

The Perception of Purchasing and
Strategic Purchasing in the Chemical
and Pharmaceutical Industry

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Abstract

Previous literature on purchasing and strategic purchasing fails to address small business and the chemical and pharmaceutical industry. Using previous literature in other industries, this study proposes a model and interview/questionnaire design that addresses the differences between small and large companies and between differing purchasing structure usage. This pilot study examines the current situation of the chemical and pharmaceutical industry's perceptions of purchasing and strategic purchasing. The results indicate that the perception of purchasing and strategic purchasing in chemical and pharmaceuticals is linked to the structure and size of the company.

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Chapter 1: Introduction

The role of purchasing has been in a state of flux for the last few decades. Kraljic, in his 1983 article, argues that purchasing must evolve from a purely functional aspect to a more strategic and relevant driving force. The evolution of purchasing to supply (chain) management has led to the incorporation of additional functional and strategic elements which have in turn influenced the importance of purchasing and supply (chain) management across the firm

Strategic purchasing is currently a buzzword, and it seems a large number of companies, and many man hours are dedicated to this area. Academically, there is also a lot of interest in this area due to its newness, and the managerial implications of findings in this area. However, the research and corporate focus is on big business, in particular, how a large business gains the most from strategic purchasing and from purchasing teams. There is an apparent lack of literature on the plight of small business.

The recommendations and strategies that are developed in this area are ill suited for the small and medium sized companies that do not possess the clout of their larger competitors. So does this mean that the future only holds room for big businesses that hold the purchasing power to negotiate a contract that give them sustainable competitive advantage? How can the smaller firms compete? One possible solution, according to Richard Dines, director of member service, National Cooperative Business Association, is to form cooperatives;

“Economy of scale is everything in controlling cost and getting buying clout. That’s why you’re seeing an explosive growth for purchasing cooperatives for small businesses in the world.”

(“Purchasing co-ops offer small players ways to compete with big companies,” 2005, p. 22).

But this is not always an option for small businesses. If this is the case, and cooperatives aren’t formed, what are the alternatives for small businesses? If they don’t perceive their purchasing as a way to gain competitive advantage, how do they

perceive it? And consequently, do small businesses perceive purchasing and strategic purchasing differently compared with large businesses in the face of such a hostile environment?

1.1 Problem Statement and Sub-questions

It is not possible to address and redress the plight of small business in a study such as this. Rather, the intention is to discover, in part, if smaller businesses are experiencing the industry differently from larger businesses, but also, how different structures within the companies affect this as well. From these questions, the problem statement for this research is derived,

“What is the impact of firm size and the purchasing department’s structure on the perceived importance of purchasing and strategic purchasing in the chemical and pharmaceutical industry?”

This research seeks to address purchasing from a company’s perception, rather than purchasing itself. In order to achieve this, a number of factors need to be identified and discussed first. The following sub-questions will address these factors and provide a foundation for studying purchasing in the chemical and pharmaceutical industry:

- a. What activities fall under the umbrella of purchasing?*
- b. Is purchasing a strategic activity?*
- c. What is strategic purchasing?*
 - a. How does strategic purchasing differ from non-strategic purchasing?*
- d. What is the difference between purchasing as a strategic activity and strategic purchasing (if not otherwise clarified)?*
- e. What structures do companies currently implement with regards to their purchasing function and process?*
- f. How does the purchasing department fit into the corporate hierarchy? Who is responsible for purchasing in different manufacturing sectors and different sized firms?*

- g. Does purchasing and strategic purchasing play a different role between a small company and a large company?*

These questions will be addressed in more depth in Chapter 2. Where answers are not found in literature, these will be addressed as part of the study.

1.2 Contribution and Approach

As stated earlier, there is an apparent lack of literature on the purchasing situation for small companies. What is also apparent is that there also exists a lack of literature on purchasing in chemical and pharmaceutical companies. Purchasing in this industry has been a largely ignored area, both academically and managerially. This study and proposed model hopes to begin filling this gap, both from a purchasing and industry position, but also from an academic and managerial position.

The structure of this study will be as follows. In the next section, a review of the industry and literature is conducted and the propositions are formed. In this section, the majority of the sub-questions will be addressed, with any gaps being filled in through the study itself. Following this, the design of the study will be discussed, with a detailed description of the survey instrument. In chapter 4, the results will be presented and discussed, finishing with a conclusion, limitations and implications of the study.

Chapter 2: Literature Review

2.1 *The Chemical and Pharmaceutical Industry*

The chemical and pharmaceutical industries have been in a state of change for a number of years. While initially slow to join the purchasing wagon and embrace purchasing strategies (Wijdeven J., personal communication, August 16, 2007), in recent years, the demand for purchasing strategy and strategic purchasing has increased (Arminas, 2004; "How chemicals are bought," 2002).

In the '90s, purchasing in the chemical and pharmaceutical industry was focused primarily on cost (Fitzgerald, 1997) and this was reflected in the strategies in use at the time. Consolidation of purchasing was a strong trend, especially towards buyers "*who are proactively trying to reduce cost*" (Hopper, J. in Fitzgerald, 1997, p. 46). From the supplier perspective, there was an expectation that they would better understand their customers' needs and "*have proactive ideas, technological excellence, and idea-sharing... They understand our needs and the process of our internal decision making.*" (Anonymous. in Genna, 1998, p. 34). Besides cost, other concerns for buyers were on-time delivery, involvement in product development, innovativeness, R&D capabilities and knowledgeable sales representatives (Genna, 1998), which also resulted in the shift towards centralised purchasing organisations and an increase in long term contracts over spot buying ("How chemicals are bought," 2002).

The worldwide market for specialty chemicals is currently at \$430 billion, of which, 18% is made up of active pharmaceutical ingredients (APIs) with healthy growth seen in most areas (Graff, 2006). Within this industry, purchasing and supply chain management account for from one- to two-thirds of their operating expense, compared with 10% in personnel costs (Wood & Coeyman, 1995). Current issues facing purchasing in these industries include rising feedstock and energy prices, international vs. domestic sourcing (primarily cost-driven, but with concerns about reliability and quality) and risk management strategies (such as diversifying supplier bases) (Graff, 2006; Hannon, 2006).

In the past, purchasing of chemicals and raw materials was relatively cheap and easy. Most products were on a spot buying basis ("How chemicals are bought,"

2002) which meant that the main driver was cost. Subsequent shifts in the market, for example, crude oil prices, have increased the pressure on purchasing given the volatility in the oil prices since the '80s (<http://www.wtrg.com/prices.htm>, 12th September, 2007). Crude oil is a raw material in the production of a wide variety of chemicals that are used in the chemical and pharmaceutical industry.

In addition to the pressure placed directly on chemical prices, indirect pressure in the European Union is also applied by anti-dumping rights (Arnouts, W. personal communication, 13 August, 2007) which restrict the ability of European buyers to purchase chemicals from foreign companies cheaper than the price offered locally.

The combination of all these factors makes the chemical and pharmaceutical industry an interesting area for purchasing studies. Combined with a gap in the purchasing literature regarding this little researched area, and the author's personal experience in the industry, this industry is a logical choice for this study.

2.2 What is Purchasing?

Historically, purchasing was viewed as an operational department, ignored and underappreciated. It's role in the firm was a passive, non-strategic one, reacting to the needs and demands of others (Ellram & Carr, 1994). The change in purchasing from a reactive to a proactive and strategic contributor to corporate success is a relatively recent development (Ellram & Carr, 1994; Kraljic, 1983).

When addressing purchasing, it is also interesting to look at the expected direction and focus of purchasing. From a predominately price-driven, non-strategic function (Ellram & Carr, 1994), it was expected that dominance in supply chains would increase in importance (Carter, Carter, Monczka, Slaughter, & Swan, 2000). Dominant supply chain companies were expected to use their influence to drive cost cutting, product design and development and supplier sourcing decisions. They also noted that dominant supply companies were likely to be the largest or most technologically advanced industry players. According to the model of purchasing development by Reck and Long (1988), it is apparent that early purchasing was in the passive stage (See Table 2.1).

	Type	Characteristics
Stage 1	Passive	<ul style="list-style-type: none"> • Reactive • Purchasing activities handled outside of purchasing function
Stage 2	Independent	<ul style="list-style-type: none"> • Move towards greater professionalism • Implementation of computerised information systems, supplier programs, etc
Stage 3	Supportive	<ul style="list-style-type: none"> • Viewed as essential function • Supports and strengthens competitive advantage through information dissemination regarding price and availability
Stage 4	Integrative	<ul style="list-style-type: none"> • Major player in competitive success and advantage <ul style="list-style-type: none"> • Valued equally to other functional areas • Time consuming evolutionary process guided by management

Table 2.1 Stages of Purchasing Development

Ref: (Reck & Long, 1988)

Purchasing's evolution to stages 3 and 4 of Reck and Long's (1988) purchasing model has been a recent development. The emergence of strategic purchasing is a relatively new idea that was bandied around in the late 90s. However, the term 'strategic purchasing' and the practise of such were found to be two very different things (Moody, 2001).

Van Weele (2005) defines purchasing as:

“The management of the company's external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for funning, maintaining and managing the company's primary and support activities is secured under the most favourable conditions.”

(p12)

In contrasting this definition with the earlier operational view of purchasing, it is apparent that purchasing encompasses considerably more strategic elements such as sourcing and negotiation. For this reason, this later definition will be used throughout this research.

2.3 Is Purchasing Strategic?

The increase of purchasing's strategic relevance has been widely documented and researched over the last few years (Chen, Paulraj, & Lado, 2004; Ellram & Carr, 1994; Kraljic, 1983; Mol, 2002; Pearson & Gritzmacher, 1990) and also disputed (Ramsey, 2001). This strategic relevance enables companies to realise sustainable competitive advantage over their rivals (Mol, 2002), and thus maximise profit. Porter's (1980 in Mol, 2002) five forces model - "threat of new entrants, bargaining power of buyers, threat of substitute products or services, bargaining power of suppliers and rivalry among existing competitors" (Mol, 2002, p. 44) – is used as an assessment basis for deciding generic strategies that can be followed by a firm. At least three of these forces relate to purchasing.

The financial impact of supply chain management and, more specifically, purchasing is well documented. CPOs are now held financially accountable in the performance of the firm (Ellram & Liu, 2002) and purchasing is becoming more recognised as a rotation point into top management (Pearson & Gritzmacher, 1990). With purchasing's knowledge of supplier networks and capabilities, it is then possible for top management to make informed decisions for the future, rather than reactive decisions (Pearson & Gritzmacher, 1990). This has led to a logical shift from a functional activity to a major contributor to financial stability (Chen et al., 2004; Ellram & Carr, 1994), although ironically, it appears that purchasing does not always perceive its own role in strategic activities (Johnson, Leenders, & Fearon, 1998).

Singhal and Hendricks (2002) showed that by calculating the impact of poor SCM performance on corporate financial position, specifically, on shareholder value, it is possible to quantify the gain from effective supply chain management. Using a sample of published supply chain glitches, as reported in popular financial media, they were able to track the immediate and (to a certain extent) extended financial impact of poor SCM performance. Short term impacts of -7.5% and up to 18.5% in the longer term were found.

2.4 Strategic Purchasing

Before the 70s, purchasing was relatively stable (Pearson & Gritzmacher, 1990) and generally not understood (Ammer, 1974). It wasn't until the early 70s that dynamic changes in the purchasing environment forced changes in purchasing

practises. The change to strategic purchasing saw a shift to a more proactive, integrated approach with a diminishing emphasis on cost reductions (Ellram & Liu, 2002).

2.4.1 Strategic vs. non-Strategic purchasing

The differences between a non-strategic (or operational) approach to purchasing and a strategic approach can be summed up in 7 areas as defined by Pearson and Gritzmacher (1990) and can be seen in Table 2.2.

From this table, it is apparent that strategic purchasing plays an integral role in the strategic management of a firm, whilst an operational approach is much more clerical (Carr & Smeltzer, 2000). The differing perceptions of purchasing as sophisticated and strategic or unsophisticated and clerical vary both within the firm and throughout its supply chain (Ellram & Carr, 1994; Pearson & Gritzmacher, 1990). A perception of sophistication leads to greater cooperation within the firm and with suppliers. In contrast, an unsophisticated function often has an adversarial relationship with its suppliers, often undermined by 'back door selling' where parts are designed such that they can only be sourced from one supplier (Pearson & Gritzmacher, 1990).

This does not mean that a firm that implements strategic purchasing does not also have operational purchases. Following the Kraljic matrix (1983), all items in a firm can be classed as operational (non-critical items or leverage items) or strategic (bottleneck items or strategic items) and each class has its particular procurement focus. A firm may have strategic and yet still require non-strategic items (eg. office supplies) for the business to remain operational.

Characteristics	Operational Approach	Strategic Approach
Organisational Structure	Low visibility Long reporting chain	High visibility Direct reporting
Organisational perception	Isolated Ineffective	Active Effective
Information access	Limited exposure	High access
Information technology	High levels on non-computerised data	Paperless Integrated systems
Decision issues	Clerical function Price driven	Expert analysts Forecasting, sourcing, delivery, supplier
Supplier network and relations	Large number of suppliers Adversarial relationships	Few suppliers Cooperative to alliance
Strategic Management	No input to strategic decision making	In charge of price, availability and supplier strategic issues Critical input to strategic management

Table 2.2. Characteristics of operational and strategic purchasing
ref: (Pearson & Gritzmacher, 1990)

2.4.2 *Strategic Purchasing or purchasing as a strategic activity*

Older purchasing literature indicates that “strategic purchasing” and “purchasing strategy” are used interchangeably (Ellram & Carr, 1994). However, the two terms appear to have some differences (Carr & Smeltzer, 1997). Further, Carr and Smeltzer (1997) define the terms differently:

“...a purchasing strategy relates to the specific actions the purchasing function may take to achieve its objectives.”

“Strategic purchasing refers to the planning process purchasing follows as part of the strategic management process.”

(p200, emphasis in original)

Based upon this, it can be concluded that the majority of strategic purchasing literature reviewed by (Ellram & Carr, 1994) refers to purchasing strategy as opposed to strategic purchasing. Strategic purchasing is described where there exists a link to corporate strategic planning.

2.4.3 Strategic Purchasing

A competitive corporate strategy is directly tied to its corporate culture (Kono, 1994). The best strategy with the wrong culture will not reach targets set in the strategy. The relationship between culture and strategy can be seen in figure 2.1. The shift in perception of purchasing from a functional to a strategic activity allows strategic alignment with a companies purchasing culture, and, consequently, lead to an increased financial performance. When purchasing is recognized as an important strategic function and a contributor to corporate success, or when management considers strategic supplier relationships, purchasing's responsibilities will be increased (Zsidisin & Ellram, 2001). Accordingly, the strategies of purchasing and senior management need to be aligned for the empowerment of purchasing. This purchasing empowerment leads to an increase in strategic supplier relationships, which help towards competitive advantage, as foreseen by Carter et al (2000).

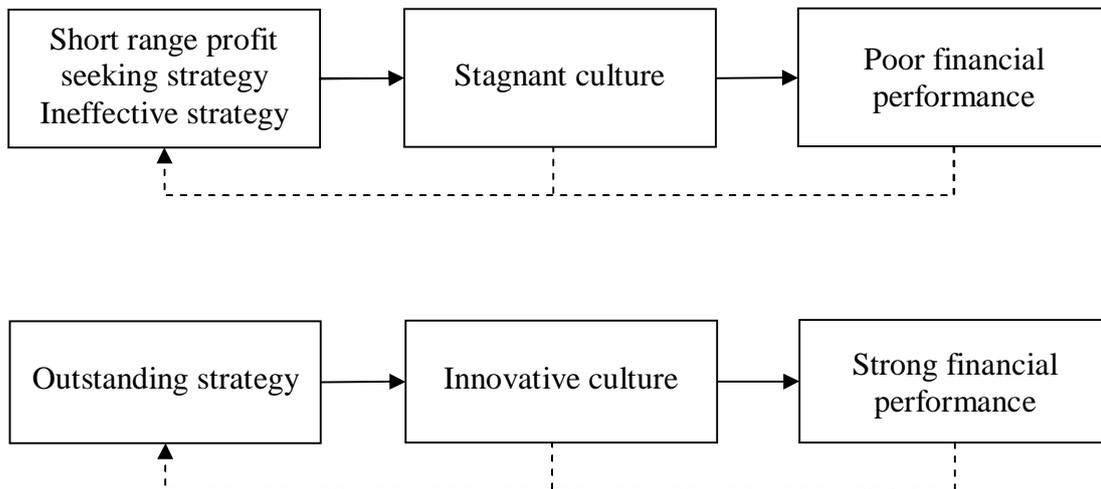


Figure 2.1 Interrelatedness of Strategy and Culture

ref: (Kono, 1994)

Increased strategic purchasing usage is expected to lead to a corresponding increase in the sophistication of tools used in purchasing. The development of supplier scorecards, performance reviews and performance based recognition are examples of tools used nowadays in purchasing (Carr & Pearson, 1999; Kulp & Naryanan, 2004). It can also be expected that communication, cooperation and coordination will increase with respect to suppliers, especially with increased efforts to maintain and manage suppliers and the market (Carr & Pearson, 1999; Carr & Smeltzer, 2000; Johnson et al., 2002; Pearson & Gritzmacher, 1990). Further to this, strategic purchasing is considered critical as it accounts for 50% of production costs (Chen et al., 2004; Ellram & Pearson, 1993).

Early integration of strategic purchasing in the design phase can also have beneficial results (Pearson & Gritzmacher, 1990). The inclusion of purchasing in research and development can help identify potential purchasing bottlenecks and risks prior to the finalised product design which may jeopardise quality, on-time delivery and supply security (Chopra & Meindl, 2007; Pearson & Gritzmacher, 1990).

In the context of this paper, strategic purchasing will be defined as “the process of planning, evaluating, implementing and controlling strategic and operating purchasing decisions” (Carr & Pearson, 1999, p. 499).

2.5 Corporate structuring and hierarchy

2.5.1 Organisational Approach

There are two distinct organizational approaches for use by firms; centralized and decentralized, and there also exists a hybrid structure of the two, usually favouring one side or the other. Factors that favour centralisation include standardisation of products and processes, cost reduction through efficiency and economies of scale and improved levels of knowledge through dedicated staff and resources, while decentralisation allows for increased autonomy and control for business units (Johnson et al., 2006). Advantages of the centralised and decentralised approach can be found in Table 2.4. Johnson et al. (2002) found that purchasing’s role in product and technology planning increased as firms moved from a decentralised to a centralised structure, while any degree of centralisation (hybrid, or centralised) increased purchasing’s role in external systems planning. However, they further found that a centralised approach decreased the strategic role played by purchasing,

contrasting to Moody (2001) who stated that it is difficult for decentralised purchasing functions to manage purchasing and suppliers strategically.

Centralised	Decentralised
Specialisation of buying Policy coordination System coordination Requirements Consolidation Required for some strategic supply initiatives	Improved service Lowered cost Closer relationship between supplier and end user Opportunities for end users to manage TCO

Table 2.3 Advantages of Centralised and Decentralised Approaches

ref: (Johnson, Leenders, & Fearon, 2006)

With advantages to be found in both approaches, a hybrid structure has been found to be successful. The emergence of the hybrid structure allows companies to take advantage of the potential advantages of both approaches as outlined in Table 2.3. Hybrid structures have a tendency to lean in favour of one of the approaches (eg. centralised hybrid (Johnson et al., 2006) or centralised/decentralised (Ellram, Zsidisin, Siferd, & Stanly, 2002; Zsidisin & Ellram, 2001)).

The decision of decentralised, centralised or hybrid purchasing structure may sometimes be a political one, but the advantages of both are evident. The argument that strategic purchasing lends itself to either decentralised or a centralised approach is a disputed one (eg. Johnson et al., 2002; Moody, 2001), but it is expected that there is a link. From this,

P1a. The perceived importance of purchasing is influenced by the organisational approach of the firm

P1b. The perceived importance of strategic purchasing is influenced by the organisational approach of the firm

2.5.2 Purchasing Teams

Seven team forms were found to be generally accepted in the review of previous literature by Johnson et al. (2002) and are ranked in order of their usage in Table 2.4. Cross-functional teams were found to be the team form most commonly employed in the firms investigated which they attribute to the prominence of this form in research literature and so will be elaborated on in more depth.

Team Form	Compromised of
Cross-functional teams	Representatives of at least 3 functional areas
Commodity teams	Purchasing only
Purchasing councils	Purchasing management only
Teams involving suppliers	Purchasing and supplier
Teams involving customers	Purchasing and customers
Supplier councils	Purchasing and key suppliers
Teams involving suppliers and customers	Purchasing, suppliers and customers

Table 2.4 Teams used in purchasing and their component members in order of prevalence as found by (Johnson, Klassen, Leenders, & Fearon, 2002)

The use of cross-functional teams is becoming more common. Cross functional teams in purchasing contain personnel from three or more functional areas with the goal of purchasing or materials management (Johnson et al., 2002). While the use of cross functional teams may remove complete responsibility for some decisions from purchasing, it also allows purchasing to participate in decisions that would normally be outside their scope (Ellram & Pearson, 1993). This increases the influence of purchasing in decision making, visibility and strategic participation.

Small companies often do not have the resources to have a dedicated purchasing team. In the case of very small companies, this position may be one among many responsibilities, or even be managed by the owner of the company on the side. In these cases, the company structure does not include a purchasing team, whereas, in a large company, often there is a dedicated purchasing team (Johnson et al., 2002).

The use of teams in purchasing increases the influence and scope of purchasing's power. The ability to dedicate manpower to purchasing teams often leads to greater strategic participation by purchasing (Ellram & Pearson, 1993), thus,

P2a. The perceived importance of purchasing is influenced by the use of teams in purchasing in the firm

P2b. The perceived importance of strategic purchasing is influenced by the use of teams in purchasing in the firm

2.5.3 Purchasing reporting level and CPO usage

It is becoming more common for the head of purchasing to be vice president or director of the company, over a management rank (Johnson et al., 2006). With the growth in importance and the contribution that purchasing makes towards the firm's success, it follows that the department is given greater responsibility. This also occurs when there is a decision by top management to enter into a strategic alliance with a supplier (Zsidisin & Ellram, 2001).

There has also been a change in the reporting structure of purchasing. In the '70s, the position of the head of purchasing was often considered to be very passive, with critical purchases being made by top management, without purchasing's involvement (Ammer, 1974). Placements were often made with staff of limited purchasing experience, and with disregard for the individuals actual skill set (Carr & Smeltzer, 2000; Johnson et al., 1998). It was projected at the turn of the century that purchasing's influence in corporate affairs would increase, with purchasing experience being desirable for future CEOs (Carter et al., 2000). In many firms, the position of CPO has been created, normally with access to top executives for goal and strategy issues (Johnson et al., 2006; Pearson & Gritzmacher, 1990). Johnson et al (2006) further found an increase over the period 1987 – 2003 of CPO reporting to top 5 executive positions of 44 – 70%. This was accompanied by an increase over the same time period of CPOs carrying the title of vice president (35 – 60%) and a decrease in manager or director categorisation.

Nelson proposed that the only way in which purchasing would become strategic was “in winning a seat in the corporate boardroom as a director”. The reporting level of purchasing reflects the organisational power of purchasing (Pearson & Gritzmacher, 1990) so,

P3a. The perceived importance of purchasing is influenced by the reporting level of purchasing

P3b. The perceived importance of strategic purchasing is influenced by the reporting level of purchasing

2.5.4 Impact of size

The impact on buying power for small companies can be seen through the emergence of purchasing cooperatives ("Purchasing co-ops offer small players ways to compete with big companies," 2005). With “bigger players in all industries controlling larger and larger amounts of market share” ("Purchasing co-ops offer small players ways to compete with big companies," 2005, p. 22), the clout of smaller companies in the market place is being reduced. Buying power is related to the size of the firm (Gulati & Garino, 2000), hence, buying power is high for large companies with high turnover and large purchases, and buying power is lower in small companies with low turnover and small purchases. This reduced buying power influences a small company when trying to negotiate a supply contract. It is possible for small businesses to increase their buying power by working with other firms ("Purchasing co-ops offer small players ways to compete with big companies," 2005), a phenomenon which is also seen in consumer purchasing, for example, in small villages where group buying allows access to luxury items that are out of the reach of individuals (Pralahad & Hammond, 2002) and in the labour market where the size of the firm relative to the labour market gives the employer greater monopsony power (Fligstein & Fernandez, 1988).

The impact of firm size on purchasing is not limited solely to buying power. In the event where there is a glitch in the supply chain, their smaller size can be a

hindrance in their ability to influence and change others in the supply chain in order to facilitate recovery from the glitch (Singhal & Hendricks, 2002).

In the chemical industry, it was found that larger firms led the trend in cost-driven chemical buying, a trend that was soon followed by the smaller firms (Fitzgerald, 1997). However, quality maintained itself as the most important criteria for small firms, compared with cost for larger firms ("How chemicals are bought," 2002). Next to this, larger firms were found to more actively pursue supplies consolidation and shifting inventory costs (through JIT or consignment style purchasing contracts) to suppliers than smaller firms ("Three trends to watch," 2002). The differences between purchasing in small and large firms in the chemical industry are evident in both behaviour and in values and so it follows that their perception on the role of purchasing differs.

The size of a firm can be measured in a number of different ways – monetary, staff numbers, staff distribution, etc (Carr & Smeltzer, 1999; Johnson et al., 2002; Patton, Puto, & King, 2002), and so, to account for this, 3 separate measures will be used here, so the propositions become,

P4a. The perceived importance of purchasing is influenced by the purchase volume of the firm

P4b. The perceived importance of strategic purchasing is influenced by the purchase volume of the firm

P5a. The perceived importance of purchasing is influenced by the number of staff in the firm

P5b. The perceived importance of strategic purchasing is influenced by the number of staff in the firm

P6a. The perceived importance of purchasing is influenced by the proportion of manpower dedicated to purchasing

P6b. The perceived importance of strategic purchasing is influenced by the proportion of manpower dedicated to purchasing

2.6 Concluding Remarks

The chemical and pharmaceutical industry's perception of purchasing is lagging behind that of other industries. The role of purchasing and strategic purchasing within this industry is still in a state of development. With an apparent lack of literature regarding purchasing in the chemical and pharmaceutical industry, this study hopes to contribute towards bridging this gap in the literature.

Purchasing and strategic purchasing involve distinctly different functions, with strategic purchasing playing an integral role in strategic management, right down to completely operational, clerical purchasing. The role of these in the company is subject to the opinions and decisions made by the management of the company.

Purchasing structures that are generally used within companies include its organisational approach, the use of teams, and the hierarchy of the company. The model proposed in this study aims to show how these factors, as well as the size of the firm, affect the perception of purchasing and strategic purchasing. The complete model for the study can be seen in Figure 2.2 featuring purchasing structure and firm size, and how they influence the perceived importance of purchasing and strategic purchasing.

The following section will detail the research design, followed by results and discussion. The study will finish with a conclusion and suggestions for further research.

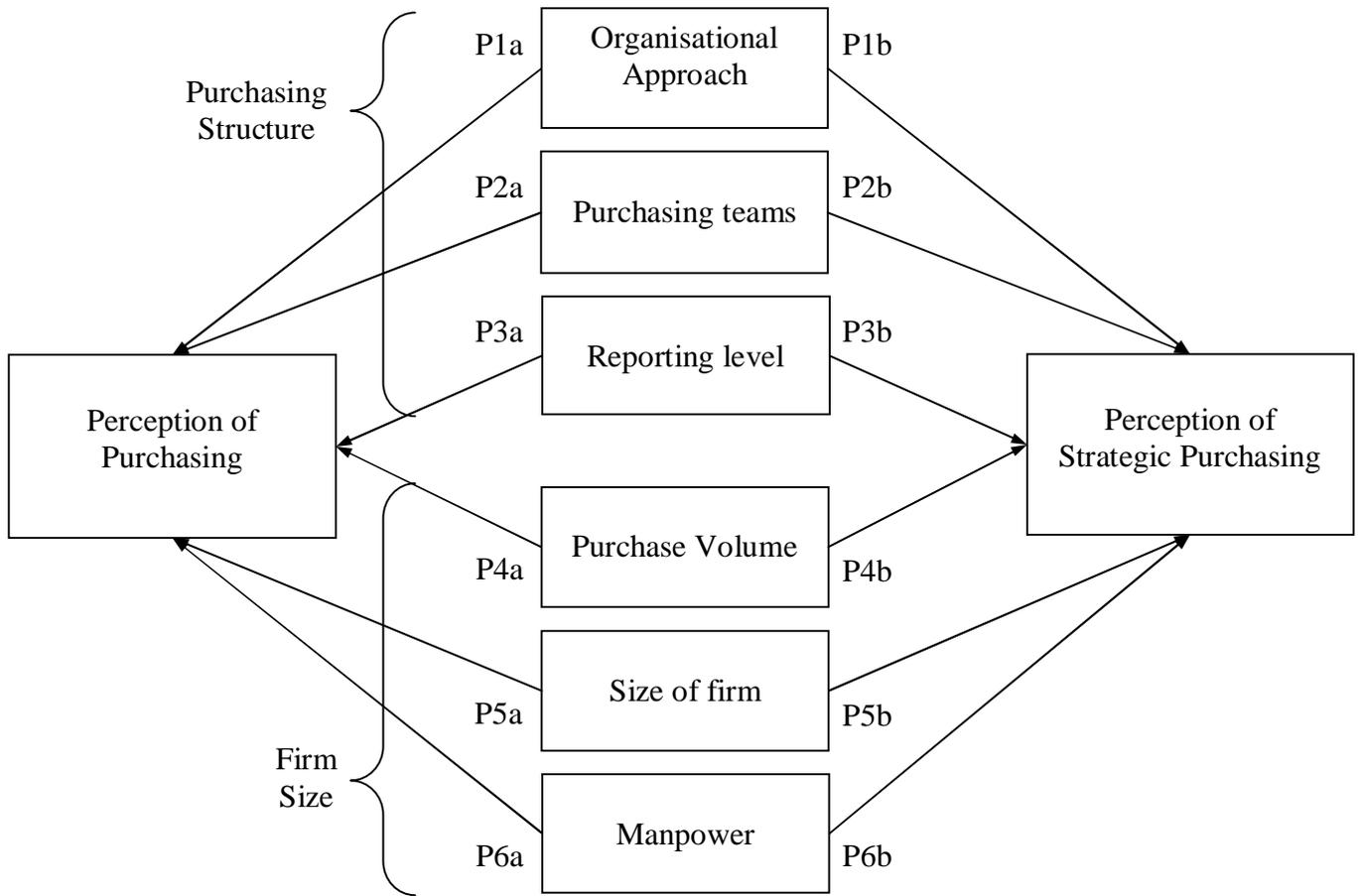


Figure 2.2 Research Model – broken down into Purchasing and Strategic Purchasing, and Purchasing Structure and Firm Size

Chapter 3: Research Design

3.1 Methodology

This study represents the first stage of what would be a far larger, more encompassing study. The chosen method for this stage was a case study, in particular, in-depth interviews. The reasoning behind this was threefold.

First, a case study was chosen because it allows greater understanding of ‘why’ and ‘how’ in a contemporary setting (Yin, 1994). Further to this, the case study allows the study to be conducted *in situ*, so not to distinguish between the phenomenon and the context (Yin, 1994). In-depth interviews was the chosen strategy within case study research for this study.

Second, the details and justifications behind certain strategic decisions, as well as the ability to ask further questions based on a respondents’ answers allows greater insight and understanding of a firm’s strategy and how and why the firm has evolved to where it currently stands. These responses would allow further fine-tuning of the questions for use in a larger study.

Third, accessibility of the industry was limited. Without the support and endorsement of relevant industry bodies, the ability to compile a sufficiently long list of potential candidates for a questionnaire was severely limited. Based upon normal response rates obtained for similar research, the required number of candidates was not obtainable without extensive industry support. The questions however, are easily adaptable for either an interview or a questionnaire style study.

The interview questions were developed through the use of supporting literature that addressed the constructs or similar constructs to those under investigation in this research. The design of the questions was originally in the form of a questionnaire, however, due to limitations in the potential respondent list, the questions were adapted to an interview style and in the process, greater depth was asked for of the respondent.

The interview questions were designed to explore the demographics of the company, but also look into the specific nature of both purchasing and strategic purchasing in the firm. Additional questions based upon the respondents’ replies were asked throughout the interviews to deepen the understanding surrounding the choices

and developments of the company. The core interview questions may be found in Appendix A and will be discussed in greater depth following.

In the demographics section of the questionnaire, the first question is deliberately broad and open-ended. By asking the respondent to describe the company and purchasing within the company, the respondent is not constrained by any previous questions or thoughts. The answer to this question should, by nature, be general, but may also address ideas/thoughts otherwise not covered in other questions. Following this, the company is defined for the purpose of the interview, and any differences to legal definitions are addressed to better understand the subject of the interview. Finally, demographics is completed with an indication of the size of the firm, in terms of purchasing outlay, staff numbers – total and purchasing, and the position of the respondent.

Perception of purchasing in the firm was addressed through a series of questions that were based on the construct used by (Zsidisin & Ellram, 2001) with the addition of another question to address the contact between purchasing and other functional areas of the company. The questions are quite open-ended and leave plenty of scope for further discussion. The construct from Zsidisin and Ellram (2001) was reviewed and validated and so no further validation was carried out prior to its use in this research.

Perception of strategic purchasing in the firm was addressed through a 5 question construct from the work by (Chen et al., 2004). This measure was used by Chen et al after “an extensive review of related literature” (p512), as well as validation through academic and professional avenues and so no further validation was carried out prior to use in this research. The fifth question was removed from the latter interviews due to respondent confusion and lack of any useful response information. The questions in this construct are quite varied and cover staff development, measurements and strategic planning and goals.

Organisational approach is defined as per the work by van Weele (2005) in case there might be confusion as what the terms indicate. Justification of why the current structure is requested as well as how this may have varied in the past, and finally, in the case of a hybrid structure, if there is any system that governs which items are centrally and decentrally purchased. The questions for this section of the

interview are quite close ended, however, justification for decisions regarding organisational approach is also requested.

The teams that are used in this research are as defined in Johnson et al (2002). Following confusion over the definition of the term 'team', the respondents were asked about formally defined teams over general team usage (including informal teams). Justification for these decisions, changes in team usage and the way the teams are structured was also asked.

The final section of the questionnaire addressed reporting level of purchasing in the company. Not only was the hierarchy of purchasing requested, but also how this reporting level compared to other areas of the company, specifically to evaluate if purchasing was seen hierarchically of equal importance as other functional areas. The respondent was also asked for his/her opinion regarding this reporting level, and whether they considered this to be reasonable, especially in regards to differences in reporting level.

Overall, the purpose of the questions is to get an idea of how purchasing and strategic purchasing are used in the company, but also, how they are perceived in the company. Comparisons to other functional areas in terms of use, reporting level and strategic involvement give an idea as to how the companies value different functional areas differently, and this information is then judged based upon the demographic and structural elements of the firm to address the propositions developed earlier in the study.

3.2 Sample

The industry chosen for this study was the chemical and pharmaceutical industry due to the author's previous experience and education in the industry.

Four interviews with firms of varying backgrounds were conducted to obtain a cross section of the chemical and pharmaceutical industries. The companies varied in purchase spend, company size, organisational approach and reporting level, as can be seen in Table 3.1.

Purchase spend and total staff in firm were used as indicators of firm size, while the total number of purchasing staff (FTE) relative to the total staff numbers is indicative of the proportion of labour dedicated to purchasing. From table 3.1, it can

	Purchase Spend (euros)	Purchasing Staff / Total Staff	Reporting Level	Organisational Approach	Industry
CompanyA	100 mln +	80 / 5500	BoD	Hybrid	Animal vaccines and pharmaceuticals
CompanyB	25 mln	4 / 28	CEO	Decentralised	Chemical trading
CompanyC	260 mln +	~50 / 2200	BoD	Hybrid	Chemical refinement
CompanyD	80 – 90 mln	7 / 800	BoD	Hybrid	Specialty pharmaceuticals

Table 3.1 Demographics of Companies.
 mln = million,
 BoD = Board of Directors

be seen that companies exhibiting variance in purchase spend and staff numbers (total and purchasing) were covered. Total purchase spend incorporated all purchasing within the firm as defined for the interview, which in most regards represented the total legal holding of the firm and includes both direct spend (chemicals, intermediates and other production related materials) and indirect (lease cars, buildings, paper, and all other non production related materials). Factors related to purchasing organisation and structure (organisational approach and reporting level) exhibit limited variance.

The interviewees were all management staff in purchasing, with the exception of Company B, who was represented by the CEO due to the decentralised nature of the purchasing function and the lack of a central manager for purchasing. Company A was represented by the heads of global purchasing and global supply chain, while Company C and Company D were represented by the Manager, Sourcing and Contracting and the Director, API Materials Management respectively (API refers to Active Pharmaceutical Ingredients, for example, penicillins, ibuprofen, etc).

3.3 *Research Execution*

The interviews were arranged through personal communication and chosen through personal recommendations by relevant industry professionals. Initial contact was made with potential respondents by email detailing the background for the author, the research purpose, and the manner in which the interviews would be conducted. Potential respondents were subsequently contacted by phone to arrange the interviews. Primary interview questions were provided to the respondents prior to the interview upon request.

All interviews were conducted *in situ* at the respondents' offices throughout the region (+/- 2.5 hours travel time, ex. Maastricht, the Netherlands). With the respondents' permission, all interviews were recorded to prevent interruption of the interview and to preserve a record of what transpired. Transcripts of the interviews were made and sent to the respondents for approval. Respondents were informed prior to the interview that data from the transcripts would only be used after the respondents reviewed and approved the transcripts of the interviews.

The transcripts that were made from the interviews were interpreted qualitatively. No statistical analysis was possible due to the small sample size. Information on demographics and structures was relatively easily obtained from the data, but constructs like 'perception of purchasing' and 'perception of strategic purchasing' were harder to interpret. These abstract constructs were ranked through subjective scaling of the responses, and the degree of use was made on comparison with what was found in literature about purchasing.

In the following section, the results of the interviews will be presented and discussed, with possible industry ramifications. Finally, a conclusion, limitations and recommendations will complete the work.

Chapter 4: Results and Discussion

4.1 The Industries

The importance of purchasing and strategic purchasing in the chemical and pharmaceutical industry has not enjoyed the status it has received from other industries (Wijdeven J., personal communication, August 16, 2007) and while purchasing is being viewed with increasing importance, it has a long way to go before it reaches the position enjoyed by purchasing in other industries. According to the Head of Global Supply Chain in CompanyA,

“the pharmaceutical industry is lagging behind there because we still do more in-house than other industries, if you compare to an electronics or a car industry, so much more of our value is generated in-house and our profitability is still higher as well and that means there is less of a pressure...”

This view is also one shared by others in the industry. According to a partner in Andersen Consulting, *“Chemical companies are playing catch-up to other industries in some initiatives such as auto reordering and invoiceless purchasing.”* (Aalbrege, J. In Wood & Coeyman, 1995, pp. 22-25) and at Gemini Consulting *“In general, purchasers in the chemical industry have lagged other industries in many areas...”* (Tang, S. S., In Wood & Coeyman, 1995, pp. 22-25). The initiatives mentioned by Aalbrege are amongst those mentioned as being of a strategic approach to purchasing (Pearson & Gritzmacher, 1990).

The justification behind why purchasing in chemical and pharmaceutical companies is behind other industries is internal value-added. The concept of value-added in the chemical and pharmaceutical industry is an important consideration. In the biologicals department of CompanyA, the cost of raw materials makes up such a small fraction of the final product cost that the relevance of purchasing in that area is reduced, and hence, the considerations in purchasing are not as pronounced as in other companies. This ultimately leads to a decreased perception of the company regarding its purchasing, and so this is then reflected throughout the organisation. It is interesting that biologicals is the only department in the company which has this

position, yet purchasing generally is not viewed as highly as it could, possibly as a result of the biologicals purchasing's poor standing in the company.

When addressing the approach of the chemical and pharmaceutical industries generally, using the areas as defined by Pearson and Gritzmacher (1990), and as laid out in Table 2.2, the characteristics shown by the industry indicate an industry attempting to improve the strategic nature of purchasing. However, when viewed as per the Reck and Long (1988) stages model, the lack of integration and respect with/from other functional areas and management have it still as a stage 2, independent type, rather than the higher stages it enjoys in other industries.

If purchasing is viewed from a strategic, cultural angle, as detailed in Figure 2.1, it can be seen that there is not always an alignment in purchasing culture and this results in a less strategic view of the purchasing function and a more stagnant purchasing culture. In contrast to what was found by Kono (1994), this stagnant purchasing culture did not lead to poor financial performance, or the search for short range profit. The possible explanation for this goes back again to the value-added in-house as discussed earlier. With such a low initial cost of materials, there is no requirement for an innovative purchasing culture to provide financial returns. This trend is one that is changing. With increased pressure on prices, and on material costs, as detailed earlier, the need for innovative strategy is increased.

In all companies interviewed, there had been a recent shift in measurements in purchasing, from a primarily unstructured approach, with measurements relating to stock levels, cost and delivery, to more sophisticated tools including scorecards, performance related KPIs and so on, with a decreasing emphasis on cost, and increasingly looking at customer satisfaction, quality, reliability and TCO, measurements highlighted as being important in the literature (Hannon, 2006; "Three trends to watch," 2002; Wood & Coeyman, 1995).

In the article "Three trends to watch" (2002), the opinion is that the tools available have led to this shift in the way purchasing is measured. The availability of new, more sophisticated tools has led to a revolution in the way purchasing professionals in chemical and pharmaceutical companies are viewing their suppliers. Two of the companies implemented supplier scorecards, and two implemented specialised software to conduct measurements, one in the area of supply security, the

other in both supply and sales scorecards. The emergence of scorecards and other specialised software, all of which was implemented in the last 18 months, in the companies interviewed, provides evidence of the emergence of new tools in purchasing measurements.

4.2 Organisational Approach

At the turn of the century, chemical and pharmaceutical companies favoured a centralised purchasing structure, with the expectation of greater centralisation in the future, with only a minority of companies seeking to move to a more decentralised purchasing structure ("Wanted: formalized center-led sourcing processes," 2002).

Of the 4 companies interviewed, only one (CompanyB) featured a decentralised structure, however, this was due to the flat hierarchical structure in place and the organisation of purchasing within each department. An attempt at a centralised purchasing structure was made, however this failed due to the specialised nature of some products and the specialisation of the purchasing staff towards the products they purchased. Within this company, purchasing's involvement in strategy, and hence the use of strategic purchasing is limited, due to the very operational nature of purchasing in the company. In fact, the majority of new suppliers and negotiations with suppliers are conducted by product and account managers, and the role of purchasing within the company is operationalised to stock maintenance and ordering.

Comparatively, the three other companies employed hybrid structures, with a strong lean towards centre-led purchasing, implemented locally, on a site-by-site basis. The strategic nature of purchasing and the perception of purchasing as an important functional area was stronger in these three companies, although still not as sophisticated as that seen in other industries. While purchasing's role in strategic development was seen, the alignment of purchasing strategy and company strategy were not always aligned:

"...if you look at our strategic planning departments here within CompanyC Europe, there is not a sub department developing strategies for our markets that is up to us. ...business organisation, they make business plans up to 5 years ahead, make market prognosis, whatever. Then we have on top of that a strategic department that looks 10 years further down. So they go for the real long term.

Sourcing and contracting, we also look in the future, 5 years ahead, but that's it. We don't go any further. That's the difference."

Manager, Sourcing and Contracting, CompanyC

Industry-wide, this trend can be seen where hybrid and centralised structures are favoured by firms who see the strategic potential of purchasing or value its contribution, either strategic or otherwise, highly ("How chemicals are bought," 2002; "Wanted: formalized center-led sourcing processes," 2002). At the other end of the spectrum, companies exhibiting highly operationalised purchasing departments do not currently perceive the importance of purchasing, or the value of strategic purchasing, to the same extent as other companies, thus providing support for propositions **P1a** and **P1b**.

Contrary to expectations, the firm implementing a decentralised structure was the smallest company, with a purchasing group of 4 people. It was expected that such a small group would work centrally, however, with the structure that was implemented throughout the company, and the specialised products that were handled by the purchasing or 'sales support' staff, in this company, a decentralised approach was found to be most suitable for the company. An attempt was made by the company to implement a centralised purchasing approach, but this was unsuccessful due to the aforementioned reasons, and so a return to a decentralised approach was made.

The literature was split as to what role organisational structure played on strategic purchasing. Johnson et al. (2002) found that a centralised approach decreased purchasing's role in corporate strategy while Moody (2001) found that decentralised purchasing leads to the purchasing function's ability to strategically manage itself and its suppliers. The results of this study support the findings of Moody (2001), but did not refute the findings of Johnson et al. (2002). The decentralised company in this study had the most operational view of purchasing, with the majority of purchasing's major decisions handled by account and category managers. None of the companies interviewed exhibited a fully centralised organisational approach.

When viewing the company as per Johnson et al (2006), the factors within CompanyB lend strongly to the decentralised approach (e.g., increased autonomy and control for business units, improved service, closer relationship with supplier, and so on). The remaining companies show a mix of factors related to both centralised and

decentralised purchasing organisational structures as found in literature concerning hybrid organisations (Ellram et al., 2002; Johnson et al., 2006; Zsidisin & Ellram, 2001).

4.3 Purchasing Teams

Team usage in purchasing varied greatly within the 4 companies interviewed for this research. Even the very definition of “team” was interpreted differently. For some, “team” refers to any activities involving more than one person, so the act of communication implies teamwork, and consequently, a team. Whereas for others, “team” is a formally defined construct, one with rules and regulations, and where the burden of work is shared and documented extensively. It is no wonder that the implementation of teams in this environment showed such variance, even in such a small sample size.

The teams that were used ranged from general cross-functional teams, where purchasing’s role was very much operational, to the use of ‘business teams’; cross-functional teams comprised of senior level staff, with some use of supplier or purchasing teams in between. In CompanyA, the formal use of teams is still very much in the development phase. The interactions of different departments is leading towards the evolving of teams, however, this process was still in its infancy at the time of the interview. Within other areas of this company however, there is some usage of cross-functional teams in the research and development of new materials.

When looking at how the role of teams affects the perception of purchasing, it is apparent that the higher level teams, those involving senior level staff, are focused more on the strategic aspect of the business, and purchasing’s prominence in them leads to the conclusion that this particular team usage reflects the importance placed on both the purchasing function and on strategic purchasing in the company.

Companies employing basic cross-functional teams (with operational input from purchasing) or where team usage is still evolving show less regard for purchasing’s value to the organisation, and also less strategic planning for purchasing.

Ellram and Pearson (1993) found that team usage complements the newer purchasing strategies including JIT and total quality control. This result is supported by the results of this study. CompanyC, which showed a higher sophistication in its

purchasing function, implementing sourcing and contracting strategies, also implemented the most varied and sophisticated team structures. Johnson et al. (2002) proposed that team usage was linked to the organisational structure of a firm, although this was not supported in their research. In contrast, it was found in this study that the centralised hybrid (Johnson et al., 2006) exhibited higher team usage than the decentralised hybrid and the decentralised purchasing function, although the significance of this result is not indicative.

Historically, and still quite recently, purchasing has not been extensively involved in teams in the chemical and pharmaceutical industry (Hannon, 2005; Lepree, 1995). In research conducted by Purchasing, it was found that in the majority of companies, little, or no contact, was made between purchasing and research and design teams (Hannon, 2005), however, this trend appears to be changing, albeit slowly.

The companies represented in this study exhibit greater team usage, and greater appreciation for purchasing and strategic purchasing, than the majority of those surveyed by Purchasing (Hannon, 2005). CompanyD, a research and development rich company involves purchasing from day 1 in its new product development, as well as in strategic decision making:

“...we are from day 1 in the project, we are involved ..., from day 1 through all stages of development, we are involved, from idea to commercial launch and there after, we are involved in sourcing the intermediates.”

“I think the fact that the purchasing group ..., is part of strategic business development meetings, and is a member of the business development team. I think that there is a clear indication the importance that we pay to that area of the business.”

Director API, Materials Management, CompanyD

The use of teams in companies was also linked to the size of the firm. Johnson et al. (2002) highlight the plight of small firms that are unable to create dedicated

purchasing teams due to a lack of manpower, to the point where purchasing may become one of many responsibilities of an individual within the company. Ellram and Pearson (1993) found greater strategic participation follows the ability to create purchasing teams in the firm. This was in line with the companies involved in this study.

CompanyB, with purchasing staff totalling 4, abandoned its attempt at centralisation, involving purchasing team usage, due to the 'specialised' nature of its product range, the nature of its relationships with suppliers and the connection staff have with the area they deal with. CompanyC demonstrated the highest formalisation of team usage and was the largest purchaser, with the highest concentration of purchasing staff (after CompanyB, which was too small for this measure to be significant).

From involvement in research and development, to input in business development, the link between team usage and perceived importance of purchasing and strategic purchasing is evident, in support of propositions **P2a** and **P2b**.

4.4 Purchasing reporting level and CPO usage

The reporting level of purchasing in chemical companies showed little variance, and none of the companies reported purchasing as being on the board of directors. Consequently, none of the companies had the head of purchasing with the designation, CPO, in fact, one of the companies did not have a head of purchasing at all. Despite this, the reporting level of purchasing did not differ greatly to that of other functional areas, with the obvious exception of the company lacking a purchasing head.

The respectability of purchasing as a career choice, and the potential of moving from its ranks into upper management were not apparent in any of the four companies that were interviewed for this study. The responses of the interviewees regarding purchasing as a top management rotation can be seen in Table 4.1. All but one of the respondents were senior purchasing professionals, and the consensus was that purchasing was a 'dead-end' and while purchasing professionals were quite consistently regarded as field experts, they were not considered for top management.

In spite of the slightly negative impression given of purchasing, there was also the understanding that purchasing was in a state of change. Moody (2001) writes that the way for purchasing to gain greater influence is to gain a place in the corporate boardroom. While this was not seen in any of the companies, it was plainly stated that purchasing was increasing in prominence in the companies, according to the Manager, Sourcing and Contracting of CompanyC *“Supply chain management is considered more important than it was in the past, it is organised also at a higher level in the organisation”*. The creation of a position in the board of directors would be accompanied by an increase in supply chain management’s responsibilities in the firm (Johnson et al., 2006; Pearson & Gritzmacher, 1990). Given the direction of evolution of purchasing’s position in the companies interviewed and the current, and conjectured role of purchasing in the firm, partial support for propositions **P3a** and **P3b** was found.

Company	Interviewee response
CompanyA	<i>“It’s not for improving your career, it’s the contrary, it’s the requirements you have and you have to cope with, are quite demanding in your training and that’s why you’re probably more like an expert there. So it’s more like a niche rather than the general manager or predestined to become the general manager.”</i>
CompanyB	<i>“It’s considered to be a very important job, but up till now we have seen very few people moving through that kind of position and then moving up to a higher level.”</i>
CompanyC	<i>“It’s not yet the fully respected career move, historically, careers go through sales positions, business positions, there is a tendency that also, that purchasing is more respected in that way, we still have a way to go.”</i>
CompanyD	<i>“Not more people are coming through purchasing into higher management, but what you see is that purchasing is getting more and more into higher management issues as well. So that’s slightly changing.”</i>

Table 4.1 Interviewee responses on purchasing as a top management job rotation

4.5 Firm Size

Three measures were implemented to measure firm size and are presented in table 4.2. As can be seen in Table 4.2, purchase volume and staff numbers showed a high level of variability and a similar magnitude and so will be discussed together. The proportion of manpower dedicated to purchasing also showed high levels of variability, with a range of 1:7 – 1:114. However, the significance of CompanyB’s result of 1:7 is in question due to vast difference in size compared to the other companies, and so proportion of manpower will be discussed separately, without CompanyB’s results.

Company	Purchase Volume (million euros)	Number of staff	Proportion of manpower	
			Raw	Ratio
CompanyA	100 +	5500	80 / 5500	1:69
CompanyB	25	28	4 / 28	1:7*
CompanyC	260 +	2200	50 / 2200	1:44
CompanyD	80 – 90	800	7 / 800	1:114

Table 4.2 Three measures of firm size – purchase volume, staff numbers, and proportion of manpower dedicated to purchasing

*the small size of CompanyB makes this ratio not significant

4.5.1 Purchase Volume and Staff Numbers

As stated previously, high variability was seen in these measures. This coincided with the perception of purchasing as seen in each of the companies. CompanyB, with a purchasing outlay of 25 million euros p.a. and total company size of 28 employees, showed little strategic intent in purchasing, and purchasing’s key roles were not controlled by itself,

“the strategy that needs to be clear for everybody, but which is much more important for the sales side than for the purchasing side, because then purchasing will mainly just act on what information they get from sales and from management.”

CEO, CompanyB

This contrasts with CompanyA and CompanyC, for who the strategic involvement of purchasing was seen by involvement in corporate strategy writing and 5 year sourcing strategies, respectively. In the middle, CompanyD showed some strategic intent, but was very hierarchical in this regard,

“...the higher level, the more strategic, the lower level is more the executing level, they are less strategic, more operational.”

Director, API Materials Management, CompanyD

4.5.2 *Purchasing Manpower*

The utilisation of personnel in supply chain management and purchasing differed within the three companies. CompanyA and CompanyC, who both had a higher proportion of manpower, and absolute number in purchasing, showed greater sophistication and strategy in their firms. Both these companies implemented departments within purchasing and more consideration for strategy in purchasing. According to the Manager, Sourcing and Contracting for CompanyC,

“...there is a big supply chain management, global supply chain management study/improvement project going on right now, how CompanyC should organise its supply chain globally to make the growth ambitions possible.”

This acknowledgement of purchasing's role in the future and especially, at a strategic level, shows how larger firms are placing more importance on purchasing and strategic purchasing in the company.

4.5.3 *Size of Firm and the Industry*

In a study done by Purchasing magazine, differences in purchasing behaviour were found between large and small companies. The most important criteria for purchasing was found to be different (cost vs. quality), as well as the use of e-procurement, e-sourcing and inventory cost responsibility ("How chemicals are bought," 2002; "Three trends to watch," 2002).

In earlier work, a significant link was found between firm size and efficiency in innovation. Smaller firms were found to receive a lower rate of return on research and development work than larger firms (Link, 1980) or, put another way,

development of new chemicals/APIs is more likely by a given R&D team when placed in a larger firm (Vernon & Gusen, 1974). This trend was explained by the greater amount of resources, monetary and otherwise, that are available to personnel of larger companies.

It follows from this earlier work that with the shift to importance of purchasing, combined with the recent findings regarding purchasing and the size of the firm, coupled with the responses of the companies, that purchasing and strategic purchasing is more perceived as of greater importance in larger companies, in comparison to smaller companies, inline with propositions **P4a – P6a**.

The impact of size on the strategic nature of the company is reflected throughout the organisation. Team usage was found to be linked to firm size (Johnson et al., 2002), and this linkage was justified through the inability of small companies to create purchasing teams due to the lack of resources.

The impact of size may also be attributable to the sector within chemicals and pharmaceuticals. Of the companies interviewed, 3 were producers, and the 4th (CompanyB) was a distributor. The manpower requirements in production are significantly higher than that required in distribution, especially if logistic services are commissioned by third party providers. The additional staff within producers and the differing demands required of their purchasing may lead to this difference seen between these companies.

Chapter 5: Conclusions

The need for change in the chemical and pharmaceutical industry is apparent. The consensus appears to be that the chemical and pharmaceutical industry is lagging behind that of other industries. *“Our experience indicates that many chemical companies are laggards in the management of their supply chains... The focus given by management often pales in comparison to the attention given to manufacturing.”* (Gupta, V. In Wood & Coeyman, 1995, pp. 22 - 25). And while, according to the companies interviewed for this study, this view is changing, the perception of purchasing still lags behind that of other functional areas, *“I think production is much more important since there you make sure that the products are provided so I rank that higher than purchasing”* Head of Global Purchasing, CompanyA.

This study aimed to show the interrelatedness of perceptions of purchasing and strategic purchasing with demographics of the firm; firm size, organisational structure, team usage and reporting level of purchasing, and to propose a model and a means to research this. At least partial support was found for all of the propositions proposed using the proposed model and means.

5.1 Managerial Implications

From a managerial perspective, this study shows how chemical and pharmaceutical companies perceive and use their purchasing, and how different their views are compared to other industries. One of the major points on which all companies agreed was how much the chemical and pharmaceutical industries are lagging behind in comparison to other industries in their perception, and use, of purchasing and strategic purchasing, something that slowly is being addressed, but needs to be confronted with greater urgency.

Perhaps more importantly, the plight of small companies is highlighted. The perception of purchasing in small companies in the chemical and pharmaceutical industries is very operational, with little participation in strategic planning, and no voice in the management and direction of the company. In comparison to other industries, and larger companies in their own industries, who are striving to extract greater advantage from their supply chain, small companies are losing ground, and

will find it increasingly difficult to compete in today's already highly competitive environment.

Finally, this study highlights some of the potential bottlenecks that may exist for management when trying to address the strategic position of purchasing in the firm. From the results of this pilot study, small firms, firms implementing a decentralised approach to purchasing, firms with poor team implementation and firms whose purchasing function has a lower relative reporting level may experience difficulty with implementing strategic purchasing. The perception of purchasing and strategic purchasing in these firms is not as high as in other firms and so this would need to be addressed before purchasing would be able to be involved further in corporate strategy.

5.2 Theoretical Implications

The theoretical implications of this study are multiple.

In addition to having implications for management, theoretically, it is also of interest that purchasing sophistication and use in chemical and pharmaceutical companies is trailing that of other industries.

The size of a company in the chemical and pharmaceutical industry plays an important role in how a company views and uses its purchasing. As found in other industry studies, the size of the company has effects on inventory costs, supplier consolidation, and implementation of e-procurement and e-sourcing ("How chemicals are bought," 2002; "Three trends to watch," 2002). This study adds to the literature related to chemical and pharmaceutical companies' behaviour related to size of the company.

This study addresses an area that is lacking in the current academic literature in purchasing in two ways. First, it addresses an industry that is large, well developed, yet unsophisticated in its purchasing techniques. This industry is also underrepresented in literature regarding purchasing, which is unusual given the unique nature of the position of purchasing in the industry. Second, it proposes and tests a model and an interview/questionnaire that would help address this deficiency in the literature.

5.3 Limitations and Suggestions for Further Research

There are a number of limitations regarding this study. First of all, the size of the sample and the limited geographical distribution make generalisation of these results difficult. Whilst supported by studies in other industries, or studies of a similar nature in the same industry, further, larger scale studies are needed to study this area more effectively. This being only a pilot study in the area, there is scope for this design to be used more extensively either as used here in an interview form, or alternatively, converted into a questionnaire form.

Second, this study does not address differences between company types within the industry. Despite the small size of the chemical and pharmaceutical industry in the Netherlands, there still are a large variety of company types in the industry. Further studies may wish to factor in these differences in their design.

Third, the construct of firm size is very static. Firms in this are classed as large or small, regardless of what this measure is based on, be it purchasing volume or staff number, relative or absolute. It is suggested that a further study in this direction choose a more dynamic measure incorporating multiple facets to more accurately portray the size of the firm. If this further study was conducted as a questionnaire with a high response rate, a statistical analysis on a sliding scale may produce interesting results.

Finally, this study only highlights the issues facing the industry and the demographics within the industry. Further studies may wish to specifically look at strategies that may be advantageous for companies within the industry to better manage their purchasing, irrespective of the size of the company.

As a final suggestion for further research, quite unrelated to the content of this study was a point mentioned by one of the interviewees. All the interviewees mentioned the potential increased role and perception of purchasing in the future. One of the reasons that was given for this by the interviewee from CompanyC was the increasing scarcity on logistics providers. A scarcity he attributed to increased demand due to new products requiring transportation, as well as a decrease in the availability, in part due to increased pressure on fuel prices. Research into the current state and demand for logistics providers, the pressure placed on them and the future direction of the industry would be of great interest.

This research only scratches the surface when it comes to the way in which chemical and pharmaceutical companies perceive their purchasing and strategic purchasing functions. However, this research does shed some light on the industry and the plight of companies, large and small, within it, and proposes a model and design to conduct studies in this area. Further research should help develop strategies and practises that will help address this issue.

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Appendix A – Interview Questions

If your company is part of another company and for the purposes of this interview, please use your own definition for your company. Your definition does not necessarily have to be the same as the legal definition of your company.

Demographics

1. Can you describe your purchasing function.
2. What falls under your definition of your company?
3. What is (if any) the difference between how you have defined your company and how it is legally defined?
4. What is the total volume purchased by your company?
 - < €1 million
 - €1 million – €5 million
 - €5 million - €10 million
 - €10 million – €25 million
 - €25 million - €50 million
 - €50 million - €100 million
 - > €100 million
5. How many FTE positions are dedicated to purchasing in your company?
6. Are there staff dedicated to purchasing or do staff fulfil multiple roles?
7. How many staff are in your company?
8. What is your position in your company?

Purchasing

1. What departments have contact with purchasing and how do they perceive it?
2. Is purchasing an important job rotation for those destined for top management?
3. What importance does top management place on the purchasing function?
4. What importance do other functional areas within the organisation place on the purchasing function?

Strategic Purchasing

1. What is purchasing's involvement in strategic planning? Is this level of involvement satisfactory? Why/why not?
2. Is the purchasing function aware of the firm's strategic goals?
3. What measurements are currently used to measure purchasing performance in the firm? Do these measurements differ to what has been used previously? Why/why not?
4. Does the development process for purchasing professionals address strategic elements?
5. What roles does the purchasing department play with regards to the functional aspect of purchasing? How does the purchasing department fulfil these roles?*

* Question removed after initial interviews due to confusion.

Organisational Approach

A **centralised purchasing structure** is where “a central purchasing department can be found where corporate contracting specialists operate at the strategic and tactical level... contracts with suppliers are prepared and negotiated centrally”

A **decentralized purchasing structure** exists where “the management of the business unit is fully responsible for all its purchasing activities.”

(van Weele, 2005, p. 234)

A **hybrid structure** uses elements of both, but may tend to one side or the other.

1. What organisational approach does your company implement? Why?
2. How has the organisational approach changed in the past?
3. If a hybrid structure is used, what areas are centralised and decentralised?

Team Usage

The following purchasing team forms were identified as the main forms seen in purchasing.

- Cross functional teams (involving personnel from at least 3 different departments or functional areas)
 - Commodity teams (purchasing personnel only)
 - Purchasing Councils (purchasing managers only)
 - Teams involving supplier(s)
 - Teams involving customer(s)
 - Supplier councils (primarily key suppliers)
 - Teams involving both supplier(s) and customer(s)
1. Which, if any, does your company use? Why?
 2. How are they structured?
 3. Have the purchasing team forms changed in the past? Why/why not?

Reporting Level

1. What is the reporting level of purchasing?
2. How does the reporting level of purchasing compare to other key functions?
3. If there is a difference in reporting level, why has this occurred? Do you agree with this difference?