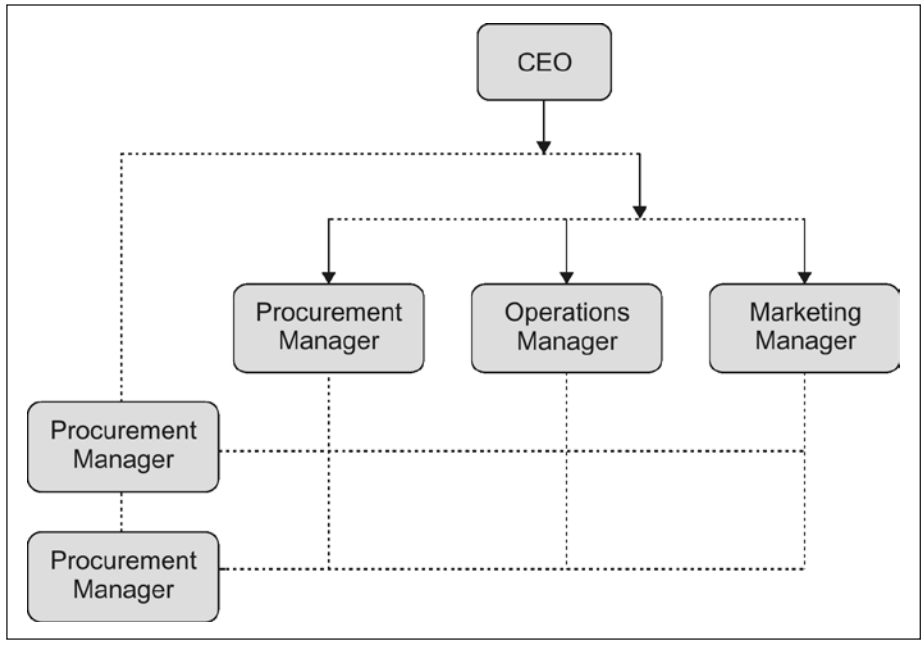


Figure 3.4: Matrix organisational structure.

3.4.6 NETWORK ORGANISATIONAL STRUCTURE

This type of structure is appropriate for an organisation that outsources some services to separate companies that are working under contract and are connected electronically to the central headquarters. Figure 3.5 is an organogram of the network organisational structure.

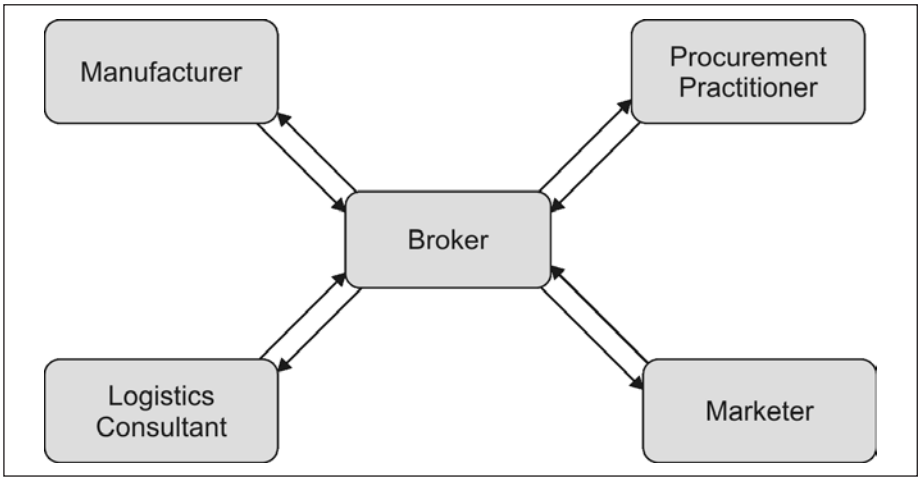


Figure 3.5: Network organisational structure.

One of the most important tasks of a procurement department is to develop the appropriate macro- and micro-organisational structures. The macro-organisation mainly deals with the teams and sub-teams, whereas the micro-organisation covers the work flow within the project.

3.5 LEADING

Leadership refers to the ability to influence people towards the attainment of company goals [7]. It is a process that involves something happening as a result of the interaction between a leader and followers. However, in order to understand this process one has to consider the interaction of three elements: the leader, the followers and the situation. To understand the role of the leader, one must understand his or her personality, position and experience. Understanding the role of followers includes considering their values, norms and motivations; and understanding the situation includes assessing the external and internal environment.

A major challenge facing organisations is how to develop a generation of leaders who understand how to make procurement a critical core competency. Failure to do so minimises the chances of winning in the marketplace, particularly as companies rely on suppliers for an ever increasing amount of value-add. Effective leadership is a necessary prerequisite for creating an effective supply management organisation. The skills required of effective leaders are constantly

affected by the changing business environment and the need to refresh and reassess those skills constantly [8].

3.5.1 LEADERSHIP SKILLS

A leader who demonstrates leadership is any person who influences individuals and groups within an organisation, helps them in the establishment of goals, and guides them toward the achievement of those goals, thereby allowing them to be effective. Given the magnitude of change a company faces as it endorses a strategic view of procurement, it should become evident why the profession needs supply managers who are capable of being supply leaders, and supply leaders who are capable of demonstrating leadership.

The five most important skills that a procurement leader is expected to have are technical skills, interpersonal skills, internal and external enterprise skills, and strategic business skills.

3.5.1.1 Technical Skills

These are the basic administrative skills necessary for any procurement professional in the 21st century. They include product knowledge, computer literacy, total quality management and government legislation. Technical skills can include Advanced Procurement Process (APP) skills, such as category management, global sourcing development and detailed cost driver analysis. It includes the need to use and manage e-procurement technology and processes effectively. This means optimising supplier selection to leverage the opportunities offered by e-procurement [9, 10, 11]. These basic procurement skills are the foundations for building more strategic skills [12, 13, 14].

3.5.1.2 Interpersonal Skills

Interpersonal skills allow one to interact effectively with people. They include written and oral communication, conflict resolution, influencing and persuasion, group dynamics, problem solving and interpersonal and cultural awareness.

3.5.1.3 Internal Enterprise Skills

These skills relate to the overall business and how the different functions interact. Internal enterprise skills will enable procurement professionals, for example, to effectively conduct market analysis, manage internal relationships, evaluate global sourcing, manage internal change and plan.

3.5.1.4 External Enterprise Skills

These skills relate to the supply chain/network and its stakeholders and will, for example, enable the management of external relationships and stakeholder change.

3.5.1.5 Strategic Business Skills

These skills relate to broader strategic issues and how procurement can have an impact on overall organisational value, such as planning and managing strategic partnerships and alliances, managing risk and adding value to the organisation.

3.5.2 LEADERSHIP VIRTUES

Virtues to be developed by procurement leaders include ethics, trust and respect for others, honesty and using power responsibly [15]. Authenticity in leadership is described as being true to yourself or being the person that you are rather than projecting an image or persona [16]. Authentic leadership incorporates transformational leadership and ethical leadership or could be seen to add ethical leadership qualities to the established transformational leadership style [17]. An authentic leader is self-aware and guided by a set of values, or high moral standards. He or she is viewed as honest and as possessing integrity, which is demonstrated through transparency. It results in fair and balanced decisions. An authentic leader is seen to be doing what is right and fair for the leader and his or her followers [17].

The distinguishing features of authentic leadership, as opposed to transformational and other leadership styles, are leader self-awareness and self-regulation, emotional containment, and a commitment to enabling follower success through supporting their development. Such leaders address the need for authentic leaders who can successfully operate in an increasingly complex working environment [18, 19].

3.5.3 LEADERSHIP TASKS

Leading a procurement department involves communication, motivation, conflict management and negotiation. In order to perform these roles, procurement leaders need to help define the purpose of the organisation and the improvement of principles and values. They must ensure that there is a continuous programme of education and self-improvement for everyone in the organisation while removing barriers that prevent improvement and open communication. Their actions must demonstrate the integrity of their principles and values.

3.6 CONTROLLING

The purpose of control is to give the procurement manager information about why a certain objective, performance standard or any other indicator has not been met. Five major tasks underlie the procurement manager's control responsibilities. These include revising and updating plans as new and better information becomes available; standardising control processes and procedures across the procurement organisation; evaluating procurement officers' performance; preventing problems and complaints; and protecting the organisation's reputation and viability.

Control makes it possible to regulate organisational activities to make them consistent with the expectations established in plans, targets, and standards of performance [7]. This is basically the process of monitoring and evaluating all the functions of procurement – procedures, policies and control measures. The person in control ensures that all procurement functions run smoothly. Controlling the procurement function involves a variety of tasks and these are discussed in the next eight sections [20].

3.6.1 BID PROCEDURES, POLICIES AND CONTROL MEASURES

Uniformity in bidding procedures and control measures should be enhanced to ensure effectiveness and efficiency in supply chain management. The process can be accomplished by implementing a uniformed procurement policy; ensuring the bidding procedures are easy to interpret, cost-effective, quick, and transparent and free of corruption; and implementing a supply chain management system that is suitable for private and public institutions [21].

3.6.2 BID OR CONTRACT DOCUMENTATION

Bid documents define the rights, risks and obligations of the parties involved in a contract and define the nature, quantity and quality of the goods, services or works to be provided in the performance of the contract. The core documents in the bids include the bid conditions of contract; specifications, data sheets, and drawings; the bid itself; and a specific contract agreement stipulating delivery standards and requirements. The uniformity of the bid and contract documentation would promote ease of entry for new entrants or emerging enterprises; cost-effectiveness; easier interpretation by new entrants and emerging contractors; and a simplification of the documentation process [21].

3.6.3 SUBCONTRACTING AND OUTSOURCING

Subcontracting and outsourcing are allowed in normal procurement procedures. In the public sector, they are encouraged in supply chain management because they promote certain procurement policy objectives. There are two types of outsourcing, namely, turnkey and partial outsourcing. In turnkey outsourcing, the buyer minimises responsibility for the outsourcing process; doesn't need to have experience in similar projects; and expects the project to run smoothly. In partial outsourcing, the buyer has more influence in price, rates, costs, staff, technology, materials used and their quality [21].

3.6.4 APPOINTMENT OF CONSULTANTS

Consultants provide expert advice professionally and are engaged for a variety of reasons. They may, for example, provide specialised services for a limited period; impart superior knowledge; transfer skills and upgrade a knowledge base while executing an assignment; or provide independent advice on the most suitable approaches, methodologies and solutions for projects.

The consultancy service should meet the highest standards of quality and efficiency and provide advice that is unbiased and does not conflict with the interests of the principle. It should ensure that the advice proposed or assignment executed meets the ethical principles of the consultancy profession.

The method of selection of consultants should be based on the scope of the assignment, the quality of service, the complexity of the assignment and whether the assignments are of a standard or routine nature. Consultants consider six critical goals while negotiating for their service: avoidance of misunderstanding; maintenance of working independence and freedom; assurance of work; assurance of payment; and avoidance of liability/litigation [22].

3.6.5 RISK MANAGEMENT

It is imperative that procurement considers the potential risks in the supply chain management process. There are many risks in the public, private and service sectors, considering the length of the supply chain and the many processes involved with moving goods and information from suppliers through to manufacturing, through distribution of the finished product, and finally to customers. To pre-empt the risk issues, procurement should identify risk on an individual case basis, assign risk management to the party best equipped to manage a risk, and exercise risk management in a proactive manner by adequately addressing residual risks. Contract documentation should indicate clearly relative risks to the contracting parties [21].

Advance provision should be made for procurement-related risk by taking out the appropriate insurance coverage. This allows the organisation to mitigate risk and to avoid financial loss. This is particularly important in cases where large volumes of goods are handled and supplied and delivery routes are long. It may be worth remembering that insurance does not usually cover risk arising from war, piracy and in-transit delay [23].

Suitable arrangements should also be made to ensure that the payment of insurance-related excess does not negatively affect small and micro enterprises, especially in public sector procurement [24].

3.6.6 PERFORMANCE GUARANTEES

Performance guarantees are essential for all procurement contracts, but especially for large and complex contracts. All engineering and construction contracts should include non-performance clauses.

3.6.7 ETHICS AND FAIR DEALINGS

In supply chain management all parties are required to comply with the highest ethical standards to promote mutual trust and an environment that is conducive to conducting business with integrity and in a fair and reasonable manner. This is a crucial discipline that procurement should adhere to without compromise.

Within procurement, this involves, at a minimum, dealing with suppliers honestly, not accepting gifts or hospitality, being prudent in the use of the employer's property, and constantly working to eliminate fraud and corruption.

3.6.8 ANTI-CORRUPTION MEASURES

Anti-corruption measures are supported by a number of appropriate laws and should be thought of as an important part of the control process. These laws also protect employees making disclosures against their employers in both the private and public sectors. In South Africa, the Public Protector Act 23 of 1994 is an example [24].

3.7 CONCLUDING REMARKS

Succeeding as a procurement leader requires strategic thinking, tactical execution, business knowledge and the ability to communicate, motivate, and lead people. And since procurement is increasingly about devising new and creative ways of doing business, managing the change process is also essential.

The management functions of planning, organising, leading and controlling are widely considered to be the best means of articulating the job of running a procurement organisation. Despite the challenges that managers have had to face over the past decade or so, these essential functions still remain the foundation of their work.

3.8 REFERENCES

[1] James V.U., Public policy and the African environment: An examination of the theory and practice of the planning process on the continent, In: Agenda setting and public policy in Africa, Hants, Ashgate Publishing Limited, 2004.

[2] Mullins D.R., Accountability and co-ordination in a decentralised context: Institutional, fiscal and governance issues, Washington D.C., American University, 2003.

[3] Matthews D., Strategic procurement in the public sector: A mask for financial and administrative policy, Journal of Public Procurement, Vol. 5 (Issue 3), 2005, pg. 388.

[4] Deme A., Why is it important to undertake good planning before undertaking a procurement process? IGF Journal, Vol. 21 (Issue 1), 2009.

[5] Basheka B.C., Procurement planning and accountability of local government procurement systems in developing countries: Evidence from Uganda, Journal of Public Procurement, Vol. 8 (Issue 3), 2008, pp. 379-406.

[6] Strydom J., Principles of business management, Cape Town, Oxford University Press, 2011.

[7] Daft R.L., Management, 5th ed., Fort Worth, The Dryden Press, 2003.

[8] Sharif A.M. and ZahirIrani I., Supply chain leadership, International Journal of Production Economics, Vol. 140, 2012, pp. 57-68.

[9] Croom S.R., The impact of e-business on supply chain management – An empirical study of key developments, International Journal of Operations and Production Management, Vol. 25 (Issue 1), 2005, pp. 55-73.

[10] Ogden J.A. *et al.*, Supply management strategies for the future: A Delphi study, Journal of Supply Chain Management, Vol. 41 (Issue 3), 2005, pp. 29-38.

[11] Tassabehji R., Wallace J. and Tsoularis T., Re-aligning reverse e-auctions for organisational agility, International Journal of Agile Systems and Management, Vol. 1 (Issue 4), 2006, pp. 346-359.

[12] Carr A.S. and Smeltzer L.R., An empirical study of the relationships among purchasing skills and strategic purchasing, financial performance and supplier responsiveness, Journal of Supply Chain Management, Vol. 36 (Issue 3), 2000, pp. 40-54.

[13] Cousins P.D., Lawson B. and Squire B., An empirical taxonomy of purchasing functions, International Journal of Operations and Production Management, Vol. 26 (Issue 7), 2006, pp. 775-794.

[14] Giunipero L., Handfield R.B. and Eltantawy R., Supply management's evolution: Key skill sets for the supply manager of the future, International Journal of Production and Operations Management, Vol. 26 (Issue 7), 2007, pp. 822-844.

[15] Kloppenborg T.J. and Petrick J.A., Leadership in project life cycle and team character development, Project Management Journal, Vol. 30 (Issue 2), 1999, pp. 8-13.

[16] George B., Authentic leadership: Rediscovering the secrets to creating lasting value, San Francisco, Jossey-Bass, 2003.

[17] Avolio B.J. *et al.*, Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviours, Leadership Quarterly, Vol. 15, 2004, pp. 801-823.

[18] Avolio B.J. and Gardner W.L., Authentic leadership development: Getting to the root of positive forms of leadership, The Leadership Quarterly, Vol. 16 (Issue 3), 2005, pp. 315-338.

[19] Toor S.u.R. and Ofori G., Leadership for future construction industry: Agenda for authentic leadership, International Journal of Project Management, Vol. 26 (Issue 6), 2008, pp. 620-630.

[20] Baily P. *et al.*, Purchasing principles and management, Harlow, Pretence Hall, 2005.

[21] Van Weele A.J., Purchasing and supply chain analysis: Strategy, planning and practice, 4th ed., London, Thompson Learning, 2005.

[22] Monczka R.M. *et al.*, Purchasing and supply management, 4th ed., Andover, Cengage Learning, 2008.

[23] Draper A., Organisational buyers as workers: The key to their behaviour, European Journal of Marketing, Vol. 28 (Issue 11), 1994, pp. 50-65.

[24] Public Protector Act, 1994 (No. 23 of 1994).

PROCUREMENT AS A SUPPORT AND STRATEGIC FUNCTION WITHIN COMPANIES

Authors: Llewellyn R. Roberts and Robert J. Trent

SYNOPSIS

This chapter focuses on the contribution that procurement can make to a firm's competitive position and how this contribution should be linked to the firm's goals and objectives. We begin by discussing the concept of a corporate strategy and how it is developed. We then discuss the importance of procurement and how procurement can contribute to the strategic plan. In order for procurement to effectively contribute to achieving the corporate strategy, procurement must be able to translate corporate goals and objectives into specific procurement goals and objectives. In turn, these goals and objectives must underpin, and drive, strategic procurement processes and detailed commodity strategies, including specific action plans that detail how goals and objectives will be achieved. To illustrate this, a process is provided that procurement management can adopt to translate corporate goals and objectives into procurement commodity strategies.

We also discuss the evolution of procurement strategy and the various sourcing strategies that can be adopted to help ensure the support, and achievement of, corporate strategies. In the last part of the chapter we discuss some of the evolving strategies that modern procurement groups are adopting to remain 'ahead of the game'.

4.1 INTRODUCTION

For firms to remain competitive they must constantly evolve to meet the challenges of competition. Remaining competitive means that procurement must contribute to the profitability of a firm. It can do so by concentrating on and developing world-class processes and co-ordinating procurement activities related to the objectives of the organisation as a whole. Procurement groups must adopt strategies that help a firm achieve a competitive advantage.

Modern firms are finding that to remain competitive they have to develop strategies that include seeking new sources of supply, at reduced costs, around the world. As firms 'go global' the procurement function has taken on a significant role in supporting this strategy.

4.2 DEFINING CORPORATE STRATEGY

Today, firms face the challenge of remaining successful in highly competitive world markets. A firm's ability to relate effectively to external environments – social, economic, political, legal and technological – to anticipate and to adjust to changes, and to make best use of opportunities by formulating and executing strategic plans is a major factor in generating future earnings and is critical to survival. Procurement plays a vital role in the development and execution of a firm's strategy.

Two key issues to be addressed are how procurement can contribute effectively

to organisational objectives and strategy; and how the organisational objectives and strategy properly reflect the contribution and opportunities offered in the supply chain. Procurement strategy must link with and support organisational goals and objectives.

Terms abound in business strategy, i.e., re-engineering, world-class manufacturing, best in class, etc. This proliferation of terms shows that organisations are in a state of constant and dynamic change; however, they do not always capture the processes that occur when developing a corporate strategy.

What is a corporate strategy and how is it best defined? According to Richard Vancil of Harvard University, the strategy of an organisation is a conceptualisation of the organisation's longer-term objectives and purposes, the broad constraints and policies that govern activities and a set of action plans and near-term goals expected to help achieve the organisation's objectives [1].

The strategy of an organisation is an embodiment of the firm's long-term objectives and purposes, the constraints that restrict the firm's activities, the markets within which the firm operates or wishes to operate. It also expresses the firm's desired position within those markets, its goals and objectives and the action plans required to achieve these goals and objectives. The corporate strategy must contain a specific plan of how the firm will differentiate itself from its competition, achieve long-term growth, manage its costs, keep abreast of and respond to changes in the market, achieve customer satisfaction and remain profitable and, ultimately, meet the expectations of shareholders.

4.3 PROCUREMENT AND CORPORATE STRATEGY

It is important that the procurement strategy within an organisation be linked to and support corporate strategy. Often, significant obstacles to the development of an effective supply strategy result from difficulties in translating organisational objectives into supply objectives. In this section we cover linking procurement and corporate strategy; translating corporate objectives into procurement objectives; and translating procurement objectives into procurement goals.

4.3.1 LINKING PROCUREMENT AND CORPORATE STRATEGY

It is beyond the scope of this chapter to go into the development of corporate strategies. However, the economics associated with a corporate strategy are important to understand, at least at a high level. In short, an organisation must take in more than it spends on operating costs in the long term if it is to grow and remain profitable. Either increasing revenues or decreasing costs or both can accomplish this.

Procurement plays an important role in helping to accomplish both objectives. Through effective procurement strategies an organisation can position itself

to be competitive on both the quality and pricing of its products and services. Reducing the costs of materials and services is an area where procurement plays a vital role and thereby helps to improve corporate profit margins. In many cases, procured goods and services provide a major opportunity for reducing costs within an organisation and for improving return on assets.

Many firms, however, do a poor job of accomplishing this. It is frequently the result of a poor link of procurement strategies to corporate strategies. In some instances a limited understanding or awareness by procurement of corporate strategies causes the lack of accomplishment. In other cases procurement has not been included in the development of the corporate strategy.

Perhaps the greatest underlying cause of this problem is that top and senior management within organisations often fail to understand the strategic importance of procurement to the organisation and/or how to effectively develop an integrated sourcing strategy that supports organisational objectives. However, many successful firms, including UPS, IBM, Dell and Honda, have recognised the importance of procurement in helping to achieve organisational goals and objectives and have developed organisational strategies to include procurement in the process of developing and linking these strategies [2].

4.3.2 TRANSLATING CORPORATE OBJECTIVES INTO PROCUREMENT GOALS AND OBJECTIVES

Linking procurement strategy to corporate strategy is essential, but many firms do not have mechanisms in place to link the two. Effective contribution from the procurement group means more than just a response to a directive from top management. It implies input into the strategic planning process so that organisational objectives and strategies include procurement opportunities and problems.

One of the major obstacles to the development of an effective procurement strategy lies in the difficulties inherent in translating organisational objectives into procurement objectives. In most cases, organisational objectives can be summarised under four main categories: survival, growth, financial and environmental. When it comes to procurement objectives, however, these are normally expressed in a totally different way, such as quality and function, delivery, quantity, price, terms and conditions, service and so on.

One challenge facing the supply manager is the effective interpretation of corporate objectives and how these link with procurement objectives. A second challenge deals with the choice of the best action plan or strategy to achieve the desired objectives. A third challenge deals with the identification and feedback of procurement issues to be integrated into organisational objectives and strategies.

The development of a procurement strategy requires that procurement management be in tune with the organisation's key objectives and strategies and also be capable of identifying, creating and realising opportunities relating to

these objectives and strategies. The three challenges above require managerial and strategic skills of the highest order if they are to be overcome [2].

4.3.3 TRANSLATING PROCUREMENT OBJECTIVES INTO PROCUREMENT GOALS

A major part of the strategy development process is the creation of strategic objectives, including for procurement within an organisation. Procurement, as mentioned earlier, has a major role to play in developing these objectives; the next step is translating them into concrete goals.

Each objective must be translated into a specific goal or goals that become the basis for a commodity strategy development process. The types of procurement goals and associated objectives are shown in Table 4.1.

Table 4.1: Linking procurement goals to procurement objectives.

Procurement objectives	Procurement goals
Reduce the overall number of suppliers.	Reduce the supplier base by 20% in the coming fiscal year.
Reduce overall levels of inventory.	Reduce parts inventory supply to 15 days or less.
Increase quality of all products and services procured.	Reduce the average number of quality defects by 150 parts per million on all materials received within one year.
Reduce overall costs of goods purchased.	Reduce materials costs by 10% within one year.
Outsource non-core competency activities to outside providers.	Qualify two new suppliers for all logistics services by the end of the fiscal year.

The next step is to translate company-wide procurement goals into specific commodity-level goals [2].

4.4 PROCUREMENT STRATEGY DEVELOPMENT PROCESS

In this section we cover the commodity strategy development process under the following headings:

- Define business unit requirements.
- Define strategic importance of an item and/or service procured (portfolio analysis).
- Determine business/purchase requirements and conduct a market analysis.
- Set goals and conduct a gap analysis.
- Develop a sourcing strategy and set objectives.
- Execute strategy.
- Monitor results and review performance.

4.4.1 DEFINE BUSINESS UNIT REQUIREMENTS

The business unit functional strategy acts as the driving force for organisational procurement strategies for the products and services procured by the business units within the firm. These are translated into purchasing goals and, from these, commodity strategies are developed for commodity families.

The development of a procurement strategy is often carried out by commodity teams, i.e., teams of procurement professionals dedicated to the procurement of a specific commodity, or groups of commodities. Commodities are general categories, or families, of procured items such as fuel, office supplies, wood, cotton, etc.

A commodity team is frequently formed from employees across the business who are familiar with the commodity being procured. The commodity team is responsible for developing a commodity strategy, which defines the details and action plans for managing the commodity [2].

4.4.2 DEFINE STRATEGIC IMPORTANCE OF ITEM AND/OR SERVICE PROCURED

The next step is to understand the relative of the product or service procured importance to the business unit objectives. This is typically achieved through a tool known as portfolio analysis.

Figure 4.1 presents the *Portfolio Matrix*, a tool every supply manager should have in his or her tool kit. Presented in the timeless and classic 2x2 format, the matrix recognises that an effective supply organisation must apply a variety, or portfolio, of strategies and approaches given different supply requirements. The 2x2 matrix has been around for quite a while. This concept, although not this specific tool, was first articulated by Kraljic in his 1983 *Harvard Business Review* article titled *Purchasing Must Become Supply Management* [1].

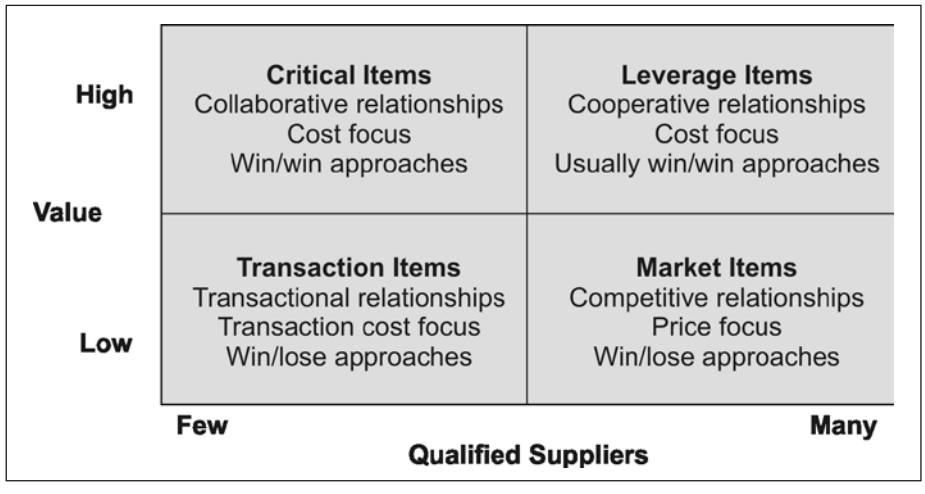


Figure 4.1: The Portfolio Matrix.

Users of the matrix segment their purchase requirements across two dimensions, i.e., the number of active suppliers in the marketplace and the value of the good or service to the buying organisation. For some requirements an active supply market might consist of three or four suppliers. For other items there may be dozens of qualified suppliers. The concept of value also does not have a specific definition. Value can be a function of total dollars spent on an item, or it could be a relatively inexpensive item that has a disproportionate effect on product or service performance.

Perhaps the most important reason for using a tool such as the portfolio matrix is its prescriptive nature. Once a supply manager or team quantifies the total spend for each commodity or category, the good or service can be positioned within the most appropriate quadrant. This will help identify (1) the type of supplier relationship to pursue, (2) whether to engage in a win-lose or win-win negotiation and relationship approach, (3) whether to take a price or cost analytic approach, (4) the types of supply strategies and approaches that should work best given the placement of an item, and (5) how best to create value across different purchase requirements.

The portfolio matrix contains four quadrants where we position or place goods and services. Part of the value that supply managers bring is an understanding of their organisation's purchase requirements and then knowing how to pursue an appropriate supply strategy. There is also value in understanding how to shift items across quadrants to realise even greater value.

4.4.2.1 Transaction Quadrant

The goods and services in the transaction quadrant have a lower total value with a limited supply market. Reducing the transactions cost of the purchase is the primary way for supply professionals to create value here, usually through electronic systems or procurement cards. Even when an item has many potential suppliers the cost of comparing sources outweighs the value resulting from the search. Any price analysis that occurs is cursory due to the low value of the good or service. In reality, relationships are not even a concern in this quadrant.

The number of suppliers that reside in this quadrant should not be a major concern to supply managers. It is simply not worth the effort to get bogged down with transaction items and suppliers. Reducing the transactions cost of a purchase is the primary way to create value in this quadrant.

4.4.2.2 Market Quadrant

The market quadrant includes standard items or services that have an active supply market, lower to medium total value, many suppliers that can provide substitutable products and services, well-defined specifications, and low supplier switching costs. Commodity chemicals, fasteners, corrugated packaging, and other basic raw materials that do not have an unusually high dollar value are

logically part of this quadrant. Any negotiation that occurs in this quadrant is lower level and focuses on price and delivery.

Price rather than cost analytic techniques usually work best when obtaining these items. Competitive bid or price comparisons, spot buys, shorter-term contracting, reverse Internet auctions and blanket purchase orders are the techniques used when obtaining market items. Relationships with the providers of market items are typically competitive (i.e., win-lose) and price focused. Some of the buying approaches employed in this quadrant may increase the number of suppliers with which a buying firm does business, something that seems to counter a broader objective that most firms have of reducing their overall supply base. Like the transaction quadrant, it might be counterproductive to get too caught up with supplier numbers here. The big dollars and returns lie in the upper, not the lower, half of the portfolio matrix.

4.4.2.3 Leverage Quadrant

The upper right quadrant, or the leverage quadrant, includes those items where consolidating purchase volumes and reducing the size of the supply base should lead to a range of benefits. This quadrant features the extensive use of longer-term contracts. Examples of leverage items include any grouping or family of items whose volumes can be combined for economic advantage, such as plastic injected moulded parts, transportation services, electric wiring harnesses and facility maintenance services. Market quadrant items that are grouped into commodity families can be treated as leverage quadrant items.

Since leverage items are often candidates for longer-term agreements, supply managers should engage in intense negotiations with suppliers over issues beyond price. The development of longer-term contracts should lead to discussions about cost, quality, delivery, packaging, logistics, inventory management and service, all factors that can affect supply chain performance. Supply chain managers leverage their requirements not only to obtain favourable pricing, but also to gain advantages in other non-price areas. Depending on the leveraged item, a cost rather than a price focus should begin to emerge in this quadrant. The management of leverage items, particularly owing to the longer-term nature of the contract, will benefit from relationships that are co-operative.

4.4.2.4 Critical Quadrant

The critical quadrant includes goods and services that consume a large portion of purchase dollars, are essential to a service or product's function, or the end customer values highly the differentiation offered by the good or service. This quadrant also features fewer suppliers that can satisfy a purchaser's requirements, which often involves customisation rather than standardisation. At times a supplier is critical simply because it has a patent right to a good or service that the buying company must have.

Although critical items usually represent a small portion of total transactions

and part numbers, they can have a disproportionate effect on product cost or performance. Relationships with suppliers that provide critical items should be, by design, collaborative. In fact, this is the quadrant where we see true supply alliances.

Segmenting purchased items and services in this way makes it easier to determine which strategies and tactics need to be applied in different supply markets and environments. Using the supply segmentation approach, procurement can see clearly how various items/services impact the competitiveness and profitability of the firm and, based on this, can determine the appropriate operational strategy for dealing with each item from a procurement perspective [2].

4.4.3 DETERMINE BUSINESS AND PROCUREMENT REQUIREMENTS AND CONDUCT A MARKET ANALYSIS

The next step is to conduct a commodity research analysis. The first action is to conduct a spend analysis, which entails identifying what each business unit is spending for an item or service. It is important to understand where the money is being spent and with which suppliers. This analysis can reveal that different business units are paying different prices for the same item. It can also reveal where it is possible to consolidate spend for various items with fewer suppliers and/or where excessive variety exists.

The analysis looks at the important characteristics of a supply market as well as business unit requirements. The following steps are carried out in this analysis:

- Determine strategy.
- Identify past expenditures by commodity and supplier.
- Determine total expenditure for a commodity or service as a percentage of the total for the business unit.
- Identify current suppliers and potential suppliers by commodity.
- Determine the marketplace pricing for commodities and services.
- Determine trends in pricing.
- Carry out supplier analysis.
- Identify strategies of market leaders.
- Determine current and future volumes requirements.
- Identify opportunities.

What should purchasers know about the markets from which they purchase? For many years, organisations around the world have invested considerable energies and resources to better understand the markets in which they operate. Specifically, businesses have sought to know the potential aggregate demand in the marketplace for the goods and services they offer; recognise those events that are occurring that affect their market segment *vis-à-vis* new or lost competitors as well as products; and understand who their customers are and the nature of those customers.

The results of this analysis provide a sound basis for decision making. The

information for this research can come from the Internet, supplier literature, government reports, professional associations, trade magazines, the Thomas Register and database research [2].

4.4.4 SET GOALS AND CONDUCT A GAP ANALYSIS

The next step is to establish specific targets for evaluating progress against goals. Goals should relate directly to the objectives and requirements of the business and business unit/s. Effective goals, which are established jointly with stakeholders, should be measurable and action-oriented, evaluate internal progress over time, and compare performance to external benchmarks and competition. They should also go beyond price and are based on total costs.

Goals should also be based on competitive analysis, comparison with market leaders and future trends. The proposed strategy must include details on the specific actions required to achieve these goals. As an integral part of this, a gap analysis should be carried out to determine the firm's current standing in terms of its competition [2].

4.4.5 DEVELOP SOURCING STRATEGIES AND OBJECTIVES

The strategy should include the relevant criteria included in the research, including best suppliers, risks, costs, profit potential and so on. The strategy should include the following:

- Recommended suppliers, location and relative size (local, regional or global supplier).
- Number of suppliers and amount of business to be awarded to suppliers.
- Length and type of contract.
- Product design requirements and extent of required supplier involvement in product and/or service design.
- Supplier development and relationship management required, and activities.
- Overall market supply recommendations.

Many of these criteria will flow from and be a function of the area of the portfolio analysis matrix in which the commodity and/or service was classified. For example, a commodity that falls into the market quadrant would not be a candidate for a strategic alliance with a supplier or suppliers. Conversely, items with high purchase volumes have a potential for significant savings by, for example, consolidating spend with fewer suppliers and through standardisation.

4.4.6 EXECUTE STRATEGY

In this step, procurement professionals carry out the strategy. Key elements of strategy execution include the following:

- Document and communicate the strategy to all concerned, including owners, stakeholders, customers, suppliers, etc.

- Establish tasks to be completed and their timelines.
- Assign accountability for executing the strategy.
- Ensure adequate resources are made available.
- Develop contingency plans.

The individuals and teams responsible for implementing the strategy will then execute the plans.

4.4.7 MONITOR RESULTS AND REVIEW PERFORMANCE

Regular reviews must be held to determine if the strategy is achieving the required objectives and to determine if modification of the strategy is required. The key steps involved in monitoring and reviewing performance are as follows:

- Conduct regular review meetings to determine if the strategy is achieving the desired results.
- Share results with stakeholders.
- Assess internal and external stakeholder perceptions.
- Where necessary, take action to ensure the objectives and goals outlined in the strategy are met and/or adjust the strategy if necessary.
- Provide feedback on actions taken.

The above steps are relatively general. The outcome of the strategy development process may vary considerably on the specific commodity and supply market involved [2].

4.5 KEY SOURCING STRATEGIES

Organisations employ a variety of procurement strategies to achieve a competitive advantage. In this section we will briefly review various procurement strategies.

4.5.1 SUPPLY BASE RATIONALISATION

The process of rationalising the supply base is aimed primarily at determining the appropriate number and mix of suppliers. This process is ongoing as the needs of the business unit change over time. The process requires an analysis of the number of suppliers required to serve current and future needs for purchased items. Supply base rationalisation initiatives focus on developing the most appropriate blend of suppliers given the requirements of the organisation. The intention is to identify the best value and the appropriate number of suppliers for each commodity based on the overall business strategy.

Supply base optimisation should be continuous. The elimination of sub-par suppliers, and those from whom relatively few purchases are made, constitutes the first step in the optimisation process. The next stages of optimisation involve replacing good suppliers with better suppliers and/or upgrading current

good suppliers to the next level of excellence. In order to do this effectively, organisations must develop and implement supplier evaluation systems to identify poorly performing and best-performing suppliers. They can then look to eliminate or upgrade poorly performing suppliers and to develop stronger relationships with top performing suppliers.

During the initial phases of rationalisation, a reduction in overall numbers of suppliers usually results. This is, however, not always the case for every family or group of purchased items.

Several advantages typically arise from supply base rationalisation:

- **Use of world-class suppliers:** Choosing and working with the best suppliers supports higher buyer-firm performance. Instead of working with multiple adequate suppliers, procurement can concentrate on closer working relationships with fewer, better-qualified, suppliers. The key benefits of doing business with world-class suppliers include: fewer quality issues; fewer delivery problems; insight into leading technology; opportunities for developing closer relationships and learning from one another; opportunities to lower product cost; and improving product performance through joint engineering and/or joint value analysis projects.

- **Use of full-service suppliers:** The set of suppliers in an optimised supply base is often larger and more capable of offering a range of services. Some of the expected benefits of using full-service suppliers include: access to suppliers' engineering and technical capabilities, design services, testing capabilities, tooling and production capabilities. The full-service approach relies on a supplier to provide, for example, an entire system of components, activities and services as well as to manage its own supply base. A purchaser can also use a full-service supplier to perform, for example, complete design-to-build work.

- **Reduction of risk:** The reduction of the supply base to fewer, better suppliers can reduce risk. This occurs through the reduced risk of: Poor quality; poor delivery performance; paying too high a price for purchased items and so on. Maintaining a large supply base can increase risk in these areas, more suppliers create the opportunity for increased performance variability or increased supply issues.

- **Lower supply base maintenance costs:** Procurement groups and individuals within these groups interact with suppliers in many ways including contacting suppliers with regard to, e.g., design specifications, quality and other performance requirements, negotiation of contracts, performance problems and so on. Each of these activities costs procurement personnel time and money and increases the potential for miscommunication. When a firm uses a smaller number of better suppliers, supplier 'maintenance' costs tend to decrease over time.

- **Lower production costs:** The use of multiple suppliers for each purchased item can result in increased production costs through inconsistent quality and delivery; and through lower production volumes being offered to each supplier. Fewer, better suppliers being offered contracts for larger volumes of a given production item can result in lower production costs through economies of scale.

- **Ability to engage in more complex procurement strategies:** Implementation of more complex purchasing strategies, such as early supplier design involvement, supplier development and joint productivity improvement projects, requires that the size of the supply base be manageable. It becomes more difficult to implement these types of complex purchasing strategies with a larger supply base owing to the need for increased communication between buyer and supplier as well as other activities required by these kinds of strategies.

It is difficult to manage a large number of suppliers. It is also difficult to pursue advanced procurement strategies with a large supply base. In addition, a large supply base leads to the duplication of a wide range of procurement activities that can be wasteful.

Finally, it should be noted that supply base rationalisation should be an on-going activity. A recent survey showed that almost half of the respondents had reduced their supply base by between 20% and 60% over a period of several years. Around three quarters of the respondents also indicated they commit about 80% of their total supplier spend to fewer than 100 suppliers [3].

4.5.2 TOTAL QUALITY MANAGEMENT WITH SUPPLIERS

Total Quality Management (TQM) can be summarised as a management system for a customer-focused organisation that involves all employees in continual improvement. It uses strategy, data and effective communications to integrate the quality discipline into the culture and activities of the organisation.

TQM is a philosophy and a way of implementing the philosophy. There are a number of distinctive elements that characterise TQM:

- **Focus is on the customer:** Quality is meeting the customer's requirements; the ability to meet the customer's requirements is vital for organisational survival and competitiveness.

- **Emphasises managing processes for long-term gain versus people for short-term gain:** A process is the transformation of a set of inputs, which can include actions, methods and operations, into outputs, in the form of products, information, services or results. The emphasis is on the removal of causes of problems in the process itself, rather than managing the people in the process. The removal of causes of problems in the system inevitably leads to improved productivity and long-term gain. Also, the emphasis is on

prevention of defects by controlling the process and implementing procedures to detect quality problems at source, i.e., as the product is being made or service is being provided.

- **Quality is defined in the broadest sense, encompassing internal and external customers' needs and expectations:** TQM focuses on identifying and meeting the requirements of internal as well as external customers.

- **Uses measurement tools and techniques:** Graphical measurement tools and techniques are used to determine areas for improvement and to let you know where you are in relation to your improvement goals.

- **Requires participative management:** Management provides the necessary support and resources for a TQM initiative. Without the total support and involvement of management, TQM will not succeed.

- **Requires teamwork:** More can be accomplished by working together to improve the system than by individuals working on their own. The only efficient way to tackle process improvement and complex problems is through teamwork.

- **Requires employee involvement:** The person doing the job is most knowledgeable about that job. People will generally work to implement solutions to problems that they have had a hand in solving. Also, generally speaking, people want to be involved and do their jobs well and every person wants to feel like a valued contributor. One of the key elements for success in TQM is therefore employee involvement.

- **Stresses supplier/customer partnerships**: The emphasis is on collaboration and joint problem solving. It also emphasises long-term relationships with fewer, better, suppliers.

- **Involves training for all people at all levels:** Training in teamwork and in structured problem solving is a must. Individuals trained in effective teamwork collaborate and work better in teams. A structured problem-solving process, using graphical techniques, produces better solutions than an unstructured process. Also, every organisation has undiscovered 'gems' (people) waiting to be developed.

- **Continuous improvement:** Continuous improvement, also referred to as project-by-project improvement, means continually looking for ways and means to improve performance levels. Once an improvement in performance has been reached in one area of the organisation, then other areas are examined for ways to improve performance.

- **Demands patience:** TQM requires a major shift in culture for most companies. This culture change does not happen overnight and requires patience from management and employees.

TQM with suppliers involves procurement working with key suppliers to initiate and/or grow a TQM programme. This is especially true when companies reduce the total number of their suppliers, frequently in conjunction with TQM programmes or Just-In-Time (JIT) production and inventory systems. Procurement professionals today recognise that quality management necessitates quality materials and parts. That is, the final product is only as good as the parts that are used in the process; and procurement plays a vital role in helping suppliers ensure the quality of parts that go into final products.

4.5.3 SOURCING GLOBALLY

Most firms engage in global sourcing at some level. Why do procurement organisations engage in global sourcing? After all, it is probably easier to work with a supplier down the street than one located elsewhere in the world. Long distances make planning and logistics more difficult; currency fluctuations can change the economics of a transaction; different business cultures and languages can lead to misunderstandings; and the paperwork that comes with international transactions can be cumbersome. In addition, supply issues can increase with long distances. Why go through this?

Industry participants consistently say the number one day-to-day pressure they face is a relentless pressure to reduce costs, which largely explains the motivation behind global sourcing. Regardless of the study or survey conducted, the primary reason for sourcing on a worldwide basis is to obtain lower prices. For example, as a cost-cutting measure, Dell moved its European manufacturing outfit from Ireland to Poland. This was no small undertaking and affected almost 2 000 employees. The move was part of a $3 billion company-wide cost reduction initiative [4].

Other reasons for procuring internationally, which differ according to who is being asked, hardly register on the ranking scale. An obvious, but often overlooked reason is that some commodities are only available from certain regions. This makes worldwide sourcing a necessity when those items are required. Also, the supply base to support certain industries, particularly in the US and Europe, is gone and is not coming back anytime soon. Companies like Intel and Apple know that electronics components and contract manufacturers are located almost exclusively in Asia. Firms can have their own reasons for sourcing internationally and these will differ from firm to firm.

For most procurement managers, international sourcing is about price. Once in a while it may be about gaining access to new sources of technology, higher quality or introducing competition to the domestic supply base. By and large, however, price reduction is the key driver.

While international purchasing can offer attractive cost-saving opportunities, the process requires supply managers to address a wider range of issues in terms of cost, time and complexity. While product cost reductions can arise from global sourcing agreements, there is also the risk of hidden costs, particularly

for those who are less experienced. At least a quarter of the unit cost savings from international purchasing disappears, on average, when estimating the total cost of purchase ownership. This is due to hidden costs associated with longer cycle times, lengthened supply chains, and increased administrative and budget costs incurred during global strategy development and execution.

One thing is certain: many firms are sourcing globally and in so doing have realised savings. These savings have, however, not come without time, effort and some false starts as well as a steep learning curve. Many firms continue to look to foreign sources of supply for lower costs and as potential future markets. However, jumping on the international bandwagon because everyone else is doing it is not a sound argument; pursuing global sourcing as part of a well-thought-out supply strategy makes a better argument [5].

4.5.4 LONGER-TERM SUPPLIER RELATIONSHIPS AND SUPPLIER DEVELOPMENT

Long-term supplier relationships involve the selection of and continuous involvement with key suppliers, with the aim of reducing costs and improving service levels overall. In some cases procurement may find that suppliers' capabilities do not match current or future expectations but it may wish to develop the supplier because it has the potential to perform well. In this case, procurement will work with such suppliers to facilitate improvement.

The strategy to use a smaller number of suppliers/vendors frequently means an alliance or partnership with suppliers/vendors because of the need to assure an adequate supply of quality materials over time at an optimum total acquired cost. The partnership/alliance concept encompasses more than just the procurement process, since companies are developing partnerships today throughout the supply chain. For example, partnerships are also evolving with transportation companies, contract logistics companies (third-party providers) and channel members.

Outstanding supplier performance normally requires extensive communication and co-operation between the various representatives of the buying and selling organisations over a long period of time. In recognition of this, progressive procurement organisations are pursuing ways and means of limiting their total number of suppliers and maximising the results from fewer key suppliers. Bringing new suppliers on-stream is expensive and is often accompanied by a period of learning and frustration on both sides. Frequent supplier switching for the sake of a perceived lower price may not result in the best long-term value.

As quality improvement programmes and JIT production efforts take hold, proximity of the supplier's premises to those of the purchaser becomes a significant consideration. An innovative and aggressive supplier development effort, with existing and new sources, holds high promise as a review of existing suppliers discloses gaps and as new technology evolves into new requirements. System and philosophical compatibility between purchaser and supplier has

become vital as ways and means are found to shorten the time taken from requisition to receipt of the order.

4.5.5 EARLY SUPPLIER DESIGN INVOLVEMENT

Early involvement is the process of relying on suppliers early, physically or virtually, to provide support during strategic planning, demand and supply planning, continuous improvement projects, project planning and when developing new products and technologies. Early supplier design involvement includes working with key suppliers in the concept or design phase of new product and/or service development. Supplier involvement may be informal or formal, depending on the nature of the product or service procured and the desired nature of the relationship with a given supplier.

It is desirable to involve suppliers early on in the design phase as it becomes increasingly difficult and costly to make design changes once the design has been fully developed and the engineering of the product begins. This is illustrated in Figure 4.2.

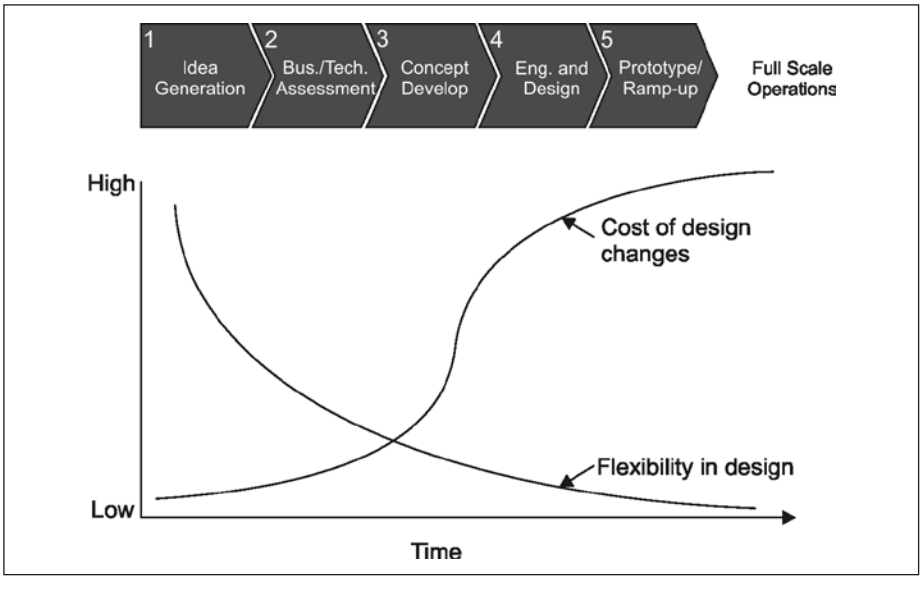


Figure 4.2: Design flexibility and cost of changes.

Research reveals that most organisations recognise the potential benefit of closer inter-organisational relationships. Research also reveals that teams that relied on supplier input and involvement (when the task warranted involvement) were more effective in their tasks, on average, than teams that did not involve suppliers. Teams that included suppliers as participants reported important outcomes:

- Greater satisfaction concerning quality of information exchange between the team and key suppliers.

- Higher reliance on suppliers to support directly the team's goals, supplier is a resource.
- Fewer problems co-ordinating work activity between the team and key supplier.
- Greater effort on team assignment.
- Greater supplier contribution across many performance areas.
- Providing cost-reduction ideas.
- Providing quality improvement ideas.
- Supporting actions to improve material delivery.
- Offering process technology suggestions.
- Supporting material-ordering cycle-time reductions.

Not all suppliers will be suitable for involvement at an early stage. Procurement needs to evaluate candidate suppliers' suitability in terms of their design and engineering capabilities, their technology and alignment with the buying firm's future needs and the extent of supplier investment in research and development. Other areas of evaluation will include whether the supplier has experience with early involvement in taking on design responsibilities; whether the supplier is currently supporting the design efforts of other companies, including competitors; whether the supplier is willing to commit resources specific to development needs; and whether the supplier will safeguard proprietary information.

4.5.6 TOTAL COST OF OWNERSHIP

Total cost includes the expected and unexpected elements that increase the unit cost of an item, service, or piece of equipment. Total cost systems, and there are a variety of them, attempt to capture these cost elements. The logic behind the development of total cost systems is clear. Stated simply, unit cost or price never equals total cost. If we believe this proposition (and we should), then our concern becomes one of trying to understand the size of the gap between a unit price and its corresponding total cost. We also want to know in some detail what makes up that gap.

It should be obvious why almost every purchasing measurement system includes price-related measures rather than total-cost measures. Price is by far the easiest of any metric to identify across a supply chain. Without a total cost system, however, it is difficult to make sourcing decisions that do not contain a fair amount of subjectivity. It becomes almost next to impossible to select a higher-price sourcing option (but a lower total-cost option) without a total-cost system supporting that decision. Having a 'gut feeling' that a higher-price supplier will actually be the lower total-cost supplier doesn't cut it. The 'gut feeling' becomes much more certain with total-cost data.

The reasons for measuring total cost are compelling. If anyone can logically argue against the following reasons for measuring total cost, we would like to hear their arguments. Total cost models help companies:

- Identify the impact of different cost elements, including quality non-conformance.
- Track in real terms cost improvements over time.
- Gain management's attention regarding the areas where cost-reduction efforts will have their greatest payback.
- Target specific areas for improvement or elimination.
- Make fact-based rather than subjective supply-chain decisions.
- Gain a better understanding of the supply chain.

Although this list probably could be longer, it gives the idea. Prior to the economic meltdown of 2008, importers were experiencing serious product and logistics cost increases. A survey by Archstone Consulting and the Supply Chain Management Review reported that 35% of manufacturers experienced a 25% to 50% increase in material and component costs from foreign suppliers over a three-year period. Over 50% of survey respondents reported up to a 25% increase in product costs. Similar increases were reported for logistics and transportation costs. Total cost is measured because in uncertain times the need to understand every element of cost is greater than ever [6].

4.5.7 E-SOURCING

E-sourcing is the process of obtaining bids from different suppliers via a single online portal. The benefits of e-sourcing include streamlining the sourcing process, reducing prices by maximising supplier competition, and creating a repository for sourcing information. The benefits of e-sourcing include streamlining the sourcing process, reducing prices by maximising supplier competition and creating a repository for sourcing information.

While over 90% of businesses do use e-procurement strategies to some extent, most place e-sourcing under the wider umbrella of meaning: using the Internet to assist in the purchase of goods and services needed by a business. The reality is that e-sourcing is a separate category of techniques that focuses primarily on the quality and price of products used in the creation of a business's product. Obviously, e-sourcing can save money, but there are other equally important benefits. For example, e-sourcing can improve worker collaboration because these web-based applications can be accessed by all of the departments in a company. Therefore, if a Request For Proposal (RFP) is being prepared to purchase the materials needed for a new project, then all of the teams and departments involved in the project can use the applications to contribute to the RFP. The end result is a clearer, more exact explanation of what the project entails. And because everyone is involved at that level, there is less resistance to the project in later stages.

Another important benefit of e-sourcing is that it does help companies find the ideal suppliers for their materials. Normally it is difficult for businesses to sort through all of the information about potential suppliers and to compare one with another before making a final decision. Even judging by proposed cost alone may be difficult because one must take into consideration delivery time, quality of the

product, and other factors. E-sourcing applications, however, provide tools that let businesses organise and compare supplier information more effectively [7].

4.6 PROCUREMENT AS A SUPPORT FUNCTION

Procurement plays a vital role in helping to ensure continuity of supply, in reducing costs, in sourcing from the most appropriate suppliers and so on. However, procurement cannot accomplish these tasks without a close working relationship with other functions within a firm, including, for example, engineering, marketing, maintenance, distribution and manufacturing. In other words, it must have a close working relationship with the users of the products and services that procurement obtains. Procurement, ideally, should also work with top management in a firm to ensure that the procurement strategy is aligned with and supports organisational strategy and objectives (as outlined earlier in the chapter). In this section we outline the important role that procurement plays as a support function under the following headings:

- The team approach to procurement.
- Integrating procurement in the supply chain.
- Procurement's internal linkages.
- Procurement's external linkages.

4.6.1 THE TEAM APPROACH TO PROCUREMENT

Driven by pressures to reduce costs and improve the bottom line in today's cost-conscious marketplace, purchasing/supply departments have, like most other functions, sought ways to streamline operations and improve efficiency. One of the approaches that has enhanced the effectiveness of the purchasing/supply management function is the use of teams.

Organisations seek to combine the flexibility of decentralised purchasing and the buying power and information sharing of centralised purchasing through the use of teams. Various types of purchasing and supply management teams are used, including cross-functional teams, teams with suppliers, teams with customers, teams with both suppliers and customers, supplier councils (key suppliers), purchasing councils, commodity management teams and consortiums (pool buying with other firms) [8].

Cross-functional sourcing teams often consist of personnel from various functions brought together to achieve a purchasing or material-related task in which the team must consider purchasing/sourcing goals or decisions involving supply base management. Frequently, you find staff from purchasing, finance, engineering and legal functions forming part of such sourcing teams. Table 4.2 provides examples of groups and teams in supply management.

Table 4.2: Examples of groups and teams in supply management.

Group or Team	Description
Customer Advisory Boards	An executive level group that brings suppliers, customers and the OEM/producer together to share information such as end customer requirements and expectations.
Buyer-Supplier Councils	An executive level group that brings together the OEM/producer and a rotating group of suppliers to share information such as product forecasts and product development plans.
Executive Steering Committees	A cross-functional, executive level group that has responsibility for overseeing centrally-led supply initiatives and objectives.
Commodity Management Teams	Cross-functional teams that develop commodity strategies with responsibility for supplier selection decisions and relationship management.
Buyer-Seller Improvement Teams	Cross-organisational teams that focus on improvement opportunities and projects between the buyer and seller.
Value Analysis/Value Engineering Teams	Cross-functional teams that have responsibility for systematically analysing the relationship between product/service function and cost.
New Product Teams with Purchasing and Supplier Involvement	Cross-functional teams that have a responsibility for developing new products and services with purchasing and supplier support.
Supplier Development Teams	Cross-functional teams that have responsibility for managing supplier performance improvement opportunities.

4.6.2 INTEGRATING PROCUREMENT IN THE SUPPLY CHAIN

The supply chain management concept represents an integration of information flows, extending from the supplier to end user. Materials management, on the other hand, is generally involved with the flow of materials into an organisation. Many organisations combine materials management (input function) with logistics (physical distribution) management, which includes all materials flow functions into and out of an organisation.

As businesses grow and employees are added, it becomes evident that certain advantages would accrue if individual functions, such as purchasing, stores, traffic, production scheduling, inventory control and quality control, were separated and turned into full-time managerial assignments. This would permit occupational specification. Because of communication and co-ordination problems, however, it becomes clear that bringing together under

one responsible individual those functions that are clearly interrelated makes for a more effective organisation.

The supply management organisation is not a traditional pyramid structure for a new functional initiative that will replace the procurement organisation. In fact, it isn't a structure at all. Rather, it is a comprehensive collection of work tasks and role definitions, processes, organisational mechanisms, and competencies that work together to span functional groupings and geographic and business locations. The trick is to provide strong, singular-focused leadership for a new initiative, while making provision for the various implementation tactics necessary to support different businesses and locations.

Rather than focusing on structures and organisation charts, the new approach seeks to define the work and simply put in place those things necessary to complete it, share learnings and improve results over time. In this way business can create a new order of things without creating new structures and new overhead costs.

In carrying out the work of supply management, i.e., developing and implementing supply-stream strategies that maximise the value of expenditures for purchased materials and services, a number of new work tasks and roles can be developed. A supply-stream leader, for example, can be appointed and made accountable for optimising the total supply stream by developing and implementing supply-stream strategies and improvement plans, while the location supply leader would be accountable for optimising a location's total purchase expenditure by implementing a number of supply-stream strategies at that location (plant site, business unit, etc.).

These leaders can work together as part of a team to develop supply strategies and select preferred suppliers. Once the strategy has been developed, both supply leaders would shift their focus to improvement and implementation work [8].

4.6.3 PROCUREMENT'S INTERNAL LINKS

Procurement needs to maintain communication flows and linkages with a number of internal functions. To support these internal functions a number of critical linkages and interfaces have evolved between procurement and some important groups.

4.6.3.1 Operations

Procurement has traditionally had strong ties with production and operations groups within firms. In some firms the procurement group falls under and reports to the operations group. A major link here is in the joint development of the operations strategy. Since procurement directly supports operations, it must have an understanding of production plans. In this regard, one area where procurement has critical input to operations is through the Sales and Operations

Planning process (S&OP). This identifies the levels of sales, product mix and required production levels to meet these sales levels, typically over a one year planning horizon.

Procurement's strategies and plans must align with the sales and operations plan. For example, procurement must know what components are required by production as well what services are required for production to fulfil customers' requirements. These components could include sub-assemblies, information technology, packaging materials and so on. Procurement is responsible for sourcing the inputs needed to support operations' plans and must, therefore, work with operations to execute these plans. Close and continuous communication and contact between procurement and operations is required to accomplish this and, in some instances, these departments are co-located [9].

4.6.3.2 Quality Assurance

The procurement and quality assurance functions go hand in hand. Most firms source a large percentage of goods and services externally and must rely heavily on the quality of these goods and services. To ensure that suppliers perform as expected, the procurement and quality groups within a firm need to work closely together.

Joint projects between quality and procurement include, for example, quality training for suppliers, process capability studies, quality engineering and corrective action planning. In some firms the responsibility for supplier quality planning resides within the procurement group [9].

4.6.3.3 Engineering

One of the most important links in a firm is between procurement and engineering. Procurement and engineering typically work together on projects with suppliers and collaborate on supplier selection and/or product development projects. In some cases firms employ commodity managers with technical backgrounds suited to the types of engineered products and services being procured. An example of this is a major package delivery firm that has its vehicles and their components engineered to its own specifications to ensure exceptionally high levels of reliability and durability. This firm employs a group of procurement professionals who have a high level of engineering experience. They work closely with the firm's internal engineering group and strategic suppliers to engineer and/or re-engineer automotive-related components and products.

Engineering typically looks to procurement to perform certain tasks to support its work. This includes, for example, procurement being tasked with identifying the most technically capable supplier/s for an item or ensuring that suppliers meet engineering's quality and delivery targets. Also, engineering works with procurement to help assess a given supplier's production capabilities, to involve procurement early on in the design process and, in working with suppliers, to encourage them to develop innovative ideas. Procurement also works with

engineering to identify new sources of technology that could potentially be integrated into new products and services.

4.6.3.4 Accounting and Finance

Procurement works with the finance department to update accounts payable systems by, e.g., providing information on inbound items that have been procured. Procurement also requires data from the cost accounting system to determine, for example, material re-work costs or the total cost of an item. In addition, procurement would work closely with finance to obtain the kind of data that would help in make-or-buy types of decisions or when making capital-acquisition decisions [9].

4.6.3.5 Marketing

Procurement maintains direct links with marketing. Marketing may develop new product ideas that procurement must support. Marketing may develop sales forecasts that convert into production plans. In this case procurement must source the materials required to support these production plans [9].

4.6.3.6 Legal

Procurement often works with the legal department when contracts are being developed. Issues that arise include patent ownership terms in new product development, intellectual property, liability claims, antitrust issues, escape clauses and so forth.

4.6.3.7 Environment, Health and Safety

The whole area of sustainability or 'green' design and manufacturing is one where procurement gets heavily involved, as it is responsible for purchasing items that must comply with legal and organisational policy requirements. In addition, procurement will also work with health and safety groups to help ensure that suppliers are compliant in this regard.

4.6.4 PROCUREMENT'S EXTERNAL LINKS

Procurement serves as the link between a firm's supply partners and the firm, as well as other entities.

4.6.4.1 Suppliers

Procurement's primary link is with the firm's suppliers. Procurement's prime responsibility here includes the identification and selection of suitable suppliers, on-going monitoring of supplier performance and ongoing communication with suppliers. Procurement acts as the primary commercial link with suppliers. It is responsible for matters pertaining to the conditions of purchase, as well as

other issues of importance determined in the negotiating process with suppliers and spelled out in the contracting process.

4.6.4.2 Government

Procurement will sometimes maintain links with government departments at various levels. Procurement may need to consult with, and obtain guidance from, government agencies on various matters including environmental protection and prohibited goods.

4.6.4.3 Local Communities

Procurement may have contact with local communities. Procurement groups can have the ability to affect certain social goals. This can include sourcing from local suppliers, awarding a certain percentage of business to minority suppliers and ensuring ethical business practice in all dealings with local business communities.

4.7 EVOLVING SOURCING STRATEGIES AND BEST PRACTICES

The value proposition of virtually every procurement organisation evolves through several major stages. These start, at the foundation, with addressing business continuity issues by assuring on-time delivery of quality goods and services, and move through tactical sourcing and transactional purchasing and expediting.

Procurement organisations move up the value chain to focus on reducing purchase costs and then total supply costs. The former is usually done by cross-functional strategic sourcing teams, led by procurement and organised around supply markets. Unfortunately, rather than being true cross-functional supply teams that are extended to suppliers to reduce overall lifecycle costs, they tend to get implemented as 'drive-by sourcing events'. This sees the contacts being thrown back at office and operations groups to figure out how to implement them.

The real tipping point occurs in the latter stages of the evolutionary model and this is where world-class firms focus primarily. While the first stages of the model are supply-centric, the final two shift the focus to internal and external customers. This helps procurement gain the voice of the customer and assurance of relationship from the budget owners, rather than just looking for assurance of supply, and also helps procurement to shape consumption and supply drivers so the broader organisation can gain more value from its spend.

At the final stage – value management – the chief procurement officer's agenda should be in sync with that of the CEO and CFO (innovation, growth, sustainability, predictability, and so on) and there should be no parallel measurement system for procurement that's different from that of the enterprise [10].

4.7.1 BEST PRACTICE EXAMPLES

The following examples of best practices in procurement illustrate how procurement creates organisational value.

4.7.1.1 Integrating Marketing and Sourcing

A leading global company is applying its sourcing leadership to marketing strategy development and execution. Specifically, a sourcing manager has been assigned to marketing and promotion strategy teams to support their efforts when developing contracts. Examples of areas where the marketing team requires contract support include printing services, conventions, meetings, promotional displays and tradeshows, marketing research services and advertising and promotion. Sourcing involvement, for example, resulted in a reduction of company-wide printing suppliers from 600 to five.

The sourcing professional adds value to the marketing and promotion process in a number of areas. The sourcing manager and her staff:

- Verify that every unit within the corporation is charged the same and best rate from suppliers.
- Attend marketing and promotion strategy team meetings.
- Reserve the right to audit advertising 'job jackets' and costs.
- Work to gain most favoured customer status with media suppliers.
- Control the process of buying advertising and media support.
- Maintain confidentiality through control of the buying process.
- Work to retain the company's ownership of intellectual property.
- Assume a major part of the contracting process that marketing simply does not want.

4.7.1.2 Co-locating with Internal Supply Chain Members.

The direct involvement of the operations and technical groups within marketing has become a critical objective for this global company. The corporate marketing group is organised into four business segments. Consistent with this company's new market-based focus, increasing numbers of new product ideas are originating from marketing rather than the traditional avenue of Research and Development (R&D). Marketing is now responsible for market testing the ideas generated by R&D.

Operations and technical representatives, who report to the vice-president of new product delivery, are assigned to each marketing category. These individuals act as liaisons with marketing to ensure that operations and technical voices are represented and considered when new product ideas are generated. Participation with marketing ensures that operations and technology groups have early insight into new product requirements and can convey these requirements back to their functional groups.

The operations and technical representatives are co-located with the marketing groups. The procurement director converses weekly with the operations and technical people, who report to the same vice-president. These discussions provide early insight into new products that might affect the development of strategic sourcing plans.

4.7.1.3 Case Study: Putting the Pieces Together at Air Products

Air Products, a successful industrial gas producer headquartered in the eastern US, operates air separation facilities worldwide. Over the past 15 years, industrial buyers have increasingly viewed industrial gases as commodity items, which, along with intense global competition, have created extensive downward price pressures. It is only recently that industrial gas prices, like most other commodities, have firmed up worldwide. The need to manage costs, however, is a continuous requirement.

Air Products has operated historically as an engineer-to-order company, which resulted in a great deal of engineering and design work customised for each new air separation project. New production facilities designed and constructed by the company have largely been engineered without considering previous designs or leveraging commonality across design and procurement centres in the eastern US and the UK. Historically, even if the US and Europe required a similar or same item (which was often the case) or designed the same facility in terms of its physical process and technology, each would have components and equipment developed separately by engineers and procurement staff that did not co-ordinate their efforts. As a result, design specifications differed unnecessarily across regions. Duplicate engineering and sourcing drives up costs with no corresponding benefits. From a technical perspective air separation is technically a comparable process around the world.

Executive management concluded that the company must pursue standard design and off-the-shelf product-based thinking on a worldwide basis. The company's objective was now to enter the global marketplace as a single integrated company. A major action taken to support this was the internal development of an integrated global sourcing process, which the company refers to as its Global Engineering and Procurement process (GEP). Global engineering and procurement focuses on specific global applications as identified by an executive steering committee.

Each new production facility (built as a stand-alone plant or built onsite to feed a customer's plant with industrial gases) now involves an extensive analysis between US and UK design centres to identify areas of commonality, standardisation, and synergy in procurement and design. Cross-functional teams, with representatives from the US and Europe working jointly, develop common specifications and contracts that satisfy each centre's needs while supporting future replacement and maintenance requirements [11].

While not exhaustive, the above best practice examples provide insight into how modern procurement groups within forward-thinking firms are organised and carry out their functions.

4.8 CONCLUDING REMARKS

The concepts outlined in this chapter illustrated the role of procurement in formulating strategies at the overall firm level as well as at the sourcing of items and services levels. Procurement should contribute to the development of corporate strategy as an active partner and participant. Procurement also needs to organise its strategy for and efforts around the procurement of goods and services based on the relative strategic importance of those goods and services.

The chapter illustrated that procurement has a vital support function to fulfil for other functions/groups within the organisation, including engineering, manufacturing/operations, quality, finance and other key groups and plays an active role in supporting these functions/groups. It also showed some current and evolving strategies in the procurement field. Procurement will no doubt continue to evolve as a strategic support function over time.

4.9 REFERENCES

[1] Trent R.J., Strategic supply management: Creating the next source of competitive advantage, Fort Lauderdale, J. Ross Publishing, 2007.

[2] Monczka D., Trent R.J. and Handfield R., Purchasing and commodity strategy development, In: Purchasing and supply chain management, 3rd ed., Mason, South Western Publishers, 2005, Chapter 6, pp. 169-183.

[3] Monczka D., Trent R.J. and Handfield R., Supplier management and development: Creating a world-class supply base, In: Purchasing and supply chain management, 3rd ed., Mason, South Western Publishers, 2005, Chapter 9, pp. 275-282.

[4] Fottrell Q. and Scheck J., Dell moving Irish operations to Poland, The Wall Street Journal, 9 January 2009, B4.

[5] Trent R.J. and Roberts L., The changing global landscape, In: Managing global supply and risk, Fort Lauderdale, J. Ross Publishing, 2010, Chapter 1, pp. 12-15.

[6] Trent R.J. and Roberts L., Total cost of ownership, In: Managing global supply and risk, Fort Lauderdale, J. Ross Publishing, 2010, Chapter 4, pp. 64-65.

[7] EPIQ, Advanced supply management, articles, e-Procurement: Electronic Procurement http://www.epiqtech.com/Electronic-Procurement.html, Accessed on 2 February 2013.

[8] Goodale B., Purchasing and materials management: Purchasing and supply chain organisation, University of Maryland, University College website: http://polaris.umuc.edu/~bgoodale/admn626/0109/Lesson2.htm, Accessed on 12 February 2013.

[9] Monczka D., Trent R.J. and Handfield R., Purchasing integration for competitive advantage, In: Purchasing and supply chain management, 3rd ed., Mason, South Western Publishers, 2005, Chapter 4, pp. 99-103.

[10] Mitchell P., The evolution of procurement: How CPOs can drive real competitive advantage, The Hackett Group, http://www.iaccm.com/news/contractingexcellence/?storyid=678, Accessed on 10 February 2013.

[11] Trent R.J. and Roberts L., Learning from global supply leaders, In: Managing global supply and risk, Fort Lauderdale, J. Ross Publishing, 2010, Chapter 13, pp. 253-254.

SUPPLIER RELATIONSHIP MANAGEMENT AND DEVELOPMENT AND SUPPLY-BASE LOCALISATION

Authors: David Pooe and Chengedzai Mafini

SYNOPSIS

In this chapter, several topical supplier-oriented issues are discussed, namely supplier selection and evaluation, Supplier Relationship Management (SRM), supplier development, supply-base localisation, the Black Business Supplier Development Programme (BBSDP) and dispute resolution. The chapter aims to provide a solid foundation for the implementation of these aspects of procurement.

5.1 INTRODUCTION

Procurement has undergone substantial changes in almost all of its sub-areas over the past few decades and whether or not it is effectively implemented can have profound outcomes for any organisation.

Some of the areas that have emerged as important involve relationships with suppliers since, without proper supplier-related structures, the procurement department will be ineffective. This is because suppliers can significantly contribute to the competitive advantage of an organisation in areas such as performance, cost base, profitability, points-of-difference and even the value of the brand. It is therefore important for supply management practitioners to have an adequate working knowledge of the supply side of procurement in organisations.

5.2 SUPPLIER SELECTION AND EVALUATION

For obvious reasons, supplier evaluation and selection precede supplier relationship management. After all, it is not possible to manage suppliers that have not yet been selected.

Supplier selection is one of the most important responsibilities of supply managers and commodity teams. This process is too often an afterthought performed by buyers who are measured by their ability to obtain the lowest price rather than the lowest total cost or highest value. With a growing reliance on fewer suppliers to provide greater value-add, and with the use of longer-term contracts continuing to grow, the cost of making an incorrect selection decision can have long-lasting consequences. As external suppliers begin to command 50% or more of a firm's total revenue, the logic behind creating a world-class evaluation and selection process becomes even clearer. Besides the obvious impact on cost, suppliers affect a broad range of end-customer requirements.

Too many leaders have viewed suppliers and the process for selecting them with relative indifference. Purchasing simply was not part of the executive radar screen. A strategic emphasis on core capabilities and competencies, which often results in the outsourcing of major requirements, now makes supplier evaluation and selection a critical organisational process.

Not all selection decisions are created equally or warrant comparable effort. Firms that excel at supply management understand the need to approach the selection decision based on the attributes of their requirements. The manner in which buying firms subsequently manage their suppliers will also differ from requirement to requirement. Segmenting supply requirements begins to define the intensity of the search, the contracting approaches and performance measures to employ, and the kind of relationships to pursue with selected suppliers.

The primary objective of the selection process should be a reliance on suppliers that become a source of competitive advantage. For the most important goods and services, firms should use cross-functional teams to evaluate first-hand a supplier's financial condition, capacity, global capabilities, logistical networks, cost structure, supply management practices, process capabilities, technology innovation, and design and engineering capabilities. While the time and cost of making supplier visits is high, the cost of making poor selection decisions is even higher.

Firms that practice total quality across their supply chain should see the connection between the selection process and some important quality management principles. A cross-functional approach for evaluating and selecting suppliers is an ideal way of pursuing quality at the source, emphasising prevention rather than detection, stressing objective rather than subjective decision making, and ensuring that quality is everyone's responsibility. Supplier selection is a process we really want to get right.

The basic supplier selection process involves five sequential stages:

- Assembling an evaluation team.
- Defining the specifications.
- Discovering potential suppliers.
- Evaluating potential suppliers.
- Selecting suppliers.

Figure 5.1 illustrates the above-mentioned stages.

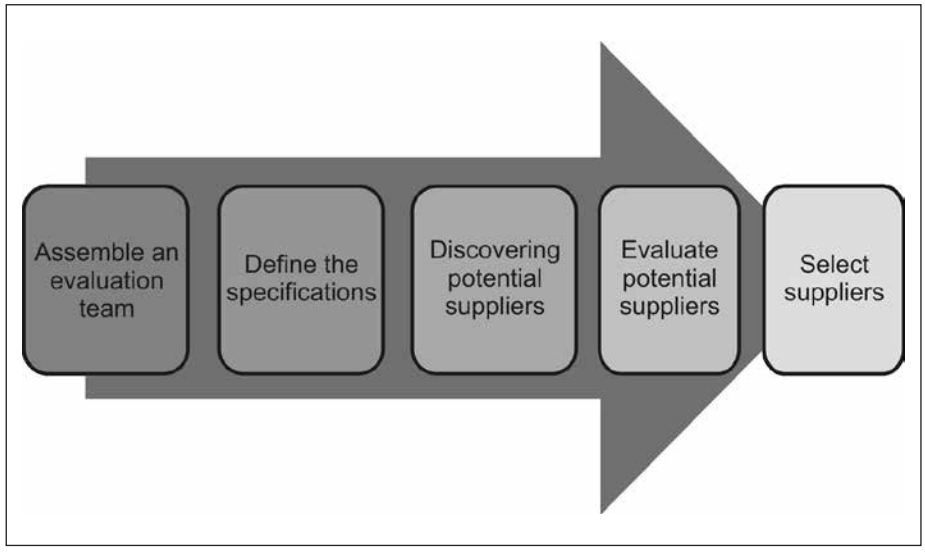


Figure 5.1: Supplier selection process.

- **Assembling an evaluation team:** Assemble a team of people who have a vested interest in the particular supplier selection process. If the goods to be purchased are critical, appropriately qualified individuals from key functional areas such as operations, engineering, finance and procurement should be included in the team. Each will play the role of providing the expertise related to his/her particular area.

- **Defining the product, material, or service:** Define the specifications for the product, material or service for which a supplier is being sought. The technical and business requirements to be involved in the purchases as well as the expected supplier requirements are also clearly spelt out. Team members may also be consulted in the process.

- **Discovering potential suppliers:** This is the process of searching for a list of potential suppliers who will be able to deliver the products, materials or services required. Sources that can be consulted in order to get potential suppliers include supplier websites, the department's supplier database, trade journals, trade shows and professional organisations.

- **Evaluating potential suppliers:** After compiling a list of potential suppliers, the supplier selection team evaluates each prospective supplier against the criteria set in Stage 2 of the supplier selection process. Various instruments are available for this purpose and include supplier surveys, financial condition analysis, third party evaluators, evaluation conferences, facility visits and quality capability analysis.

- **Selecting suppliers:** When one or more suppliers have succeeded in the evaluation phase, the supplier selection team invites the potential suppliers to

submit their proposals or bids. For the actual selection, the team may decide to use negotiation or competitive bidding, or combine the two.

5.3 SUPPLIER RELATIONSHIP MANAGEMENT (SRM)

There is no universally accepted definition of SRM. It is a set of methodologies and practices needed for interacting with suppliers of products and services of varied criticality to the profitability of the enterprise [1]. It is also an advanced supply chain management means of building closer relationships with selected strategic suppliers, the purpose being to discover the added features that could enhance the relationship while improving business performance as the firms work in a network environment for mutual benefit, increasing the likelihood of creating profitable new revenues together [2].

SRM is the discipline of strategically planning for and managing all interactions with third-party organisations that supply goods and/or services to an organisation to maximise the value of those interactions [3]. Others will argue that SRM is a comprehensive approach to managing an enterprise's interactions with the organisations that supply the goods and services it uses [4].

A common thread found in these points is that SRM is about developing a harmonious and reciprocal relationship between buyers and suppliers. The term therefore refers to the practice and processes for interacting with suppliers. Modern organisations understand how critical their business partners can be to the success of their operations. By working together synergistically, buyers and suppliers can substantially improve their business processes, while sharing information to reduce wasted time and resources to improve overall margins.

5.3.1 SRM BENEFITS

Adoption and implementation of effective SRM yields an assortment of benefits to stakeholders. The overall benefits can be uniquely high, to the extent even of eclipsing those derived from strategic sourcing. For the purposes of the current discussion, the scope of the benefits will be limited to those benefits that accrue to the supplier and to the buyer.

For the supplier, SRM:

- Facilitates the development of a reciprocal long-term relationship with the buying organisations, thereby ensuring a win-win situation between the parties.
- Creates opportunities for joint investments between supplier and buying organisation.
- Provides opportunity, the creation of goodwill, and a good public reputation.
- Provides sufficient insight into the buying organisation's business needs, which enables the supplier to meet those needs and ensure that the buyer's obligations to the supplier are identified and managed.

- Provides formal routes of engagement at different levels of management, allowing further supplier business opportunities to be exploited at senior levels.
- Provides forums for discussing and resolving supplier issues, including escalation paths within both organisations, thereby preventing unnecessary conflict with buyers. SRM ensures that both partners communicate at high levels.
- Creates room for limiting the influence of the buyer on the manner in which the supplier runs its operation.
- Helps ensure that supplier capacity is matched efficiently with demand by sharing information pertaining to market trends and dynamics.

A number of valuable benefits accrue to the buyer. For the buyer, SRM:

- Streamlines supplier management processes, which leads to reduced internal costs.
- Enhances the ability to focus spend on 'strategic' suppliers, which results in further leverage and efficiency.
- Helps improve the development of supplier capabilities and the acceleration of value delivery.
- Supports better supplier accountability for business results.
- Reduces supply costs by between 5% and 15% by improving transportation and logistics, order processing, and storage, to name a few areas.
- Improves implementation against delivery schedules and quality standards by giving the buyer the opportunity to effectively negotiate the scheduling of supplies as well as the expected quality of the supplies.
- Improves joint objective setting, planning and collaboration with suppliers.

5.3.2 GOALS OF SRM

The exchanges that exist between buyers and suppliers involve not just the procurement and supply of goods and services but a relationship that demands an honest partnership. Contemporary organisations have discovered that the way to gain the most value from their business partners is by enhancing their collaboration throughout their supplier base. This realisation has caused the concept of SRM to gain popularity among organisations of all kinds. In broad terms, the following are some of the major goals of SRM:

- To streamline and make more effective the processes shared between an enterprise and its suppliers. In this sense, SRM is analogous to Customer Relationship Management (CRM) in marketing and Employee Relationship Management (ERM) in human resources management.
- To enable an enterprise to improve its communication with its different suppliers; to share methodologies, business terms and information with them; and to improve familiarity with each other so as to optimise the supply process.
- To ensure that suppliers familiarise themselves better with the core business of the enterprise and its different products so as to ensure a customised supply.

5.3.3 COMPONENTS OF SRM

Various elements are involved in the interplay that constitutes SRM:

5.3.3.1 Determining the Need

This element defines the context and purpose of SRM by specifying its purchasing/sourcing need. Some of the common types of sourcing needs are listed in Table 5.1.

Table 5.1: Sourcing needs for SRM.

The need for SRM	Motivation
Consistency and predictability of supply and delivery	SRM may be implemented to ensure that supply of materials is consistent and predictable. This is important in ensuring that the production process continues in an uninterrupted manner.
Pricing and costs	SRM may be implemented in order to obtain sustainable prices of materials or services from suppliers as well as to ensure that the entire purchasing process is cost effective.
Efficiency (speed, simplicity and transparency) of the transaction	SRM may be implemented to ensure that transactions with the suppliers are executed with ease, clarity as well as within a reasonable time frame to facilitate the viability of the enterprise.
Innovation	SRM may be implemented to stimulate organisational innovation as the buying enterprise learns from the expertise of the supplier.
Quality	SRM may be implemented to enhance the quality of the materials/ services bought from the supplier, which ultimately enhances the quality of the outputs from the buying partner.

The list in Table 5.1 is not exhaustive as there are many sourcing needs. However, a common trend is that once the main SRM goal has been established between a buyer and a supplier, the partners move on to satisfy other unmet sourcing needs. Usually, the shift in emphasis is dictated by market and supply dynamics.

5.3.3.2 Determining the Suppliers

SRM is typically focused on the organisation's interconnection with suppliers who provide either high volumes of a common product/service or smaller quantities of crucial ones. In addition, it is also applicable to suppliers that serve more than one business unit of a company or organisation, or where intensive engineering, manufacturing and/or logistics interaction is essential. This suggests that among a portfolio of suppliers, SRM efforts are directed only at suitable ones.

5.3.3.3 Application of SRM

In the past, SRM often became significant only when a sourcing issue or opportunity arose, such as when there was a looming shortage of a crucial raw material. However, in current times SRM has become an everyday sourcing mechanism.

5.3.3.4 Multiple Roles and Responsibilities of SRM

Generally, SRM reaches into many areas of the enterprise and performs a multi-dimensional mix of roles and responsibilities, as illustrated in Figure 5.2.

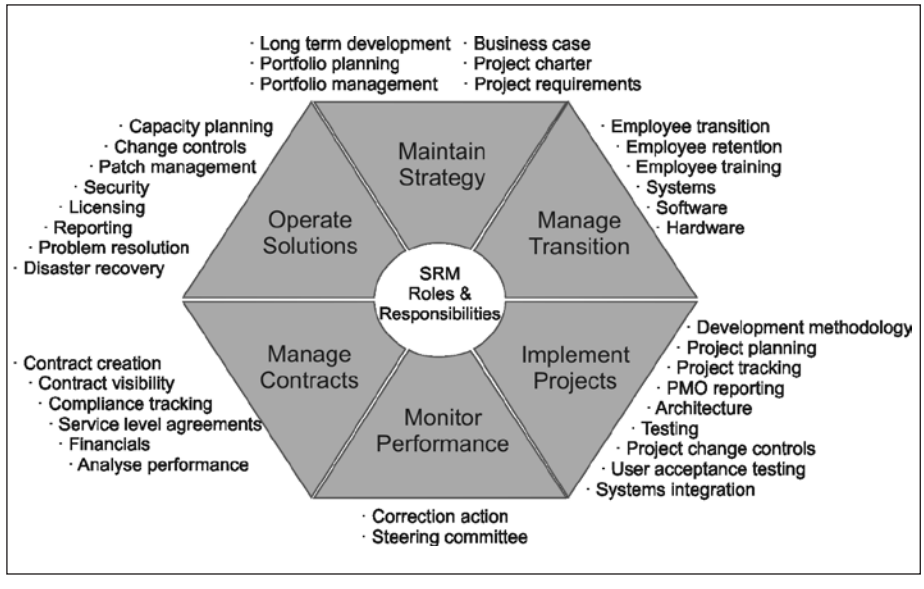


Figure 5.2: The roles and responsibilities of SRM.

5.3.4 CHALLENGES ASSOCIATED WITH SUPPLIER RELATIONSHIP MANAGEMENT

A variety of challenges confront SRM. After all, if the process were easy, all firms would routinely excel at it.

5.3.4.1 Misconceptions about SRM

Many organisations have a misconception about SRM, for instance, some see it as an apparatus for monitoring and improving the performance of suppliers. This view conflicts with the broader definition of SRM as 'a discipline of working collaboratively with those suppliers that are critical to the success of your organisation, with the intention of maximising the potential value of those relationships.' When the former perspective is adopted, SRM becomes a narrow, one-way process that benefits the buying organisation only, i.e., there is no win-win situation. The latter, broader view tends to create enhanced value for both parties, leading to shared benefits in such areas as lowered costs, reduced risk, increased supply efficiency, enhanced quality, faster time to market and access to innovation.

5.3.4.2 Central Role

In some organisations, procurement is regarded as a price-focused function. This perception can cause functional managers to protect their key supplier relationships jealously and to keep procurement's involvement to a minimum. This may be problematic, as procurement should take a central role in co-ordinating supplier relationships. The reason is that it is procurement that best understands aspects such as access to supplier information. It also has a sound understanding of an organisation's operations.

5.3.4.3 Consolidating the Benefits

Many leading organisations already have potent SRM programmes in place and are reaping the benefits. But SRM tends to be restricted to 'pockets of excellence' in particular business units or functions, rather than being spread across the entire enterprise. The challenge for those in procurement is to develop the skills and capabilities that will enable them to spread the good practices more widely.

5.3.4.4 Over-Reliance on Suppliers

When the organisation is overly dependent on its suppliers for many activities that were previously performed in-house, the organisation's exposure to supplier risk also increases. For instance, when an organisation is over-reliant on a particular supplier for key raw materials, and that supplier is declared bankrupt, the buying organisation is likely to have a shortage of the key raw materials until it can find a new supplier. Losses are likely to be incurred during that period. In all cases where market dynamics force an organisation to become over-dependent on its suppliers, mechanisms to manage supplier risk should be put in place.

5.3.4.5 Suppliers are not Held Responsible for Their Actions

Organisations frequently enter into poorly drafted contractual agreements that do not hold suppliers accountable for their performance; do not motivate suppliers

to improve their performance; or omit important steps that the organisation can take to improve the performance of suppliers. In addition, such organisations often do not know how to correct the problem of under-performing suppliers.

5.3.4.6 Inadequately Skilled Employees

Despite the fact that procurement personnel have a broad range of procurement skills, few, if any, have the know-how and skill necessary to undertake day-to-day supplier relationship management effectively. In most cases, there is a gap in the knowledge and skill of the best practice of SRM. As a result, there are many shortcomings in so far as the management of relationships with suppliers is concerned. Training of staff and development of management can go a long way to increasing competence in these areas.

5.3.4.7 Ineffective Allocation of Roles

In some organisations, an alarming number of procurement personnel inadvertently spend a large part of their time and effort performing the role of a supplier relationship manager. This is usually because internal roles and responsibilities are ill-defined and unclear. A second reason is that many people in procurement believe that the management of suppliers is a preferable job to others that need to be done. A third reason is that suppliers attempt to strengthen their relationships with buyers. However, an objective assessment of this scenario will reveal that some of these supplier management tasks are redundant, inefficient and even unnecessary, and can lead to increases in operational costs.

5.3.4.8 Ineffective Supplier Segmentation

The failure to classify suppliers correctly can attract problems for the organisation. In some organisations, it is difficult to distinguish strategic relationships accurately, which means that basic suppliers who do not merit SRM attention nevertheless receive it. Strategic relationships are those which, when managed effectively, deliver impressive returns and competitive advantage to the buyer and supplier. When strategic relationships are not distinguished, there may be no formal and clearly spelt out procedures on how to deal with each class of supplier. Consequently, all suppliers are treated the same. This results in precious time being devoted to managing relationships with non-strategic suppliers, while relationships with strategic suppliers are either neglected or do not receive the attention they deserve.

5.3.4.9 Lack of Supplier Development Programmes

When an organisation has no formal supplier development programmes, its ability to create a win-win situation with suppliers is seriously hampered. This is because it will not have the opportunity to tap into the supplier's capabilities and competencies. For example, when a company's suppliers develop a new

product without a supplier development programme in place, the buying company will not be able to benefit from the advantages of the new product.

5.3.4.10 Buyer versus Supplier

In certain cases, owing to the multi-faceted nature of buyer-supplier relationships, suppliers may have more bargaining power in the relationship. They may also demonstrate a higher level of shrewdness, which could enable them to dictate the terms and direction of the relationship as they seek to protect their positions. Care should be taken to ensure that the influence of the buyer and key suppliers is well balanced. The relationship should add rather than remove value and the outcomes of the relationship should serve to satisfy the needs of both parties.

5.3.4.11 Lack of Systems and Polices

Many organisations do not have the systems and policies that support effective SRM. Consequently, SRM is implemented manually and haphazardly. This makes it difficult to improve the performance of suppliers and relationships that are inefficient and costly to manage. Where systems and policies exist, they are fragmented and ineffective. Experts should be consulted to assist the organisation in establishing and implementing suitable SRM systems and policies. In cases where these already exist, it is important to ensure that they are streamlined to stimulate improved SRM outcomes.

5.3.5 KEY STRATEGIES FOR SUCCESSFUL SRM

Successful SRM can only be implemented when the organisation is able to group its purchases by category of importance and complexity. This step contains the implicit requirement for the firm to know all about the products/services or material that it intends to buy. How much of what is being bought, from whom, by which purchasing agent, at what prices, and with what results must be a part of the stake. SRM can only begin when the firm thoroughly understands what it intends to purchase; and when it has conducted the standardisation necessary to make certain the categories of purchase represent what they should contain. The matrix illustrated in Figure 5.3 is a typical classification of purchase categories that the organisation has to understand.

The following steps are widely regarded as part of best practice in the implementation of successful SRM [5].

5.3.5.1 Segmented Supplier Base

Suppliers are categorised into different levels or ranks. This will allow the organisation to better understand the suppliers that it should concentrate on. Supplier classes could, for example, include suppliers who are tactical, approved, preferred and strategic. Suppliers are ranked using criteria such as the criticality of the products/services bought and the volume of spend (amount of money

paid). Segmentation should also be reviewed annually. Figure 5.3 is a rank order pyramid depicting a typical supplier segmentation matrix in an organisation.

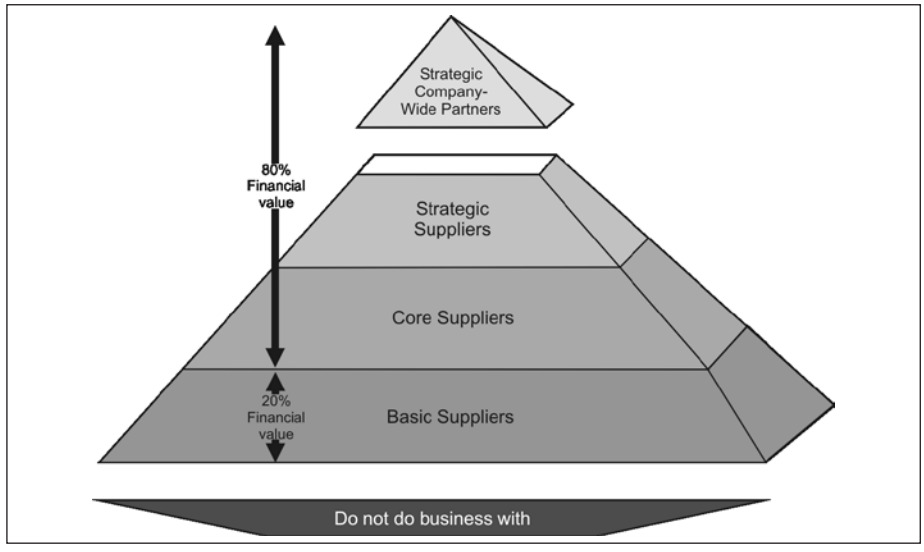


Figure 5.3: Supplier segmentation pyramid.

5.3.5.2 Executive Support

There is no organisational programme that will succeed without the support of the top executives. The same applies to SRM programmes. It is therefore important that top executives also be engaged in managing the most strategic suppliers. The involvement of strategic managers facilitates the alignment of strategic objectives internally and with the supplier. It also sets the right tone for the relationship, thereby creating value for both parties.

5.3.5.3 Established SRM Policies

When a policy tailor-made to suit a specific organisational programme is put in place, it will be easier for management and staff to follow the guidelines given in the policy for the effective implementation of the programme. Therefore, it is important that there is a laid-down policy that governs and directs the management of supplier relationships, as well as the assignment of roles and responsibilities internally.

5.3.5.4 Use of Technology

Acquire and co-opt technologies that strongly support SRM. Contract management or supplier performance management systems should not be confused with SRM systems. However, centralised web-based information portals, similar to customer relationship management systems on the sales side, are available on the market. The recent upsurge in Internet connectivity has created new ways to identify, negotiate and engage with suppliers and partners

worldwide. Other data-aggregation and enrichment tools are also providing greater insight into procurement trends and best practices. According to its proponents, the use of SRM software can lead to lower production costs and a higher quality, but a lower-priced end product. SRM products are available from many suppliers in most markets.

5.3.5.5 Improve the Skills of Procurement Staff

SRM is a supplementary responsibility that requires an extra set of skills from supply chain practitioners. However, most staff members usually do not have the requisite SRM skill sets, such as a creative mindset, account planning and the ability to work cross-functionally. It is, therefore, necessary to train procurement staff in order to equip them with these skills. In addition, new talent that has the necessary know-how can be brought in to reinforce SRM efforts.

5.3.5.6 Measuring the Benefits

The value derived from SRM initiatives should be quantified to ensure that the benefits of SRM are neither overlooked nor underestimated. For instance, by measuring the benefits, it will be easier to quantify cost savings, and to assess whether products are getting to the markets faster. By measuring the benefits, the organisation realises the true extent to which SRM is adding value to its operations.

5.3.5.7 Engage Suppliers

SRM is about creating business synergies with suppliers. As much as the buying company must strive to improve its own SRM capabilities, a need exists to balance the equation by dealing with the supplier side. Therefore, it is fundamental to engage suppliers so that the same efforts being made by the buying organisation to improve its SRM can be made by the supplier. It is also important to listen to suppliers and follow their counsel. This will make the buyer organisation a more attractive business proposition, leading to the development of trust that is very important in nurturing synergistic buyer-supplier relationships.

5.3.6 MEASURING SRM

It is important to measure the performance of an organisation's relationships with its suppliers. When relationships with suppliers are assessed, it will be easier to find ways of improving them, based on the results of the assessment. There are several performance approaches, but for the purposes of this discussion, only two will be discussed briefly.

5.3.6.1 Means and Target System

The means and target system is a simple method of measuring the effectiveness of the relationship between buyers and suppliers. Targets illustrate the extent to which the company is achieving its goals. Examples of targets include price, cost, delivery schedules, order cycle times, time to market, quality, etc.

Means addresses the extent to which the company is realising those means that enable it to meet its goals. For example, to attain the delivery schedule target, it can evaluate its transportation system, which is the means that it uses to achieve the delivery schedule target.

By assessing the extent to which both means and targets have been achieved, an accurate state of the relationship with a particular supplier will be reflected. These results can then be used to take action to improve on the relationship.

5.3.6.2 SRM Factor Method

Another approach involves four high-ranking factors that are generally considered to be fundamental elements of any business relationship in terms of their contribution to the development of trust between the partners; the level of power they possess in decision making; their involvement in SRM; and their contribution to the development of commitment to buyer-supplier relationships [3]. The measurement factors and their characteristics are illustrated in Table 5.2.

Table 5.2: SRM measurement factors [3].

Factor	Characteristics of factor
Trust	Calculative: Actors would act in a trustworthy fashion only because it is in their interest to do so. Cognitive: Arises on the grounds of common cognitions amongst the involved parties. Normative: Characterised by a mutual understanding of expectations and responsibilities of the involved parties based on industry or societal norms (comply with organisational culture, honesty and openness). Trustworthiness: Characterised by keeping promises and having confidence in partner.
Power	Authority: Responsibility for taking decisions and issuing orders. Control: Arises from access to critical resources that give contextual pertinence to those that hold them. Influence: Indirect dimension of power arising from centrality in a network of actors.
Involvement	Complexity: Refers to the level of intricacy of a buyer-supplier relationship (number and level of individuals involved). Scope: Refers to the amount of resources devoted and the capabilities that are transferred between the partners. Intensity of interaction: Refers to the quantity of information exchanged between the parties. Personal contact and spatial proximity between the actors, and the early input of suppliers in a customer's projects.

Factor	Characteristics of factor
Commitment	Effort: Refers to the inclination of the partners to continue their business relationship. Loyalty: Refers to both repeat interactions and attachment to the trading partner. Length of SR: Primarily refers to the length of a contract agreed.

To assess these factors, analyse the way in which managers that participate in SRM handle, implement or manage each of the factors, as demonstrated through each factor characteristic. The outcome will be an accurate assessment of the effectiveness of the buyer-supplier relationship.

5.4 TYPES OF BUYER-SUPPLIER RELATIONSHIPS

It is important for supply management practitioners to understand the types of relationships that may exist between buyers and suppliers. Over the years, several authors have introduced various classifications of buyer-supplier relationships. Examples of popular classifications include portfolio models, relationship matrices, partnership models, simple tier-structure models and market hierarchical governance approaches [6]. Research conducted by a leading procurement expert revealed that there are approximately 145 different forms of formal and informal relationship links between buyers and suppliers, with each one being a relationship supply chain [7].

A weakness in these classifications is that they focus on the state of buyer-supplier relationships at a specific point in time when, in fact, the relationships develop over a period of time. The most common classification, however, is a three-level conceptualisation that assumes that buyer-supplier relationships develop from an arm's length (transactional) relationship, through collaborative partnering to the closely knit alliance relationship. Each type of relationship requires different management and leadership and yields different benefits. As one shifts from a transactional relationship towards supply alliances, the linkages become closer, more defined, and the benefits are broader and deeper (beyond just price). Each of these three relationship types will now be discussed.

5.4.1 TRANSACTIONAL RELATIONSHIPS

A transactional relationship is the most basic relationship that can exist between a buyer and a seller [8]. Neither party is interested in the well-being of the other (arm's length relationship); trust and transparency are virtually non-existent and getting the best price is the major focus in the transaction. In this kind of transaction, a win-win situation cannot be achieved. Rather, if the buyer wins, the supplier loses and vice versa. Since it is all about outperforming the other party, the transaction is usually completed within a minimum of purchasing time. A typical example of a transactional relationship is the one found in a supermarket. Here, the customer buys certain commodities, e.g., groceries and

is unconcerned about the salesperson as long as he or she is quick, correct and polite.

Transactional relationships have inherent advantages. First, they can be implemented by personnel who have lower levels of qualification, since the transactions require minimal judgment and managerial skill. Second, transactions conducted through this arrangement commonly require less time and effort, since the parties are mainly concerned with establishing the price [8].

There are several disadvantages associated with transactional arrangements. Since no trust exists, the relationship can have communication difficulties, delivery problems and supply disruptions, a possible compromise in the quality of the goods exchanged and poor service levels from suppliers. These challenges can force the buyer to change suppliers frequently, consequently resulting in switching costs (the costs incurred in switching to a new supplier) [9].

Transactional relationships are neither bad nor inferior. There are areas in which they are appropriate, such as in purchasing non-critical items or items that will not detrimentally affect the company if not immediately available. These typically include stationery, toiletries and refreshments (teas and coffees) for the company. The arrangement is also appropriate where the buyer has more power than the supplier and dictates the conditions of the purchase.

5.4.2 COLLABORATIVE RELATIONSHIPS

Collaboration is the art of working together to achieve a common goal. In collaborative buyer-supplier relationships, as opposed to transactional relationships, there is an awareness of interdependence and the need for co-operation. Therefore, a collaborative relationship is one that provides mutual benefit to the buyer and the supplier. The buying and supplying organisations work together for increased savings and future innovations. Most companies engage in some form of collaborative relationship, even though they may not be aware of it in some cases.

Collaborative arrangements offer a number of benefits. The buying organisation enjoys the benefit of Early Supplier Involvement (ESI), which ensures benefits from improvements in quality, cost, time to market and leveraging of supplier technology. The likelihood of disruption is greatly reduced, since collaborative suppliers take care of the needs of their buyers. This further provides protection for buyers during hard times, e.g., when there is a shortage of the supplied goods. Collaborative relationships also provide ample room for supplier development, which consequently allows investments in research and development efforts and enhanced inter-organisational training.

Despite their obvious appeal, collaborations have their drawbacks. For instance, in order to develop and maintain collaborative relationships, high levels of human expertise, time and energy are required, which makes these types of arrangements demanding. Furthermore, it may be costly to separate the organisation from its

collaborative supplier when the relationship becomes unsustainable, e.g., when conflict arises between the parties. Another challenge involves the exchange of sensitive information between the buyer and the supplier, which is risky since such information can be used against either company in the future [10].

A collaborative relationship is usually the first step toward establishing an alliance relationship. Normally, when there is a need to establish an alliance but there is a shortage of adequately qualified human resources, it is considered best to adopt a collaborative stance. However, collaborative relationships might not be appropriate when a company has a certain amount of power over its suppliers, or if the suppliers have all the power over the buyer. Under such circumstances, a transactional arrangement may be more desirable [8].

5.4.3 SUPPLY ALLIANCES

An alliance is a confederation or agreement between two or more parties made to advance common goals and secure common trust. An alliance relationship is the highest level in the relationship between buyers and suppliers. The basic characteristic of an alliance relationship is trust. In fact, it is often suggested that most supply alliances fail because the partners fail to establish and maintain the required levels of trust. In an alliance relationship, the partners are free to share risks and rewards openly. The partners align their goals and ethical issues are discussed and shared without fear of being exploited by the other party. Inter-organisational learning is pronounced, as personnel from both parties visit each other to learn how each operates. High levels of transparency exist as partners are willing to share information on future plans, technology and other supply chain related issues.

Supply alliances offer a range of benefits, some of which include lower total costs, improved quality, reduced time to market, improved technology flow from suppliers and improved continuity of supply [11]. However, because they are resource intensive, they are reserved only for the most critical relationships.

If a single supplier stands out from all other suppliers in terms of the value it provides, a supply alliance with that supplier may be desirable. In addition, it is important to establish supply alliances with those suppliers that have a major influence on the organisation's competitive advantage in the market. If a company can benefit greatly by combining its operations with that of a certain supplier, then an alliance would be appropriate. For instance, Toyota could create an alliance with its supplier of tyres. The two partners could then agree that the tyre manufacturer build a depot within the facility (plant) of the car manufacturer. Such an alliance arrangement has benefits for both parties.

5.5 DEALING WITH DISPUTES IN BUYER-SUPPLIER RELATIONSHIPS

Serious disputes sometimes arise between buyers and suppliers. A dispute is any difference in values, beliefs, goals, objectives and interpretations that

can affect the ability of individuals, groups and organisations to work together [12]. It is important to settle these disputes because they negatively affect the relationship between organisations, with possible dire consequences. The following strategies are helpful in settling disputes between buyers and suppliers.

5.5.1 FIND THE ROOT CAUSE OF THE PROBLEM

This is the first step in solving the problem. The resolution of a dispute between business partners requires an understanding of the root causes. What seems like a surface issue often goes much deeper than either party knows or is willing to admit. A sincere examination of the reasons behind the problem is necessary as it will reveal if the problem is due to personal incompatibilities, hurt feelings, or a desire for more input into daily operations. An accurate diagnosis of the problem often paves the way for an effective solution to any dispute.

5.5.2 DISCUSS THE PROBLEM WITH SUPPLIERS

Negotiating with the supplier is important if the buying organisation intends to avoid any further disputes. Solving the problem in any other way may consume time, be costly, complicated, stressful, embarrassing and damaging. Therefore, by discussing the problem with the supplier, the organisation is able to avoid associated complexities.

5.5.3 USE PRE-EXISTING EXIT STRATEGIES

When going into a business partnership, it is important to ensure that an exit strategy is included in the contract.

5.5.4 INVOLVE A MEDIATOR

When negotiation and/or an attempt to exit the relationship fail, a mediator may be invited to intervene. A mediator is a third party who does not have a stake in the relationship. The role of the mediator is to listen, sympathise, empathise and persuade. Sometimes, an expert mediator can even propose or encourage a possible solution so, in order for this process to be effective, the mediator should be trustworthy and respectable. However, the mediator does not have the power to make a decision.

5.5.5 ARBITRATION

Decision-making authority is removed from the disputing parties and is transferred to an arbitration panel. The panel listens to both sides of the dispute and then makes a decision based on law.

5.5.6 COURT ACTION

The dispute is brought to a legitimate court of law and is presided over by a judge, who has the power to make a decision after hearing the evidence from both sides.

5.6 SUPPLIER DEVELOPMENT

Supplier development is a critical part of the supplier relationship management process, but there are times when the supplier fails to satisfy the requirements of the buying organisation. Under such circumstances, the buying organisation has three options, namely [13]:

- Bring the outsourced item in-house and produce it internally (i.e., set up manufacturing facilities within the organisation); or acquire the supplier (vertical integration).
- Re-source with a more capable supplier (supplier switching).
- Help improve the existing supplier's capabilities (supplier development).

An activity that most firms have failed to pursue rigorously is the active development and improvement of supplier performance capabilities. Part of the reason for not pursuing supplier development activities relates to the confrontational nature that has characterised too many buyer-seller relationships. The term 'supplier development' has been defined from diverse angles by different scholars. It is the process of working with specific suppliers on a one-to-one basis in order to improve their performance for the benefit of the buying organisation [14]. It involves a long-term co-operative effort between a buying firm and its suppliers to upgrade the suppliers' technical, quality, delivery, and cost capabilities and to foster ongoing improvements [15]. Also, it encompasses any effort of a buying firm with its supplier to increase the performance and/or capabilities of the supplier and meet the buying firm's supply needs [16]. Supplier development is closely associated with supplier relationship management and partnering. In supplier development, the supplier's expertise is embraced and aligned to the buying organisation's business needs.

Development efforts primarily fall into three categories: working with suppliers to resolve a problem (reactive); working with a supplier to continuously improve a performance capability (proactive); and working with a supplier to create a performance capability where none previously existed (proactive).

Companies that pursue development activities should be aware of three best practices associated with supplier development. The first is that a central system should be established for controlling and monitoring the development efforts. This is done to ensure that development efforts are not diffused, uncoordinated, or under-reported. Second, development efforts should be set up as projects with widespread visibility throughout the organisation. This also allows the use of project management tools. Finally, supply managers should calculate the return-on-investment from their development efforts. This last point requires the active involvement of finance.

The objectives for development can be comparatively minor, such as reducing staffing levels; or very significant, such as evaluating and re-launching an entire range of critical products. There are cases where the buying organisation fails to identify a top-notch supplier who is willing or able to meet its needs. Under

such circumstances the buying organisation may select a suitably attractive supplier and then develop its ability to meet the current and future needs of the buying organisation. Essentially, training in areas such as project management, teamwork, quality control, production processes and supply management may be offered to the supplier, and will ultimately prove to be a worthwhile investment [8].

Every organisation should have sufficiently sound reasons for adopting supplier development initiatives. Reasons vary from pull factors (positive ones) to push factors (negative ones). There are a number of push factors that can give any organisation the motivation to adopt supplier development programmes [17].

Current suppliers may not be able to provide a demanded product and, in this instance, one option may be to identify a suitable supplier and develop it to the extent where it is able to supply the demanded product. As a result, the organisation's supply needs will be satisfied. It may also be the case that a supplier is either not performing to expectation or requirement and, when a supplier underperforms, a possible solution is to develop that supplier, instead of dropping it.

In fact, it is not that easy to get out of a contractual obligation with a supplier and to avoid the possible messy and costly legal disputes with an underperforming supplier; an alternative would be a supplier development programme aimed at enhancing the supplier's performance.

There are several prerequisite factors for supplier development programmes to be implemented effectively. Perhaps the most important is that the supply management practitioners in the organisation must be able to analyse, evaluate and appreciate the business objectives and needs. This is because supplier development programmes must serve the objectives of the business and must satisfy the identified needs of the business.

Another prerequisite for effective supplier development is the existence of adequate and appropriate skills. Besides advanced procurement expertise, there is a need for skills in such areas as contract management, project management and communication. Interpersonal skills are also useful in nurturing the necessary rapport with suppliers. Furthermore, team skills are essential to enable personnel in both organisations to work together constructively.

5.6.1 THE SUPPLIER DEVELOPMENT PROCESS

A variety of approaches are available for use in supplier development initiatives. There is no single universally accepted approach to supplier development. It is up to supply management professionals in the organisation to choose the most fitting approach that matches their relationship with the supplier that they intend to develop. Each approach has its suitable areas of application, depending on context. A typical supplier development process is illustrated in Figure 5.4.

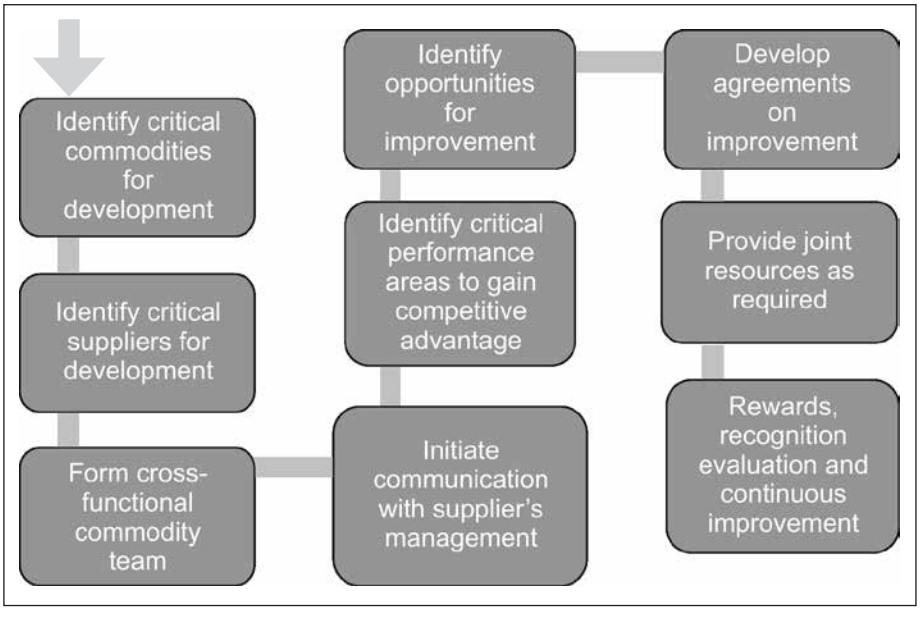


Figure 5.4: The supplier development process [16].

The supply management team has to ensure that it has a clear understanding of the concept of supplier development and what it involves. This will ensure that only those programmes that they have a thorough grasp of and the capacity to complete will be implemented. If these aspects are not satisfactory, it is best to wait until the employees concerned are ready.

Supplier development may be implemented as a once-off project or as a continuous long-term programme. This being the case, the outcome of the selection process for supplier development may best be reflected in the following three categories:

- The supplier is suitable for immediate development: This is a supplier who would have scored highly in meeting the specified selection criteria and is therefore critical and strategic to the organisation. Developing this supplier typically provides suitable rewards for the organisation. This supplier will immediately be contacted to begin negotiations regarding the development programme.
- The supplier has been placed on hold as a potential candidate for future development: This supplier will have obtained a moderate or average score. The supplier is important, but may not be categorised as strategic to the organisation. The supplier will not be discarded but will possibly be suitable for a future supplier development programme.
- The supplier is not suitable for development investment: This is a supplier who does not merit any supplier development. Any efforts to develop such a supplier will waste resources. The supplier will have obtained a very low score in the selection criteria.

5.6.2 RISKS AND BARRIERS TO SUPPLIER DEVELOPMENT

There are several risks associated with supplier development initiatives. Supplier development involves sharing proprietary information with suppliers. This is risky, because unscrupulous partners may use this information against each other when their relationship turns sour. To reduce risk, organisations should strive to develop trust with their partners before embarking on supplier development programmes.

Another risk pertains to security concerns about large volumes of sensitive information that are exchanged between buyers and suppliers. It is possible for competitors, or others who intend to do harm, to hack into the Internet and Electronic Data Interchange (EDI) shared between companies. It is therefore paramount that such information is properly secured in order to ensure that only the intended recipients receive it. An example of a protective mechanism is data encryption, which is useful in preventing security breaches [18].

Sometimes, an organisation may develop a supplier only to discover that the development has also benefited other organisations, such as the supplier's customers or the buying organisation's competitors. As an example, the buying organisation can develop the supplier's product with the intention of meeting its own competitive advantage needs, only to find that competitors are also benefiting by buying the same product from that supplier. Organisations should be fully aware of these possibilities before implementing the programme.

Initiating a supplier development programme is a significant challenge. The following are some of the barriers that one is likely to encounter in establishing a robust supplier development programme [19]:

- The existence of competing initiatives within the organisation may place other programmes ahead of supplier development.
- Inadequate skill and expertise managing a supplier development programme.
- Ineffective monitoring and control systems.
- The need to rotate personnel to other duties; leaving supplier development without personnel for follow up.

5.6.3 BENEFITS OF SUPPLIER DEVELOPMENT

Successful implementation of an effective supplier development initiative is deeply rewarding to the organisation, because it yields a wide spectrum of benefits [6].

The close alignment of buyer and supplier values required during supplier development facilitates the development of trust-based relationships that inspire greater collaboration and opportunities for increased innovation. Supplier development enables suppliers to better understand the buyer's values, which is important in getting the right product out in time to meet the expectations of customers.

Supplier development also promotes continuous improvement as buyers work with key suppliers to improve the supplier's performance and define a roadmap with actions leading to improved processes and outcomes.

Despite the fact that supplier development requires a substantial injection of funds, it should have a direct financial benefit once it is put in place. Building leading practices and indicators into the supply base helps to unlock substantial value and cost reduction. In the retail industry, for example, a typical Return on Investment (ROI) of up to five times within one year can be achieved by investing in supplier development programmes. Furthermore, these savings can be sustained on an ongoing basis [20].

Supplier development schemes can facilitate a reduction in the supplier's operational and financial risks, especially those related to the buyer's increasing dependence on its key suppliers, supplier quality issues, supply shortage issues and unanticipated price volatility. Increased responsiveness to customer needs and market dynamics should also be a direct outcome from supplier development.

Supplier development facilitates the entrenchment of a quality culture in the supplier organisation, making sure that quality is factored into the process, and helping buying organisations to move towards supplier independence. In some cases, buying organisations can typically achieve 1 015% of First Pass Yield (FPY) improvements in retail, and 30-40% improvement in first pass part approval rate in the industrial equipment industry [20].

Supplier development initiatives should also result in improved collaboration between clients and their suppliers as well as efficient and effective use of resources by adopting lean practices. Removing waste across the whole supply chain helps to make it 'lean' and 'green'. In the global fashion retail industry, for example, marker utilisation can typically be improved by 3-4% by making appropriate adjustments in width and length, end losses, etc. This will save a significant amount of fabric that would otherwise have gone to waste [20].

Understanding the risks/barriers and benefits of supplier development is useful to supply management practitioners as it enables them to measure the effectiveness of supplier development programmes by assessing the benefits against the risks.

5.6.4 BLACK BUSINESS SUPPLIER DEVELOPMENT (BBSDP)

Black Business Supplier Development (BBSDP) is a programme that was initiated by the South African Government under the auspices of the World Bank and taken over by the Department of Trade and Industry in 2002. An offshoot of the Black Economic Empowerment Programme (BEE), BBSDP is a financial incentive scheme meant to assist small enterprises that are owned by black people in the country [21].

The following are the prime objectives of the BBSDP scheme [21]:

- Fast-tracking existing Small, Medium and Micro Enterprises (SMMEs) that show good potential for growth into the mainstream economy.
- Growing black-owned enterprises by fostering links between black SMMEs and corporate and public sector enterprises.
- Complementing the current affirmative procurement and outsourcing initiatives of corporate and public sector enterprises.
- Enhancing the capacity of grant recipient enterprises to successfully compete for corporate and public sector tenders and outsourcing opportunities.

BBSDP is meant to assist small enterprises to improve their competitiveness and sustainability so that they can become part of the mainstream economy for the purpose of creating employment in the country. This is achieved through the provision of financial assistance in the form of grants that are worth up to R1 million. Some of the provisions are as follows:

- Funds may be granted for the acquisition of tools, machinery and equipment per each eligible enterprise. Businesses need these non-human resources for their production processes. The scheme is therefore meant to ensure that targeted businesses are well equipped to make meaningful contributions to the economy by boosting their production capacities.
- Funds may be granted for business development and training purposes per eligible enterprise. The money may be directed towards the improvement of corporate governance procedures, management, marketing, productivity and the use of modern technology. This is premised on the fact that it is widely acknowledged that businesses can only succeed when their employees are well equipped with the necessary knowledge and skill in these critical areas.

In order to be eligible for a grant, applying enterprises have to meet the following criteria:

- Black majority shareholding of at least 51%. This is in line with the BBBEE initiatives that are meant to promote the development of the country by recognising the needs of previously marginalised groups. This will ensure that all groups will be able to make positive economic contributions to the country.
- Fifty percent of management positions should be held by historically disadvantaged individuals. The scheme is meant to assist businesses whose management structure reflects the desire to address the historical imbalances in the country. Therefore, to qualify for the scheme businesses are encouraged to factor in a majority black management.
- Annual turnover of the enterprise should be between R500 000 and R35 million. The required turnover aims at ensuring that only serious enterprises that have a bright future receive the grants from the scheme.
- The business should be in operation for at least one year. This eliminates the prospect of giving the funds to fly-by-night businesses that have been started to obtain the grant, but do not exist in reality.
- Proof of payment of VAT, indicating that the business has been registered and

has complied with the country's tax regulations. South African law prescribes that every business should honour its taxation dues to government. Failure to do so is a crime. Therefore, it is natural that only businesses that have been paying corporate tax, as evidenced through the availability of tax certificates, qualify to benefit from the scheme.

The Department of Trade and Industry usually updates the eligibility criteria when necessary [21].

5.7 SUPPLY BASE LOCALISATION

Organisations often face the dilemma of choosing between local suppliers and international or global suppliers. Where international or global sourcing is used, there should be sufficient reason for selecting it as a strategy ahead of local sourcing. In most cases, organisations start by using local suppliers before extending their sourcing practices to include international suppliers. It is therefore important for supply management practitioners to understand the dynamics behind local sourcing.

Local procurement may broadly be defined as the systematic obtaining of personnel, services, supplies, and equipment from indigenous sources [22]. In a competitive global operational environment that is characterised by persistently unpredictable market forces, sourcing from local suppliers may have become an important strategy for maintaining an organisation's competitiveness and prosperity. In fact, failing to adopt local procurement strategies can have several negative consequences for organisations. For instance, a non-localised supply chain can increase lead times to undesirable levels. It is also easier to develop a global supply strategy from a local one than the other way round. However, procuring locally demands outstanding commitment from an organisation, as does building the capacity of local suppliers so that they can become more competitive and profitable. This must, however, be implemented within the objectives and goals of the organisation.

The reasons for adopting localisation strategies are many, depending on the needs of the organisation concerned. A set of primary reasons will include contributing to the development of the local economy; growing local relationships; 'green' reasons, such as reducing spending on carbon fuels that create pollution; assisting local not-for-profit enterprises and charitable organisations; improved services as involved organisations are bound to take care of each other and to treat each other respectfully; buying fresher products; keeping taxes in the local fiscus; and supporting community buying groups [23].

5.7.1 STEPS INVOLVED IN LOCAL PROCUREMENT

5.7.1.1 Self-assessment

Self-assessment is an effective way of assessing the extent to which the

organisation is engaged in local procurement as well as the depth of its commitment. Three areas that can be included in the self-assessment process are:

- Assessment of supporting structures, such as existing policies, alignment of programmes and the extent of available human resources.
- Systems and processes that support local procurement programmes.
- Development support for local small to medium enterprises.

A questionnaire with a scoring system may be used for self-assessment. The questionnaire should be completed by senior managers, managers in the procurement department and end-users. This is because a commitment to local procurement requires personnel across various departments to work together collaboratively and to think creatively.

5.7.1.2 Determine the Rationale for Using Local Suppliers

At this stage, the basis for embarking on local procurement should be aligned to the organisation's business objectives. Commonly, these reasons are known as the key business drivers. For instance, the primary motivation of some organisations may be to meet a legislative, government or contractual requirement. However, for other organisations, the reasons may be more strategic, such as to optimise local economic benefits through corporate social responsibility. When the rationale for local procurement is well articulated, it encourages innovation within the organisation. It also illustrates to personnel that this change in doing business is important for the success of the organisation. Table 5.3 illustrates the dimensions involved in some of the most common business drivers for local procurement programmes.

Table 5.3: Key local procurement programme business drivers [24].

Local procurement programme drivers	Benefits	Questions to consider
Government regulations or contract requirements	• Company is compliant with agreements, contracts and/or expectations. • Increased government support.	• Does the government require local procurement? • Is local procurement becoming an issue that the government may require of companies? • Do the tender documents require sub-contractors to use local businesses?

Local procurement programme drivers	Benefits	Questions to consider
Competitive advantage	• Demonstrates the company's ability to deliver economic development through its incorporation of local businesses in the supply chain. • Leads to access to new concessions or clients and increased likelihood of winning new government concessions as a result of government contracts.	• Are competitors working with local suppliers? • What are the advantages in demonstrating success at local procurement to win future concessions?
Social licence to operate	• Builds local support through an activity that can provide continuing opportunities for SMMEs. • Creates a partnership between the company and communities. • Improves ease of operations (such as access to roads). • Visibly delivers local benefits or impact.	• What is stakeholder perception and expectation of the company? • How frequent are work stoppages? • How frequently and where have protests occurred? • What are the costs of these protests?
Energy and environment	• Reduction of carbon footprint. • Reduction in energy costs.	• What is the environmental footprint of the supply chain? • What is the cost? • What part of the supply chain can be localised and what would the impact be?

Local procurement programme drivers	Benefits	Questions to consider
Cost reduction/ increased quality	• Reliability of supply, reducing risks and lead times on delivery (particularly for remote locations). • Increased ease in design and production changes. • Improved capacity for quality oversight and for innovation and service improvements through easier interaction between internal service users and suppliers. • Promotes diversification of suppliers.	• How can local procurement decrease cost and increase quality? • Is there evidence of growing cost, disruption or risk associated with a reliance on international suppliers?
Business continuity (logistics and efficiencies)	• Proximity to suppliers reduces delivery time. • Proximity also means ease in collaboration.	• Are there areas in the supply chain that are losing efficiency?
Long-term economic diversification	• A local procurement process helps build a diversified local economic base which can be self-sustaining.	• Is economic diversification a stated goal of the development of the region of operation/ host countries? • Is economic diversification an element of the company's closure guidance or plans?

5.7.1.3 Define the Type of Local Enterprises Being Targeted

In this phase, supply management practitioners identify the type of enterprises to be targeted by providing a clear definition of the word 'local'. At first sight it may be defined in terms of geographical distance, but the issue is not quite that simple. For instance, a supplier who is located next door to the organisation is clearly local but there is still a need to specify the distance that should be considered when defining a local supplier. It is therefore important to properly define a local supplier so that the local procurement programme may be given an appropriate focus and to enable the organisation to manage the expectations of its various stakeholders. In defining 'local', the following criteria may be useful:

- Regulatory: Available legislation may define what exactly is meant by a local supplier.
- Geographic: A geographic region within the country may be used to define which organisations qualify as local suppliers.
- Ownership: Is the organisation targeting suppliers who are owned by foreign entities, locals, or by both foreign and local individuals and entities?
- Size of enterprise: Is the organisation targeting large, well-established suppliers or small to medium enterprises?
- Vulnerable groups. Is the organisation targeting suppliers operated by under-represented groups or previously disadvantaged groups?

The above suggests that it is not enough for a supplier to be operating in a country for it to be selected as a local supplier by the buying organisation. The prospective supplier also has to be considered within the parameters of the specified criteria. For example, the organisation may adopt the 'regulatory' definition or the 'size of the enterprise' definition as part of its strategy in selecting the local suppliers to work with.

5.7.1.4 Develop a Local Procurement Policy

A local procurement policy is developed so that it demonstrates the organisation's dedication to local procurement and helps to entrench the practice throughout the organisation. A policy enables the organisation to put together strategies, systems, plans and programmes to address the gaps between local supplier capability and the organisation's procurement standards. Since procuring from local suppliers may require training support, the policy should also outline the organisation's proposal for strategies for optimising opportunities for SMMEs.

When developing a local procurement policy, the information gathered in establishing the business drivers, applying the self-assessment process and appropriately defining the term 'local' should be taken into consideration. The template illustrated in Table 5.4 demonstrates the important aspects to be included in the local procurement policy.

Table 5.4: Template for developing a local procurement policy [24].

Section	Description	Sample language
The purpose	The purpose of the document and key information relating to policy implementation, e.g., the geographical focus and the date of launch.	• The purpose of this document is to set out our global local content policy. This policy is effective from 1 January 20xx and will be subject to detailed review in January 20xx.

Section	Description	Sample language
The vision	An inspiring, forward-looking statement.	• Our vision is sustainable, responsible local procurement that positively contributes to a resilient supply chain and the economic and social development of the communities and countries in which we operate.
Strategic goals and objectives	The general outcomes that will result from the policy.	• To meet our local content obligations in respect of production sharing contracts (and their equivalents) and/or other legislative and regulatory requirements. • To increase the proportion of goods and services that is sourced locally without compromising on cost, quality or safety.
Internal procurement processes	Details of: • Changes to procurement processes that make them more inclusive to local suppliers. • Supplier accreditation (to confirm the status of ownership, directors, management, facilities, etc.)	• When soliciting tenders for goods and services priority will be given to local SMMEs that meet the necessary technical, commercial and safety requirements, as outlined in our prioritisation matrix.
Capacity building	Business development support offering business diagnostics and training for local entrepreneurs.	• We will target local suppliers using the most appropriate communication methodology.
Staffing and budget	• Staffing resources to support implementation of policy. • Budgeting assumptions and main sources of financing.	• We will have a cross-functional task force or working group to meet policy objectives. • We will devote the appropriate financial resources that can be leveraged to train SMMEs.

Section	Description	Sample language
Financing assistance	Assisting SMMEs to obtain financing from financial institutions	• We will help with finance, including providing loans of up to x% (subject to conditions) and facilitating access to financial institutions
Accountability and responsibility	Overview of the relevant departments or individuals and the aspects of the policy for which they are responsible.	• We will create a task force consisting of representatives from a cross-section of departments to begin prioritising contracts for local procurement.
Monitoring and evaluation	Evaluation of the programme's successes and failures according to predetermined criteria.	• We will develop metrics and monitor performance across strategic goals that will ensure the creation of long-term benefits for local SMMEs and the communities in which we operate. • We will monitor progress on a monthly basis.

As indicated in Table 5.3, the local procurement policy should start with the vision and the purpose for local procurement. These statements should be inspirational and forward-looking. At the same time, they should clearly spell out the intended goals. Furthermore, the policy should highlight any proposals on crucial issues such as staffing, procurement, health and safety, and budgeting.

5.7.1.5 IMPLEMENTATION OF LOCAL PROCUREMENT PROGRAMMES

After the policy has been approved, an implementation plan for the local procurement programme can be designed. In doing this, in-house staff or outside consultants can be used. Table 5.5 is a template that provides a sample outline of the topics that should be covered in the design of the local procurement programme.

Table 5.5: Design of a local procurement programme [23].

Component	Description
Executive summary	• A broad overview including programme components, timeline targets and partners, challenges and key issues.
Background	• An overview of the country and local context.
Introduction	• A brief introduction and background to the company.

Component	Description
Country and regional context	• The relevant historical, social, economic and political context, including poverty indices in relation to company operations. • A socioeconomic overview of the project-affected area. Check the country's 'Doing business' rating. • The composition of the entrepreneurial sector, especially SMMEs. Include the company's existing supply chain as well as relevant local communities. • Analysis of the business environment: major needs of SMMEs vis-à-vis access to business and technical skills, access to finance and access to markets. • The institutional environment: Business Membership Organisations (BMOs) like business associations and chambers of commerce; the overall commercial environment (legal and regulatory requirements, corruption, entrepreneurship culture, infrastructure, etc.).
Programme objective	• Mission statement/objectives: Specific, Measurable, Achievable, Relevant, Time-bound (SMART) strategy. • Link to business drivers and target groups.
Rationale	• Business case: risk mitigation, cost benefits, alignment with the company's business drivers, etc. • Sustainability case: development impact, sustainability proposals, fit with CSR strategy. Role of partners in adding value and sustainability to programme.
Programme design	• Preparation; governance structure; steering committee; reporting lines (programme management structure); design of programme reports. • Assessment and screening; review of company purchasing needs. • Select sectors for localisation; SMME mapping; SMME evaluation; creation of communication plan; preparation for training of SMMEs. • Training and mentoring. • Monitoring and evaluation.
Budget	• Create a comprehensive budget including fixed and variable costs. Consider innovative ways to recover and share costs with implementing partners and SMMEs.
Financing plan	• Develop a plan to finance local supplier activities.
Programme period and coverage	• Determine how long the programme will last. • Determine geographic area.

Component	Description
Develop programme organisation	• Design a chart (or higher-level organogram) with programme components (and respective programme partners for each component, if identified). • Clear lines of reporting. • Steering committee: Members, meetings, chairperson, compensation.
Determine staffing plans	• Total number of staff involved and their roles. • Staff responsible for implementation; their roles and responsibilities, e.g., procurement department, communications team, external affairs team, community development team.
Identify partners	• External partners and their roles and responsibilities.
Identify cross-cutting needs	• Access to finance. • Capacity building. • Gender. • Marginalised groups.
Create work plan	• Develop a table showing key activities, timeline, deliverables and key persons responsible.
Monitoring and evaluation	• Determine the metrics that will be used to evaluate programme's success. • Define the reporting requirements (including timeline, documents and individuals involved). • Assess options for aligning programme results with staff performance (incentives).
Challenges/ risks	• Determine challenges that exist externally and internally, based on company self-diagnostic assessment. • Outline possible solutions.
Risks	• Determine possible risks, e.g., dependency on outside parties, reputational risks, environmental and social risks. • Outline risk mitigation strategies.

5.7.1.6 Benefits and Challenges of Using Local Suppliers

Purchasing goods from local suppliers has benefits that make it attractive and challenges that make it difficult to implement. However, the use of competent supply management professionals who are able to assess the merits and drawbacks of using a particular local supplier will go a long way to cultivate appropriate sourcing decisions.

Promoting the use of local suppliers can boost the organisation's public relations. This is particularly true if the organisation is a large employer in an area and has made huge investments in the local community. Using local suppliers reduces the costs associated with procurement by eliminating customs duties and other

taxes associated with importing goods from abroad. Facilitation fees as well as other frustrating obligations associated with international procurement are also eliminated, thereby streamlining the procurement process.

Local suppliers are also in close proximity. This makes it easier for the buyer organisation to execute site inspections, supplier development programmes and other contract management interventions. Close proximity reduces the length of supply chains, which reduces risks associated with the uncertainty and unpredictability of delivery schedules. Proximity also reduces the amount of fossil fuel used and consequently carbon-dioxide emissions as well as less packaging during transportation of goods, which results in significant cost savings for both the buying and supplying organisations. Finally, the use of local suppliers reduces the number of middlemen/brokers used in the process. This reduces supply costs and the risks associated with the use of middlemen in the procurement process [14].

5.8 CONCLUDING REMARKS

The supply chain topics of supplier relationship management, supplier development, supplier base localisation, the BBSDP and buyer-supplier conflict management were discussed in this chapter. These discussions focused on the theory underpinning the concept, with the intention of giving the reader a solid overview. In addition, current best practice in the examined topics received emphasis. This was meant to give the reader some practical suggestions on how programmes linked to these topics could be initiated and implemented. In all cases, evidence was given on the benefits and drawbacks of each concept. Benefits were mentioned to provide motivation for the adoption of these programmes; whereas drawbacks were mentioned to enable the reader to take steps to avoid or minimise associated pitfalls when these programmes are implemented in organisations.

Information provided on each topic also enables those involved in these programmes to weigh up the positive aspects against the potential negatives in each case. This will allow them to make decisions in advance for the benefit of the organisation.

The discussions throughout the chapter emphasised that these topics are critical for the prosperity and long-term success of any organisation. The challenge remains for supply chain practitioners to ensure that these programmes are not neglected and that their conception and implementation is efficient and effective.

5.9 REFERENCES

[1] Gartner Consulting, SRM, Enterprises drive competitive advantage through SRM, White paper prepared for PeopleSoft, San Jose, 16 April 2001.

[2] Poirier C.C., Supplier relationship management: An advanced supply chain management technique, http://ascinstitute.com/library/whitepapers/SRM%20-%20An%20Advanced%20SCM%20Technique.pdf, Accessed on 5 November 2012.

[3] Giannakis M., Performance measurement of supplier relationships, Supply Chain Management: An International Journal, Vol. 12 (Issue 6), 2007.

[4] Marjolein C.J., Caniels M.C.J. and Gelderman C.J., Buyer-supplier relationship development – Empirical identification and quantification, http://www.academia.edu/637758/Buyer-supplier_relationship_development_Empirical_identification_and_quantification, 2004, Accessed on 4 November 2012.

[5] Day A., Six steps to better SRM, http://www.stateofflux.co.uk/about_newsroom/6_steps_to_better_srm.aspx, 2009, Accessed on 5 November 2012.

[6] Jones K., Source smart: The need for supplier management, manufacturing systems, Vol. 6 (Issue 4), August 2002.

[7] Cavinato J.L., Supplier relationship management insights, http://www.ism.ws/tools/content.cfm?ItemNumber=20233, Accessed on 5 November 2012.

[8] Burt D., Petcavage S. and Pinkerton R., Supply management, 8th ed., Kuala Lumpur, McGraw-Hill, 2010.

[9] Rometty G., Collaboration key to innovation, Leadership Excellence, Vol. 24 (Issue 2), 2007.

[10] Benton W.C. and Maloni M., The influence of power-driven buyer/seller relationships on supply chain satisfaction (Electronic version), Journal of Operations Management, Vol. 23, 2005.

[11] Dyer J.H., Collaborative advantage, London, Oxford University Press, 2000.

[12] Alewine J.D., Understanding buyer supplier conflict, 92nd Annual International Supply Management Conference, May 2007, http://www.ism.ws/files/Pubs/Proceedings/EAAlewine.pdf, Accessed 9 November 2012.

[13] Krause D.R., Handfield R.B. and Scannel T.V., An empirical investigation of supplier development: reactive and strategic processes, Journal of Operations Management, Vol. 17 (Issue 1), 1998.

[14] Chartered Institute of Purchasing and Supply (CIPS), Supplier development, http://www.cips.org/Documents/Resources/Knowledge%20Summary/Supplier%20Development.pdf, Accessed 6 November 2012.

[15] Watts C.A. and Hahn C.K., Supplier development programmes: An empirical analysis, International Journal of Purchasing and Materials Management, Vol. 29 (Issue 2), 1993.

[16] Krause D.R. and Ellram L.M., Success factors in supplier development, International Journal of Physical Distribution and Logistics Management, Vol. 27 (Issue 1), 1997.

[17] Handfield R.B. *et al.*, Avoid the pitfalls in supplier development, Sloan Management Review, Vol. 41 (Issue 2), 2000.

[18] Batson R., Getting started in a supplier improvement initiative, Proceedings of the Annual Quality Congress, Denver, 27 May 2002.

[19] Scott F., Supplier development: A survey of risks and benefits, http://scm.ncsu.edu/scm-articles/article/supplier-development-a-survey-of-risks-and-benefits, Accessed 6 November 2012.

[20] Gupta A. and Margolis B., Sustaining high performance through effective supplier development. http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_Sustaining_High_Performance_through_Effective_Supplier_Development.pdf, Accessed 13 January 2013.

[21] Department of Trade and Industry (DTI). Black business supplier development programme, http://www.services.gov.za/services/content/Home/OrganisationServices/businessincentives/blackbusinesssupplier/en_ZA, Accessed 7 November 2012.

[22] Chartered Institute of Purchasing and Supply, Using local suppliers – CIPS positions on practice, http://cipsintelligence.cips.org/opencontent/cips-purchasing-supply-management.-using-local-suppliers, Accessed 9 November 2012.

[23] Bardot J.B., Buying local grows independent, sustainable communities and pulls the plug on the system, http://www.naturalnews.com/036528_buy_local_sustainability_communities.html, Accessed 9 November 2012.

[24] International Finance Corporation, A guide to getting started in local procurement: For companies seeking the benefits of linkages with local SMEs, http://www.engineersagainstpoverty.org/_db/_documents/IFC-EAP_Local_Procurement_Guide.pdf, Accessed 9 November 2012.

[25] Keystone Supplier Development Partnership, Supplier Development Case Studies, http://www.wednetpa.com/supplier/overview5.asp, Accessed 14 January 2013.

[26] SABMiller, Strategic priorities: Constantly raising the profitability of local businesses, sustainably, http://www.sabmiller.com/index.asp?pageid=1905, Accessed 13 January 2013.

5.10 APPENDIX

APPENDIX 5.1

A5.1.1 JOHN DEERE AND COMPANY PROFITS FROM SUCCESSFUL SUPPLIER DEVELOPMENT

John Deere and Company, a US-based agricultural equipment manufacturer, has operated formal supplier development programmes for many years and has realised significant savings from its efforts. By working with suppliers to increase production capacity, reduce lead times, and improve overall business performance, John Deere has created a stronger, healthier supplier network that costs less to work with and has improved supply management bottom-line performance.

John Deere has derived many benefits from participation in a formalised supplier development programme, supported by senior management as a critical business goal.

By the end of 2001, John Deere had worked on a total of 426 projects, with $52 000 000 in cost savings and $36 000 000 in cost avoidance. Similar results were realised in quality, delivery and lead time metrics. Relationships with the supply base were strengthened, and suppliers became more able to respond to changes in production schedules and requirements. This increased performance of the supply base constituted a significant competitive advantage for John Deere over its competitors.

Another benefit to John Deere of supplier development was the creation of a pool of talented problem solvers. The training of supplier development engineers in modern, lean and flexible manufacturing techniques, coupled with the experience they have in a variety of industries and situations, equipped them well for positions throughout the organisation. They were equivalent to ‘black belts’ in the scope of their knowledge, and also possessed a strong appreciation for the supplier and their relationship to Deere. This perspective put them in a unique position to be able to integrate the supplier’s processes with Deere.

Supplier development programmes work and create a competitive advantage for companies that champion such programmes [25].

A5.1.2 SABMILLER INVESTING IN LOCAL SUPPLIERS [26]

In procuring its raw materials, SABMiller combines the scale benefits of global sourcing with the advantages of sourcing locally where this makes sense.

Local sourcing means zero import duties and shorter, more secure supply chains while encouraging enterprise and stimulating the local economy on which every SABMiller business depends. In Africa, in particular, it supports the group's strategy of developing new, low-cost products based on indigenous crops, such as sorghum and cassava, which can be marketed as affordable alternatives to traditional home brews.

SABMiller is working hard to source more of its raw materials (both conventional and new) from local suppliers. In Africa, it's scaling up commercial barley production in countries such as Zambia and Tanzania and recently won donor funding to help establish a cassava supply chain using small-scale farmers in Southern Sudan. In Peru and Ecuador, it's developing high-quality, local supplies of maize and rice to replace imported crops. In India, the business is working with small-scale barley farmers to improve their yields and quality, enabling them to meet more of SABMiller's requirements while also boosting their incomes. There are currently some 9 000 farmers involved in this project.

TOTAL COST OF OWNERSHIP (TCO)

Authors: Llewellyn R. Roberts and Robert J. Trent

SYNOPSIS

Procurement managers are integrally involved in making purchase decisions and, when they do, they must ensure they understand the Total Cost of Ownership (TCO), not just the purchase price. TCO is a calculation designed to help people make more informed financial decisions when procuring products or services. It is also one of the most important concepts in purchasing and supply management. Rather than simply looking at the purchase price of an object, TCO adds to the initial purchase price other costs expected to be incurred during the life of the product, such as service, repair, and insurance. Various TCO models exist and are used to determine the true cost of ownership of a product or service.

6.1 INTRODUCTION

This chapter will explore the concept of TCO, which is defined here as a philosophy for developing an understanding of all relevant supply chain-related costs of a particular transaction or process. In the supply chain, TCO often focuses on the cost of doing business with a particular supplier for a particular good or service. TCO considers total cost of acquisition use/administration, maintenance and disposal of a given item or service. TCO modelling requires determining all the costs related to the procurement of a given product or service or group of products and services to allow for an accurate estimate of true costs, for cost comparison purposes and as a critical tool for use in supplier negotiation.

6.2 TOTAL COST OF OWNERSHIP (TCO)

While the concept of total cost applies whether companies engage in domestic or international buying, the added complexity that surrounds international purchases also means greater opportunity to experience a wider set of total cost elements. With so many cost variables to consider, the job of consolidating this information into a useful package can be intimidating [1]. One study has identified over a dozen total cost categories with over 125 separate cost elements embedded throughout these categories [2].

TCO is a topic companies simply cannot ignore as they search for new sources of supply. This section defines the concept of total cost, including reasons to measure it. Next, three common types of total cost models are presented. Following this, the cost elements that typically comprise a total cost model are presented followed by a case example that shows the development of a total landed cost model.

6.2.1 TOTAL COST

Total cost includes expected and unexpected elements that increase the unit cost of a good, service, or piece of equipment. Total cost systems attempt to capture these cost elements. The logic behind the development of total cost systems

is that unit cost or price never equals total cost. Based on this proposition it becomes important to understand the size of the gap between a unit price and its corresponding total cost. It is also important to know, in some detail, what makes up that gap.

Those involved in international purchasing are fully aware that variables, such as long lead times and distance, carry additional costs and risks that are not as relevant to domestic purchases. Supply managers are increasingly realising that they need to quantify these cost elements, as abstract as some may be, wherever possible. One expert has noted that the 'soft costs' that are rarely included in off-shore cost models are starting to become painfully clear [3].

6.2.2 MEASURING TOTAL COST

Almost every purchasing measurement system includes price-related measures rather than total cost measures. Price is by far the easiest of any metric to identify across a supply chain. Without a total cost system, however, it is difficult to make sourcing decisions that do not contain a fair amount of subjectivity. It becomes next to impossible to select a higher price sourcing option (but a lower total cost option) without a total cost system supporting that decision. Having a 'gut feel' that a higher price supplier will be the lower total cost supplier will not work and companies must obtain total cost data to make objective decisions based on total cost.

The reasons for measuring total cost are clear. A recent study by a leading trade journal found that over 80% of companies that employed total cost analysis reduced their total landed cost [3].

Total cost models help companies to:

- Identify the impact of different cost elements, including quality non-conformances.
- Track in real terms cost improvements over time.
- Gain management's attention regarding the areas where cost reduction efforts will have their greatest payback.
- Target specific areas for improvement or elimination.
- Make fact-based rather than subjective supply chain decisions.
- Gain a better understanding of the supply chain.

Companies operate in a volatile world business market with price fluctuations that are influenced by the world economy. Importers can and do experience product and logistics cost increases. A survey by Archstone Consulting and the Supply Chain Management Review reports that 35% of manufacturers experienced a 25 to 50% increase in material and component costs from foreign suppliers over a three year period. Over 50% of survey respondents reported up to a 25% increase in product costs. Similar increases were reported for logistics and transportation costs [3]. Therefore, in uncertain times, the need to understand every element of cost is great.

6.2.3 THE HIDDEN COSTS

The obvious costs of purchasing internationally, which can alter any savings realised from the practice, are only part of the cost equation. Most sourcing experts acknowledge that sourcing offshore contains a variety of hidden costs that can undermine the effectiveness of any global strategy. So, what are the hidden costs of global sourcing [4]? These are illustrated in Table 6.1.

Table 6.1: Hidden costs of global sourcing.

Hidden cost	Reason
Internal expenses	Higher skills, communication, and time required to evaluate and work with foreign suppliers.
Supplier health	Gaining visibility into the financial stability of foreign suppliers can be difficult.
Post-contract lull	Failing to monitor supplier and contract performance after signing an agreement can result in 'cost creep' or even performance failure.
Duty and tariff changes	Employing resources to determine correct duties and monitor changes adds to total cost.
Contract non-compliance	Internal non-compliance with a foreign contract reduces the total anticipated savings.
True inventory costs	Longer pipelines increase inventory carrying charges.
Logistics volatility	Managing the rapid changes in shipping costs adds an element of complexity.
Technology	Extended supply chains require greater tracking capabilities.
Quality breakdowns	Managing quality problems offshore can be more costly and complex to resolve, including the impact on corporate brand equity.

Traditional cost models reveal that net cost savings from international buying average around 25%. The Procurement Strategy Council has extended this model by factoring in the impact of hidden costs not considered in the traditional model. Under this revised model the savings realised from foreign sourcing are only 4 to 6%. If the Procurement Council's model is correct, it shows why total cost calculations must become an integral part of every international sourcing analysis.

6.2.4 THE REASONS WHY TOTAL COST MODELS ARE USUALLY WRONG

A popular misconception is that information from total cost models is better than having no total cost models at all. The reality is that total cost models, like forecasting models, almost always have some degree of unreliability. The question is, 'How much unreliability is embedded in the model?'

Why are the models usually wrong, at least to some degree? The data that populate a total cost model can be segmented into four categories, representing a hierarchy from most to least reliable, as illustrated in Figure 6.1. These categories conveniently start with the letter 'A'.

Regardless of the cost model used, the need to understand the data that are populating the model cannot be understated. Supply managers may make decisions based on data that fall largely at the bottom of the reliability scale. Like forecasting models, total cost models usually arrive at some number to report in the way of total cost. But what is the confidence around that number? Used correctly, TCO models can reduce operational and financial risk; used incorrectly, these models can elevate rather than alleviate risk.

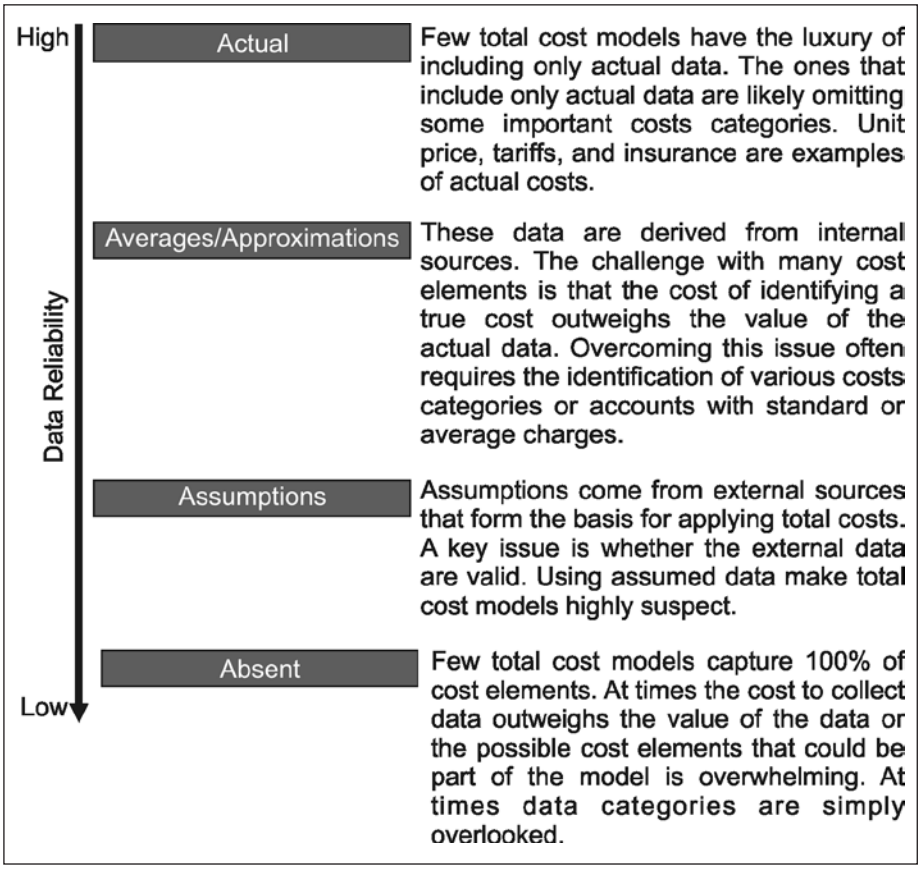


Figure 6.1: Total cost data reliability [5].

6.3 TYPES OF TOTAL COST MODELS

All total cost models are part of a group of measurement systems called cost-based systems. One of the main objectives of these systems is to replace subjective measurement or assessment with data that are more objective.

Two other types of measurement systems include categorical systems and weighted-point systems. Categorical systems involve subjective check-offs for various items. A user assigns ratings such as excellent, good, fair and poor to selected performance categories. Categorical measurement is the lowest level of measurement in terms of sophistication. Weighted-point systems, which are widely used in supplier performance scorecards, use scales with defined values. This approach weighs and quantifies scores across different performance categories. Currently, the most common system used when making sourcing decisions is a weighted-point approach. Neither categorical nor weighted-point systems consider total cost, although a total cost metric instead of a price measure could be included in a weighted-point system.

Cost-based systems offer advantages and disadvantages and systems can be extremely challenging to develop and use. As they relate to supply management, total cost models are applied within three major areas: total landed cost models; supplier performance cost models; and life-cycle cost models. While at first glance these may appear as three independent types of models, they can have overlapping cost categories. A life-cycle cost model for capital equipment, for example, should include the purchase price along with any charges incurred to transport and install the equipment. Transportation costs will usually appear in total landed cost models. The three models are discussed in more detail below and a later section identifies the kinds of cost elements or categories that may populate these models.

6.3.1 TOTAL LANDED COST MODELS

A total landed cost model is ideal when evaluating suppliers prior to making purchase decisions. Landed cost is the sum of all costs associated with obtaining a product, including acquisition planning; unit price; inbound cost of freight, duty and taxes; inspection; and material handling for storage and retrieval [6]. Of course, each of these cost categories will contain numerous sub-categories.

On seeing the word ‘landed’ it is reasonably safe to assume a reference to total cost estimates or calculations that involve international shipments. Total landed costs models are also used, however, when evaluating domestic shipments. In this case some of the cost elements (such as tariffs) will not have costs allocated to that element. Every company that is serious about controlling costs should develop total landed cost models. Best practice companies require their commodity teams or buyers to attach spreadsheets that show the total landed cost whenever they propose a supply strategy or make a supplier selection decision. Few supply managers would question the importance of these models when making foreign sourcing decisions.

If a company were to develop only one type of total cost model in the international arena, this should be it. Various costs incurred when sourcing internationally are not present when sourcing domestically. For example: a company is evaluating three suppliers, one in Germany, one in China, and one in the USA. Considering price alone, the Chinese supplier may be an obvious choice, but a detailed total

landed cost analysis could well reveal a different picture. The buyer would need to consider all the hidden costs, including inventory carrying costs and increased logistical handling, which erode unit price savings. Unless a total landed cost model is developed it is not possible to know for certain that the correct decision has been reached.

Total landed cost models should also be used when doing business with international suppliers on an ongoing basis. After all, the factors that affect the sourcing decision in the first place are dynamic and subject to change. Some companies update their total landed cost models whenever cost factors, such as transportation and exchange rates, change. Keeping these models current is an ongoing challenge.

A potential issue with total landed cost models involves whether to include only costs that the buyer incurs or whether to include all the costs incurred from the point of origin to the point of destination. One school of thought argues that it is best to include only those costs that are incurred directly by the buyer. If a supplier maintains the title and risk of loss for a shipment until it reaches the buyer's dock door, why include the inventory carrying charge for the inventory? Isn't that the supplier's concern? Another argument will say it makes sense to have visibility to all supply chain costs - it's hard to improve what is not measured. And it is probably safe to conclude that the costs assumed by the supplier are driving up the supplier's unit price. A buying company can have parallel total landed cost models.

One model could include the direct costs that the buyer is going to experience firsthand. The second model, which will have a higher total landed cost model than the first one, should include all the costs that are spread across the supply chain. Spreadsheet software is ideal for developing total landed cost models.

6.3.2 SUPPLIER PERFORMANCE MODELS

One of the best known models used to capture the true cost of doing business with a supplier on a continuous basis is the Supplier Performance Index (SPI). While total landed cost models often consider total cost during the evaluation phase of supplier selection, SPI measures costs incurred during a supplier's ongoing performance. SPI calculations are useful when tracking supplier improvement over time, quantifying the severity of performance problems, deciding which suppliers should leave the supply base, and establishing minimum acceptable levels of supplier performance. This approach applies to domestic and international suppliers.

The SPI is a total cost model that presents its output in the form of an index or ratio. It assumes that any quality or other infraction committed by a supplier during the course of business increases the total cost (and hence the total cost performance ratio) of doing business with that supplier. This approach is more applicable after supplier selection because it is populated with cost occurrences that have happened rather than are expected to happen. If a company can track

each non-conformance and assign a cost to it, the calculation of a standardised SPI becomes relatively easy. The SPI calculation for a specific period is a straightforward formula:

SPI = (Cost of material + Non-conformance Costs)/(Cost of material)

Assume a supplier delivers R280 000 worth of parts to a company in the 1st quarter of a year. The supplier also commits three infractions in that quarter, i.e., a late delivery, missing documentation, and some defective units. In its cost accounting system the buying company assigns R13 500 in total non-conformance charges for these infractions. The usual warnings apply regarding whether the data are reliable. The supplier's SPI for the 2nd quarter is 1.05, or ((R280 000 + R13 500)/R280 000).

How does one interpret this figure? The SPI of 1.05 means the total cost of doing business with this supplier is 5% higher than the unit price. If the unit price of a supplier's good is R127.24, then the estimated total cost of that item is really R133.60 (R127.24 x 1.05). Because the SPI is a standardised metric, and this is one of its virtues, it allows comparisons between suppliers. A supplier with a higher SPI has a higher total cost than one with a lower SPI. It is important to compare suppliers within the same commodity to ensure 'apples to apples' comparisons. Along with total landed cost models, SPI calculations are essential for managing the supply chain from a cost perspective. An efficient and accurate way to identify infractions and their charges is essential when using an SPI model.

6.3.3 LIFE-CYCLE COST MODELS

Life-cycle cost models are most often used when evaluating capital decisions that cover an extended time period, such as equipment and facilities. Buyers at an energy company, for example, cannot propose the purchase of any pumps or compressors unless they attach a life-cycle cost model that shows the decision will result in the lowest total cost.

Life-cycle models are similar to net present value models used in finance. Most of them are used (or should be used) to evaluate capital decisions rather than the purchase of everyday components and services. The other cost models described in this chapter are more applicable for goods or services that are purchased repeatedly.

Life-cycle costs apply whether equipment is sourced domestically or internationally. Companies should compare the assumptions made during the development of life-cycle estimates with actual data as they become available. This will help identify the validity of the life-cycle model while providing insights regarding how to improve the process.

6.4 TOTAL COST ELEMENTS

Regardless of where a company applies total cost models, these models all attempt to capture data beyond unit price. Like forecasting models, total cost models almost always have some degree of unreliability. This section explains how the categories of information that populate total cost models contribute to this inaccuracy.

6.4.1 TOTAL COST DATA

The data that populate a total cost model can usually be segmented into three categories. How the data are allocated across these categories affects the reliability of the total cost model. The first category, and the one that presents the highest degree of reliability, includes actual data. Unit price, insurance on an overseas shipment, and tariffs are examples of actual cost data when dealing with international suppliers. Few, if any, total cost models will include only actual data. The ones that do include are probably excluding some cost elements or data.

The second category includes approximations or averages. The main characteristic here is the data are based on figures derived from internal sources. The challenge with many cost elements is that the cost of identifying the true cost of something could outweigh the value of the actual data. Would, for example, a detailed study be conducted to identify the true cost every time a late delivery occurred? The benefits of identifying the true cost of non-conformance may be outweighed by the cost in time and resources required to undertake the study. Overcoming this issue can result in the identification of various costs categories or accounts with standard or average charges applied whenever there is a need to allocate a charge.

The following illustrates the use of averages. In a recent year, 50 late supplier deliveries cost a buying company an estimated R500 000 in total non-conformance costs. The average standard charge in the total cost system for a late delivery, therefore, becomes R10 000 (R500 000/50) per occurrence. Other cost categories could apply standard or average charges per hour. Correcting a minor defect in a supplier shipment might require 12 hours of labour. The model can include standard labour rates per hour. The usual warnings about using averages apply. A wide dispersion of true costs around this average creates a concern that the average charges may under- or overstate the cost.

The least reliable total cost data are based on assumptions. Assumptions come from external sources that form the basis for applying total costs. Let's say a study by researchers at a university concluded that it costs R150 every time a buyer issues an order. Therefore, every time a buyer issues a material order to a supplier, a R150 charge is applied to the total cost model for that item. But does the R150 charge really apply to what happens at every organisation? What if one company relies extensively on Electronic Data Interchange (EDI) to reduce ordering costs while others in the study do not? It is important not

to develop total cost models that have many external assumptions as this can make the model highly suspect.

A fourth data category is possible here: data that are absent from a total cost model. The challenge with any cost model is that, at times, the cost to collect data outweighs the value of the data. At other times the sheer number of possible cost elements that could be part of the model becomes overwhelming. While this could never be said about product or service quality, close enough is probably good enough as it relates to total cost models.

Regardless of the type of cost model used, it is important to understand the data that are populating the model. Relying on a model that includes data based largely on assumptions is not a good idea. In this case, supply managers may make decisions based on data that fall largely at the bottom of the reliability scale. Like forecasting models, total cost models usually arrive at some number to report in the way of total cost. The question becomes how confident could the buyer be of the accuracy of the output. While beyond the scope of this book, sophisticated statistical techniques are available that help identify confidence intervals around total cost estimates.

6.4.2 SPECIFIC TOTAL COST ELEMENTS

Research has revealed that there are multiple cost categories and elements that can make up total cost measurement systems. This issue becomes more complex once it is accepted that different types of cost models exist. It is easy to see that models that attempt to measure cost elements from point of origin to final point of consumption at the customer (end-to-end models) can be broad.

One way to approach this issue is to present the cost elements that are most likely to be included in total cost models. Figure 6.2 illustrates the various key cost elements. A variety of elements is included in total cost models. Literally dozens of cost elements could populate a total cost model, particularly those that relate to international transactions. Secondly, except for price and transportation costs, no clear consensus exists regarding the elements to include.

As they apply to total landed cost models, cost elements are often divided into categories that reflect a logical progression of material through the supply chain. The following illustrates these categories along with examples of costs that fall within each category:

- Within country of manufacture: Materials, storage, labour, quality, overhead, obsolescence, packaging, risk or disruption, exchange rates, inventory carrying charges.
- In transit to country of sale: Transportation charges, fuel surcharges, insurance, port charges, handling, security, banking fees, broker fees, potential detention charges, duties, handling agency charges, inventory carrying charges.

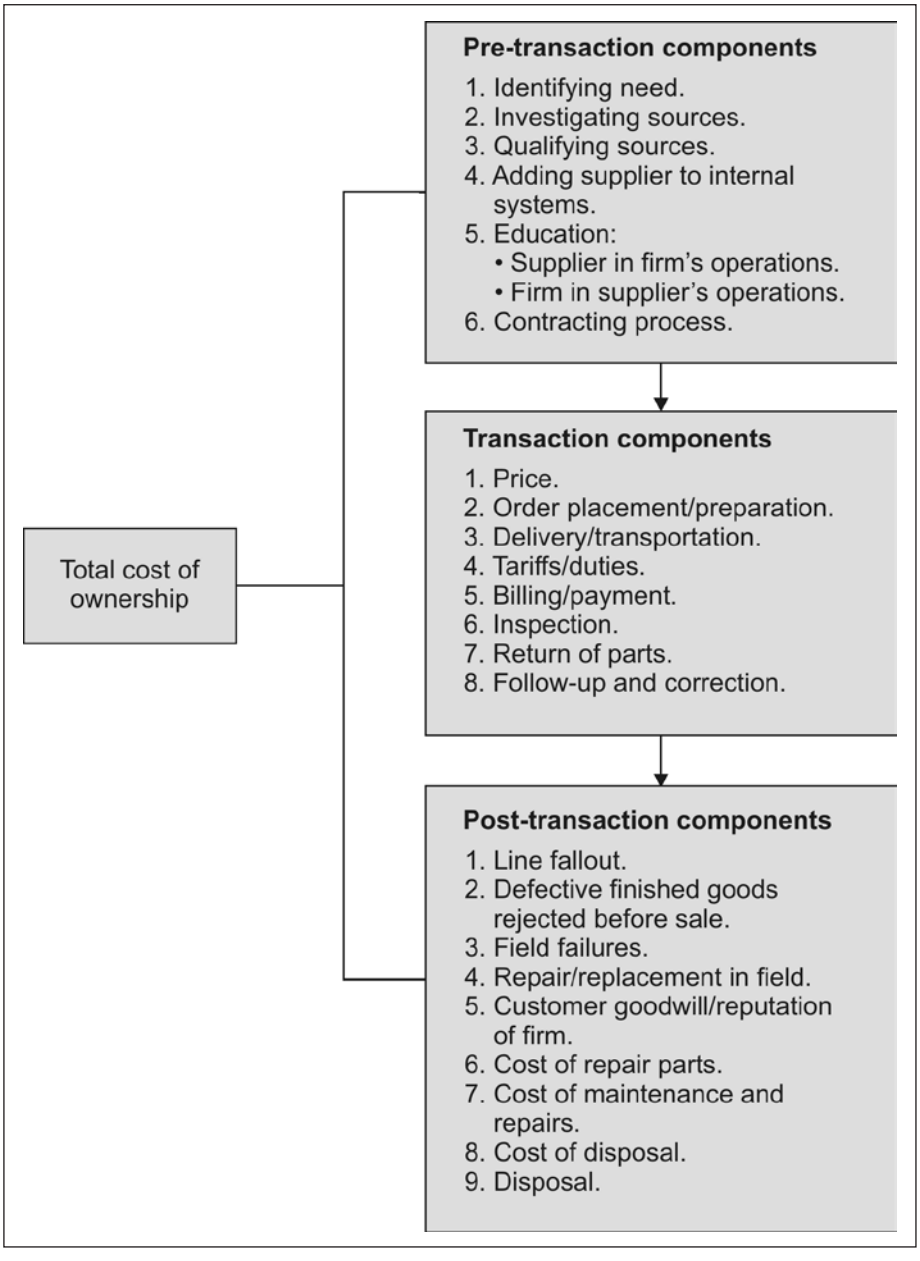


Figure 6.2: Major categories for the components of total cost of ownership [7].

- Within the country of sale: Local transportation and handling, storage fees, taxes, safety stock, inventory carrying charges, yield, productivity implications, maintenance, quality, overhead allocation, payment terms.

The following section illustrates the use of total cost modelling in a worked example.

6.5 CALCULATING TOTAL LANDED COST AT CHEFS SUPPLY

The following example illustrates the key elements that comprise the total landed cost of an internationally sourced good and how these costs can be compiled and calculated to identify a total landed cost.

Chris Smith is a supply manager with Chefs Supply, a company with operations throughout South Africa. Chefs Supply is a family-owned business that processes and distributes specialist food products throughout Africa. As can be imagined, the company uses a variety of ingredients to manufacture its products; these include meat, fish, grain, and vegetables. A key ingredient used in the manufacture of a range of the specialist food products, including jam and chutney, is a type of processed dried fruit.

Because of the rising costs of sourcing ingredients in South Africa a decision was made by supply executives to review the costs associated with outsourcing the dried fruit, including the use of foreign suppliers. Chefs Supply performed a supplier research and identified several potential suppliers. This example focuses on a Madagascar supplier that supply managers believe has the potential to help the company meet its longer-term cost requirements. Chris Smith was tasked with estimating the total supply chain costs associated with using this supplier.

6.5.1 IDENTIFYING TOTAL LANDED COST ELEMENTS

The Madagascar supplier obtains fruit from local farmers to produce the dried fruit product, which is made by cooking, pressing and drying the fruit. Once the fruit is dried it is packed into vacuum-sealed bags that contain 50 kg of product. Each of these is packed into a corrugated box (one bag to a box) and sealed. The dried fruit is currently priced by the supplier at $0.29 per kilogram delivered at the ocean-going vessel.

For overseas shipments the supplier stacks 40 boxes to a pallet, which is loaded into a shipping container that holds 20 pallets. The containers are sent to a port for loading onto an ocean vessel. At this point the transportation costs become Chefs Supply's responsibility. The purchase agreement, however, calls for title transfer once the container reaches the South African port. The ocean carrier will charge Chefs Supply $2 500 to ship each container to a South African port. Once the containers reach South Africa they will be moved to a local warehouse at a cost of $350 per container. Applicable customs charges and import duties are 15% of the original purchase price. Demand planners believe the company will require the equivalent of one container per month. Fortunately, the demand for the product is fairly stable throughout the year.

Chefs Supply plans to store each container in a public warehouse for a month until the dried fruit is required for processing. The storage helps cover any demand or supply chain uncertainty the company may face. Monthly storage costs are expected to be $6.50 per pallet with an additional warehouse handling fee of $6.25 per pallet whenever a pallet leaves the warehouse. Inventory

carrying costs are 24% annually, which the company must apply to the dried fruit that is held in storage.

When a container of dried fruit is required at the Chefs Supply processing facility, a local freight company will deliver the container at a cost of $275 per container. Additionally, Chris estimates the cost of incoming receiving and quality control procedures to be $4 per pallet. He further estimates that the company will incur a 3% loss of the total purchased fruit. This loss will result from the nature of the product, the supply chain distance involved (as in transit damages), and the longer-term effects of storage.

Chris also determined, in conjunction with the industrial engineers in the processing facility, that the historic yield of dried fruit when blended into various products is 98%, which means that the company wastes an additional 2% of the product by volume. This loss is not recoverable and is in addition to the 3% loss mentioned earlier. Some companies may exclude this yield loss from the total landed cost calculation because it occurs during processing. Other companies may also include the effect of payment terms or rebates provided by the supplier. It is difficult to find two total cost models that include exactly the same cost elements since no standard exists defining what these models should contain. Finally, in addition to the costs noted above, corporate accountants at Chefs Supply require that a 17% assessment on the unit price of the dried fruit be included to cover general and administrative overhead costs at Chefs Supply.

With any total cost model the challenge involves getting complete and reliable data. Chris must identify and collect the data he requires before he can develop a cost model that progressively builds up the total cost per kilogram. Companies that undertake this build up often find that their estimated total cost far exceeds the more obvious unit price. Who can possibly know precisely the true cost of international purchasing without undertaking this kind of exercise?

Table 6.2 provides some important information, such as annual usage (i.e., demand), that is required to calculate the per kg cost for each cost element.

Table 6.2: Total dried fruit requirements [8].

	Equals …
Dried fruit per bag (one bag inserted into one box)	50 kg per box
40 boxes per pallet	2 000 kg per pallet
20 pallets per ocean shipping container	40 000 kg per container
One container required per month	480 000 kg of dried fruit required annually (40 000 lbs x 12)

Table 6.3 presents the analysis that arrived at the total cost per kg of dried fruit. The table also includes explanations for the determination of each cost.

Table 6.3: Total cost calculation for Chefs Supply [8].

Cost Element	Explanation of cost calculations	Cost per kilogram	Percentage
Dried fruit unit price	Supplier quoted unit price per kg	$0.29	59.2%
Ocean shipping	$2 500 per container/40 000 kg per container	$0.062	12.6%
Tariffs and duties	15% x unit price ($.29)	$0.043	8.8%
Transfer charge from US port to warehouse	$350 per container/40 000 kg per container	$0.009	1.8%
Warehouse storage charge	$6.50 per pallet/2 000 kg per pallet	$0.003	0.6%
Warehouse handling fee	$6.25 per pallet/2 000 kg per pallet	$0.003	0.6%
Inventory carrying charge	40 000 kg held in inventory each month × unit price ($.29) = $11 600 inventory value; $11 600 × 24% inventory carrying charge = $2 785 annual carrying charge; $2 784/480 000 kg annual demand = $.006 carrying charge per kg	$0.006	1.22%
Local freight from warehouse to plant	$275 per container/40 000 kg per container	$0.007	1.43%
Receiving and quality control	$4 per pallet/2 000 kg per pallet	$0.002	0.41%
Product loss before production	3% loss × unit price ($.29). This reduces the annual available dried fruit for use during production to 465 600 kg	$0.009	1.8%
Production yield loss	2% × 465 600 kilos = 9 312 kg lost during production; 9 312 kilos. × $.29 unit price = $2 700.48 yield loss; $2 700.48/465 000 kilos = $.006 per kilo.	$0.006	1.22%
Administrative overhead	17% × unit price ($.29)	$0.05	10.2%
Estimated Total Cost		$0.49	100%

An ingredient that has a $0.29 unit price per kg is estimated to have a $0.49 total landed cost per kg, an increase of almost 70% over the unit price. What is not known is the estimated total cost per kg of doing business with Chefs Supply's current supplier or the other suppliers the company is considering. That information is critical for making relative comparisons.

6.5.2 INVENTORY CARRYING CHARGES

While most of the costs presented in Table 6.3 are clear given the explanations

provided, this table does contain one element that requires elaboration, i.e., the inventory carrying charge. Although they are usually not easy to articulate, inventory carrying charges can occur at any part of a supply chain where inventory is present. Until the final customer purchases an item, someone has to retain title to goods and therefore accrue carrying charges. Within the international arena this issue is important because the material pipelines are much longer in terms of time and distance. Most companies disregard these charges because they don't seem real or are too hard to quantify.

While different sources will disagree on the specifics, inventory carrying costs are generally comprised of three categories. The first category is the cost of capital. Inventory consumes working capital that could have been put to other productive uses. Some companies may also view this component as an opportunity cost. The second category reflects the cost of storage. Inventory storage can include insurance, heat, lighting, rent and cycle counting. The final category includes the combined costs of obsolescence, deterioration and loss. Factors such as expired shelf life, scrap and theft can all be part of this category.

If all goes well, finance is able to quantify these components and arrive at a carrying charge that is expressed as a percent of the inventory's unit cost. For example, a piece of inventory with a unit price, whether it is a raw material, work in progress, or finished good worth $10 with an assigned carrying charge of 25%, results in an annual carrying charge of $2.50 per unit. Inventory held less than a year is prorated accordingly. Companies that are interested in managing carrying charges as a cost element pay particular attention to a set of measures that report inventory turns.

In the Chefs Supply example, the company incurs carrying charges prior to production when the dried fruit is held in storage for a month. This example does not include carrying charges when the dried fruit is in transit from Madagascar because title (i.e., ownership) does not transfer to Chefs Supply until the goods arrive at the South African port. It is possible to engage in a lively debate about whether in-transit carrying charges should be part of the total landed cost model when the buyer does not own the inventory. The model developed here only includes charges that are directly incurred by the buyer.

How exactly is the carrying charge determined? In this example, the buyer imports a container of dried fruit each month and then expects to hold that container for one month in a warehouse. This is the equivalent of holding one container in storage for a year. So, one container of dried fruit is valued at $11 600 (40 000 kg multiplied by $0.29 unit price per kilogram). Next, the 24% carrying charge is applied against $11 600 to arrive at an annual carrying charge of $2 784. Because this is an annual charge it is divided by the annual demand to arrive at a relatively insignificant charge of $0.006 per kg.

This analysis shows how total supply chain costs can be allocated to provide a more complete picture of total supply chain costs. After completing this analysis it becomes possible to compare supplier costs across common cost categories,

identify cost elements that are unusual or require attention, compare the total cost for obtaining similar products from different suppliers and regions and make better decisions. Total landed cost calculations are also an important element of managing supply chain risk.

6.6 CONCLUDING REMARKS

Managing purchasing costs from a total cost perspective is one of the best ways to manage supply chain costs and risk. And, as companies experience ever greater pressure to achieve improving financial results, the benefit of making decisions that are backed by objective data rather than incomplete or subjective analysis become self-evident. Best practice companies have developed total landed cost, supplier performance and life-cycle cost models as an integral part of their strategic supply management objectives. Given the growth in international purchasing and the uncertainty that surrounds supply chains today, these models should no longer be thought of in theoretical terms.

6.7 REFERENCES

[1] White L., Determining total cost of ownership, food service equipment and suppliers, Vol. 59 (Issue 2), 2006, pp. 28-32.

[2] Ferrin B.G. and Plank R.E., Total cost of ownership models: An exploratory study, The Journal of Supply Chain Management, Vol. 38 (Issue 3), 2002, pg. 25.

[3] Ferreira J. and Prokopets L., Does offshoring still make sense? Supply Chain Management Review, Vol. 13 (Issue 1), 2009, pg. 23.

[4] Hannon D., 9 Hidden costs of global sourcing, Purchasing, www.purchasing.com, Accessed March 2009.

[5] Adapted from Rudzki R. and Trent R., Next level supply management excellence, Fort Lauderdale, J. Ross Publishing, 2009, pg.78

[6] Cowman K., Material costs, materials management and distribution, Vol. 49 (Issue 7), 2004, pg. 73.

[7] Ellram L.M., A framework for total cost of ownership, International Journal of Logistics Management, Vol. 4 (Issue 2), 1993, pp. 49-60.

[8] Adapted from Trent R. and Roberts L., Managing global supply and risk, Fort Lauderdale, J. Ross Publishing, 2009, pp.78-79.

NEGOTIATION

Author: Yusuf Justin Holcroft

SYNOPSIS

This chapter places negotiation within the context of procurement and describes it as a process by which parties attempt to resolve a conflict or reach an agreement. In all negotiations the parties involved have varying degrees of power, but no absolute power over each other. This means that there is always room to manoeuvre. Negotiations are only possible where the parties involved are willing to move from their stated positions and when that willingness is expressed at some point; they are therefore about the movement of opposing parties towards each other and towards a mutually acceptable position.

This chapter is a practical guide to negotiating within the procurement context. It explains how to prepare for the negotiation by, among other things, itemising all potential issues that may be discussed in the negotiation. The actual negotiation strategy is important and should be written down and agreed upon by the negotiation team. Although there can be no substitute for experience, this chapter presents a number of topics that will be critical throughout the negotiating process.

7.1 INTRODUCTION

The negotiation process is a much-neglected but vital part of successful procurement, and typically will take place once initial bids have been received and a short list of bidders has been drawn up. The intensity and degree to which parties negotiate can differ across purchase requirements. However, negotiation will also feature in on going supplier relationships to establish performance targets, correct non-conformance, perform contract reviews and widen the scope of services or products delivered by individual suppliers.

The goals of procurement should be to:

- Reduce fixed and recurrent costs.
- Allow the organisation to focus on its core business.
- Gain access to supplier skills and technologies.
- Provide flexibility.
- Reduce cycle times.

These goals will be made easier with a network of suppliers that enjoys working with an organisation and are aligned with its goals, not just their own. Negotiation can make or break this network.

7.2 NEGOTIATION OVERVIEW

Negotiation is a process by which parties attempt to reach agreement about a set of issues. All negotiations have one thing in common: the parties involved have varying degrees of power, but not absolute power over each other. And,

all parties almost always enter a negotiation with the goal of reaching an agreement. Negotiations are only possible when the parties are willing to move from their stated positions and when that willingness is made evident at some point. Negotiations are about the movement of opposing parties towards each other and towards a mutually acceptable position. Negotiations imply movement.

The relative bargaining strength and skill of the negotiations decides the position of a settlement point. The skills of the negotiator are directed at moving away from the minimum. The ideal long-term result should be win-win for all parties.

There are three possible generic negotiation results:

- Win-win is ideal for both parties long term.
- Win-lose is acceptable in the short term for the winner, but seriously jeopardises further negotiations with the losing party (loser's desire for revenge).
- Lose-lose is always unsatisfactory and is not recommended as a negotiating outcome.

The basic principle of win-win is that the amount of value available within a negotiation or relationship is not fixed. By working together the parties can 'grow' the value pie. In negotiation, win-win bargaining is called integrative bargaining. The goal is for both parties to increase their advantage (profit) and satisfaction without hurting each other. Conversely, win-lose negotiation, also called distributive bargaining, views the amount of value in a negotiation or relationship to be fixed. The parties compete to see who takes that larger portion of available value.

The key in creating a win-win outcome is to focus on the interests of the other party, as opposed to the position they adopt. Pursuing win-win in procurement will ensure the supplier is willing and able to help an organisation achieve its goals now and in the future. And, the organisation is able to help achieve the supplier's goals.

Table 7.1 reveals that parties to a negotiation often display their willingness to engage in win-win or win-lose negotiation through their behaviour.

Table 7.1: Characteristics of win-lose and win-win negotiators.

Negotiation characteristics	
Characteristics of win-lose negotiation	**Characteristics of win-win negotiation**
• Rigid negotiating positions.	• Parties try and understand each other's needs and wants.
• Argument over a fixed amount of value.	• Parties build on common ground and work together to develop creative solutions that provide additional value.

Negotiation characteristics	
Characteristics of win-lose negotiation	**Characteristics of win-win negotiation**
• Strict use of power by one party over another.	• Primary use of power is to focus on common rather than personal interests.
• Adversarial competition played out at the negotiating table.	• Likely to engage in open sharing of information.

7.3 NEGOTIATION STRATEGY

Crafting a negotiating strategy is a critical part of the negotiating process. This is the area that most typically results in the success or failure of a negotiation. It requires some definition: success, in procurement, does not mean simply getting the lowest price or the greatest amount of value-add from a supplier. It means achieving a mutually beneficial agreement with the best possible supplier, based on the short- and long-term goals of the organisation.

By way of example: an organisation is a major supplier of various forms of tape to resellers throughout South Africa. Its mission statement is 'To be the best supplier of quality tapes to retailers in SA.' Typically, companies negotiate with their suppliers on price to enable them to maximise their margin while maintaining some leeway to price themselves competitively. This can result in the adoption of a 'win-lose' strategy in negotiation, i.e., the company goes into supplier negotiations aggressively, demanding the lowest possible landed cost and possibly resorting to threats of finding another supplier if demands are not met.

In this case, however, other factors may outweigh price in importance to the company. If the company purports to be the best supplier of quality tapes, it must be able to back up that claim with consistency of product quality and service levels that beat all competitors. The best supplier is therefore not necessarily the cheapest, but rather the one that offers the best guarantee of quality control in manufacturing and is prepared to share the burden of servicing its marketplace, while offering an acceptable price. A 'win-lose' approach to the negotiations would probably cause bad blood: at best, the supplier would probably accept the imposed pricing, but make up its margin erosion by scaling back service or providing lower-quality product.

Negotiation strategy, then, must be linked to what the company stands for and what it wants to achieve. The negotiation strategy should be written down and agreed upon by all those directly involved on the negotiator's side. Some of the important considerations when setting the strategy include:

- What are our overall strategic objectives, both short and long term?
- What decision do we want the other party to make?
- What are the disadvantages in the decision for the other party, and how can we overcome them?

- What are the facts? What other information do we need, and how are we going to get it?
- What are the most and least important issues, for us and the other party?
- What is going for and against us on each issue?
- What are the limits on our power and the other party's power?
- What are our aspiration levels, realistic expectations and minimum acceptance levels for each issue?
- What are the other party's personal needs and aspirations, based on available evidence?
- What are the personalities involved? Who are the most suitable people for our negotiation team and what should be their roles and contribution?

7.4 NEGOTIATION PROCESS

The overall negotiation can be presented as a process with a number of steps:

- Planning/preparing.
- Initial statements (or assessments) of the other side's most favoured position.
- Establishing the existence of flexibility on issues.
- Finding the Bargaining Arena (BA).
- Wrapping up a deal within the BA.

Generally, the quality of planning and preparation is the most consistent predictor of the likelihood of success or failure. The hard reality, based on experience with many supply professionals, is that preparation does not occur at the same level as it does on the selling side of the negotiating table. Too many negotiators want to jump right into negotiations. There are many reasons for this, negotiations are action oriented, which some consider as fun or fulfilling. And preparation just isn't as interesting. It requires patience and discipline. But as experienced negotiators tell us, preparation is a critical prerequisite to negotiating success. The preparation process is often characterised by some serious weaknesses, including:

- Failing to commit sufficient time.
- Failing to establish clear objectives.
- Failing to formulate convincing arguments or support for positions.
- Failing to consider the needs of your counterpart.
- Believing that quick and clever is enough.

If you feel your negotiating efforts lack in preparation, you are certainly not alone. The key is to identify planning weaknesses and then take corrective action to overcome them. The first step is to recognise the inseparable link between effective planning and strategic negotiating success. Failing to plan effectively can 'lock in' mistakes for a long time.

The negotiator has to know his business, what he wants in the short term and long term, and why he wants it. He also needs to know about his counterparts'

aspirations and circumstances. Preparation should provide information about your counterpart, which you can validate during the negotiation.

Keep in mind that 'fastball' negotiations rarely work. Excessive pressure on one or other of the parties will lead to an unsatisfactory result. It is therefore wise to allow enough time for all eventualities and to expect more protracted negotiations.

The agenda in preparation should be objectives, information, strategy, and roles.

7.4.1 OBJECTIVES

Prior to negotiations, all potential issues for discussion during the negotiation should be itemised. These are called variables and are particularly important during the preparation phase of the negotiation process.

For each of these issues (or package of issues) the parameters should be determined, i.e., the highest or most favoured position; and the lowest or limit beyond which there will be no settlement. These must be fixed for each variable:

- What the organisation would *LIKE* to achieve (L), i.e., the most favoured position.
- What the company *INTENDS* to achieve (I), i.e., the realistic settlement point.
- What *MUST* be achieved (M), i.e., no concession beyond this point.

The most favoured position and lowest limit of the counterpart should also be assessed. The overlap between the organisation's most favoured position and lowest limit, and those of the counterpart is the Bargaining Arena (BA). A settlement is only possible if a BA exists.

Consider the following scenario. Company A has an ongoing requirement for large quantities of packaging tape and has established that the market price varies between R2.72 and R5.91, excluding VAT, per roll, depending on supplier, brand and quantity ordered. Quality is not a major factor as the company's positioning is that of the cheapest in the marketplace. Supplier B is aware of all of the above and consequently goes into an unprepared negotiation with A, hoping to win the order. To appear competitive, B offers an opening gambit of R3.01 excluding VAT.

Good negotiators will automatically halve any opening offer made, without regard for the consequences. Yet B is surprised when A makes a counter-offer of R1.50. The result is panic and eventually B is negotiated down to a unit price of R2.27, far below the normally accepted lowest market price. The consequence is that A is delighted while B is left with a commitment to supply large quantities of tape at an almost zero margin. Furthermore, news of the deal is leaked into the market by A and every supplier feels pressure over the coming months.

The above can be easily avoided by using LIMs to determine at which point to walk away from a deal. LIMs could be set at the following levels by B:

Like: R5.50 (based on current market prices).
Intend: R4.03 (the mid-point between L and M).
Must: R2.56 (based on cost price and the guarantee of some profit).

In any negotiation, the company must assume that the supplier is better prepared than it is. The supplier will, therefore, also have prepared its own LIMs, which in this case are as follows:

Like: R2.20 (based on current market prices).
Intend: R3.17 (the mid-point between L and M).
Must: R4.14 (based on the highest possible price to ensure profitability).

Comparatively, the two standpoints look like this:

	Company A	Supplier B
Like	R2.20	R5.50
Intend	R3.17	R4.03
Must	R4.14	R2.56

The BA therefore is somewhere between R2.56 and R4.14; beyond these points either A or B will likely walk away from the deal.

In this scenario, supplier B should open slightly above its most desired position, i.e., R5.55, knowing that it is going to negotiate from there. Company A will do the same and counter-offer just below its 'Like', so R2.15. After protracted negotiation, a settlement is reached at R3.32 – favouring the customer but still within sight of both parties' 'Intend.' In view of the above, the importance of adequate preparation cannot be overemphasised.

7.4.2 INFORMATION

A negotiator must consider what information will be needed and eventually revealed to the other side, as well as the timing and manner of its revelation. Often negotiators conceal information rather than communicate it. This can lead to hours of irrelevant argument.

The negotiator must clearly define his/her most favoured position, the likely settlement position, the limit of his/her authority, the concessions he/she is prepared to make and the financial and legal consequences.

7.4.3 STRATEGY

Planning strategy is an important part of preparation. It must not be too inflexible and the negotiator must be able to respond to developments within

the negotiation. The basic strategy choices are win-win or win-lose. A lose-lose strategy is never recommended.

When preparing a negotiating strategy, some items to consider include:

- Objectives.
- Emotions.
- Roles.
- Priorities.
- Information requirements.
- Behaviour.
- Issues.
- Assumptions.
- Strategy.
- Attitudes.
- Variables.
- Tactics.
- Incentives.
- Precedents or history.
- Concessions.
- Differences between parties vs. common ground.
- Facts.

7.4.4 ROLES

Certain roles should be allocated to particular members of the negotiating team. Three roles are suggested: a leader, summariser and recorder. The leader does not need to be the most senior person present. The summariser is responsible for keeping track of what is said. This role buys time for the leader. The recorder keeps a track record of all concessions hinted at and agreed.

Both summariser and recorder observe the counterpart to feed information to the leader on the counterpart's behaviour patterns.

7.5 NEGOTIATING STEPS

After planning and preparation, the steps involved in carrying out a negotiation include:

Present/discuss/argue/signal – each side presents its case.
Propose/map/validate – establish variables and BA.
Package/bargain – hone in on a settlement package.
Close and agree.

Some flexibility may be necessary when following these steps. If total failure looms in Step 3, the team can always return to Step 2. These steps are explained.

7.5.1 PRESENT/DISCUSS/ARGUE/SIGNAL

In commercial negotiations this step is usually called 'discussion.' At this stage, each party puts forward initial statements about where it stands, which is its starting point. There are some simple rules to follow and these are highlighted in Table 7.2:

- Listen more than talk.
- Ask positive questions.
- Seek clarification and explanation from your counterpart.
- Summarise your understanding of your counterpart's position frequently.
- Respond by giving information about your position.
- The initial statement from each party sets out the opposing most favoured positions.
- No progress can be made until signals are given that indicate a willingness to move.
- Listen hard for signals that indicate a willingness to move from the other position.

Table 7.2: Checklist for arguing.

Avoid	Practice
Interrupting	Listening
Point scoring	Questioning for clarification
Attacking	Summarising issues neutrally
Blaming	Challenging counterpart to justify his/her case on an item-by-item basis (signals)
Being too clever	Being non-committal about his/her proposals and explanations
Talking too much	Testing his/her commitment to his/her positions (clues about priorities)
Shouting your counterpart down	Seeking and giving information (watch unintended signals)
Sarcasm	Listening
Threats	Questioning for clarification

During signalling, consider the following:

- Are there signs of movement in the argument?
- What signals have you given?
- Have they been ignored, or can they be repeated?
- What is the cause of stonewalling?
- Is there confidence or lack of it?
- Are concessions being made with the expectation of a response?

7.5.2 PROPOSE/MAP/VALIDATE

At this stage, the parties map the variables, the issues that may be flexible, and the issues that may be linked in any concession trading. The parties identify the existence (or non-existence) of a bargaining arena. Sooner or later negotiators must discuss propositions. A proposition is an offer or claim that moves from the original position. Here are some general comments about this part of the negotiating process:

- Don't just state a grievance, propose a remedy.
- A proposition beats an argument: it gets things moving, it relieves tension.
- Proposal language is tentative and non-committal.
- Make proposals conditional, e.g., If you will do ... We will consider ...
- Nothing is free, everything is for exchange.
- Separate the proposal from its explanation. Do not mix the two, otherwise the explanation could sound like an apology.

7.5.2.1 Checklist for Proposing

Take these points into consideration during this step:

- A proposition is one solution; consider others.
- Do you gain more from linking individual issues in your proposition?
- Be firm on generalities, e.g., we must have compensation.
- Be flexible on specifics, e.g., we propose an interest rate of prime plus half a percent.
- Use strong rather than weak language.
- State your condition first (specific) and follow with your proposition (tentative).
- Opening concessions should be small rather than large.
- Opening conditions should be large rather than small.

7.5.3 PACKAGE/BARGAIN

Packaging moves the negotiation into the bargaining arena. The earlier step of proposal helps negotiators map out the principal variables of the bargaining arena. Packaging does not offer any new concessions, but presents the variables in a form that more closely matches the other party's interests. Some general rules are as follows:

- Think creatively about all possible variables.
- Ask who gets how much of what, and when.
- Value your concessions in the other party's terms (benefits).
- Keep as many options open from the early rounds, don't agree separately to issues.
- You can say that you 'like' to get proposals as concessions in the bargaining sessions.

7.5.3.1 Checklist for Packaging

The following points are important to remember during agreement packaging:

- Identify the objectives, priorities, and potential concessions of your counterpart.
- Review the objectives of both parties in the light of LIM.
- Has enough movement been indicated to produce a package?
- What concessions are you looking for?
- Which concessions will we signal in the package?
- What do you want in return?
- Have you considered all the possible variables?

7.5.3.2 Checklist for Bargaining

Don't lose sight of the following:

- Firm rule: Everything must be conditional.
- Decide what you require in exchange for your concessions.
- List and place what you require at the front of your presentation.
- Signal what is possible if your counterpart agrees to your conditions.
- Keep all unsettled issues linked.
- Be ready to bring back any previously settled issues if when under pressure, you need negotiating room.

7.5.4 CLOSE AND AGREE

Timing the close is a big factor in its credibility. The closing package must meet enough of your counterpart's needs to be acceptable. The purpose of closing is to find agreement. The close must be stated in such a way that failure to accept it more or less as it stands will lead to no deal. A number of 'closes' may be considered:

- **Concession close:** This terminates the bargaining step by offering a concession to secure the agreement.
- **Summary close:** This terminates the bargaining step by summarising everything, highlighting the concessions, and emphasising the benefits of agreeing.
- **Adjournment close:** For example, 'We have summarised the benefits of agreeing with what is on offer. This is our final offer and we suggest we take an adjournment for you to consider it'.
- **Or-else close:** In its strongest form this is an ultimatum: accept what is on offer 'or else'.
- **Either/or close:** This terminates the bargaining step by offering two packages to be considered. Each of these packages falls between your most favoured position and your intent.

7.5.4.1 Checklist for Closing and Agreeing

Important points to remember include:

- Decide where you intend to stop conceding.
- Which close is most appropriate?
- 'Adjournment' and 'or else' closes are higher risk than 'concession' and 'summary.'
- If the close has been successful, list the agreement in detail.
- List points of explanation, clarification, interpretation and understanding.
- Try to prevent the other party leaving the table until an agreed summary has been recorded.
- Get buy-in to the agreement.

7.6 TACTICS

Negotiating tactics are the short-term plans and actions employed to execute a negotiating strategy. An understanding of tactics is important, particularly since any counterpart is likely to employ tactics during the negotiation. They are used to try and persuade a counterpart to endorse a position. A negotiator must understand what type of tactics a counterpart is using. A word of caution is in order here. Not all negotiating tactics are ethical.

Within your overall strategy, and knowing your counterpart, you may at various points in a negotiation attempt different tactics. Tactics are all about how you do things. Their aim is to assess and (if possible) remove your counterpart's 'padding' or 'bluff.'

Care should be exercised when using tactics. Some tactics will generate a strong reaction in your counterpart; either one of panic or, with more assertive negotiators, one of counter-aggression. In the European FMCG environment, supermarket buyers are trained on the tactics presented further on (and more), and use them against suppliers to generate discomfort, fear and confusion. The mentality among 'old-school' European buyers is that their job is to empty all their suppliers' pockets every day and this approach is backed by hefty bonuses for high performance in driving suppliers' prices down. The result of the fear and confusion caused by the use of tactics in every meeting is that the supplier sales rep come to dread the meetings, and will consequently do everything possible to keep them brief. The easiest way to achieve this is to accede to the buyer's demands.

It could be tempting to think such tactics are exactly what the procurement environment needs – after all, suppliers should be happy to be allowed to do business. However, just as in the decision on which strategy to adopt, it is important to deploy tactical weapons that help to aim at long-term mutually beneficial relationships with the right suppliers. The use of tactics may simply cause antagonism and generate distrust.

7.6.1 SOME COMMON TACTICS

Literally dozens, if not hundreds, of potential negotiating tactics exist. The following summarises some of these tactics.

- **Shotgun:** 'We will not negotiate unless you reduce your rate.' This tests power. If you are exposed to these tactics and your position is weak, talk about the overall benefits that may be lost by not negotiating.

- **Off-limits:** 'Let's agree to some issues that we won't discuss.' This reduces the negotiable issues, and increases your power when buying.

- **Yes, but… :** 'Yes, we accept, but before we agree … can we have a bit more in this area?' If you are prepared to concede, answer, 'If you will sign with no further demands, then we can consider this extra.'

- **Tough guy/Nice guy:** The tough guy is high risk, but sets a good platform for the nice guy.

- **Russian front:** The negotiator offers two closing packages, one of which is dreadful from the counterpart's point of view.

- **Social smell:** 'If you don't agree, just imagine the reaction you will receive from your branch manager and the executives.'

- **Salami:** Like the sausage, this is acceptable in thin slices. When the whole package is too much for the counterpart to swallow in one go, introduce it in phases over a period of time.

- **I have better quotes:** This can be answered in one of three ways. First, advise them to accept, which is high risk but calls their bluff. Second, ask to see the quotes. Three, respond by saying, 'So my proposal is OK, you only want me to justify the rate?'

- **Linking:** 'If you'll talk about X (your weak issue, our strong one), then we'll talk about Y (our weak issue).' It is generally not recommended to link issues during a negotiation.

- **Suppose:** For identifying whether an objection is true or false, ask: 'Suppose we can resolve this issue, will you agree?' If the answer is 'Yes' – carry on. If 'No,' ask, 'Why not? What is the real problem?'

- **Nibbling:** This involves getting that little bit extra after the main deal has been concluded. An example is a client asking for a reduction in his interest rate after giving you R300 000.00 worth of business. The nibble often works because:

  · The other party has a strong desire to close.

- 99% of the work is done. Why waste it?
- The bite isn't much compared to the whole deal.
- A long-term relationship may be enhanced by giving just a bit more.
- It isn't bad to let the other party feel he's getting a bargain.

- **Invisible nibbles:** The worst sorts of nibbles are those that take place without the knowledge of the buyer or seller. In fact, costly nibbles take place after the deal is made. Buyers nibble, for example, by trying to pay late. Suppliers may try to nibble by slipping in price increases that were not part of the negotiation. To stop the nibbles you may want to, for example, insist that delivery cannot occur until you are satisfied that all the terms and conditions have been adhered to.

- **Take it or leave it (calling the bluff):** 'Take it or leave it' is not as ominous as it sounds. It can represent a good practice and conveys the impression that a party is not prepared to back down on what it feels is a realistic and fair offer. This tactic tests resolve since it may lead to deadlock, which is a failure to reach agreement. When using this tactic the party must be prepared to walk away.

- **Asking questions:** Questioning can be a useful tool in negotiation. Asking an open question at a crucial moment can quickly buy time, especially if your counterpart has to think about the answer. Furthermore, it is good to remember that the person asking the questions is in control of the conversation. This means that asking the questions actually increases your power relative to your counterpart. Asking questions can be used to test assumptions, such as 'would it be fair to say that you, as a supplier, are interested in a long-term relationship rather than just a one-off deal?'

- **Counter demands:** 'I can give you that if you give me….' is often a test of power. Your counterpart wants to ascertain how quickly you will crumble and how assertive you are capable of being. Responding tit for tat with further counter-counter demands generally stops the process quickly.

7.7 CONCESSIONS

During the course of negotiations there will be give and take, or what is termed trade-offs or 'concessions'. When presenting an opening negotiating position, leave room to negotiate by opening high. Remember, you are only going to be negotiated down from your starting point, and it is important you do not reach your 'must position' too soon: a skilled counterpart will spot your body language if you do.

A negotiator should identify and document possible trade-offs or concessions in advance of the negotiation. Undoubtedly some unexpected possibilities will come to the forefront during negotiation; however, the more the team can anticipate the trade-offs the better.

Try to think carefully about when you will make concessions, and be stingy with what you offer. In this way you will lower your counterpart's expectations of a quick and easy victory. Don't concede too much too fast. Optimally, you should aim at getting your counterpart to make the first concession. Further, your preparation should have told you what issues are important to you and which are likely to be important to your counterpart. If you can concentrate on generating a concession from your counterpart on an issue of high importance to them while only conceding on something peripheral to you, you will appear conciliatory and co-operative while gaining an edge.

We know some things about concessions. To make the negotiating process work, all parties must be willing to demonstrate flexibility. Failing to do so often leads to deadlocked agreements (failing to reach an agreement). Regardless of your opening position leave room to manoeuvre. If you take a flexible position make sure your counterpart is also taking a flexible position or you will be offering most of the concessions. And, as the negotiation progresses, make sure the frequency and value of concessions diminishes. Smaller and smaller concessions indicate a likely resistance to further concessions. Finally, remove the audience, especially managers, during a negotiation. The larger the audience the more difficult it becomes to offer concessions. The possibility exists that offering concessions will come across as weakness when others are present. In the final analysis it is important to offer concessions during negotiations but not too many.

7.7.1 HOW TO MAKE CONCESSIONS

Concessions are what you are prepared to give away, and must be carefully prepared. Never attempt to improvise your concessions. In doing so, you run the greatest possible risk of giving away something that may later bear a heavy cost. If you are faced with an experienced counterpart, he/she will attempt to leverage the tension in the room and your nervousness to grab more than you are able to give. So, maintaining your calm in this part of the process is essential. A good idea is to make liberal use of your summariser and note-taker to slow things down and buy yourself time to think. Always present a concession as: 'If you will... then I can/will...' In this way you achieve a number of things:

- You send a message that you are not prepared to give things away for nothing.
- You make your counterpart work harder.
- You create the opportunity for your counterpart to revise his demands, having realised that his power is limited.

Give yourself room to negotiate. Start high if you are selling and low if you are buying. Have a reason for starting where you do. Don't start at such an extreme position that hostility will be created. Encourage the other party to open up first or to put all his demands on the table. Keep yours hidden, if possible. Let the other person make the first concession on major issues. You can be first on minor points if you wish. Make the other person work for everything he gains. People don't appreciate things that come too easily.

Figure 7.1 provides a graphical illustration of different patterns of concessions that all total $160. Ask yourself if how these concessions are offered will influence the other party's behaviour. The answer, of course, is their pattern will directly influence the other party. The effective use of concessions is a tactic. The golden rules for concessions are to concede issues that are of low value to you, but of high value to your counterpart, and don't give concessions away for nothing.

When preparing your concessions, it is best to invest time in preparation, focusing on:

- What can I offer that will not cost me much but will mean a lot to my counterpart?
- What is my counterpart likely to want from me that will hurt?
- What can I leverage to make the deal more attractive in my counterpart's eyes, and therefore make it desirable for him to reach an agreement quicker?

Concessions

Supplier					Go to a fifth round?
1	$40	$40	$40	$40	_____
2	$100	$55	$0	$5	_____
3	$25	$35	$45	$55	_____
4	$160	$0	$0	$0	_____
5	$0	$0	$0	$160	_____
6	$70	$50	$30	$10	_____

Concessions received per negotiation round

Figure 7.1: Presenting concessions.

Your concessions are also going to be judged by their fluency, i.e., concessions need to have some logical link to each other and to the overall negotiation. This author was once involved in a negotiation that dissolved into uncontrollable laughter when both parties realised that their concessions had become ridiculous. The negotiation concerned the supply of a (very) well-known cool drink by Company C to the largest distributor of retail products to petrol station shops in Austria. All points had been agreed upon, except the possible payment by Company C of a stand at an upcoming trade fair in Vienna. The discussion went like this:

Distributor (henceforth 'D'): So, this trade fair. How much are you going to contribute?
Company C (henceforth 'C'): Nothing.
D: We want 10 000 Euro.
C: No way. I'll give you 2 000.
D: 7 500.
C: 3 000.
D: 6 000 and I'll take you out to dinner.
C: 4 000 and I choose the restaurant.
D: 5 000 and you choose the restaurant.
C: OK, 5 000 and I choose the restaurant. But I also like your tie. I want that as well.
D: No chance, it was a present from my wife.
C: Then I'll take your cufflinks.

Negotiation dissolves into laughter.

7.8 NEGOTIATING POWER

Power is in the mind. There is ample evidence that people, even when given identical facts and an identical power position, react differently to their circumstances. It pays to understand the source of one's power, and the limits of the other person's power, because power plays a key role in determining the outcome.

In procurement, we may be tempted to feel that we have all the power on our side. After all, by awarding business we are enabling the very existence of our suppliers. This, however, is a limited view. In truth, the power is shared between both parties in a negotiation. The buyer has the power to award or dismiss, but the seller has the power to offer everything he/she has, or may offer the barest minimum. At times the seller may not even need the buyer's business.

7.8.1 SOURCES OF POWER

There are many sources of power. Some are based on resources, others on laws, regulations or precedent, while others are based on psychological factors. The following identifies some important sources of negotiating power.

- **Legitimacy:** No source of power so hypnotises people as the power of legitimacy. We have learned to accept the authority of things like procedures, laws, standard forms and price tags to such an extent that we fail to question their applicability in changing situations. Buyers have legitimate authority to negotiate and enter into agreements. It is the position that a person holds, rather than the individual person, that forms the basis of legitimate power.

- **Commitment:** Commitment, loyalty and friendship are sources of power. People who are committed to their goals or to the satisfaction of others have

a hidden strength. People who are loyal to their company, its management and its products negotiate more effectively on their behalf. If you believe in yourself and your viewpoint, you stand up more firmly for them.

- **Knowledge:** Knowledge is power. The more a person knows about the seller's cost, organisation, business standing and product, the better he can negotiate. The more he knows about negotiation, the better will be his position. Always know where the money is coming from.

- **Information:** This is one of the more common forms of power. It relies on persuasion through the use of facts, data and other information.

- **Willingness to take risks:** Security is a goal that humans cherish. We share a desire to avoid risk wherever possible. The person who is willing to accept a greater burden of uncertainty with respect to reward or punishment enhances his/her power. Courage plays a key part in negotiation. The courage to take risks is part of the price and part of the power structure.

- **Time and effort:** Time and patience are power. The party that is most constrained by time limits provides the counterpart with a base of strength. It is for this reason that purchasing executives stress the importance of lead-time and early-warning systems. The party that is most willing to work hard gains power. Some people are simply lazy and thereby forfeit this important source of strength.

- **Coercion:** Coercive power involves the ability to punish another party. Its repeated use can damage relationships or invite retaliation. Its use often relates to the power holder's belief that another party will comply.

- **Ability to reward:** Reward power involves one party being able to offer something of value to another party. It represents a direct effort to exert control. This is a source of power only if the other party values the rewards. Obviously, a major source of reward power is a buyer's ability to offer a contract.

- **Expertise:** With this power source an expert has accumulated and mastered vast knowledge and often has the credentials to verify that mastery. Non-experts are less likely to challenge an expert.

- **Referent:** A referent has some attribute(s) that attracts another party. The non-referent wants the referent to look favourably upon him or her. Charisma can be a form of referent power.

7.8.2 LIMITS TO THE POWER OF THE SELLER

As a buyer, it is hard to negotiate against a sole source. When the seller does not have any competition he/she is in a good position to prevail. Yet there are limits to the seller's power even when he/she is a sole source. The sole-source supplier will behave as though he/she has competition under the following conditions:

- Seller believes that competition exits even if at the moment it does not.
- Seller believes that the client may do without the product.
- Seller believes that the client may hire the product rather than buy it.
- Seller believes that the client will buy less as a result of the higher rate.
- Seller believes that his long-run objectives in relation to the client will be jeopardised.
- Seller needs the contract to keep operating.
- Seller is worried about encouraging future competition.
- Seller is vulnerable to competition within his own organisation or distribution system.

7.8.3 LIMITS TO THE POWER OF THE BUYER

Although the buyer has power to accept or dismiss an offer, he can face a number of constraints that limit the actual number of sellers the buyer is willing to consider:

- Personal biases against some sources.
- Some sources are located too far away.
- Some sources got the buyer into trouble once.
- Differing abilities and capacities to provide suitable packages.
- People who have preferences inside the buyer's organisation.
- Some sources have poor track records.
- Some sources demand too much.
- Many sources can't deliver on time.
- Some sources offer a full line of services while others don't.
- Some sources offer varied structuring alternatives; others give far fewer or none.
- The buyer is used to doing business with some sources and doesn't want to change.
- Some sources are not known to the buyer.
- Some sources simply take too long to work with. The buyer has too much other work to do.

You have more power than you think. Start by systematically looking for the limits of the other person's position. If you have limits to your strength, he/she is also likely to have limits.

7.9 GUIDELINES FOR TEAM NEGOTIATING

Many procurement negotiations involve a procurement committee sitting opposite potential awardees and, needless to say, the potential for disaster is magnified enormously. A streetwise counterpart can manipulate a badly prepared team to a point where the team is negotiating against itself, with the counterpart's input limited to a few encouraging noises every now and then. Teams can easily end up talking across each other, setting different levels of demands, disagreeing in full view of the counterpart and thus destroying any credibility the individual team members may have had.

The key to successful team negotiations lies, again, in preparation, designation of roles and immense discipline during the negotiation. A few guidelines will clarify how to create a winning team:

- **Only one person should speak at a time.** Clear designation of roles should make this a given, with a directive to all team members that only the team leader should communicate to the other side, unless the team leader calls upon specific individuals to cover certain points. This should not result in one speaker and a remaining team of dumbstruck subordinates, but rather in a team that sends out one clear message with one clear voice at a time.

- **All members of the team should know and understand their roles and be prepared to speak when called on.** Again, preparation must clarify who is the expert on what; and therefore who should be called upon to respond in the interest of the team's goals. It is crucial that this preparation not be done in isolation. It is better for each designated speaker to prepare answers/comments to/on expected points and to practice them with the team. There is nothing more humiliating than a team member answering a question and his/her colleagues' jaws dropping in surprise at the answer.

- **The lead negotiator should indicate when someone from the team is to speak.** Of course, should an unexpected point arise during the negotiation, the most qualified member of the team should indicate his/her willingness to answer, but should wait for the team leader's go-ahead rather than simply jumping in.

- **Never disagree as a team in front of the other side.** The exception is, of course, a deliberate argument to generate confusion in the counterpart. But this is a trick that, if spotted, can have serious repercussions on the establishment of trust between the opposing parties.

- **When in doubt have an adjournment.** It is perfectly acceptable to ask for time out or a five-minute conference. It is better to do this than have an over-hasty reaction and subsequent enforced retreat.

- **Create a way of communicating with one another non-verbally, with signals, notes, etc.** Your signals should be as subtle as possible. Ideally they should be so subtle that your counterpart does not pick them up. As an example, the team leader could agree with the team that placing a different number of right-hand fingers on the table has different meanings; or that different fingers designate a different team member to speak.

- **No matter how the other side behaves, do not let them influence your behaviour as individuals or as a team.** Well-drilled counterparts will often try to undermine a team. The most obvious method is to identify the weakest team member and force the discussion through him/her in an effort to destabilise the leader. This tactic, once identified, should be highlighted and thus negated.

The message from your team needs to be consistent, both verbally and non-verbally. It is worth spending some preparation time aligning body language and non-verbal communication throughout the team. Any team member who behaves differently from the rest weakens the team's overall impact and sets him/herself up for possible individual attacks from the counterpart.

7.10 GENERAL PROBLEMS EXPERIENCED WHILE NEGOTIATING

So, all the preparation has, in theory, been completed: you know your overall goals, you have worked out your and your counterpart's LIMs, you have decided on the sensible strategy and you have built in useful tactics, assigned roles and even worked out a set of signals to ensure success. And then it all goes horribly wrong.

In war, a battle plan will typically survive until the first shot is fired, after which soldiers live on their wits and their training. In negotiation, the nervousness experienced when face-to-face with your counterpart can reduce the best-laid plans in minutes. Below are listed the most common problems encountered when seated around the negotiating table.

- **The needs of the other party are not established:** Even though we have no clue what the other party is looking for, we blunder on with our demands, facing mounting opposition, stonewalling and even hostility. This approach is highly dangerous, as it quickly turns an attempt at win-win into an apparent win-lose strategy. Your counterpart's fight-or-flight reflex will kick in and you will be left either tactically or strategically with less than you wanted. Tactically, if your counterpart decides to fight, your demands will be refused; or strategically, if flight is the option chosen, you will not benefit from a long-term relationship. Either way, the loss is yours.

- **Assumptions are not tested:** Similar to the above, if you assume your counterpart's standpoint without validating your assumption by asking them, you run the risk of going in the wrong direction with your proposals. This will once again generate fight or flight.

- **Ground rules are not agreed upon:** In the heat of the first few moments of a negotiation, it is easy to forget to set the stage. Here you run the risk of losing control of the discussion at a crucial point. Once control has been lost, it is difficult and embarrassing to have to backtrack and establish ground rules after the fact. Whatever the outcome, you will look foolish and thus lose power in the negotiation.

- **No summaries made during the negotiation:** Attempting to summarise a two-hour, emotionally-charged and complicated negotiation after the fact would test the memory of anyone. Furthermore, one mistake or inaccuracy can ruin any mutual trust established over the two hours.

- **Not asking sufficient questions to clarify:** The better you understand your counterpart's motives, the better you can offer something that will deliver against his needs. Clarification questions, which may seem superfluous, play a crucial role in enabling you to wrap up a package. Moreover, they also give your counterpart the impression that you care about his needs, thereby generating the necessary atmosphere for win-win.

- **Withholding information and limiting trust:** If your counterpart suspects that you are withholding information or not disclosing fully, trust will be unilaterally withdrawn. A win-win thus becomes impossible. It would, however, be naïve to demand full and complete transparency from either side. The rule should be: 'The truth, nothing but the truth; but not necessarily the whole truth immediately.'

- **Showing an unwillingness to move:** This renders the win-win impossible and increases the probability of deadlock.

- **Not establishing common ground:** The negotiation consequently centres on disparities rather than convergence. Both your standpoint and your counterpart's will move apart as the negotiation progresses, again making the win-win very difficult to achieve.

- **Arguing, blaming or attacking:** Early in this chapter, emphasis was placed on focusing on the other party's interests, not their adopted positions. Personal attacks are often the result of zeroing in on adopted positions and it must always be remembered that a counterpart may deliberately start off with a relatively extreme standpoint simply to gain power at an early stage. This adopted position does not negate his/her underlying needs. Your job is not to be drawn into an emotional fight, but to work past the adopted position to uncover underlying desires and needs.

- **The negotiation becomes a tennis match:** The swapping of demands between the parties resembles a tennis match along the lines of 'I can only give you X if you give me Y': 'Well, if I give you Y, I want Z in return'; 'No, giving you Z means I will need A to compensate'. This is clearly going nowhere, and stalemate is almost pre-programmed. It can be avoided by simply calling a spade a spade, rather than an earth-inverting gardening implement. Say something like: 'Ok, we're getting into a tennis match now. Why don't we think more in terms of packages than individual points?'

- **One issue is negotiated at a time:** A negotiation is not generally about individual points, but rather about finding a total package that is acceptable but not necessarily perfect to both parties. Focusing on individual points slows the process down and blinds us to the big picture. We should remember, at all times, to focus on the totality of what we are trying to achieve and not on recording what concessions have been traded.

7.11 HOW TO BREAK A DEADLOCK

Deadlocks happen when parties fail to agree. There are situations where all routes to settlement have been explored, all tactics tried, and all avenues of conciliation and aggression tested. Yet points still remain on which neither side is prepared to concede to reach agreement.

Imagine the case of a supplier that has been identified as the sole supplier of a product or service. The product or service is essential to your on going operations and both parties have agreed in general terms on a co-operative partnership. Prices are within budget (after negotiation); delivery terms and conditions acceptable; the supplier stockholding commitments are adequate to ensure on going availability; and the supplier has even agreed to a training commitment to ensure your employees do not cause unnecessary failures of the product. Still, after all this, you are under instruction to implement company policy of securing a 12-month full warranty, and the supplier is not prepared to offer more than six months, which is already double their standard three-month guarantee. Walking away at this point would mean:

- The supplier would be lost and the time spent up to now wasted.
- The supplier would gain power. He would justifiably use this against you if you had to re-open negotiations at a later date.
- You would potentially have to rethink your entire operation to compensate for not having the essential item under negotiation.
- Your customer, the department or individual who made the purchase request would be angry.

Deadlock is not the end of negotiation unless you allow it to be. Deadlock can occur, but it is up to you to do something about it. Remember that power in a negotiation is not unilateral. As soon as a supplier knows you need its product or service, it also has power over you. Further, do not expect your supplier to attempt to break the deadlock: it is more likely that both parties will simply go back to their offices to wait for the other to make the first move. Deadlock is also about losing or saving face: attempting to reopen negotiations could easily be seen as a ‘climb-down’ and be exploited by an aggressive counterpart. Let us be under no illusions: breaking a deadlock can be very difficult. Learn to walk away from a deal, and walk back to it graciously.

The following ideas will help you return after deadlock with minimum loss of face:

- Change the shape of money. A large deposit, a shorter pay period or a different cash flow works wonders, even when the total amount of money involved is the same.
- Change a team member or the team leader.
- Set the problem topic aside temporarily, i.e., postpone some difficult parts of the agreement for re-negotiation at a later time when more information is available.
- Suggest the possibility of risk sharing. A willingness to share unknown losses

or gains may restore a lagging discussion.
- Change the time scale of performance, e.g., allow a longer period within which to complete a performance.
- Change the bargaining emphasis from a competitive mode to a co-operative problem-solving mode. Involve branch managers with branch managers, marketing managers with marketing managers, BDOs with BDOs.
- Change the type of contract. Change the base for a percentage. A smaller percentage of a larger base or a larger percentage of a smaller but more predictable base may push things back on track. Call a mediator. Arrange a summit meeting or 'hot-line' call.
- Make changes in specifications or terms.
- Set up a joint study committee.
- Tell a humorous story.

7.12 CONCLUDING REMARKS

Negotiation in the procurement process is often either neglected or used as a 'big stick' to beat suppliers down on price. Both these routes miss the potential benefits to be accrued from having a network of supply partners who are interested in doing business with you, committed to providing and maintaining service, and constantly searching for new ideas, developments or initiatives of mutual benefit.

The next time you negotiate with a supplier, keep in mind that statistically your sales counterpart has received at least four times the amount of training in negotiation that you have received. The real possibility exists that you are at a disadvantage the minute you walk into the negotiating room.

There is no substitute in negotiation for actual experience. However, any negotiation's chance of success will be improved by diligent and sensible preparation of the following:

LIMs: know where you want to be, where you are going to say no, and consequently where an agreement is likely to land. Similarly, make some educated guesses as to your counterpart's likely LIMs.
Strategy: know what outcome you are aiming for based on the relative importance of the relationship with the supplier (both now and in the future) and the achievement of your goals. Our advice is that the win-win strategy at least points you in the direction of satisfying both aims.
Tactics: what has to be done during the negotiation itself to ensure the maximum achievement of your strategic goals? Our advice is to avoid behaviour that will antagonise or cause disharmony, and use tactics that will drive you towards mutual benefit.

This chapter, while not a failsafe rulebook on how to negotiate, should at least help you reconsider and redefine the way you approach suppliers to get the best out of them. Remember: to give you their best, your suppliers must be satisfied that they are receiving your best.

7.13 APPENDIX

APPENDIX 7.1

A7.1.1 CASE STUDY: A TENDER FOR THE DESIGN, FABRICATION, SUPPLY AND ERECTION OF A STEEL STRUCTURAL BUILDING

The following is a case study based on the author's personal experience, and is an example of how a complicated negotiation, through careful planning on both sides, resulted in a win-win where it could so easily have resulted in deadlock or a lose-lose negotiation.

A7.1.2 BACKGROUND

Company A, a major conglomerate, had requested tenders for the design, fabrication, supply and erection of a steel structural building. The steel structure was to form an integral part of a R200 million project. Company A had already received several quotes from various construction companies, including Supplier X. The negotiation took place at Company A's head office in Johannesburg.

A7.1.3 COMPANY A's INITIAL STANDPOINT

The team consisted of the project manager, the project procurement manager and the project construction engineer. The team was responsible for the management of the overall project, which was very intricate, and Company A had already experienced problems in maintaining time and cost deadlines.

Company A had already received several quotes for the steel structure, ranging from R3 200 000 to R2 630 000. Supplier X had come in at R2 782 200. Supplier X had worked successfully with Company A on similar projects in the past. They had always been difficult negotiators concerning the terms of the contract, but Company A was fairly certain Supplier X had a fairly thin order book at that time. The major issues of concern were:

- The total price was R2 782 200 and this was approximately 6% higher than A had budgeted. If Company A were to stay within the overall project requirement, it needed to negotiate at least R265 000 off the price.
- Supplier X had employed a particular construction manager on the previous successful project they had completed for Company A. Company A wanted this individual to be involved again.
- In order to ensure that Supplier X completed the job on time, Company A required a 10% performance bond.
- Company A suspected that sub-contractors were being used by Supplier X and realised that, if this were the case, a handling charge could be added to the quotation and thus many of the quoted aspects might be more economically handled by Company A, albeit at great inconvenience.
- Company A required a delivery period of four months.

- The price had to be free of escalation and Company A required retention of at least 10%.
- Assuming requirements were met, Company A was prepared to make an upfront payment, as cash flow was not the problem on this project. However, this was limited to a maximum of 20% of the total contract price.

A7.1.3.1 Strategy

Under the above circumstances, it would have been understandable if Company A had attempted to force concession on all its requirements, particularly in light of the intelligence on Supplier X's financial state. A win-lose approach would probably have delivered a low price and all the other desired warranties and retentions.

The win-lose approach would, however, have jeopardised the relationship to the extent that Supplier X would probably not have devoted its best resources to the project, and would possibly even have under-quoted but loaded sundry costs during project delivery. Furthermore, the win-lose would have guaranteed that Supplier X would never be so compliant on future projects when its order book was fuller.

Company A chose a win-win strategy for the negotiation. The full wisdom of this was, however, only revealed during the negotiation itself, as Supplier X gradually disclosed (in the spirit of co-operation) numerous hidden facts around its standpoint.

A7.1.4 SUPPLIER X's INITIAL STANDPOINT

The Supplier X team consisted of the managing director, the marketing director and the technical director. The supplier needed the business: its order book was thin and the company was experiencing severe cash flow problems.

The supplier was aware that Company A had experienced problems on the R200 million project. Supplier X, having completed similar projects for Company A in the past, was expecting hard-line negotiations and a win-lose strategy from Company A. The major issues for the supplier were:

- The supplier had added a 15% handling commission to sub-contractors' quotes for much of the detailing and finishing work on the project.
- The delivery period was flexible between four to six months but this was dependent upon favourable payment terms to alleviate cash flow issues.
- Price escalation was dependent on payment and final retention terms in the agreement. It was suspected Company A would require a 5% retention, but would prefer 10%.
- Ideally, it wanted an upfront payment of at least 25% of the total contract price. Payment for all materials no later than seven days after delivery on site was essential.
- It understood the value of the named construction manager to the buyer and

had planned to use his involvement as a bargaining point.
- Due to the nature of the quotation involving sub-contractors, the supplier could not profitably negotiate its total price down by more than R150 000 and could not drop its steel price below R4 400 per tonne.
- The supplier had quoted for detailing at R70 per tonne, which was R50 per tonne lower than its normal fee. It therefore needed to insist that Company A supply high-detail general arrangement drawings.

A7.1.5 THE NEGOTIATION

The actual negotiation was surprisingly easy and convivial. But this was only achievable through a sensible win-win approach, clearly communicated at the outset by Company A, which stated that the project hinged on quality, on-time completion, with preparedness on its part to sacrifice low price for working with the right supplier.

Supplier X responded that it was willing to look at all elements of the total deal in order to secure a mutually satisfactory outcome. Careful preparation had set its variables around the 15% handling fee, the steel price and the total project cost, and it was prepared to offer accelerated completion and the named construction manager as incentives to set the tone.

Company A's opening gambit was in stating that X's total quote was about 9% over budget. No mention was made of competitive bids. This was a clear tactic involving LIMs, and was spotted by X, who asked for clarification on the discrepancies. Company A revealed that the crux of the matter lay in the fact that it had budgeted on the basis of minimal use of subcontractors and was prepared to designate in-house resources to certain areas of detailing the resources to be supplied by A but managed by the chosen supplier.

This prompted a relieved rethinking of the project by X, and details of available resources were discussed and agreed over the course of approximately 45 minutes. The net result was that the supplier was able to reduce R78 000 off its quoted detailing costs, leaving a total price discrepancy of around R105 000 between Company A, Supplier X and the 'musts.' At this point, X cleverly offered the named construction manager and a completion date of four months, thereby heightening the feeling of co-operation and willingness to come to the party. Company A noted both items with gratitude, but continued to state that its most favoured position would be a total project cost of a maximum of R2.5 million.

Supplier X immediately countered that R2.5 million would probably not be achievable, but 'let's see how close we can get.' The parties proceeded to explore payment terms as an option for offering further discounts. Company A stated that it usually offered 12%, but was prepared to move if this would affect the total price. Supplier X offered to reduce the total price to R2.59 million if 20% were to be paid up front. Company A sharply asked whether the sliding scale of upfront payment versus discount was limitless, prompting the immediate

response from the supplier that “give us 25% upfront and we’ll do the job for R2.56 million”. Not surprisingly, this was agreed upon.

Once the above package had been sealed, the issues of retention, performance bond and final payments were settled without argument at the levels suggested by Company A.

A7.1.6 NET RESULT

Company A obtained the right supplier at a price well within budget. The negotiating team had to work with finance to free up funds for the upfront payment, but this was considered a minor issue owing to the short-term nature of the project.

Supplier X solved its cash flow issues and secured the job at an acceptable price. More importantly, the supplier positioned itself as the first-choice supplier for similar work with Company A, and continues to reap the rewards of the on-going relationship to this day.

This negotiation could have ended quite differently if the parties approached it as win-lose. Company A would have contracted a potentially lower-standard supplier and would have had to start a new search process for the next project, and Supplier X may have faced foreclosure and receivership. The success in this case was based on excellent planning on both sides and a win-win strategy on the part of Company A that Supplier X endorsed.

PURCHASING ANALYSIS TOOLS AND TECHNIQUES

Authors: Gary W. Ralph and Llewellyn R. Roberts

SYNOPSIS

All professions have developed tools and techniques to help those who operate within those professions to do their job effectively. The procurement management profession is no different and can benefit from the use of these tools and techniques

This chapter covers the key tools and techniques that can be used to enhance the purchasing process and ensure that this process is carried out efficiently and effectively. The chapter introduces the following topics:

- Value analysis.
- Process mapping.
- Project management.

8.1 INTRODUCTION

There are several tools and techniques that can be used to evaluate how to accomplish the work carried out within procurement most productively. Some of these have been covered in previous chapters. In this chapter we cover three important groups of tools and techniques used in improving and managing procurement processes, namely value analysis, process mapping tools and techniques and project management tools and techniques.

Value analysis is an approach to improving the value of an item or process by understanding its constituent components and their associated costs. It then seeks to find improvements to the components by either reducing their cost or increasing the value of the functions. Value analysis is used to determine and improve the value of a product or process by first understanding the functions of the item and their value, then its constituent components and their associated costs, in order to reduce their costs or increase the functions value.

Business process mapping refers to activities involved in defining what a business entity does, who is responsible, to what standard a business process should be completed, and how the success of a business process can be determined. The main purpose behind business process mapping is to assist organisations in becoming more efficient. A clear and detailed business process map or diagram provides a means for assessing where improvements can be made to a current process.

Project management is the application of knowledge, skills and a group of specific tools and techniques to execute projects effectively and efficiently. It is a strategic competency for organisations, enabling them to tie project results to business goals and thus better compete in their markets. Project management tools and techniques are used to help ensure that projects are completed on time, on budget and to acceptable levels of quality.

Each of the tools and techniques is covered in this chapter.

8.2 VALUE ANALYSIS

Value analysis is the organised and systematic study of every element of cost in a part, material, or service to make certain it fulfils its function at the lowest possible cost. Value analysis is aimed at identifying the functionality the end user requires from a product and/or service; and the appropriate cost/lowest cost to fulfil that function. The key to value analysis and value engineering is to understand how a part fulfils its function. Function is that which the product or service must do to make it perform and sell. For example, a knife cuts material and a thermometer measures temperature. It is important to note that while function definitions describe the desired result, they do not define the means to achieve the end.

For instance, the primary function of a pen is to write. It can be used for this purpose if the pen case is made of plastic or of metal. A secondary function may be to allow the pen to function for a long period of time and to be durable in a factory workplace setting. If this is the case then, possibly, the pen with a metal casing might be more appropriate for the given function it is expected to perform. There are other examples. For instance, a plastic container with a lid where the primary function of the container is to store perishable food in a refrigerator and the secondary function is to help ensure the preservation of the food for a certain period of time.

There are often several choices one can make on how best to carry out a value analysis exercise. A complex product or process may have several functions and even sub-functions. The first step, therefore, is to carry out a function analysis so as to understand fully the intended function of the product.

Value can be defined as the lowest cost at which the function can be accomplished at the time and place where the function is required at a prescribed level of quality. Value does not always have a direct relationship to cost. Some products that cost less than a similar product may accomplish the function better. For example, a premium paid for shipping an item by air increases the cost of a product but probably does not add to its value. However, it is important to think of value in terms of how the customer perceives value. In this example it may be more important to have a time utility for the product (i.e., to have the product available for use at a given time) than additional cost. Value analysis is a technique that lowers cost while maintaining worth from the end user's perspective. It does not cheapen the product [1].

For value analysis to work all those individuals who work, directly or indirectly, with the development, creation and sale of the product must be involved in the study. It is also important to link value analysis to how well a product is received by customers. Value analysis can be used to improve a product's quality, performance, marketability, maintainability, and reliability while reducing costs [1].

8.2.1 VALUE ANALYSIS IN ACTION

Probably the best way to understand value analysis is to review an example of where it has been carried out in practice, and such an example is an envelope used by an overnight courier company. One of the key 'drivers' for this initiative included that specifications for the product were old and most of the competition used lighter weight materials. Management at the courier company decided that one of the sourcing goals was to review the high-value/high-volume products to see if there was scope for improvement and express envelopes fell into this category. The key purpose was to reduce costs; as stated, it seemed that specifications for the envelope were outdated (the general industry-accepted standard was lower than the courier company's standards).

The courier company set up a cross-functional team to carry out a value analysis exercise on express envelopes. They first examined the intended function of the express envelopes, including requirements for protection of contents in transit, and they also examined the conditions under which these envelopes would need to function to adequately protect the contents of the envelopes. They then approached the highest volume provider of the envelopes and talked with them about alternatives to reduce costs. These alternatives comprised:

- Reducing thickness.
- Reducing trim (width of the closure).
- Reducing colours from six to two.
- Going to different type of board (a non-recycled material, virgin board. Board being used was 80% post-consumer recycled).

The courier company felt that the thickness of the board presented an opportunity for cost reduction (current thickness was 14 point and industry was 12) as did the width of the trim, which could be reduced to cut costs. It believed that going to a virgin board material did not present an opportunity because of the impact of using environmentally friendly or recycled product and associated issues. The courier company also felt that reducing the number of colours of envelope presented an opportunity for variety and cost reduction.

The next step the team took was to review opportunities with the product stakeholders, which included portfolio marketing and environmental groups. It reviewed opportunities for cost reduction and obtained stakeholder opinions on various alternatives including the above potential cost reduction opportunities, which all stakeholders agreed were worth examination.

The value analysis team then created handmade prototypes, reducing the thickness/weight of the board and reducing the trim. The prototype went through a limited manufacturing run. These products were sent for testing to an internal test lab and for outside testing to validate quality based on performance requirements and specifications (i.e., the product had to pass 'rub', 'shake' and 'puncture' tests; there was no lowering of tolerances on operational or product performance).

The team then had some of the new envelopes sent to several different locations around the country and asked company associates to put paper into the envelopes and send them back via courier. No noticeable change to the envelopes occurred and they functioned well. At that point approval was given to go to full production and the programme was launched.

The next challenge was to move away from six colours to two. Through the above actions, savings were realised in the region of 4-5% on costs, amounting to several hundreds of thousands of dollars a year.

8.2.2 SELECTING A PRODUCT TO BE VALUE-ANALYSED

To make the best use of value analysis, it is important to select items for study that will potentially yield the best results for effort expended. The following product characteristics lend themselves to value analysis:

- High value or cost.
- Complex design.
- High levels of scrap.
- High levels of labour.
- Parts that can potentially be standardised and/or used in other applications.
- Out-of-date or obsolete components.
- Raw materials that may have substitutable, lower-cost materials available.
- Products that are of poor or inconsistent quality [1].

8.3 VALUE ANALYSIS APPROACH

8.3.1 COMMON APPROACH TO VALUE ANALYSIS

Value analysis should follow a systematic approach. The most common approach for a company applying value analysis is to create a team composed of representatives from the various disciplines/departments within the company. Departments working alone cannot do as well collecting information and making proposals affecting others; it is important to include representation from all areas. Purchasing is often the lead discipline and responsible for carrying out the initial cost analysis [1].

A structured series of steps, which would vary with size and type of enterprise, should be followed when conducting a value analysis exercise and typically includes the following:

- **Preparation:** Team members brainstorm and list those aspects of the product that they believe will be impacted by the study.
- **Gather information:** Gather relevant information and make known opportunities for improvement.
- **Analysis:** Evaluate ideas and select those worthy of development.
- **Generation of ideas:** Generate a large quantity and variety of ideas.

- **Development:** Expand selected ideas into workable value-improvement proposals.
- **Presentation:** Obtain the approval, support and resources necessary for implementation.
- **Implementation:** Obtain results from the improvement proposals.
- **Follow-up:** Track the progress of the effort by applying precise evaluation techniques and measuring savings.

8.3.2 VALUE ANALYSIS AND PRODUCT DESIGN

Purchasing professionals can contribute to product design. In developing specifications, purchasing may help a designer revise tolerances and features by reviewing plans with potential suppliers. For example, an engineering group used by a firm might recommend new materials that hold tolerances better than those originally specified, resulting in lower fabrication costs. Purchasers can often recommend parts that meet functional requirements at a lower cost. In one instance, a lower-cost brake pad was recommended by purchasing within a delivery firm and used on a fleet of many thousands of delivery vehicles. This substitution reduced costs by several hundred thousands of dollars a year.

The purchasing department is often in a position to recommend interchangeable or common parts. It already knows what it is buying for other products. Making some of these parts common to several products reduces inventory and increases the benefits of larger lot size buying. A classic example is Eli Whitney's use of exact replicas of any part on a rifle to enable mass production with an accompanying reduction in costs. Whitney's demonstration to the War Department of disassembling, mixing parts and reassembling rifles resulted in increased sales. Part standardisation is important and an effort should be made to use off-the-shelf rather than custom parts to perform a function. Standardised parts typically have shorter lead times, lower prices and better warranties. In addition, salvage values are usually higher for standardised parts, in case the product changes.

8.4 BUSINESS PROCESS MAPPING

8.4.1 DEFINITION OF A PROCESS

A process is a series of steps or actions performed to achieve a specific purpose. A process can describe the way things are accomplished; work in a company typically involves many processes. Examples of business processes would include the placement of an order to order receipt process, receiving of goods from suppliers and quality inspection. Individuals within firms are involved in one or more processes. A business process is an activity or set of activities that will accomplish a specific organisational goal. As processes become larger, they usually cross organisational or functional lines. A process should be viewed as a 'value chain' where, ideally, value is added from one step of the process to the next.

There is usually more than one supplier and customer for a given process,

both internal and external to the company. Some processes produce products or services that are invisible to the external customer but are essential to the effective management of the business. These are referred to as administrative processes. Another category of management processes includes actions that managers take to support the business processes. Management processes include goal setting, day-to-day planning, performance feedback, rewards and resource allocation.

8.4.2 THE BENEFITS OF STUDYING COMPANY PROCESSES

A business is only as effective as its processes. Effective processes can help to accomplish business goals and objectives. People working within the processes can influence the effectiveness and efficiency of the processes to which they contribute. However, individual and team problem solving seldom focuses properly on total system process improvement. Many performance improvement studies focus on the improvement of individual procedures, often within a defined part of a company, e.g., within engineering or within manufacturing, but ignore the overall process. Process mapping has been shown to provide a proven tool with which to understand and change overall processes to improve overall performance.

8.4.3 THE PROCESS MAPPING CONCEPT

Process mapping is based on a systematic, structured analysis. The benefits of process mapping include reductions in product and service development costs, fewer system integration failures, uniformly better process understanding and improvement in overall business enterprise operations and performance. The following key points can summarise the basis process mapping concepts:

- Establish what functions a process should perform.
- Understand a process or system by creating a process map that graphically shows steps in a process and activities within these steps.
- Structure the process map as a hierarchy with major functions at the top and successive process map levels showing greater levels of detail.

A process map can be used to help make an existing process visible so that it can be understood more readily by those working in and managing it. It can serve as a basis for analysis of a process, to identify aspects of the process that need to be changed as well as those that should be retained. Finally, it can provide a useful framework for determining where to establish measurement points for ongoing management. A process map considers activities, information and interfaces between functions. Process mapping usually begins with a functional process representation of ‘What’ the process is, separated from the design of ‘How’ the process should be, often referred to as the ‘as is’ and ‘to be’ processes. Process mapping starts by representing the whole process at a very high level with one box which names the process, for example, ‘Order Placement’. The single box is then expanded in more detail on another high-level process diagram with several boxes connected by arrows. These boxes are further broken down into sub-processes at increasingly higher levels of detail.

8.4.4 TYPES OF PROCESS MAPS

There are two main types of process maps: linear process maps and cross-functional process maps. Both types are used to describe how work gets done though the cross-functional map also shows who (which functions) is involved in getting it done.

A linear process map is a type of flow chart. Basic flowcharting conventions apply using symbols: a box, an ellipse, a diamond, a square and an arrow. A terminator or ellipse symbol shows the start and stop points in a process. When used as a start symbol, terminators depict a trigger action that sets the process flow in motion. A box is used to indicate a single accomplishment (or step) in a process. The box is labelled, using the past tense form of the verb to describe the accomplishment. Each box is assigned a reference number for easy identification when discussing the process. A diamond is used to indicate that a decision is made within the process. Usually, these are yes/no (binary) decisions that divide the continuing process flow into two separate paths in response to the question inside the diamond. A connector symbol or circle is typically small and is used as a connector to show a jump from one point in the process flow to another. A directional arrow is used to connect each box (or diamond) to the box that precedes it and the box that follows it in the process. The arrow indicates the input/output that is moving to/from each box (or diamond). Such input/output can consist of material or information. The arrow shows not only what is moving in the process but also the direction of movement. Table 8.1 shows the various symbols used in linear process mapping.

Table 8.1: Symbols used in linear process mapping.

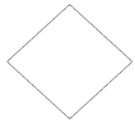
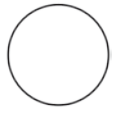
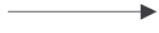
Symbol	Description
	Terminator symbol shows the start and stop points in a process. When used as a start symbol, terminators depict a trigger action that sets the process flow in motion.
	Decision symbol. Indicates a question or branch in the process flow. Typically, a decision flow chart shape is used when there are two options (Yes/No, No/No-Go, etc.).
	Connector symbol. In flow charts, this symbol is typically small and is used as a connector to show a jump from one point in the process flow to another.
	Process symbols show a process or action step. This is the most common symbol in both process flowcharts and process maps.
	Flow line connectors show the direction in which the process flows.

Figure 8.1 provides an example of a linear business process map.

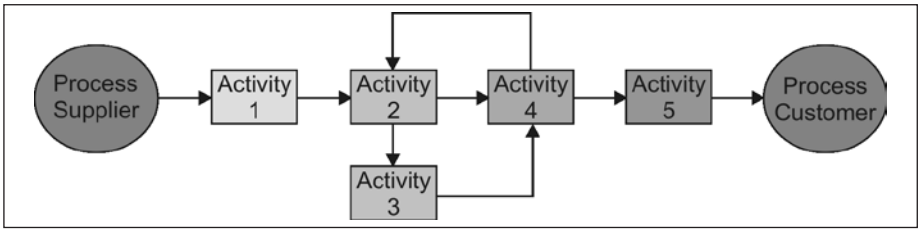


Figure 8.1: Example of a linear process map.

8.4.5 PROCESS MAPPING LEVELS

Usually an improvement team will initially draw a high-level process map to define and understand key business processes and examine how they work together. With high-level process mapping, the intent is to obtain a manageable overall picture of the key processes, showing the complete chain of related activities within the business.

In a cross-functional process map, the highest or 'top level' map for a process is usually one box with the inputs/outputs, scope, interfaces and measures defined. The next level, with six to 10 boxes considered a high level, enables organisations to 1. Determine where the process starts and ends, 2. Identify what is included in the process, 3. Name the process, 4. State the purpose of the process, along with its inputs and outputs, 5. Create several process map-flow charts of the process at a high level, and 6. Identify products and services of the process. Each box within the high level can then be redefined as a more detailed process flow chart. Each succeeding process flow chart activity is defined with a hierarchical numbering scheme and is in a child-parent relationship with the previous level. An example of a simple cross-functional business process map showing ever greater levels of detail is shown in Figure 8.2 for making breakfast.

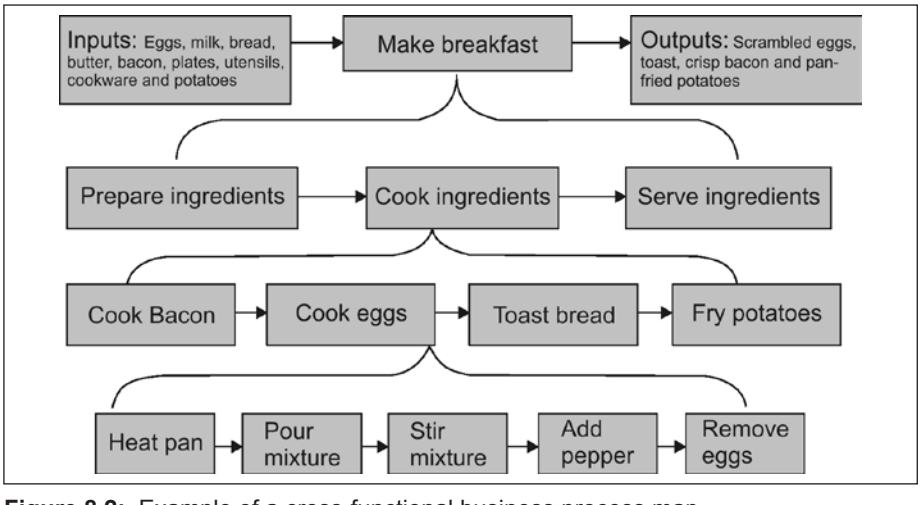


Figure 8.2: Example of a cross-functional business process map.

8.4.6 PROCESS MAPPING TOOLS AND CREATING A PROCESS MAP

Software tools are available for mapping business processes and workflows and most of them define business processes using graphical symbols or objects. To create a process map:

1. Review the process being studied and the boundaries defined for the project.
2. Determine the type of chart to be created.
3. Have participants who are involved in the day-to-day process identify the steps in the process. Write each step on a self-stick note or card using the appropriate symbol.
   - For 'as-is' charts, include rework loops, delays, etc. For 'should-be' charts, include only the work and flow desired.
4. As a team, arrange the steps in order (by posting the self-stick notes on a blank flip chart, whiteboard, or table):
   - Eliminate duplicates; combine similar ideas and agree on wording.
   - Determine and maintain a consistent level of detail.
   - The process flow should be developed in one direction, usually left-to-right or top-to-bottom. This clarifies the sequence of events.
5. Discuss the results with those individuals in the company who perform the various functions to ensure that the process chart matches reality and is accurate. Adjust as needed: If it is discovered that a step has, or steps have, been missed then the self-stick notes should be moved and new step/s inserted as required.
6. When complete, the tasks should be numbered sequentially through the most direct route.
7. Add numerical data related to the business process by annotating the workflow. Several variables commonly associated with process activities are as follows: cost, time, head count, quality, and value added.
8. Transfer the completed map to paper and/or computer: Be sure to date the map and provide names of those involved in the mapping process.

8.4.7 PROCESS MANAGEMENT APPROACH AND THE ROLE OF MANAGEMENT

To improve processes, management must be closely involved in:

- Defining prioritising core business processes important for business success and survival and mapping these processes.
- Constituting a team to carry out the process mapping and improvement exercise which is cross functional and comprised of those most closely associated with the processes to be mapped and improved.
- Taking ownership of process mapping and improvement initiatives through taking personal responsibility; being involved on a constant and consistent basis through continuous communication with the process mapping team and others in the organisation who are involved in the process and through decision making.

- Changing business processes once mapping management initiatives are complete and helping teams to reach agreement on what constitutes new and improved business processes [1].

Modelling the process helps the team tasked with carrying out this exercise to understand the process dynamics. They understand the tasks carried out in the process and through the process mapping exercise can begin to see how the tasks relate to each other. The team can also provide input into how they believe the process will behave in different situations.

8.5 PROJECT MANAGEMENT IN PROCUREMENT

8.5.1 DEFINITION OF A PROJECT

A project is carried out only once, whereas most jobs are ongoing. Other differences are that project team members often do not report directly to the project manager.

8.5.2 PROJECT MANAGEMENT

Project management is the planning, scheduling and controlling of project activities to meet project objectives, which include performance, cost and time goals, while at the same time controlling or maintaining the scope (magnitude) of the project at the correct level. The scope of the project should ideally remain the same throughout, although in practice this is seldom the case. In many instances, the magnitude of the work increases due to, for example, overlooked details, unforeseen problems, or an inadequately defined scope of work. The most common reason for scope changes is that something is forgotten.

Project management is an especially valuable skill for a procurement manager as the sourcing process often mirrors that of a project. A project is a series of tasks that requires the completion of set objectives within a specified time frame and consumes the resources of time, personnel and budget. Examples of projects involving procurement personnel include new product or service introduction and procurement, value analysis, developing and implementing a sourcing strategy and developing and implementing supplier improvement plans [2].

8.5.3 STEPS IN MANAGING A PROJECT

The actual steps in managing a project are straightforward although accomplishing them may not be. The following is a brief description of the actions involved in project management:

1. Define the project and develop work options: Identify the work to be carried out during the project and the end objectives of the project.
2. Plan the project: Determine what must be done, by whom, for how much, how, when and so on.

3. Execute the plan: Carry out the plan according to the required tasks and timing.
4. Monitor and control progress: Monitor and control progress to ensure that the project stays on track and, if issues arise, to determine what needs to be done to ensure that the project stays on track. If it looks as though the project cannot be brought back on track, determine how the plan should be modified to reflect new realities.
5. Close the project: Close the project on completion. This includes going through all tasks to ensure that they have been completed, all issues have been dealt with and closed out and so on. An integral part of the close-out process is carrying out a 'post mortem' analysis with the team that worked on the project to list the things that went well and those that did not go so well and to record these for use on future projects [3].

8.6 PROJECT PLANNING TOOLS AND TECHNIQUES

Various tools and techniques exist for planning project work. These allow the project manager to plan the work being carried out and to subsequently evaluate performance against time and budget. Two useful tools for planning and controlling a project are Gantt charts and project network tools such as Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT). Both Gantt charts and project network tools can show what has to be done, how long a particular activity will take, in what sequence each activity has to occur, and who is responsible for completing the activity.

8.6.1 BAR CHARTS

Bar charts can be used to detail the critical path, aid in picking up variances between planned and actual completion of tasks and illustrate dependencies, relationships and duration of tasks.

Bar charts are relatively simple to construct and to read, and they provide a good tool for communicating to team members. A bar chart visually displays the tasks and times associated with a project. It comprises horizontal bars with the activities to be completed listed vertically and times or dates listed horizontally [4].

An example of a Gantt chart is depicted in Figure 8.3.

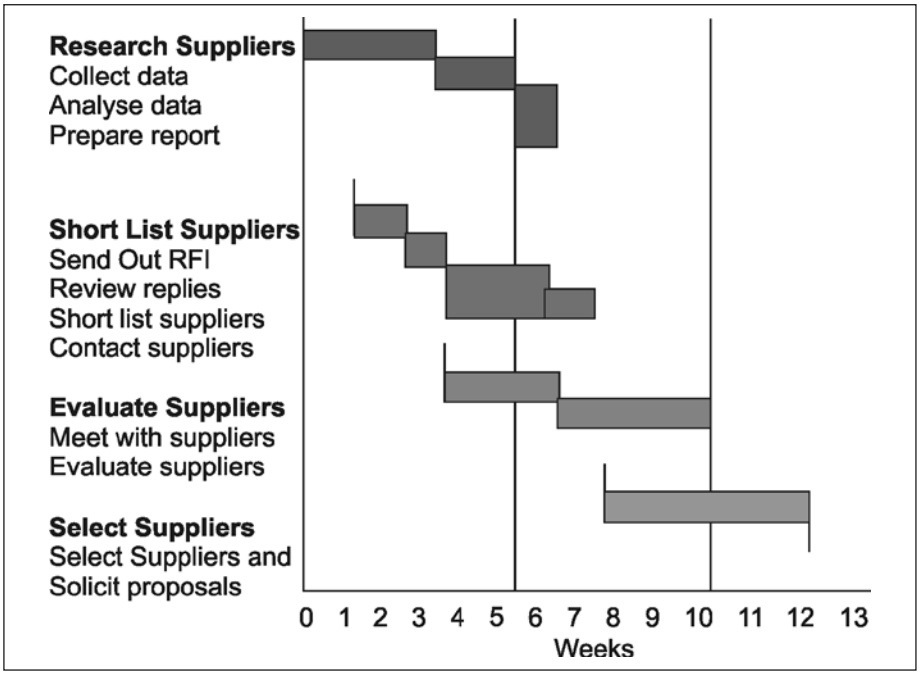


Figure 8.3: Example Gantt chart.

8.6.2 NETWORK DIAGRAMS

Network diagrams like those in Figure 8.4 are used to show when every project task should begin, exactly how much time is scheduled for each task and when a task should be completed.

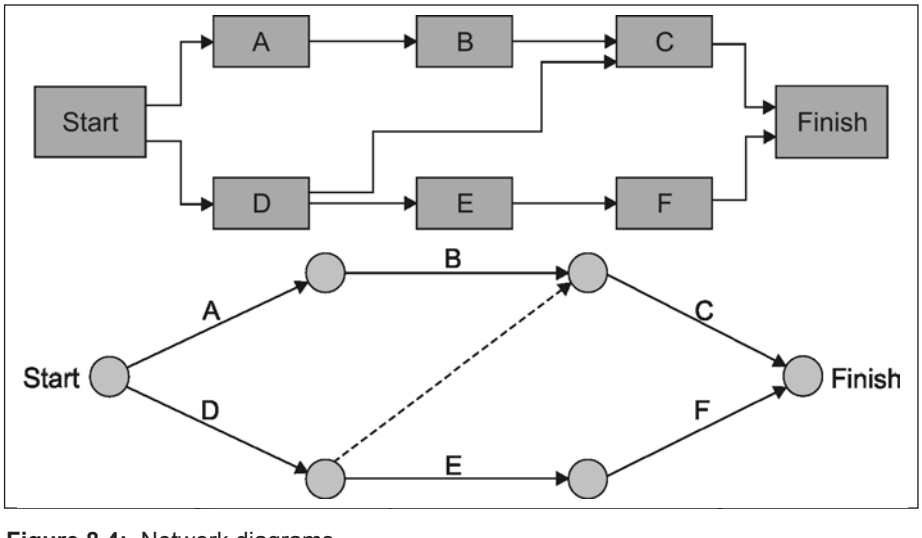


Figure 8.4: Network diagrams.

A network diagram also shows all tasks in progress at any given time, as well as the dependencies between outcomes, tasks and events. Network diagrams display individual tasks or events in a graphical manner and aid in planning and estimating project costs; identifying milestones; and categorising task inter-dependencies. The project manager commonly creates network diagrams with detailed input from all team members.

Network diagrams are used to show the sequence in which work is performed. In these diagrams, Task A is done before Task B, while Task C is done in parallel with them. The network in the bottom half of Figure 8.4 uses activity-on-arrow notation, in which the arrow represents the work being done and the circle represents an event. An event is binary, i.e., it has either occurred or it has not. An activity, on the other hand, can be partially complete. Note that this is a special use of the word 'event'. We speak of a football game as an event, even though it spans time. In scheduling terminology, however, an event is a specific point in time where something has just started or has just been finished.

The advantage of using CPM or PERT techniques is that they allow one to predict if it is possible to meet an important project completion date and when various tasks must be finished in order to meet that deadline. Further, one can tell which tasks have some leeway and which do not. In fact, both CPM and PERT determine the location of the critical path (the longest series of activities that can't be done in parallel) and thus govern how early the project can be completed [4].

8.6.3 DEFINITIONS OF NETWORK TERMS

Below are the most commonly used network terms:

- **Activity:** An activity always consumes time and may also consume resources. Examples include paperwork, labour, negotiations, machinery operations and lead times for purchased parts or equipment.
- **Critical:** An activity or event that must be achieved by a certain time, having no latitude (slack or float) whatsoever.
- **Critical path:** The critical path is the longest path through a network and determines the earliest completion of project work.
- **Event:** Beginning and ending points of activities are known as events. An event is a specific point in time. Events are commonly denoted graphically by a circle and may carry identity nomenclature (words, numbers, alpha-numeric codes, etc.).
- **Float:** The amount of time that a task can slip without delaying the project. Another term commonly used for float is slack.
- **Milestone:** An event that represents a point in a project of special significance, usually the completion of a major phase of the work. A project review is often conducted at that time.
- **Network:** Networks are called arrow diagrams. They provide a graphical representation of a project plan showing the relationships of the activities [4].

8.6.4 THE IMPORTANCE OF SCHEDULING

The primary reason for scheduling a project is to ensure that the deadline can be met. The critical path method helps to identify the activities that will determine the end date and it provides focus on the key tasks that must be managed to help ensure that the project is completed on time. It is very easy to create schedules that look good on paper but won't work in practice. One of the main reasons this occurs is a lack of resources with which to do the work when it comes due. In fact, unless resource allocation is handled properly, schedules are next to useless. Fortunately, there is scheduling software to handle resource allocation well.

8.6.5 CONSTRUCTING AN ARROW DIAGRAM

When constructing a schedule, the general rule is never to plan (or schedule) in more detail than can be reasonably managed. Some projects, such as overhauling a large power generator, are scheduled in increments of hours. Others are scheduled in days, while some big construction jobs are scheduled to the nearest month.

While planning in too much detail is undesirable, one should also not plan in too little detail, for example, creating schedules showing tasks having durations of several months. A good rule of thumb is that no task should last much more than four to six weeks. A task with an overall duration of several months can be broken down into sub-tasks comprised of four to six weeks in duration.

There are two ways to develop a schedule. One is to begin at the end and work back to the beginning. The second method is to start at the beginning and work towards the end. The most common approach is to start at the beginning. The first step is to decide what can be done first. Sometimes several tasks can start at the same time. In that case, simply draw them side-by-side and start working from there.

The boxes, in the progression in the diagram in Figure 8.5, are numbered according to the steps taken to place them. In other words, all boxes with a 1 beside them were placed in the diagram in Step 1, and so on. The next steps are noted as 2 and so on. The duration is in minutes and is noted as DU in the diagram. Note that it sometimes takes several iterations before the sequencing can be completed [4].

This small project might be thought of as having three phases: preparation, execution and cleanup. There are three preparation tasks: pick up rubbish, get vacuum cleaner and get out window cleaner. The cleanup tasks include put away vacuum cleaner, put away window cleaner and dispose of rubbish.

This schedule diagram follows a basic rule of scheduling, i.e., to diagram what is logical and then to look at resource constraints. For a room cleaning project carried out by one person there can be no parallel paths. On the other hand,

if help can be enlisted then parallel paths are possible. The suggested rule is to schedule as if it were possible to get help. This is especially important to remember in a work setting, or it will be difficult to complete the development of the schedule.

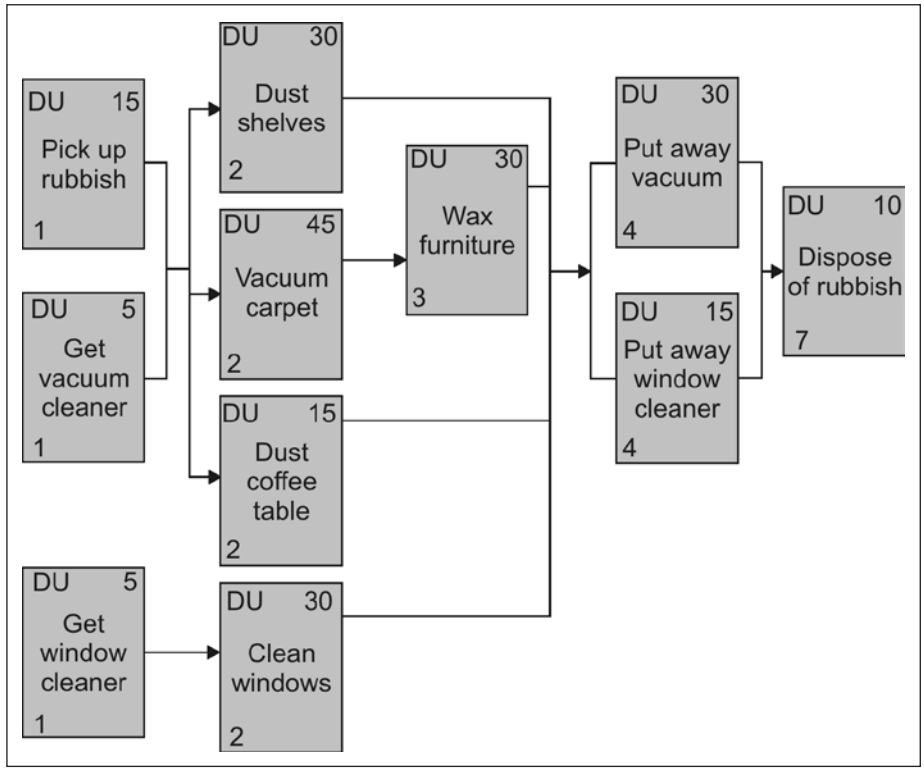


Figure 8.5: Arrow diagram for a room cleaning project.

Parts of the work may have to be done in a certain order, but often there is flexibility. For example, milk cannot be loaded for delivery until it has been bottled. There is no single 'right' solution, but a diagram can be said to be wrong if it violates logic. The next step is to determine how long it will take to do the job. To do this one can use historical data for how long each activity has typically taken in the past, to estimate times for a current or future project's tasks [4].

8.6.6 SCHEDULING COMPUTATIONS

Once a suitable network has been drawn, with durations, it is necessary to determine the longest path in the network and whether it will meet the target completion date. The longest path through the project determines the minimum project length of time and if any activity on that path takes longer than planned, the end date will be affected accordingly. Because of its importance, this path is called the critical path.

The critical path can be defined as the longest path through the network. By definition all tasks on the critical path have no float, or latitude, as to when they can be started or finished. In other words, the tasks on the critical path must start at the planned date and time and finish on the planned date and time if the project is to be completed on time. Essentially, any increase in the duration on any critical tasks will increase the schedules [5].

Network rules: Two rules are applied to all networks in order to compute network start and finish times. (The scheduling software itself sometimes applies other rules. These are strictly a function of the software and are not applied to all networks.)

- Rule 1: Before a task can start, all tasks prior to this task must be completed.
- Rule 2: Arrows denote logic's precedence. The length of the arrow or its angular direction has no significance.

8.7 PROJECT EVALUATION AND CONTROL TOOLS AND TECHNIQUES

Various tools and techniques exist for evaluating and controlling project work. These tools allow the project manager to manage and control the work against time and budget. These tools and techniques are covered further on.

8.7.1 RISK MANAGEMENT

One safeguard in managing projects is to think about the risks of failure that could sink the job. This can be done for critical objectives and for other parts of the plan. The simplest way to conduct a risk analysis is to ask, 'What could go wrong?' or 'What could keep us from achieving our objective?' It is usually best to list risks first, then to think about contingencies for dealing with them. One approach is to divide a flipchart page in half and have the group brainstorm the risks, which are tabulated down the left side of the page. You then come back and list contingencies, i.e., things you can do about risks if they do materialise.

8.7.2 PROJECT EVALUATION

To evaluate a project is to attempt to determine if the overall status of the work is acceptable in terms of intended value to the client once the job is finished. Project evaluation appraises the progress and performance of a job and compares it to what was originally planned. That evaluation provides the basis for management decisions on how to proceed with the project. Audits should be done at major milestones in the project so that learning can take place as the job progresses. Periodic audits (i.e., programme reviews) should enable you to:

- Improve project performance together with the management of the project.
- Ensure that quality of project work does not take a back seat to schedule and cost concerns.
- Reveal developing problems early so action can be taken to deal with them.

- Identify areas where other projects (current or future) should be managed differently.
- Keep client(s) informed of project status. This can also help ensure that the completed project will meet the needs of the client.
- Reaffirm the organisation's commitment to the project for the benefit of project team members.

8.7.3 PROJECT STATUS AND THE DAILY LOG

The who/what/when status provides a good/simple means of communicating small projects/concerns/issues on a day-to-day scale. It is also used to pull out certain tasks from MS Project to summarise for a high-level meeting where MS Project might be in too great a detail or confusing. An example of the who/what/when status is the Master DOT system used by General Motors. It shows whether or not a task will be completed on the due date. The following gives the description of the letters used:

- Green (G) signifies will be completed by the due date.
- Yellow (Y*)* signifies it may not be completed by the due date or will not be completed on time but does not delay the project completion (not on Critical Path).
- Red (R)* is not expected to be completed by the due date and will delay the project.

Corrective action investigation should take place on any task that is Yellow or Red.

An extremely useful and simple tool for maintaining project control is the daily project log. This takes the form of a blank notebook or a word document on a computer. The purpose of the log is to keep a daily record of key decisions made, key issues that need to be resolved and suggested action plans, action items, key problems that need to be resolved, dates for resolution, responsibilities, etc.

8.7.4 ISSUES MANAGEMENT

An issue can be defined as a matter of debate (or sometimes a point of contention). It can also be a matter for resolution. An issue can adversely affect the duration, cost, quality and outcome of a project. An activity on the other hand is an element of work performed during the course of a project to further the completion of a project. An activity can become an issue if the activity is not carried out according to plan and threatens to cause a delay to the completion of the project or which may result in additional costs and/or time.

An 'Issues Log' should be used when the project manager receives information from a member of the project team or customer identifying a programme issue. It is the responsibility of the project manager to ensure that all critical issues are recorded in an Issues Log, having received the information from a programme member, customer or having identified it him/herself. In consultation with the

programme team, the project manager will define the issue, determine the critical level of the issue and assign the resource or make the necessary corrections to resolve the issue. Issues should be described and defined in terms of their potential impact on the project. The person raising the issue must also identify at least one viable alternative required to resolve the issue and a planned date by which the issue must be resolved or escalated.

8.7.5 SCOPE MANAGEMENT AND SCOPE CHANGE CONTROL

Scope changes may be as requests from a client or because of unplanned/ unforeseen activities occurring. In either case, a process for managing scope change is essential on a project. The purpose of Change Control is to ensure that any proposed changes to project scope are:

- Reported/requested.
- Impact assessed and evaluated.
- Accepted (or rejected).
- Implemented.
- Incorporated into the applicable baseline in a controlled manner.

Scope creep is one of the key reasons for project failure. It is essentially all the small incremental changes that occur to the project scope during the project which cause the nature/size of the project to change. These small changes may be as the result of additions to the project required by the client, which are outside the original terms of reference. They may also be due to the various tasks in a project taking slightly longer than planned. Careful evaluation of all change requests must be made to ensure that they do not significantly affect the scope of the project. If they do then the scope change process should be followed to help avoid scope creep (including reference to the original project terms of reference where necessary).

8.7.6 KEY STAKEHOLDER REVIEWS AND REPORTING PROJECT PERFORMANCE

The most common performance reports are status reports. The frequency, content and format of these reports vary greatly from organisation to organisation, and yet all are designed to make sure everyone involved understands where the project is at any given point in time. The following are the key steps in creating status reports:

- **Evaluate audience:** The first step in creating your status reports is to evaluate the audience. The different categories of stakeholders will have different needs for status data.
- **Gather status data:** Once you have an understanding of the potential audiences for your status updates, you are ready to start gathering the data. There are three main ways to gather status data from the team. The first is to hold status meetings, the second is to use written or oral status reports, and the third is to use time sheets.

- **Hold status meetings (weekly team meetings):** The most common form of status-data gathering is done in status meetings. These meetings are generally held weekly and should include the entire project team.
- **Create team status reports:** Rather than hold weekly status meetings, some project managers prefer to have team members issue written status reports. These are then submitted to the project manager by a deadline, usually noon on the Monday following the As-of-date.

8.7.7 PROJECT CLOSURE AND LESSONS LEARNED ANALYSIS

All projects have an end point. Closing out the project is as important a phase of the project as any other and should follow certain procedures with the objective of:

- Effectively bringing the project to an end, according to agreed contractual requirements.
- Preparing for the transition of the project into the next operational phase.
- Analysing overall project performance with regard to financial performance/ data, schedules and technical efforts.
- Closing out the project team and transferring the team to other work/projects.

Project success or failure often depends on project management's ability to handle project closeout effectively. Some suggestions are given below that can help to increase organisational effectiveness in closing out a project:

- Carefully plan the project closeout on the part of both the project and functional managers (operations).
- Establish a simple closure procedure that identifies the major steps and responsibilities.
- Treat the closure phase like any other project phase with clearly delineated tasks, agreed-on responsibilities, schedules, budgets and deliverables/results.
- Emphasise the overall goals, applications and utilities of the project as well as its business impact.
- Secure top management involvement and support.
- Be aware of conflict fatigue, shifting priorities, and technical or logistics problems.
- Conduct a 'lessons learned' analysis of all those aspects of the project that went well, areas for improvement and lessons learned. These should be documented and shared with other members of the team for future projects. The lessons learned may be of a technical nature and/or from a programme/ project management point of view.

8.8 CONCLUDING REMARKS

This chapter provided an overview of three key groups of tools and techniques that can be used to enhance procurement efficiency and effectiveness. The chapter covered the use of value analysis and its role within procurement. Value

analysis, we learned, is the organised and systematic study of every element of cost in a part, material, or service to make certain it fulfills its function at the lowest possible cost. Value analysis also employs techniques that identify the functions the user wants from a product or service. In this regard value analysis comprises a particularly useful set of tools and techniques for use in the procurement field.

These days, business professionals of all kinds, including professionals within the procurement function, deal with significant pressures from above and below as their organisations try to increase their competitiveness by streamlining processes and reducing costs. Every process and activity is being scrutinised to ensure that it makes a positive contribution to the value of the organisation. Procurement professionals may be asked to help establish pricing models, contribute information to business-case analyses, or identify and eliminate Non-Value-Added (NVA) activities within a programme area. Available expertise may not lie in business analysis, and 'Process-mapping' can help.

Finally, procurement professionals will be tasked with procuring products and services that may take the form of a rebuy, a modified rebuy or the procurement of a new product or service. In doing so, procurement professionals need to know what it costs to run a competitive procurement process/event and manage the resulting contract(s). Project managers need to know what it costs to undertake and complete a project. Project management tools and techniques can greatly enhance the ability of procurement professionals to undertake procurement processes/events and help to ensure that these processes/events are carried out in a timely and cost-effective manner.

8.9 REFERENCES

[1] Cavinato J.L. and Kaufman R.G. (eds), Value analysis, In: The purchasing handbook: A guide for the purchasing and supply professional, 6th ed., New York, McGraw-Hill Publishing, 2000, Chapter 24, pp. 585-605.

[2] Lewis J.P., An overview of project management, In: Fundamentals of project management, 10th ed., New York, AMACON, 1997, Chapter 1, pp. 1-3.

[3] Lewis J.P., A general approach to project planning, In: Fundamentals of project management, 10th ed., New York, AMACON, 1997, Chapter 2, pg. 23.

[4] Lewis J.P., Scheduling project work, In: Fundamentals of project management, 10th ed., New York, AMACON, 1997, Chapter 5, pp. 50-58.

[5] Lewis J.P., Scheduling computations, In: Fundamentals of project management, 10th ed., New York, AMACON, 1997, Chapter 6, pg. 60.

AQL	Acceptable Quality Level
BA	Bargaining Arena
BBSDP	Black Business Supplier Development Programme
BDO	Business Development Officer
BEE	Black Economic Empowerment
BMO	Business Membership Organisation
BOQ	Bill of Quantities
CAD	Cash Against Document
CFR	Cost and Freight
CIF	Cost, Insurance and Freight
CIP	Carriage and Insurance Paid
COD	Cash on Delivery
CPM	Critical Path Method
CPT	Carriage Paid To
CRM	Customer Relationship Management
CSR	Corporate Social Responsibility
DAF	Delivered at Frontier
DDP	Delivered Duty Paid
DDU	Delivered Duty Unpaid
DEQ	Delivered Ex Quay
DES	Delivered Ex Ship
DSS	Decision Support Systems
EDI	Electronic Data Interchange
EOQ	Economic Order Quantity
ERM	Employee Relationship Management
ESI	Early Supplier Involvement
FAS	Free Alongside Ship
FCA	Free Carrier
FOB	Free on Board
FPY	First Pass Yield
GEP	Global Engineering and Procurement (process)
JIT	Just-in-Time
KPIs	Key Performance Indicators
LIM	Like, Intend, Must
MRO	Maintenance, Repair and Operating (items)
NVA	Non-Value-Added
OEM	Original Equipment Manufacturer
PERT	Programme Evaluation and Review Technique
PO	Purchase Order
POLC	Planning, Organising, Leading and Controlling
SBU	Strategic Business Unit
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SMME	Small, Medium and Micro Enterprises
S&OP	Sales and Operations Planning (process)
SPI	Supplier Performance Index
SRM	Supplier Relationship Management
TCO	Total Cost of Ownership
TQM	Total Quality Management

Lew Roberts is President and founder of L.Roberts & Associates Inc., a USA based firm that provides professional consulting and management development services, aimed at improving business performance, with an emphasis on the field of supply chain management. His consulting and management development career has included working numerous major firms worldwide. Lew has taught at the Georgia Institute of Technology on the Executive Masters in International Logistics (EMIL) Program and at The National University of Singapore on 'Developing a World Class Supply Chain Management Strategy'. He has written numerous articles and is co-author of a book with Robert Trent.

Robert Trent is the chair of the management department at Lehigh University. He also serves as the co-director of the Center for Value Chain Research and as the supply chain management program director. Prior to his return to academia, Dr Trent worked for the Chrysler Corporation. He has worked on numerous special industry projects and has consulted with or provided training services to over 40 government agencies and corporations and has worked extensively with companies during research visits and projects. He has authored or co-authored dozens of articles and numerous books and textbooks.

Sanjeev Bisnath holds Diplomas in Electrical Engineering (Durban University of Technology), Engineering Business Management (University of Warwick) and Project Management (School of Project Management). He has been responsible for the development of all 13 books in the Power Series and is currently managing several other volumes in the series. He is employed as a Senior Advisor by Innovative Circuit, a section within Eskom R&D. He is a registered Professional Technician with ECSA and a member of the SAIEE.

Pierre Esterhuyzen holds a BComm(Hons)(Business Management) and an LLB from the University of South Africa. His career at Eskom started in the Generation Division at Lethabo Power station where he held various positions in the Maintenance Department before pursuing a career in procurement. He is currently appointed as a Senior Manager in Group Commercial and Technology, Project Sourcing, where he is responsible for overseeing the procurement function of Medupi, Kusile and a number of Return-to-Service/Refurbishment projects of existing Fossil Fuel Power Stations.

ABOUT THE PRODUCTION EDITORS

Thavanthiran (Logan) Pillay holds a BSc in Electrical Engineering from the University of KwaZulu-Natal (UKZN), an MBA degree from Henley Business School and a Project Management Diploma from School of Project Management. His experience includes Leadership and Management Development, Learning and Development, Customer Relationship Management, Strategy Development and Implementation, Innovation and Product Development, Project Management, and Design, Construction and Maintenance of Overhead Power Lines. He is registered as a Professional Engineer with ECSA.

Rochelle Pillay holds a Bachelor of Commerce degree in Marketing and Management, obtained from the University of KwaZulu-Natal. She has worked on the Eskom Power Series for the past two years and was part of the Power Series team that was runner up in the Excellence category of the Managers' Awards.

ABOUT THE PROJECT MANAGER

Kovashni Gordhan holds a B.Social Science (Social Work) Degree and a Diploma in Management Development. She has 20 years of experience in counselling and has extensive knowledge and experience in the welfare and tertiary sector. She has also worked in an employee wellness environment and in her private practice. She presently has her own company, Gordhan Consulting, and works as an independent contractor for various tertiary institutions and companies.

Richard Chinomona holds a PhD in Business Management from the National Central University of Taiwan, an MSc in Economics from the University of Zimbabwe, a Masters of Business Administration from Zimbabwe Open University and a Masters of Public Administration from the University of Fort Hare. Currently, he is an Associate Professor and Head of the Marketing Division at the School of Economics and Business Science at University of the Witwatersrand. He has received numerous academic distinctions, fellowships and awards and has authored or co-authored 45 articles published in DHET accredited journals.

Yusuf Justin Holcraft is a management consultant and business turnaround specialist. From the UK, Yusuf Justin has worked in senior positions throughout Europe for Coca-Cola and Procter & Gamble, and entered the business turnaround field in SA in 2005. In this capacity he has worked with companies in the engineering, services, FMCG and NGO environments. His speciality is a practical approach to business improvement, focusing on delivering against customer requirements while streamlining the internal delivery process. He is a sought-after management facilitator, as well as being a professional musician.

Chengedzai Mafini holds a D.Tech in Business from the Vaal University of Technology (VUT), an MSc in Strategic Management from Chinhoyi University of Technology in Zimbabwe and an Advanced Diploma in Higher Education from the University of the Free State. He has spent the greater part of his academic career at VUT, where he lectures supply chain management courses at both undergraduate and post graduate levels. He has written a number of research articles which have been published in accredited journals; and has presented papers at several national and international academic conferences.

Khathutshelo (Mercy) Makhitha is HOD: Marketing and Retail Management at the University of South Africa, She has worked as a senior lecturer at the Vaal University of Technology and as a lecturer at the University of Johannesburg. She holds a PhD in Marketing Management from the University of Pretoria, MCom Bus Management from the University of Johannesburg, BCom Hons in Business Economics from the University of Witwatersrand and BCom from the University of Venda. She has published on marketing and supply chain related topics in accredited journals and has industry experience in sales and marketing.

Kenneth Mathu is a Senior Lecturer at GIBS, University of Pretoria. His postgraduate degrees include a PhD in management science from VUT and an MBA from Regent Business School. He has in-depth knowledge of sustainable development, energy, environment, supply chain and logistics. He has held senior management positions in sales/marketing/general management with multinationals such as 3M Company, Colgate-Palmolive and Beiersdorf AG in Europe and Africa. He is a published author who has also presented academic papers at various national and international conferences.

David Pooe is Associate Professor in the Department of Business Management at the University of Johannesburg (UJ). Before this he was Associate Professor and HOD in the Department of Logistics at the Vaal University of Technology (VUT). He holds a PhD from Vista University, a Master's degree in Business Management and a second Master's degree in Public and Development Management (with distinction) from Wits University. He has presented his work at local and international conferences and has also published in peer reviewed journals. He has extensive experience in supervising Master's and Doctoral students.

Gary Ralph holds a BSc Hons, PMP Certification from PMI USA and is a Member of PMI USA and SA. He has been appointed a Fellow of the Institute of Management Consultants and certified by the PMI USA as an Organizational Project Management Assessor and Improvement Consultant. He is an independent consultant with experience in the industrial engineering and project management fields and has provided management consulting and training services extensively in these areas. He has provided project management services, training and consulting to clients locally and internationally.

Abandonment: Surrendering the claim to goods (and/or a ship) so damaged during a voyage as to render them worthless to the owners who choose to abandon their rights and interest in these in favour of the underwriter and prefer their claims under the insurance cover. Abandonment is the basis for a claim to be preferred under a policy of marine insurance for constructive total loss.

ABC inventory control: Selective approach in inventory control in which stocked items are classified into Group; % of stock Items; % of stock value. The system suggests that the stock of items in Group A, for example, which accounts for only 10% of the number of items but 70% of the total stock value, should be continually reviewed so as to maintain the minimum necessary level, and reduce holding costs. As a consequence of the lesser value of stocks in the other groups, and the increased complexity of stock control due to the larger number of items, the system proposes that less attention be paid to Groups B and C. See also Inventory control.

Acceptable quality level: System of material inspection based on statistical probability (sampling) theory checking only a certain percentage of the lot delivered, and accepting the lot if the number of defectives in the sample is less than or equal to the acceptable number. See also Inspection lot sampling and Quality control.

Acceptance of goods: The buyer is said to have accepted the goods, works or services supplied by the supplier when he does not reject them, in whole or part, for non-conformance to contract terms and conditions, e.g. quality, delivery schedule, etc. See also Provisional acceptance, Final acceptance.

Acceptance of order: In case the contract is not based on any specific tender/offer made by a tenderer this is the confirmation of the receipt and acceptance of the order to supply goods, works or services as stipulated in the order.

Acceptance of tender (Offer): The assent of the buyer to a tender/offer made by the tenderer. A necessary element of a contract is the unqualified acceptance by the buyer of a tender/offer made by one tenderer. If the buyer amends or adds elements of the tender/offer previously received this leads to a new offer from his side to the tenderer to conclude a contract based on revised or changed terms and conditions. See also Counter offer.

Acknowledgement of contract: A communication by a tenderer advising the buyer of the acceptance of his order. The contract comes into force following the unconditional acceptance of the tender/offer made by the tenderer through the buyer. This acknowledgement is used for information purposes only.

Acquisition cost: The total sum of the procurement costs in order to obtain a contract.

Administered price: Price set by a tenderer in terms of his sales policy or strategy, which may not be the same as the market price determined by the forces of supply and demand.

Administrative lead time: The time interval between identifying the need to buy and placing the contract. See also Lead time and Procurement lead time.

Advance payment: A payment to a supplier in the case of a major infrastructure or an industrial project or long-term arrangement, either to enable the supplier to procure materials for fabrication and to meet his other costs or in token of the sheer ability of the supplier to exert his selling power. In either case, such payments would be as per terms and conditions of contract. Advance payments are to be distinguished from progress payments, which are related to contract performance. Normally advance payments are secured by bonds/guarantees issued by banks on behalf of the supplier. See also Payment, Progress payments, Bond and Warranty.

Advice of shipment: A notice informing the buyer that the goods have been shipped. The notice usually gives details of packing.

Advice note: A communication sent by the supplier to the buyer informing him that the goods are ready for dispatch and await forwarding instructions (in case of ex-works contracts) or shipment instructions (in case of FOB contracts).

Affreightment: A contract for the carriage of goods by a carrier. Charter-parties and Bills of Lading are contracts of affreightment by ship.

Agent: One appointed or authorised by another to act on his behalf. The latter is called the principal. In commercial law the agent is appointed to bring the principal into a legal relationship with third parties.

Aggregation: Adding together the demand of several buyers for same or similar goods or services in order to increase purchasing power and obtain the most advantageous conditions. See also Bulk buying and Economies of scale.

Agreement: An affirmation of mutual understanding or assent between two or more parties. See also Contract and Order.

Airway bill: A document evidencing a contract of carriage between the shipper and the carrier (airline) for carriage of goods. It is (a) Evidence of a contract of carriage; (b) Proof of receipt of goods by the carrier; (c) Customs declaration; (d) Waybill. Possession and presentation of an airway bill does not provide a title for the ownership of the goods shipped. See also Bill of lading and Waybill.

All-or-none bid: A tender/offer submitted for a number of different goods or services in which the tenderer stipulates that the tender/offer is valid only if the contract is awarded for all items included in his tender/offer.

All risks: An insurance policy which covers the insured goods for loss by any unforeseeable cause. The policy does not cover loss due to causes which could have been anticipated and against which preventive steps could have been taken. See also Institute Cargo clauses.

Analysis of tenders/ offers: The tabulation and evaluation of tenders/offers submitted by tenderers and the summary of these to a comparable basis so as to facilitate comparison and enable the buyer to select the best tender/ offer. See also Tender evaluation and Tabulation of tenders/offers.

Appropriate technology: Technology deemed to meet specific requirements of, and operating conditions in, a particular country of location.

Arbitration: A method of settling a dispute between the parties involved in a contract by referring it to one or more neutral persons, selected by the parties, for a decision.

Arrival notice: An intimation sent by the carrier to the consignee advising of the arrival of shipment.

As is: Offer of goods for sale without a warranty or guarantee, and with the stipulation that the buyer takes the goods at his own risk, without any recourse to the tenderer for the quality or condition of goods. Sometimes includes the location as well: 'As is and where is condition'.

Assignment: Refers to transfer of a right on or a title to goods or know-how to another party. For example, title to goods may be transferred by assignment on a bill of lading by the original consignee (referred to as the assignor) to another, the assignee.

Assessor: A person who is appointed or designated to estimate the value of goods for the purpose of apportioning the sum payable in the settlement of an insurance or any other claim.

Award: The action taken by the buyer, after examining and comparing the tenders/offers received, through which it:Selects the tender/offer that is determined to be substantially responsive to the tender documents and is the most advantageous (i.e., the best evaluated bid with respect to the evaluation criteria set up); and Officially notifies the tenderers of the decision as to the award of the contract. It is one of the most important stages of the procurement cycle, since it accomplishes a principal objective, that is, selection of the tenderer which is to carry out the works or services or provision of the goods that were the object of the procurement. In effect, the award completes the contract.

Barter: Trade effected through exchanging one kind of goods for another, without involving money or any financial instrument of exchange.

Basic agreement: An agreement between a buyer and a supplier setting down some of the contract clauses that will be applicable to future procurements over a specified period of time (or till such time as either party seeks renegotiations or annulment of the agreement). Particular procurements are covered by the execution of a specific contract which incorporates, besides other relevant and agreed clauses, those already in the basic agreement. In the context of long-term contracting such basic agreements are sometimes referred to as frame contracts. Often used for recurrent provision of material or services for the same or similar purpose in order to secure a more economic procurement procedure. See also Frame contract, Blanket order and Rate contract.

Bid: A tender/offer by a tenderer in response to an invitation by the buyer, usually following an invitation to tender or a tender notice, quoting his price and setting down his other terms and conditions of supply if those specified by the buyer are not complete in his view or are not acceptable to him. In case of non-acceptance or modification of the terms and conditions of the tender documents, this may be sufficient grounds for rejection of the bid. See also Offer and Tender.

Bid bond: An obligation assured by a third party (usually a bank) whereby it agrees to be liable to pay a specified amount of money in the event that a particular tenderer, if his tender/offer is accepted, fails to sign the contract as per his tender/offer. See also: Bond and Warranty.

Bid deposit: A specified sum of money which a tenderer is asked to deposit with the buyer as a guarantee that the tenderer will, if selected, sign the contract as per his tender/offer. A tenderer who fails to sign the contract forfeits the amount of the deposit.

Bidder: A legal entity interested in providing a proposal within a tendering procedure. The role of the bidder ends with the award of the contract to the successful bidder who in turn becomes the supplier. In professional procurement the word tenderer is used to the same extent. See also Candidate and Tenderer.

Bill of entry: A detailed form or statement filled in by an importer giving information on the nature and value of goods being imported for submission to the customs authorities before goods are cleared for entry into the country.

Bill of lading: A document which is an acknowledgement and a receipt, issued by the master of the ship as agent of the owner, for cargo received on board for shipment. Although not a contract of carriage in itself it serves as evidence of the same. Salient points incorporated in a bill of lading are: The name of the shipper. The ship's name. Full description of cargo (unless it is bulk cargo) including markings, packing numbers, etc., and port of embarkation and of destination. A bill of lading is prepared in sets, usually of three originals. One copy is retained by the master of the ship, another by the shipper (forwarding agent) and the third is sent to the consignee enabling him to take delivery on arrival of goods. See also: Clean bill of lading.

Bill of quantities: A description and a quantitative estimate of all materials and/or other supplies that will be required for a proposed construction project or production of equipment (usually custom designed). Contracts are sometimes concluded on the basis of actual costs and an agreed margin, when the buyer may seek a bill of quantity to estimate the likely cost before concluding the contract and later to make final payment when the project is completed and quantities may be measured exactly or counted when taking over works or goods.

Blanket order: Sometimes referred to as a master contract for reducing the need to enter into fresh contracts for a number of orders, it provides for the buyer to make supplies over a certain period of time and at predetermined prices on the basis of a formula for revising prices. See also Rate contract, Indefinite quantity buying, Frame contract and Basic agreement.

Blueprint: Detailed design and specifications, indicated by a drawing, of the required product.

Bond: A bond usually issued by a bank on behalf of a tenderer or a supplier/contractor as security towards the buyer for the validity and seriousness of a tender/offer, the performance and fulfillment of the contract as well as the validity of guarantees within the terms and conditions agreed upon. Different bonds may be asked for within the life of a procurement cycle: Bid Bond: to guarantee that the tenderer, if selected, will sign the contract. Performance Bond: to guarantee that the supplier will perform as laid down in the contract. Guarantee Bond: to assure the buyer that any defects claimed within the guarantee period of the works and/or materials delivered will be repaired/replaced by the supplier free of charge. See also: Bid bond, Guarantee and Warranty.

Bonded warehouse: Place owned by persons approved by an appropriate government authority and who have given guarantees or bonds for the strict observance of revenue and/or import control laws. Such warehouses are used for the storage and custody of import merchandise, until customs are satisfied that the goods have been imported with the permission of the relevant government authority (e.g., are covered by a proper import licence) and/or the duties are paid or the goods are being reshipped without entry. In many developing countries with strict import regulations in force security and supervision over movements are provided by government. See also: Clearance of goods and In bond.

Brand name: A name or trade mark by which one producer distinguishes his product from those of similar products by other producers in the same industry. A brand name identifies both the product and the producer of the product. See also: Brand name or Equal.

Brand name or equal: A requisition by the user which indicates that his need will be met by a particular (named) brand or products of other producers which have the same physical, chemical, metallurgical and/or other characteristics and will be able to satisfy the required need as effectively and efficiently. In a tender the same phrase is used to describe the product requirement precisely so that prospective tenderers know their goods have to be similar in all respects to the named brand product. This is done to increase competition so that the producer of the particular brand does not exploit his monopoly position. See also: Brand name.

Breach of contract: A failure of the supplier or the buyer, without a legally defensible excuse, to carry out his part of the duties and obligations as implied by the terms and conditions of a contract. See also: Default.

Buffer stock: A certain quantity of a material held in stock to meet any unforeseen supply delays or disruptions of scheduled deliveries, increase in prices and/or unexpected up-surge in demand.

Bulk buying: The system of aggregating total requirements (generally of all users) of a product or service for a single purchase order or a series of orders for large quantities which would not have been possible if demand was met on a fragmented basis. Bulk buying is advantageous for getting favourable terms from tenderers as well as in effecting other economies. See also Aggregation and Economies of Scale.

Buy back: A counter-trade arrangement whereby a supplier of plant, equipment and/or technology agrees to accept part or full payment for supplies, in terms of the goods to be produced with the help of these facilities. Also referred to as compensation trade.

Buyer: The legal entity requesting and buying goods, works or services through contracts and, in most cases, in return paying for these.

Buyer's option: The right of a buyer to modify within a specified period of time any one or more of the terms of contract as agreed in advance, e.g., to increase or decrease the quantity indicated in a purchase contract by a specified percentage. Buyer's option may be open on other terms and conditions in the contract, if so provided, e.g. port of discharge, delivery lot, size or time, etc. See also Contract modification and Supplier's option.

Buyer's market: A buyer's market is said to exist when supply exceeds demand, so that goods are readily available with the result that the buyer can exert some pressure on prices and drive good bargains.

Candidate: A physical or juridical person invited to take part in public procurement or seeking to be so invited. See also Bidder and Tenderer.

Carriage and insurance paid: Incoterm 'Carriage and Insurance Paid to' means that the supplier has the same obligations as under CPT but with the addition that the supplier has to procure cargo insurance against the buyer's risk of loss of or damage to the goods during the carriage. The supplier contracts for insurance and pays the insurance premium. The buyer should note that under the CIP term the supplier is only required to obtain insurance on minimum terms. The CIP term requires the supplier to clear the goods for export. This term may be used for any mode of transport including multimodal transport. See also: Incoterms.

Carriage paid to: Incoterm 'Carriage paid to' means that the supplier pays the freight for the carriage of the goods to the named destination. The risk of loss of or damage to the goods, as well as any additional costs due to events occurring after the time the goods have been delivered to the carrier, is transferred from the supplier to the buyer when the goods have been delivered into the custody of the carrier. The CPT term requires the supplier to clear the goods for export. This term may be used for any mode of transport including multimodal transport. See also Incoterms.

Carrier: A person or a firm who contracts to carry goods by any method of transport.

Cartel: An organisation or group of organisations that colludes to determine the quantities and/or prices of goods or services to be provided by each of its members.

Cash against documents: Incoterm 'Cash against documents' means that the documents which will enable a consignee to get delivery of his goods (such as a bill of lading) are handed over to him only when he has paid for the goods. In international trade, when the contract stipulates that payment be made before goods are released, the commercial practice is to send the bill of lading and/or other documents to a bank (located in the consignee's country) with instructions to release the documents only when payment has been made. See also: Incoterms.

Cash discount: Reduction, usually expressed as a percentage of the price of a product or of the amount of a bill, if payment is made in cash or promptly or within a specified period of time. See also Discount, Quantity discount, Concealed discount and Trade discount.

Cash on delivery: The expression stipulates that payment is to be made upon delivery of goods. In other words, the carrier will not release goods unless there is evidence that payment has been effected or else the payment is made to the carrier at the time of delivery, e.g., to the post office when collecting the consignment. See also Payment.

Cash with order: A purchase agreement which requires that payment be remitted along with the order (100% advance payment). Very often the advance payment is secured by a bond. See also Advance payment and Payment.

Caveat emptor: A legal expression which means 'Let the buyer beware'. For a contract for the sale of goods it implies that the buyer must satisfy himself about all aspects of them before he buys the goods, there being no provision under common law for implied warranty as to the suitability of the goods for any specific purpose.

Certificate of compliance: Supplier's written certification that goods being supplied are in conformity with those specified in the contract.

Certificate of conformity: A document attesting that a product or a service is in conformity with specific standards or technical specifications.

Certificate of damage: A printed document issued by dock companies in regard to goods found to be in a damaged condition on being unloaded from a ship.

Certificate of inspection: A testimony of the findings of an authorised inspection agency on the quality of the goods based on the specification laid down in the respective contract document. See also Inspection and Technical specification.

Certificate of origin: A document indicating the country of origin of goods being imported. It is usually issued by exporting countries, official authorities or by other agencies (e.g. chambers of commerce) designated by the governments.

Certificate of quality: A certificate issued by a supplier to the effect that the goods being supplied conform to the quality specifications agreed to in the contract. The certificate forms part of the invoice and other documents sent by the supplier to the buyer. See also Express warranty, Self-certification and Technical specification.

Certification body: An impartial body, governmental or non-governmental, possessing the necessary competence and reliability to operate a certification system, and in which the interests of all parties concerned with the functioning of the system are represented. See also Quality Certification System.

CFR: See Cost and Freight.

Change order: A written request by the buyer or the supplier indicating changes in his requirements compared to those specified in the contract. May involve renegotiation of the contract except when this contains a change clause that provides for options in regard to scope of work, quantity or quality of goods or delivery schedule. See also Buyer's option.

Characteristics: A quality characteristic of a material or product as to its physical, chemical or metallurgical property or performance index that is measurable or at least observable. See also Technical specification.

Charter: The mercantile lease of hire of a carrier such as a vessel, aircraft, etc., for carriage of cargo on terms and conditions specified in an agreement (called charter-party when an ocean going vessel is involved).

CIF: See Cost, Insurance and Freight.

CIP: See Carriage and Insurance paid to.

Clean bill of lading: A bill of lading that does not carry any remarks to indicate that goods received were not in apparent good order and condition. If the goods or packages are damaged or defective the master of the ship will put an endorsement to this effect on the bill of lading. See also Bill of lading.

Clearance of goods: The procedures involved in clearing the goods received from abroad through customs. See also Bonded warehouse and In bond.

Collusive tenders/ offers: Tenders/offers by two or more tenderers who have joined together to circumvent the intention of the buyer to secure competitiveness by submitting tenders/offers, the terms and conditions of which are decided jointly (and are therefore known to each) even when these are submitted separately. See also Competitive tendering.

Commodity exchange: Specialised markets in which titles to ownership of commodities are freely traded. Physical exchange of commodities in general does not take place, although samples of these may be examined. Many of the well organised exchanges now provide for spot and futures trading. Tenders/offers for these commodities might not show prices, but only the percentage of the surplus asked for by the tenderer on top of the market price fixed on the day the contract comes into effect. See also Futures and Spot purchase.

Common-use item: Material that is often used by a number of users and fulfills certain standards set up. The term is generally used in the context of government procurement of such items as stationery, vehicles, typewriters, and other office equipment, machines or accessories.

Compatibility: The suitability of products or systems to be used together under specified conditions to fulfil the relevant requirements without causing unacceptable interactions.

Compensation trade: See Buy back.

Competitive tendering: If responsive tenders were received by the buyer in response to an invitation to tender where the tender is global (open to everyone) or is restricted (open to a selected number of tenderers) and where there is no evidence that the tenderers have had a secret understanding. See also Collusive Tenders/offers, Bid, Offer and Tender.

Composite price index: Weighted price indices for major inputs entering into the composition of a finished item of procurement. Sometimes incorporated and made use of in a contract as a basis for price revision. See also Price revision.

Concealed damage: Damage that is not apparent at the time of delivery and which may be discovered only after a package has been opened and the contents examined.

Concealed discount: A discount not in the form of a straight percentage deduction on list price but in some other form with the same effect on the net price, e.g. 90 days credit (i.e., payment to be made after 90 days of delivery). See also Cash discount, Quantity discount and Trade discount.

Confirmed letter of credit: A letter of credit in which the negotiating bank guarantees payment to the beneficiary after all conditions mentioned therein are fulfilled. See also Letter of credit.

Conflict of interest: A situation where personal or business interests of a party could affect the outcome of a business transaction through the non-declaration of that interest. For example, tenderers should never be involved in the preparation of tender invitation documents or evaluation of the same tender.

Consignee: A person or a firm to whom the goods are shipped by the supplier. The consignee may be the buyer of the goods, an agent of the supplier (if the goods are intended to be stocked for eventual sale), etc. The consignee referred to in a bill of lading is, therefore, entitled to take delivery of goods on arrival.

Consignment: Goods shipped to a consignee in terms of a sales contract or for future sale or other purpose (in the latter cases the title usually remains with the shipper/consignor).

Consist: A complete (itemised) list (one for each wagon) of goods carried by a train; consist is similar to a manifest for goods shipped by a vessel.

Consular invoice: An invoice made out by the shipper in the presence of a consular representative of the importer's country and/or to be attested by him giving information as to consignor, consignee value, description, etc., of a shipment being imported. The object is to ensure that goods are not banned and facilitate imposition of import duties.

Consultant: Phrase used for a company or an individual selling advisory services.

Consumable material: See Expendable material

Container: A generic term used to describe any form of pack or receptacle containing goods, liquid or solid. However, in the context of marine transportation of goods it refers to special or specific types of steel receptacle. For facilitating their use universally the International Organisation for Standardisation (ISO) has laid down their dimensional standards.

Content note: A statement attached to a package, listing the items enclosed in that particular package.

Contract: An agreement, enforceable by law, between two or more competent parties (legal entities) to perform or not to perform a specific act or acts for a consideration. A contract may be verbal or written. An offer released by a party becomes a contract when accepted by the other party. Acceptance may be either in writing or by performance, unless the purchase order requires acceptance thereof to be in writing, in which case it must be thus accepted. Contracts financed with public funds are made up in writing. See also Agreement and Order.

Contract, cost-plus-a-fixed-fee: A contract which provides for reimbursement of cost of materials used in fabrication of equipment and/or construction of plant and/or specific costs of services (for example travel costs) on an actual basis plus a fixed (amount) fee for the supplier, the fee bearing no relationship to the cost of materials or services.

Contract, cost-plus-a-percentage-of-cost: A contract in which a fee is set at a specified percentage of the supplier's actual cost of accomplishing the work.

Contract, cost-plus-incentive-fee: A cost reimbursement type of contract for construction of a turnkey project where the supplier's fee is linked to the actual costs in relation to the estimated or the target cost so that there is an incentive for the supplier to achieve cost reduction.

Contract documents: A set of documents that conveys the contract between the buyer and the supplier in such a way as to minimise misunderstanding. It could include: The instrument of the contract – the actual document signed by both parties. General conditions of contract. Special conditions of contract. Specifications/terms of reference/drawings/ bills of quantities/timetables/schedules of rates/terms of delivery etc., copies of any relevant meeting minutes or letters that have been exchanged. Curricula vitae of staff selected to carry out the activities. Specimen of bonds. See also Contract.

Contract fixed price: A contract that provides for a fixed price not subject to any adjustment on account of cost increases that a supplier may experience in the course of execution of the contract.

Contract, fixed price with revision: A variation of a fixed price type of contract which provides for the upward or downward changes in prices of specified materials and/ or of labour costs.

Contract modification: Any change in the provision of any one or more of the terms and conditions of a contract, proposed by one party and carried out with the agreement of the other party. Legally a modification in a contract amounts to agreeing to a new contract unless the intended modifications are provided for in the contract, e.g., plus/minus option on quantities, lot sizes, etc. See also Buyer's option and Supplier's option.

Contract period: An arrangement for the supply of goods or services established for a fixed period of time.

Contract scheduling: A systems approach to help monitor contract implementation. Particularly useful for contracts for large projects where different activities have to be carried out in a sequence within a time frame and where delay in the completion of one segment of a project is likely to delay the execution of the whole project. See also Expedite and Follow-up.

Contractor: A phrase often used for a company carrying out construction works. Sometimes used in a more general way for all types of suppliers of goods, works or services.

Contractor, prime: In a large project contract involving supply of materials, machinery, equipment, construction works etc., a buyer may prefer to appoint a prime contractor who may sub-contract parts of supplies, or fabrication of machinery to other sub-contractors, with overall responsibility for project execution remaining with the prime contractor. See also Contractor.

Cost estimate: A cost estimate prepared by the buyer for goods, works or services which provides a benchmark or a basis for evaluation and/or negotiation when tenders/offers are received from tenderers. It also serves as an instrument of project planning and budgeting.

Cost and freight (CFR): Incoterm 'Cost and Freight' means that the supplier must pay the costs and freight necessary to bring the goods to the named port of destination but the risk of loss or damage to the goods, as well as any additional costs due to events occurring after the time the goods have been delivered on board the vessel, is transferred from the supplier to the buyer when the goods pass the ship's rail in the port of shipment. The CFR term requires the supplier to clear the goods for export. This term can only be used for sea and inland waterway transport. When the ship's rail serves no practical purpose, such as in the case of roll-on/roll-off or container traffic, the CPT term is more appropriate to use. See also Incoterms.

Cost, insurance and freight: Incoterm 'Cost, Insurance and Freight' means that the supplier has the same obligations as under CFR but with the addition that he has to procure marine insurance against the buyer's risk of loss or damage to the goods during the carriage. The supplier contracts for insurance and pays the insurance premium. The buyer should note that under the CIF term the supplier is only required to obtain insurance on minimum coverage. The CIF term requires the supplier to clear the goods for export. This term can only be used for sea and inland waterway transport. When the ship's rail serves no practical purposes such as in the case of roll-on/roll-off or container traffic, the CIP term is more appropriate to use. See also Incoterms.

Counter offer: The acceptance of a tenderer's offer by the buyer but with a modification in one of more terms and conditions of offer. In legal terms it amounts to a new proposal to the tenderer which will be construed as a contract only if he accepts the revised proposal of the buyer without any qualifications. See also Acceptance of tender/offer.

CPT: See Carriage Paid To.

Customs clearance: See Clearance of goods.

Customs duties: Taxes levied upon goods on entry into (import duties) or exit from (export duties) the country. See also Customs tariff and Import duties.

Customs tariff: Schedules or rates of customs duties laid down for different goods imported or exported from the country. Schedules of duties for imports and exports are usually issued separately or as two sections in the same document. See also Customs duties.

DAF: See Delivered at Frontier.

Dangerous/Hazardous goods: Any cargo which under normal conditions of transportation can pose an unreasonable risk to health and safely of crew, other cargo and the ship, aircraft, etc. This includes goods classified as explosive, flammable, corrosive, combustible, oxidative, poisonous, compressed gases, toxics, unduly magnetised, biologicals and radiologicals, and substances associated therewith.

DDP: See Delivered Duty Paid.

DDU: See Delivered Duty Unpaid.

Dead storage: Goods stored which are not likely to be used for a long period of time.

Default: Failure of a supplier or a buyer to comply with any one or more of the terms and conditions of a contract: See also Breach of contract.

Deficient material: Material found to be not conforming to the specifications as to design and quality and, therefore, not fit for the intended use. See also: Technical Specification.

Delivered at frontier: Incoterm 'Delivered at Frontier' means that the supplier fulfills his obligation to deliver when the goods have been made available, cleared for export, at the named point and place at the frontier, but before the customs border of the adjoining country. The term "frontier" may be used for any frontier including that of the country of export. Therefore, it is of vital importance that the frontier in question be defined precisely by always naming the point and place in the term. The term is primarily intended to be used when goods are to be carried by rail or road, but it may be used for any mode of transport. See also Incoterms.

Delivered Duty Paid: Incoterm 'Delivered Duty Paid' means that the supplier fulfills his obligation to deliver when the goods have been made available at the named place in the country of importation. The supplier has to bear the risks and costs, including duties, taxes and other charges of delivering the goods thereto, cleared for importation. While the EXW term represents the minimum obligation for the supplier DDP represents the maximum obligation. This term should not be used if the supplier is unable directly or indirectly to obtain the import licence. If the parties wish the buyer to clear the goods for importation and to pay the duty, the term DDU should be used. If the parties wish to exclude from the supplier's obligations some of the costs payable upon importation of the goods, such as Value Added Tax (VAT), this should be made clear by adding words to this effect: 'Delivered duty paid, VAT unpaid (...name of destination)'. This term may be used irrespective of the mode of transport. See also Incoterms.

Delivered Duty Unpaid: 'Delivered Duty Unpaid' means that the supplier fulfills his obligation to deliver when the goods have been made available at the named place in the country of importation. The supplier has to bear the costs and risks involved in bringing the goods thereto (excluding duties, taxes and other official charges payable upon importation as well as the costs and risks of carrying out customs formalities). The buyer has to pay any additional costs and bear any risks caused by his failure to clear the goods for import in time. If the parties wish the supplier to carry out customs formalities and bear the costs and risks resulting therefrom, this has to be made clear by adding words to this effect. If the parties wish to include in the supplier's obligations some of the costs payable upon importation of the goods, such as VAT, this should be made clear by adding words to this effect: 'Delivered duty unpaid, VAT paid, (... name of destination)'. This term may be used irrespective of the mode of transport. See also Incoterms.

Delivered ex quay (duty paid): This incoterm means that the supplier fulfills his obligation to deliver when he has made the goods available to the buyer on the quay (wharf) at the named port of destination, cleared for importation. The supplier has to bear all risks and costs including duties, taxes and other charges of delivering the goods thereto. This term should not be used if the supplier is unable directly or indirectly to obtain the import licence. If the parties wish the buyer to clear the goods for importation and pay the duty the words 'duty unpaid' should be used instead of 'duty paid'. If the parties wish to exclude from the supplier's obligations some of the costs payable upon importation of the goods, such as VAT, this should be made clear by adding words to this effect: 'Delivered ex quay, VAT unpaid (...named port of destination)'. This term can only be used for sea or inland waterway transport. See also Incoterms.

Delivered ex ship: This incoterm means that the supplier fulfills his obligation to deliver when the goods have been made available to the buyer on board the ship uncleared for import at the named port of destination. The supplier has to bear all the costs and risks involved in bringing the goods to the named port of destination. This term can only be used for sea or inland waterway transport. See also Incoterms.

Delivery: Transfer of physical possession of goods from the carrier to the consignee. This term is primarily intended to be used when goods are to be carried by rail or road but it may be used irrespective of the mode of transport.

Delivery schedule: The date and/or the rate of delivery of the goods or works or services by the supplier to the buyer as incorporated in a contract.

Delivery terms: Conditions specified in a sale/purchase contract as to delivery schedule and methods of transportation. See also Delivery schedule and Incoterms.

Demurrage: A penalty imposed by a vessel owner or carrier on a consignee/ consignor for delays in loading/unloading of cargo beyond the time specified in the charter-party. Demurrage charges may be also claimed for storage or use of shipper's owned containers beyond a specified period. See also Detention, Free time and Lay days.

DEQ: See Delivered Ex Quay.

DES: See Delivered Ex Ship.

Design specifications: Specifications which indicate the essential characteristics which a product to be fabricated and supplied should possess. These have to be as detailed as possible, illustrated with drawings where necessary, so as to enable the tenderers to know precisely what the buyer's needs are. On the other side they should leave enough room for a competition between the makes of several tenderers to secure as much competition (also quality competition) as possible. See also Specification and Technical specification.

Destination: The port or place to which goods are shipped for delivery.

Destination inspection: Inspection by the buyer or his agents of goods on receipt at destination to assess whether the goods conform to the specifications laid down in the purchase contract.

Detention: An owner of a vessel which is delayed beyond the period specified for demurrage in a charter-party can claim unlimited damages for any further delays called 'detention'. See also demurrage.

Development costs: Supplier's expenses in development of a design or a prototype to help the buyer decide whether the product conforming to this would meet his intended use. As part of a two-stage tendering procedure these costs will not be reimbursed by the buyer.

Direct contracting: Selection of a supplier without obtaining tenders/offers from tenderers. Used for small purchase values or in case of extreme urgency.

Discount: Price deduction granted by the supplier to the buyer, usually when certain stipulated conditions are met by the buyer such as prompt payment, bulk order quantity, etc. Discounts are also granted by a supplier on nominal list prices which may vary from one buyer to another because of either order size, payment terms, relationship or as an element of marketing strategy of the supplier. See also Cash discount, Quantity discount, Concealed discount, List price, Price discrimination and Trade discount.

Discrepancy report: Report indicating that the delivered goods were unsatisfactory for any reason or that the goods (their number, packages, etc.) did not correspond with those indicated in various shipping documents. e.g., the invoice.

Draft contract: A contract specimen filled in and signed by the tenderer and submitted to the buyer as part of his tender. See also Bid, Offer and Tender.

Earnest money: A sum of money given by one contracting party to another on entering into the contract, to be forfeited by the giver if he fails to carry out his obligations under the contract. See also Bond.

Economic analysis: Economic evaluation of offers, particularly in case of capital equipment of high value, where different tenderers may offer different payment and/or financing terms with an impact on the total cost of acquisition. Also refers to evaluation of when and how much to buy, taking into account the level of inventories, the likely demand, ordering and holding costs, as well as the present and the likely international market situation.

Economic order quantity: That order quantity which gives lowest total variable costs, including costs of both procurement and stock holding. See also Inventory control.

Economies of scale: A concept that, when procuring goods or services, examines the effect of combining like requirements to increase the scale of procurement, thereby providing greater leverage in achieving maximum value for money when getting tenders/offers from tenderers. See also Aggregation and Bulk buying.

Eligibility: Special requirements set up for tenderers. If not met, the tenderers will not be allowed to tender or their tenders/offers already submitted will be rejected. Requirements can be the nationality of the tenderer, presentation of a specific business licence, etc.

Emergency purchase: Procurement necessitated to meet a requirement which could not be anticipated and provided for in advance by the buyer; e.g. break-down of equipment and replacement of a part, natural disasters.

Enquiry: An invitation from a buyer to tenderers to submit their price quotes and other terms and conditions for supply of a product (or products) as specified. See also tender.

EOQ: See Economic Order Quantity.

Equipment: See Goods.

Escalation: See Price revision.

Escalation or escalator clause: See Price revision.

Expedite: Action taken, or to be taken, to ensure that the work of fabrication, construction, supply etc. is proceeding according to schedule and that the supplier will be able to deliver the product or complete the project as per delivery or completion date mentioned in the contract. In large-scale projects where activities are interdependent and certain activities have to precede others, delays by one contractor or subcontractor can disrupt the implementation schedule of the project. Expediting in such cases is of special importance. See also Contract scheduling and Follow-up.

Expendable material: Items that are consumed in use and that do not ordinarily retain their original features during the period of use, e.g., paper, fertilisers, etc.

Export credit guarantee: A guarantee issued by a financial institution, specially set up for this purpose, on the basis of which an exporter can seek pre/post-shipment credit from a banking institution.

Express warranty: A written affirmation by a supplier to a buyer that the goods are of the same quality and the requisite performance standard as in the contract. An express warranty does not exclude implied warranty. See also Certificate of quality, Self-certification and Technical specification.

Expression of interest: A note received from a tenderer, usually in response to a public advertisement, invitation to tender or prequalification, for the supply of specific goods, works or services. The note confirms the interest of the tenderer in making an offer to supply the goods, works or services.

Ex works (EXW): Incoterm 'Ex works' means that the supplier fulfills his obligation to deliver when he has made the goods available at his premises (i.e., works, factory, warehouse, etc.) to the buyer. In particular, he is not responsible for loading the goods on the vehicle provided by the buyer or for clearing the goods for export, unless otherwise agreed. The buyer bears all costs and risks involved in taking the goods from the supplier's premises to the desired destination. This term thus represents the minimum obligation for the supplier. This term should not be used when the buyer cannot carry out directly or indirectly the export formalities. In such circumstances, the FCA term should be used. See also Incoterms.

FAS: See Free Alongside Ship.

FCA: See Free Carrier.

Final acceptance: The buyer grants technical acceptance upon expiry of the guarantee period provided the supplier has met all his obligations. For items replaced, repaired or modified, the guarantee period shall be prolonged by a period equal to that during which they are unavailable. See also Acceptance and Provisional Acceptance.

Firm tender/offer: A definite price proposal as differentiated from an estimated cost tender/offer. It binds the tenderer for the validity time of his tender/offer. See also tender.

Fixed price contract: See Contract, Firm/fixed price.

FOB: See Free On Board.

Follow-up: In procurement, to monitor the implementation of the contract and to take necessary action if warranted. See also Contract Scheduling and Expedite.

Force majeure: A contract term which implies circumstances beyond one's control, the occurrence of which can be pleaded as a legal excuse for non-fulfillment of contract. Previously the term referred largely to Acts of God (earthquakes, floods, etc.) However, the term is now used somewhat more flexibly to include government decrees, edicts, strikes, etc. To avoid problems of interpretation, in the event of a dispute, it will be helpful if the buyer and the supplier can agree at the contract stage itself to define what circumstances will constitute force majeure.

Forward purchasing: Purchasing of quantities in excess of immediate requirements, a procurement strategy which may be adopted when indications are that the supplies in the international market may become short and/or when prices are expected to rise sharply. See also Economies of scale.

Forwarder, freight: A person or a firm engaged in the business of collecting goods, arranging for their transportation from the factory or warehouse for delivery at the port of shipment, arranging for customs clearance and booking freight for shipment to the port of destination as the agent of the supplier or the buyer (depending on the terms of contract).

Frame contract: See Basic agreement, Blanket order and Rate contract.

Free alongside ship: Incoterm 'free alongside ship' means that the supplier fulfills his obligation to deliver when the goods have been placed alongside the vessel on the quay or in lighters at the named port of shipment. This means that the buyer has to bear all costs and risks of loss or damage to the goods from that moment. The FAS term requires the buyer to clear the goods for export. It should not be used when the buyer cannot carry out the export formalities directly or indirectly. This term can only be used for sea or inland waterway transport. See also Incoterms.

Free carrier: Incoterm 'free carrier' means that the supplier fulfills his obligation to deliver when he has handed over the goods, cleared for export, into the charge of the carrier named by the buyer at the named place or point. If no precise point is indicated by the buyer the supplier may choose within the place or range stipulated where the carrier shall take the goods into his charge. When, according to commercial practice, the supplier's assistance is required in making the contract with the carrier (such as in rail or air transport) the supplier may act at the buyer's risk and expense. This term may be used for any mode of transport, including multi-modal transport. If the buyer instructs the supplier to deliver the cargo to a person, e.g., a freight forwarder who is not a carrier, the supplier is deemed to have fulfilled his obligation to deliver the goods when they are in the custody of that person. Transport terminal means a railway terminal, a freight station, a container terminal or yard, a multi-purpose cargo terminal or any similar receiving point. See also Incoterms.

Free On Board (FOB): Incoterm 'free on board' means that the supplier fulfills his obligation to deliver when the goods have passed over the ship's rail at the named port of shipment. This means that the buyer has to bear all costs and risks of loss of, or damage to, the goods from that point. The FOB term requires the supplier to clear the goods for export. This term can only be used for sea or inland waterway transport. When the ship's rail serves no practical purpose, such as in the case of roll-on/roll-off or container traffic, the FCA term is more appropriate to use. See also Incoterms.

Free time: The period allowed to load or unload transportation equipment before demurrage or storage charges begin to accrue. See also Demurrage, Detention and Lay days.

Freight at destination: A provision in a contract of affreightment stating that the freight charges will be paid by the consignee upon the arrival of goods at the specified destination.

Freight forwarder: See Forwarder and Freight.

Fungible goods: Goods of which any one unit is similar to other units or where the qualities marketed by various producers are treated as equivalent or nearly similar, e.g., grains.

Futures: Contracts for the sale and purchase of commodities (or securities, currencies, etc.) for future delivery. In futures trading, commodities are not intended to be delivered physically (although this is not ruled out); instead, price differences are settled. Thus, if a supplier had agreed to deliver x tons of copper to the buyer at £900 per ton after 90 days and the actual price after that period is £800, the buyer pays to the supplier a difference of £100 per ton. See also Commodity exchange, Hedging and Spot purchase.

Gross weight: The weight of a package/article in a consignment including that of its container and other packaging material.

Goods: Physical products manufactured and sold on markets. See also Goods, Objects of procurement.

Guarantee: A surety by which one person undertakes to be answerable to another for the performance of some act by a third person. Usually guarantees are issued by banks. See also Bond and Warranty.

Hedging: Act of purchasing made by a buyer to protect himself against the effect of price fluctuations over which he has no control and over which he does not wish to speculate. A basic principle of a price hedge is to take an equal but opposite position on the futures market to the physical delivery position. See also Futures.

Identical bid: An offer from a tenderer in response to an invitation to tender which is similar in all respects to another submitted by another tenderer.

If unsold: A conditional offer made by a tenderer to supply the goods if these are not sold elsewhere between the time of the tender/offer made and the award of the contract.

Import duties: Taxes imposed by governments on imports of goods from abroad. The duties are levied to (a) raise revenues and/or to (b) provide protection to domestic industry. See also Customs duties.

Import licence: A permit granted, usually by a designated government authority, which authorises the holder to import the particular article indicated in the permit. The permit may also indicate the quantity and/or the value limit of import, and at times the country or the geographical region/monetary area from which imports may be made.

Import restrictions: Direct regulation of the quantity or types of goods imported into a country, largely through licences or quotas.

In bond: Goods on which import duty has not been paid are held in warehouses supervised by Customs officials until the duty is paid or goods are re-exported, or otherwise dealt with as directed by the authorities. See also Bonded warehouse and Clearance of goods.

Incoterms: A set of trade terms (13 in number) for which precise definitions have been set down by the International Chamber of Commerce (Paris) and which, when used in a contract, clearly indicate the rights and obligations of the buyer and the supplier. The terms have been grouped in four different categories The only term whereby the supplier makes the goods available to the buyer at the supplier's own premises (the 'E'-term Ex works). The second group whereby the supplier is called upon to deliver the goods to a carrier appointed by the buyer (the 'F'-TERMS FCA, FAS and FOB); The 'C'-terms where the supplier has to contract for carriage, but without assuming the risk of loss or damage to the goods or additional costs due to events occurring after shipment and despatch (CFR, CIF, CPT and CIP). The 'D'-terms whereby the supplier has to bear all costs and risks needed to bring the goods to the place of destination (DAF, DES, DDU and DDP). See also CFR, CPT, CIF, CIP, DAF, DES, DEQ, DDU, DDP, EXW, FCA, FAS and FOB.

Indefinite quantity buying: See Blanket order, Agreement, Frame Contract and Rate contract.

Indemnity: An undertaking which affords protection against loss or damage. Cargo insurance is an indemnity in as much as in the event of loss or damage the insurance company indemnifies (makes good) the loss to the consignees or consignor.

Ineligible bidder: A tenderer who may have been disqualified to tender/offer for any one of such reasons as unsatisfactory past performance, attempts at influencing awards, or inability to meet the pre-qualification standards for inclusion in the list of approved tenders (holding the requested business licence, nationality, ...), or for any valid reason.

Informal solicitation: A process of obtaining offers (oral or written) from a selected number of tenderers or a single one without the formal procedure of issuing invitations to tender and inviting tenders/offers within a specified time. Often used to validate planning results. Tenderers should be informed in advance that their offer will not result in the conclusion of any contract.

Inspection: A survey carried out by a buyer or his agent to determine whether the goods or services conform to the specifications or terms of reference laid down in the contract. This inspection may be carried out while goods are in the process of manufacture, before shipment or after shipment as well as throughout the implementation of a project. It includes the process of measuring, examining, testing, gauging or otherwise comparing activities and results with applicable requirements as specified in the contract.

Inspection lot-sampling: Where the number of items is large, and 100% inspection would be time consuming, inspection is carried out by taking a sample from a lot and accepting or rejecting the lot depending on the number of defects in the sample being less or greater than the acceptable number. For services a similar activity can be carried out, focusing on milestones identified for the particular project. See also Acceptable Quality Level (AQL) and Quality control.

Institute cargo clauses: Standard insurance terms and conditions for policies covering goods in transit overseas. The Institute clauses are drafted by the Technical and Clauses Committee whose members are drawn from the insurance companies and Lloyds. Details are available with insurance companies.

Insured value: The monetary value of the insured property as shown in the policy plus insurance charges. To cover renewed acquisition and other costs involved with the loss of material often 110% of the value is insured as a standard international practice.

Intellectual property: Property of a non-physical nature capable of being transferred from one party to another.

Interchangeability: The suitability of a product(s) to be used in place of another products(s) to fulfil the relevant requirements. The functional aspect of interchangeability is called ‘functional interchangeability’ and the dimensional aspect, ‘dimensional interchangeability’.

International Competitive Bidding (ICB): The procurement procedure where tendering is open to all local or international legal entities interested to submit a tender.

Inventory: A complete list or statement of the stock of all materials, parts, components, work-in-progress and/or finished goods in possession of an organisation at a point in time. For stock control purposes, particularly of raw materials, an enumeration of goods received, issues effected and balance at hand is done on a day to day basis or at period intervals, as part of efficient inventory and stores management. For balance sheet purposes the usual approach is to take stock of inventories and evaluate them at the end of an accounting year. However, the practice of a perpetual inventory system, indicating day to day changes, is now used more and more for better financial control. See also stock.

Inventory carrying costs: Monetary cost of holding stocks. These consist of:

(a) Interest on blocked capital.
(b) Cost of handling the materials.
(c) Storage or warehousing costs.
(d) Premium on insurance (for theft, fire, etc.).
(e) Deterioration.
(f) Obsolescence.

Inventory control: A functional aspect of inventory management, which seeks to ensure that stocks of raw materials, parts and components are at an optimal level that is neither too low in relation to expected usage, not so high as to increase avoidable holding costs. See also ABC inventory control, Economic order quantity (EOQ), Order point control.

Joint tender: A tender/offer submitted by a group of companies and/or individuals which have formed a grouping (consortium) to tender for and (if awarded) implement a specific project. One lead company has to represent and act on behalf of all other members of the consortium towards the buyer. Nevertheless each member of the consortium remains jointly and severally liable for the fulfillment of the tender and implementation of the contract.

Knocked Down (CKD): Articles when procured as parts and in unassembled form are referred to as in knocked down condition.

Late bid: A tender/offer received after the closing time and date indicated in the tender issued. In most cases returned unopened to the tenderer.

Latent defect: A defect in a product that is normally difficult to notice visually or through ordinary and reasonable inspection and which becomes apparent in the course of its use.

Lay days: The number of days during which a vessel may load or unload without involving demurrage. The days may be counted as running days (including weekends and other holidays), as working days (excluding Sundays and other holidays), or as weather working days, the days on which weather permits loading/unloading. See also Free time, demurrage and detention.

Lead time: The period of time from date of placing the order with a supplier to the date by which the goods are delivered by him and received by the buyer. In inventory management, one has to allow for reasonable lead time (based on experience) so that orders are placed well ahead of requirements, providing for the delivery time as well as the time for haulage of the goods to the buyer's warehouse, so as to avoid the possible of a stock out. See also Economic order quantity.

Letter of credit: An order from a banker (or other person) at one place to his agent abroad (a foreign bank) authorising him to pay a given sum to the person or company named therein. Commercial letters of credit are extensively used as means of overseas payments. This requires the buyer to request his banker to open a letter or credit for a specified amount favouring the supplier and negotiable by a supplier's bank in his country. The buyer indicates in the application to the opening bank the conditions which should be fulfilled by the supplier (e.g., submission of bill of lading and other documentation) and upon the fulfillment of which the negotiating bank should release the money. See also Confirmed letter of credit.

Letter of indemnity: A letter issued by the supplier to the effect that he will be responsible for losses or damage arising from faulty packaging or any other stipulated reason.

Letter of intent: A preliminary quasi-contractual arrangement by letter customarily used in circumstances where the goods, works or services, quantities, price and delivery dates are known, but where principal contract provisions may require additional time-consuming negotiations. Used to enter into interim agreement pending a definite contract so as to permit the start of services, construction, production, or delivery of supplies or materials.

Licencing: The word is used in many different contexts. Essentially it means a document giving rights to a person or a firm which it would not otherwise have. In business it may mean a legal arrangement transferring the rights to manufacture, or to market, a product or service to another. Such an arrangement is usually formalised by a document. There might be a consideration, perhaps in the form of a regular fee, or of a commission or royalty. In many countries, licencing is used as a method of deciding who should sell what. See also Import licence.

Lien: A right by which one person, usually a creditor, has to retain possession of the goods of another until such time as the owner of the goods clears his liabilities. A common instance of a lien is the right of a carrier to retain possession of the goods and not deliver these until his charges are paid.

Life-cycle costing: A procurement technique for evaluation of tenders/offers that considers, in addition to acquisition costs (price), other elements of maintenance, operating, etc.. In evaluating different supply tenders/ offers this enables the buyer to compare and select the one with the lowest total cost for the entire period over which the product is expected to be in use. See also Analysis of tenders, Tabulation of tenders and Tender evaluation.

Liquidated damages: Damages that become due owing to one of the parties to a contract when the other party fails to fulfil his contractual obligations, that is, there is a breach of contract on his part. Liquidated damages are usually specified in the contract itself and need not be related to an actual loss. See also Penalty clause.

List price: The prices published in a catalogue or any similar publication by a producer (or trader) from time to time. Often list prices are indicative prices on which discounts are offered. See also Discount.

Mandatory standard: A standard of which the application has been made mandatory by a regulation. See also Standard.

Manifest: A detailed list of cargo being carried on board by a carrier (e.g. vessel or aircraft), including quantity, identifying marks, consignor and consignee of each item. This is made or signed by the captain of the vessel or aircraft. A copy is handed over to customs. Copies of the manifest are also sent to the ship's agents at ports of call.

Marginal costing: The extra cost of increasing production by one or more units. It includes only the variable cost (direct costs) and no element of fixed costs (overheads).

Mark of conformity: A mark attesting that a product or a service is in conformity with specific standards or technical specifications.

Market analysis: Information required to make an assessment of market conditions such as demand and supply conditions, prices, discounts, etc. to enable a buyer to make the right purchase decision. Besides information through formal channels or a survey it also includes information through informal channels such as agents, other buyers, etc. See also Sourcing.

Market leader: Brand and/or product with the largest market share. Often refers to the company producing and marketing the brand/product concerned. See also Price leadership.

Marking: Indications on a product or on a package primarily for the purpose of identifying it; marks, marks of conformity, characteristics of the product, etc. Marking may also be applied to equipment employed in transferring a product to the user; for example, dispensers such as petrol pumps.

Material: See Goods.

Material deficiency: Any deficiency (such as physical, chemical, electrical or functional) noted in material that is attributed to non-conformance with contract specifications. Substandard workmanship falls within this definition. See also Non-conformance and Technical specification.

Multiple award: The award of separate contracts to two or more tenderers for the same product where a single tenderer does not offer to supply the entire quantity required or where the buyer wants to split a demanded quantity as part of his purchasing strategy. See also: Multiple source buying.

Multiple source buying: A purchasing strategy by a buyer to diversify sources of supply, reduce his dependence on one or few suppliers, and to increase competition. See also Multiple award.

Mutual assent: The basis for a contract is that each party agrees to the same thing. Each must know what other intends; they must mutually assent to be in agreement.

Negotiation: The bargaining process between a buyer and tenderer, each advancing his arguments in trying to get the best contract terms from his viewpoint. It is allowed for only in specific forms of procurement. See also Procurement methods.

Net price: Final price after all adjustments have been made for all discounts and rebates.

Network analysis: Breaking down a complex project into a series of activities, arranging these with precedence, putting against each of the activities the estimated completion time and depicting the sequence on a diagram to facilitate the identification of inter-relationships and critical areas of activity, a delay in any one of which is likely to delay the implementation of the project. It is a technique of contract monitoring and administration.

Net weight: The weight of the contents of a package/container/wagon net of packaging material and/or tare weight. See also Gross weight and Tare weight.

Non-conformance: The failure of services and/or material supplied by a supplier to conform to technical specifications and/or terms of reference incorporated in the contract. See also Material deficiency.

Non-recurring demand: A request made by a user (department) on a one-time basis for a special purpose or use.

Non-responsive bid: A tender/offer by a tenderer which does not conform to the essential requirements of the tender. See also Responsive bid.

Objects of procurement: A term used for any one of the categories of goods, works or services or any mixture thereof. In case of a mixture the category for classification is that to which the majority of the value belongs. See also Goods, Works and Services.

Offer: An offer can be the positive answer issued by a tenderer in response to a tender invitation, or an announcement to deliver goods, carry out works and/or services to every, or a specific, buyer without a specific request or invitation to tender. Also refers to an expression of readiness by a tenderer to enter into a contract. See also Bid, Draft contract, Quotation and Tender.

Order: A written document to buy, with instructions, issued to a supplier for material and/or services to be made available at specified price and time. Orders can be issued without any reference to a tender/ offer. See Agreement and Contract.

Ordering costs: Cost of placing an order.

Order point control: A method of inventory control which relies on defining a minimum stock level which, when reached, must trigger off procurement action of re-ordering. See also Inventory control.

Original Equipment Manufacturer (OEM): Producer who procures goods and/or services and incorporates these without any changes (a component part) into a product which he is manufacturing for sale.

Packing list: A statement which lists in detail the contents of a particular package. It is also called a Packing note.

Patent: A right or an authority granted by a designated government agency to an inventor to have a sole right of making, using or selling his invention for a specified period.

Patent infringement: Unauthorised use by a manufacturer of a product or process invented by someone else and over which the latter has a patent right. The buyer, to protect himself against patent infringement by a supplier, usually has an appropriate clause inserted to this effect in the purchase contract. See also Patent.

Payment: The contractually agreed equivalent to the goods, works and/or services supplied by the supplier, provided by the buyer usually in terms of money. Payment can be done in stages; advance payment, progress payment, final payment upon evidence (presentation of vouchers), as a lump sum, on the basis of an agreed rate per unit multiplied with the number or units ordered.

Penalty clause: A clause in a contract specifying the sum to be paid by the defaulting party to the other if the contract is not fulfilled. The sum is usually an estimate of the loss likely to be suffered by the party as a result of default. See also Liquidated damages.

Performance bond: See Bond.

Phased deliveries: Scheduling shipments of material or supplies at specific intervals of time as per contract terms.

Pre-award survey: A physical survey undertaken to make an evaluation of a tenderer's technical, financial and managerial capability to perform the contract (i.e. ability to supply the goods) before it is awarded. Sometimes referred to as vendor survey. For service contracts tenderers' references can be asked for or interviews with the key personnel proposed can be held.

Preclusive specification: Specifications that are so restrictive as to limit or exclude competition.

Prepaid (freight): A term denoting that transportation charges have been or are to be paid at the point of shipment (and not at destination).

Prequalification: The screening of potential tenderers with reference to such factors as technical and financial capability, reputation as to reliability, etc., in order to develop a list of tenderers qualified to tender/offer to whom alone the tender documents may be sent. See also Restricted tendering, Registration of interest and Short list.

Price discrimination: The system followed by a tenderer of charging different prices to different markets or classes of buyer. May be based on buyer - supplier relationship, volume of purchases/orders, also as part of sales strategy or any other factor. See also Discount.

Price leadership: The lead taken by a company in setting a new price level. In a market with few tenderers (i.e., an oligopolistic market structure) usually the market leader takes the lead in establishing such a price level. See also Market leader.

Price revision: A provision in a contract for prices of products (usually a piece of equipment to be fabricated) or services to be increased or decreased if the costs of materials to be used (or the wages of labour) increase or decrease during the period of delivery. Generally, the contracts incorporate a formula for such price adjustments. A civil construction contract usually links wage costs of unskilled workers to any changes in minimum wage laws or union wage settlements. See also Contract and Fixed-price with revision.

Prime contractor: See Contractor and Prime.

Procurement: Purchasing, hiring or obtaining by any other contractual means goods, works or services or any mixture thereof.

Procurement cycle: A full procurement cycle involves the following stages:

(a) Identification of needs.
(b) Tendering.
(c) Contracting.
(d) Contract execution and monitoring.

Procurement lead time: See Lead time.

Procurement methods: Internationally used term for the different procedures to be followed in completion of a procurement cycle.

Pro-forma invoice: An invoice prepared by a tenderer in advance of a sale to show the form and amount of the invoice that will be rendered to the buyer if the sale takes place. Importers often require pro-forma invoices to support their request to governmental authorities for import permits and foreign exchange.

Progress payments: Periodic payments, in advance of delivery or completion of the full contract. Such payments are usually contractually linked to different stages in the manufacturing process of a product (equipment), or progress of the civil construction or services rendered. See also Payment.

Proposal: See Offer, Quotation and Tender.

Proposal conference: A meeting of all prospective tenderers convened by a buyer some time before the bid closing date to explain to them the precise scope of work and to provide any clarifications on design, specifications, etc. The purpose is to ensure that the tenderers are clear about the buyer's precise needs and also have a uniform understanding of these.

Proprietary article: An article manufactured and sold by a patentee or by his licencee. See also Patent.

Provisioning: The process of determining the range and quantity of items (such as spares and repair parts, special tools, test equipment and support equipment) required for the maintenance of equipment for a specified period of service. It includes the identification of items and arrangements with the supplier for their supply when needed and/or stocking of these if there are indications that they may not be easily available when required. See also Design specification and Technical specification.

Provisional acceptance: Constitutes technical acceptance, with or without minor technical reservations, of goods and equipment supplied to, or installed on, the buyer's site. Acceptance should be confirmed by a certificate of provisional acceptance. The date of the provisional acceptance marks the start of the guarantee period and signifies a transfer of property rights from the supplier to the buyer: See also Acceptance and Final acceptance.

Publicity: For tendering, publicity is secured by means of procurement notices on business opportunities as well as invitations to tender within the public tender procedure. Publicity can be secured locally and internationally by selecting corresponding media.

Public authorities: State, regional and local authorities and bodies governed by public law.

Public contracts: Orders financed from public funds.

Public funds: Funds of the buyer originating from state or community budgets (at least partially).

Purchaser: See Buyer and Contracting authority.

Quality: The term covering any and every characteristic, property and/or performance of a product or service that can be evaluated to determine whether the product or service meets the specified requirements.

Quality assurance: A planned and systematic pattern of all actions necessary to provide adequate confidence that the product or services will perform satisfactorily. It may consist of the buyer satisfying himself that the system of quality control the supplier has instituted is satisfactory by examining or evaluating it. Alternatively, the buyer or his agent can undertake inspection of the product, in the process of production or at the pre-shipment stage monitoring the implementation of the services by verifying results. See also Quality control.

Quality certification system: Scheme set up by exporting countries, by law or practice, for certifying specifications. An importer must determine the independence and prove the reliability of inspection and certification institutions operating under such systems, which may be government departments or private sector bodies. See also Certification body.

Quality control: A systematic approach to inspection of products (services) during the process of production (rendering) to ensure that the products (results) meet the expected use or performance standards as well as to identify the source of defects in materials used, workmanship, performance, design or technique of production. See also Acceptable quality level.

Quantity discount: A price reduction granted by a tenderer linked to the quantity of a proposed purchase. See also Cash discount and Trade discount.

Quotation: Another term used for tender or offer. See also Bid, Offer and Tender.

Rate contract: The system of establishing a price for supplies at that price over a specified period of time. It is also sometimes referred to as a running contract. See also Basic agreement.

Rating of vendors: The evaluation and comparison of a tenderer's performance, principally with regard to quality, timely delivery and prices.

Rebate: A sum of money abated by the tenderer to a buyer in consideration of the purchase of a stipulated quantity or value of goods within a stated period. See also Discount.

Recurring demand: Procurement request(s) made by a user (department) on the basis of continuing requirements. See also Non-recurring demand.

Registration of interest: To register all tenderers interested in the tender or prequalification of a specific project. The register compiled is the basis for the preparation of a short list and/or invitations to tender. See also Prequalification and Short list.

Rejection advice (note): A communication by the buyer to the supplier notifying him of the rejection of goods supplied or services rendered for reasons of non-conformity to quality or breach of any other contractual commitment.

Remedies: Corrective measures taken when directives have been breached.

Request for quotations: A procurement procedure frequently used in cases when clear specifications and/or terms of reference permit offers to be obtained by at least three tenderers in order to select the lowest offer to supply the specified goods and/or services.

Requirement: The maximum overall estimated need of goods or services over a specific period of time for purposes of procurement, budgeting and planning.

Responsive bid: A tender or offer which does not vary in regard to specifications, terms and conditions of contract set out by the buyer in his invitation to tender. See also Non-responsive bid.

Restricted tendering: An invitation to tender open only to certain prequalified tenderers and implementing a format method of procurement. See also Prequalification and Short list.

Restrictive specifications: See Preclusive specification.

Running contract: See Rate contract.

Salvage: Is used in various contexts. Generally refers to the value of a property higher than its scrap value but no longer economically worthwhile to restore to its original usable form. Salvage loss in marine insurance occurs when goods damaged in transit are sold for less than their insured value before these reach the final destination. It also refers to payments made to professional salvors who are used for saving cargo or a ship in distress, or for the services of a person who may find a piece of ship's equipment washed up on a beach. Salvage is first charge on a saved property.

Sample: A sample to be furnished by tenderers along with their tenders/offers to establish the quality of the products being offered.

Self-certification: A form of conformity certification in which one or more manufacturers is responsible for conformity certification of its products with no surveillance from any certification body. See also Certificate of quality.

Services: Activities carried out by the supplier to achieve the contractually fixed results. Results can be physically defined (a study) or as an action (three months of training). Mixtures of supplies and services are usually put in the category to which more than 50% by value belongs. See also: Objects of procurement.

Shelf life: The period of time during which an item, having a limited storage life, is considered to be ready for use.

Short sale: The sale of a commodity for future delivery which the supplier does not possess but intends to purchase prior to the required delivery date, expecting that the market price will be no higher or will decline during the intervening period.

Short list: A list of names and addresses of potential tenderers drawn up by a buyer to whom invitations to tender may be sent. Usually the elaboration of a short list is the objective of a prequalification procedure. See also Registration of interest and Prequalification.

Sourcing: Act of searching for suitable sources of supply: See also Market analysis.

Specification: A statement of a set of requirements to be satisfied by a product, material or process indicating, whenever appropriate, the procedures by means of which it may be determined whether the requirements given are satisfied. It will generally include physical, chemical and/or metallurgical properties of a product and/or its design characteristics and/or performance standards. It may also include terminology, testing and test methods, packaging, marking and/or labelling requirements. See also Technical specification.

Spot purchase: Act of purchasing in the spot market (that is at prices ruling on the purchase date) for prompt delivery, in contrast to forward purchase made now for future delivery at futures prices. See also Commodity exchange and Future.

Standard: The result of a particular standardisation effort approved by a recognised authority. It may take the form of (a) a document containing a set of conditions to be fulfilled, (b) a fundamental unity; or (c) an object for physical comparison. See also Mandatory standard and Standardisation.

Standardisation: The process of defining and selecting through an agreement characteristics of products, testing and measuring methods, specification of characteristics of products for defining their quality, regulation of variety, interchangeability, etc.. Many countries have set up national standards organisations setting out, for a large number of products, the essential requirements which a product should measure up to. The International Organisation for Standardisation (ISO) has been laying down standards for acceptance and adoption of these by member countries. In a tender invitation or enquiry a reference to a national standard or an international standard (or that of any other country) is usually sufficient for suppliers to know precisely what the buyer's requirements are. Standardisation is also used in the sense of variety control, i.e., reducing the number of types of products within a definite range to that number which is adequate to meet prevailing needs at a given time. See also Standard and Variety control.

Standing order: See Blanket order.

Stock: The quantity of all raw materials, components, parts, work in progress and finished goods held in store by an enterprise or a government agency. See also Inventory and Warehouse.

Subcontractor: A person or a firm who enters into an agreement with a prime (main) contractor and undertakes to perform a part of the prime contractor's obligations with reference to the main contract. In construction and turnkey projects the buyer awarding a contract for the complete job to one (prime) contractor, and the latter subcontracting parts to different subcontractors, is usual practice. If some of these are defined by the buyer the subcontractors are called nominated subcontractors and the risk of their failure to perform the requested services rests with the supplier. See also Prime contractor.

Supplier: The tenderer whose tender/offer has been selected for the contract. After signature of the contract by both parties the tenderer becomes a supplier. See also Consultant and Contractor.

Supplier's lien: The right of a supplier to retain possession of goods until all dues to him are paid. Such right, however, does not exist where goods are sold on credit.

Supplier's market: A supplier's market exist when supplies are short in relation to demand and where suppliers are in a position to drive a hard price bargain. See also Buyer's market.

Supplier's option: A provision in the contract which gives the supplier the right to vary the contract quantities to be delivered by a certain percentage. The contract may also provide options on any other clause in it such as the delivery schedule. See also Buyer's option.

Surplus stock: Material assessed to be in excess of the buyer's own requirements and set aside for disposal.

Tabulation of tenders/offers: The recording of tenders/offers in tabular form to facilitate evaluation. See also Analysis of tenders/offers and Tender evaluation.

Tally: A listing of items in a shipment by quantity and description.

Tare weight: The weight of a container (and other packaging material), vehicle or wagon in which goods are packed or stowed. The net weight less tare. Actual tare is determined when each cask/bag/box/wagon, etc., is weighed; average tare when one is weighed and used as a standard; and estimated tare when a fixed percentage is deduced from the gross weight. See also Net weight and Gross weight.

Technical specification: Part of purchase specifications on design, quality and/or performance excluding those on packaging, labelling, marking, etc. See also Design specification, Provisioning, Specification and Terms of reference.

Tender: A response to a tender notice issued by the buyer. See also Bid, Offer, Public tender and Quotation.

Tender documents: Tender documents constitute the set of documents issued by the buyer which establish the object of procurement (the technical specifications and/or the terms of reference), specify proposed contract conditions and establish the procurement procedures to be followed.

Tender evaluation: Analysis of all tenders/offers received by the buyer to appraise and assess the most advantageous and competitive tender/offer. See also Analysis of tenders, Life cycle costing and Tabulation of tenders/offers.

Tender opening: In procurement through competitive tenders/offers the opening and reading of tenders/offers, conducted at the time and place specified in the tender documents, and in the presence of anyone who wishes to attend.

Tenderer: A legal entity approached by the buyer to submit a tender/offer for a specific project. See also Bidder and Candidate.

Tendering: Any formal and competitive procurement procedure through which tenders/offers are requested, received and evaluated for the procurement of goods, works or services, and as a consequence of which an award is made to the tenderer whose tender/offer is the most advantageous.

Terms of contract: Stipulations, explicit or implicit, in a contract setting out the obligations and the rights of the contractual parties, as well as other conditions of contract.

Terms of payment: Conditions for payment for goods or services received as agreed between buyer and supplier, such as: Cash against Documents (CAD), Cash on Delivery (COD), Letter of Credit, etc. See also Payment.

Terms of reference: Scope of work for a service contract, equivalent to the specification of goods in a contract for the purchase of goods. See also Specification and Technical specification.

Token bid: A perfunctory tender/offer submitted by a tenderer with no serious intent of being awarded the contract. Often submitted when the tenderer wishes only to continue to be kept on the buyer's eligibility list, or as a part of a collusive deal with other tenderers.

Tolerance: The permissible variation of the specified value or quantity according to needs.

Total loss: Nothing salvageable, that is, completely lost from an insured peril and the amount recoverable is the insured value.

Trade discount: A percentage deduction from an established price for goods (percentage often varying in accordance with volume of transaction), made by the supplier to others in the distribution chain (stockists, wholesalers, retailers, etc.). See also Discount and Rebate.

Trademark: Any sign, symbol, mark, word, or arrangement of words in the form of a label used by a manufacturer or supplier as identification or symbol of his particular goods, which no other person can legally use without his consent. See also Brand name and Proprietary article.

Turnover: In supply management is the quantity and/or value of stock issued in a given period, usually one year.

Turnkey contract: A contract for plant fabrication, its installation and/or commissioning and/or the associated civil construction.

Two envelope system: A tendering option for the selection of the most advantageous tenderer. The tenderers are ordered to submit their tenders/offers in two separate envelopes, both of them sealed and clearly marked. The first envelope contains the technical proposal, the second one the price proposal.

Two stage tendering: Within this procurement procedure in a first stage tenderers are asked to present technical and organisational suggestions how best to implement a specific project. Thereafter the buyer identifies the concept which is likely to be the most advantageous one. For this concept tenders are requested from the same group of tenderers in the usual formal way, including prices, in order to select the preferred tenderer.

Underwriter: One who accepts liability by providing insurance.

Value analysis: A systematic examination and analysis of the cost of each component or constituent part of a product (including raw materials used, finish, packaging, etc.) which can be eliminated without impairing its capacity to satisfy the intended need or use.

Vendor: The supplier of goods (property or services). See also Supplier.

Variety control: The selection of the optimum number of sizes, other characteristics or types of a product required to meet prevailing needs.

Visual inspection: A term generally used to indicate inspection performed without the help of measuring and testing instruments or a laboratory.

Warehouse: A place of storage for merchandise and commodities. In addition to the service of storage some warehouses, particularly in the vicinity of a port area, perform the functions of freight forwarding and/or of distribution agents. See also Stock.

Warranty: Used in different contexts as an undertaking, either expressed or implied, by one party to a contract to another:

(a) In the context of marine insurance an implied warranty is that the vessel is seaworthy and fit for voyage. A breach of warranty is sufficient for the insurer to avoid payment on damage to, or loss of, the ship.
(b) In the context of supply contracts, it is an assurance by the supplier on the workmanship, quality and serviceability of the item (equipment) for a particular period of use/time. In case of defect the item may be repaired or completely replaced, free of charge, by the manufacturer.
(c) More generally, an express or implied statement of fact amounting to an assurance of something in a contract. If the obligation is not carried out the contract may not be invalidated but damages can generally be claimed. See also Bond and Guarantee.

Waybill: A carrier's document listing goods being carried, showing the point of origin, destination, consignor, consignee and transportation charges.

Weight: See Gross weight, Net weight and Tare weight.

Wharf: A platform for berthing of ships for loading and unloading.

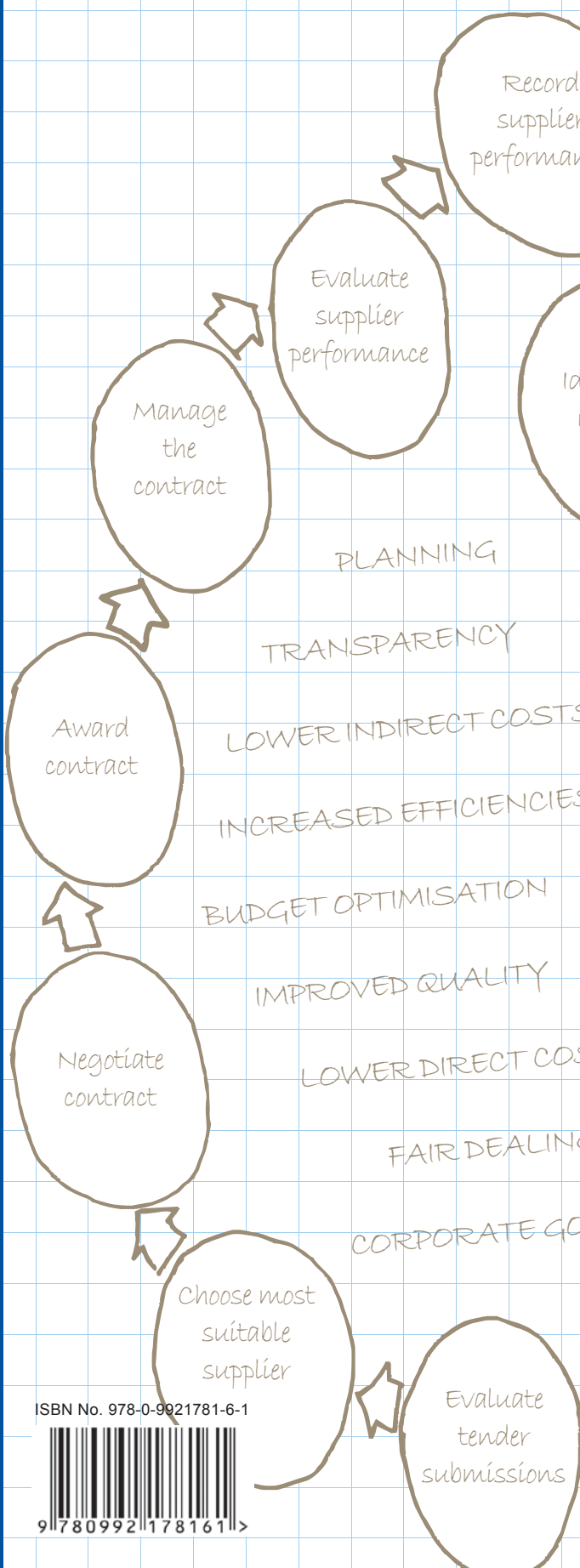
Without engagement: A phrase incorporated by tenderer in his quotation indicative of no commitment to accept a contract at the price quoted; a safeguard against prices rising between the time of giving the tender/offer and the contract being placed.

Works: Are defined as civil engineering construction. See also Objects of procurement.

PROCUREMENT MANAGEMENT
Key Concepts and Practices

Over the past 20 years it has become clear that certain macro trends and forces are causing procurement and supply management groups to undergo dramatic changes. As firms rely on fewer suppliers to provide increasing amounts of value across all sorts of business areas, including through product and facility design support, and as the compensation that suppliers receive consumes an increasing amount of corporate revenue, procurement and supply chain management begin to look important.

This book provides a timely resource for procurement professionals, or for those who are at the point of entering this field. It will help greatly to enhance their ability to contribute to the development of a procurement and supply organisation that provides reliable sources of supply and, eventually, competitive corporate advantage.



Eskom

Engineering Centre of Excellence
Eskom Academy of Learning
Dale Road Midrand
Gauteng South Africa
Telephone +27 11 629 5111

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