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MASTER'S THESIS

THE LEVEL OF STRATEGIC PURCHASING AMONG THE FIRMS IN IZMIR AND MANISA

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DECLARATION

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ABSTRACT

Master's Thesis

The Level of Strategic Purchasing among The Firms in Izmir and Manisa

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Purchasing, along with selling is a historical activity since the beginning of the trade relations in human history. As the economic evolutions created more complex organizations like companies, several other fundamental functions also came into the picture such as manufacturing, marketing, finance, accounting, logistics, human resources, research and development. Although purchasing, as an activity has a longer history with respect to some of the functions listed above, it's not until the past three decades that it has started to be recognized as an important, actually a strategic function of the company. The major turning point in the recognition of the importance of the purchasing as a strategic function is owed to Porter's five forces that define the competitive environment of an industry. The most progressive firms recognized the importance of the purchasing function for the company performance, started to pay close attention on their purchasing function and focused on how to improve their supplier network management.

This thesis aims to give a general overview on what the strategic purchasing is and understand the level of adoption of strategic purchasing practices among firms based in Izmir and Manisa Turkey using the approach and definition of the strategic purchasing that Carr and Smeltzer (1997) described. The study also aims to understand whether there is a positive correlation between the level of strategic purchasing and some of the company profile variables of a company such as the size, the capital structure and the target market.

Keywords: Strategic Purchasing, Purchasing Skills, Purchasing Status, Purchasing Resources, Purchasing Risk Taking, Integration, Strategic Alignment, Supplier Relationship Management, Supplier Quality Management, Supplier Performance, Supplier Evaluation, Supplier Selection

ÖZET

Master Tezi

İzmir ve Manisa'daki Firmalarda Stratejik Satınalma Düzeyi

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İngilizce İşletme Yönetimi Bölümü

Satınalma, satış ile birlikte ticari faaliyetlerin ortaya çıkışından bu yana tarihsel bir aktivitedir. Ekonomik gelişmelerle birlikte daha karmaşık organizasyonlar olan şirketler ortaya çıkınca bu iki temel aktiviteye üretim, pazarlama, finans, muhasebe, lojistik, insan kaynakları, araştırma geliştirme gibi aktiviteler katılmıştır. Ancak satınalma, bu faaliyetlerden daha eski bir faaliyet olmasına rağmen yakın zamana kadar stratejik bir şirket fonksyonu olarak görülmüyordu. Porter'ın beş kuvvet çalışması ile beraber bu durum önemli şekilde değişikliğe uğradı. Öncü firmalar, satınalma fonksyonunun stratejk önemini kavrayarak satınalma faaliyetlerine ve tedarikçileri ile olan ilişkileri geliştirmeye odaklandılar.

Bu tez stratejik satınalmayı genel hatları ile anlamayı, İzmir ve Manisa bölgesindeki şirketlerde stratejik satınalma düzeyini ve stratejik satınalmaya etki ettiği düşünülen statü, bilgi ve beceriler, kullanılan kaynaklar ve risk alma davranışı gibi boyutların varlığını ve stratejik satınalma düzeyine etkisinin olup olmadığını, Carr ve Smeltzer'in 1997 yılındaki çalışmalarında kullandıkları yaklaşımı ve stratejik satınalma tanımını kullanarak anlamayı amaçlamaktadır. Bu çalışma aynı zamanda şirket büyüklüğü, sermaye yapısı ve hedef pazar gibi şirket profili özellikleri ile stratejik satınalma düzeyi arasında pozitif bir ilişki olup olmadığını da anlamayı amaçlamaktadır.

Anahtar Kelimeler: Stratejik Satınalma, Satınalma Becerileri, Satınalma Statüsü, Satınalma Kaynakları, Satınalma Risk Davranışı, Entegrasyon, Tedarikçi İlişkileri Yönetimi, Tedarik Kalite Yönetimi, Tedarikçi Performansı, Tedarikçi Değerlendirme, Tedarikçi Seçimi

THE LEVEL OF STRATEGIC PURCHASING AMONG THE FIRMS IN IZMIR AND MANISA

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CHAPTER 2

THE STRATEGIC PURCHASING PROCESS

ABBREVIATIONS

AAR	Appereance Approval Report
APQP	Advanced Product Quality Planning
APV	Annual Purchase Volume
CAD	Computer Aided Drawing
CEO	Chief Executive Officer
CFT	Cross Functional Team
COGS	Cost of Goods Sold
ÇAOSB	Çiğli Atatürk Organize Sanayii Bölgesi
ESBAŞ	Ege Serbest Bölge Anonim Şirketi
EU	European Union
FMEA	Failure Mode Effect Analysis
HVAC	Heating Ventilating Air Conditioning
IT	Information Technology
JIT	Just in Time
KMO	Kaiser-Meyer-Olkin
MOSB	Manisa Organize Sanayii Bölgesi
MSA	Measurement System Analysis
NPV	Net Present Value
OEM	Original Equipment Manufacturer
PPAP	Production Part Approval Process
PSIO	Purchasing Status in Organizaton
PSKS	Purchasing Knowledge and Skills
PSRS	Purchasing Resources
PSRS3	Purchasing Resources Item 3
PSRT	Purchasing Risk Taking
PSRT1	Purchasing Risk Taking Item 1

PSW	Part Submission Warrant
R&D	Research and Development
RFI	Request for Information
RFQ	Request For Quotation
ROI	Return on Investment
SCM	Supply Chain Management
SME	Small Medium Enterprise
SPC	Statistical Process Control
SPE	Level of Strategic Purchasing
SQA	Supplier Quality Assurance
SQE	Supplier Quality Engineer
SRM	Supplier Relations Management
SWOT	Strength Weakness Opportunity Threat
TQM	Total Quality Management
VA	Value Analysis

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INTRODUCTION

Purchasing, along with selling is a historical activity since the beginning of the trade relations in human history. As the economic evolutions created more complex organizations like companies, several other fundamental functions also came into the picture such as manufacturing, marketing, finance, accounting, logistics, human resources, research and development. Although purchasing, as an activity has a longer history with respect to some of the functions listed above, it's not until the past three decades that it has started to be recognized as an important, actually a strategic function of the company. Previously, purchasing was viewed as a clerical routine function regarding spending referring most of the cases to the act of payment only and nothing further such as any activity that involves the authority of decision making on what to purchase, how to purchase or from whom to purchase.

This situation has changed during the last two decades. Purchasing function and purchasing professionals started to become more visible to the eyes of the top management of the companies. This evolution though was quite slow and started quite late as the top managers failed to recognize for a long time the importance or purchasing's role in the competitive environment in which the companies struggle to compete. There were some sporadic efforts to enrich the purchasing activity with some strategic approaches since the mid-70s and Farmer(1978) observed that although limited to multinational manufacturing companies, there was a growing interest in the purchasing function as important element in the corporate activity. Yet, the recognition of the purchasing's contribution to the company's competitive effort was low respect to some other functions considered as more important or strategic to the company (Rajagopal and Bernard, 1993).

Basically until the oil crises in 1973-74, purchasing was considered by the top management to have a passive role within the organization (Ammer,1989). The major turning point in the recognition of the importance of the purchasing as a strategic function is owed to Porter's five forces (1980) that define the competitive environment of an industry. In his work, Porter emphasized the buyer and the supplier as the two fundamental forces of the competitive environment bringing the purchasing function to the centre of attention. Purchasing was clearly a tool to help the company to obtain a competitive advantage.

In the early 1980s, due to the change of attitude towards purchasing function's role within the overall corporate strategy, purchasing slowly started to gain importance taking a supportive role focusing also on the supplier quality side making sure that it met the standards set for production. Due to the deep recession in the early 1980s, the major part of the industries found themselves in a more challenging external competitive environment and felt more the necessity of a closer collaboration between the buyers and suppliers to improve the schedule, quality and reliability to obtain the best use of resources and get mutual benefits and ensure the future supply resources (Bailey and Farmer, 1986). This necessity led a particular focus on improvements on the collaboration of the supply chain partners and supplier network management.

The most progressive firms which recognized the most the importance of the purchasing function for the company performance, started to pay close attention on their purchasing function and focused on how to improve their supplier network management. In parallel, to confirm the presence of this shift of attitude towards the purchasing function, academic publications began to recognize the contribution of purchasing in formulating corporate level strategies (Watts, Kim and Hahn, 1992).

Both popular press and academic journals started to pay a particular attention to the strategic role of the purchasing function starting from the mid-1980s. With the help of these publications firms started to realize the value contribution of the purchased inputs in their products and consequently the purchasing function's participation in the strategic planning process started to become more and more present thus increased in importance as well. Firms started to take advantage of purchasing function's contribution to the strategic planning to gain a competitive advantage in the swiftly expanding global marketplace. Purchasing was becoming an important strategic resource for companies to achieve higher quality levels, faster delivery and lower costs. The interest in fostering purchasing function as strategic resource was particularly high in the US and the Pioneer companies in this field like GM and GE were able to achieve competitive advantages by managing better their purchasing activities (Spekman, 1988).

The literature on the purchasing function, shows us during the 1990's, a continuous steady trend of integrating purchasing in the strategic planning process of the firm which has started in the mid-1980s. During the 1990's, Purchasing function's impact on the corporate strategic planning process has increased in many firms (Carter and Narasimhan, 1996). According to Spekman et al, (1994) rapidly changing competitive environment gave the purchasing function a very important opportunity to become strategic and top management focus on the purchasing function has increased. Now the top management expectation out of the purchasing function was incomparably different from what it used to be a decade ago. As purchasing function showed that they can significantly contribute on the company's financial performance by adding millions to the bottom line, the traditional, once the corporate backwater function became the hottest profession to be involved (Tully, 1995). This transformation should have been rather quick. Purchasing can no longer improve at a snail's pace and it must be strategic to the company(Spekman et al, 1994).

Although there had been significant changes towards purchasing function's importance and its involvement in the corporate strategic planning process during the past decades, documented by the academic research papers as well, today, in many companies purchasing is still not considered as a strategic function. Ironically more than half of the company's value proposition is owed to its suppliers. Any company that happens to be short sighted to miss this fact, is destined to lose its competitiveness with respect to its suppliers in today's competitive environment. The companies need to manage their supply base through a purchasing strategy that is aligned with the overall strategic objectives of the company, to create the most desired competitive edge that fits best to their need.

As the nature of competition evolves, most of the capabilities of companies developed through the years to confront this competition, do not serve as a competitive weapon anymore and for this reason companies should continuously seek new competitive advantages. Purchasing along with its supplier base, offers an enormous potential for companies to improve, renew, or reinforce their fading capabilities or innovate a totally new set of competitive advantages (Hogan et al., 2001; Jap, 1999). Top management should recognize this potential that the purchasing possesses to reshape the competitive position of the company in collaboration with their suppliers contributing directly to the company's bottom line results (Watts *et al.*, 1992).

The direct contribution of the purchasing function may have to the bottom line results of the company may vary slightly across various industries from being important to being critical. In many industries though, Purchasing impact can be estimated to exceed 55 to 60 per cent of sales (Ansari and Modaress 1987; Anderson, Griffiths, and Laseter 1993; Leenders and Fearon, 1993). According to Killen and Kamauff (1995), the average spend of an US company on materials and equipment is around 60 per cent of sales. On the other hand, the expenditure of overheads is around 20-30 per cent of sales. This partition of cost structure shows us clearly that a particular attention to the purchasing function is a necessity to create a competitive advantage especially when the business strategy is based on cost leadership.

Toyota was able to make more profits than its three biggest competitors all put together in 2003 thanks to its competitive advantages created together with its suppliers.

Honda America, gets over 80% of the materials used to assemble its products from suppliers. It’s an illustrative example of the level of value proposition that comes from the suppliers. For this reason, purchasing function is totally integrated in Honda America’s strategic planning process.

The strategic thinking effort of the executives regarding the purchasing function may sometimes be limited to cost, time and quality however as the Honda America case illustrates, at least 50-70% of a product value come from suppliers and purchasing function’s skill to improve supplier capabilities have enormous impact on desperately sought cost reductions, risk reductions regarding the supply security or on time delivery or sales increase. (Carter *et al.*, 1998; Doyle, 1990). In fact the managerial emphasis on the purchasing function is shifting more and more towards evaluation of supplier capabilities and the value that they add to the company rather than evaluating solely the product or the service the supplier provides. (Odgen *et al.*, 2005).

Today one of the strategic contributions that purchasing function gives to strategic planning process of the company is to evaluate and identify the suppliers which support them best with their capabilities to achieve corporate strategies. This requires purchasing functions full strategic integration to the strategic planning process, strategic thinking and purchasing knowledge and skills to convey the corporate strategies in the best way to manage its supplier base and develop them to ensure the sustainability of achievement of the corporate strategies.

So, there is a general recognition that purchasing function must be strategic and be involved in the corporate strategic planning process, but what does it really mean that the purchasing function being strategic? How is strategic purchasing defined? What are the constructs that describe the purchasing as being strategic?

This thesis aims to describe a general overview on what the strategic purchasing is and understand the purchasing practice adoption of strategic purchasing among firms based in İzmir and Manisa Turkey using the approach that Carr and Smeltzer (1997) used. The following section discusses the literature on the strategic purchasing.

CHAPTER 1

THE STRATEGIC PURCHASING CONCEPT

When the strategic purchasing subject is researched a clear distinction should be made from the related concepts to emphasize strongly and clearly what is actually meant by strategic purchasing concept and which underlying elements or constructs may help us to make that definition.

As the literature survey on strategic purchasing concept of Ellram and Carr, (1994) shows us that the strategic purchasing and purchasing strategy are quite often thought to be the same concept although there is a fundamental difference between the two concepts relating them to totally different aspects of the purchasing theory. According to Carr and Smeltzer, (1997), the purchasing strategy refers to the specific actions undertaken by the purchasing function to achieve its objectives such as specific criteria applied by the purchasing team to manage the supplier selection process or early supplier involvement in the product development process as well as pursuing the long term contracts or relationships with its strategic suppliers from the critical supply or the technological competence point of view.

On the other hand, the strategic purchasing concept specifically refers to the strategic planning process that purchasing needs to comply with to support the corporate strategy through setting goals, establishing strategies, analysing the environment, evaluating strategies, implementing and controlling strategies. Clearly for purchasing to have a strategic relevance, the goals set and established strategies should be aligned with the corporate goals and strategy.

Ellram and Carr's literature review in 1994 on scientific articles published on strategic purchasing revealed that most of the articles on strategic purchasing refer to purchasing strategies rather than strategic purchasing. Only some articles picture conceptual frameworks to incorporate the purchasing function into corporate strategic planning process (Watts et al, 1992). The purchasing function is referred as strategic if it's included in the corporate strategic planning process. Therefore to understand better what strategic purchasing includes it may be useful to understand the concept of strategic management (Freeman and Cavinato, 1990; Browning et al, 1983).

1.1 STRATEGIC MANAGEMENT PROCESS

There are many definitions of strategy. The definition of strategy that's used in this study in the attempt to explain what strategic purchasing actually means is that strategy is the pattern of organizational moves and management approaches used to achieve organizational objectives and to pursue the organization's mission (Thompson and Strickland, 1990). There are three strategic levels that are involved in the strategic management process:

1)Corporate Level

2)Business Level

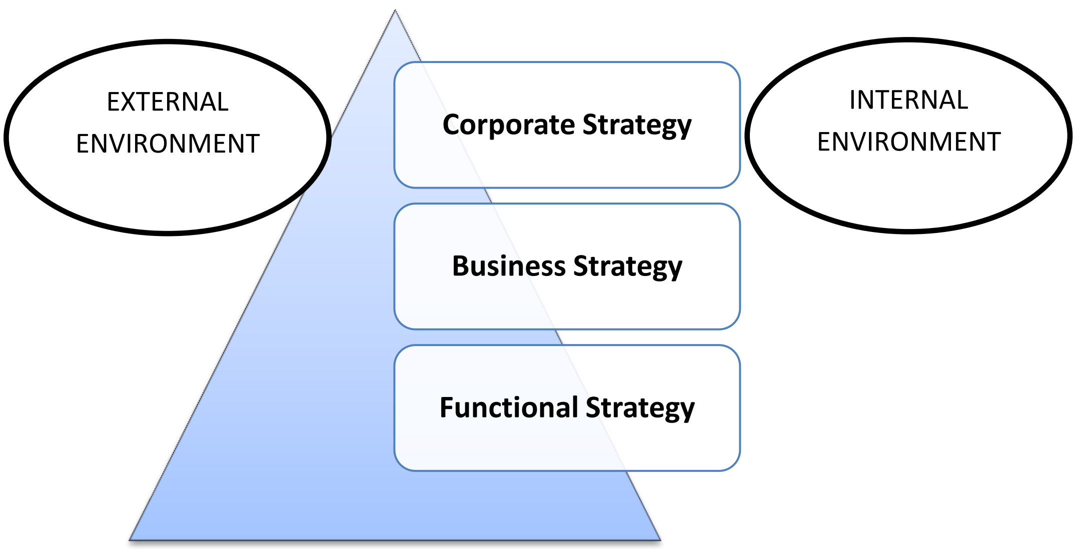
3)Functional Level

Corporate level strategy defines what business the firm should be in. The business level strategy defines how the firm should compete in a particular business. The functional level strategy on the other hand is focused on linking the functional level activities with the business and corporate strategies and assuring that these functional activities are consistent with the changes in the functional area environments.

The corporate strategy planning is driven by the firm's external and internal environments. After the corporate strategy is defined the business units should establish strategies and goals in line with the corporate strategy. The functional strategies and activities of the functional areas are shaped by the business unit strategies. The corporate and functional strategies must be consistent for strategic purchasing to exist.

The hierarchical relationship among these strategy levels is shown in Figure 1.1.

Figure 1.1 - Hierarchy of strategies



The strategic management process starts with the formulation of a set of goals for the firm. To achieve these goals, the firm should also make forecasts about the environmental conditions that are probable to be encountered in the future. The strategy is shaped by an interactive process that includes key contributors from many different levels and functions within the organization. In the organizations in which the purchasing function is viewed as a strategic function and included in the corporate strategic planning process, the purchasing contribution at this stage would be its knowledge on suppliers' environments that may affect corporate goals.

Porter (1980), introduced the 'wheel of competitive strategy', as a device to link the key contributors of a firm's competitive strategy. In the centre of the wheel of competitive strategy there are the firm's goals. The goals include the firm's strategy on how the firm will compete and the firm's specific objectives for profitability, growth, market share, and social responsiveness. The Wheel of competitive strategy is presented in Figure 1.2 below:

Figure 1.2 - Wheel of competitive strategy

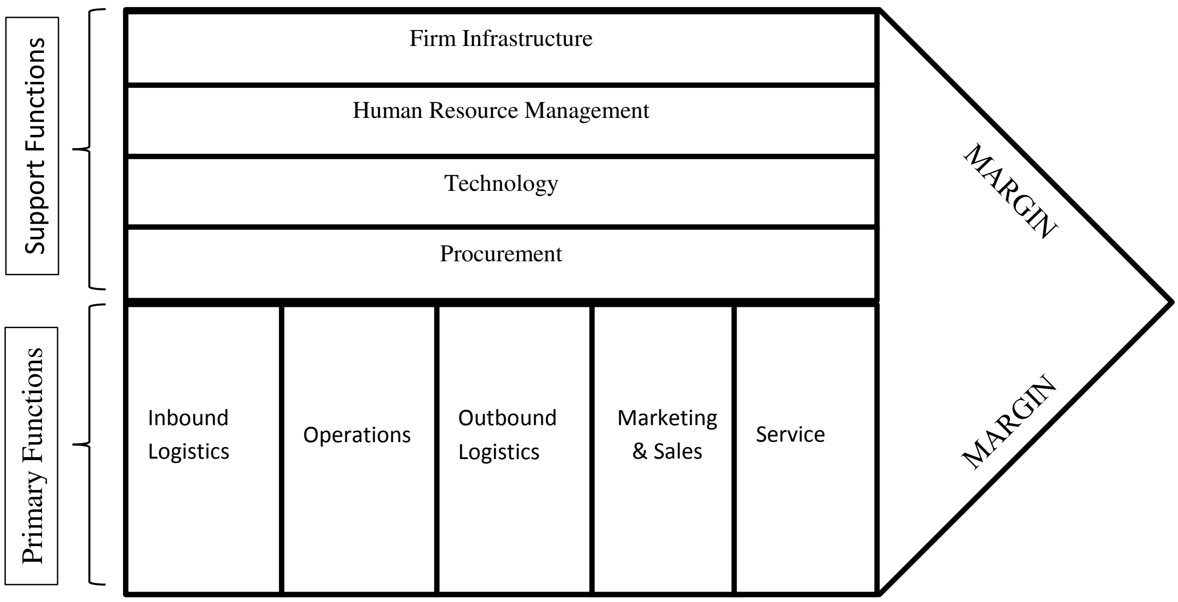
Source: Adapted from Porter’s Wheel of Competitive Strategy (1980)

Around the centre of the wheel of competitive strategy there are the key functions like research and development, finance and control, manufacturing, marketing, purchasing that shape the functional policies to achieve the corporate goals and for the wheel of competitive strategy to roll all the key contributor functions should be well connected to each other.

Including purchasing as a key contributor function in the wheel of competitive strategy, Porter emphasizes the purchasing's strategic role in the strategic management process of the firm.

Porter, further emphasizes the importance of purchasing function for the company to develop a competitive strategy in the business environment and includes the purchasing function in the famous concept of value chain. The value chain is presented in Figure 1.3.

Figure 1.3 - Value Chain



Source: Adapted from Porter's Value Chain

Porter (1980) proposed that there are three basic strategies for a company to adopt to compete in the business environment. These are the cost leadership strategy, the differentiation strategy and the focus strategy.

The cost leadership strategy needs to acquire certain capabilities to succeed and focuses on cost reduction, tight cost and overhead control. The cost structure of the operations of the firm provides a defence against the competitors. Although the effort on improving the cost structure includes all the operational aspect, there is a considerable focus particularly on reducing the overall cost of the end product. This approach sustains that by marketing a product at a lower price than the competition a satisfactory return would be obtained. The quality aspect of the end product is also important and is not neglected but cost structure has the top priority. The cost leadership approach is most likely to succeed when a production of economies of scale is in place and a large market share is obtained.

The differentiation strategy focuses on the product or service offering which would be perceived as unique. The differentiation can be achieved in the eyes of the customer by product design, the logo, the brand image, product features and technology like in the case of Apple, customer service, service network, any combination of these or other dimensions. In industries where machine downtime has vital importance on the business of customers, besides ensuring that the machine has very high reliability also the technical service is organized in such a way that they can intervene within 24 hours all over the globe. A product feature and service performance combination of this kind aims to create customer loyalty and making the customers less sensitive to end price of the product. Differentiation provides insulation against competitors because of brand loyalty and lower sensitivity to price. However, the differentiation strategy does not ignore costs, although it is not the primary strategic target. The customers who respond to the differentiation strategy are generally less than those respond to the cost leadership strategy and therefore the companies who follow the differentiation strategy may end up with a smaller market share but with a higher margin on the product. Also the perception of exclusivity that comes with owning a unique product, is considered to be incompatible with high market share (Porter, 1980).

According to Porter, these two competitive strategies, define the nature of competition for firms as being either its uniqueness as in the differentiation strategy or its low-cost leadership. It's very unlikely or difficult to follow both strategies simultaneously as the organizational structure and capabilities are very different for each of these strategies. The firm should make a clear choice between the two strategies to obtain a sustainable competitive advantage and satisfactory financial returns.

A firm that follows the cost leadership strategy will focus on the cost reduction of operations. Operating on low levels of stock as much as possible, adopting JIT practices, the use of efficient automation systems, strict budget controlling practices to keep the costs under critical limits, preventive maintenance to avoid machine breakdowns, detailed production procedures engineered to be as efficient as possible to reduce waste in production are common practices of the cost leadership strategy.

A firm that follows the differentiation strategy on the other hand needs a set of capabilities completely different from those needed by a firm that follows the cost leadership strategy. The attention to cost structure is far less only in comparison to the cost leadership strategy but this by no means imply that the costs are ignored. Flexibility is a capability that is seeked by a company that follows the differentiation strategy, flexibility meaning the ability of the staff in performing different tasks due to changes in production or services to adapt to specific customer needs. A constant effort to shorten the internal technical lead times of processes is given in order to respond the rapidly changing customer needs in a timely manner. A particular focus on the use of technology both in production and new product development is present as a distinguished capability in research and development would lead to offer up to date and high quality products.

1.2 THE STRATEGIC PURCHASING

When the strategic purchasing subject is researched, a clear distinction should be made from the related concepts to emphasize strongly and clearly what is actually meant by strategic purchasing concept and which underlying elements or constructs may help us to make that definition.

First of all a clear distinction should be made between purchasing and strategic purchasing. Purchasing is both a functional group (i.e., a department on the company's organizational chart) and a functional activity (i.e., buying goods and services for the company). The purchasing functional group is responsible for many activities within the organization such as supplier identification, evaluation and selection, buying, negotiation and contracting, supply market research, supplier measurement and development and purchasing systems development. Purchasing has been referred to as doing "the five rights": getting the right quality, in the right quantity, at the right time, for the right price, from the right source.

Strategic Purchasing is not just a new name for purchasing but a broader concept. Monczka et al, 2009 define the strategic purchasing as a strategic approach to planning and acquiring the organization's current and future needs by managing the supply base, utilizing a process orientation in conjunction with cross-functional teams (CFTs) to achieve the organizational mission. The Institute for Supply Management defines a similar concept called the supply management as the identification, acquisition, access, positioning, and management of resources and related capabilities an organization needs or potentially needs in the attainment of its strategic objectives (Flynn et al, 2006)

1.2.1 Main Differences Between Strategic and Nonstrategic Purchasing Function

What would then be the indications that would help us to understand whether the purchasing function is considered to be a strategic rather than a non-strategic function?

A non-strategic purchasing function is non-integrative with other functions, mostly reactive to the other functions, clerical and focuses on short term issues rather than analysing what lies ahead. A strategic purchasing function however, is integrative with other functions, proactive regarding the firm's goals and focuses on the long term issues. When a firm is analysed for its approach to strategic purchasing, the purchasing function is described to operate at a strategic level, non-strategic level or somewhere in between (Reck and Long, 1988)

Furthermore, a strategic purchasing function should be able to access vital information to align the purchasing strategies with the corporate strategy. Therefore a strategic purchasing function, interacts with other departments and ensures the flow of critical information from these departments regarding the internal and external environmental conditions to proactively plan its purchasing actions.

In a company in which strategic purchasing practice exists, the performance evaluation of the purchasing function is made not only by quantitative measures but also qualitative measures such as integration with other departments, supplier market competence and general skills (Reck and Long, 1988).

1.2.1.1 Integration

The strategic purchasing function is organized to function in an integrated way with other functions evaluating their valuable input in purchasing processes and gets involved in their processes to shape them and ensures that the flow of critical information horizontally between the functional groups takes place. The strategic purchasing function develops the purchasing strategies aligned with the corporate competitive strategy and other functional strategies through this integrated information flow.

The nonstrategic purchasing function on the other hand is primarily reactive to the needs of other functions and does not feel the necessity to be integrated in the planning process communicating with the organizational structure vertically rather than horizontally.

Integration, can be defined as "the process of incorporating or bringing together different groups, functions, or organizations, either formally or informally, physically or by information technology, to work jointly and often concurrently on a common business-related assignment or purpose." (Monckza et al, 2009). This definition underlines certain vital elements of integration in an organizational context. First, that people are coming together to work together on a problem. Although many companies seem to apply this to their activities through many meetings and information sharing, actually it's easier said than to be done and surprisingly many enterprises fail to apply effectively the idea of bringing together people with a different point of view to solve a common problem. This is a common problem especially in a global environment where team members are located all over the world. Thus, integration necessitates different tools or ways of getting together as the definition indicates that this may take place either formally or informally, through physical methods or by information technology. Finally, to achieve a proper integration people should be able to create a common understanding of the end goal or purpose. This is probably the most important aspect of the success of integration strategies.

Integration may take place mainly in two different categories; internal and external. Internal integration may occur in several forms. Internal integration may take place through functions, such as purchasing and R&D teams. It can also occur through cross-location teams, where people from different business units are brought together. Finally, the most challenging category is the external integration which involves cross-organizational teams working with suppliers, customers, or even both at the same time. Involving different people both internally and externally to work on a problem creates a better chance to obtain significant benefits. The contribution of these members of the integrated system will be providing input in the form of the following:

- Information
- About their markets
- About their own plans and requirements
- Knowledge and expertise
- Product and service knowledge and technology
- Process knowledge and know how
- Business advantages
- Favourable cost structures that can benefit customers
- Economies of scale which can also reduce costs
- Different perspectives

1.2.1.2 Strategic Purchasing Function's Interfunctional Integration

The strategic purchasing function regarding the internal integration pursues both inter functional integration and integration in the form of cross functional teams. The strategic purchasing function to be able to access the information that closely affects its strategy formulation must create and sustain a number of communication flows and linkages with other functions within the organization. Figure 1.4 illustrates the two-way linkages between the strategic purchasing function other key functions along with a sample of the information exchanged between these functions. These communication linkages between the strategic purchasing and other functions become stronger as the strategic importance and role of the purchasing function develops.

1.2.1.2.1 Operations

The purchasing function and the operations function are two functions that are very closely related so much that in organizations where purchasing is not viewed strategic and therefore has not its specific span of control, it's quite common that purchasing responsible reporting directly to the operations manager.

A critical area of collaboration between the strategic purchasing and the operations, is the global operations strategy development process. As purchasing function directly supports operations, it has vital importance that purchasing gains an insight of production and service strategic plans.

The critical input that purchasing function may provide to operations as well as marketing, is the supply market availability to shape the sales and operations plan where the production capacity and sales volumes regarding short and medium terms are defined.

As a support function, the purchasing function's strategies and plans must be aligned with the sales and operations plan and reflect their needs. The strategic purchasing function must be aware of the components and services required by the operations to fulfil customer requirements for products or services to develop a plan that secures the required supply in the best interest of the company. To guarantee that the operation's requirements are well understood by the purchasing, purchasing managers should work with the operations to coordinate the execution of the plan.

1.2.1.2.2 Quality Assurance

As the larger percentage of finished product requirements, are externally sourced, the strategic purchasing function and the quality assurance must work closely to make sure that suppliers perform according to the minimum required quality levels. Typical collaboration between these two functions includes supplier quality training, process capability studies, and corrective action planning.

This task of managing the supplier quality has become so important that many firms have created a dedicated function called as supplier quality engineering (SQE) or supplier quality assurance (SQA) which does not only report to the quality manager but also to the supply chain manager as well.

1.2.1.2.3 Engineering

Perhaps the most important and challenging linkages exist between the purchasing and the engineering. The need to create a successful integration between the engineering and the purchasing function is due to the need of developing quality products in less time. It's probably the most important and challenging integration of all and a relationship that may create many conflicts.

Firms which believe in the strategic importance of the purchasing integration with engineering focus on how to strengthen the flow of information and communication linkages between the purchasing function and the engineering.

To achieve this, firms create a dedicated function called the product development purchasing or the advanced purchasing that is responsible of gaining insight of R&D projects, product features, design criteria in order to plan in advance how to organize the supplier park to support the R&D plans and ensure that the engineering requirements are communicated correctly to the strategic purchasing team and suppliers in order to obtain the correct components. The strategic purchasing function co-locates the buyers of the advance purchasing function within the engineering design group or the product development team which may be a cross functional team (CFT) including members of different key functional groups.

The Engineering can be involved as key stakeholders in the supplier evaluation and selection process. The cost engineering may provide critical information on the cost structure of critical components and provide vital tools to contribute to the strategic cost management.

To facilitate the integration process between the engineering and the purchasing functions many firms are recruiting purchasing professionals with strong technical backgrounds, who are able to understand the technical requirements and able to convey these requirements to the suppliers. The vital factor for a successful integration between the purchasing and the engineering is open and direct communication which inevitably requires increased teamwork and trust.

The engineering needs strong support from the purchasing function to achieve its objectives. The engineering relies on the purchasing function to identify the most technically and financially capable supplier for an item and to make sure each supplier meets the engineering's quality, performance and delivery targets. The purchasing should be able to assess a supplier's production capabilities, design capabilities and identify the ones to involve in early design process and develop relationships that make the supplier an active contributor to the product development efforts and present innovative ideas. The engineering expects that the purchasing function is able to identify sources of new technology that can be applied to new products and services. The purchasing and the engineering must work closely together to deal with quality risks that may arise in new products, the SQE should be capable of intervening and helping the supplier to resolve any problems that might arise in the initial phase.

The manufacturing and process engineering on the other hand needs that purchasing function identifies and selects suppliers which are capable of providing continuous technical support and service during product launch and the product life cycle as well.

As the purchasing function pursues to comply also with other objectives of the company such as cost, it constantly seeks the best compromise between the requirements of the engineering and other objectives which may lead the purchasing function deviate from the most preferred suppliers by the engineering towards other valid alternatives. This is the moment when a conflict between the purchasing function and the engineering arises. The resolution of this conflict is not always easy. Leading firms manage this problem by formulating a supplier evaluation and selection process which requires the contribution of other key stake holders such as quality, supplier quality, manufacturing, technical cost reduction, cost engineering and try to ensure that the decision is made with a broader consensus and not depending on the political power that the purchasing or the engineering possesses within the organization.

1.2.1.2.4 Accounting and Finance

The purchasing should be in close contact also with the accounting and the finance departments. This relationship is not as strong as it's with the operations, the engineering, and the quality control. The important information exchange in this relationship is that the purchasing would require data from the cost accounting system on handling and material rework costs for an item to assess the supplier performance and be able to apply the strategic cost management and evaluate the cost structure in total cost of ownership approach. The purchasing does not track data about individual activity costs that can increase the total cost. To do that the purchasing function relies on input from cost accountants to calculate the total cost of an item, which is critical especially in make-or-buy decisions. The purchasing function may require support also from finance when making capital equipment purchasing decisions.

1.2.1.2.5 Marketing/Sales

Being at the two end points of the entire value chain of the company, the purchasing and the marketing have indirect links. As the voice of the customer, the marketing function describes and shapes the new product ideas that the purchasing function has to support. The purchasing function depends on the sales forecasts that are later converted into production plans, to allocate the required outsourced components to the suppliers and shape the supplier strategy it should apply. The purchasing function must select suppliers that are capable of satisfying the technology requirements of the new products and the production capacity that is forecasted.

1.2.1.2.6 Legal

The purchasing depends on the legal department for counsel on formulating contracts. Issues that may arise include patent ownership terms in new-product development, intellectual property, product liability claims, antitrust, long-term contracts containing escape clauses, and other legal issues.

1.2.1.3 External Integration

The purchasing represents the external face of the organization and responsible for the integration of suppliers to the corporate objectives. Purchasing, depending on the competitive strategy, proactively creates and maintains relationships with the suppliers, the government and local communities for new technology, information and services.

Figure 1.4 - Purchasing's Communication Flows and Linkages

Source: adapted from Monckza et al, Purchasing and Supply Management, 2009:117

1.2.1.3.1 Suppliers

The purchasing's primary responsibility is to maintain open communications with suppliers and select the suppliers with which to do business. Ideally, the purchasing function should be the only contact with suppliers however other function members may contact suppliers for a particular item or question like the quality function does for quality issues or the engineering does for technical problems or issues.

The purchasing has the responsibility to select suppliers and to remain the primary commercial linkage with the buying firm, including any matter involving the conditions of the purchase agreement or other issues of importance. The non–supply management departments should not select, independently work with, or directly negotiate with potential suppliers for items for which the purchasing function is responsible.

1.2.1.4 Status of The Purchasing Function Within The Organization

According to Trent (2007), regarding the purchasing function's level of reporting, the strategic purchasing function reports to the executive committee while in an organization where purchasing is not perceived as a strategic function, the non-strategic purchasing function reports to a lower administrative level within the organization. Trent (2007) sustains that the status of the purchasing function is different in an organization depending on whether it's perceived as strategic or not by the top management.

If the purchasing function in the firm is non-strategic then purchasing function has a lower status relative to other major functions in the firm as well (Ammer, 1989). In this case the non-strategic purchasing function deals with only routine activities regarding the demands of other departments. A non-strategic purchasing function is described as reactive and not proactive regarding the purchasing activities (Keough, 1994)

The contribution of a non-strategic purchasing function to the long term strategic goals of the firm is surely insignificant as in the case of expediting purchase order requests from other departments or processing orders would do very little regarding the achievement of the firm's goals. The low complexity of these tasks of a non-strategic purchasing function also indicates that the purchasing is not perceived as an important activity in the firm.

The firm's top management does not recognize the purchasing function as important to the firm's performance. A non-strategic purchasing function therefore has low visibility and low relevant skills in comparison to a strategic purchasing function. As a consequence a non-strategic purchasing function staff has minimum contribution to the firm’s decision making process.

A strategic purchasing function differs from a non-strategic purchasing function in the way that the top management perceives the purchasing function as an important resource of the firm (Keough, 1994). The corporate strategic planning process includes also the purchasing function. A strategic purchasing function is viewed as equal to other strategic functions of the firm (Freeman and Cavinato, 1990).

1.2.1.5 Knowledge and Skills of The Purchasing Staff

One of the main differences between a strategic purchasing and a non-strategic purchasing function is the required knowledge and skill set to carry out tasks that are specific to these functions.

In a non-strategic purchasing function the purchasing knowledge and skills of the purchasing staff is low and almost no training is given to develop the competence of the purchasing staff. The performance assessment of the purchasing department is made on clerical tasks (Reck and Long, 1988). The IT system utility is also limited, limiting the ability of purchasing function to reach and analyse critical data and preventing the purchasing function to perform as a strategic function (Pearson and Gritzmacher, 1990). Sometimes firms might prefer to have a non-strategic purchasing function due to low purchasing value in monetary terms and even sometimes outsourcing the purchasing function entirely to a third party company.

In a strategic purchasing function the level of purchasing knowledge and skills of the staff is high enough to allow them to proactively search for purchasing opportunities that provide positive impact on the firm’s performance. In such an environment, the strategic purchasing staff receive continuous training to further develop their skills.

The evolution of purchasing from an administrative function to a strategic role, increased demands and focus of the upper management from the purchasing function. The changes in the environmental conditions like globalization and the trend towards global sourcing, technological developments and other factors drive the purchasing function to acquire a specific skill set required to satisfy these expectations and changes. Due to the purchasing function’s strategic role within the organization it has critical importance that the company recruits and builds up a purchasing staff with the knowledge and skills required to enhance the purchasing function’s contribution to the business strategy and corporate goals.

Researchers have made extensive research on the ideal skill set that the purchasing professionals should possess.

Murphy (1995) listed four general skills that were identified in a poll of purchasers as important to their job function. The skills identified were:

(1) negotiation

(2) management

(3) computer literacy

(4) mathematics

The author did not associate these skills with any particular job within the purchasing field. Down and Liedtka (1994), in a survey involving corporate recruiters, identified the seven most critical skills that recruiters looked for in purchasing professionals. These skills were identified as:

(1) communication skills

(2) interpersonal skills

(3) self-motivation and initiative

(4) professional presence

(5) leadership

(6) analytical/problem-solving skills

(7) academic achievement

According to Cruz and Murphy (1996) firms look for purchasing professionals who are strategic, rather than tactical thinkers; possess negotiation skills, have the ability to develop and integrate supplier relationships and have supply chain management experience.

On top of traditional procurement skills, McKeefry (1998) indicated that recruiters necessitate purchasing professionals to have an understanding of the industry to be able to assess the environmental conditions, the corporate business model, finance, and engineering to be able to align the purchasing activities with the corporate goals and successfully integrate with the internal functions. The author also indicated that purchasing professionals should be able to analyse second-tier suppliers and follow the flow of commodities globally.

As early as 1987, Cavinato's research involved top managers and inquired the technical skills that they wanted that the purchasing staff should possess. The Author identified seven technical skills. The skills were:

(1) knowledge of materials

(2) production systems and technologies

(3) materials management, inventory systems and JIT

(4) quality systems and options

(5) contract manufacturing relationships

(6) computers and automated purchasing systems

(7) costing

Top managers also expressed the need for purchasing professionals to possess strong communication skills.

Kolchin and Giunipero (1993) inquired 131 purchasing executives from large U.S. organizations and examined the skills and knowledge required by purchasers to perform effectively in the 21st century. The research categorized the skills required by purchasers in three areas:

(1) enterprise (having a good understanding of the overall business)

(2) interpersonal

(3) technical

The ten most important skills which fall in these categories are presented in Table 1.1.

Table 1.1 - Purchasing skill set

Skill	Mean Value
Interpersonal communication	4.70
Customer focus	4.63
Ability to make decisions	4.59
Negotiation	4.43
Analytical	4.42
Managing change	4.42
Conflict resolution	4.40
Problem solving	4.39
Influencing and persuasion	4.38
Computer literacy	4.37

Source: Kolchin and Giunipero (1993). Five point scale with 1: not important, 3: important and 5: most important

According to Killen and Kamauff (1995) the characteristics of a good buyer can be grouped into four areas and the dimensions of these skill areas are given in Table 1.2.

(1) product knowledge

(2) principles of purchasing and management

(3) personal attributes

(4) interpersonal skills

The authors also identified the key characteristics for a purchasing manager. Table 1.3 shows the additional skills that a purchasing manager should have under the four categories of:

(1) technical knowledge

(2) analytical ability

(3) interpersonal skills

(4) managerial skills

Table 1.2 - Buyer's skill set

Product Knowledge	Understanding of Purchasing and Management Principles	Personal Attributes	Interpersonal Skills
Product or materials	Overall role of the function	Integrity	Teaming
Prices	Quality theory	Detail oriented	Listening
Major sources	Pricing theory	Likes to do research	Verbal communication
Quality issues	Inventory control and management	Careful decision maker	Written communication
Customer requirements	Value analysis	Tolerate conflicts and ambiguity	Tolerance for conflicting views
	Supply chain management	Takes appropriate risks	
	Make vs. Buy	High self esteem	
	Capital equipment buying	Initiative	
	Purchase timing		
	Negotiation		
	Knowledge of other functions		

Source: adapted from Killen and Kamauff, Managing Purchasing, 1995:153

Table 1.3 - Purchasing manager's skill set

Technical Knowledge	Analytical Ability	Managerial	Interpersonal Skills
Product knowledge	Problem identification and solving	Planning	Working well with internal and external customers
Purchasing principles	Quick sound decision making	Organization	Compromising
Organization's business	Abstract thinking	Leadership	Effective conflict handling
Current trends	Strategic option analysing	Communication	Adept at organizational politics
Final customer needs		Motivation	Positive mental attitude
Needs of internal customers		Control	Coordination
		Goal and strategy development	

Source: adapted from Killen and Kamauff, Managing Purchasing, 1995:153

According to Carter et al. (2000), the purchasing profession is undergoing an important change. Competency in electronic commerce, strategic cost management, tactical purchasing, and global supplier development is becoming more important and consequently the skill set required of the purchasing/supply management professional is changing. The purchasing function rather than tactical approach with an emphasis on order placement and price savings, focuses on strategic approach with an emphasis on total cost savings and value-added activities (Ciancarelli 1998). These value-added activities include negotiation, total cost analysis, and supplier evaluation.

Carr and Smeltzer (2000) in their study to identify purchasing skills adopted a resource based view of the firm. With the resource based view approach they tried to understand the necessary skills of the purchasing professionals, had the purchasing function been viewed as strategic role and a source of competitive advantage. In this case the purchasing professionals' skills represent a valuable resource that contributes to the competitivity.

Carr and Smeltzer's identified 35 purchasing skills which were categorized as:

(1) technical

(2) behaviour

(3) skill techniques

The authors also tested the relationship between purchasing skills and three outcome variables:

(1) strategic purchasing

(2) financial performance of the firm

(3) supplier responsiveness

The conclusion is that skill techniques were positively related to strategic purchasing, technical skills were positively related to financial performance of the firm, and
skill techniques were positively related to supplier responsiveness. The results suggest that by ensuring that purchasing professionals acquire and cultivate the requisite technical skills and skill techniques, firms can enhance their competitive position.

Anderson and Katz (1998) examined the role of the strategic puchasing and its contribution to the firm's value growth. According to the authors, firms following a policy of selective upgrading of skills have been able to exploit their strategic purchasing opportunities within a two- to three-year timeframe. The strategic sourcing skills identified were divided into four broad categories:

(1) technical skills

(2) business development and management expertise

(3)marketing

(4)sourcing specialist

A summary of the literature on purchasing skill sets is provided in Table 1.4 that seven skills; interpersonal communication, analytical, problem solving, technical, negotiation, computer, and management were mentioned in at least four of the nine.

Guinipero and Pearcy (2000) inquired 136 purchasing professionals to identify the required purchasing skills by firms having a strategic approach to the purchasing function. The authors identified 29 skills that are grouped in seven categories. These categories are:

(1) Strategic skills

(2) Process management skills

(3) Team skills

(4) Decision making skills

(5) Behavioural skills

(6) Negotiation skills

(7) Quantitative skills

1.2.1.5.1 Strategic Skills

In an organization where purchasing function is viewed as strategic, purchasers should operate in strategic terms. The strategic activities that the strategic purchasing function staff should be able to determine the optimum supplier number to work with and more importantly the type of relationships to build with key suppliers.

The strategic dimensions of the skill set required for the purchasers with a strategic orientation consist of:

(1) strategic thinking

(2) supply base research

(3) structuring supplier relationships

(4) technology planning

(5) supplier cost targeting

Table 1.4 - Summary of purchasing skill sets

Skill	Cavinato (1987)	Kolchin and Giunipero (1993)	Down and Liedtka (1994)	Murphy (1995)	Killen and Kamauff (1995)	Cruz and Murphy (1996)	Anderson and Katz (1998)	McKeefry (1998)	Carr and Smeltzer (2000)
Interpersonal Communication		X	X		X				X
Analytical		X	X		X			X	X
Negotiation		X		X	X	X			X
Computer skills	X	X		X				X	X
Problem solving		X	X		X				X
Technical				X	X		X	X	X
Management				X	X		X		X
Self-motivation			X						
Business perspective			X					X	
Leadership		X	X		X				
Strategic thinking					X	X			
Supplier relations	X					X			
Finance					X			X	
Team building							X		
Supply Man.						X			
Influencing and persuasion		X							
Business development							X		
Total cost analysis	X								X
Tactfulness		X							
Organizational					X				X
Customer focus		X							
Decision making		X			X				
Educational background			X			X			
Conflict resolution		X							
Managing change		X							
Product knowledge	X				X				X
Production systems	X								X
Material management	X				X				
Quality	X				X				X
Strategic supplier selection							X		
Risk management					X				
Contracts writing							X		

Source: Adapted from Guinipero and Pearcy, The journal of Supply Chain Management, 2000:7

1.2.1.5.2 Project Management Skills

It's expected that purchasing professionals are able to prioritize their strategic responsibilities and allocate the sufficient time to involve other departments' views, analyse, and improve processes. The purchasing professionals should give special attention when they interact with others from other functions and must be tactful and should be able to communicate with them very clearly. When trying to improve processes it's very likely to encounter resistance within the organization which may cause conflict between functions. The ability to manage conflict resolution is also very valuable. Basically project management skills require the following five skills:

(1) Organization/time management

(2) Tactfulness

(3) Written communications

(4) Problem solving

(5) Conflict resolution

1.2.1.5.3 Team Skills

In an organization with a strategic orientation, to satisfy the needs of different functions it's very important to involve them in cross functional teams in developing and executing your strategy and strategic actions. The cross-functional cooperation within firms necessitates that purchasers have the correct skills that facilitate the team work. Purchasers should assume a leadership role in order to coordinate tasks and activities. The teamwork actually helps the purchaser manage the changes in the internal and external environments by benefitting the contribution of individuals from other functions with diverse abilities, knowledge, and talents. The team skills consist of:

(1) Teamwork

(2) Leadership

(3) Managing change

(4) Managing internal customers

(5) Salesmanship

While most of the skills listed are self-explanatory, salesmanship may require some clarification. What is intended by referring this skill as salesmanship is that it's a skill that describes the one's ability of "selling" one's position to the group. The purchasing professional may encounter a situation in which potential participants must be convinced of the benefits of teamwork and the ability of convincing the participants is referred as salesmanship.

Special emphasis should be made for managing internal customers skill as probably it’s one of the most critical skills that a purchasing manager operating in a team environment should have. Internal customers use what the purchasing buys and they have strong influence on the specification process and the supplier strategy. The ability to develop a supply strategy that is aligned with the needs of the internal customers is strongly related to the effective management of these internal customers.

1.2.1.5.4 Decision Making Skills

The decision making skills consist of two skills:

(1) Ability to make decisions

(2) Computer literacy

The purchasers encounter many situations where they should make a decision and take action. In some cases the best choice of action may not be apparent due to lack of several data. Under these conditions the purchaser’s ability to make a sound decision is important.

1.2.1.5.5 Behavioural Skills

The purchasing is a function that requires close interaction with many individuals both internal and external. Therefore interpersonal communication is seen as an important skill by the purchasing managers. The purchasers should be able to express their ideas, concerns and objections clearly in an effective way to those of internal and external environment.

The purchaser also must be willing to take risks when the conditions prove to be appropriate although there might be a strong resistance within the organization against these initiatives.

Overcoming the resistance within the organization requires creative thinking and bringing new solutions to problems. This would be possible by an inquisitive approach by the purchaser and his attitude of seeking constantly information and opportunities to improve the current business processes. The behavioural skills are composed of:

(1) Interpersonal communication

(2) Risk taking/entrepreneurial

(3) Creativity

(4) Inquisitiveness

1.2.1.5.6 Negotiation Skills

Negotiation skills are a part of the most fundamental skills that purchasers should possess. From the purchasing function's view, a successful negotiation is a negotiation that satisfies the multiple needs of the internal customers. The negotiation factor consists of four key skills:

(1) Negotiation

(2) Customer focus

(3) Influencing and persuasion

(4) Understanding business conditions.

Satisfying the needs of internal customers involves negotiating with various other internal customers and suppliers to get results. Influencing and persuasion skills are required to coordinate and direct supply chain members both within and outside the organization in such a way that is compliant with the business conditions.

1.2.1.5.7 Quantitative Skills

The quantitative skills consist of four skills:

(1) Computational

(2) Technical

(3) Blueprint reading

(4) Specification development

These quantitative skills listed above may result to be less useful in organizations which perform in the service sector. However for organizations which produce physical products and perform engineering and manufacturing functions these skills emphasize the technical proficiency that enables the purchasers to understand and use relevant technical information in communications with engineers and suppliers. Without this understanding, the purchaser is unable to communicate specifications and statements of work effectively and fails to be a reliable interface between the internal customers and suppliers which leads to being overrun by other functions contacting directly with the suppliers. The lack of proficiency in being the sole interface with the suppliers might have serious implications regarding the power balance between the purchaser and the supplier and give the supplier the chance of an opportunistic behaviour. The summary of the skills identified by Guinipero and Pearcy is given in Table 1.5.

Table 1.5 - Purchasing skill set

Strategic Skills	Process Management Skills	Team Skills	Decision Making Skills	Behavioural Skills	Negotiation Skills	Quantitative Skills
Strategic thinking	Organization, time management	Teamwork	Computer literacy	Interpersonal communication	Negotiation	Computational
Supply base research	Tactfulness in dealing with others	Leadership	Decision making ability	Risk taking / Entrepreneurship	Customer focus	Technical
Supplier relationship structuring	Written communication	Managing change		Creativity	Influencing and persuasion	Blueprint reading
Technology planning	Problem solving	Managing internal customers		Inquisitiveness	Understanding business conditions	Specification development
Supplier cost targeting	Conflict resolution	Salesmanship				

Source: Adapted from Guinipero and Pearcy, The journal of Supply Chain Management, 2000:7

The various research given above on the skill set required by the purchasing function to carry out strategic tasks which contribute to the firm's strategic goals is not exhaustive. Some skills are named differently in different studies and some point out totally different skills. It's sufficient to understand at this stage that the strategic purchasing function requires a human resource that is equipped with many skills and consequently a much more qualified employee profile with respect to buyers performing a non-strategic purchasing approach. Further discussion will be made on the skills required in the next chapter on the theory and theoretical framework.

1.2.1.6 Supplier Relations

The non-strategic purchasing function has a larger number of suppliers with short term agreements or at times no formal agreements at all. The non-strategic purchasing function does not involve suppliers in product development keeping an adversarial relationship and does not share critical information but only short term production schedule with their suppliers.

The strategic purchasing function on the other hand has an optimized supplier base with long term agreements where possible and aims to create a close cooperation with selected suppliers involving them early in product development and sharing critical information and technological road maps with suppliers for correct planning.

The relationship between the buyer and the supplier in a strategic context focuses on a balanced power relationship where both parties have enough influence to shape the nature of the relationship. An approach of this sort aims to reduce the adversarial relation and conflictual issues between both parties and promote synergy and common destiny of the buyer and supplier organizations.

The main characteristics of a collaborative buyer-seller relationship can be summarized as:

- limited number of suppliers for each purchased item or family of items
- long-term contracts
- A win-win approach to reward sharing
- agreed-upon performance improvement targets
- Joint effort to improve supplier performance across all critical performance areas
- Joint effort to resolve disputes
- Information exchange on new products
- Information exchange on cost data
- Information exchange on production schedules
- Information exchange on forecasts for purchased items
- Commitment to work together during problematic market conditions, common destiny approach
- Continuous improvement on quality, defect-free products compliant to specs

The aim of trying to construct closer relationships with suppliers is to gain some advantages. The effort to construct a closer relationship with suppliers lead to the development of trust between the two parties and this is fundamental for further strategic collaboration. Mutual trust encourages the supplier to share cost data with the buyer as the supplier has full confidence in the buyer to initiate a joint effort to reduce the supplier's cost through a mutual sharing of ideas without eroding the profitability that the supplier would like to achieve. Mutual trust also leads to a supplier working with the buying organization early in the design of a new product encouraging the supplier employing its resources in their customers' effort for new business opportunities. This contribution from the supplier is an act of customer specific investment and seeing the relationship as a common destiny relationship. Table 1.6 shows the main differences of traditional and collaborative buyer-supplier relationships.

Table 1.6 - Buyer and Supplier Relationships

Area	Traditional Approach	Collaborative Approach
Suppliers	Multiple sources competitive bidding	One or few preferred suppliers for each commodity
Cost sharing	Buyer takes all, supplier hides cost savings	Win-win shared rewards
Joint improvement efforts	Little or none	Joint improvement due to mutual interdependence
Dispute resolution	Unilateral approach	Conflict resolution mechanisms
Communication	Minimal, no two way exchange of information	Open and complete exchange of information
Marketplace adjustments	Buyer determinates the response to changes	Joint effort for adaptation
Quality	Inspection at receipt	Designed into the product

Source: Adapted from Monckza et al. 2009:123

1.2.1.6.1 Long-Term Contracts

The effort to construct closer buyer-supplier relationships gives the purchasing function the possibility to evaluate which suppliers should receive longer-term contracts. A long-term contract definitely encourages suppliers to invest in the business in the forms of new plants, equipment, human resources and organization. The value of these investments that the long term contracts encourage is that they are relationship specific investments, making a supplier more efficient and customer responsive, resulting in lower costs to the purchaser and reducing the financial burden of the purchasing organization's supplier development efforts. The long-term contracts also lead to the joint efforts on supplier capabilities, risk sharing and new technology development.

1.2.1.6.2 Barriers for a Collaborative Buyer-Supplier Relationship

The effort to construct a collaborative relationship between the buyer and supplier is not an easy task and consists of a problematic process that presents many barriers and definitely not a capability to be acquired overnight but as a result of a mutual business relationship that proved to be constructive over time. The purchasing organization which wants to construct a closer relationship with some of its identified suppliers should assess whether the barriers that may hinder this effort are present and if they are present should put effort in eliminating these barriers as much as possible, if it is possible at all, before taking further steps including sharing confidential information and deploying financial and human resources to invest in the desired collaborative relationship. Some of the barriers that may prevent the development of closer relationships between the buyer and the supplier are:

(1) Confidentiality

(2) Supplier Eagerness

(3) Legal Barriers

(4) Resistance to change

Confidentiality

Probably the most important barrier for not constructing a collaborative buyer supplier relationship is the concern of the parties to share confidential information. A collaborative buyer-supplier relationship requires the exchange of critical information on financial, product, production, engineering and cost issues which in case of disclosure to third parties may cause damage on the competitive position of the purchasing organisation. Purchasing professionals or other participating functions in the purchasing process, may result to be reluctant to share confidential information with suppliers.

Supplier Eagerness

If the supplier operates in a monopolistic or oligopolistic market the supplier would be less interested in a collaborative relationship and would prefer to engage with the purchasing organization using its advantageous power position relative to the purchasing organization. In such case the buyers would encounter a difficult situation and may fail to convince the supplier for a collaborative relationship.

Legal

Antitrust laws may present a barrier for a collaborative buyer-supplier relationship

Resistance to Change

A change of strategic approach and redefining the relationship between the buyer and supplier from an adversarial nature to a close collaborative nature may present some resistance. The possible reason for this resistance is that the skills of the purchasing staff may not be adequate to manage such a transition and maintain a more trusting and dependent relationship. The purchasing organizations should make sure that the necessary training is given to the purchasing staff to enable them to manage such relationships.

1.2.1.6.3 Cross Functional Teamwork

The strategic purchasing function possesses skills that allow it to adapt a holistic approach to the company objectives and operate in cross functional teams within the organization and cross organizational teams with the suppliers and focuses proactively on long term issues. The performance measurement of the strategic purchasing is based on the total cost of ownership and its impact on the business performance indicators.

The nonstrategic purchasing function’s skill set allows it to perform clerical functions rather than getting involved in strategy generation working together with the other functions or suppliers and it focuses on short term tasks and needs of the company. As the nonstrategic purchasing function has very little view on the corporate competitive strategy and other functions strategies it’s far from having a holistic approach evaluating the business from other aspects and probable hidden cost drivers therefore focuses primarily on price aspect and that’s the main aspect based on which its performance is measured.

Furthermore, Trent(2007), identifies 12 areas that represent major differences between the strategic purchasing and non-strategic purchasing functions. These areas are namely; the reporting level, supply base, organization, skills, focus, contracting, supplier relationships, performance measurement, product development, planning, strategy development and information flow. Table 1.7 summarizes the major differences between the strategic purchasing function and the nonstrategic purchasing function according to Trent(2007).

The major differences between the strategic purchasing function and the non-strategic purchasing function discussed so far illustrates the differences between the two extreme roles that the purchasing function can play in an organization. There are many cases however the organizations are halfway through of that transition from non-strategic to strategic. In these cases only some of these differences may be observed as opposed to a non-strategic purchasing function. The evolution of the strategic relevance of the purchasing function from a non-strategic clerical function to a strategic contributor to the business performance is achieved through a long process that consists of several phases. According to Van Weele (2008), researchers who published on the development of purchasing function in organizations mention some common aspects like the purchasing’s organizational status or its visibility to the top management, supplier relationship management and the integration of purchasing with other business functions as the final stage of development.

Table 1.7 - Strategic Purchasing vs Non Strategic Purchasing

	Non-Strategic Purchasing	Strategic Purchasing
Reporting Level	Dispersed throughout lower levels	Report to the executive committee
Supply Base	Large	Optimized
Organization	Functional	Cross-functional, cross-locational and cross organisational
Skills	Specialized, minimal cross-functional experience	Generalized, draw support and participants from other functional groups
Focus	Task and transaction focus	Proactive process focus, longer term
Contracting	No formal agreements or short term agreements	Selected longer-term agreements
Supplier Relationships	Adversarial	Cooperative/collaborative relationships with select suppliers
Measurement	Price focus	Lowest total cost, impact on corporate indicators
Product Development	Involved late	Involved early
Planning	Share short-term production schedules	Sharing of information and technology roadmaps with suppliers, longer-term planning horizon
Strategy Development	Strategies are reactive, ad hoc or non-existent	A rigorous process guides the development of company-wide strategies
Information Flow	Vertical flow within the purchasing function	Horizontal flow across functional groups and enterprises

Source: Adapted from Trent 2007:8

This evolutionary process, according to Van Weele (2008) takes place due to some drivers such as the business context meaning that as the more mature the technology is in the industry in which the firm operates, the more pressure exists on purchasing to contribute to the bottom line. The company due to the competitive environment involves more the purchasing function in shaping the goals and objectives and the commitment of the top management in purchasing issues increases. Van Weele(2008) sustains that as the IT systems develop, the purchasing function can deploy its resources for more value added activities.

Ellram and Carr (1994) explain the level of contribution of the purchasing function as a strategic player to the business performance in four levels. In level I, purchasing function has a passive role primarily reactive to the demands of other functions and responds only to satisfy these needs as they are presented. Sometimes the purchasing function's involvement is limited to taking care of formalities and most of the prior purchasing related activities are already carried out by other functions. In level II, the purchasing function becomes more in charge of purchasing related activities through direct communication links with suppliers introducing supplier programs and processing the purchasing data by IT systems. In level III, the purchasing function gains visibility by the top management due to the competitive environment that the company has and purchasing function is expected to contribute to the firm's competitive advantage through its knowledge and skills regarding the supply markets and helping the firm by taking proactive actions to positively affect the firm's strategic goals.

In level IV, the purchasing function has an integrative role and the advanced purchasing knowledge and skills are vital for the company as the focus of the purchasing function shifts to long term issues that involve risk and uncertainty. The high level of purchasing knowledge and skills help to analyse and manage the long term issues and top management works very closely with the purchasing function involving it in the strategic planning process.

Keough(1993), introduces a five stage development path for the purchasing function stating that there is a direct relationship between the stage of the purchasing function's development and the type of industry in which the firm operates. In the first stage, the purchasing function is reactive to the demands of other functions, the purchasing function reporting to the production manager with the main responsibility of securing the material availability for production. The purchasing staff is considered to have clerical duties.

In the second stage, the purchasing function focuses on commercial negotiations with suppliers with strong emphasis on prices. The performance of the purchasing function is based on the cost saving. The purchasing at this stage is an independent department reporting to the plant manager.

In the third stage, purchasing moves more towards strategy formulation thanks to the increased coordination and synergy with other functions. The purchasing function's focus shifts from price and cost issues and starts to contribute also on the quality level of the purchased products. The visibility of the purchasing function increases. The purchasing staff starts to get specific training on communication, negotiation and total quality management.

In the fourth stage, the purchasing function focuses on the total cost of ownership and not just the unit cost of the purchased parts. To be able to do that the purchasing function needs to operate in cross functional teams including the contribution of other functions as being the internal customers. The purchasing function gets organized in terms of purchasing processes to answer more effectively to the needs of the internal customers. The information systems are integrated with the other functions and internal customers and the performance of the purchasing function is measured based on the internal customer satisfaction surveys and benchmarking. The purchasing staff at this stage, besides having broad business skills and high education level, they also possess strong communication and team building skills.

In the fifth stage, the purchasing function gets organized to include the suppliers in the business processes and starts to benefit their competence and resources for the firm's competitive strategy. The purchasing focuses on the entire supply chain partners and organizes them in the best way to serve the company. To be able to do that purchasing function operates also in cross organizational teams and fully integrated with the suppliers through information systems. The purchasing staff needs to possess the knowledge of total cost of ownership principles, strategic supply chain management, general managerial and leadership abilities.(Van Weele, 2008).

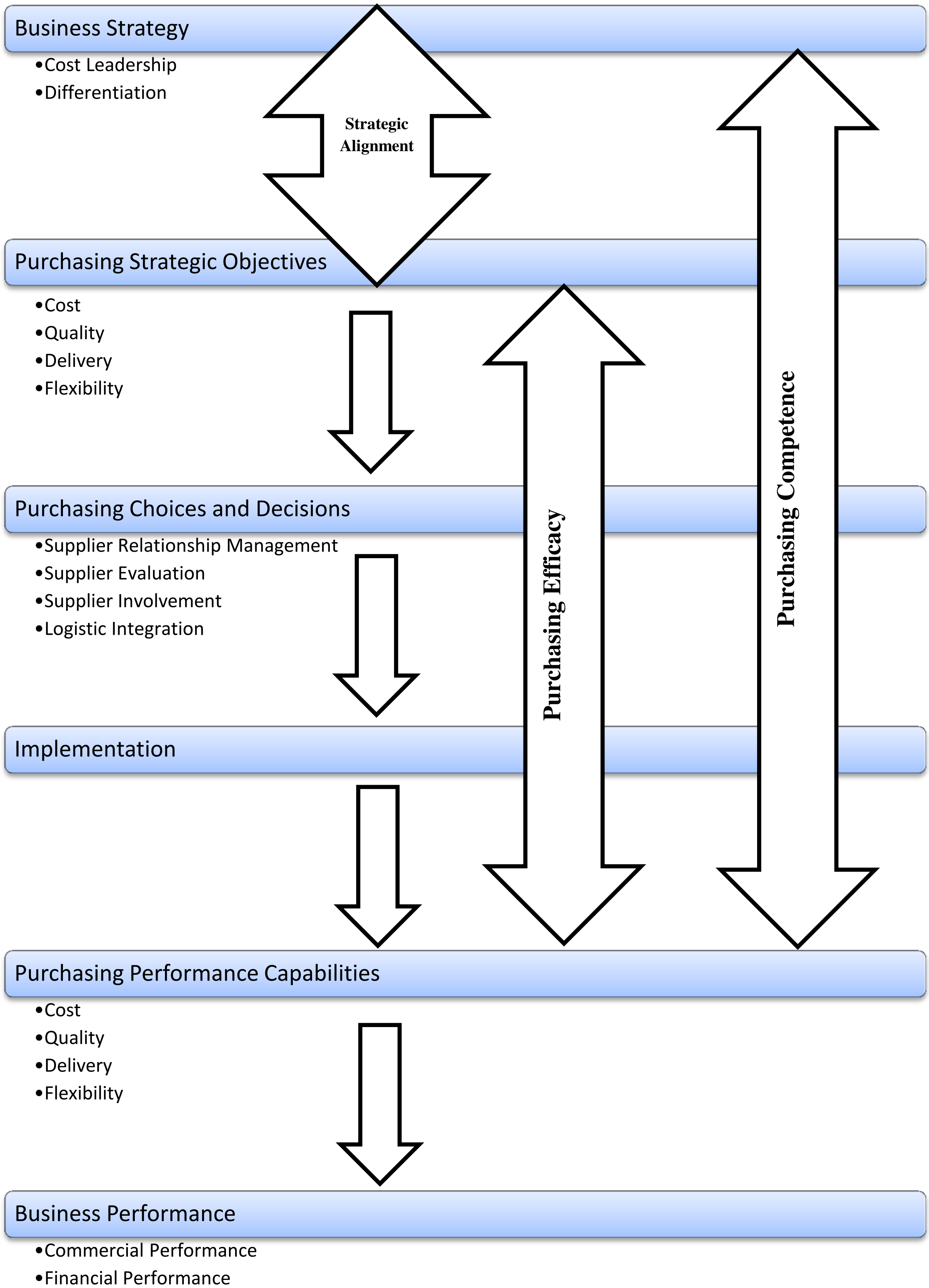
1.2.2 The Strategic Alignment of Purchasing

The competitive strategy that is chosen by the firm has profound consequences on other functions including the purchasing function if it's considered as a strategic function by the top management. The purchasing function, in order to support the corporate competitive strategy, develops adequate purchasing strategies depending on the competitive strategy that's chosen. If the firm's competitive strategy is the cost leadership, the purchasing function focuses primarily on the price negotiations and seeks cost reduction either through obliging the suppliers implement technical cost reduction practices or through commercial negotiations with suppliers and assessing the supplier performances on cost structure and the delivery time and reliability. The low performance on the latter causes production stops and failures which translates into waste and cost. If the firm's competitive strategy is the differentiation strategy, the purchasing function focuses primarily on close supplier collaboration, involving them more in the company processes or getting involved more in supplier processes to improve their products, processes, lead times and quality. The purchasing function is concerned with the attributes of the product, features, functions, technology and performance. If purchasing objectives are not in line with corporate competitive strategy, this may result in a conflict in the goals of the firm and of the purchasing function.

The functional alignment– firm performance link has long been recognized starting first with the publications on manufacturing function alignment with the competitive strategy in the operations literature. Many researchers emphasized the need for aligning manufacturing strategic decisions with the firm's goals to provide a basis for competitive advantage (Schroeder, Anderson and Cleveland 1986; Swamidass 1986). An effective manufacturing function is defined as a function not necessarily having high efficiency or technological standards but that satisfies the needs of the business in a consistent and sustainable way (Wheelwright, 1984). Successively, Cleveland et al. (1989) introduced the theory of production competence based on Wheelwright's work. Cleveland states that, a manufacturing function can be defined as competent and has positive impact on the firm's performance if it's designed to have strengths in the specific areas that are critical for achieving the firm's strategic objectives. As a further contribution to Cleveland's theory of production competence, Vickery (1991) defines the production competence as the alignment between manufacturing strategy and manufacturing strengths and weaknesses in the way that supports the firm's strategic priorities and effects positively the firm's performance. Although the production competence theory is introduced to demonstrate the importance of alignment between the manufacturing strategy and the corporate competitive strategy, the idea is also to be applied to other functional areas in the organization (Droge, Vickery and Markland 1994). Das and Narasimhan, similarly defined purchasing competence as the ''capability to structure the supply base in alignment with the manufacturing and business priorities of the firm'' (Das and Narasimhan, 2000:18). According to this view, the purchasing function can be defined as competent and contributes to competitive advantage if it is integrated in the strategic planning process, by developing purchasing plans, policies and actions based on firm's competitive strategy.

Further studies adapted the theory of production competence to purchasing function are carried out by Gonzalez-Benito (2007) and Baier, Hartman and Moser (2008). Gonzales-Benito states that purchasing function's contribution to business performance depends on the degree to which purchasing capabilities fit and support the business strategy. The theoretical framework of Gonzales-Benito's study is demonstrated in Figure 1.5.

Figure 1.5 - Theory of Purchasing Competence

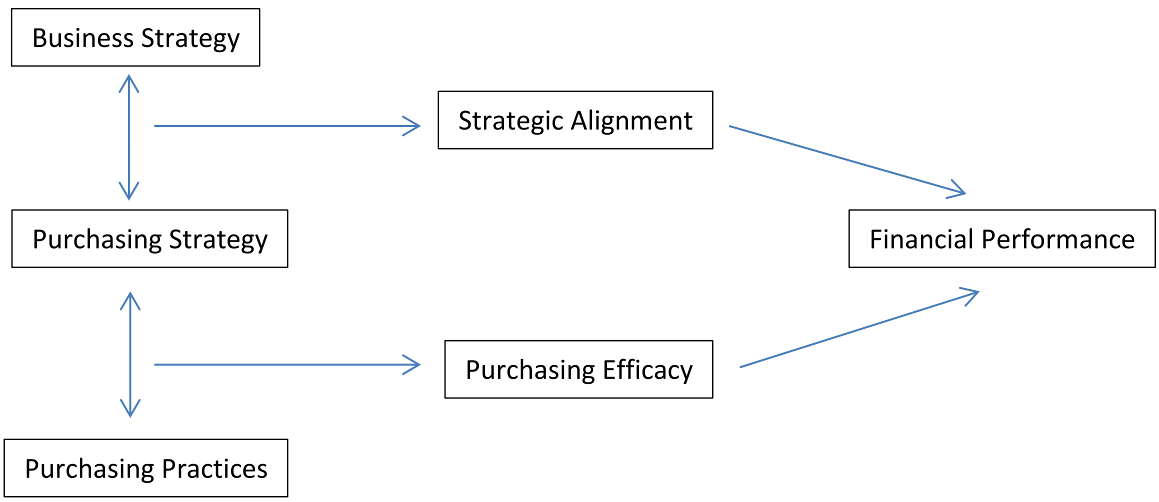


Source: Adapted from Gonzales-Benito,Journal of Operations Management 25 2007:904

According to Gonzales-Benito, purchasing strategy acts as an intermediate element between business strategy and purchasing capabilities, and is developed such a way that it ensures the purchasing capabilities to be obtained are those that are critical to achieve the competitive strategy. Gonzalez-Benito (2007) uses two underlying concepts for the purchasing competence to be achieved. Gonzales-Benito introduces strategic alignment and purchasing efficacy, strategic alignment meaning the fit between business strategy and purchasing strategic objectives and purchasing efficacy meaning the fit between purchasing strategic objectives and purchasing activities. Purchasing efficacy shows the purchasing function's capability of the human and technological resources to achieve its functional objectives. The strategic alignment and the purchasing efficacy are both seen as necessary contributors to competitive advantage and business success (Spekman 1985; Narasimhan and Carter 1998).

While Gonzales-Benito's study was on the business performance including both commercial and financial performances, Baier, Hartman and Moser (2008) applied the concept more specifically on the financial performance of the firm to see a more isolated effect on the financial performance. The theoretical framework of Baier, Hartman and Moser is demonstrated in Figure 1.6.

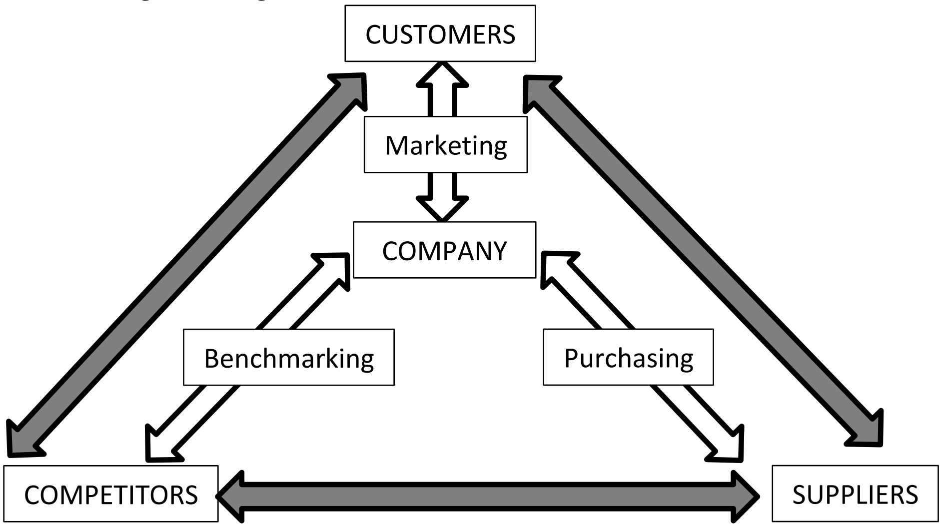
Figure 1.6 - Purchasing's Effect on Financial Performance



Source: Baier, Hartmann, Moser 2008

Depending on the type of competitive strategy, the purchasing function plays a different role. The competitive strategy can be defined as the firm's effort to create value for its major customers, obtain sustainable and distinct advantage against its competitors and shape relationships with its suppliers (Van Weele, 2008:145). Major customers, competitors and suppliers are the three fundamental elements of shaping the firm's competitive strategy and form a strategic triangle (Figure 1.7). The purchasing function shapes the relationships between the firm and the suppliers and consequently has a major role in shaping the firm's competitive strategy and must be aligned to be able to convey the principles of the competitive strategy to the suppliers and manage the relationships accordingly.

Figure 1.7 - Strategic Triangle



Source: Van Weele, 2008:145

As the purchasing functional strategies are linked with the strategic management process as illustrated in the literature, a definition of strategic purchasing is possible to make.

According to Freeman and Cavinato(1990), the strategic purchasing operations are shaped to satisfy the needs of the organization and the strategic purchasing function supports the corporate strategic planning process. Other researchers state that strategic purchasing is primarily a proactive action planned and implemented by the purchasing department and includes a variety of roles from a clerical role to an integrative role.

Carr and Smeltzer (1997) defines the strategic purchasing as the process of planning, evaluating, implementing and controlling highly important and routine sourcing decisions. The main purpose of the strategic purchasing is to create a sustainable consistent process that directs all the purchasing function activities towards actions aligned with the firm's capabilities to achieve its long term goals. This way, a purchasing function that is run strategically can contribute significantly to the firm's competitivity.

The purchasing function strategies should be based on the firm's strategic plans and be aligned with them. These strategies should be planned, evaluated, implemented and controlled to achieve the firm's goals (Aguilar, 1992). The main task of the strategic purchasing function is to help the firm achieve its long-term goals. When purchasing is involved in the firm’s strategic planning process, the purchasing function can be defined as a strategic function (Ammer, 1989; Reck and Long, 1988).

The goal of the strategic purchasing function is to support the firm's effort to achieve its long-term goals. If it has an integrative role, then the purchasing function can be characterized as a strategic function (Burt and Pinkerton, 1996). But these definitions lack the operational characteristics required for measurement. It defines the concept with other concepts.

CHAPTER 2

THE STRATEGIC PURCHASING PROCESS

Contemporarily as the alignment process is being carried out and the purchasing function clearly understands and contributes to shape the corporate strategic plans and objectives thanks to its competence in supplier market, supplier portfolio and relations management and translates those objectives to purchasing objectives and goals according to which the purchasing function adapts its process to reach these goals in the best possible way. The strategic purchasing function can be summarized as a four step process as in Figure 2.1.

Figure 2.1 - Strategic Purchasing Process

Source: Adapted from Monckza et al 2009:203

2.1 TEAM BUILDING

Building the purchasing team is the first and most fundamental step for a successful strategic purchasing practice in an organization. Firms should be willing to invest in purchasing professionals who have the necessary knowledge and skills to manage the strategic purchasing process requires. The strategic purchasing knowledge and skills are discussed in the previous sections. As the content of the purchased items can be quite extensive in many organizations, the competence on the purchased product itself or issues related to production, quality or financial situation of the suppliers or the financial target becomes a challenging issue for the purchasing professionals. To tackle this issue the firms make use of the contribution of other functions which help the purchasing function and make sure that the expectations of the internal customers of the purchasing function are fully satisfied. Members from different functions may join together in CFTs to manage the purchasing process. A CFT can be composed of members from the engineering, the production, the logistics, the cost engineering, the process engineering, the marketing, the finance, and the purchasing. The technical members involved in the team are familiar with the product family in discussion so that they can help to understand whether the specs are fully met by the suppliers or not.

Basically, as the product family has more critical importance, the participation of members from other functions in a CFT is seeked more. The purchasing professionals in the team act as the coordinator of the teamwork therefore it’s critical for the purchasing professionals to have strong skills in leadership, decision making, influencing internal users and suppliers, and compromising in reaching a team consensus.

2.2 SUPPLIER MARKET RESEARCH

The critical contribution of the strategic purchasing function to the corporate strategic planning process is the insight it may provide regarding a part of the external environment namely the supplier market conditions and the internal conditions of the firm to respond the supplier market conditions. The content of this insight consists of the market conditions, the spend analysis, the competitivity analysis, the supplier analysis and the purchasing function SWOT analysis. A thorough understanding of the purchase requirements, objectives and goals depending on the business objectives is essential.

2.2.1 Spend Analysis

The firm should have a clear view of its spending on the supply side to be able to make a prioritization between the commodities to focus on, depending on the purchasing objectives and goals. The purchasing spend analysis identifies the specific commodities and services purchased by the company, their suppliers, the percentage of the purchase value with respect to the total purchasing expenditure or the annual purchase value. This is a critical information of the spend analysis. This analysis shows how much was spent on the category of goods or services by supplier, by business unit, and by subgroups. The resulting chart is called the Pareto chart. The Pareto chart serves as a scale for the purchasing function to help them classify the strategic commodities and less strategic commodities depending on the purchasing objectives and goals. The spend analysis is also very important as an input for the higher management during the strategic planning process.

After understanding the spending structure of the firm, the purchasing team should also analyse what the supplier market conditions and their internal customer requirements are.

This is a very critical information in building and understanding the key suppliers, their capabilities, and their capacity to perform and meet the internal customers' requirements. The main scope behind conducting market research is to understand the trends in market conditions and the ability of incumbent or potential suppliers in delivering the required product or service.

The regular meetings with the internal customers or the purchasing function's involvement in the strategic planning process help the purchasing function determine the forecasted requirements and predict whether the annual purchasing volume (APV) would increase or decrease.

The purchasing function also collects information on the market conditions and through a detailed analysis of the market conditions, the purchasing function identifies the best possible ways to meet the forecasted demand satisfying the additional requirements of the internal customers given the market conditions that will occur. The supplier market intelligence is one of the most critical aspects of an effective purchasing strategy and one of the most important element of information that purchasing can provide for the strategic planning process. The data collection on the market conditions is actually a daily effort of the purchasing function. The information is gathered on key suppliers, the available capacity, price and cost data and trends, regulatory issues and technology trends.

There are many sources of information available on the supplier market and suppliers themselves. The data can be collected in a number of ways. The best source of information is the regular meetings with suppliers. Many information is shared and discussed during these meetings in an informal way and it requires purchasing professionals with the necessary skills to process this information and make it a valuable input for the firm's strategic efforts. The effective communication of this data to the key players of the strategic planning process has a vital importance.

The contribution of the suppliers in the effort of gathering information on market conditions may be planned in a more deliberate way as well and a supplier that is an expert on the marketplace, or an external consultant who specializes in studying certain markets (e.g., rubber, precious metals, copper) are invited to present a report on their expertise area. The purchasing team may use also secondary data sources to cross check the information provided by the suppliers and the consultant experts. Trade journals, sector magazines, reports on the state of the industry are also valuable sources of information. Trade journals provide recent updates to what is happening in the industry.

The supplier annual reports also provide lots of information on suppliers as they communicate to investors the future plans and investments of their firms which might affect the market conditions.

The investment analyst reports provide very valuable information as well on conditions in certain industries and should be monitored closely.

The purchasing professionals gather information on market conditions also attending trade association conferences and these events give the purchasing professionals the opportunity to build a network other than the supplier colleagues and learn from them on what is happening in the industry and cross check the data flowing in from other sources.

The purchasing function to be able to contribute effectively to the strategic planning process, it must communicate the collected data to the key players of the strategic planning process in an effective way. There are several tools to be used to achieve this task and three of these, Porter's five forces analysis, the SWOT analysis, supplier analysis and value chain analysis will be discussed.

2.2.2 Porter Five Forces Analysis

Porter Five Forces is a tool for business strategy development and sales and marketing strategies. Porter Five Forces was created to describe the competitive forces that give an overall understanding in an industry. This tool can also be applied for functions for the functional strategy development purposes. When applied for the purchasing function, the tool helps to predict supplier and buyer behaviour in the marketplace and is a critical element in shaping both the corporate and the purchasing strategy. The following are the five forces:

1) Competitivity:

Higher levels of competition create more options for buyers and suppliers. Factors to be questioned might be the following:

- Speed of industry growth
- Capacity utilization
- Exit barriers
- Product differences
- Switching costs
- Diversity of competitors

2) The threat of new entrants:

There might be low-cost-country suppliers entering in the market and given that they possess the necessary capabilities like human resources, distribution channels, technology capabilities that might change the supplier market conditions creating more options for the buyers.

Factors to be questioned might be the following:

- Capital Markets
- Availability of skilled workers
- Access to critical Technologies, inputs or distribution
- Product life cycles
- Brand equity and customer loyalty
- Government deregulation
- Risk of switching
- Economies of scale

3) The threat of substitute products and services:

There might be a new technology making new materials available and replacing traditional elements. Factors to be questioned might be the following:

- Relative performance of substitutes
- Relative price of substitutes
- Switching costs
- Buyer propensity to substitute

4) The power of buyers:

As buyers consolidate specifications and develop industry standards, increasing power is created over suppliers in the marketplace. Factors to be questioned might be the following:

- Buyer concentration
- Buyer volume
- Buyer switching costs
- Price sensitivity
- Product differences
- Brand identity
- Impact on quality or performance
- Buyer profits
- Availability of substitutes

5) The power of suppliers:

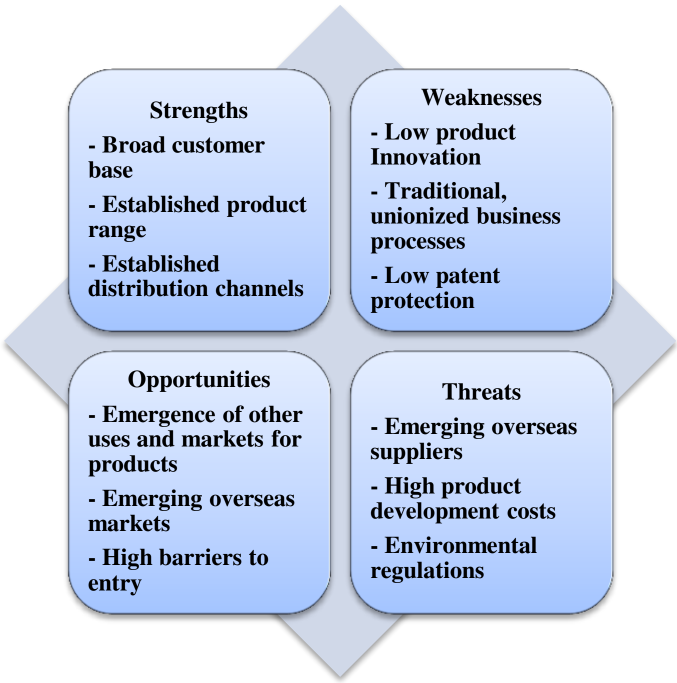
As many supply markets begin to consolidate, fewer suppliers means that a greater amount of supplier power exists in markets. Factors to be questioned might be the following:

- Prices of major inputs
- Ability to pass on price increases
- Availability of key technologies or other resources
- Threat of forward or backward integration
- Industry capacity utilization
- Supplier concentration
- Importance of volume to supplier

2.2.3 SWOT Analysis

An analysis that examines strengths, weaknesses, opportunities, and threats (SWOT) can provide valuable insight to identify where there are gaps. As a strategic planning tool, the goal is to minimize weakness and threats, and exploit strengths and opportunities (Figure 2.2)

Figure 2.2 - SWOT Analysis



Source: Adapted from Monckza et al. 2009: 209

2.2.4 Supplier Analysis

The supplier analysis is required to identify the specific capabilities and financial health of key suppliers that are in the supply base or that may not currently be in the supply base. Some of the key elements that should be documented and included in a comprehensive supplier analysis study include the following:

- Cost structure
- Financial status
- Customer satisfaction levels
- Support capabilities
- Relative strengths and weaknesses
- How the buying company fits in their business
- How the company is viewed
- Core capabilities
- Strategy
- Culture

A request for information (RFI) is a tool used by the purchasing firms to gather information on potential suppliers to understand their capabilities, organizational structure, service and products better. This tool is in the form a questionnaire with specific questions on the critical capabilities that the purchasing organization require from its suppliers to possess. This is used to determine if the supplier meets the minimum standards needed to successfully bid on the project and, if awarded, successfully complete the project.

The information gathered from an RFI can be shared with other functions such as the engineering or the quality or any other specific departments that might be relevant.

2.2.5 Value Chain Analysis

Value chain analysis is used to help identify the cost savings opportunities that exist within the supply chain. The goal is to be able to understand, identify, and exploit cost savings opportunities that may have been overlooked by business unit managers or even by suppliers in bringing the products and services to the appropriate location.

Some of the best data for value chain analysis comes from discussions in meetings with suppliers. The tool provides insights into where products originate and where they end up. A good value chain analysis can provide insights into where in the market you need to be buying.

2.3 STRATEGY DEVELOPMENT

After a thorough analysis is carried out on supplier market conditions and inter customer requirements, the next and the third step in the strategic purchasing process is the strategy development. To achieve this task the purchasing function should process the outcome of the analysis in the market conditions research phase and use this data with the help of the strategy development tools to develop a purchasing strategy that is in line with the corporate strategy, internal and external environmental conditions. Kraljic's portfolio analysis tool (1983) is a fundamental tool widely used to develop a purchasing strategy. It helps to classify the commodities using two dimensions; their value and the market conditions so that the purchasing can identify the necessary series of actions it needs to take and the types of relations it has to develop with their suppliers to manage these commodities. The other tool that is widely used to support the decision making on what type of relations to be developed with which suppliers is the supplier evaluation scorecard.

2.3.1 Portfolio Analysis

The portfolio analysis tool is a matrix using two dimensions; the importance of the purchased product in terms of cost of the product versus total purchase volume or value and the complexity of the supplier market in terms of whether it is a monopolistic or oligopolistic market, the pace of technological advances taking place, entry barriers and such. The portfolio analysis tool classifies the supply base in four segments, and is used as a means of classifying the suppliers of the purchased product families into one of these four types. The portfolio analysis tool classifies every product family that is purchased into one of the four categories or quadrants:

(1) Strategic or Critical

- High Profit Impact
- High Supply Risk

(2) Bottleneck

- Low Profit Impact
- High Supply Risk

(3) Leverage

- High Profit Impact
- Low Supply Risk

(4) Routine or Non Critical

- Low Profit Impact
- Low Supply Risk

The classification of the goods and services purchased into one of these categories helps the purchasing function understand more clearly the strategic importance of the item to the business and propose a strategy that is suitable for that type of commodity. The results of this analysis make possible to develop tactics and actions for moving forward. The essential elements of strategy, tactics, and actions associated with each of these different category quadrants in the matrix, are described in greater detail below and summarized in Figure 2.3.

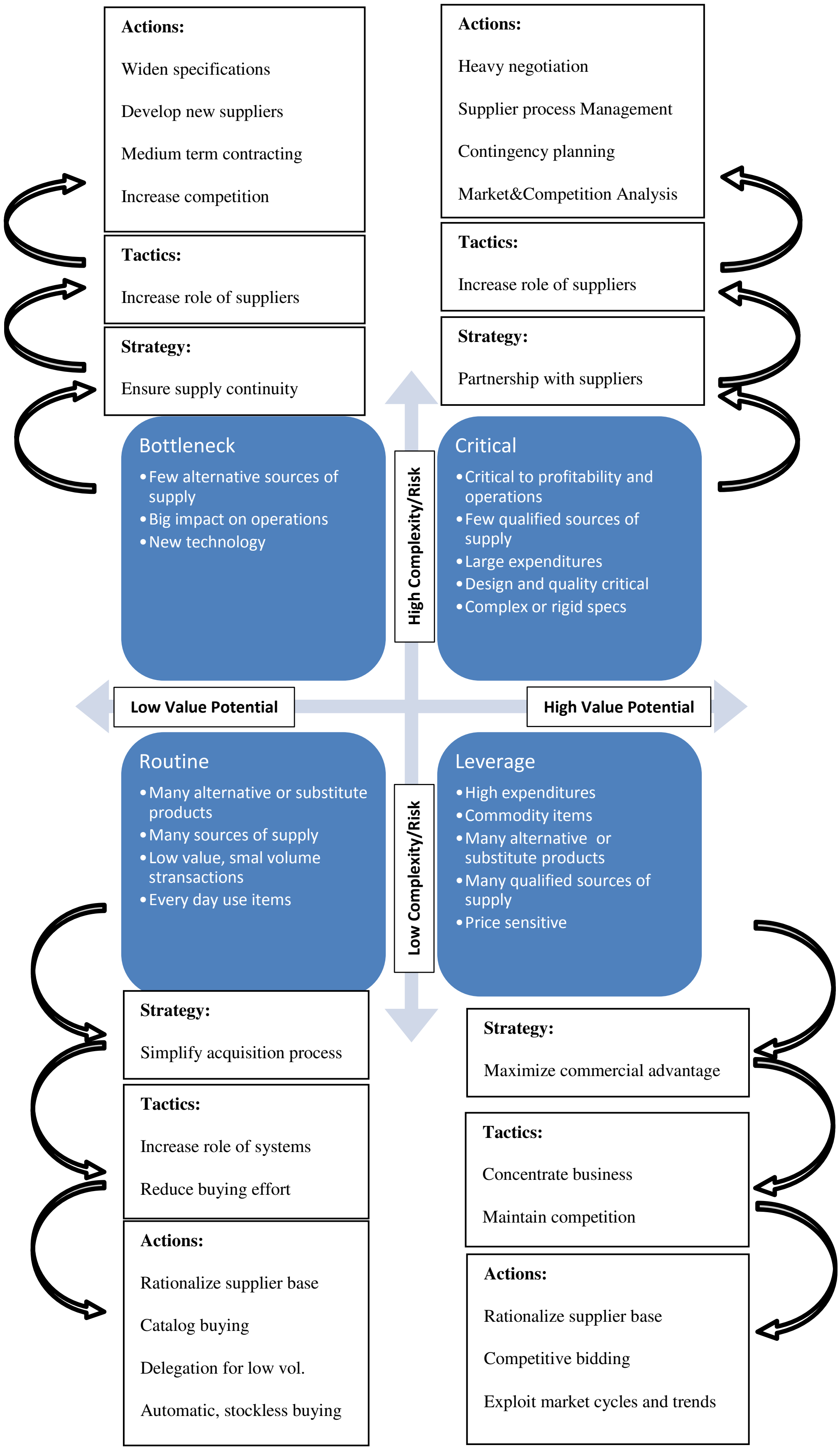
2.3.1.1 Strategic or Critical Commodity—Strategic Supplier

The strategic commodities are the commodities that have an important impact on the profitability of the firm and the supplier market for these commodities represent a high risk meaning either the availability of the product, the manufacturing capacity of the suppliers or the number of suppliers available for these commodities representing whether the market is monopolistic or oligopolistic.

The strategic objectives for the purchasing function regarding a strategic commodity are to develop a competitive advantage, obtain the support of the supplier's core competencies or develop suppliers to improve value-added services to support the company's overall strategy rather than a simple purchasing agreement. If the APV of the item is high, the firms are more likely to establish close relations with a strategic preferred supplier.

A preferred supplier is a selected supplier that is generally awarded the business for that commodity under special conditions. The purchasing firms are more willing to assign long term contract with these suppliers to secure the supply for the production in exchange of leveraging the expertise of the supplier in that commodity and the commitment of the supplier to offer preferred customer treatment and relationship specific investments. Such a relationship requires confidentiality and higher levels of information sharing and continuous improvement.

Figure 2.3 - Portfolio Analysis



Source: Adapted from Monckza et al. 2009:211

2.3.1.2 Bottleneck Commodity—Transactional Supplier

The bottleneck commodities are the items that do not have an important impact on the profitability however they are vital for the continuity of the production and the supplier market represents some risks meaning either the availability of the product, the manufacturing capacity of the suppliers or the number of suppliers available for these commodities representing whether the market is monopolistic or oligopolistic. The bottleneck commodities have unique requirements or niche suppliers consequently making such items expensive, due to the exclusive market position maintained by the supplier. The strategic objective of the purchasing function is basically to guarantee the continuity of supply. In this case the purchasing firms most likely adopt a strategy that the firm identifies a preferred supplier and assign a long term contract to secure the supply for the production in exchange of the commitment of the supplier to offer preferred customer treatment and relationship specific investments meaning that the supplier must ensure that it can deliver in a responsive manner, is responsible for managing inventory of the commodity and is capable of handling orders from multiple locations. As the APV is low and the bottleneck commodity has a very low impact on the profitability, the transactional costs should also be minimized and the purchasing procedure and the relative invoicing issues should be made a standard straight forward and minimum time consuming way by using the IT support as much as possible. If the supplier IT systems are not compatible with the firm's IT systems then an investment in IT systems might be necessary.

2.3.1.3 Leverage Commodity-Preferred Supplier

The leverage commodity are the items that has a high impact on the profitability of the firm and the supplier market represents low supply risk meaning that the availability of the product, the manufacturing capacity of the suppliers or the number of suppliers available for these commodities. The leverage commodities provide an opportunity for high savings. These commodities or services represent a high volume of total purchasing volume, therefore are important to the firm, and they are readily available and it's unlikely to have a shortage of these commodities. Due to their importance to the firm, the suppliers need to maintain a high level of quality and compliance with corporate objectives.

To guarantee this requirement, preferred suppliers are awarded the business in exchange of their commitment to significantly reduce the cost of supplying these items or services over time, in return for a significant portion of business and possible long term agreements. As the volume of the business is high, the selected suppliers are also expected to have supplier capabilities such as management of on-site inventory and ability to quickly respond to customer requirements while maintaining a high level of quality and reducing the total cost of doing business regarding the commodity.

2.3.1.4 Routine Commodity

The routine commodities have low impact on the total APV and the supplier market represents no particular risks meaning that products and services in this category are readily available and low in cost.

The strategic objective for the purchasing function for these commodities is the rationalization of the number of units to control costs, and simplification of the procurement process using electronic tools (e.g., electronic data interchange, auto-order systems, online vendor catalogues, and purchasing cards. As these commodities have low monetary impact to the firm, the purchasing function also tries to identify suppliers that can automate the purchasing process as much as possible. In this case after the identification of such a supplier the purchasing function may also delegate the purchasing action for these commodities such as office supplies to the users in different functions and they can order directly through the internet using a company procurement card from an online supplier catalogue with the delivery made directly by the supplier to the firm.

2.3.2 Supplier Evaluation

After the portfolio analysis is completed and the classification of the commodities and the suppliers are done, the purchasing function takes a closer look in the suppliers and starts questioning their capabilities and understand whether they are eligible to work together to satisfy the minimum quality standards and working conditions. The scope of this exercise is to narrow down the possibilities to the best suppliers available and eventually award the potential business among these eligible suppliers. The awarding process is called the supplier selection process and its success heavily depends on the success of the supplier evaluation process.

The supplier evaluation scorecard is used as a tool that helps the decision making on what kind of a relationship to establish with the suppliers. Each item in the scorecard has a weight depending on the importance it has for the purchasing firm. The tool is applied both for potential new and current suppliers with some differences. The evaluation scorecard for potential new suppliers focuses on the capabilities that the supplier possesses to become a business partner.

The performance tracking of the suppliers gives the purchasing function to identify which suppliers have superior performance, and which are in need of reconsideration to continue the business relationship.

The supplier evaluation is done on questioning whether a supplier possesses certain capabilities. and some of these capabilities can be listed as follows:

- Manufacturing capabilities
- Management capabilities
- Availability of planning and control systems (Quality systems)
- Financial condition
- Engineering capabilities
- Ethics, reputation and compliance to regulations
- Long term relationship potential

This data on the supplier capabilities helps the purchasing firm assess the potential of a supplier as a successful partner.

2.3.2.1 Manufacturing Capabilities

The manufacturing capabilities of the suppliers are fundamental for purchasing firms as the cost structure of a product is closely related to the ability of the supplier to manufacture a product at the lowest cost possible rather than the profit margin that the supplier applies to that product. The technology level that the supplier has for the manufacturing is a critical aspect that the purchasing firms consider in deciding their supplier park to work with.

2.3.2.2 Management Capability

It's difficult to understand the management capabilities of a supplier. This is a step which takes time and becomes possible only after a certain business experience with that supplier. Therefore it must be closely monitored and taken into account in future considerations.

Supplier's management capability includes its business experience and professional ability, management's philosophy on continuous improvement of process and quality, its willingness to develop a closer working relationship with the purchasing organization and whether it is able to have a sustainable positive relationships with its workforce.

2.3.2.3 Planning and Control Systems

Planning and control systems include those systems that release, schedule, and control the flow of work in an organization. The suppliers which possess the quality system certifications are more likely to have the necessary planning and control systems in use in their organizations. The presence of such quality system practices help the supplier organizations correctly interpret the customer requirements regarding the product and the required service level decreasing the total cost of doing business with these suppliers.

2.3.2.4 Financial Condition

The evaluation of the financial condition of the suppliers have a vital importance however often neglected. The purchasing firms should definitely follow the financial situation of their suppliers on a regular basis to avoid any unpleasant surprises. The evaluation is done not only on the data of one year but a span of at least three years. Purchasing function asks the help of the finance department to correctly evaluate the different financial ratios that determine whether a supplier can invest in resources, pay its suppliers and its workforce, and continue to meet its debt and financial obligations. These elements have vital importance in determining whether the supplier is a reliable source and the supply is not under some sort of financial risk.

2.3.2.5 Engineering Capabilities

The purchasing firm may expect its suppliers to perform component design as well along with production of that component. In this case the purchasing firm should also assess the supplier's engineering design capability. The suppliers which possess strong engineering structures and design capabilities help immensely to reduce the new product development time and also favoured by the internal customers like the engineering and the marketing.

2.3.2.6 Ethics, Reputation and Compliance to Regulations

Ethical issues also represent an important aspect when selecting a supplier to work with and firms pay a particular attention to make an extensive search of the ethics performance of the suppliers. Especially, the suppliers in China or in low cost countries are checked carefully in terms of child labour, damping or compliance to environmental regulations in order to avoid the disruption of supply in case of forced suspension of production or delivery by the authorities and getting associated with a supplier which would damage the purchasing firm's reputation. However the extra effort is not limited only to the suppliers from the low cost countries and it is applied to all suppliers in the supplier park.

2.3.2.7 Long-Term Relationship Potential

The long term relationship potential is a metric that is only possible to understand as the two parties have a substantial business experience together. The long term relationships are possible to develop if both parties share common goals, confident to work with widely discussed and well defined performance metrics and have trust in each other to manage the conflicts in a constructive manner to provide mutual benefit for both parties. These conditions require time to mature.

The firms are particularly keen to establish a long term relationship with a supplier if the supplier is in the "Critical" quadrant, and the APV is high and of critical importance to the company's business.

The long term relationships lead both parties to joint cost-savings projects and new-product development efforts which are the main benefits expected of this relationship.

The supplier evaluation does not end with the selection decision of a new supplier but continues for the selected suppliers. After the business is awarded and the potential supplier becomes a supplier, the purchasing function also must track supplier performance over time. The evaluation scorecard for current suppliers report the performance metrics established by the company and the final performance score of the supplier.

By the help of the supplier evaluation scorecards the purchasing function has a detailed information on the supplier capabilities like the engineering capabilities, the manufacturing technology and capacity, the quality systems, the quality performance and the logistics performance and such. Based on this information and the portfolio analysis, the purchasing function is now able to determine what kind of a relationship to establish with each supplier. The purchasing function may decide to have a single source or multiple sources for a commodity assigning different portions of the business to more than one supplier or decide to invest to develop some of the capabilities of the suppliers.

The purchasing strategies and actions that governs the process after the business is awarded and the contract is signed, are called the supplier relationship management and will be discussed in the next sections.

2.3.3 Supplier Selection

The supplier selection is a key sub process of the strategy development phase and it is the process where the contribution of other functions than the purchasing function is highly present in firms where strategic purchasing is practiced. In a supplier selection process carried out with a strategic approach, the part price is the last issue to negotiate with the supplier. The suppliers which qualify for any selection process should satisfy qualitative and technical prerequisites. The genuine practice of the quality systems by the supplier helps a great deal to correctly interpret the customer requirements and offer the best overall technical solution for the customer if the supplier possesses the adequate capabilities. During the supplier selection process the purchasing team tries to find an answer to several questions for which the supplier evaluation may provide valuable data. Therefore a careful and up to date supplier evaluation is very critical for a successful supplier selection process. The purchasing function tries to answer the following questions during the supplier selection process:

- Who can possibly provide the component?
- Who can provide the component with a good quality?
- Who can provide the component with the right technical solution?
- Who can provide the component with a feasible timing?
- Who can provide the component with good economic values?

Obtaining a reasonable solution to all these questions is a challenging task for the purchasing function alone and the deployment of the expertise of all the functions of the purchasing firm is required. The main actor and the owner of the process is the purchasing function however it uses the information from other functions to coordinate the supplier selection process. The participating functions in the supplier selection process can be listed as:

- Marketing
- Engineering
- Cost Engineering
- Finance

- Supplier Quality
- Supplier Development
- Production
- Logistics

Some of the functions listed above apart of contributing the selection process are the internal customers of the purchasing function and are directly affected by the result of this process in terms of qualitative and technical performance of the supplier and the value it will deliver for the internal customers of the purchasing firm. Therefore these internal customers of the purchasing firm do not limit themselves of solely providing information for assessment but generally try to influence the outcome as they desire to be. The supplier selection process actually provides the opportunity for the internal customers to influence the outcome as to obtain a common solution that satisfies the needs of the key stakeholders of the process as much as possible. The conflicts may occur between the key stakeholders and it is important that the adequate and objective conflict resolution procedures and tools are introduced. An example of supplier selection process can be presented as in Figure 2.4.

Figure 2.4 - Supplier Selection Process

Source: Adapted from Fiat Group Purchasing Srl Direct Material Sourcing Procedure , 2009:8

2.3.3.1 The Start of The Supplier Selection Process

The first step of the supplier selection process is recognizing the need to evaluate and select a supplier for an item or service. The recognition of the need to select a supplier to source a part may rise in several ways:

- New product development
- Poor supplier performance
- Termination of a contract
- Market testing
- Feasibility of outsourcing
- Supplier base optimization
- Insufficient capacity, supply risk
- Expanding in new market, global production facilities
- New equipment investment
- Counter Trade requirements

Ideally, a strategic purchasing function should anticipate the need for supplier selection rather than reacting to it. Depending on the complexity and the overall value of the purchase, the technical time required to identify the best supply solutions in line with the corporate strategy may be quite extensive. Therefore a purchasing function is able to anticipate the need and proactively gets ready. A proactive purchasing function enables the firm react to the changing environmental conditions fast and avoid falling behind the competition. The purchasing function is able to get the capability of anticipating the need for supplier selection if it is involved in the strategic planning process of the firm and develops a well-functioning communication with the other functions, especially the likely internal customers such as the marketing, the engineering and the production. The purchasing function may have early insight into new-product development plans through participation on a product development team where the marketing and the engineering provide valuable insight on the technology, features, volumes and timing regarding the future new product plans. This kind of preliminary information may be enough to initiate an evaluation of potential suppliers and sourcing strategies.

2.3.3.2 Key Stakeholders Meeting

The key stakeholders meeting is one of the moments where all the contributors from other departments come together and make sure that all the information required to start the supplier selection process is available. If the information is not complete, the stakeholders agree upon the assumptions to be made to move forward. The stakeholders evaluate the risks to begin the sourcing process with incomplete information.

The stakeholders also find an agreement on the timing for the sourcing and on the strategy. The main issues that are discussed by the stake holders can be summarized as following:

- Technical Description of the component (drawings, CAD models etc.)
- Model of Application involved
- Plant of production
- Logistic information (delivery requirement, packaging information etc.)
- Volumes by year
- Allowable costs or incumbent prices
- Incumbent suppliers
- Timing, start of production, commercial launch etc.

2.3.3.3 Pre-RFQ Report & RFQ (Request For Quotation)

Depending on the complexity or the APV of the item or the service to be sourced, the purchasing function may have to ask for certain approvals from the higher management or present the strategy it intends to follow. If that is the case then as the coordinator of the supplier selection process, the purchasing function gathers all the information presented and reports the joint decisions taken in the key stake holders meeting to the higher management. The content of this report at this initial stage consists:

- Components to be sourced
- Place of use
- Volume
- APV
- Supplier Bid List
- Supplier Performance Scores
- Timing

- Objectives and strategy for the sourcing

After the feedback of the higher management, the purchasing function sends out the technical and commercial information that is required by the suppliers to quote for the business to be awarded.

The purchasing function helps the suppliers clarify any doubts that the suppliers might have regarding the information supplied either by responding them directly or organizing dedicated meetings with the required function. This is an optional step and takes place if there is such a need. This step might take place in case of very complex components.

2.3.3.4 Technical Review

Technical review is the second important moment during the supplier selection process when the key stakeholders of the process come together, this time to hold a face to face meeting with the supplier. The scope of the technical review is to analyze the offer submitted by the supplier and assess whether it meets the requirements of the internal customers and identify the gaps present between the request and the offer. The necessary participants from the purchasing firm are:

- Engineering
- Supplier Quality Engineering
- Logistics
- Production
- Purchasing

The participating stake holders provide a series of questions to the supplier to understand better the validity and the feasibility of the offer. The output of the technical review is the technical evaluation of the offer and risk assessment. This is where the various stakeholders try to influence the outcome through their technical evaluation. The technical assessment should be on a sound base and the supplier is generally given a chance to close the gaps present if assessed negatively.

The suppliers which fail to qualify at the end of the technical evaluation are dropped and the process continues with the suppliers which are assessed positively.

2.3.3.5 Negotiation

The buyer opens the negotiation with the target setting. The target price for the part can be determined by the cost engineering or the finance, depending on the NPV to be achieved for the business case. The target price for the part and the tooling is communicated to the supplier. The purchasing function may use different methods to negotiate: several target settings, face to face meeting, online auction and so on. The purchasing function presents the best offer and the runner ups to the stake holders and ask their consensus before presenting the case to the higher management.

2.3.3.6 Recommendation

The recommendation is the moment when the purchasing function present the entire business case to the higher management for their approval if the level of delegation is superseeded. The purchasing function gathers all the information regarding the sourcing process carried out. The recommendation document consists of:

- Components to be sourced
- Place of use
- Volume
- APV
- Cost Drivers of the component
- Type of technology involved
- Cycle time
- Supplier Bid List
- Supplier Performance Scores
- Technical Evaluation Results
- Economic Evaluation Comparison
- Key Stake Holder Approvals
- Benchmarking with similar components
- Timing
- Results achieved vs. Objectives and strategy initially set for the sourcing

After the approval of the higher management if the level of delegation necessitates such an approval, the supplier selection process is completed and the selected supplier or suppliers are invited for the formalization of the contract.

The main scope of the supplier selection process in a strategic context is to identify the most suitable supplier with the most suitable conditions to respond to the requirements of the corporate strategy and the internal customers in the best way possible. The participation of the internal customers and the control functions regarding the economic and technical performance targets is therefore the enabler of this scope and the most critical part of it. The internal customers try to influence the outcome as they desire using the formal tools and communication channels defined in the process. The control functions set the specs and targets to be met and use the tools defined in the process to control whether these targets are met.

The supplier selection process can have different levels of complexity depending on the level of strategic purchasing practice in the firm or the time available in hand or whether the process is of domestic or global scale. If the time available is very limited than some of the steps and the contribution from other functions can be skipped. If the process is of global scale than the process may become more complex with the participation of more players and the offer analysis may take more time to clarify.

After the supplier selection, the strategic purchasing function undertakes the next challenging step: the supplier relationship management. The supplier relationship management starts with the signing of the contract and covers all the strategic actions taken to shape the business relationship to support the corporate strategy and strategic goals.

2.4 SUPPLIER RELATIONSHIP MANAGEMENT

The strategic purchasing process advances to the last and a very critical phase which is the supplier relationship management (SRM) and development. According to Trent (2007),.the strategic purchasing has three primary objectives:

- Obtain preferential treatment
- Obtain relationships specific investment
- Co Destiny with the suppliers

This approach is valid especially regarding the suppliers that are strategically important to the firm. The purchasing function tries to reach these three strategic objectives through supplier relationships management which involves a series of strategic actions some of which are:

- Long Term Contract
- Early Supplier Involvement
- Supplier Design Support
- Supplier Development
- Target Costing
- Involvement of Quality Certified Suppliers

After the supplier selection and signing of the contract the purchasing function is responsible for ensuring that the terms in the contract is respected by both parties and the purchasing firm maximizes the benefits it expects in the post contract phase. This is especially true regarding the relations with the suppliers in the strategic or critical quadrant of the portfolio analysis.

The supplier relationship management is a methodology and a set of strategic actions that defines how a firm manages its supplier park.(Trent 2007:190) The supplier relationship management is to organize the links, resources and individuals of functions in an adequate way that the identified relationship to be established with a particular supplier is developed and the expected benefits are obtained. A major part of the strategic purchasing practice is actually managing the supplier relations in the most adequate way in line with the corporate strategy and strategic plans therefore it is a source of competitive advantage (Carr and Pearson, 1999).

The supplier relations have strategic importance because the firm depends on its suppliers to adapt to changes affecting the supplier markets making them a critical part of a firm's value chain. Trent(2007) notes eight factors that make the supplier relations to have strategic importance:

(1) Pressure to Improve and Innovate:

As the competition increases the firms need to improve their processes and respond to their customers' more sophisticated demands. As the provider of the parts and services to the firm, the suppliers should contribute to the firm's effort to adapt to the competition and the rapidly changing environment.

(2) Reliance on Fewer Suppliers:

As the firms consolidate and optimize their supplier base down to one or two suppliers per commodity to be able to employ adequate amount of time and resources, the flexibility of the firm to switch from one supplier to another is low and the switching cost is high. The reduced supplier base demands a close attention to relationships.

(3) Importance of Early Supplier Involvement:

As the competition intensifies the firms need to bring in innovation into their products and services and differentiate themselves from the competition targeting the more profitable segments. The suppliers present more chance of introducing innovative ideas as it is more likely that they have more expertise on a particular item or service provided that they possess the adequate capabilities and resources. Involving the suppliers of such expertise provides better product designs, less quality problems and keeping the pace with the developing technology. To obtain such a benefit requires the eagerness of the suppliers of this kind and it may not be the case. It is not always easy to convince the suppliers to collaborate and therefore an effective close relationship with the suppliers has vital importance.

(4) Quality Concerns:

As the portion of the buy parts represents the major part of the products, the need for the firm to control the quality of the suppliers becomes a major concern. The end customer sees the firm as the responsible for any failure in meeting the quality standards and therefore how the supplier quality performs has a direct effect on the firm's reputation over the end customer. The commitment of the suppliers to have strong relationship with the firm is therefore important as it leads to a strong commitment of the suppliers to meet the quality levels requested by the purchasing firm.

(5) Trend towards Full Product or Service Providers:

As the industrial customers are seeking to work with full product or service suppliers the firms need to complete the missing portions or capabilities by either developing them internally, through merger or acquisition of other firms or through third party suppliers. Developing these capabilities internally or through merger or acquisitions is costly and requires a long term while acquiring these capabilities from readily available suppliers is generally economically more feasible. As the firm's success of becoming a full service provider depends on third party suppliers, it views the relationships with these suppliers of strategic importance.

(6) Supplier Market Risks:

A probable shortage of raw materials or capacity problems or natural disasters may change the conditions in the supplier market and a possibility of a supply disruption may occur. At these critical conditions the firms need to have suppliers which treat them as a preferential customer and it is only possible by developing close relationships with these suppliers.

(7) Competing Supply Chains:

The competition is more between the supply chains rather than solely the firms. Therefore the performance of each member of the supply chain has vital importance for the business performance. If the performance of the supply chain as a whole increases in importance then the relationships between the members of the supply chain also become more important.

(8) Fear of Competitive Disadvantage:

If a firm gives up on developing close and preferential relationships with its suppliers a competitor would most likely fill in. A firm needs its suppliers dedicated support to compete in the market place and being left out might lead to becoming not competitive anymore.

2.4.1 Relationship Types between The Purchasing Firm and Suppliers

According to Trent (2007) there are four main types of relationships to be developed with the suppliers. These are:

- Counterproductive Relationships
- Competitive Relationships
- Cooperative Relationships
- Collaborative Relationships

Although the relationship types can be categorized as above the purchasing professionals still need the portfolio matrix analysis to understand what type of a relationship to establish with a particular supplier. As discussed previously in the purchasing strategy development the portfolio matrix analysis categorizes the suppliers in four quadrants depending on the importance of the commodity they supply to the firm and the supplier market conditions.

Knowing when, where and how to apply an appropriate relationship is an area where purchasing professionals bring value to their organization(Trent, 2007).

2.4.1.1 Counter Productive Relationships

Counterproductive is a state of relationship where both parties work against each other's interest. This type of relationship is certainly not a desired relationship in a business context and almost certain to fail to create any value for any party. As no business relation at the beginning do not rise as a counter productive relationship it becomes one during the course of the relationship mainly due to some sort of violation of contract.

2.4.1.2 Competitive Relationships

A competitive relationships is also known as an adversarial relationship where the parties in a business relationship focus primarily on maximizing their benefits and disregard the specific needs of the other party. The parties do not create new value or business opportunities to increase the market share. This is the case when parties do not possess the adequate skills to do so or just the nature of the commodity or business does not represent any requirement for a closer relationship. The commodities provided by the suppliers in a competitive relationship context do not represent a major portion of the total purchasing volume of the purchasing firm.

2.4.1.3 Cooperative Relationships

The cooperative relationships develop when both parties realize the importance of the value created due to a closer relationship and exchange of information. The cooperative relationships are developed with a reduced number of suppliers which the purchasing firm plans to continue utilizing due to their critical capabilities which are strategically important form the firm to compete. The cooperative relationships are formalized with long term contracts which imposes a special attention on:

- Cost improvement
- Quality
- Delivery
- Packing
- Inventory Management
- Product Innovation
- Service Level

The cooperative relationships may also include early supplier involvement during product development although this more of a feature of collaborative relationships

2.4.1.4 Collaborative Relationships

The collaborative relationships are developed with suppliers which provide items or services that are of high strategic importance to a firm's success. The eagerness of both parties to join resources to compete together is the characteristic of this type of relationship. The number of suppliers with which the collaborative relationship is developed is very limited as this type of relationships requires high involvement of both parties in terms of resources like the human resources and the financial resources and the purchasing firm should be very selective in deciding the suppliers to engage with in such relationship terms.

The collaborative relationships are formalized with long term contracts with the involvement of higher management in joint strategy development sessions consisting of extensive exchange of critical strategic information and deployment of resources. The early supplier involvement in product development is a more common practice in this type of relationship. The parties share a co-destiny and fully recognize that the value created by the collaborative relationship is essential for their success in the market place.

2.4.1.5 Routine or Noncritical Commodity Supplier Relations

The commodities and services purchased from routine or noncritical commodity suppliers represent a relatively low and insignificant total value with respect to the firm's total purchasing volume and the supplier market present very low risk regarding the disruption of the supply. In this case, the primary objective of the purchasing function is to reduce the transaction cost as much as possible by standardizing and making the process as straight forward and automatic as possible to employ its resources in areas which are strategically more important for the firm. Therefore the relationship is very distant and supply is managed through electronic systems, purchase catalogues mostly delegated to the direct users within a certain economic value.

2.4.1.6 Leverage Commodity Supplier Relations

The leverage commodities represent a high volume and significant total value with respect to the firm's total purchasing volume and the supplier market present very low risk regarding the disruption of the supply. Normally the relationship to adopt in a supplier market where the supply risk is low, is a competitive relationship. The purchasing firm usually has a price focus rather than a cost approach and is less interested in non-price areas when the complexity of the item is low. The firm seeks to obtain the best price through competitive bidding and frequent market tests. These relations may be formalized by short term contracts. When the items in this category requires more attention in the non-price areas such as quality, delivery and service, the purchasing firm needs to employ more time and resources to define the adequate relationship and develops a cooperative relationship through longer term contracts.

2.4.1.7 Bottleneck Commodity Supplier Relations

The strategic objective of the purchasing function is basically to guarantee the continuity of supply. In this case the purchasing firms most likely adopt a strategy that the firm identifies a preferred supplier and assign a long term contract to secure the supply for the production in exchange of the commitment of the supplier to offer preferred customer treatment and relationship specific investments meaning that the supplier must ensure that it can deliver in a responsive manner, is responsible for managing inventory of the commodity and is capable of handling orders from multiple locations. As the annual purchasing volume is low and the bottleneck commodity has a very low impact on the profitability the transactional costs should also be minimized and the purchasing procedure and the relative invoicing issues should be made a standard straight forward and minimum time consuming way by using the IT support as much as possible. If the supplier IT systems are not compatible with the firm's IT systems then an investment in IT systems might be necessary.

2.4.1.8 Strategic or Critical Commodity Supplier Relations

The strategic or critical commodities are items or services that represent a high volume or significant total value with respect to the firm's total purchasing volume and they are essential for a product or a service or a differentiation feature that creates value for the customer. The supplier market represents a higher risk or the power balance between the buyer and the supplier is more on the supplier side due to a monopolistic or an oligopolistic supplier market. The suppliers possess special capabilities that are strategic for the firm's success and the firm necessitates to benefit these capabilities more than the competition does. Therefore the firms feel the necessity to develop a cooperative or a collaborative relationship with this category of suppliers to exploit the supplier capabilities as much as possible. The nature of this relationship requires high involvement of both parties in terms of resources and capabilities and therefore the purchasing firm needs to apply this relationship scheme to a very limited number of suppliers. The focus is on non-price areas and cost analysis is adopted rather than just the price of an item. The cost reduction is a joint effort and focuses on the value analysis and the continuous improvement of processes, eliminating the elements that create no value for the product and the end customer rather than simply asking the supplier to sacrifice its margin to support the business. The suppliers are involved very early in the product development phase and most generally get awarded the business due to their exclusive expertise and capabilities.

2.4.2 Supplier Expectations from Close Relationships

It may not be always easy to develop a close relationship with a strategically important customer. The supplier may not be eager to get involved in such a business relationship due to many possible reasons. The supplier may not feel the necessity of a business partner to survive or the purchasing firm may simply be not a desirable customer to work with. It is important to understand the fundamental expectations of the suppliers from a close relationship and identify the gaps to eventually eliminate as many as possible. Any attempt to create a close relationship with a supplier without making sure that the gaps are closed has a low chance to succeed. Trent (2005) summarizes the fundamental expectations of the suppliers from a close relationship with the purchasing firm:

- Long term agreement
- Fair financial return
- Adequate time for planning
- Accurate forecasts
- Sharing of cost saving ideas
- Minimum number of changes
- Ethical treatment
- Early involvement opportunities
- Payment in a reasonable time
- Opportunity to become a preferred supplier
- Correct material specifications
- Parts designed to match the supplier's process
- Smoothly timed order releases
- Sharing of information, including technology roadmaps and business plans
- Objective performance feedback
- Protection of intellectual property
- Efficient negotiation processes

It is very difficult to satisfy all the aspects that a supplier expects from its relationship from a purchasing firm. The value that the purchasing professionals might add to the firm is to understand the ones that are critical for the supplier and focus improving on them to convince the suppliers to develop a strong close relationship. The long term contract, becoming a preferred supplier, the protection of intellectual property and fair financial return are some areas that needs to be addressed by the purchasing professionals. According to Snyder (2005) to develop close relationship with a supplier depends on satisfying its expectations in four areas: supplier's ROI, customer's support of the supplier, the customer's willing to reward cost saving ideas and the customer's ability to protect propriety technology.

2.4.3 Long Term Contracting

The long term contract is a clear demonstration of commitment of both parties for a long term relationship. It is a legal contract representing sanctions in case of its violation and addresses to both price and non-price areas. The duration of a long term contract is more than a year and they are often three years in many industries. The long term contract is a common practice in supplier relationships and the total volume purchased under contract is a performance metric for the purchasing organizations. Although it is a common practice in supplier relations, long term contracts do not guarantee better performance results. The purchasing function should be able to monitor the performance in benchmark of the expected targets defined in the contract, take necessary actions for improvement or modify them according to the constantly changing environmental conditions. The purchasing function uses the long term agreement to address especially the non-price issues that are related to the primary objectives of the strategic purchasing which are obtaining preferential treatment, receiving relationship specific investment and creating co-destiny with the suppliers. Some of these issues are:

- Quality
- Delivery
- Cycle time
- Joint improvement activities
- Extended warranties
- Additional services provided by the supplier
- Conflict resolution mechanisms
- Supplier commitment of investments and resources
- Volume commitments
- Guarantees of supply when demand changes
- Non-performance penalties
- Continuous improvement incentives
- Agreement on allowable costs
- Risk and reward sharing
- Agreement exit clauses
- Protection of intellectual property

Through the long term contracts the purchasing firm conveys its purchasing requirements to the supplier and the performance of the supplier is measured based on whether the requirements are successfully met or not.

The suppliers also benefit the long term contract. By the long term contract suppliers avoid that their volumes are continuously market tested by other suppliers. They also get the chance to plan better their capacity, demand and investment requirements. The long term contracts also help the suppliers to get financing with better conditions. It is a driving force for the suppliers to keep the continuous improvement efforts and grow along with their key customers.

There are however also some disadvantages that may rise out of long term contracts. First of all it would be harder to switch suppliers if the wrong supplier is selected. Long term contracting requires more resources to manage it properly and may cause that the buyer and the supplier may become complacent over time. Table 2.1, summarizes the advantage and disadvantages of the long term contracting.

Table 2.1 - Advantages and Disadvantages of Long Term Contracting

Potential Advantages	**Potential Disadvantages**
Assurance of supply	Requires greater relationship management resources
Access to supplier cost information, technology and capacity	Could commit to a poorly negotiated agreement
Focus on many non-price issues	Harder to switch suppliers if the wrong supplier is selected
Supplier may be willing to make relationship specific investments	Markets or Technologies may change and the supplier does not stay current
Better able to focus on developing long term relationships	Other suppliers may not bring new ideas because the longer term supplier owns the business
Likelihood of joint improvement efforts increases	Buying organization is not familiar with the nuances of developing or managing long term contracts
Pursuit of win-win business opportunities	Buyer and supplier become complacent over time
Less Supply base churning or switching	Inability to predict the future makes long term planning difficult
Increases the probability of becoming a preferred customer	

Source: Trent 2007:131

2.4.4 Early Supplier Involvement

Early supplier involvement is inviting the suppliers which possess the adequate capabilities to participate in the strategically critical internal processes such as strategic planning, demand and supply planning, continuous improvement projects, project planning and new product, service or technology development. As the innovation is often associated with the product innovation, seeking the supplier expertise to introduce innovation to the business by involving suppliers early is also often associated with product development although it is applicable to many other processes mentioned above.

The main reason to seek the supplier contribution to these highly confidential and strategic processes is to cultivate the entire intellectual and physical power of the suppliers to obtain a competitive edge in the market. The intellectual and physical capacity of a firm alone is often insufficient to respond the demanding competitive environment which is one of the reasons that the competition is shifting to be between the entire supply chains and not the competing firms alone. Early supplier involvement is an approach to mobilize the supply chain and utilize its capabilities to create value.

There are several drivers that neccessitates the early supplier involvement. Continuously shortening product life cycles due to global competition and demanding customer demands requires that the firms should also reduce their product development cycle times in order to respond quickly to the changing environment and spare enough time so that the product can stay out in the market until the business case pays off before it becomes outdated. The cycle time from concept to customer is therefore crucial for survival and firms need all the expert support they can get from the start to be sufficiently responsive.

Another driver is that the firms increasingly tend to focus on sales distribution and service and try to decrease the capital intensive activities such as technology development and production as much as possible. This leads that the suppliers are increasingly becoming responsible for most of the design development and production activities from the start till the end.

The early supplier involvement is also crucial to decrease the waste of resources related to frequent design changes. Doing it right the first time is the ultimate goal to be achieved by the firms. Design changes become more expensive and complex in the late stages of the product development process. The decisions taken early in the product development process defines the major portion of the total cost of the product. The firms seek to involve competent suppliers and the key stake holder and internal customers early in the process so that better understanding of the intended product and better designs that respond to this effort with minimal changes is achieved.

The suppliers may provide valuable information and support regarding the market changes and requirements, material technology, production technology, product expertise, cost and quality improvements, engineering expertise and product innovation when involved early. The firms are desperately in need of contribution from the suppliers in these areas to continuously improve its processes and way of doing business.

The supplier involvement in the product development process can occur at four levels of complexity as presented in the 1999 Michigan State University study; Global Procurement and Supply Chain Electronic Benchmarking Network (Trent 2007):

- No Involvement:
    - No supplier design activity
    - Supplier produces according to blueprint
- White Box
    - Buyer informally consults with supplier about design issues
    - Supplier is not part of the design team
- Grey Box
    - Supplier assumes greater design responsibility
    - Subsystem and system design is a joint effort
    - Supplier may be part of the design team
- Black Box
    - Supplier has responsibility for major portions of product design
    - Supplier works from buyer requirements, not specifications
    - Supplier is often a formal design team member

The median improvements on some of the areas due to the supplier involvement in the product design process are given in Table 2.2.

The purchasing function should be careful in deciding which suppliers to involve early in the strategic internal processes as confidential information is shared with the participating suppliers. The purchasing function should clarify at least the following issues to decide the participating suppliers, especially for the product development:

- Supplier’s engineering capabilities
- The compatibility and complexity of the technical software used
- Competence on Technologies in line with firm’s future plans

- Supplier's investment budget on research and development
- Experience with early involvement
- The level of design responsibility taken up to date for other customers including the firm's competitors
- Willingness to employ resources specific for the firm's development needs
- Confidentiality commitment to proprietary information

The confidentiality issue represents the biggest barrier against the early involvement and both parties usually need to have a substantial business experience with each other before advancing into a relationship such as early involvement. Yet the parties try to safeguard the critical information as much as possible through non-disclosure agreements.

Table 2.2 - Early Supplier Involvement Effect in Product Development Process

	Early	Middle	Late
Reduction in material costs	20%	15%	10%
Reduction in development cycle time	20%	20%	10%
Improvement in material quality	20%	15%	15%
Reduction in development costs	20%	10%	10%
Reduction in manufacturing costs	10%	12%	10%
Improvement in product functionality, features and technology	20%	10%	10%

Source: Adapted from Handfield, Ragatz, Petersen and Monckza, ''Involving Suppliers in New Product Development'', California Management Review (Fall 1999): 59-82

2.4.5 Supplier Performance Measurement

An important part of supplier management involves the continuous measurement, evaluation, and analysis of supplier performance. The buying firm should continuously monitor the performance of suppliers based on predetermined and agreed-upon criteria such as quality, delivery performance, and continuous cost improvement.

Supplier performance measurement includes the methods and systems to collect and provide information to measure, rate, or rank supplier performance on a continuous basis. The supplier measurement system is a critical part of the strategic purchasing process—essentially serving as a supplier's report card.

The purchasing firm should revisit the purchasing strategy periodically and make necessary modifications to the strategy depending on the relationship performance. If the relationship is not producing the desired outcome or if the market conditions are changing in a way that obligates the relationship should undergo some changes to adapt to the changing market conditions, the purchasing function through the necessary modifications should redefine the relationship so that it is achieving its strategic objectives. Previous decisions may have to be re-evaluated if suppliers do not perform as expected. The relationship performance may include feedback and input from key suppliers. The important point is that, the suppliers should be informed of the re-evaluation results and the purchasing firm's expectations.

The purchasing function must have the appropriate tools to measure, manage, and develop the performance of its suppliers. The purchasing function would be unable to understand whether the suppliers are satisfying their contractual obligations or not without a measurement system to evaluate the supplier performance.

The most common tool used to monitor supplier performance is the supplier scorecard. The supplier scorecard typically uses the same set of categories used for the supplier evaluation process, but the categories are continuously monitored and scored. The scores are updated periodically, usually once a quarter, and they are reviewed with the supplier. If the stakeholder and internal customer requirements change in course of the relationship the content of the scorecard may change as well.

Scorecards typically tend to measure the categories related to price performance, quality performance, and delivery reliability performance but the purchasing function may also add items such as "Responsiveness"; the supplier reaction time to a call from the purchasing firm when there is a problem. The responsiveness naturally becomes an important item of the quality performance related issues. The review meetings are scheduled regularly with the participation of the related suppliers to address the deficiencies in performance and to agree on an action plan for improvement.

The necessity of measuring the performance to manage the relationship is clear. However the main challenge is to define the correct criteria for the measurement. The purchasing firm and the supplier face the question of how the relationship performance is to be measured concretely (Beamon, 1999:276; De Toni and Tonchia,2001:53). According to

Hofmann, Maucher, Kotula and Kreienbrink (2014), the purchasing firm and the supplier relationship performance may be measured on the dimensions of flexibility and capability, cost efficiency, process quality and forecasting precision as well as efficacy. Their example of a selection of ratios for supplier performance are summarized in Table 2.3.

Table 2.3 - Ratios for Supplier Performance Measurement

Dimension	Ratio	Description	Primary Responsibility
Flexibility and capability	Delivery period (days)	Time span between the order award and order completion	Supplier
	Substitute delivery period (days)	Period of substitute delivery in case of faulty deliveries	Supplier
	Processing advance of unscheduled orders (days)	Time span between order award and processing start of unscheduled orders	Supplier
Cost efficiency	Average warehousing period (days)	Warehousing period in supplier's unfinished goods storage and in buyer's incoming goods storage	Buyer and Supplier
	Value of goods in inventory	Monetary value of inventory	Buyer and Supplier
Process quality and forecasting precision	Delay in delivery (days)	Time span between the originally planned and actual point in time of performance or completion	Supplier
	Production plan changes on a scale from 1: never to 10: very frequent	Frequency of production plan changes due to faulty or delayed deliveries	Supplier
	Forecasting precision (%)	Ratio of forecast and actual order volume	Buyer
Efficacy	Due date faithfulness (%)	Percentage of on-time deliveries	Supplier
	Perfect order fulfilment (%)	Percentage of defect-free deliveries in terms of time, quality and location	Supplier

Source: Adapted from Hofmann, Maucher, Kotula, Keienbrink 2014:122

The dimension of flexibility and capability indicates the ability to adapt to changes (Beamon, 1999:281). In the context of the purchasing firm-supplier relationship, flexibility means the ability of the supplier to adjust to changed framework conditions and demands of the supply chain partner (Gebert, 2011:127). The flexibility and capability dimension measures how fast the supplier react to fluctuations in demand and unscheduled changes. The flexibility and capability parameters are the average period of delivery, the speed of delivery for substitute deliveries and the time required for the performance of unscheduled orders.

The cost efficiency performance dimension focuses on the supplier's transport and warehousing activities. Inventory is required to ensure production and consumption and ties up capital (Hofmann, Maucher, Kotula, Keienbrink, 2014). Efficient warehousing guarantees the required amount of supplies at the lowest possible costs (Hofmann, Maucher, Kotula, Keienbrink, 2014). The important dimensions for cost efficiency are the average period of warehousing and the inventory levels. (Gebert, 2011:127)

The process quality and forecasting precision parameters involves delays in delivery and production plan changes. The ratios indicate the level of stability of the processes between the supplier and the purchasing firm and the reliability of the forecasts. Delay in deliveries may cause costly production plan changes. Forecasting precision indicates the level of deviation of realized demands from the forecast orders.

The efficacy dimension in performance measurement is also closely related to the process quality and forecast precision as the parameters involved are due date faithfulness and perfect order fulfilment. The due date faithfulness plays a major part in the success of the transportation and the distribution process. The purchasing firm may greatly suffer from production losses due to insufficient availability of materials (Gebert, 2011:126 et seq). Due date faithfulness indicates the probability that a supplier keeps a promised due date, thus providing planning and scheduling security (Gunasekaran et al., 2004:337). The other important parameter is the perfect order fulfilment. The perfect order fulfilment is simply the percentage of defect free deliveries in terms of time quality and location, in other words; the right volume at the right time and in the right quality at the right place. The on-time delivery is the prerequisite for a perfect order fulfilment (Gebert, 2009:136 et seq).

For a holistic understanding of the supplier performance these ratios should be evaluated and taken into consideration all together. An isolated interpretation of these dimensions may hardly describe the performance of the relationship.

According to Mockza et al.(2009) there are quantitative and qualitative measures of the supplier performance. The quantitative variables are classified in the following three categories:

(1) Delivery performance: The purchasing firm can measure whether a supplier satisfies the quantity and due-date commitments as purchase orders sent to a supplier have a quantity and a materials due date. In addition, the lead time requirements, also define a supplier's overall delivery performance.

(2) Quality performance: Quality performance is probably the most critical item to be measured regarding the supplier performance. The purchasing function tracks a supplier's quality performance against previously specified objectives, the improvement rates, and benchmark to similar suppliers.

(3) Cost reduction: The purchasing function expects cost-reduction efforts from suppliers and this effort is measured in a number of ways. The purchasing function periodically benchmarks a supplier's cost against other suppliers within the same industry or against a baseline or target price. The purchasing function also tracks the cost reduction proposals by the supplier based on technical improvements and rates the technical cost reduction contribution of the supplier regarding an item during its lifecycle. Buyers can also use a number of qualitative factors to assess supplier performance.

The supplier performance measurement system is useful for the purchasing to help identify the suppliers not performing at expected levels so that actions can be taken to get performance back to acceptable levels. A major benefit from supplier measurement is that performance data allow the buying organization to identify those areas requiring improvement. Measurement data also support supply base rationalization and optimization efforts. If suppliers do not improve performance to minimum acceptable levels, they are not likely to remain as a part of the supply base over the long term or to be replaced by a new supplier.

A measurement system also helps to identify the suppliers that may qualify for longer-term partnerships or preferred suppliers due to their beyond satisfactory performance.

The purchasing function may use the supplier performance rating data when making purchasing decisions. If the purchasing function has a reliable measurement system it can rate and rank a supplier's performance against other suppliers or other established performance standards. Consequently the purchasing function recognizing that allocating bigger portion of the business is an incentive for the suppliers, may do so based on the supplier performance rating data.

The SRM is the systematic process of creation and capture of post-contract value from key business relationships. The SRM recognizes that successful relationships are an outcome and, for the buyer, that outcome can be measured in value terms. The SRM can be related mostly to collaboration with strategic suppliers, but can also involve adversarial suppliers. The SRM is about aligning the task of managing a specific supplier based on a clearly documented relationship strategy based on corporate objectives. Table 2.4 details some of the qualitative service factors available to buyers.

Table 2.4 - Qualitative Factors for Supplier Performance Measurement

Factor	Description
Problem solving ability	Supplier's attentiveness to problem resolution
Technical ability	Supplier's manufacturing ability compared to other suppliers
On-going progress reporting	Supplier's reporting on existing problems or recognizing and communicating potential problems
Corrective action response	Supplier's solutions and timely response to requests for corrective actions, including supplier's response to engineering change requests
Supplier cost reduction ideas	Supplier's willingness to help find ways to reduce purchase cost
Supplier new product support	Supplier's ability to help reduce new product development cycle time or help with product design
Buyer-Seller compatibility	Subjective rating concerning how well a buying firm and a supplier work together

Source: Adapted from Monckza et al. 2009:310

Therefore the SRM needs to be completely integrated with other strategic purchasing processes and it is not designed after the contract is signed but proactively. In consequence although it is not irrelevant to 'interpersonal' skill set of the purchasing professional, it is more related to how the purchasing firm systematically plans it to be through the strategic planning process where strategic purchasing function is a key contributor.

2.4.6 Supplier Quality Management

The strategic purchasing function must assume primary organizational leadership for managing quality with its external suppliers. The strategic purchasing professionals at all organizational levels must fully understand and commit themselves to the principles of total quality management if they expect to create upstream value in the supply chain that benefits downstream customers. Introducing a supplier policy based on quality principles is a process that includes requirement, realization, verification and feedback.

The successful implementation of total quality management requires that the organization, systems and communication channels are structured accordingly.

The purchasing function has a very critical role in the implementation of total quality management. This is mainly due to the fact that the quality of the raw materials and components affect largely the quality of the end product. Therefore the purchasing function should have a special focus on the supplier quality performance and develop tools to monitor the correct application of the total quality management principles. Applying these principles to supplier quality management becomes critical

if firms want to avoid costly errors. Most companies spend a considerable resource of labour and finance on the quality checks on the incoming goods and correcting the mistakes. The cost of this effort is generally invisible to the firm as the tools to quantify these quality costs are not used effectively. To be able to quantify these costs and make them visible to the company the quality costs can be categorized in three categories:

- Prevention Costs
- Control Costs
- Correction Costs

The prevention costs are the costs regarding the costs of all actions related to the development, implementation and control of the system of total quality management and include:

- Systematic and periodic product inspections
- Systematic and periodic process controls(Auditing)
- Developing tools to identify the root causes
- Establishing the specifications, procedures, instructions and regulations for a total quality control system
- Investment in special testing and measuring equipment and tools both internally and externally at the supplier premises if necessary
- Continuous training and motivation of staff on total quality management

Control costs are the costs related to routine controls to minimize the consequences of errors and include:

- Inspection of acceptance of incoming goods
- Inspection of semi products
- Sorting the production (100%) to track down and isolate the faulty products or batch
- Final quality inspection
- Tracking and reporting the data

The correction costs are the costs related to all the actions regarding the rework of the faulty products which are sometimes already delivered to the end customer. If the errors are identified in time before the dispatch of the product to the customer then these costs include:

- Cost of corrective actions

- Losses in production due to quality defects in materials or components

If the product is already delivered to the end customer then the costs include:

- Cost of processing customer complaints
- Cost of settling customer claims and disputes
- Cost of return shipments from customers
- Loss of trust

The prevention of quality problems is certainly a better way of employing resources than correction. The purchasing function regarding the preventive approach has the strategic objective of selecting and evaluating the right suppliers who can guarantee to maintain and continuously improve the quality level of the purchased goods and services. The purchasing function therefore integrates the total quality principles to the strategic purchasing process. The purchasing function applies these principles in supplier evaluation, selection and performance measurement. An integrated set of total quality management principles based on the thinking of W. Edwards Deming, Philip Crosby, and Joseph Juran. (R.J.Trent, Linking TQM to SCM; Supply Chain Management Review, 2001:71) is given as:

- Defining Quality in Terms of Customers and Their Requirements
- Pursuing Quality at the Source
- Objective Rather Than Subjective Measurement and Analysis
- Establishing Continuous Improvement as a Way of Life
- Prevention rather than detection of defects,
- Focusing on process rather than output
- Basics of process capability
- Striving for zero defects
- The cost of quality principle

2.4.6.1 Defining Quality in Terms of Customers and Their Requirements

The effective communication between the purchasing firm and the suppliers is very critical to achieve the desired quality levels by the firm. The incomplete or miscommunication of the specifications, expectations and requirements of the firm to the suppliers certainly leads to components not conforming to the standards that the firm needs to achieve to produce quality products or services.

This is the reason that the strategic purchasing process includes other functions and internal customers to the supplier selection-business awarding process so that the critical needs and fundamental expectations along with technical data and clear performance criteria to be communicated to the suppliers, are complete.

In the process of defining quality terms and requirements there are two dimensions. The first is the ability of the purchasing firm to identify, define and possibly quantify its technical and purchasing requirements. The second dimension is the purchasing function's ability to effectively communicate these requirements to the supplier.

The purchasing function acts as the leader of this process and leads the internal customers in identification, definition and quantification of the requirements and communicates this data to the suppliers through well prepared Request for Quotations (RFQs), the supplier selection process and the supplier performance measurement tools as described in detail in the previous sections.

2.4.6.2 Pursuing Quality at The Source

The philosophy behind the pursuing quality at the source principle is to maintain minimum quality standards and conformity of the product or services from the very beginning of the supply chain rather than spending resources to adjust or correct any deviations in a later stage which is inarguably very costly. Basically it can be said that it is another application of the prevention approach.

The starting point of the supply chain is the supplier. Therefore the purchasing function is directly involved in any effort related to satisfy this principle and plays a leadership role due to its ability to manage external supplier relationships including many issues related to the supply chain activities.

As the suppliers are a major player affecting the supply chain quality, the supplier selection process is the frontline strategic activity through which to operationalize this principle. For this reason the strategic purchasing process involves skilled and experienced CFTs visiting and evaluating a potential supplier to determine its financial condition, global capacity, logistical networks, supply management practices, process capability, willingness to work with the buyer, and technology innovation before making a strategic sourcing selection decision. The supplier site visits might be costly however the cost of making a poor supplier selection decision can be significantly higher and might lead to damaging the firm's reputation.

The supplier visits are not limited to potential supplier evaluation or sourcing decision but also vital to monitor the supplier quality continuously and should be carried out systematically and periodically. The organizational function that carries out this task may be the same CFT organization however many firms allocate resources to establish a dedicated organizational unit that is called the supplier quality engineering (SQE) or the supplier quality assurance (SQA). The SQA/SQE is generally an independent unit and does not report to the strategic purchasing function. The SQA/SQE consists of supplier quality engineers who are experienced in product and process auditing. The SQA/SQE following a yearly supplier auditing plan, organize periodic supplier visits to monitor the supplier's quality policies and practices. The SQA/SQE is also responsible of reporting the supplier quality performance periodically and give approval to the suppliers in the supplier portfolio so that the approved suppliers may be involved in new business strategic sourcing decisions by the strategic purchasing function. The SQA/SQE reports these suppliers in a list called the bid list. In addition, the SQA/SQE is the authority to make the risk assessment during the supplier selection process after the technical review phase and when a quality problem occurs at the supplier. The SQA/SQE manages the supplier corrective actions, makes the risk assessment and assesses the validity of the corrective actions proposed by the supplier in order to keep them in the bid list or put them on hold.

The SQE may perform three types of audit:

- Product Audit
- Process Audit
- Systems Audit

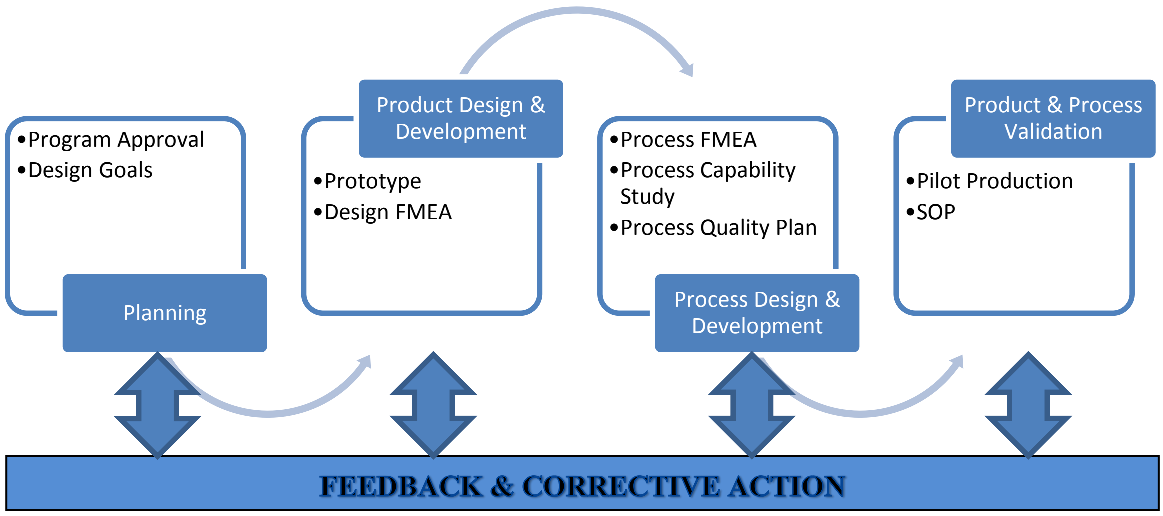
The product audit monitors whether the product functions according to the standards and expectations of the firm or not. Any deviation is reported, identified and resolved. The deviations and resulting reject rates are recorded and have a negative effect on the scorecard of the supplier.

The process audit monitors the supplier's capability of satisfying the established standards in a predictable and repeatable way. In other words the process audit does not focus on the samples or the end products but the process capability. The process audit investigates critical points such as whether the operators has the sufficient job and process instructions and illustrations where necessary or they have the right machinery, equipment and materials to perform a sound and controlled production.

The systems audit investigates the quality system in use at the supplier. The quality system may be a company specific quality system as well as international quality systems such as ISO quality systems. The purchasing evaluates the presence and the effective use of well-known quality systems such as ISO 9000 at suppliers as the ability of the suppliers to process the data in the correct way to clearly understand the purchasing firm's requirements. The quality systems obliges the suppliers to introduce the processes and procedures to satisfy the purchasing firm's requirements.

The suppliers in automotive sector, due to more demanding quality requirements of the OEMs, are asked to operate according to the ISO 16949 quality system. The ISO 16494 quality system differs from the ISO 9000 in the sense that a Project management process called Advanced Product Quality Planning (APQP) is introduced (Figure 2.5).

Figure 2.5 - APQP Process



Source: Adapted from AIAG Advanced Product Quality Planning Manual

The APQP process has the following objectives:

- **Understand customer needs**: This is done using voice of customer techniques to determine customer needs and using quality function deployment to organize those needs and translate them into product characteristics/requirements.
- **Proactive feedback & corrective action**: APQP process provides feedback from other similar projects with the objective of developing counter-measures on the current project. Other mechanisms with verification and validation, design reviews, analysis of customer feedback and warranty data also satisfy this objective.

- **Design within process capabilities**: This objective assumes that the company has brought processes under statistical control, has determined its process capability and has communicated it process capability to its development personnel. Once this is done, development personnel need to formally determine that critical or special characteristics are within the enterprise's process capability or initiate action to improve the process or acquire more capable equipment.

The supplier, in each phase of the APQP process, produces outputs that ensures the product satisfying the customer requirements. According to the APQP, the supplier should perform Failure Mode Effect Analysis (FMEA) both in design and production phases, statistical process control (SPC), measurement system analysis (MSA) and production part approval (PPAP). Table 2.5 shows the APQP process outputs by process phase.

Table 2.5 - APQP Process Outputs

Plan and Define Program	Product Design and Development Verification	Process Design and Development Verification	Product and Process Verification
Design Goals	Design FMEA	Process FMEA	PPAP
Reliability & Quality Goals	Design Verification & Reviews	Process Flow Chart	Production Trial Run
Preliminary Bill of Materials	Special product & process characteristics	Measurement Systems Analysis Plan	Measurement Systems Evaluation
Preliminary Process Flow	Prototype Building & Prototype Control Plan	Preliminary Process Capability Study Plan	Preliminary Process Capability Study
Preliminary List of Special product & process characteristics	Engineering Drawings & Specs	Floor Plan Lay Out	Product Validation Testing
Product Assurance Plan	Drawing&Specs Changes	Packaging Standards& Specifications	Packaging Evaluation
	Gages & Testing Equipment Requirements	Pre-Launch Control Plan	Production Control Plan
	New Equipment, Tooling & Facility Requirements	Product&Process Quality System Review	Quality Planning Sign Off

Source: Adapted from AIAG Advanced Product Quality Planning Manual

Simply put, FMEA is a process that identifies all the possible types of failures that could happen to a product and potential consequences of those failures. The FMEA is a very important tool as preventing problems is cheaper and easier than cleaning them up and certain products or production processes are too risky or costly to make mistakes. The FMEA provides the following benefits to the supplier and the purchasing firm:

- Reduce the likelihood of customer complaints
- Reduce the likelihood of campaign changes
- Reduce maintenance and warranty costs
- Reduce the possibility of safety failures
- Reduce the possibility of extended life or reliability failures
- Reduce the likelihood of product liability claims
- Identify potential and known failures
- Reduce the number of engineering changes
- Reduce the product development time
- Lower startup costs
- Greater customer satisfaction
- Increased cooperation and teamwork between various functions
- Continuous improvement

The first purpose of PPAP is to understand if all customer engineering design records and specification requirements are properly understood by the supplier and the customer and the supplier have a common understanding of the customer requirements. The second purpose is to understand if the process has potential to produce parts consistently meeting the requirements during an actual production run at the quoted production.

PPAP submission is required when there is a new part, a correction to discrepancy in the previous submission, a design or process change, a change in source of subcontracted materials or services, a transfer or rearrangement of tooling and equipment. There are 5 submission levels of PPAP (Table 2.6) :

Table 2.6 - PPAP Levels

Level 1	Warrant only and Appearance Approval Report if required
Level 2	Warrant with product samples and limited supporting data
Level 3	Warrant with product samples and complete supporting data
Level 4	Warrant and other requirements as defined by the customer
Level 5	Warrant with product samples and complete supporting data reviewed on-site

Source: Adapted from AIAG Production Part Approval Process Manual

The required documents for each PPAP level are given in Table 2.7.

Table 2.7 - PPAP Requirements by Level

PPAP Requirement	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Design records of proprietary products	R	R	S	*	R
Design records of other products	R	S	R	*	R
Engineering change docs. If any	R	S	S	*	R
Cost Engineering approval, if rqd	R	R	S	*	R
Design FMEA	R	R	S	*	R
Process flow diagram	R	R	S	*	R
Process FMEA	R	R	S	*	R
Dimensional results	R	S	S	*	R
Matl, performance test results	R	S	S	*	R
Initial process study	R	R	S	*	R
Measurement Systems Analysis	R	R	S	*	R
Qualified lab. Documentation	R	S	S	*	R
Control Plan	R	R	S	*	R
Part Submission Warrant (PSW)	S	S	S	S	R
Appearance Approval Report (AAR)	S	S	S	*	R
Bulk Matls. Reqmnts. Checklist	R	R	R	*	R
Sample product	R	S	S	*	R
Master Sample	R	R	R	*	R
Checking aids	R	R	R	*	R
Records of Customer compliance	R	R	S	*	R

S: Submit to Customer & Retain a Copy/R: Retain on Site & Make readily available for Customer/*: Retain on Site & Submit to Customer upon Request

Source: Adapted from AIAG Production Part Approval Process Manual

Objective performance data and analysis principle allows purchasing functions to develop a preferred supplier list for awarding future business, identify continuous performance improvement opportunities, provide feedback that supports corrective action or future development, and track the results from improvement initiatives. This issue is previously discussed in detail in the supplier performance measurement section.

As the ISO 16949 introduces demanding quality practices addressing the total quality management principles, the purchasing firms in automotive industry often ask their suppliers to qualify for ISO 16949 certification.

Besides the careful supplier selection process and systematic and periodic auditing, early supplier involvement for product and process design is also vital to ensure the supplier quality. Harvesting the supplier's experience and expertise in a development project, often leads to better quality and product design because the knowledge and experience of the supplier is involved during the initial development of the customer's requirements before product specifications and cost structure are freezed. Suppliers may provide suggestions on simplifying the product design or production process and collaborate with the purchasing firm's design, manufacturing and quality engineers to establish reasonable tolerances that more closely match the supplier's capabilities and improve product quality and manufacturability.

The other total quality management principles such as prevention rather than detection of defects, focusing on process rather than output, basics of process capability, striving for zero defects are integrated in the supplier quality control practices described above. The cost of quality principle is addressed previously.

The continuous supplier improvement is fundamental to achieve desired supplier quality. The purchasing function utilizes supplier performance measurement system to improve performance targets. The upward shifting of performance targets becomes possible when a supplier satisfies current performance expectations and has the capability to improve. The purchasing function may also use tools such as the Value analysis (VA) as another approach for continuous improvement. The VA is the organized and systematic study of every element of cost in a part, material, process, or service to ensure that it fulfils its design function at the lowest possible total cost. The VA approach requires that the suppliers actively review customer specifications, submit ideas on materials and process improvements, and work with the purchasing function to identify and remove non-conformance costs.

The purchasing firms may invest resources to develop supplier performance capabilities to obtain suppliers' active contribution to continuous improvement efforts. These development efforts may involve training on quality issues, tools and physical investments.

The purchasing firm's efforts to develop its suppliers capabilities is mainly due to the fact that as the suppliers receive long-term, higher-volume contracts, supplier switching will be difficult and costly. The purchasing firms preference would be developing the capabilities of current suppliers for improvement rather than switching suppliers on a large scale.

The strategic purchasing function also makes use of incentives to encourage a supplier's continuous-improvement efforts. Performance related rewarding of suppliers encourages the supplier continuous improvement. The strategic purchasing function is interested in financial improvement not due to commercial negotiation but due to structural improvements such as technical proposals leading to cost improvements. The immediate cash reward to the supplier totalling a certain portion of the proposed technical improvement is a great motivation for the suppliers to carry on these efforts as it has a positive effect on their cash flow.

The various rewards that are available to encourage continuous supplier improvement may be as follows:

- Awarding long term contracts
- Greater share of total business volume
- Publicly recognizing the superior supplier efforts through supplier awards organizations
- Sharing cost savings resulting from supplier technical proposals and improvements
- Provide suppliers with access to new technology
- Provide early insight to new business opportunities
- Early supplier involvement in product and process design and development
- Allowing the suppliers enjoying the favourable pricing the purchasing firm has on certain raw materials

CHAPTER 3

THE FIELD STUDY

If we consider the conceptual descriptions of strategic purchasing emphasizing the involvement of the purchasing function in the corporate strategic planning process and the operational differences between the nonstrategic purchasing function and strategic purchasing function, it's more clear how to describe what strategic purchasing is and consequently observe whether a strategic purchasing exists in a company.

3.1 THE THEORY

If the strategic purchasing is defined as the process of planning, implementing, evaluating, and controlling strategic and operating purchasing decisions for directing all activities of the purchasing function toward opportunities consistent with the firm's capabilities to achieve its long-term goals (Carr and Smeltzer, 1997) and if the purchasing function can be defined as a strategic function when purchasing is involved in the firm's strategic planning process, (Ammer, 1989; Reck and Long, 1988) then these three indicators should be inquired for strategic purchasing to exist:

- The purchasing functions has a formally written long-range plan
- Purchasing's long range plan is reviewed and adjusted to match changes in the company's strategic plans on a regular basis
- Purchasing's long-range plan includes the kinds of materials or services to be purchased.

The discussion on the operational differences between the strategic purchasing and nonstrategic purchasing in the previous chapter, illustrates that there are also some underlying factors that indicate the presence of strategic purchasing function within an organization.

A strategic purchasing function receives attention from the top management as an important resource of the firm (Keough, 1994). The corporate management views the strategic purchasing function as equal to other strategic functions (Freeman and Cavinato, 1990). The visibility of strategic purchasing function to the top management is high. In consequence the top management's approach to purchasing also shapes how other functions view purchasing. These indicators form a dimension that is described as the status of purchasing within the organization. According to Van Weele (2008), the view of the top management on purchasing function depends on three factors. The first factor is the cost of purchased goods share in COGS. As the share of the purchased goods increases, top management view the purchasing function as more strategic.

The second factor is the financial situation of the company and in times of financial difficulty, top management would be demanding more contribution from the purchasing function. The third factor is the dependency on supplier markets. As the firm's dependency on suppliers increase the top management starts to acknowledge the purchasing function as strategic and involves it in the formulation of the competitive strategies. At this point a hypothesis can be created between the conceptual description of strategic purchasing and the status of purchasing function within the organization as:

H1: The status of purchasing function within the organization is positively related to the level of strategic purchasing in the firm.

The status of purchasing function is vital because the purchasing is involved in the strategic planning process only if it's perceived as important by the management and other functions. The purchasing status in the organization includes top management's and other function's view of the purchasing function (Carr and Smeltzer 1997:202)

As a second underlying factor of strategic purchasing the level of purchasing knowledge and skills come forward. In a strategic purchasing function the level of purchasing knowledge and skills of the staff is high enough to allow them to proactively search for purchasing opportunities that provide positive impact on the firm's performance. Purchasing knowledge and skills are needed for the purchasing to operate as a strategic function (Rajagopal and Bernard, 1993). The strategic purchasing function should be able to monitor and analyse the supplier markets and product development. The purchasing knowledge includes knowledge of the supplier environment, the internal customer environment and the corporate strategic goals.

The strategic purchasing function also possesses the skills to plan, evaluate, implement and control purchasing activities that align the corporate strategy with the supply strategy. The strategic purchasing is expected to have skills to manage the supplier quality performance and give further support to suppliers to improve their processes. The strategic purchasing function has also the skills to manage the cost structure of the purchasing portfolio and eventually have total cost of ownership approach. The required skills also include communication skills, analytical skills and management skills(Keough, 1994; Van Weele, 1984).

The purchasing knowledge and skills mentioned above are not an exhaustive list of the required knowledge and skills. Depending on how the purchasing function needs to improve there can be identified much more skills that shape the purchasing function skill set.

Guinipero and Handfield (2004), in their report for the Center for Advanced Purchasing Studies, identified 51 skills and 64 knowledge areas and grouped them in main areas according to the frequency of mention made by purchasing managers who took part in the research. These main areas are identified as:

- Team-related skills: Leadership, decision making, influencing and compromising
- Strategic Planning skills: Project scoping, goal setting and execution
- Communication skills: Presentation, public speaking, listening and writing
- Technical skills: Web-enabled research and sourcing analysis
- Broad Financial skills: Cost accounting and the ability to make business case
- Relationship management skills: Ethics, facilitation, conflict resolution and creative problem solving
- Legal Issues: contract writing, risk management, protecting the organization against supplier uncertainties

Further on the content of purchasing knowledge and skill, Robert J.Trent in his book, Strategic Supply Management identifies 8 areas of purchasing knowledge and skills. Trent, describes these areas as:

- Ability to Understand the Competitive Business Model: It’s defined as the ability of purchasing professionals to obtain the alignment of the purchasing strategy and the corporate competitive strategy. As a simplistic example if the purchasing function of a firm orientates towards suppliers which are very competitive in terms of costs for high volumes and have need longer frozen period for production planning when the firm actually aims for niche products with fast introduction time to marketplace, the purchasing strategy is not in line with the competitive strategy as low costs have little value when niche products are concerned and the firm fails to meet the speed, customer responsiveness and flexibility in marketplace with suppliers having long lead times.
- Ability to Assume a Holistic Perspective: It refers to the ability to understand in what ways the elements of the value chain interact with each other and how

they fit together in an organization to support the competitive strategy. Therefore it’s the ability of the purchasing function in developing purchasing strategies that satisfies and supports also the needs of purchasing function’s internal customers such as the manufacturing and the engineering besides the corporate competitive strategy.

- Ability to Support Non-traditional Supply Areas: It refers to the ability of purchasing function to identify market standards even for products which are not described by the engineering specs generated internally and meet the quality and performance needs for particular applications which are not in the main focus of the purchasing function. The purchase of capital equipment and services are considered to be in this area.
- Knowledge of Process Management: It refers to the understanding of the purchasing function regarding the organizational processes as a whole and identify the processes that create value and the role that the purchasing should play in managing those processes to reach the desired outcomes. The ability to clearly understand the boundaries that the purchasing function should play in a process helps a great deal also to manage the inevitable conflicts in favour of supporting the goals of the company.
- Ability to manage Supplier Relationships: It refers to the methodology that firms use to manage its supply base. It’s the art of identifying what the suppliers want and satisfying them without hurting the firm’s interests. The supplier relationships are vital as suppliers are critical for the firm to follow changes and trends and this makes the suppliers a key contributor to the firm’s value chain. Well managed supplier relationships can become a source of competitive advantage (Porter, The competitive advantage of nations, New York 1990; Carr and Pearson Strategically Managed Buyer-Supplier Relationships and Performance Outcomes, Journal of Operations Management 17, no. 5 August 1999: 497-519)
- Understanding of Electronic Business: Electronic Business refers to the IT systems that help to manage the operational activities supporting the purchasing managers to focus on areas that add value. The purchasing function should be competent in both using and developing the ERP, EDI, contract management and e-procurement systems.

- Ability to Perform Statistical Analysis and Make Fact Based Decisions: It refers to the purchasing functions ability to identify the key performance indicators for critical performance items, measure them and decide based on this objective data. The critical areas to be managed by fact based reasoning are:
    - Supplier selection
    - Business case scenarios for supplier development efforts
    - Identifying the suppliers to offer long term contracts
    - Identifying the volume leverage areas
    - Supplier financial health
    - Supplier proposal assessment in terms of importance and feasibility
    - Make or Buy decisions
    - Impact of price strategies on negotiation
- Strong Knowledge of Cost and Quality Management: It refers to the ability of the purchasing function to identify the cost elements and drivers. The purchasing function needs to cooperate closely with the suppliers to improve the cost performance therefore cost management and relationship management are very closely related. The same relation applies for the quality management and the purchasing function should be able to keep the supplier quality under control generally by means of periodic supplier quality auditing process.
- Ability to Span Boundaries: It refers to the ability of the purchasing function to operate in cross cultural, multi-disciplinary geographically dispersed suppliers and internal customers.

These purchasing knowledge and skills do not come in a day but they form gradually as the purchasing function evolves in terms of strategic importance within the organization. In such an environment, the strategic purchasing staff receive continuous training to further develop their skills. In a company in which strategic purchasing practice exists, the performance evaluation of purchasing is made not only by quantitative measures but also qualitative measures such as integration with other departments, supplier market competence and general skills (Reck and Long, 1988). These indicators form the knowledge and skills dimension which gives certain indication of strategic purchasing practice. The purchasing staff's knowledge and skills include purchasing professionals' knowledge of supplier markets and analytical skills and purchasing performance measurements (Carr and Smeltzer. 1997:202).

At this point a second hypothesis can be created between the conceptual description of strategic purchasing and the purchasing knowledge and skills.

H2: The purchasing knowledge and skills are positively related to the level of strategic purchasing in the firm.

The purchasing knowledge and skills are important as the purchasing function can only assess the purchasing opportunities as a valuable input to the corporate strategic planning process and as a consequence get involved with if it possesses the adequate purchasing knowledge and skills (Carr and Smeltzer, 1997).

The third potential underlying factor for the strategic purchasing is the resources available to the purchasing function. The purchasing resources include purchasing's access to information and the use of information technology (Carr and Smeltzer, 1997:202).

A strategic purchasing function should be able to access critical information to align the purchasing strategies with the corporate strategy. Therefore a strategic purchasing function, interacts with other departments and ensures the flow of critical information from these departments regarding the internal and external environmental conditions to proactively plan its purchasing actions. The strategic purchasing function needs to interact primarily with the product development, the finance and the production and monitor the changes that might have an impact on purchasing policies.

As in the case of new product introduction, the technological capabilities of suppliers, accurate material cost information and possible alternative materials are vital information for planning the required purchasing actions (Burt and Soukup, 1985). The sources of information for this kind of data are external. However, if purchasing function is able to access the internal data on the new product planning and development process then the purchasing would have the chance to plan, evaluate, implement and control the possible supply options proactively (O'Neal, 1993).

The strategic purchasing function is also expected to have the necessary IT tools especially from software point of view to manage the routine, non value adding, clerical tasks in an efficient way to be able to save its resources for more strategic tasks.

Also the use of information technology gives purchasing the capability to organize the critical information for strategic planning process. If purchasing has an IT system that enables it to get information from external data sources, analyse that data, organize it and provide the information to top management based on its analysis of the supplier markets, the purchasing function can contribute to corporate strategic planning process more effectively (Pearson and Gritzmacher, 1990).

At this point a third hypothesis can be created between the conceptual description of strategic purchasing and the resources available to the purchasing function.

H3: The purchasing resources are positively related to the level of strategic purchasing in the firm.

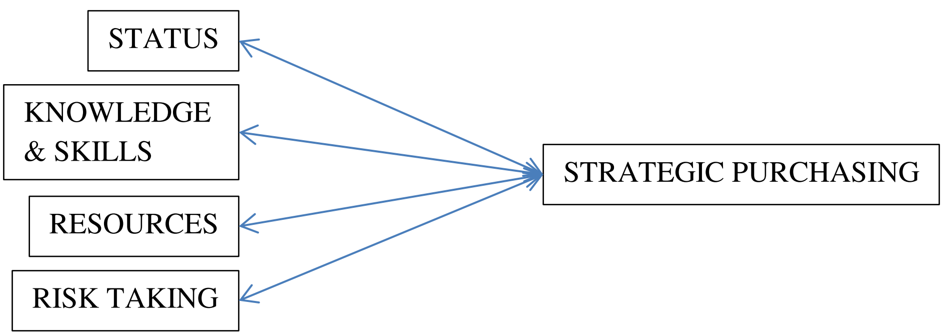
As a fourth underlying factor indicating the strategic purchasing risk taking behaviour of the purchasing function can be inquired. The purchasing's willingness to take risks is an indication for strategic purchasing function. The term willingness to take risks describes a purchasing function that pursues constantly opportunities to provide purchasing expertise on possible actions and forecast on conditions that represent uncertainty (Miller and Leiblein 1996). The purchasing function's willingness to take risks includes the purchasing's willingness to identify and take advantage of new opportunities and purchasing foresight (Carr and Smeltzer 1997:202).

This kind of behaviour indicates a purchasing function that is aware of corporate plans and able to contribute to shape those plans proactively rather than reacting to the demands of other functions in the firm (Freeman and Cavinato, 1990; Spekman and Hill, 1980).

The willingness to take risks may cause conflict and make the purchasing gain no sympathy from other departments. However a strategic purchasing function, given the expertise level and the involvement in the strategic planning process, is expected to go after and defend its purchasing policies although they may cause discomfort for the other functions (Sitkin and Pablo, 1992). At this point a fourth hypothesis can be created between the conceptual description of strategic purchasing and the purchasing's willingness to take risks.

H4: The purchasing's willingness to take risks are positively related to the level of strategic purchasing in the firm. Figure 3.1 shows the theoretical model that's adapted for this thesis.

Figure 3.1 - Theoretical Framework of Carr and Smeltzer



Source: Adapted from Carr and Smeltzer, 1997:202

In addition to the hypothesis tested in the original study of Carr and Smeltzer, this thesis tests the inter correlation between the three company profile items questioned in the survey and the level of strategic purchasing.

H5: The level of strategic purchasing differs according to the size of the organization.

Hypothesis 5, argues that the level of strategic purchasing changes as the firm size changes in terms of number of employees and turnover which are the two criteria used to classify the size of enterprises by the European Union (EU).

H6: The level of strategic purchasing differs according to the percentage of the foreign capital in the firm.

Hypothesis 6, argues that the level of strategic purchasing changes as the percentage of the foreign capital in the firm changes.

H7: The level of strategic purchasing differs according to the percentage of the foreign target market

Hypothesis 7, argues that the level of strategic purchasing changes as the percentage of the foreign target market within the target market changes. Figure 3.2 shows the theoretical model that is adapted for company profile variables in this thesis.

Figure 3.2 - Theoretical Framework for Demographic Variables

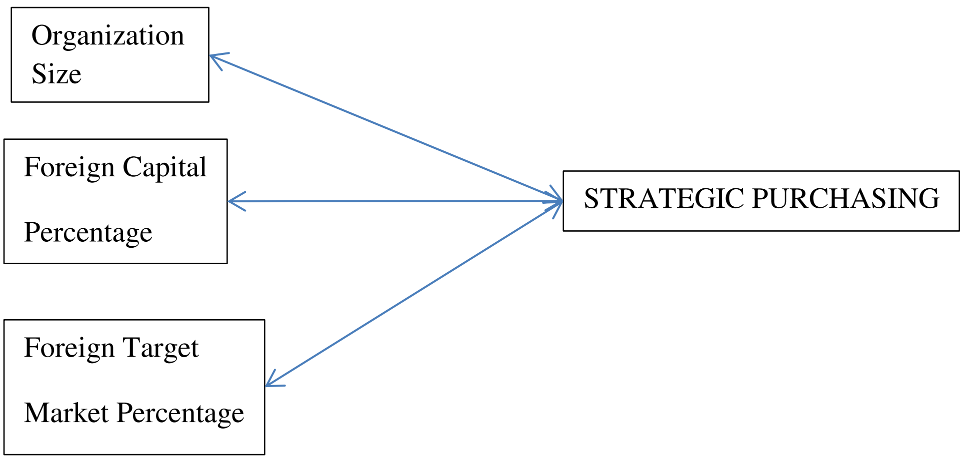


Table 3.1 summarizes the seven hypothesis that will be tested in this thesis. The next chapter presents the methodology, the sample, the survey instrument used to collect the data, the analysis of the data and the testing of the seven hypothesis.

Table 3.1 – The Summary of The Hypothesis Tested

Hypothesis 1	The status of the purchasing function is positively related to the level of strategic purchasing in the firm
Hypothesis 2	The purchasing's knowledge and skills are positively related to the level of strategic purchasing in the firm
Hypothesis 3	The purchasing' resources are positively related to the level of strategic purchasing in the firm
Hypothesis 4	The purchasing's willingness to take risks is positively related to the level of strategic purchasing in the firm
Hypothesis 5	The level of strategic purchasing differs according to the size of the organization
Hypothesis 6	The level of strategic purchasing differs according to the percentage of the foreign capital in the firm
Hypothesis 7	The level of strategic purchasing differs according to the foreign target market percentage

3.2 THE METHODOLOGY

The correlational and ANOVA analysis were used to test the hypotheses. The survey that was used in this study is an adaptation of the survey used by Carr and Smeltzer (1997) to test the same exact hypothesis on their own sampling which were the members of the National Association of Purchasing Management (NAPM) US companies with titles such as Purchasing Manager, Director of Purchasing, Vice President of Purchasing, and Vice President of Materials Management. Their sample size was 2260.

This study is applied to the local companies in Izmir and Manisa, Turkey, primarily for economical, physical and practical concerns. The sampling is chosen targeting the clusters such as designated industrial areas around Izmir and Manisa where a group of companies operate next to each other. The three industrial zones included in this study are Ege Serbest

Bölgesi (ESBAŞ), Manisa Organize Sanayii Bölgesi (MOSB) and Çiğli Atatürk Organize Sanayii Bölgesi (ÇAOSB). MOSB hosts 140 firms and ÇAOSB hosts 369 firms in its facilities while ESBAŞ hosts around 200. However only 10 firms in ESBAŞ are contacted due to a lack of contact details of the registered firms in ESBAŞ. In addition, 10 firms located in Izmir and Manisa but not in one of these three industrial zones are also contacted randomly and invited to participate in the survey.

As the strategic purchasing concept is fairly new and academic research is limited in Turkey, it would be interesting to start with measuring the recognition of strategic purchasing concept by the firms around Izmir and Manisa. After an extensive search of literature on strategic purchasing, Carr and Smeltzer's study (1997) was chosen for this study because apart from the fact that it was able to conceptualize the strategic purchasing definition, it also managed to create a link between the operational indicators of the trategic purchasing as well. This would serve as an introduction of this approach in the business life context in Turkey and a base on which more complex purchasing operational practices could be added to further dimensionalize and therefore define better what the strategic purchasing practice is.

In this study, a survey instrument was used to measure the strategic purchasing and the underlying factors. As this study is an attempt to repeat Carr and Smeltzer's work, the survey used in this study was also adapted from Carr and Smeltzer(1997).

The survey included 7 company profile questions and 16 multiple scale items for each of the factors in the model. The survey consists of 3 scale items for the strategic purchasing, 3 scale items for the purchasing staff's knowledge and skills, 4 scale items for the purchasing resources, 3 scale items for the purchasing function's status in the organization and 3 scale items for the purchasing function's risk taking behaviour. All the items to measure the factors are 5 point likert scale items. The demographic questions consisted the name of the company, the title of the respondent, the number of employees, the sector, the turnover, the capital structure and the target market of the company. The number of employee and the turnover data is asked using the intervals presented in the European Union's(EU) definition for small and medium enterprises (SMEs). The SME classification of the firms as micro, small, medium and big, is made according to the data collected with these company profile question. The original survey of Carr and Smeltzer did not include some of these company profile questions such as capital structure and target market and did not classify the firms according to EU's SME definition.

The survey instrument was pre-tested by 7 purchasing executives in ESBAŞ and MOSB for clarity and matching questions with the appropriate factor. Modifications were made to the survey based on the pre-test results.

All requests were sent via e-mail to 369 firms registered in AOSB Çiğli, 140 firms registered in MOSB, 10 registered in ESBAŞ and 10 other in İzmir a total of 529 firms. For those who did not respond, two additional surveys were e-mailed 14 days and 21 days, respectively, after the initial mailing. The sample included a total of 53 firms. This is a response rate of 10,01%. This is a very low response rate and quite a common problem in Turkey due to the fact that the companies in Turkey are not very supportive for the researchers. The most frequently represented industries were automotive (39,6%), food(9,4%) and HVAC(9,4%). The sectors participated in the survey are presented in Table 3.2.

Table 3.2 - Frequency of Sectors

Sector_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Food	5	9,4	9,4	9,4
	Chemical	3	5,7	5,7	15,1
	Automotive	21	39,6	39,6	54,7
	HVAC	5	9,4	9,4	64,2
	Retail	2	3,8	3,8	67,9
	Electric & Electronics	4	7,5	7,5	75,5
	Aeronautics	1	1,9	1,9	77,4
	White Goods	2	3,8	3,8	81,1
	Manufacturing	3	5,7	5,7	86,8
	Medical	1	1,9	1,9	88,7
	Packaging	2	3,8	3,8	92,5
	Steel	3	5,7	5,7	98,1
	Textile	1	1,9	1,9	100,0
	Total	53	100,0	100,0	

The sample consisted primarily of purchasing professionals at the purchasing manager level, a total of 34 purchasing managers corresponding to 64% of the respondents. The number of CEOs that responded is 9 corresponding to 17% of the respondents followed by the Sales, Plant and Quality managers with a frequency of 6,3 and 1 corresponding to 11,3%, 5,7% and 1,9% respectively. The summary of the respondents are presented in Table 3.3.

Table 3.3- Frequency of Respondents

Responder

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CEO	9	17,0	17,0	17,0
	Plant Manager	3	5,7	5,7	22,6
	Purchasing Manager	34	64,2	64,2	86,8
	Quality Manager	1	1,9	1,9	88,7
	Sales Manager	6	11,3	11,3	100,0
	Total	53	100,0	100,0	

The number of employees and the company turnover are questioned using the intervals used in the classification of the EU's SME definition. According to this definition the minimum and maximum values of both criteria for each category are defined. If both criteria are satisfied than the enterprise is classified in that category. If the criteria indicate different categories than the enterprise is classified in the lowest category that either of the criteria indicated. The distribution of the firms according to the number of employees, the company turnover and the EU SME classification are presented in Table 3.4, Table 3.5 and Table 3.6 respectively.

The capital structure is questioned in the survey asking whether the capital of the company is domestic or foreign dominated creating four nominal groups as 100% Domestic Capital, Domestic Capital Dominated, Foreign Capital Dominated and 100% Foreign Capital. The distribution of the capital structure of the participating firms is presented in Table 3.7.

Table 3.4 - Frequency of Number of Employees

NoEmployees_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-9	3	5,7	5,7	5,7
	10-49	5	9,4	9,4	15,1
	50-249	19	35,8	35,8	50,9
	>249	26	49,1	49,1	100,0
	Total	53	100,0	100,0	

Table 3.5 - Frequency of Company Yearly Turnover

TurnOver_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2 Million €	5	9,4	9,4	9,4
	3-10 Million €	11	20,8	20,8	30,2
	11-50 Million €	17	32,1	32,1	62,3
	>50 Million €	20	37,7	37,7	100,0
	Total	53	100,0	100,0	

Table 3.6 - Frequency of Company Size

EU_SME_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Micro	6	11,3	11,3	11,3
	Small	10	18,9	18,9	30,2
	Medium	17	32,1	32,1	62,3
	Big	20	37,7	37,7	100,0
	Total	53	100,0	100,0	

Table 3.7 - Frequency of Company Capital Structure

CapitalStructure_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100% Domestic Capital	31	58,5	58,5	58,5
	Domestic Capital Dominated	6	11,3	11,3	69,8
	Foreign Capital Dominated	4	7,5	7,5	77,4
	100% Foreign Capital	12	22,6	22,6	100,0
	Total	53	100,0	100,0	

The target market is also questioned in the survey asking whether the target market of the company is domestic or foreign dominated creating five nominal groups as 100% Domestic Market, Domestic Market Dominated, 50% Domestic 50% Foreign Market, Foreign

Market Dominated and 100% Foreign Market. The distribution of the target market of the participating firms is presented in Table 3.8.

Table 3.8 - Frequency of Company Target Market

TargetMarket_Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100% Domestic Market	2	3,8	3,8	3,8
	Domestic Market Dominated	17	32,1	32,1	35,8
	50% Domestic 50% Foreign Market	13	24,5	24,5	60,4
	Foreign Market Dominated	15	28,3	28,3	88,7
	100% Foreign Market	6	11,3	11,3	100,0
	Total	53	100,0	100,0	

In the following section the statistical analysis are carried out to understand whether the adapted survey represents a valid measure for the factors that are intended to be measured, the hypothesis prove to be valid and the existence of the four factors relate to the existence of the strategic purchasing practice in the firm and there are correlations between the company profile properties and the strategic purchasing or not.

3.3 THE ANALYSIS

The data is first analysed using the exploratory factor analysis to see whether the items are loaded as expected. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy resulted to be superior to 0,80 indicating the adequacy of the sample is sufficient. The Bartlett's test of sphericity also resulted to be valid and significant indicating that the factor analysis results are valid. The KMO and Bartlett's test of sphericity is presented in Table 3.9.

Table 3.9 - KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,852
Bartlett's Test of Sphericity	Approx. Chi-Square	462,107
	df	120
	Sig.	,000

As the previous study of Carr and Smeltzer resulted 5 factors the analysis is carried out for 5 factors. The last factor however resulted to have an eigen value of 0,875 (Table 3.10).

Table 3.10 - Factors

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of	Cumulative	Total	% of	Cumulative	Total	% of	Cumulative
1	7,234	45,216	45,216	7,234	45,216	45,216	3,245	20,284	20,284
2	1.587	9.916	55.131	1.587	9.916	55.131	2.248	14.049	34.333
3	1.184	7.399	62.530	1.184	7.399	62.530	2.246	14.040	48.373
4	1.004	6.276	68.807	1.004	6.276	68.807	2.228	13.924	62.297
5	.875	5.470	74.277	.875	5.470	74.277	1.917	11.980	74.277
6	.763	4.769	79.046						
7	.638	3.988	83.034						
8	.547	3.422	86.455						
9	.433	2.709	89.164						
10	.412	2.574	91.739						
11	.331	2.069	93.808						
12	.304	1.902	95.710						
13	.244	1.527	97.238						
14	.181	1.133	98.370						
15	.153	.956	99.327						
16	.108	.673	100.000						

Extraction Method: Principal Component Analysis.

After applying the varimax rotation on the factor analysis all the survey items except two, are loaded in the factors that they are supposed to. The two items presented a close difference between the factors they are supposed to be loaded and the factor they are assigned after the factor analysis. This might be due the fact that the absolute number of the respondents are much lower than the original study of Carr and Smeltzer, misinterpretation of the items by the respondents or lack of experience or competence of the respondents on purchasing function issues given that 6 of the respondents are sales managers and 1 of the respondents is a quality manager corresponding to 11,3% and 1,9% respectively. The result of the factor analysis is presented in Table 3.11.

After the exploratory factor analysis, the reliability analysis is carried out to see how well the items loaded in the same factor measure the same thing. There are two items that are loaded to factors different from the intended factors. For reliability analysis it is important to have a correct loading. To achieve the correct loading, a comparison of the reliability coefficients in case these items are deleted is carried out.

Table 3.11 - Exploratory Factor Analysis Result

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
SPE1	,806				
SPE2	,806				
SPE3	,803				
PSKS1		,815			
PSKS2		,856			
PSKS3	,501	,584			
PSRS1	,465				,542
PSRS2					,877
PSRS3			,540		,508
PSRS4			,408		,440
PSIO1			,687		
PSIO2			,858		
PSIO3			,502	,427	
PSRT1	,589			,564	
PSRT2				,805	
PSRT3				,830	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

If the effect of the controversial item when deleted on the reliability coefficient is greater when grouped together with the items of a factor than when grouped together with the items of the other factor then the item belongs to the group where it has a greater effect. The comparison for Purchasing Resources Item 3 (PSRS3) is presented in Table 3.12 and the comparison for Purchasing Risk Taking Item 1 (PSRT1) is presented in Table 3.13.

Although two items ended up to be controversial in the factor analysis, these two items represent a greater effect on the Alpha coefficient for the factors that they are intended to belong. Therefore these two items will be analysed together with the group of items of the intended factor. If the reliability analysis result that these items measure the same thing then the loading of these items to the intended factors is further justified. In this analysis the Alpha coefficients are analysed to assess the level of reliability and an Alpha Coefficient of 0,70 is desired. The reliability of the items measuring the strategic purchasing, the purchasing staff's knowledge and skills, the purchasing resources, the purchasing functions status in the organization and the willingness of the purchasing function to take risks and the reliability levels obtained in the original study of Carr and Smeltzer are presented in Table 3.14.

Table 3.12 - Alpha Coefficient Comparison for PSRS3

	Standardized Alpha Coefficient When Purchasing Resources Item 3 (PSRS3) grouped with Purchasing Resources Items	**Standardized Alpha Coefficient When Purchasing Resources Item 3 (PSRS3) grouped with Purchasing Status Items**
All Items Included	0,745	0,777
If Purchasing Resources Item 3 (PSRS3) deleted	0,592	0,708

Table 3.13 - Alpha Coefficient Comparison for PSRT1

	Standardized Alpha Coefficient When Purchasing Risk Taking Item 1 (PSRT1) grouped with Purchasing Risk Taking Items	**Standardized Alpha Coefficient When Purchasing Risk Taking Item 1 (PSRT1) grouped with Strategic Purchasing Items**
All Items Included	0,825	0,875
If Purchasing Risk Taking Item 1 (PSRT1) deleted	0,777	0,850

As we see in Table 3.14, all the items loaded in the same factor measure the same thing as all the Alpha coefficients are above 0,70. Therefore the survey measures the factors that are intended to be measured and the loading of the items as in the original study of Carr and Smeltzer is further justified.

Table 3.14 – Factor Scale Reliability Test Results

Factor	Standardized Coefficient Alpha	Standardized Coefficient Alpha (Carr & Smeltzer)
Level of Strategic Purchasing	0,855	0,805
Purchasing Knowledge and Skills	0,870	0,7586
Purchasing Resources	0,745	0,7144
Purchasing Status	0,717	0,8256
Purchasing Risk Taking	0,825	0,7887

As the scale items are proved to be measuring the factors that are intended to be measured, the testing of the hypothesis can now be carried out. First the multiple items measuring each factor are collapsed, calculating their arithmetic mean and assigning it to the factor as its measure. Then these factors are tested for inter correlation.

The Hypothesis 1 states that the purchasing status is positively related to the level of strategic purchasing. The inter correlation is presented in Table 3.15.

Table 3.15 - Test of Hypothesis 1

Correlations

		SPE	PSIO
SPE	Pearson Correlation	1	,387**
	Sig. (2-tailed)		,004
	N	53	53
PSIO	Pearson Correlation	,387**	1
	Sig. (2-tailed)	,004	
	N	53	53

**. Correlation is significant at the 0.01 level (2-tailed).

The test of the inter correlation results to be significant but not very strong although these two factors are positively related supporting Hypothesis 1.

The Hypothesis 2 states that the purchasing knowledge and skills are positively related to the level of strategic purchasing. The correlation between the purchasing knowledge and skills and the level of strategic purchasing in the firm is presented in Table 3.16.

Table 3.16 - Test of Hypothesis 2

Correlations

		SPE	PSKS
SPE	Pearson Correlation	1	,601**
	Sig. (2-tailed)		,000
	N	53	53
PSKS	Pearson Correlation	,601**	1
	Sig. (2-tailed)	,000	
	N	53	53

**. Correlation is significant at the 0.01 level (2-tailed).

The test of the inter correlation results to be significant and strong. These two factors are positively related supporting Hypothesis 2. Therefore as the purchasing knowledge and skills increase, the level of strategic purchasing increases.

The Hypothesis 3 states that the purchasing's willingness to take risks is positively related to the level of strategic purchasing. This correlation is presented in Table 3.17.

Table 3.17 - Test of Hypothesis 3

Correlations

		SPE	PSRT
SPE	Pearson Correlation	1	,579**
	Sig. (2-tailed)		,000
	N	53	53
PSRT	Pearson Correlation	,579**	1
	Sig. (2-tailed)	,000	
	N	53	53

**. Correlation is significant at the 0.01 level (2-tailed).

The test of the inter correlation results to be significant and very close to strong. These two factors are positively related supporting Hypothesis 3. Therefore as the purchasing's willingness to take risks increase, the level of strategic purchasing increases as well.

The Hypothesis 4 states that the purchasing resources are positively related to the level of strategic purchasing. The inter correlation is presented in Table 3.18. The test of the inter correlation results to be significant and very close to strong. These two factors are positively related supporting Hypothesis 4. Therefore as the purchasing resources increase, the level of strategic purchasing increases as well. Hypothesis 4 is accepted.

Table 3.18 - Test of Hypothesis 4

Correlations

		SPE	PSRS
SPE	Pearson Correlation	1	,598**
	Sig. (2-tailed)		,000
	N	53	53
PSRS	Pearson Correlation	,598**	1
	Sig. (2-tailed)	,000	
	N	53	53

**. Correlation is significant at the 0.01 level (2-tailed).

The Hypothesis 5 states that the level of strategic purchasing differs according to the size of the firm. Table 3.19 presents that the mean value of the level of strategic purchasing increases as the size of the firm increases.

Table 3.19- Mean Values By Company Size

Descriptives

SPE

	N	Strategic Purchasing Mean	Std. Deviation	Std. Error	95% Confidence Interval for		Minimum	Maximum
					Lower Bound	Upper Bound		
Micro	6	3,0000	1,05409	,43033	1,8938	4,1062	1,00	4,00
Small	10	3,8333	,65263	,20638	3,3665	4,3002	3,00	5,00
Medium	17	3,9216	,90928	,22053	3,4541	4,3891	2,00	5,00
Big	20	4,4500	,55436	,12396	4,1906	4,7094	3,00	5,00
Total	53	4,0000	,86479	,11879	3,7616	4,2384	1,00	5,00

If the increase of the mean value of the level of strategic purchasing as the size of the firm increases, is statistically significant, then the inter correlation exists. The ANOVA test carried out to test the inter correlation between the size of the firm and the level of strategic purchasing in the firm is presented in Table 3.20.

Table 3.20 - ANOVA Test for Hypothesis 5

ANOVA

SPE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,432	3	3,477	5,988	,001
Within Groups	28,457	49	,581		
Total	38,889	52			

The ANOVA test clearly indicates a statistically significant difference in the level of strategic purchasing according to the size of the firm. The relationship can be further observed carrying out a LSD Post HOC test as in Table 3.21.

Table 3.21 - Post HOC Test for Hypothesis 5

Multiple Comparisons

Dependent Variable: SPE

LSD

(I) EU_SME_Category	(J) EU_SME_Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Micro	Small	-,83333*	,39353	,039	-1,6242	-,0425
	Medium	-,92157*	,36187	,014	-1,6488	-,1944
	Big	-1,45000*	,35472	,000	-2,1628	-,7372
Small	Micro	,83333*	,39353	,039	,0425	1,6242
	Medium	-,08824	,30370	,773	-,6986	,5221
	Big	-,61667*	,29515	,042	-1,2098	-,0235
Medium	Micro	,92157*	,36187	,014	,1944	1,6488
	Small	,08824	,30370	,773	-,5221	,6986
	Big	-,52843*	,25139	,041	-1,0336	-,0232
Big	Micro	1,45000*	,35472	,000	,7372	2,1628
	Small	,61667*	,29515	,042	,0235	1,2098
	Medium	,52843*	,25139	,041	,0232	1,0336

*. The mean difference is significant at the 0.05 level.

The mean difference is statistically significant at the 95% confidence level as the size of the firm increases from micro to small, medium and big, from small to big and medium to big. The strategic purchasing mean value for small and medium size enterprises do not represent a change that is statistically significant. However the trend is clear and as the size of the firm differs the level of strategic purchasing also differs. Hypothesis 5 is accepted.

The Hypothesis 6 states that the level of strategic purchasing differs according to the percentage of the foreign capital in the firm. There is a constant increase of the level of the strategic purchasing mean value between the 100% Domestic Capital and Foreign Capital Dominated and a slight decrease for 100% Foreign Capital. Table 3.22 presents that the mean value of the level of strategic purchasing as the foreign capital in the firm increases.

Table 3.22 - Mean Values By Capital Structure

Descriptives

SPE

	N	Strategic Purchasing Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
100% Domestic Capital	31	3,6989	,96745	,17376	3,3441	4,0538	1,00	5,00
Domestic Capital Dominated	6	4,2778	,44305	,18088	3,8128	4,7427	3,67	5,00
Foreign Capital Dominated	4	4,5833	,31914	,15957	4,0755	5,0912	4,33	5,00
100% Foreign Capital	12	4,4444	,47849	,13813	4,1404	4,7485	3,67	5,00
Total	53	4,0000	,86479	,11879	3,7616	4,2384	1,00	5,00

The ANOVA test carried out to test the inter correlation between the foreign capital in the firm and the level of strategic purchasing in the firm is presented in Table 3.23.

Table 3.23 - ANOVA Test for Hypothesis 6

ANOVA

SPE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,004	3	2,335	3,588	,020
Within Groups	31,884	49	,651		
Total	38,889	52			

The ANOVA test clearly indicates a statistically significant difference in the level of strategic purchasing according to the foreign capital in the firm. Therefore the hypothesis 6 is accepted. The nature relationship can be further observed carrying out a LSD Post HOC test as in Table 3.24.

Table 3.24 - Post HOC Test for Hypothesis 6

Multiple Comparisons

Dependent Variable: SPE

LSD

(I) CapitalStructure_Category	(J) CapitalStructure_Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
100% Domestic Capital	Domestic Capital Dominated	-,57885	,35978	,114	-1,3019	,1441
	Foreign Capital Dominated	-,88441*	,42856	,044	-1,7456	-,0232
	100% Foreign Capital	-,74552*	,27425	,009	-1,2967	-,1944
Domestic Capital Dominated	100% Domestic Capital	,57885	,35978	,114	-,1441	1,3019
	Foreign Capital Dominated	-,30556	,52070	,560	-1,3519	,7408
	100% Foreign Capital	-,16667	,40333	,681	-,9772	,6439
Foreign Capital Dominated	100% Domestic Capital	,88441*	,42856	,044	,0232	1,7456
	Domestic Capital Dominated	,30556	,52070	,560	-,7408	1,3519
	100% Foreign Capital	,13889	,46573	,767	-,7970	1,0748
100% Foreign Capital	100% Domestic Capital	,74552*	,27425	,009	,1944	1,2967
	Domestic Capital Dominated	,16667	,40333	,681	-,6439	,9772
	Foreign Capital Dominated	-,13889	,46573	,767	-1,0748	,7970

*. The mean difference is significant at the 0.05 level.

The change of the level of strategic purchasing is statistically significant only between the 100% domestic capital and the foreign capital dominated or %100 foreign capital. Therefore it can be said that if there is foreign capital in the capital structure of the firm the level of strategic purchasing differs with respect to 100% domestic capital firms..

The Hypothesis 7 states that the level of strategic purchasing differs according to the foreign target market percentage. Table 3.25 presents that the mean value of the level of strategic purchasing as the percentage of the foreign target market in the firm increases.

Table 3.25 - Mean Values By Target Market

Descriptives

SPE

	N	Strategic Purchasing Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
100% Domestic Market	2	3,8333	,23570	,16667	1,7156	5,9510	3,67	4,00
Domestic Market Dominated	17	3,6863	1,15753	,28074	3,0911	4,2814	1,00	5,00
50% Domestic 50% Foreign Market	13	3,7692	,79797	,22132	3,2870	4,2514	2,00	5,00
Foreign Market Dominated	15	4,4222	,47920	,12373	4,1569	4,6876	3,67	5,00
100% Foreign Market	6	4,3889	,32773	,13380	4,0450	4,7328	4,00	5,00
Total	53	4,0000	,86479	,11879	3,7616	4,2384	1,00	5,00

There is not a constant increase of the level of the strategic purchasing mean value between the 100% Domestic Market and 100% Foreign Market and a steady pattern is not observed. The ANOVA test carried out to test the inter correlation between the percentage of the foreign market and the level of strategic purchasing in the firm is presented in Table 3.26.

Table 3.26 - ANOVA Test for Hypothesis 7

ANOVA

SPE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,003	4	1,501	2,190	,084
Within Groups	32,886	48	,685		
Total	38,889	52			

The ANOVA test clearly indicates a statistically insignificant difference in the level of strategic purchasing according to the percentage of the foreign target market. The hypothesis

7 is rejected. This fact can be further observed carrying out a LSD Post HOC test as in Table 3.27.

Table 3.27 - Post HOC Test for Hypothesis 7

Multiple Comparisons

Dependent Variable: SPE

LSD

(I) TargetMarket_Category	(J) TargetMarket_Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
100% Domestic Market	Domestic Market Dominated	,14706	,61876	,813	-1,0970	1,3912
	50% Domestic 50% Foreign Market	,06410	,62870	,919	-1,2000	1,3282
	Foreign Market Dominated	-,58889	,62309	,349	-1,8417	,6639
	100% Foreign Market	-,55556	,67584	,415	-1,9144	,8033
Domestic Market Dominated	100% Domestic Market	-,14706	,61876	,813	-1,3912	1,0970
	50% Domestic 50% Foreign Market	-,08296	,30497	,787	-,6961	,5302
	Foreign Market Dominated	-,73595*	,29322	,016	-1,3255	-,1464
	100% Foreign Market	-,70261	,39305	,080	-1,4929	,0877
50% Domestic 50% Foreign Market	100% Domestic Market	-,06410	,62870	,919	-1,3282	1,2000
	Domestic Market Dominated	,08296	,30497	,787	-,5302	,6961
	Foreign Market Dominated	-,65299*	,31365	,043	-1,2836	-,0224
	100% Foreign Market	-,61966	,40852	,136	-1,4410	,2017
Foreign Market Dominated	100% Domestic Market	,58889	,62309	,349	-,6639	1,8417
	Domestic Market Dominated	,73595*	,29322	,016	,1464	1,3255
	50% Domestic 50% Foreign Market	,65299*	,31365	,043	,0224	1,2836
	100% Foreign Market	,03333	,39983	,934	-,7706	,8372
100% Foreign Market	100% Domestic Market	,55556	,67584	,415	-,8033	1,9144
	Domestic Market Dominated	,70261	,39305	,080	-,0877	1,4929
	50% Domestic 50% Foreign Market	,61966	,40852	,136	-,2017	1,4410
	Foreign Market Dominated	-,03333	,39983	,934	-,8372	,7706

*. The mean difference is significant at the 0.05 level.

The change of the level of strategic purchasing differs significantly only between the domestic target market dominated and the foreign target market dominated. However the ANOVA analysis results to be statistically insignificant according to %5 confidence level and this leads to the rejection of the hypothesis 7. Nevertheless further study should be done with a major number of samples.

DISCUSSION and CONCLUSION

The purpose of this study was to apply the operational definition of strategic purchasing developed by Carr and Smeltzer (1997) to the firms in Izmir and Manisa. In their attempt of developing an operational definition, Carr and Smeltzer identified four factors and operations or activities that helped to measure these factors. In their study all the four factors came out to be positively related with the level of strategic purchasing. Therefore, it may be said that the four factors consisting of sixteen underlying variables define strategic purchasing.

This study adapted the Carr and Smetzer's definition for strategic purchasing and questioned the companies around Izmir and Manisa for the nature of their purchasing practices.

This study is valuable for practicing managers and researchers because the results represent data from 53 firms in a cross section of industries and may give an idea on the situation in other Turkish companies located in Turkey and show us the room for improvement for the purchasing function.

Although many might argue that the four factors used to define the strategic purchasing are not exhaustive the main reason that a simpler theoretical framework was chosen was to understand whether at least relatively simpler more basic factors of strategic purchasing are recognized by the Turkish companies or not. This concern was also due to the lack of previous studies on the strategic purchasing practices in Turkey and therefore lack of data to predict the level of understanding of strategic purchasing in Turkish business context. Yet, it's a valuable attempt to create awareness on the strategic purchasing concept in Turkey.

This thesis primarily aimed to test the four main hypothesis in the original study of Carr and Smeltzer. The purchasing status factor, although weak, represented a positive relationship with the level of strategic purchasing. The purchasing knowledge and skills showed the strongest positive relationship with the strategic purchasing. Also the purchasing resources and purchasing risk taking showed a degree of positive relationship on the border of strong correlation. All the results led the acceptance of the hypothesis 1, hypothesis 2, hypothesis 3 and hypothesis 4 as in the original study of Carr and Smeltzer. In other words, the firms in Izmir and Manisa when they adopt strategic purchasing practices they also show the presence of the underlying factors and capabilities just like the firms in the original study of Carr and Smeltzer. This result shows the application of the strategic purchasing practices in a firm works in a very similar way.

The factors inquired in this study should be considered only a part of all the potential factors that influence the level of strategic purchasing. Yet, this study representing a general description of strategic purchasing gives a general idea on the adoption of strategic purchasing practices in firms in Izmir and Manisa in various industrial sectors.

The purchasing managers can assess their processes using the operations or action used to describe the strategic purchasing and the underlying factors of the strategic purchasing in this study as benchmarks. The four strategic purchasing function indicators, have further underlying indicators which define strategic purchasing. These underlying indicators may serve as a foundation for a purchasing audit.

The factor of strategic purchasing in this study is measured by three variables and the level of each variable can be questioned to understand the level of strategic purchasing. However these items do not give the purchasing executives any idea on the quality of the strategic purchasing. The existence of these practices does not guarantee that these actions are executed in the correct manner (Carr and Smeltzer, 1997).

Similar short coming is present also for the items that measure the knowledge and skills. A further operationalization is actually needed to assess the correct skill set that enables the purchasing staff to take certain actions and achieve more complex and strategically relevant tasks however the survey tool does not provide that detail and rely on the perception of the assessing purchasing executive. The correct skill set required for purchasing professionals and purchasing managers are discussed in detail in previous sections.

This fact of that the assessment rely on self-reporting is actually a limitation of this study as this method includes the possibility of the existence of bias although it’s an effective method to be used in circumstances where it’s impossible to obtain data otherwise.

The company profile items of the study also reveal some interesting facts on strategic purchasing function in firms in İzmir and Manisa.

According to the results of this study, the purchasing function starts to be recognized as a strategic function as the size of the company increases. The micro size companies which have a turnover up to 2 million € do not perceive the purchasing function as strategic. The small size companies with a turnover of 3 to 10 million € and the medium size companies with a turnover of 11 to 50 million € start to implement the strategic purchasing approach more strongly but not significantly more strong than the other category of companies. The big companies which have a turnover more than 50 million € implement the strategic purchasing approach in a high level. As the turnover increases further, more elements for each factor are observed. This observation is in line with previous studies in literature. As the financial dimension of the purchasing increases, top management starts to see the purchasing function more important and focuses on this function more to obtain a positive financial contribution to the bottom line of the firm's performance.

An interesting observation which is not inquired in previous studies in literature is that whether the level of strategic purchasing changes as the capital structure of the firm changes or not. In 100% domestic capital owned firms the purchasing function is not perceived as a strategic function. However when there is a foreign capital contribution to the firm a change in the strategic purchasing practice is observed. There is a significant shift in the level of strategic purchasing measure with the participation of foreign capital.

This observation shows that the recognition of the purchasing function as a strategic function in firms controlled by the 100% domestic capital in Izmir and Manisa is low than the firms with a participation of foreign capital. This observation may give an idea on the firms with 100% domestic capital in rest of Turkey and therefore lead us to the fact that there is a lot to do to increase the level of recognition of the purchasing as a strategic function in Turkish business context to help the Turkish companies improve their competitive position with a vital contribution from the purchasing function.

This study also inquires whether the level of strategic function changes as the composition of the target market changes. When the target market of the firm is totally or in great part local then the role of the level of strategic purchasing is low. If the target market is in great part or 100% foreign than the level of strategic purchasing scores high. However this change resulted to be statistically insignificant. This might be due to the fact that the number of the responses are insufficient to obtain a statistically significant correlation. However the statistically significant change in the level of strategic purchasing between the domestic capital dominated and foreign capital dominated companies, makes it worthwhile that the hypothesis 7 should be retested with a greater number of respondents in the future studies.

This expectation is mainly because the foreign markets are expected to refer mostly to EU countries as the EU is Turkey's major trade partner. The EU market has demanding quality standards to satisfy. The quality management of the supplier product and processes to satify these standards, requires higher knowledge and skill sets as well as resources and risk taking behaviour, all of which are indicators for the strategic purchasing function. Therefore the strategic purchasing practices are expected to be observed in the firms which produce for the EU market. It is certainly more appropriate to reformulate the relevant item replacing the foreign market with the EU market.

This study underlines the importance of the purchasing function for a complete and integrated strategic planning that considers all the environmental conditions effecting the strategic triangle of external customers, competitors and suppliers as well as the internal conditions and alignment between the primary and support functions consisting the value chain. The purchasing function that has a strategic approach can better convey the needs of the internal customers and the company objectives to the supplier market with the capabilities that enables the purchasing function to interpret the supplier market environment, categorize it, develop the related strategies, tactics and actions, evaluate the select the appropriate suppliers and create and maintain the appropriate relationships with them. As the purchasing function that has a strategic approach is characterized with such capabilities, it is therefore essential for the firms to understand the positive effects of the purchasing function on the business performance as their purchasing portfolio becomes more complex, consisting of components that are sophisticated from technological or manufacturing point of view or that are problematic to procure due to complications in the supply market. These positive effects are not only financial or commercial but also closely related to the sustainability achieved and the quality improvements in consequence. The successful interpretation of the supply market and the strategy development accordingly leads to the creation of appropriate relationships with the suppliers which requires strict and continuous performance evaluation and improvements well defined in long term contracts especially for strategic suppliers. This commitment and the joint effort of the purchasing firm and the suppliers to manage the uncertainties gives both the purchasing firm and the suppliers the chance to manage better their strategic planning process and maintain or increase their competitiveness and the chance of survival. The ultimate goal of the firm is to create a sustainable, profitable business model and the main characteristic of the strategic purchasing practices is locked in this scope. The thorough examination of the supplier market, detailed evaluation of the supplier capabilities in terms of both physical facilities and knowledge and skills, careful auditing and performance measurements of the suppliers in terms of finance such as asking the suppliers submit and update their financial statements for a period of several years back, technology and quality are all efforts of the strategic purchasing function to guarantee that the business relationship created with the suppliers is sustainable and eventually profitable and offers both parties a good chance of survival. The crucial point here is the ability of the purchasing professionals to understand the dynamics of the business relationship with the suppliers, recognize their right to make a fair profit and convey this philosophy to the internal customers in shaping their expectations and strategic objectives in the best possible way to avoid any abuse of power or opportunistic behaviour that might be generated within the purchasing firm and damage the relationship and the end result in financial performance.

The essence of the strategic purchasing is the ability to make every key stakeholder to understand the basic needs of each other and focus on improving mainly the structural capabilities such as the engineering, the manufacturing, the logistics that create the total value in a joint effort with the key stakeholders rather than the plain price which is only a consequence of the cost structure which at the end of the day depends on how these structural capabilities are managed, integrated and aligned with each other.

The strategic purchasing function, defining a strategic purchasing process consisting of market research, strategy development, supplier evaluation and selection and supplier management and development, aims to achieve its strategic objectives by creating competitive advantage in cost, quality, technology, product development and cycle time. The success of accomplishing the strategic objectives depends on the strategic purchasing function’s ability to become a preferred customer, receive relationship specific investments and create co destiny with suppliers. The strategic purchasing function makes this possible defining a series of strategic actions that defines the supplier relationship management including long term contracting, early supplier involvement, supplier design support, supplier development policy, supplier performance measurement and supplier quality management. Throughout the entire process, the purchasing function seeks the access to critical information that is created and controlled by other functions within the company and therefore includes the functions of critical importance in the strategic purchasing process.

As the contribution of the functions of critical importance is vital for the strategic purchasing process to succeed, the status and the political rank of the purchasing function is equally vital to consent the purchasing function to lead, coordinate and manage the cross functional teamwork. The purchasing managers should pay a particular attention to demonstrate the strategic importance of the purchasing function to the higher management, constantly seek dedicated time together with the higher management to make sure that the higher management understands well the basic needs of the purchasing function and how it can support the purchasing function to create a positive effect on the financial performance of the company. A higher management recognizing the importance of the purchasing function and conveying this perception of its among the company, certainly enables the purchasing function to mobilize other functions for a fruitful collaboration for the strategic purchasing process. The findings of this study demonstrates the positive correlation between the status of the purchasing function in the firm and the strategic purchasing.

The strategic purchasing process is a complex process which requires special knowledge and skills that are necessary to be continuously improved through a structured training programme which is proactively planned with a clear idea of the vital capabilities to be acquired over medium and long term to successfully manage the strategic purchasing process. The findings of this study demonstrates the positive correlation between the knowledge and skills of the purchasing function and the level of strategic purchasing. The knowledge and skills of the purchasing function is also important to gain and continue the support of the higher management. The purchasing managers therefore should be very clear about the capabilities that their purchasing department needs to have and make sure the team members have the suitable profiles and the adequate budget for a structured training is secured.

The purchasing function heavily depends on detailed, structured and integrated information to coordinate the key stakeholders and lead the strategic purchasing process. The purchasing function needs the appropriate resources as informatics support as well as access to critical information manufactured and controlled by other functions to manage the process. The findings of this study demonstrates the positive correlation between the resources of the purchasing function and the level of strategic purchasing. The purchasing managers should be careful about the level of information sharing between the functions and make sure the supplier performance metrics information is well maintained in a structured manner as well as it has access to critical information feeding the strategic planning process.

The risk taking attitude of the purchasing function comes out as a main characteristic of the strategic purchasing as the study demonstrates the positive correlation between the risk taking behaviour of the purchasing function and the level of strategic purchasing. The long term planning, high competence of the purchasing professionals might be the factors that encourage the purchasing function to identify the opportunities, calculate the risks that are associated with the opportunity and come up with an action plan to seize the opportunity to provide the firm a competitive edge or purchasing capability. The critical point is that the associated risks may be a more direct concern for some of the functions quite often for the engineering or the quality and a conflict between the parties is quite common. The opposition of the stakeholders might be quite fierce too. It is therefore very critical that the purchasing managers who are confident with the capabilities and resources in hand to back up their strategic approach, stand their ground and insist on the actions they believe that are beneficial for the company and in line with the strategic objectives. Otherwise this might lead to damaging the supplier selection and management processes and inappropriate supplier portfolio for the firm which is not responsive to the supplier market conditions as these functions lack a thorough analysis of the supplier market conditions unlike the purchasing function.

Besides the seven hypothesis investigated in this study, further research could be carried out on whether the knowledge and skills influence the risk taking behaviour of the purchasing function. In addition future research could examine which particular skills encourage the risk taking behaviour of the purchasing function. Finally future research could examine the influence of the status of the purchasing function on the risk taking behaviour of the purchasing function as well.

REFERENCES

Aguilar, F. J. (1992).General managers in action: policies and strategies. *Oxford University Press*.

AIAG (1995). Advanced Product Quality Planning & Control Plan (APQP) *Automotive Industry Action Group (AIAG)*, Cincinnati, OH

AIAG (2006) Production Part Approval Process, 4th Edition (PPAP-4). *Automotive Industry Action Group (AIAG)*, Cincinnati, OH

Ammer, D. S. (1989). Top management's view of the purchasing function. *Journal of Purchasing & Materials Management*, 25(1), 16-21.

Anderson, M. G., & Katz, P. B. (1998). Strategic sourcing. *The International Journal of Logistics Management*, 9(1), 1-13.

Anderson, P., S. Griffiths, and T. Laseter, "Strategic Sourcing: A Competitive Imperative", Viewpoint, *Booz-Allen & Hamilton*, 1993

Ansari, A., & Modarress, B. (1987). The potential benefits of just-in-time purchasing for US manufacturing. *Production and Inventory Management*, 28(2), 30-35.

Baier, C., Hartmann, E., & Moser, R. (2008). Strategic alignment and purchasing efficacy: an exploratory analysis of their impact on financial performance. *Journal of Supply Chain Management*, 44(4), 36-52.

Bailey, P. And D. Farmer, Purchasing Principler and Management, 5th ed. *Pitman Publishing*, London, 1986

Beamon, B. M. (1999). Measuring supply chain performance. *International Journal of Operations & Production Management*, 19(3), 275-292.

Browning, J. M., Zabriskie, N. B., & Huellmantel, A. B. (1983). Strategic purchasing planning. *Journal of Purchasing and Materials Management*, 19(1), 19-24.

Burt, D. N., & Soukup, W. R. (1985). Purchasings role in new product development. *Harvard Business Review*, 63(5), 90-97.

Burt, D., & Pinkerton, R. (1996). A Purchasing Manager's Tool to Strategic Proactive Procurement. Amacom: American Management Association.

Carr, A. S., & Pearson, J. N. (1999). Strategically managed buyer–supplier relationships and performance outcomes. *Journal of operations management*,17(5), 497-519.

Carr, A. S., & Smeltzer, L. R. (1997). An empirically based operational definition of strategic purchasing. *European Journal of Purchasing & Supply Management*, 3(4), 199-207.

Carr, A. S., & Smeltzer, L. R. (2000). An empirical study of the purchasing and supply management skills required for the new millennium. *In The 9th Annual International IPSERA Conference and the 3rd Annual North American Research Symposium on Purchasing and Supply Management* ,134-44.

Carter, J. R., & Narasimhan, R. (1996). Is purchasing really strategic?.*International Journal of Purchasing and Materials Management*, 32(4), 20-28.

Carter, J. R., Monczka, R. M., Slaight, T. H., & Swan, A. J. (2000). The Future of Purchasing and Supply: A Ten Year Forecast1. *Journal of Supply Chain Management*, 36(4), 14-26.

Carter, J. R., Smeltzer, L., & Narasimhan, R. (1998). The role of buyer and supplier relationships in integrating TQM through the supply chain. *European Journal of Purchasing & Supply Management*, 4(4), 223-234.

Cavinato, J. (1987). The purchasing skills you need. *Distribution*,(86: 12), 42-43.

Ciancarelli, A. (1998). Purchasing Careers Get Redefined. *Purchasing*,(125: 9), 55-59.

Cleveland, G., Schroeder, R. G., & Anderson, J. C. (1989). A Theory of Production Competence. *Decision Sciences*, 20(4), 655-668.

Cruz, C., & Murphy, E. (1996). Purchasing's new importance requires a broader education. *Purchasing*, 121(9), 46-49.

Das, A., & Narasimhan, R. (2000). Purchasing competence and its relationship with manufacturing performance. *Journal of Supply Chain Management*, 36(1), 17-28.

De Toni, A., & Tonchia, S. (2001). Performance measurement systems-models, characteristics and measures. *International Journal of Operations & Production Management*, 21(1/2), 46-71.

Down, KO and J. Liedtka. "What Corporations Seek in MBA Hires: A Survey," Selections, (10:2), *Winter* 1994, pp. 34-40.

Doyle, M. F. (1990). Fundamentals of strategic supply management. *Purchasing World*, 32(12), 40-41.

Droge, C., Vickery, S., & Markland, R. E. (1994). Sources and outcomes of competitive advantage: an exploratory study in the furniture industry. *Decision Sciences*, 25(5, 6), 669-689.

Ellram, L. M., & Carr, A. (1994). Strategic purchasing: a history and review of the literature. *International Journal of Purchasing and Materials Management*,30, 10-18.

Farmer, D. (1981). Developing purchasing strategies. *International Journal of Physical Distribution & Materials Management*, 11(2/3), 114-121.

Fiat Group Purchasing Srl Direct Material Sourcing Procedure 2009:8

Flynn, A., Harding, M. L., Lallatin, C. S., Pohlig, H. M., and Sturzl, S. R. (Eds.) (2006), ISM Glossary of Key Supply Management Terms (4th ed.), Tempe, AZ: *Institute for Supply Management*

Freeman, V. T., & Cavinato, J. L. (1990). Fitting Purchasing to the Strategic Firms: Frameworks, Processes and Values. *Journal of Supply Chain Management*, 26(1), 6-10

Gebert, K. (2011). Performance control in buyer-supplier-relationships: The design and use of formal management control systems. Diss., *Univ. St. Gallen*

Giunipero, L. C., & Handfield, R. B. (2004). Purchasing Education and Training II. Tempe, AZ: *CAPS Research*.

Giunipero, L. C., & Pearcy, D. H. (2000). World-class purchasing skills: an empirical investigation. *Journal of Supply Chain Management*, 36(3), 4-13.

Gonzalez-Benito, J. (2007). A theory of purchasing's contribution to business performance. *Journal of Operations Management*, 25(4), 901-917.

Gunasekaran, A., Patel, C., & McGaughey, R. E. (2004). A framework for supply chain performance measurement. *International Journal of Production Economics*, 87(3), 333–347.

Handfield, R. B., Ragatz, G. L., Peterson, K., & Monczka, R. M. (1999). Involving suppliers in new product development?. *California management review*, 42, 59-82.

Hofmann, E., Maucher, D., Kotula, M., & Kreienbrink, O. (2014). Performance Measurement and Incentive Systems in Purchasing: More Than Just Savings. *Springer Science & Business Media*.

Hogan, J. E., & Armstrong, G. (2001). Toward a resource-based theory of business exchange relationships: The role of relational asset value. *Journal of Business-to-Business Marketing*, 8(4), 3-28.

Jap, S. D. (1999). Pie-expansion efforts: collaboration processes in buyer-supplier relationships. *Journal of marketing Research*, 461-475.

Killen, K. H., & Kamauff, J. W. (1995). Managing purchasing: Making the supply team work. *Irwin, Homewood, IL*

Kolchin, M. G., & Giunipero, L. C. (1993). Purchasing education and training: Requirements and resources. *Center for Advanced Purchasing Studies*.

Kraljic, P. (1983). Purchasing must become supply management. *Harvard business review*, 61(5), 109-117.

Leenders, M. R. And E.E. Fearon, Purchasing and Materials Management, 10th ed., *Irwin, Homewood, IL.*, 1993

M. Keough; Buying your way to the top. *Director* (1994), 72–75

McKeefry, H. (1998). Opportunity Knocks--Education and Technical Skills Will Open the Door to Lucrative Job Offers. *CMP Net*.

Miller, K. D., & Leiblein, M. J. (1996). Corporate risk-return relations: Returns variability versus downside risk. *Academy of Management Journal*, 39(1), 91-122.

Monczka, R. M., & Trent, R. J. (2002, June). Understanding Integrated Global Sourcing—A Framework and Case Study. *In Supply Chain Forum: an International Journal* (Vol. 3, No. 1, pp. 2-11). KEDGE Business School.

Monczka, R., Handfield, R., Giunipero, L., & Patterson, J. (2009). Purchasing and supply chain management, 4th Edition. *Cengage Learning*.

Murphy, E. (1995). Half the battle is knowing what skills to acquire. *Purchasing*,(119: 9), 49-54.

Narasimhan, R., & Carter, J. R. (1998). Linking business unit and material sourcing strategies. *Journal of business Logistics*, 19(2), 155-177.

Ogden, J. A., Petersen, K. J., Carter, J. R., & Monczka, R. M. (2005). Supply management strategies for the future: a Delphi study. *Journal of Supply Chain Management*, 41(3), 29-48.

O'Neal, C. (1993). Concurrent engineering with early supplier involvement: a crossfunctional challenge. *International Journal of Purchasing and Materials Management*, 29(1), 2-9.

Pearson, J. N., & Gritzmacher, K. J. (1990). Integrating purchasing into strategic management. *Long Range Planning*, 23(3), 91-99.

Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competition. New York, 300.

Porter, M. E. (1990). The competitive advantage of nations. *Harvard business review*, 68(2), 73-93.

Rajagopal, S., & Bernard, K. N. (1993). Strategic procurement and competitive advantage. *International Journal of Purchasing and Materials Management*,29(3), 12-20.

Reck, R. F., & Long, B. G. (1988). Purchasing: a competitive weapon. *Journal of Supply Chain Management*, 24(3), 2-8.

Schroeder, R. G., Anderson, J. C., & Cleveland, G. (1986). The content of manufacturing strategy: an empirical study. *Journal of Operations Management*, 6(3), 405-415.

Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of management review*, 17(1), 9-38.

Snyder, J. (2005). European suppliers play favorites. *Automotive News*, 46.

Spekman, R. E. (1985). Competitive procurement strategies: building strength and reducing vulnerability. *Long Range Planning*, 18(1), 94-99.

Spekman, R. E. (1988). Strategic supplier selection: understanding long-term buyer relationships. *Business horizons*, 31(4), 75-81.

Spekman, R. E., & Hill, R. (1980). Strategy for effective procurement in the 1980s. *Journal of Purchasing and Materials Management*, 16(1), 2-6.

Spekman, R. E., Kamauff, J. W., & Salmond, D. J. (1994). At last purchasing is becoming strategic. *Long Range Planning*, 27(2), 76-84.

Swamidass, P. M. (1986). Manufacturing strategy: its assessment and practice. *Journal of Operations Management*, 6(3), 471-484.

Thompson, A. A., & Strickland, A. J. (1990). Strategic Management: cases and concepts. Ed., *Irwin, Homewood*.

Trent R.J. (2001), Linking TQM to SCM; *Supply Chain Management Review*, p.71

Trent, R. J. (2005). Why relationships matter. *Supply chain management review*, v. 9, no. 8 (Nov. 2005), p. 53-59.

Trent, R. J. (2007). Strategic supply management: creating the next source of competitive advantage. *J. Ross Publishing*.

Tully, S. (1995). Purchasing's new muscle. *Fortune*, 20, 75-83.

Van Weele, A. J. (1984). Purchasing control: Performance measurement and evaluation of the industrial purchasing function. *Wolters-Noordhoff*.

Van Weele, A. J. (2008). Purchasing and supply chain management: Analysis, strategy, planning and practice, 4th Edition. *Thomson Learning*.

Vickery, S. K. (1991). A Theory of Production Competence Revisited*.*Decision sciences*, 22(3), 635-643.

Watts, C. A., Kim, K. Y., & Hahn, C. K. (1992). Linking purchasing to corporate competitive strategy. *Journal of Supply Chain Management*, 28(4), 2-8.

Wheel Wright, S. C. (1984). Manufacturing strategy: defining the missing link.*Strategic management journal*, 5(1), 77-91.

APPENDICES

APPENDIX A:

STRATEJİK SATINALMA DÜZEYİ BELİRLEME ANKETİ

<u>Demografik Sorular</u>

1) Firmanızın Adı:
2) Faaliyet Gösterilen Sektör:
3) Cevaplayan Kişinin Ünvanı:
4) Şirketinizin Toplam Çalışan Sayısı:

(Aşağıdaki çalışan sayıları Avrupa Birliği'nin şirket büyüklüğü değerlendirmesinde resmi olarak kabul ettiği aralıkları belirtmektedir.)

a) 1-9
b) 10-49
c) 50-249
d) >249

5) Şirketinizin Toplam Satış Cirosu:

(Aşağıdaki ciro büyüklükleri Avrupa Birliği'nin şirket büyüklüğü değerlendirmesinde resmi olarak kabul ettiği aralıkları belirtmektedir.)

a) < 5,7 Milyon €
b) < 28 Milyon €
c) < 140 Milyon €
d) > 140 Milyon €

6) Şirketinizin Ortaklık Yapısı:
a) 100% Yerli Sermaye
b) Çoğunluk Yerli Sermaye
c) Çoğunluk Yabancı Sermaye
d) 100% Yabancı Sermaye

7) Şirketinizin Hedef Pazarı:
a) 100% Yerli Pazar
b) Ağırlıklı Yerli Pazar
c) 50% Yerli 50% Yabancı Pazar
d) Ağırlıklı yabancı Pazar
e) 100% Yabancı Pazar

	Ref. Carr&Smeltzer 1997	Hiç Katılmıyorum	Katılmıyorum	Ne Katılıyor Ne katılmıyorum	Katılıyorum	Tamamen Katılıyorum
SPE1	Satınalma Departmanımız, resmi, yazılı, uzun dönem bir plana sahiptir	1	2	3	4	5
SPE2	Uzun dönemli satınalma planımız, hangi malzeme ve hizmetlerin satın alınacağını içerir	1	2	3	4	5
SPE3	Uzun dönemli satınalma planımız, tedarikçilerin özelliklerine göre kullanılacak politikaları tanımlar	1	2	3	4	5
PSKS1	Satınalma personelimiz, tedarik pazarındaki ve ürünlerdeki gelişmeleri takip edip yorumlayabilecek bilgi ve becerilere sahiptirler	1	2	3	4	5
PSKS2	Satınalma personelimiz, tedarikçilerin proses ve ürünlerini iyileştirmelerine yardımcı olabilecek bilgi ve becerilere sahiptirler	1	2	3	4	5
PSKS3	Satınalma personelimiz, tedarikçilerimizle çalışmanın getirdiği toplam maliyeti iyileştirebilecek bilgi ve becerilere sahiptirler	1	2	3	4	5
PSRS1	Satınalma departmanımız, rutin operasyonlar için ERP benzeri bilişim sistemleri kullanmaktadır.	1	2	3	4	5
PSRS2	Satınalma departmanımız, firmamızın ürünleri ilgili bilgilere ulaşabilmektedir	1	2	3	4	5
PSRS3	Satınalma departmanımız, firmamızın üretim ve stok düzeyleri ile ilgili bilgilere ulaşabilmektedir	1	2	3	4	5
PSRS4	Satınalma departmanımız, firmamızın finans ve muhasebe ile ilgili bilgilere ulaşabilmektedir	1	2	3	4	5
PSIO1	Şirketimizin üst yönetimi, satınalmanın stratejik rolünü vurgular	1	2	3	4	5
PSIO2	Genel müdürümüz, satınalma yöneticimizin çalışmalarını yakından takip eder.	1	2	3	4	5
PSIO3	Genel Müdürümüz, satınalma departmanını diğer bölümlerle eşdeğer önemde görür	1	2	3	4	5
PSRT1	Satınalma departmanımız ileride doğabilecek risk ve belirsizlik içeren durumlara karşı alınacak önlemleri belirler.	1	2	3	4	5
PSRT2	Satınalma departmanımız, uygun fırsatlar olduğunda risk almaya isteklidir	1	2	3	4	5
PSRT3	Satınalma departmanımızın geliştirdiği politikalar, diğer bölüm yöneticileri tarafından uygun görülmese de satınalma departmanımız bu politikaları uygulamakta ısrar eder	1	2	3	4	5

APPENDIX B:

The Strategic Purchasing Questionnaire of Carr and Smeltzer

	Ref. Carr&Smeltzer 1997	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
SPE1	The purchasing function has a formally written long range plan (e.g. A 5-10 year plan)	1	2	3	4	5
SPE2	Purchasing's long range plan includes the kinds of materials or services to be purchased	1	2	3	4	5
SPE3	Purchasing's long range plan includes the various types of relationships to be established with suppliers	1	2	3	4	5
PSKS1	Purchasing professionals have the necessary skills to monitor and interpret the changes in the supplier market/product base	1	2	3	4	5
PSKS2	Purchasing professionals have the necessary skills to help our suppliers improve their processes and products	1	2	3	4	5
PSKS3	Purchasing professionals have the necessary skills to improve the firm's total cost of doing business with the firm's suppliers	1	2	3	4	5
PSRS1	Purchasing has automated purchasing systems to handle routine operations.	1	2	3	4	5
PSRS2	Purchasing can access information related to products	1	2	3	4	5
PSRS3	Purchasing can access information related to production/inventory levels	1	2	3	4	5
PSRS4	Purchasing can access information related to financial/accounting	1	2	3	4	5
PSIO1	Top management of my company emphasizes the purchasing function's strategic role	1	2	3	4	5
PSIO2	In your view, the chief purchasing officer has high visibility with the CEO/president of the firm.	1	2	3	4	5
PSIO3	Purchasing is viewed as being equal to other functions in the firm by the CEO/President	1	2	3	4	5
PSRT1	Purchasing's focus is on longer term issues that involve risk and uncertainty.	1	2	3	4	5
PSRT2	Purchasing is eager to take risks when appropriate opportunities are present	1	2	3	4	5
PSRT3	Purchasing proffessionals pursue company objectives relentlessly even though it may not win favor from fellow managers in other funtions	1	2	3	4	5