

Supply chain management includes all stages in the total flow of materials and information; it must eventually include consideration of the final customers. When a customer decides to make a purchase, he or she triggers actions along the whole chain.

供應鏈管理之範疇包括

在營運時所有物料和資訊流動的安排，而這些

活動的焦點是最終的客戶。當客戶選定了

光顧對象之後，就觸發起供應鏈上一連串的活動，

而讓供應鏈上的各企業，按其所提供的增值量而得到合理利潤。

本書針對供應鏈運作特性，宏觀地導出其中提要，

並強調了分析和改善關鍵處作參考。

All the business in supply chain pass on portions of that end customer* money to each other, each retaining a margin for the value it has added. This book is providing overall view of the entire supply chain and highlighting opportunities for analysis and improvement.

供應鏈管理

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SUPPLY CHAIN MANAGEMENT

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"開發優管教材以推動香港製造業的優質變革" (編號 AF/3/98)



優質變革系列

Quality Transformation Series
優質變革系列

SUPPLY CHAIN MANAGEMENT

供應鏈管理

Prof. B. G. Dale

Quality Transformation Series 優質變革系列

Prof. B. G. Dale

SUPPLY CHAIN MANAGEMENT

供應鏈管理

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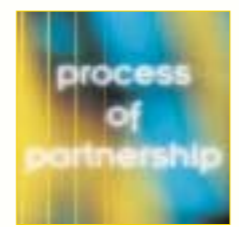
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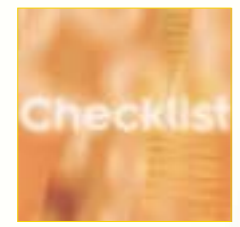
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Foreword

序言

Jerry Flint在《福布斯雜誌》上表示：「競爭是苦事，但可帶來豐碩的收穫。」面對全球市場激烈的競爭環境，香港如何能夠保持其優勢，再創佳績？

節錄自Computer Letter的內容為上述問題提供最佳的答案：「在傳統零售商的競賽中，供應鏈的實施很可能決定誰是勝利者。」。簡單來說供應鏈管理是提升競爭力的實用工具。供應鏈管理是一項商業性策略，能夠幫助零售業迅速回應瞬息萬變的市場需求，縮短採購時間，以最低的成本和最短時間，為要求日益嚴格的顧客提供更多增值服務。今天，我們不能只是依靠單一商業夥伴的努力，而是需要與所有業務夥伴包括供應商、製造商、批發商、分銷商、銀行及政府共同投入及緊密合作才能滿足顧客複雜的需求。

為達致上述目標，早於1993年，美國及一些歐洲國家已開始提倡採用「快速用戶反饋」(ECR)為本的供應鏈管理的概念，以配合急速變化的市場需求。供應鏈管理是一種以顧客為主導的管理模式，旨在滿足顧客的需要。在供應鏈裏的資訊傳遞對結合多種不同的業務功能，以及統籌遍佈全球不同公司組織之間的業務活動起著關鍵作用。為確保資訊的準確、可靠和快速傳遞，同時將供應鏈內不同貿易夥伴的資訊結合起來，電子商業科技的應用至為重要。

鑑於供應鏈管理如此重要，香港城市大學特別出版這本「供應鏈管理」書籍，希望鼓勵和推動香港製造業在全球經濟中進行品質轉型，這也是香港城市大學出版一系列以探討製造業品質轉型為題的第三本書籍，更是香港及中國兩地製造業積極保持其在全球市場中競爭力的寶貴參考資料。

本書能夠順利出版，實有賴很多人士共同努力，本人謹此恭賀他們取得這豐碩成果，更期望書中的材料和概念能對業界有所裨益。

林潔貽
香港貨品編碼協會總監

‘Competition is a painful thing, but it produces great results’, says Jerry Flint in Forbes. Facing the strong competition in global market, how can Hong Kong maintain its competitive edge in the region and produce great results?

To answer the question, the quote from *Computer Letter* gives the best solution to all: ‘Supply chain execution is likely to define the winners in the race to compete with bricks-and-mortar retailers.’ In short, the full adoption of supply chain management (SCM) is the practical tool to increase their competitiveness. SCM is a business strategy focusing on the quick response to ever-changing market needs and shortened purchasing lead time, also adding value to increasingly demanding customers at the least cost and time. Today, we cannot rely on a single party to fulfil the sophisticated needs of customers, we need a total commitment and full collaboration of all trading parties such as suppliers, manufacturers, wholesalers, distributors, banks, governments, etc.

To achieve the above, early in 1993, US and some European countries started to adopt the concept of supply chain management under the banner of “Efficient Consumer Response (ECR)” in response to the fast moving market demands. Supply chain management is a consumer driven management practice, satisfying the needs of consumers. The information flow within the supply chain is crucial to integrate diverse business functions, and to co-ordinate activities across different organizations around the world. To ensure an accurate, reliable and efficient flow and integration of information along the supply chain, embracing electronic commerce technologies is vital.

In view of the importance of supply chain management, the City University of Hong Kong has kindly published this ‘Supply Chain Management’ publication to encourage and facilitate Hong Kong manufacturers for quality transformation in the global economy. This book is the third out of the series of booklets which serve as a valuable reference for manufacturers in Hong Kong and China who are gearing up to maintain their competitiveness in the global market.

Congratulations to the team who made this publication completed and I wish the industry could benefit from the materials and concepts presented.

Anna Lin
Chief Executive, Hong Kong Article Numbering Association

Foreword by the series editor

系列主編序言

優質變革系列

不斷增加的競爭壓力、動蕩不定的商業環境、持續變化的市場需求和日益提高的質量要求使得全球製造業的營運更為複雜。這些壓力迫使製造商集中精力制定可行的策略和戰術以獲得和保持競爭力。香港正在經歷由低成本組裝轉到高附加值製造的重要轉型期。為了成功轉型，香港製造商必須比它們的競爭者更快及更便宜地提供更高質量的產品。實施有效的質量策略和管理是成功的一個關鍵因素。

“優質變革系列”是在香港特別行政區政府工業支援基金支持下所制作的質量推廣和教育材料，其中包括：與質量有關的小冊子、錄像和其他媒體。它的目標是使公司主管明白推行質量提升的重要；介紹現代質量改進工具、模式和方法給香港製造商；和提供香港的最佳質量管理實踐的案例。

隨着這個系列的發行，我們希望能夠鼓勵和促進香港製造商進行優質變革。

錢桂生博士
系列主編

Quality Transformation Series

Global manufacturing competitiveness has been complicated with the accelerating pressures of industrial transformation, dynamic trading conditions, ever-changing market demands and uplifting quality requirements. These pressures have sharpened the industry's focus on developing viable strategies and tactics in gaining and retaining their competitiveness. Hong Kong is now undergoing a critical transformation from low-cost assembly to high-value-added manufacturing. For a successful transformation, Hong Kong manufacturers must provide better quality products faster and cheaper than those of their competitors. Adoption of effective quality strategies and practices is one of the crucial factors for success.

This “Quality Transformation Series” is supported by the HKSAR Government Industrial Support Fund to develop promotional and educational materials, such as booklets, video and other multi-media in quality topics. It aims to make the company executives more aware of their crucial role in leading successful quality transformation in their companies; to introduce modern quality improvement tools and methodologies to Hong Kong manufacturers, and to provide examples of best quality management practices in the Hong Kong environment.

With the launch of this series, we hope to encourage and facilitate Hong Kong manufacturers in making the quality transformation.

Dr. K S Chin
Series Editor

Introduction

INTRODUCTION



供應的長遠事項

LONG TERM ISSUES OF SUPPLY

The traditional, open-market bargaining approach to customer-supplier dealings in Hong Kong and mainland manufacturers has been based on the assumption that the parties involved are adversaries who have differing objectives and are engaged in a win-lose contest which is based upon tough negotiations, cost under-cutting, and a degree of selfishness and distrust. There is also a tendency to give contracts to suppliers in which the purchaser has a personal friendship with a senior manager. This approach focuses on negative issues and is characterised by uncertainty which can seriously undermine rather than reinforce competitiveness. The current relationship between customer and supplier is also characterised by inconsistent quality and late and incomplete delivery and there is a lack of commitment to developing a partnership relationship between customer and supplier.

Supply Chain Management demands a new form of relationship. It means working together towards common aims and aspirations, based on the principle that both parties can gain more through co-operation than conflict. It requires mutual trust and commitment, integrity, integration, co-operation, honesty, a willingness to openly declare problems and work together to find answers, the sharing of data and

在香港及中國大陸的製造商由傳統、市場開放的討價還價方法以至顧客-供應商的商業關係，均假設顧客與供應商雙方是敵對的。他們各有不同目的，也好像是在一個建基於強硬商議、低於成本、自私和不信任的爭勝比賽中交戰。此外，將採購合約給予與高級經理有私人關係的供應商的情況也日趨普遍。此做法實產生負面影響並嚴重地削弱競爭。這樣的顧客-供應商關係，其特徵是質量不一致、付運延遲與不完整，以及彼此間缺乏承諾。

供應鏈管理需要一個新的關係形式，即透過合作，而不是衝突，使雙方在可得益更多的原則下一起邁向共同的目標。要達到這個目標，雙方需要互相信賴、承諾、誠實、正直、融洽、合作、公平、願意開放地提出問題、一起尋求答案、分享資料及構思、改善及採取最好的做法、清楚地明白責任、共同研究和發展，及有持續改善的渴求。就多方

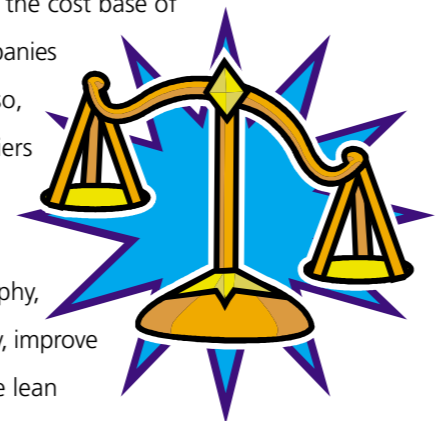
簡介

採購品的品質對於採購機構的產品及服務以至它在市場上的成功均十分重要。在很多情況下，購入的零件及服務可構成產品最終成本的70%至80%。因此供應商很明顯是採購者成本的關鍵部份。有見及此，在過去的十年間，很多規模較大的公司開始鼓勵他們的供應商發展品質管理系統，採納持續改善的哲學，剔除沒有增值的活動，改善他們的製造系統，使用卓越的製造技術，變得更靈活及更靈敏，追求減低成本的活動及集中在核心能力和生產線上。這個由顧客與供應商一同引起改變的過程被冠以不同的名稱，如：供應商發展 (Supplier Development)，供應鏈管理 (Supply Chain Management)，聯合製作 (Co-Makership)，夥伴供應 (Partnership Sourcing)，顧客 - 供應商聯盟 (Customer-Supplier Alliances) 及積極的採購 (Pro-Active Purchasing)。由於不同機構對名稱及過程方面有著不同的理解，以致對夥伴方法進行採購這理念的意思及其可行性產生了不少混淆。

此冊子會使用「供應鏈管理」一詞並會仔細查看建立此系統的主要事項。

The quality of purchased supplies are crucial to a purchasing organisation's products and services and consequently to its success in the market place. In many cases, bought-in components and services can account for some 70% to 80% of the final cost of a product, therefore, it is clear that suppliers are critical to the cost base of the purchaser. Many major companies have, during the last decade or so, started to encourage their suppliers to develop their quality management systems, adopt a continuous improvement philosophy, eliminate non-value added activity, improve their manufacturing systems, use lean manufacturing techniques, become more flexible and responsive, pursue cost down activities, and concentrate on their core competencies and production lines. This process of the customers working together with their suppliers to effect these changes is given a variety of names, such as: supplier development, supply chain management, co-makership, partnership sourcing, customer-supplier alliances, and pro-active purchasing. This variety of names, and the way different organisations interpret them and the process, has led to much confusion about both the meaning and practicality of the partnership approach to purchasing.

Throughout this booklet the term Supply Chain Management is used and in it the key issues in establishing this is examined.



面而言，此關係形式既與縱合公司相類，卻沒有管理一個橫跨不同技術種類及過程的複雜業務的困難。此類形式有不同的例子，從供應商根據顧客的原設備製造商(OEM)設立製造設施，至供應商安排職員在顧客的裝配車間工作也有。

要發展一種切實可行的長期業務關係，顧客與供應商的行為及態度需要相當大的轉變。顧客需要制定與供應商合作的計劃及程序，並承諾提供足夠的資源。在供應商方面，他們需要對所付運產品的品質承擔所有責任，而並不是依靠顧客驗證品質以確定符合要求。要建立顧客與供應商關係的先決條件，是雙方在如何合作、希望獲得何種利益及如何解決問題幾方面達成協議。而且為確保關係得以維持，定期審查及討論協議的目標是十分重要的。

與採用價格為選擇供應商的方法相比，發展長期商業關係的典型益處，包括以下各項：

- 減少及避免對供應的零件及物料進行檢驗
- 改善產品及服務品質、付運表現和反應速度
- 改善生產力，增加存貨的流量，減低處理存貨的成本及減低每件存貨的成本
- 保障物有所值
- 確保供應品的安全及穩定
- 轉移構思、專業知識及技術，散播最佳做法
- 聯合“解決問題”活動；顧客若為供應商提供改善過程的協助，可更易及更快地解決問題
- 綜合商務處事方法及程序
- 建立全面的顧客-供應商溝通網絡，確保供應商能及早得到顧客未來的設計及製

ideas, improvements and best practices, clearly understood responsibilities, collaborative R and D, and a desire to continuously improve. In many respects, this form of relationship has similarities with a vertically integrated firm but without the difficulties of managing a complex business across different types of technologies and processes. These are various examples of this ranging from a supplier setting-up a manufacturing facility alongside the customer original equipment manufacturer (OEM) to a supplier's staff working on the customers assemblies.

To develop a viable long-term business relationship, considerable changes in behaviour and attitude are required in both customer and supplier.

Customers need to be prepared to develop plans and procedures for working with suppliers and commit resources to this. For their part, suppliers have to accept full responsibility for the quality

of their shipped product and not rely on the customer's receiving inspection to assess if it meets their requirements. As a prerequisite, both parties have to reach an agreement on how they will work together, what they want from the relationship and how to resolve problems. To ensure that the relationship is sustainable it is important that the objectives of the agreement should be examined and discussed on a regular basis.

The typical benefits of developing a long term business partnership in comparison to the use of several suppliers where price is the influential factor, include:

- Reduction and elimination of the inspection of supplied parts and materials.
- Improved product and service quality, and delivery performance and responsiveness.
- Improved productivity, increased stock turns and lower inventory carrying cost and reduced costs per piece.
- Value for money purchases.
- Security and stability of supplies.
- Transfer of ideas, expertise and technology and dissemination of best practice.



- Joint problem-solving activities, with the customer providing assistance to the supplier to help improve processes, leading to easier and faster resolution of problems.
- Integration of business practices and procedures.
- Comprehensive customer-supplier communications network, to ensure the supplier is provided with early access to customer future designs and manufacturing plans and being kept informed of changing customer requirements. This assists with the planning of workloads and would typically open-up wider channels than those in the traditional relationship where the buyer and sales representatives would be the main point of contact.
- Customer and supplier being more willing and open to examine their processes to look for improvements.
- The supplier contributing to the customer's design process, undertaking development work and monitoring technological trends.
- Helping to develop sustainable growth of the supplier in terms of investment in equipment and manufacturing resources. Related to this is the reputation and credibility in the market place which arises from the relationship.
- Exposure of the supplier to new tools, techniques, systems and business practices.
- Provision by the customer of an advisory service to suppliers in terms of training, equipment and operating methods.

- 造計劃，並可持續知道顧客對要求的改變。同時亦可協助籌劃工作量。一般來說，顧客與供應商溝通渠道會比傳統的關係更為廣闊。因在傳統關係內，兩者的接觸點多限於雙方的買家及營業代表
- 顧客與供應商會更願意及更開放地研究他們的運作過程，以圖再作改善
- 供應商為顧客的設計過程作出貢獻，實行發展工作及監察科技發展
- 在儀器及製造資源的投資上，協助供應商發展持續增長。與此相關的，是此種關係在市場上所產生的聲名及信譽
- 供應商得以接觸新工具、技術、系統及商業做法
- 在培訓、儀器及操作方法上，顧客為供應商提供諮詢服務



CONDITIONS OF SUPPLY CHAIN MANAGEMENT

供應鏈管理在香港及中國大陸的情況

In Hong Kong and the mainland, dedicated suppliers are outnumbered by weaker ones. However, their competitiveness are strong. The leading edge suppliers will be dealing with most if not all the main companies in their industry. These suppliers will work closely with a particular customer to develop a product, process or service. The way that this is done varies but includes obtaining a supplier's input on product development and sharing product planning and development data with suppliers. However the benefit to that customer is likely to be short lived because, in a commercial environment, the supplier has to offer this same type of R&D activity to its other customers in order to retain their business. On this theme of development and the concentration on core competencies by the major customers, it is clear that many Hong Kong and mainland customers and suppliers are considering the advantages of more co-operative partnerships.

Partnerships are developed in different ways in response to various needs and circumstances. However, it must be recognised that no one enters into a partnership with their suppliers or customers out of any altruistic motive or wish to be 'nice' to them. Partnerships are driven by hard-headed business objectives on which Hong Kong and mainland manufacturers pride themselves. The usual objective is to achieve/maintain competitiveness in an increasingly global and hostile business environment. For example, even those suppliers who have long-term business relationships with a customer are being told that for an increasing amount of business they are expected to cut costs. Therefore, it has to be recognised that customer-supplier partnerships are not an easy option or some sort of panacea. This is particularly the case where a supplier is expected to meet the global requirements of its major customers. Underlying the rhetoric of partnership are difficult choices not only about whether to enter into partnerships and the type to be adopted but also, and perhaps more importantly, the internal upheavals this requires.

在香港及中國大陸，有承諾的供應商並不多。具有領導地位的供應商與業內絕大部份大規模的公司貿易，更與個別顧客有緊密的合作以發展產品、製程或服務。合作的方法各有不同，包括顧客取得供應商對產品發展的意見及與供應商共同分享產品計劃及發展資料。無論怎樣，對於顧客來說，他們的得益是十分短暫的。因為在商業環境下，供應商為求維持其業務亦會提供同類的研究及發展活動予其他顧客。在發展的大前題及核心能力集中在主要顧客的情況下，很多香港及中國大陸的顧客及供應商自然要考慮加強合作關係。

針對不同的需要及環境，夥伴關係可通過不同的途徑發展。但是我們亦必須明白供應商或顧客的夥伴關係的出發點並不是基於立心不良，也非為行善。推動力其實是來自香港與中國大陸製造商所引以自豪的講求獲取實際商業目標。一般的目標是在逐漸全球性及敵視的商業環境下具備/維持競爭力。例如，即使與顧客建立了長期商貿關係的供應商亦會被顧客期望在不斷增加的商貿合作上減低成本價格。因此，我們必須承認，特別是當一個供應商被其主要顧客期望能夠符合全球性要求的時候，顧客-供應商關係並不是一個容易的項目或一種萬靈藥。潛伏在「夥伴關係」一詞是困難的選擇。選擇不單是關於是否建立關係及所採取的種類，而是，或許更重要的是，所需的內部劇變。

INTERNAL ISSUES TO BE CONSIDERED WITHIN THE PURCHASING ORGANISATION

在採購機構內需考慮的內部事項

在機構已經研究所有涉及的事項及決定使用供應鏈管理方法後，不應急於嘗試建立對外關係及機制，應待內部關係及機制適當及有效時才進行。特別是高級管理層應跟從下列四個步驟大綱：

步驟一 - 編寫清晰的目標及確保所有涉及的人仕明白並對之作出承諾

機構的最關鍵工作是將自己內部最能影響供應商有效性的運作重新聚焦及重整架構。事實上，我們所需要做的就是先把自己整理然後才要求供應商依從。特別是要在準確的時間及正確的價格上得到符合要求的供應品已是逐漸複雜的工作，每一次亦意味著傳統的方式及機構的採購管理功能已不再足夠。建基於緊密功能組別的传统職員架構所帶來對供應商的隔離態度，也阻礙了供應商的發展。公司需把他們的採購部、品質及工程部重整架構，以確保他們在接觸供應商時有正確的技巧，功能責任及後勤亦能足夠完成供應商發展的工作。同樣重要的是為採購建立一個多功能的團體工作方法。



When organisations have examined all the issues involved and decided that a supply chain management approach is for them, they should not attempt to rush into building new external relationships and mechanisms until they are sure that the internal equivalents are appropriate and effective. In particular, senior management should follow in the four steps outlined below:

Step 1-Outline clear objectives and ensure that those involved understand what they are and are committed to the ideals.

The most critical task will be for the organisation to refocus and restructure those aspects of its own operations which are crucial to effective supplier performance. In effect, what is required is for it to put its own house in order before it asks its suppliers to do the same. In particular, the increasing complexity of the task of obtaining conforming supplies at the right time, at the right price and every time suggests that the conventional form and organisation of the purchasing management function may no longer be adequate. Traditional staff structures based on tight functional groups have resulted in compartmentalised attitudes to suppliers which hinders supplier development. Companies will need to restructure their purchasing, quality and engineering departments to ensure that they have the right skills in dealing with suppliers, and that functional accountability and logistics are adequate for the task of supplier development. It is also important to establish a multi-functional teamwork approach to purchasing.

Step 2 - Develop a strategy and plan to accomplish these objectives.

Well trained customer personnel are needed who are capable of working with suppliers to achieve the objectives which have been agreed. Purchasing and other staff who, where necessary, liaise with suppliers will need to understand the capabilities of suppliers' processes and systems and have a good working knowledge of the philosophy, principles, techniques of Total Quality Management and continuous improvement and shopfloor practices and procedures. It is also important that a customer's staff can speak the same language as their suppliers counterparts, whether these be in production, quality, design, finance or sales activities. Embarking on an action plan for supply chain management with insufficient regard to the needs of the purchasing organisation's skills is likely to result in frustration and possibly eventual failure of the initiative.

Typically, purchasing, quality, design, engineering/technical and production personnel all talk to suppliers but with no single functional area accepting total responsibility for the quality, cost and delivery of the bought-out items. Another key issue is that the most effective mechanism and linkages for communication and feedback are used. The need for clear accountability and co-ordination is a crucial factor in ensuring that channels of communication between the parties are effective and that suppliers receive a consistent message. Importantly, it must be clear who will be responsible for all negotiations and communications for current and future business with each supplier.

步驟二 - 發展一個完成目標的策略及計劃

顧客的職員需要接受良好的培訓使他們能與供應商一同達成已協議的目標。採購部及其他的職員在有需要聯絡供應商的情況下，亦需瞭解供應商的運作過程及系統能力，並且需對全面品質管理、持續改善、工場做法及程序的哲學理念、原則及技術有良好的認識。同時，顧客能與供應商在生產、品質、設計、財務或銷售活動上溝通亦是十分重要的。在開始供應鏈管理行動計劃時，若未能充份考慮對採購機構的技術需求，會大大引致很多憂慮及最終導致行動的失敗。

一般來說，採購、品質、設計、工程/技術及生產人員均與供應商聯絡，卻沒有一個功能地區能對生產的項目肩負品質、成本及付運上的所有責任。另一要項是使用最有效的機制及連繫作為溝通及返饋的途徑。要確保雙方的溝通渠道有效及供應商收到一致的訊息，清晰的職責說明及統籌是關鍵因素。重要的是需同時訂定適當的人選，以負責所有洽談及與每一供應商溝通現時及日後的商貿合作。



Step 3

步驟三 - 建立程序以決定所包括的供應商

對於有很多供應商及生產項目的公司來說，要引入及發展有效的夥伴關係是需花上數年時間。同時，並不是所有供應商都歡迎或有能力接受此方式。基於各種原因，有部份供應商較喜歡維持更敵對的方法。雖然長遠來說，減少供應商數量的過程會除掉很多這類供應商，但部份仍會存在。少數供應商將可能屬世界級，但大部份的供應商為了符合顧客的期望將必需作出改善。所以，大部份公司對不同的供應商將需採取不同的做法。

因此，在開始夥伴關係過程前，公司將需要檢討他們的供應商資料庫及確認那些供應商是需要長期合作的，從而決定將要建立的關係類別。由於同時與所有供應商展開夥伴合作方法是不可能的，故公司需建立一個機制用以選擇最初實行的供應商組別。其中一個方法是集中在新產品、產品與過程改良及新供應商。另一方法則包括使用帕拉圖分析法 (Pareto Analysis) 集中在位列優先的生產零件及物料上，優先次序則是根據一些適當的特質 (如全年總消費) 排列。為協助供應商，部份大機構已把對品質控制及達至改善的基本要求書面化，部份機構更製作小冊子說明。

步驟四 - 確保機構的哲學與用作採購的夥伴關係方法，特別是對團隊合作的需求，是一致或可相融的

協助供應商改善是很重要的，但亦需同時承認含糊的採購規格或欠缺詳細的顧客要求亦可導致供應商付運不符合產品。採購規格是一份供顧客及供應商使用的工作文件並必須嚴格看待。在發放採購文件至供應商前，採購部應查閱採購文件的準確性及完整性。

Step 3 - Establish a procedure for deciding which suppliers to involve.

For a company with many suppliers and bought-out items, it may take several years to introduce and develop an effective process of partnership. It has to be recognised, that not all suppliers will welcome or be capable of accepting this form of approach. Some, for whatever reason, will prefer to maintain a more adversarial approach. Though in the longer term a process of supply base reduction will eliminate many of these, others may well remain. It will also be the case that whilst a few suppliers may be world class, the majority will need to improve if they are to meet the company's expectations. Therefore, most companies will find that they will need to adopt different practices with different suppliers.

Therefore, before starting a process of partnership, a company will need to review its supplier base and identify those suppliers with whom it needs to work with in the long term and the type of relationship it will be able to establish. As it will not be possible to launch a partnership approach with all its suppliers at once, the company will need to establish a mechanism for selecting the initial group of suppliers. One approach is to concentrate on new products, product and process modifications and new vendors. Another approach involves the use of Pareto Analysis to focus priorities by ranking bought-out components and materials according to some appropriate parameter (e.g. gross annual spend). To assist their suppliers, some major organisations have documented the fundamental requirements for the control of quality and achievement of improvement, some have even produced explanatory booklets.

Step 4-Ensure that the philosophy of the organisation is in line with, or can be re-aligned to, the partnership approach to purchasing, especially the need for teamwork.

Assisting suppliers to improve their performance is important, however, it must be recognised that the delivery of non-conforming product from a supplier can often be attributed to an ambiguous purchasing specification and poorly detailed customer requirements. Purchasing specifications are working documents used by both customer and supplier and must be treated as such. The purchasing department should review the accuracy and completeness of purchasing documents before they are released to suppliers.

It is also important to recognise that just as suppliers can learn from customers, the reverse also applies. Suppliers are knowledgeable in their own field of operation and should be given every opportunity to provide a design input to the preparation of the specification. With the reduction in specialist technical staff in many customers, this is now a common occurrence. Suppliers will be more likely to accept responsibility for defects and their associated costs if they are involved in the design of the product or formally agree with the customer the specification and drawing for the part to be produced. This supplier input to the design process is a key factor in cost avoidance and helps to reduce the product development lead time.

One outcome of partnerships is that an increasing number of major purchasing organisations are awarding more long-term contracts and contracts for the life of a part. Strategic sourcing will inevitably contribute to the reduction in the size of the supplier base and this can result in benefits such as:

- Less variation in the characteristics of the supplied product
- Improved opportunities for improving processes and developing innovations
- Increases in the amount of time the customer's quality assurance and purchasing personnel can devote to vendors and more frequent interactions
- Improved and simplified communications with vendors
- Less paperwork
- Less transportation
- Less handling and inspection activity
- Less accounts to be maintained and thus reduced costs for both parties

It is easier to develop a partnership relationship if the suppliers are in close proximity to the customer. Consequently, a number of customers are now reversing their international sourcing strategies to develop shorter supply lines and are recommending that suppliers set-up operations close to their main manufacturing facilities. Closeness is also a vital element in the use of a JIT purchasing strategy.

同樣重要的是要明白除供應商可向顧客學習外，顧客亦可向供應商學習。供應商對自己行業的運作具有豐富的知識，因此在預備規格時應讓他們有機會提供設計輸入。很多顧客的專業技術職員均在減少，這是很普遍的事情。此外，若供應商有參予產品設計或正式與顧客協議製作零件的規格及繪圖時，他們大多願意承擔壞件及有關的成本。這種把供應商注入設計的過程可避免成本上升及減低產品發展時間。

夥伴關係的其中一個結果是漸多大型的採購機構簽獲更多長期合約及終身維持夥伴關係的合約。策略性的採購將減少供應商的數量，並帶來得益如：

- 供應品的特點具較少差異
- 更多改善過程及發展創新的機會
- 顧客的品質確保及採購職員可花更多時間與供應商洽談和交流
- 改善及簡化與供應商的溝通
- 更少的文書工作
- 更少的運輸
- 更少的處理及檢驗活動
- 維持更少的客戶因而使雙方的成本亦得以減少



THE PROCESS OF PARTNERSHIP

夥伴關係的過程

在整理內部及選定合適的供應商加入夥伴關係計劃後，尚有四個步驟是要跟從的：

步驟1: 聯絡選定的供應商

採購機構需得到供應商的加入並取得他們的承諾，告訴供應商所有的規格及要求，並與他們在共同目標上取得共識。

建立此工作最實際的方法是為供應商舉行講座，內容應包括的事項如：

- 建立夥伴關係所採用的方法
- 對供應商的期望及他們可期望得到的協助
- 採用的品質系統標準
- 如何對供應商表現進行評估，如何溝通評估結果及為改善供應商將提供何種協助

給供應商的講座可於顧客或供應商的場地舉行。供應商會議及/或講座必須讓涉及的人仕有機會公開表達不滿及以一個開放、誠實的態度討論問題，並需致力營造一個合作及互有承諾的氣氛。

步驟2 - 評估供應商

當供應商的高級管理小組同意參予計劃，採購者一般會到訪他們的工廠及進行一個正式的供應商批核調查。此調查的目的是評估供

Having put its own house in order and selected suitable suppliers for inclusion in their partnership programme, there are four main steps to be followed:

Step 1 - Contact the suppliers who are to be involved.

The purchasing organisation needs to get the selected suppliers involved and obtain their commitment. This entails telling the suppliers what is required and reaching an understanding with them on a set of common objectives.

The most practical way of setting about this task is to hold presentations to suppliers covering issues such as:

- the approach being taken to partnership,
- what is expected of suppliers and what assistance they can expect,
- the quality system standard to be used,
- how suppliers' performance will be assessed, how the results will be communicated, and what assistance will be provided to help suppliers improve.

Presentations to suppliers can be held either on the customer's premises or at supplier sites. A supplier conference and/or presentation must give those involved an opportunity to air grievances and discuss problems in an open and honest manner and be aimed at establishing a climate of co-operation and commitment.

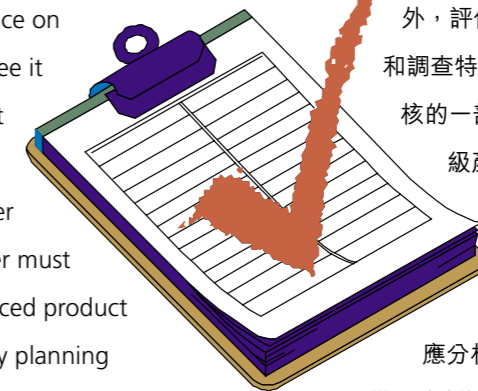
Step 2 - Assess the suppliers

Once a supplier's senior management team have agreed to participate, it is usual for the purchaser to visit their factory and carry out a formal

vendor approval survey. The objective of which is to assess the supplier's suitability as a business partner including the identification of strengths and weaknesses, awareness of continuous improvement mechanisms and cost effectiveness of collaboration. One method is to send the supplier the survey form to complete, this helps to minimise the data collected during the on-site visit. Once this is received, it is assessed and evaluated. A visit to the supplier is then arranged, during which answers provided in the questionnaires are checked and additional data collected. An alternative method is just to carry out an on-site assessment. The survey is a multi-disciplinary task and should cover areas such as controls, processes and capabilities, workshop environment, plant, technology, research and development, quality systems, staff attitudes, responses, tooling, and planning and administrative systems. The on-site assessment activity requires a certain amount of judgement and experience on the part of the assessors and to some degree it needs to be disciplined. The assessors must also develop listening and observation skills and investigate examples of specific supplier procedures. As part of its audit, a customer must assess the supplier's commitment to advanced product quality planning. Advanced product quality planning commences with a joint review of the specification and classification of product characteristics and the production of a Failure Mode and Effects Analysis (FMEA). The supplier should prepare a control plan to summarise the quality planning for significant product characteristics. This would typically include a description of the manufacturing operation and process flows, equipment used, control characteristics, control plans, specification limits, the use of Statistical Process Control (SPC) and mistake proofing, inspection details, and corrective and preventive action methods. The supplier would then provide initial samples for evaluation, this would be supported by data on process capability on the key characteristics identified by both parties, plus test results. Following successful evaluation of initial samples, the supplier is now in a position to start a trial production run followed by routine volume production.

應商作為一位商業夥伴的適合性，評估包括強項和弱點的確認，對持續改善機制的意識及合作帶來的成本效益。其中一個調查方法是讓供應商填寫調查表，這可助減少於探訪期間收集所需的數據資料。在收回調查表後便進行評定及評估，接著便安排探訪供應商。探訪期間除核對調查表上填寫的項目外，亦須收集額外的資料數據。另一調查方法則只進行現況評估。調查是一項多邊學科的工作，因此覆蓋範圍應包括各種控制措施、運作過程及能力、工作場地的環境、廠房、科技、研究及發展、品質系統、員工態度、反應、工具、計劃及行政系統。現況評估活動需要評估員具備相當的判斷力及經驗，並某程度上亦需自律性。此外，評估員必須發展其聆聽及觀察技巧和調查特別供應商程序中的樣本。作為審核的一部份，顧客必須審核供應商對高級產品品質計劃的承諾。高級產品品質計劃先以一個聯合檢討作為開始，檢討包括產品特質的規格及分類、失誤模式與效應分析(FMEA)的生產。供應商應預備一控制計劃綜合重要產品特質的各類品質。典型的控制計劃將包括製作和流程、使用的儀器、控制特質、控制計劃、規格的限制、使用的統計製程控制(SPC)和錯誤驗證、驗證細則、以及糾正及預防行動方法。接著，供應商應提供用作評估的最初樣版，並附有經雙方確認在主要特質上測試製程能力的數據及測試結果。樣版成功進行評估後，供應商便可開始試驗性生產，繼而作日常數量生產。

當顧客評估了供應商的政策、系統、程序及製造方法的充足性，而供應商亦已能夠展示



其付運產品的品質時，便可減少很多對供應商入口貨品的檢驗，甚至可在某些情況下發展至無須檢驗而直接供應的理想情況。這樣便可授予供應商“優先”或“正式供應商”的地位。很多公司現在亦舉辦供應商獎勵計劃以認可卓越供應商的表現。

此評估不應是一次性的。採購機構將逐漸定期審核所有的供應商，確保供應商的系統、運作過程及程序得以維持及改善。每一供應商被再度評估的頻密度則是根據不同的因素，如：

- 供應商的表現
- 供應商獲頒予的地位
- 供應的項目種類
- 供應零件的數量
- 在供應商發生的主要改變(如: 管理層的改變、設施的改變及運作過程的改變)
- 供應商要求的協助

供應商評級制度是在合約簽署後執行。目的是量度及評估供應商的真正表現，因此必須確保用作評估的數據是來自最佳的來源且是量化的，以控制及改善供應商的表現。得出的結果可與 (i)公司標準比較 (ii)供應商過往訂單表現作比較 (iii)同一商品組別內的供應商作比較。一般用作量度供應商表現的範疇包括：品質的符合性，付運的可靠性，付運的數量，價格及售後服務。

衡量供應商表現的目標是促進改善過程，其目的應是使用所有人仕均明白的評級制度，而供應商必須從顧客中得到有關其表現的資料。可是使用供應商評級制度並非沒有問題，其中包括需要相當的客觀判斷。這些是很花時間，需要小心處理，且對沒效率的顧客無法作出處罰。

Once the customer has assessed the adequacy of the supplier's policies, systems, procedures and manufacturing methods, and the supplier has been able to demonstrate the quality of its shipped product, the goods inward inspection of suppliers can be reduced considerably; in some cases down to the ideal situation of direct line supply. At this point, 'preferred' or 'certified supplier' status can be conferred on the supplier. Many companies now also operate a supplier award scheme to recognise excellent supplier performance.

This assessment should not be a one-off exercise. An increasing number of major purchasing organisations will audit all their suppliers at regular intervals. This is to ensure that suppliers systems, processes and procedures are being maintained and improved. The frequency at which each supplier is reassessed is dependent on such factors as:

- The supplier's performance
- The status awarded to the supplier
- The type of item being supplied
- The volume of parts being supplied
- The occurrence of a major change at the supplier (e.g. change of management, change of facilities and process change)
- The supplier's request for assistance

Vendor rating is used in the post-contract stage to measure and assess the supplier's actual performance. It should ensure that the best possible sources are used and provides a quantitative base on which to control and improve supplier performance. The comparison can be made against (i) a company standard, (ii) previous performance on a past order or (iii) other suppliers' performance from the same commodity grouping.

The aspects of supplier performance which are usually measured include: quality conformance, delivery reliability, quantity delivered, price, and after-sales service.

The objective of measuring supplier performance is to further the improvement process. The aim should be to use schemes which are fully understood by all parties and suppliers must be given regular information by the customer about their performance. The use of

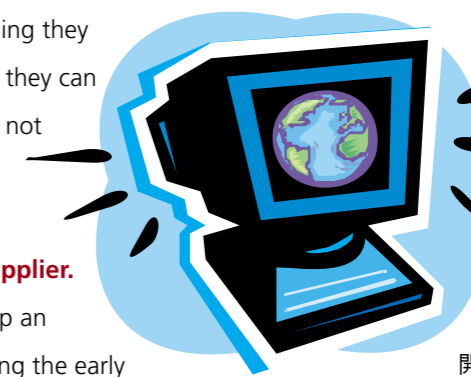
vendor rating schemes are not without problems, including they require a considerable amount of subjective judgement, they can be time-consuming, and care needs to be exercised and not penalised for customer inefficiencies.

Step 3 - Communication between purchaser and supplier.

The partnership process is on-going aimed at building-up an effective business relationship based on openness. During the early days, the parameters of the new relationship are never completely clear to either both party and it takes time to work out ground rules which are suitable for both of them. Major purchasing organisations are increasingly introducing E-commerce with their key suppliers, including the electronic sharing of product data. The more that can be done to transfer data in digital format the better in terms of error reduction and improved communication. This linking of information systems and processes can often test the strength of the relationship, in particular, when incompatibilities in customer and supplier systems are discovered. The electronic data exchange relates to quality, technical requirements and specifications, schedules, manufacturing programmes, lead times, inventory management, and invoicing. Suppliers are obliged to communicate any changes to materials, processes or methods that may affect the dimensional, functional, compositional or appearance characteristics of the product. Customers are obliged to provide sufficient information and assistance to aid development of their suppliers' approach to continuous improvement. In some cases this extends to joint problem solving and cost reduction activities. When the relationship has developed from problem solving to problem avoidance it indicates that relationship has passed a major hurdle.

Step 4 - Supplier associations

Hong Kong and mainland manufacturers should consider setting-up a grouping of first-level suppliers to a particular major customer. This is a loose grouping of organisations who, share knowledge and experience of the value-added chain from raw material to end product, for the benefit of continuous improvement and cost reduction.



步驟3 - 採購者與供應商之間的溝通夥伴關係是一個持續的過程，目的是建立一個建基於開放的有效商業關係。

在早期，新關係的特質對於雙方來說仍未完全清晰，因此需用點時間定出切合雙方的基本原則。主要的採購機構與供應商已逐漸引入電子科技，包括在以電子形式共同分享產品資料。事實上，越是能夠利用數碼形式傳送資料，越是減低錯誤的出現及改善溝通。此類的資料系統及過程的連繫可時常測試關係的強弱，特別是當發現顧客及供應商的系統不相符時，更能發揮作用。電子資料的交換涉及品質、技術要求及規格、時間表、製造計劃、處理時間、存貨管理及開發票。供應商有責任向顧客傳達任何可能因物料、過程或方法改變而對產品的量度、功能、成分或外觀特徵帶來的影響。顧客亦有責任為供應商提供充足的資料及輔助以協助他們發展持續改善的方法。有些情況，當雙方從聯合解決問題擴展至防止問題發生時則顯示雙方關係已跨越一個主要的障礙。

步驟4 - 供應商組織

香港及中國大陸的製造商應考慮為特別主要顧客成立一個首要供應商小組。這是由機構組成而沒有約束力的小組，共同分享在增值鏈中由物料至最終產品的知識及經驗，以達至持續改善及減低成本所帶來的得益。

POTENTIAL DIFFICULTIES OF OPERATING PARTNERSHIPS

在夥伴關係運作中的潛在困難

In a partnership which is regarded as a success by both parties, everyone wins. If only one party is considered the winner, as is the case with typical adversarial purchasing arrangements, there can be no basis for a partnership. A partnership is about a long-term relationship between a customer and a set of suppliers in order to reduce total costs all round, develop and maintain a competitive position and satisfy the end customer. It is important that the partnership is lived in the way it is articulated and talked about. This is far from easy and there are many potential obstacles.

The following are the main difficulties usually experienced in developing this type of approach which Hong Kong and mainland manufacturers should try and avoid:

- An over-emphasis on cost reduction and piece price down, rather than the total cost of acquisition.
- Variations in the approaches of individuals and a general lack of cohesion.
- A perceived lack of understanding by the customer of the business implications of its actions e.g. sudden and large-scale changes in production level and work mix, changes in priorities, and a failure to stick with delivery schedules.
- Poor and inconsistent communication.
- An unwillingness by customers to reciprocate openness with the suppliers.
- Poor reliability of information and systems.
- Inadequate project management.
- A tendency for the customer to blame all the problems which are encountered on the supplier.
- Inability to respond to things which have gone wrong and to resolve the problem.
- Failure to respond to suggestions and ideas for improvement.
- A lack of understanding from the customer of a supplier's constraints and problems.
- A customer asking the supplier to do things which they themselves have not achieved.
- A lack of understanding of the minor problems which undermine the credibility of the customer.
- A mismatch between what is requested and the existing infrastructure.

在夥伴關係中被雙方視為成功的標準就是人人皆贏。若只有一方被認為是贏家，那便是典型的敵對採購安排，亦不可成為夥伴關係的基礎。顧客與一眾供應商的長期關係以求減低整體成本，發展及維持競爭地位及滿足最終顧客是夥伴關係的真義。雙方的溝通與討論是非常重要的。這並非容易，且會有很多潛在的障礙。

以下是在發展此類方法時經常會遇到的主要困難。香港及中國大陸的製造商應嘗試避免：

- 過份強調減低成本及每件產品的售價，而並非著重獲得的整體成本
- 個別所採納方法的差異及欠缺整體的協調
- 顧客對其行動的商業象徵意義欠缺瞭解，如突然大規模地改變生產量及工作配合，改變優先次序及未能如期付運
- 差劣及不一致的溝通
- 顧客不願意與供應商相互採取開放態度
- 不可靠的資料及系統
- 不足夠的項目管理
- 顧客趨於把所遇到的問題怪責於供應商
- 沒有能力對錯誤事情作出反應及解決問題
- 未能對提案及改善構思作出反應
- 顧客對供應商的限制及問題欠缺瞭解
- 顧客要求供應商做些本身未能達到的事情
- 對一些輕微但足以損害顧客信譽的問題欠缺瞭解
- 所要求的與現存的基本設施不配合

GUIDELINES FOR SUPPLIER CHAIN MANAGEMENT

供應鏈管理指引

以下是一些廣泛的指引以協助顧客與供應商建立最適合他們的夥伴關係：

- 1 尋求減少供應商數量的方法。以減少來料、零件及配件的可變性，從而改善輸出產品及服務的品質。
- 2 在支持供應商發展過程及過程中的不同階段時，確保你的職員及任職顧客機構的人員使用適當的工程品質工具。這些工具包括統計製程控制(SPC)，品質控制的七種工具，管理的七種工具，失誤模式與效應分析(FMEA)，品質功能展開(QFD)，實驗設計(DOE)，這些工具亦可有助生產/裝配主導的設計(DFMA)及避免成本過高。
- 3 在研究發展新產品時，包括供應商在內，並進行全面調查。
- 4 鼓勵供應商只付運符合標準的產品，這樣便可省卻對來貨作重覆測試及檢驗。
- 5 與有承諾及有改善的供應商簽訂長期合約作為獎勵，以展示長期合作帶來的有形得益。
- 6 考慮執行一個評估及評級政策以選擇及量度供應商的表現。差劣的選擇會引致成本上升，這是由於需尋求其他供應商以彌補因不當處理而選擇有缺點的供應商。

The following are broad guidelines which will help both customers and suppliers establish the type of partnership that is most appropriate for them:

- 1 Look at ways of reducing the size of the supplier base. By reducing incoming material, component and sub-assembly variability, outgoing product and service quality will improve.
- 2 Ensure that, in support of the supplier development process and its various stages, your staff and those in the customer organisation use the appropriate engineering quality tools. These tools include, statistical process control, the seven quality control tools, the seven management tools, FMEA, Quality Function Deployment (QFD), Design of Experiments; the tools also facilitate Design for Manufacturing/Assembly (DFMA) and cost avoidance.
- 3 Involve suppliers in new product development and investigate the full range of ways of achieving this.
- 4 Encourage suppliers to despatch only conforming product, thereby eliminating the need to carry out duplicate testing and inspection on incoming goods.
- 5 Award long-term contracts to key suppliers who have shown commitment and improvements in order to demonstrate the tangible benefits that can arise from a long-term relationship.
- 6 Consider implementing an assessment and rating scheme to select and measure the performance of suppliers. Poor selection will lead to increased costs as other suppliers are sought to compensate for the deficiencies of the one chosen without due care.

- 7 Develop procedures, objectives and strategies for communicating with the supply base.
- 8 Treat suppliers as partners, thereby establishing trust, co-operation and dependence.
- 9 Ensure that the staff dealing with suppliers act in a consistent and courteous manner and match actions to words.
- 10 Respond positively to suppliers requests for information.
- 11 Develop and decide upon mutually agreed purposes and values that define the relationship and measure its success. The approach by the customer must be seen by the supplier as helpful, constructive and of mutual benefit.
- 12 Decide and agree on the best means of communication and the provision of reliable information and monitoring a constructive dialogue. This requires defined points of communication to be established.
- 13 Listen and be receptive to feedback and be willing to share information and ideas and discuss problems. Discover and respond to functional perceptions, in both customer and supplier, of the state of the partnership.
- 14 Provide education to raise awareness of the Supply Chain Management approach and specific training for the new skills required.
- 15 Be honest about the state of the partnership and avoid complacency.
- 16 Ensure that customer and supplier organisations are sufficiently knowledgeable about each others business, products, procedures, systems and how the respective organisation's worked.
- 17 Remember a flexible and open approach is crucial, with the encouragement of positive constructive criticism.

- 7 制定與供應商溝通的程序、目標及政策。
- 8 待供應商為夥伴，這樣才可建立信任，合作及依賴。
- 9 確定職員與供應商洽談時有一致及誠懇的態度及言行一致。
- 10 對供應商要求資料作出正面的反應。
- 11 制定及決定雙方同意的目的及價值，以界定雙方的關係及量度達至成功的標準。顧客採用的方法必須被供應商視為有幫助，有建設性及互相得益的方法。
- 12 決定及同意最佳的溝通方法、可靠資料的提供及具建設性的對話。這需要建立明確的溝通。
- 13 用心聆聽，願意接受返饋，願意分享資料及構思，並願意討論問題。從顧客及供應商的功能角度發現及回應夥伴關係的發展狀況。
- 14 為供應鏈管理方法提供教育以提升意識，並對為所需的新技能提供特別培訓。
- 15 對夥伴關係的狀況需表現誠實及避免自滿。
- 16 確定顧客及供應商的機構對雙方的業務、產品、程序、系統及運作有充足的知識。
- 17 請緊記：一個靈活及開放的態度，加上有正面、建設性的批評是非常重要的。

BARRIERS TO SUPPLY CHAIN MANAGEMENT

供應鏈管理的障礙

以下各項，應盡量避免：

- 1 除非高級管理層明白供應鏈管理為何，並支持此概念，否則便不應開始。
- 2 切勿忽視顧客及供應商的高級管理層許下之承諾，因為他們的承諾與及對過程的積極參與，包括瞭解其重要性，對發展理想的夥伴關係是必須的。管理層必須知道這方法並不是一個減低成本的捷徑。
- 3 切勿視供應商為競爭中的對手。
- 4 切勿持續令供應商缺乏資料。
- 5 切勿只根據價格購買貨品。須考慮其他標準如品質及付運表現、研究及發展潛質、製造競爭力及卓越工程。
- 6 切勿定期轉換供應商。
- 7 切勿接納不符合貨品。
- 8 切勿空談品質，而實際卻根據生產時間表及每件產品價格而做。

The following are the major Don'ts:

- 1 Begin unless senior management understand what is involved and that they support the concept.
- 2 Overlook the fact that senior management commitment, in both customers and suppliers, to the ideals of partnership is necessary along with their active participation in the process, including understanding its importance. Management must recognise that it is not a 'quick fix' solution to achieve cost reduction.
- 3 Treat suppliers as adversaries.
- 4 Keep suppliers short of information.
- 5 Buy goods on price alone. Ensure other criteria such as quality and delivery performance, R and D potential, competitive manufacturing and engineering excellence are also taken into account.
- 6 Constantly switch suppliers.
- 7 Accept non-conforming goods.
- 8 Talk quality but act production schedule and price per piece.
- 9 Forget that the initial samples procedures is a key factor in receiving conforming supplies.

10 Forget that the customer and supplier must be prepared to add value to each others operations, through reducing costs, identifying opportunities for improvement.

11 Forget that the move to partnering usually takes longer than expected.

12 Overlook the fact that the principles and values of partnership must be cascaded to all relevant levels in the customer and the supplier and must be fully accepted, in particular, by those staff at the day-to-day contact point.

13 Forget that the effectiveness of the partnership must be measured and monitored.

14 Forget that developments affecting both parties should be carried out with mutual consultation.

15 Assume that there will be no problems; ensure that suitable countermeasures are ready to address the obstacles encountered.

9 切勿忘記最初樣辦的生產程序是日後接收合格供應品的主要因素。

10 切勿忘記顧客及供應商必須透過減低成本及確認改善機會以增加雙方運作的價值。

11 切勿忘記建立夥伴關係所需的時間是比預期的長。

12 切勿忽視夥伴關係的原則及價值；這些是必須傳達致顧客及供應商內所有有關的階層，特別是日常需互相接觸的職員，並得到他們的全面接納。

13 切勿忘記夥伴關係的有效性必須量度及監察。

14 切勿忘記在進行影響雙方的發展時應互相諮詢。

15 切勿假設將不會有問題發生，確定備有適當的對策致力處理遇到的困難。

Barriers to
SUPPLY CHAIN
management



Supplier Development Checklist

供應商發展檢查清單

請評估下列活動的重要性

Assess the extent to which the following activities are considered to be important.

	不重要 Not important					非常重要 Very important				
	1	2	3	4	5	1	2	3	4	5
1 減少供應商 Reducing the supplier base	1	2	3	4	5					
2 供應品來自單一來源 Single sourcing of supplies	1	2	3	4	5					
3 供應商參予新產品的發展 Suppliers are involved in new product development	1	2	3	4	5					
4 給予供應商長期合約 Long-term contracts are awarded to suppliers	1	2	3	4	5					
5 根據評估及評級制度選擇及量度供應商表現 Assessment and rating schemes are used to select and measure supplier performance	1	2	3	4	5					
6 設置與供應商溝通的程序及策略 Procedures and strategies are in place for communicating with suppliers	1	2	3	4	5					
7 協助供應商進行改善 Assistance is provided to suppliers to help them improve	1	2	3	4	5					
8 視供應商為機構的一部份 Suppliers are treated as part of your own organisation	1	2	3	4	5					
9 在供應商要求數據資料時能正面及快捷地回應 Positive and fast response is given to requests for data from suppliers	1	2	3	4	5					
10 選購的貨品並非純粹以價格為標準 Goods are purchased not just on price criteria	1	2	3	4	5					

若你的得分少於 20，即表示你的機構與供應商仍處於傳統及敵對的關係

If you scored less than 20 your organisation is still operating in a traditional and adversary mode with your supplier base.

若你的得分介乎 20 與 40 之間，即表示你的機構已展開夥伴關係

If you scored between 20 and 40 your organisation has begun the journey to partnership.

若你的得分多於 40，即表示你的機構已對夥伴關係的理想許下承諾及對其重要性作出肯定

If you scored more than 40 your organisation is committed to the ideals of partnership and recognises its importance.

CASE STUDY

個案研究

Q

公司: 創科實業有限公司(TTI)

業務性質: 可充電及交流電產品製造商(電力工具及地面護理)

每年營業額: HK\$2.5萬億

Company: TechTronic Industrial Co. Ltd. (TTI)

Nature of Business: Manufacturer of rechargeable and A.C. products (Power Tools and Floor Care)

Sales Turnover per year: HK\$2.5 Billion

TTI已獲ISO 9001認證，他們的採購活動包括四個主要步驟：

步驟 (一): 評估潛在供應商及其主要配件 -

TTI對認可供應商的要求是很直接的。簡單而言，供應商的配件必須在具競爭力的價格下一貫地提供符合他們在技術、品質、付運及數量方面的規格。

在選用供應商時，TTI 是根據 ISO 9001/2 的規定而進行評估的。在一些情況下由於評估時已確認某些公司從事業務的方法有缺陷，因此即使他們已獲 ISO 9001/2 認證亦不被批核為供應商。除品質外，TTI 亦會評估供應商的生產能力及具有符合配件和訂單需求及要求的能力。

供應商評估涉及數個部門。在評估及批核供應商的組織及系統後，他們的配件亦需在正式落單前透過首次樣本檢驗匯報系統進行評估。

TTI are ISO 9001 certified and their purchasing activities comprise four major steps.

Step 1 - Assessment of potential suppliers and their parts - TTI

requirements for approved suppliers are straight forward. In simple terms the supplier must be able to supply parts which consistently meet their technical, quality, delivery and quantity specifications and at a competitive price.

The assessment of potential suppliers are undertaken using the requirements of ISO 9001/2. In some cases, ISO 9001/2 certified companies have not been approved as suppliers as a number of flaws in their approach to business have been identified. In addition to quality, suppliers are also assessed on their production capability and capacity to meet both part and order needs and requirements. The supplier assessment process involves a number of departments. After the organisational and system aspects of suppliers activities have been assessed and approved, their parts also need to be evaluated before orders are placed, this is undertaken through the initial sample inspection reporting system.

Step 2 - Purchasing of parts - TTI do not always place orders on those suppliers with the lowest price; the main decision making criteria are quality, delivery and cost in that order of priority.

Step 3 - Inspection of purchased parts - With some of their strategic suppliers, TTI operate a 'just-in-time' system with inspectors strategically positioned at supplier's premise to inspect parts specified by PMC (Production and Material Control). When these parts are needed for production according to the schedule, PMC informed the supplier to deliver these accepted parts. The accepted parts are delivered and transferred direct to production lines to reduce handling time, storage space and facilitate effective planning.

TTI conduct incoming inspection of purchased parts. All purchased parts are evaluated by Engineering and QA departments and must be approved before orders are placed or as a condition of the order.

The in-coming quality control inspectors inspect purchased parts according to parts specification and sample data sheet using defined sampling plan. Only accepted parts are forwarded to storage area pending issuance to production.

The QA department issues a report to those suppliers whose parts have been rejected. A formal corrective and preventive action request is issued both for potential non-conforming and rejected batches of parts. This feedback system is important for suppliers to assess TTI satisfaction level with their incoming parts.

Step 4 - Performance review - A monthly suppliers performance report is compiled which is communicated to suppliers. Those suppliers who are under performing are requested to a meeting in order to discuss their performances and subsequent countermeasures and improvement actions.

Relationship with Suppliers

TTI place a large amount of orders, in monetary terms, with their suppliers and are in a strong position to influence what they do. Discussions held

步驟 (二): 購買配件 - TTI並非經常向價格低的供應商落單；主要是根據：品質、付運、成本這個優先次序作為準則。

步驟 (三): 檢驗已採購的配件 - 對於部份具策略性的供應商，TTI 採用 "Just-in-time" 系統，策略性地安排檢驗員到供應商的公司檢驗生產及物料控制部(PMC)指定的配件。當此類配件根據時間表需用作生產時，PMC便通知供應商付運已批核的配件，這批配件將被直接付運及轉送至生產線上以減少處理時間及儲存空間，並有助有效地計劃生產。

TTI對採購的配件進行檢驗。所有採購的配件會被工程及品質部評估。在落單前，配件必須已被批核或作為一項訂單要求。

品質控制檢驗員根據配件規格檢驗採購的配件及根據界定的樣本計劃制定樣本資料表，只有獲接納的配件才可送往儲存區待發用作生產。被拒收的配件會由品質部向有關的供應商發出報告，並同時對潛在不符合及被拒收的配件作出糾正及預防行動要求。這個返饋系統有助評估TTI對供應商配件的滿意程度，因此是十分重要的。

步驟 (四): 表現檢討 - 與供應商溝通每月制定的供應商表現報告。對於表現未達要求的供應商需進行會面以商討他們的表現及接著所需執行的對策及改善行動。

與供應商的關係

以金額來說，TTI 向供應商大量訂貨，因而可以使他們能在一個很強的位置影響供應商的做法。TTI 從一批有多年業務往來的供應商中抽取部份參與討論會議，以下是藉得留意的主要事項：

(a) 採購能力 - 在過去十年，TTI 有相當的業務增長，並在採購訂單方面有持續增長，TTI 因而被視為一位穩固的顧客以至各供應商均欲與其有業務往來。

(b) 付款條款 - 這裡指出付款條款是一項關鍵因素以示 TTI 對供應商所給予的信心及支持。在現今的經濟氣候下，TTI 與其他製造商不同，他們能繳付所協議的金額而沒有將之扣留。

(c) 溝通 - 供應商顯示他們與 TTI 員工有良好的關係，這有賴於在會議、電話及工場到訪期間的溝通。最高或高級管理層並未參與與供應商日常活動，但供應商亦可與他們溝通，因此 TTI 與供應商的業務往來是十分開放的。

(d) 要求 - 有人提及與 TTI 的業務往來越見困難，因他們的要求永遠不斷地提高，但這些人卻沒有指出不斷提高的要求正好讓他們在其他顧客中亦達到更具競爭力的地位。

TTI 亦感到有需要與其供應商發展策略性的夥伴關係，所基於的原因包括：改善供應配件的品質，減低配件的成本及增加各方面的技術知識。

採購部、品質部及生產物料控制部確認建立初步策略性夥伴的主要供應商。最重要是這些部門能緊密合作，以發展行動計劃及以按步就班的方法與主要供應商達至夥伴關係。

with a sample of suppliers who have done business with TTI for many years highlight some key issues.

(a) Purchasing power: - The growth of TTI business in the last decade has been considerable and has seen a subsequent increase in purchased orders over the years. TTI are viewed as a secure customer to whom they wish to do business.

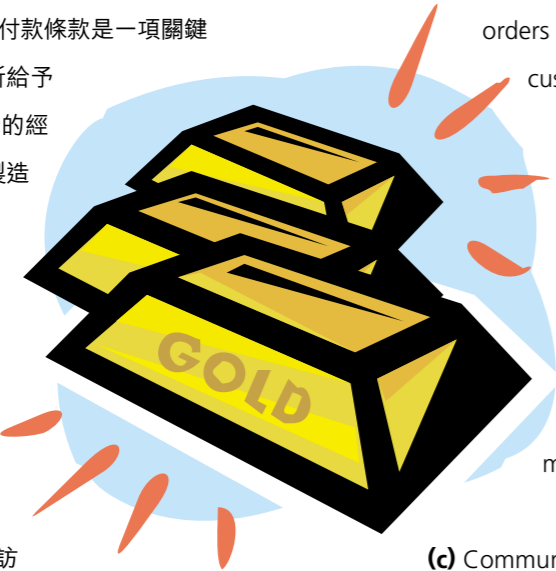
(b) Payment terms - It was pointed out that this was a critical factor in their faith and support provided to TTI. In the current economic climate, TTI were able to pay, as agreed, without holding up payment to them; this is not the case with other manufacturers.

(c) Communication - Suppliers indicated that they have good relationships with TTI staff and this is aided by communication in meetings, phone calls and plant visits. They have access to top and senior management who are not involved in the day-to-day activities associated with supplies. TTI are very open in their business approach with suppliers.

(d) Requirements - It was mentioned that doing business with TTI is getting increasingly tougher because their requirements are forever increasing. However, they did point out that this has allowed them to attain a more competitive position with their other customers.

TTI see the need in developing a strategic partnerships with their suppliers with a number of objectives, including 'Improving the quality of parts supplied', 'Reducing the cost of parts' and 'Increasing technical knowledge for all sides'.

The Purchasing, QA, Engineering and PMC Departments identified key suppliers for the initial strategic partnerships with suppliers. It is important that such departments work closely together to develop action plans



and put in place a step-by-step approach to partnership with these key suppliers.

Meetings were carried out with selected suppliers to explain the purpose, strategy, action and targets of partnership. Some suppliers were concerned about the cost reduction targets and the demand for higher quality requirements. They feared that the new initiative will force them to invest in equipment and staff in order to fulfill the new requirements. Although they understand that this was going to be the trend in doing business and staying competitive, they still have these underlying concerns but remain committed to the partnership initiative.

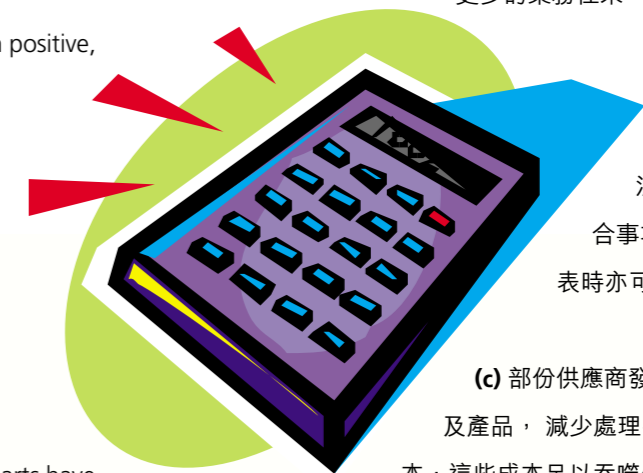
A small group of suppliers have decided to appoint the service of the same consultancy company to help them implement an effective quality management system and improvement activities. This approach has been considered to be both useful and cost effective because problems - (actual and potential) - detected by in-coming inspection were outlined to the consultant who in return has assisted the suppliers to put in place improvement activities.

The results of the partnerships have been positive, as follows:

(a) Cost reduction targets have been achieved thereby making the company more competitive and obtaining more orders, which in turn, have led to an increasing level of suppliers business.

(b) Improvements in the quality level of parts have eliminated time wasted in dealing with non-conformances. The planning of production schedule has also been more effective.

(c) Some suppliers have found that the improvement of their operation and products have reduced their cost of non-quality which were eating away their profits.



與選定的供應商進行會議以解釋夥伴關係的目的、策略行動及目標。部份供應商則關心以減低成本為目標及對高品質的需求，因他們恐怕新動向將迫令他們投資在設備及員工上以符合新的要求。當然他們明白要維持業務關係及競爭力，這是必然趨勢。因此，即使他們心底裡對此很關注，但他們仍對夥伴關係的新動向維持承諾。

一小組的供應商已決定委派顧問公司協助他們推行有效的品質管理系統及改善活動。此方法被認為既有用亦很經濟，因為由檢驗員發現的問題（實際的及潛在的）經顧問瞭解後最終可協助供應商設定改善活動。

夥伴關係的結果是正面的，詳列如下：

(a) 達至減低成本的目標後，令公司更具競爭力及得到更多的訂單，最終帶動與供應商更多的業務往來。

(b) 改善配件的品質層次，避免浪費時間於處理不符合事項。計劃生產時間表時亦可更有效率。

(c) 部份供應商發現改善他們的運作及產品，減少處理不符合品質的成本，這些成本足以吞噬他們的盈利。

Conclusion

Conclusion

總結

Suppliers are now recognised as an essential part of any organisations competitiveness. There are two major reasons for this - greater global specialization and changes in the nature of competition. Effective partnership requires purchasing organisations to treat suppliers as long-term business partners and this necessitates a fundamental shift from the traditional adversarial buyer-supplier relationship. Properly implemented partnership will help to reduce costs and increase market share to the benefit of both parties, together with technology transfer issues surrounding product, process, practices, systems. However, the nature and mechanisms of partnership must be related to the particular circumstances and needs of those involved.

供應商現被視為任何機構競爭力的主要部份。這主要是有兩個原因-更大的全球專業化及競爭性質的改變。有效的夥伴關係需要採購機構視供應商為長期業務夥伴，這是必須從傳統的敵對關係作一個基本的轉移至買家-賣家關係。正確執行夥伴關係將有助雙方減低成本及增加市場佔有率，並可轉移環繞著產品、過程、做法及系統的科技事宜。無論如何，夥伴關係的性質及機制必須與特定的環境及有關人仕的需要相關。

Further Reading

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