



How Multinational Corporation Can Promote Sustainability with CSR and SHE in Purchasing

- The Case of AstraZeneca R&D, Lund in Sweden

By
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ABSTRACT

Purchasing by private large corporations put forth significant environmental impact in their investments of supplies and services. An increasing number of private large firms are adopting and implementing CSR (social responsibility) framework and a number of underlying policies and principles, such as SHE (safety, health, and environment).

The purpose of this thesis is to examine how private multinational corporations could implement CSR and SHE considerations in their purchasing process. The research has been conducted at a large pharmaceutical company, AstraZeneca R&D site in Lund, Sweden, to obtain the objective for this thesis. The findings suggest actions such as further training of buyers in regards to CSR/SHE, introduction of CSR/SHE clauses in contracts, increased focus on strategic sourcing of key suppliers including CSR/SHE criteria, and the development of an integrated purchasing-supply management system added by CSR and SHE requirements, which is monitored by the purchasing department in close collaboration with specialized assistance from SHE management.

This thesis also discusses the issue of that large firms of the private sector are promoting sustainable development through “greening” the market, by introducing CSR and SHE into their purchasing activities, and it discussed the business benefits the private sector large firms are gaining, in terms of financial savings, market opportunities, brand image improvement, etc, by implementing these concerns into their businesses.

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ABBREVIATIONS

CSR	Corporate Social Responsibility
DJGI	Dow Jones Global Index
DJSGI	Dow Jones Sustainability Group Index
EMAS	Eco-Management and Audit Scheme
EPA	Environmental Protection Agency
EU	European Union
GUN	Green Purchasing Network
GRI	Global Reporting Initiative
IPP	Integrated Product Policy Approach
ISO	International Organization for Standardization
LCA	Life Cycle Analysis
LCI	Life Cycle Impact
LIFE	Financial Instrument for the Environment
NAPM	National Association of Purchasing Management
NGO	Non Governmental Organizations
OECD	Organization for Economic Cooperation and Development
PPP	Polluter Pays Principle
R&D	Research and Development
RONA	Return of Net Assets
SHE	Safety Health and Environment
UK	United Kingdom
UNDP	United Nations Development Program
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development

1 INTRODUCTION

The identification and minimization of the environmental burdens of production is now normal working practice for many organizations. However, the environmental effects associated with purchasing and consumption are less widely recognized, despite representing a fundamental aspect of the sustainable development agenda.

Sustainable development is a broad policy concept and a basic value that is rapidly gaining legitimacy in business practices. Sustainable development is development that meets the needs of the present without endangering the ability of future generations to meet their own needs (WCED, 1987). This strives at achieving a society that is ecologically sustainable, economically solvent, and socially responsible.

Government purchasing decisions are often examined within a broader context that includes political and parliamentary policy objectives. Government purchasing programs, for example, can be used to promote the purchase of products manufactured in one country, to support women- and minority-owned businesses, to protect small business interests, to assist the less fortunate, to revitalize or stimulate growth in selected industries, and to encourage research and development in areas important to national interests. As a result, incorporating environmental concerns into government purchasing decisions is a natural extension of the government's role in protecting the nation's environment, and promoting sustainable development. (US-EPA, 1999)

Traditionally, private sector purchasing decisions are not made to promote social, environmental, or political objectives. While public and private sector purchasing are similar in many ways, an important distinction between them is the role each plays in the supply and demand dynamic of the market. The government typically buys finished products – products that are designed and manufactured by private sector companies. Private sector companies, however, are both buyers *and* suppliers of products and services. As buyers, both the government and the private industry are concerned with product price, performance, and availability. As suppliers, however, companies' purchasing decisions also are determined by their ability to sell the products they manufacture and the services they provide. To prosper and earn a reasonable profit, private sector companies must sell quality goods at reasonable prices. As a result, before making a purchasing decision, companies typically examine only a product's cost, performance, availability and any impact on future profits – concerns that are rarely part of the government's purchasing equation. (US-EPA, 1999)

An increasing number of private sector companies, however, are adopting purchasing policies to promote specific social, economic and environmental objectives – to promote corporate social responsibility. One key dimension of corporate social responsibility is environmental initiatives and programs. Although environmental purchasing is a new concept for many companies, others are beginning to solve some of the challenges encountered when incorporating environmental considerations into purchasing decisions. Through a variety of environmental and cost-savings initiatives – design for the environment, greening the supply chain, full-cost accounting, zero waste initiatives, ISO 14000 series certification, environmental accounting, and others – private sector companies are identifying, manufacturing and purchasing “green” products and services. (Warner and Ryall, 2001)

Purchasing by private companies put forth significant environmental impacts because the companies collectively invest an enormous amount of expenditure on goods and services. Large corporations and multinational companies are purchasing, manufacturing, and selling products and services throughout the world. Many of the private sector companies are world leaders in new patent, and are continually at the forefront of research and development. To that end, it can be argued that if a powerful purchaser like the private sector reduces its own impact by incorporating environmentally preferred purchasing strategy to help

“green” the market, this should systematically contribute to sustainable production and consumption solutions.

For this to occur, a better understanding of the private companies’ purchasing processes and the ways to integrate environmental considerations into the private purchasing field is essential for a holistic sustainable development strategy.

1.1. PRIVATE SECTOR PROMOTING SUSTAINABLE DEVELOPMENT

Just over one year ago at Lisbon, the European Council set a new strategic goal for the European Union: *“to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion”*. This recognizes economic growth, social responsibility, and environmental protection going hand in hand. Sustainable development offers a society that is more prosperous and which promises a cleaner, safer, healthier environment – a society that delivers a better quality of life for us, for our children, and for our grandchildren.

An increasing number of European and worldwide companies are promoting, as a response to a variety of social, economic, and environmental pressures, their corporate social responsibility strategies. Most large multinational corporations have recognized that achieving sustainable development in practice requires that economic growth supports social progress and respects the environment, that social policy underpins economic performance, and that environmental policy is cost-effective. The companies’ consideration of CSR (corporate social responsibility) reflects the growing expectations that the new changing society, including all its actors, have today. By adopting CSR the large private companies aim to send a signal to the various stakeholders with whom they interact: employees, shareholders, investors, public authorities, NGOs (non-governmental organizations) and consumers. In doing so, companies are investing in their future and they expect that the voluntary commitment they adopt will help to increase their profitability.

By stating their social responsibility and voluntarily taking on commitments, which go beyond common regulatory and conventional requirements, companies are investing more into human capital, the environment, and the relations with stakeholders. This is undertaken to some extent in the form that ethical, and SHE (safety, health, and environmental) considerations be a fundamental part of the company considerations, and that these commitments be expanded by encouraging suppliers to embrace standards similar to their own. The effects of encouraging suppliers to embrace CSR activities will not remain limited to the company itself, but will also touch upon the company’s providers throughout the whole supply chain.

Given the importance of the private sector large companies for social and economic development, their purchasing activity is one of the most influential factors, allowing for the development of a significant “green market”. By performing CSR, and by adopting SHE into purchasing, the large corporations are allowing for the development of “greening” the demand side. It can be argued that good environmental management in companies is a key to future market shares in a sustainable economy, since the leading companies in business development are also those who are most advanced in greening their products. The DJSI (Dow Jones Sustainability Group Index) is based on the economic performance of companies (products and services), and these companies are identified as sustainability leaders according to a number of criteria. These criteria may be debatable in their detail but these criteria are globally one of the very few attempts to identify proactive companies and compare their performance to the general stock market. Results of Cerin and Dobers’ (2001) study of the performance of the DJSI from 1993 to 2000 reveal that the DJSI outperforms the general DJGI (Dow Jones Global Index) by 86.5 percent. The companies that are part of the DJSI have increased their share values from December 1993 to August 2000 by +240.6 percent, while the DJGI has risen by +174.1 percent. These results show, to some extent, that successful businesses are ahead of future developments in taking up market opportunities.

One can expect the supply side to improve their environmental performance, including the environmental quality of their products, when it is in their commercial interest. The perspective of new markets, higher market share, financial cost savings, and improvement of brand image might be listed as main interests.

Being the consumer, in this case, the private sector can create demand for “greener” products/performances. The stronger this demand will be, the faster and more massive will be the shift towards contributing to sustainable consumption and production solutions.

1.2. OBJECTIVE AND SCOPE

The objective of this study is to gain a better understanding of how CSR and SHE considerations could be implemented in the purchasing activities of multinational private companies. In order to reach the objective the following questions are discussed:

- How is the purchasing organized in a private large company?
- How can private companies work with suppliers to enhance CSR/SHE?
- What are the business benefits of implementing CSR/SHE preferred purchasing for the large corporations, and what are the benefits for the supplier companies?
- Is it possible that private large firms can promote sustainability through the market by advancing CSR and SHE considerations in their purchasing?

1.3. SYSTEM BOUNDARIES

To be able to focus on the objective set for the study, boundaries have been defined to the CSR/SHE implementation framework. Meaning, the main concern for this thesis is how to implement CSR/SHE in purchasing of large private corporations. To examine this question one private large corporation has been selected for conducting this research, namely AstraZeneca R&D site in Lund, Sweden. The findings for this research are limited to this company. However, many supplier firms through AstraZeneca have been involved in the research for this thesis, other large private corporations have been consulted, literature has been reviewed, deep understanding of AstraZeneca has been developed, and good examples of other large firms in this issue have been highlighted. Based on findings from studying all the above, it will be possible to determine how to implement CSR and SHE considerations in the purchasing process of large multinational private corporations.

In order to reach the objective certain parts of this issue has to be covered. Therefore the thesis proceeds in the following manner: In chapter two, it is described the methods used for this research and why they have been chosen. This thesis is based on three different studies; the study of the buyers on AstraZeneca, the study of a number of strategic suppliers to AstraZeneca, and the study of internal material and observations at AstraZeneca, and external literature as well. The key findings of the research done so far, and the methods applied, have been presented, upon which the author’s hypothesis has been introduced. Chapter three describes the theory framework for this thesis. To understand CSR/SHE implementation actions for large private corporations’ purchasing, it has to be clear what purchasing is, how the organization of purchasing and responsibility delegation looks like, and how important it is for businesses. When purchasing theory has been established, its connections to social, economic, and natural factors are presented. Here it is examined how purchasing including CSR/SHE could promote sustainability. A model showing the important loops and feedback loops in this system is presented. Moreover, the legal/political theory framework for private purchasing is illustrated, looking into existing legislation and standards, and new priority actions on the way. Finally, the theory chapter is ended with presenting what CSR and SHE is, why private companies are adopting them, and how they are adopting and implementing the management system for it. The chapter ends with a summary of the principal theories of the purchasing framework. Next chapter four, presents the outcomes of the empirical analysis of the research data collected, and it shows the results obtained from the studies, which are then discussed. The key findings are illustrated in table 4-1, at the end of chapter four. Chapter five is the concluding chapter with clear recommendations for large private corporations on how to act on the implementation of CSR and SHE concerns in purchasing activities.

The system boundary is limited to these chapter topics. Specifically it could be mentioned that when discussing issues of sustainability in connection to CSR/SHE purchasing of private firms, the aspects associated with consumption and production patterns will remain limited. The implementation needs that will be examined applies to a centralized purchasing structure, purchasing will be concentrated to 60 percent

of the key suppliers for laboratory supplies and services, and from reading the title it must be understood that the research is focused on large corporations of the private sector. Occasionally green or environmentally preferable is used, which actually refers to a purchasing or management activity in which CSR and SHE criteria have been incorporated.

2

METHOD AND MATERIAL

In order to explore how to implement CSR/SHE in purchasing practices of private multinational companies, an inside view of private organizations' operation was necessary. Therefore, research for this study was conducted at one of the world's leading pharmaceutical companies: AstraZeneca at their R&D site in Lund, Sweden.

This thesis is based on three different studies. Firstly, buyers of different levels at AstraZeneca R&D were interviewed to better understand how they interpret and apply the requirements of CSR and SHE in their management of purchasing. This study also involved a literature review, of both internal and external literature, to understand the foundations of large companies' purchasing practices, and their implementation of CSR/SHE. Secondly, eighteen of AstraZeneca R&D's supplier companies had to fill in an evaluation form pertaining their CSR/SHE performance, to investigate their involvement in CSR/SHE issues and to measure their interest in pleasing customer demand. Thirdly, seven supplier companies, out of the eighteen who filled in the evaluation form, were interviewed for a deeper understanding of their interests in green supply-chain management. The data, which was collected through structured interviews, direct observation, and content analysis of internal/external documents and literature, allowed for a good understanding and qualitative analysis on how CSR/SHE concerns are effectively integrated and applied into private large company purchasing, in the process of advancing sustainability in this sector.

There are several reasons for choosing to study AstraZeneca R&D in Lund and its supplier firms. In order to provide effective, reliable, and consistent products the pharmaceutical industry has to secure high quality levels of raw material input and manufacturing processes. To remain a trustworthy company, ensuring pharmaceutical products of high quality, the emphasis on purchasing become crucial in the process of bringing transparency throughout the entire supply chain. AstraZeneca, being a world leading pharmaceutical company, therefore becomes a very suitable environment for this research. AstraZeneca Lund is mainly a research and development facility making laboratory supplies and services a large product category for purchasing. By studying the buyers on site, and 60 percent of the key suppliers for the laboratory division, it has been examined how CSR/SHE preferable purchasing and green supply chain management can be promoted and further implemented. In addition, the involved firms appeared willing to share this information.

This chapter describes the methods used in short, mainly to explain why certain methods have been applied.

2.1. INTERVIEWS WITH BUYERS

Before being able to interview the buyers, it was necessary to study the organizational and purchasing structure of large companies, including AstraZeneca, and gain background information to be able to ask the right questions to the buyers, and eventually to the supplier companies. An initial literature survey indicated that purchasing theory might be the underlying problem, so the thesis is based on this theory. Purchasing theory covers large private companies' purchasing and extends to the application of CSR/SHE considered purchasing of supplies and services. Studying internal documents and discussing the issues with internal and external professionals in this area provided data about purchasing activities within the AstraZeneca organization. This data was annual purchasing expenditure, numbers of buyers employed, number of suppliers, development of supplier relationships, purchasing processes, and purchasing policies/guidelines. Throughout this paper examples of additional Swedish, European or international experiences have been highlighted, to compare AstraZeneca to other private large companies for similarities or differences. These examples have been gathered through literature reviews, but also through personal interviews with environmental coordinators of prominent private large companies who have come far in these environmental,

safety, health responsibility issues. Having established the profile of the organization, an investigation as to how the purchasing organization can implement CSR/SHE concerns in the purchasing process was initiated.

Interviews appeared to be the most straightforward procedure to reach insight about buyers' interpretations and applications of central requirements of CSR/SHE in purchasing practices. Therefore, the study was conducted through individual interviews with nine buyers working on different levels throughout the organization. To be able to compare the answers without steering the interviewees too much, semi-structured interviews were used (Patel and Davidson, 1994). This means that some main questions, presented and theoretically motivated in scientific literature from the literature review, were prepared in advance and directed to all buyers. These prepared questions served as "signposts" to point out the direction for the conversation that followed. In addition, many follow-up questions were used to better understand the opinion and practice of the interviewees (Svensson and Starrin, 1996).

After all interviews had been conducted, the answers were first, summarized and transcribed, and then, characterized and classified, to fit into a qualitative analysis. During this whole process, obviously, subjectivity is a problem. By being aware of that fact, the consequences of this problem have hopefully been restricted. (Trost, 1993)

2.2. SUPPLIER EVALUATION THROUGH EVALUATION FORMS

To select the supplier companies, identification of the strategic suppliers for laboratory was made. Strategic supplier means key supplier or by AstraZeneca preferred supplier. With these suppliers AstraZeneca has a very close, sometimes lengthy, relationship. The suppliers who had sold most supplies money wise and in volume to laboratory for the last couple of years were selected as strategic suppliers. The buyers also recommended several supplier firms. Most of them are very large supplier companies, operating worldwide. At the selection their views on CSR/SHE management were not known, the most important criteria were highest purchased volume and cost. As a result, a list of almost 30 companies, specialized on laboratory supplies and services, was developed.

These companies had earlier this year (2002) been informed of AstraZeneca CSR and SHE guidelines and policy, and they had been asked to consider over time to embrace standards similar to AstraZeneca regarding these issues. As the next step in the process of following up AstraZeneca strategic suppliers and as a part of the author's research for this thesis, a CSR/SHE evaluation form was developed and sent out to all selected strategic suppliers, to provide input on their company CSR/SHE awareness and environmentally considered purchasing and production practices. After having created a point system for the answers, the evaluation forms were graded, and the suppliers were ranked on their CSR/SHE performance.

In the process of developing the evaluation form for suppliers, and also when conducting research for this thesis, the author was not only an observer while investigating the problem, but the author would also incorporate actions that attempts to resolve the problem being investigated. To some extent this study is based on action research, which makes it harder to maintain scientific objectivity. Nevertheless, participation has developed a deeper understanding that only come about through the close involvement in the company organization and people. (Stringer, 1999)

2.3. INTERVIEWS WITH SUPPLIER COMPANY REPRESENTATIVE

Every supplier firm, which had responded to the evaluation form, was invited to participate in an interview series. To be able to compare the answers and facilitate a quantitative analysis, semi-structured interviews based on their answers on the evaluation form, were used (Patton, 1987). The interviews provided an opportunity to further deepen the understandings of the companies' CSR/SHE practices, and in detail study customer-supplier relationships. All of the respondents were interviewed individually at their workplace or at AstraZeneca, and the interviews lasted around an hour, depending on how far the respective company has developed in the issues of CSR and SHE. The interviewees, who often were salespersons, managers, or

environmental coordinators, also got the chance of clarifying their answers given on the evaluation forms earlier.

For the interviewer to be able to listen carefully, to focus on the answers, and to be able to formulate appropriate follow-up questions tailored for each company depending on the proportions of their CSR/SHE work, the interviews were recorded on tape. However, there was a risk that the presence of a tape recorder could make the interviewee uncomfortable, and that the opinion of the interviewer affected the results, and during this whole process subjectivity could be a problem. Being aware of this problem has hopefully restricted its consequences. (Jarlbro, 2000)

When all interviews were completed the qualitative data were transcribed and analyzed into a set of codes drawn from the research objectives and themes emerging from questionnaires, interviews and literature. The buyers' expectations were then compared to the supplier interview analysis, in order to identify any unexpected information, and in order to help improve AstraZeneca, and other large companies of the private sector, and their suppliers, in the issues of implementation of CSR/SHE in purchasing.

2.4. PRIOR RESEARCH AND HYPOTHESIS

An extended external literature review within the field of purchasing including CSR and SHE showed that few studies have been conducted on the practice of CSR/SHE in purchasing within private large companies or, for that matter, within other organizations. Most of the studies found have looked at "green" purchasing or environmental considerations in purchasing. These studies, the methods applied in them and their results, will briefly be presented in this section.

2.4.1. Implementation of Greener Purchasing Activities

Warner and Ryall (2001) conducted a survey of 410 local authorities in England and Wales to assess the status of implementation of greener purchasing. The rate of return was 44 percent and some of the findings showed that there is a growing interest in greener purchasing among authorities in England and Wales. Effective implementation of green purchasing is difficult in a decentralized purchasing structure. It would require additional time, effort, and resources, than implementing green purchasing practices in a centralized structure. Moreover, the most important stage in the selection of greener services from suppliers is contract specification, as this ensures that all relevant considerations are spelled out from the beginning.

Green purchasing practices of US firms have been investigated by Min and Galle (2001). A special mail questionnaire was developed for 3000 respondents from selected industry groups, which are heavy producers of scrap and waste materials. A total of 527 responses were received (17.6 percent). One interesting finding from this study was that the buying firms which take environmental regulatory compliance more seriously tend to get involved in green purchasing practices more actively than the others. This finding implies that buying firms tend to get involved in green purchasing to avoid negligent violations of environmental regulatory laws, which indicates that environmental regulation has a great impact on firms green performances.

2.4.2. Benefits from endorsing green purchasing

A US Environmental Protection Agency report from 1999 (US-EPA, 1999), highlights the efforts of 18 multinational private companies to "buy green". Sixty companies from twenty different industry sectors were invited to participate. One third of the companies (18) agreed and each was asked specific questions about their individual programs and efforts. EPA created tailored questions for each company. The findings show that besides expanding the market of green products, many of the companies in the report are preventing tremendous amounts of pollution and saving millions of dollars as a result of adding the environment to their purchasing equation.

Research conducted by Carter et al (2000) and Carter and Jennings (2002) also support that firms undertaken socially responsible actions such as environmental initiatives and programs result in improved financial performance. The findings of Carter et al were calculated from a survey, which was sent to purchasing

executives at the manager level or higher for 1083 companies, which were generated from the membership list of NAPM (National Association of Purchasing Management). The survey was based on initial interviews with purchasing managers, along with an open discussion of the survey instrument following a pilot test that was conducted with a group of fifty purchasing managers. This indicated that the activities included in the survey are within the potential realm of responsibilities and job tasks of purchasing personnel at both the middle and top management level. A total of 437 usable questionnaires were returned (response rate 41.7 percent). The data on the surveys suggested that environmental management improves firms' financial performance through both increased revenues and decreased costs. This was calculated from survey data on sales, net income, earnings, and cost of goods sold for 1996.

The results have clear implications for managers that this positive effect of environmental purchasing activities on firm performance suggests purchasing and supply managers should focus greater attention on such activities.

2.4.3. Green Procurement and Environmental Supply Chain Management

Nagel (2000) has compared two different approaches, related to the integration of environment quality in the supply chain of a firm. The approach of green procurement and environmental supply chain management is discussed in the article in the scope of realization of a sustainable supply chain. Green procurement can be described as several short term actions driven from the customer to the direct supplier. The behavior elements of green procurement are action driven program containing environmental requirements or criteria of the suppliers' performance, external direct driver, for example legislation, forms the cause of the action, cost avoiding, creates awareness in the customer-supplier relationship, and is mostly related to the material content of products and components.

Environmental supply chain management approach: Each company needs a business strategy that defines the business. In the scope of strategy development, environmental quality can be linked to the business strategy, the existing supply base, product requirements, supplier selection, qualification, sustainability, etc. When the concept of environmental quality is included in the business strategy and the product requirements, an environmental supply chain management strategy can be derived. It sets the direction for supplier selection and qualification, contracting, operational interactions as well as monitoring and improving supplier performances. Within the scope of environmental supply chain management, an indirect driver is defined by the principle of sustainability.

Both approaches can be applied with respect to "greening" the supply chain, but the effect of green procurement will be less than supply chain management related to the feasibility of sustainability levels. In practice, green procurement is often chosen because it is a direct simple applicable approach, which creates awareness in the operations between customers and suppliers. But when this approach is not followed by environmental supply chain management approach, the supply chain will not be triggered to realize higher sustainability levels. From a sustainability and leadership perspective, the environmental supply chain management approach will be leading on the long term for the realization of a sustainable supply chain. When using the term CSR/SHE supply chain management, it is referred to environmental supply chain management approach, including aspects of not only the environment, but also safety, health, and social responsibility.

2.4.4. Sourcing Decisions

This year, Quayle (2002) has studied the understandings of how sourcing decisions (the process for selecting suppliers for purchases) are made and their implications for Swiss private organizations. Through questionnaires, 75 organizations were asked about their general sourcing policy and factors causing change in sourcing policy. From a 70 percent response rate it was concluded that sourcing decisions are highly dependent of situations, and the crucial variable is organizational policy. When complexity and uncertainty of suppliers are high and buyers' search and selection capacity is limited, buyers' will have to rely on the conditions of market state and the buyers' organizational policy regarding single or multiple sourcing. Single sourcing strategy for purchased material is when buyers choose to buy from one source (one supplier). When

the buyers choose to buy from more than one source it is referred to as multiple sourcing. Those organizations that choose to have policies on sourcing strategy are clearly effected by their policies at the sourcing decision. Those organizations that do not have a policy in this issue, according to this study, then make sourcing decisions on traditional economic type variables such as buyers' need to ensure continuity and security of supply, cost savings, and quality aspects. Quayle therefore suggests leaving the decision to the buyer, who can take into account the criteria prevailing at the time of the purchase.

2.4.5. Hypothesis

Since most research data will be fit into a qualitative analysis, the method itself is often not guided by hypothesis but by questions, issues, and a search for patterns. The nature of this research is investigative, which permits inductive approach, meaning gathering of qualitative data through direct observations and in-depth interviews, without imposing pre-existing expectations. In practice, the author has combined inductive and deductive approaches; meaning at first inductive approach was applied to find out what the important questions and factors are. Then a more deductive hypothesis-testing approach was taken aiming at confirming exploratory findings, through semi-structured interviews and structured evaluation form. (Patton, 1987)

Based on earlier discussion, following hypothesis may be introduced: The introduction of CSR and SHE in purchasing will positively affect firms' pursuit of profit, new markets, higher market share, improvement of brand image, and other business goals including sustainability.

It can be concluded that little has been studied on the implementation of CSR and SHE in purchasing and supply chains, and benefits required from it. Most articles examine only the environmental concerns in purchasing and supply chain. There is, however, consensus regarding methodological aspects, and results.

Combining information from the studies in this chapter, together with the author's own experience, this thesis focuses on CSR, SHE and purchasing infrastructure, for example the framework for purchasing with CSR/SHE. This means that the boundaries for CSR/SHE implementation and maintenance in purchasing are emphasized, which hopefully brings knowledge about how purchasing can be used by multinational companies to advance CSR and SHE considerations.

3 ANALYTICAL FRAMEWORK

This chapter presents the theoretical framework for purchasing, its importance to business, and how it could function as a strategic tool together with CSR and SHE, to promote sustainable development through private sector and market. A model for illustrating the connections between CSR/SHE criteria in purchasing and the social, economic, legal, political, and scientific communities have been developed. Moreover, the legal purchasing frameworks for private companies have been reviewed, and the existing and upcoming legislation and standards have been highlighted. The last part of this theory chapter examines CSR and SHE in purchasing. It discusses what CSR and SHE are, why private corporations are implementing them, and how this is carried out in general. Throughout the chapter, how the theory is applied to AstraZeneca is illustrated. In addition, several examples of other large Swedish or international firms, and what they are doing in the issues of CSR and SHE in purchasing, has been provided. The chapter ends with a brief summary of the main theories presented.

3.1. THE COMPANY

AstraZeneca is one of the world's leading pharmaceutical companies. The company provides medicines designed to fight disease in important areas of medical need: cancer, cardiovascular, central nervous system, gastrointestinal, infection, pain control and respiratory. The company has over 54,000 employees worldwide, manufactures in 20 countries and has sales in over 100 countries where sales in 2001 totaled 16.5 billion US Dollars. AstraZeneca has major research centers in 5 countries, spends over 10 million US Dollars every working day on R&D (research and development), and total R&D spending in 2001 amounted to 2.7 billion US Dollars.

AstraZeneca is located at three sites in Sweden – Lund, Södertälje and Mölndal. In 1955 the initial Astra acquired Lunds Kemiska Fabriks AB (which later became Draco AB). The company changed name to Astra Draco AB in 1991. In 1999 Astra merged with Zeneca and the company Astra Draco AB became a site within AstraZeneca Global R&D and changed name to AstraZeneca R&D Lund. The research for this study is mainly conducted at AstraZeneca R&D Lund.

AstraZeneca R&D Lund is primarily a research and development site, and most research at this facility is concentrated in respiratory and gastrointestinal research. The site is divided into four areas: R&D Operations, Discovery, Development, and Therapy Areas. The areas of International Sales and Marketing, and Product Strategy and Licensing are represented at R&D Lund site as well. The site has 1100 employees at the moment, and is world leading within inhalation technology.

3.2. PURCHASING THEORY

In this section general purchasing theory will be outlined and its application in private organizations is shown. It will be demonstrated that, in the context of private companies, purchasing theory is a tool that can be wielded strategically to advance policy.

3.2.1. Definition of Concepts

In practice, as well as in the literature, many terms and concepts are used in the area of purchasing. In Aljian's (1984, p. 3) description, the purchasing function should obtain the proper equipment, material, supplies and services of the right quality, in the right quantity, at the right price and from the right source. However, no agreement really exists about the definition of these terms. Terms like purchasing, procurement, and sourcing are used interchangeably. Throughout this paper the definition of **purchasing** is:

“obtaining from external sources all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company’s primary and support activities at the most favorable conditions” (Van Weele, 2000, p. 14)

Purchasing in this definition is a broad term covering all activities required in order to get the product from the supplier to its final destination. These activities are specifically aimed at:

- analyzing the market for identification of potential suppliers;
- determining the specification or statement (in terms of required quantities and quality) of the deliveries that are needed to be bought;
- selecting the most suitable supplier;
- conducting negotiations with the supplier in order to establish an agreement;
- requesting for a purchase by an end user (the customer of the final product/service);
- placing the order with the selected supplier against previously arranged conditions;
- approving the delivery;
- running final payment and evaluation (keeping product and supplier files up-to-date, supplier rating, supplier ranking etc).

The purchasing process model and some related concepts (adapted from Van Weele, 2000, p. 15) schematically illustrates the main activities within purchasing and some related concepts. As seen from this figure, **sourcing** covers the first four steps in the purchasing process. Sourcing is a term for determining dependency on suppliers and designing plans to reduce this dependency. It includes finding and selecting adequate suppliers for the company's business needs, together with associated commercial negotiations and ongoing management of the supplier.

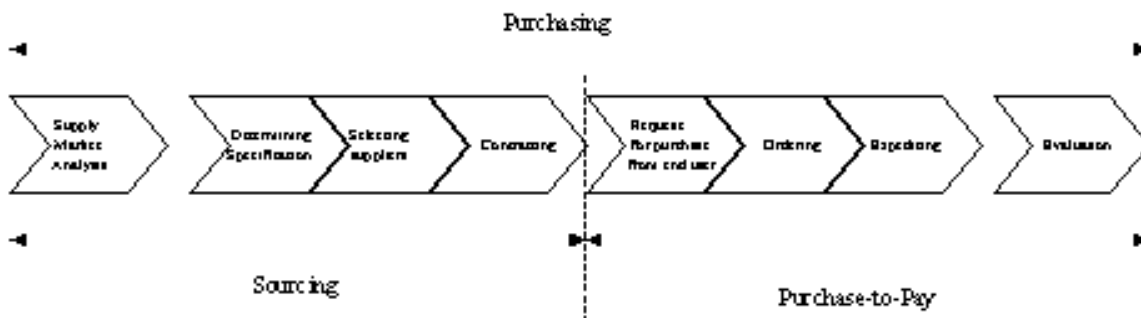


Figure 3-1. The purchasing process model and some related concepts (adapted from Van Weele, 2000, p. 15)

The next four steps in the purchasing process covers request to purchase from an end user, through order, to payment of the supplier and evaluation. This is referred to as **purchase-to-pay**.

Most companies prefer to separate purchasing from **procurement**. In this definition procurement includes all activities of purchasing except the first step. Procurement does not include the responsibility of materials studies and value analysis, market research, and identification of potential suppliers.

Purchasing processes within the organization and between the organization and its suppliers needs continuous structuring and improving, which is in this paper referred to **process management**. Process management, hence, has an internal and an external aspect.

Process management is part of **supply chain management**. The latter concept can be described as the management of all activities, information, knowledge, and financial resources associated with the flow and transformation of the goods and services from suppliers in such a way that the expectations of the end users

of the company are being met. Supply chain management differs from purchasing in that it encompasses also all logistics activities.

3.2.2. Organization of Purchasing

The location and structure of purchasing is very dependant on business characteristics. For example, some very large chemical companies, have created a separate department for the purchasing of materials and investment goods. Other companies execute the buying of goods/services by small group of specialists, which report directly to the board of directors. (Van Weele, 2000, p. 219)

3.2.2.1. Role of Purchasing in the Value Chain

When describing the role and position of the purchasing function in private companies, the value chain management plays a central role. Here the value chain of Dobler and Burt (1996) is taken as a term of reference (see Purchasing, SHE and the value chain (adapted from Dobler and Burt, 1996)). The term value chain is used to describe the various steps a goods/service goes through from raw material to final consumption. Dobler and Burt considers every firm basically as a collection of primary and supporting value activities that are performed to design, produce, market, deliver, and support products that are valuable for customers. Dobler and Burt argue that a firm's value chain and the way in which it performs individual value-activities are a reflection of its business strategy, its approach to implementing its strategy, and the underlying economics of the activities themselves. This explains why there can be explicit differences between organizations with regard to management, structure, strengths etc operating within the same sector. A value chain is composed of value activities and a margin, which is achieved by these

activities.



Figure 3-2. Organizational chart of the main areas at AstraZeneca R&D Lund.

Primary activities are those which are directed at the physical transformation and handling of the final products, which the company delivers to its customers. Distributions to the customer and providing (product) services are examples of primary activities. As can be seen from Organizational chart of the main areas at AstraZeneca R&D Lund. Research, Development, and Therapy Areas are among the primary activities at AstraZeneca R&D Lund.

Support activities enable and support the primary activities. Such support activities are performed at AstraZeneca R&D Lund by the R&D Operations organization. R&D Operations in Lund include for

example purchasing and SHE function which are thereby support units to the primary activities on



site.

Figure 3-3. Purchasing, SHE and the value chain (adapted from Dobler and Burt, 1996)

3.2.2.2. Levels of Responsibilities

The purchasing responsibilities are allocated in mainly three different levels: strategic, tactical, and operational. The *strategic level* covers those purchase decisions that influence the market position of the company in the long run. Examples of purchase decisions at this level are the development and implementation of auditing programs, establishing long-term contracts with preferred suppliers (strategic sourcing), and major investment decisions.

The *tactical level* encompasses the involvement of the purchasing function affecting product, process, and supplier selection. Example of a purchasing decision at this level is agreement on corporate and/or annual supplier agreements. These decisions often have a medium-term impact (one to three years). They are cross-functional in the sense that dealing with them effectively requires the coordination and cooperation of other disciplines within the company (including for example engineering, manufacturing, quality assurance).

The *operational level* (or transactional level) addresses all activities related to the transactions in the purchase-to-pay process. This level of activities incorporates the ordering process (release of orders corresponding to already concluded agreements with suppliers), all expediting activities related to released orders, monitoring and evaluation of supplier performance etc.

3.2.2.3. Purchasing Structure

Currently, there are mainly two formal schools of thoughts in regards to the fundamental ways of organizing the purchasing function within companies. The purchasing entity can have full authority over the entire purchasing function, which is referred to as a *centralized purchasing structure*. In this situation, a central purchasing department can be found where contracting specialists operate at the strategic and tactical level. Decisions on product specifications and supplier selection decisions are made centrally. The contracts with suppliers that are prepared and negotiated centrally are often multi-year agreements with pre-qualified suppliers stating the general and specific purchase conditions. The operating companies conduct the operational purchase activities.

A *decentralized purchasing structure* occurs when management of business units¹ take unilateral major purchasing decisions without collaborating with one another. Every business unit manager is responsible for his own financial results; hence, the management of the business unit is fully responsible for all its purchasing activities. A third informal method has risen to strengthen both schools and to neutralize the weak aspects, through a combination of the two. In some major private companies a corporate purchasing

¹The term “business unit” is used here referring to a situation where the unit management is profit-responsible and operates with large degree of freedom

department exists at a corporate level, while individual business units also conduct strategic and tactical purchasing activities. This type of *centralized/decentralized purchasing structure* is in general limited to very large international companies.

AstraZeneca R&D Lund has a centralized purchasing organization structure, where apart from small purchases, all purchases are made from a central purchasing function. For the purpose of this paper, the study will focus on the centralization of purchasing procedures, since it relates directly to the currently employed functions of AstraZeneca R&D Lund, and of most significant private purchases in Sweden. AstraZeneca R&D Lund is however currently in a re-organizational stage throughout the whole organization, which has effected purchasing as well. During recent couple of years the purchasing organization has been restructured from being decentralized to developing into a centralized organization.

3.2.2.4. *A Shift of the Role of Purchasing*

Private companies are nowadays experiencing major changes in restructuring their purchasing. Purchasing activities in international companies are in fact becoming more and more coordinated and of a centralized nature. The survey conducted by Fearon and Leenders (1995, pp. 15-16) in the US and Canada provides some relevant data on how purchasing is organized. This survey was based on an in-depth analysis of international purchasing practices at 302 large multinational industrial and service companies. The results of this survey were compared with a similar survey, which was conducted in 1988 (see **Error! Reference source not found.**). A more detailed analysis of this data shows that a substantial amount of organizational restructuring has taken place. Detailed analysis of the data shows that 48 percent of the companies, which reported a centralized purchasing structure in 1988, had moved towards a hybrid centralized/decentralized structure. Of those who reported to have a centralized/decentralized structure, 78 percent reported to still have the same structure. However, 72 percent of the companies who reported to have a fully decentralized structure in 1988, moved towards a centralized purchasing structure. It is fair to conclude, based on these figures, that purchasing activities in international companies among business units become more and more centralized.

	1995 Study						1988 Study	
	<10\$ Billion		>10\$ Billion		Total			
<i>Organization Structure</i>	\$	%	\$	%	\$	%	\$	%
Centralized	61	24	8	18	69	23	83	28
Centralized/Decentralized	161	62	35	80	196	65	175	59
Decentralized	36	14	1	2	37	12	38	13
Total	258	100	44	100	302	100	296	100

Table 3-1. Centralized versus decentralized purchasing (adapted from Fearon and Leender, 1995)

The main advantages of a centralized purchasing structure is that, through coordination of purchasing, better prices, costs, service, and quality from suppliers can be achieved by coordinating purchases and buying higher volumes. Another advantage is that it will facilitate efforts towards product and supplier standardization. A centralized purchasing structure has potential for savings and decreases the risk for price fluctuations. The disadvantages are that the management of the individual business unit has only limited responsibility for decisions on purchasing. Often the problem is that the business unit managers are

convinced that they are able to reach better conditions on their own, and will act individually; and in this way they will gradually undermine the position of the corporate purchasing department.

A decentralized structure is particularly attractive to companies that have a business unit structure, where each business unit purchases products that are unique and distinctly different from those of the other units. In this case economies of scale would provide only limited advantages and/or savings. A decentralized structure also provides less bureaucratic purchasing procedures, less need for internal coordination, and direct communication with suppliers. The disadvantages of this structure are obvious: different business units may negotiate with the same supplier for the same products, and as a result arrive at different purchase conditions. When then supplier capacity is tight, business units can operate as real competitors to each other. Also this allows the power balance to be placed at the advantage of the supplier and it makes sense to adopt a coordinated purchasing approach in order to arrange for a better negotiating position for the purchasing company. Further on, a decentralized purchasing structure gives limited possibilities for building up specific expertise on purchasing and materials.

In practice these considerations appear to be decisive when deciding on buying products centrally or otherwise.

3.2.2.5. Consequences for Purchasing Professionals

The developments described above will also lead to significant changes in the necessary skills and abilities required by the purchasing department. In most large companies positions of lead buyers, senior buyers, buyers, and assistant buyers can be found.

Lead buyers (or corporate buyers) are generally focused on very specialized tasks on the strategic level. It is their job to negotiate for large volumes or large investment projects. Their counterparts are often key account managers, who are highly educated and experienced. For this reason lead buyers preferably have a similar educational background, often at university level.

Senior buyers normally have a medium-term planning horizon and a more tactical task. As they have to meet and converse frequently with engineers and other technical specialists they require an adequate technical background, combined with commercial skills. The senior buyers deal mostly with production materials and investment goods. Most of the senior buyers' time is spent on supply market research, selection of supplier, and preparing and conducting contract negotiations with suppliers.

Buyers/assistant buyers often work at a decentralized level and they are responsible for the materials planning and ordering on an operational level. Here, the buyers/assistant buyers are responsible for calling off the materials required against the annual agreements. Furthermore they monitor and control suppliers on their quality and delivery performance. For this job a secondary educational level will be sufficient. Most important here are personal abilities such as stress resistance and the ability to organize the work effectively.

3.2.2.6. The Purchasing Process of AstraZeneca

The purchasing process at AstraZeneca Lund is formalizing into the process model illustrated in The purchasing process model and related concepts for AstraZeneca R&D, Lund. The model shows the whole purchasing process, from strategic to operational level. The first part of the process, which is referred to as "strategic sourcing", is similar to the theoretical general process model described earlier. This process covers analyzing the market for identification of strategic suppliers, determining specification for supplies and services, selecting strategic suppliers, and negotiating with them and establishing contracts. The aim is to cover the majority of all purchases through strategic suppliers, with whom there has been established contracts on the grounds of a strategic sourcing.

Lead buyers, who are specialized in few long-term strategic suppliers within a special product category, direct the strategic sourcing. Senior buyers are also involved in strategic sourcing partly, but they are preparing and negotiating contracts with suppliers in a somewhat broader field, often for a medium-term

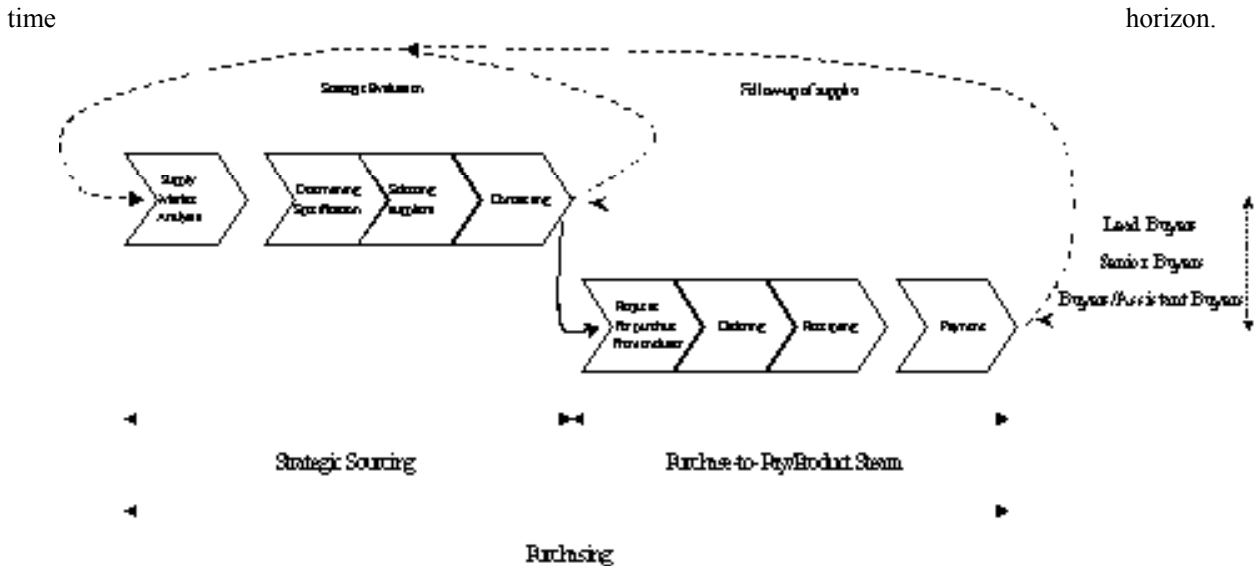


Figure 3-4. The purchasing process model and related concepts for AstraZeneca R&D, Lund

The second process of the purchasing process is referred to “purchase-to-pay” or a “product stream”. In this process demand is initiated from internal end user, and the demand is processed through a transaction process going through the processes for ordering, receipting, and payment, so that the end user can get his/her delivery. The purchase-to-pay process is actually the practical part of the process when supplies/services are purchased in a physical sense. If the lead and senior buyers have conducted a good strategic sourcing performance, at the purchase-to-pay process not much needs to be done except for putting in a request for purchase. Which supplier to use for the purchase is determined very quickly when strategic sourcing is extensive and well done. Usually the buyers/assistant buyers perform the purchase-to-pay process. This process could be conducted from anywhere really, as long as the strategic sourcing process is centralized, and all requests for purchase go through the central process.

The evaluation processes for feedback on supplier performance etc are positioned at the end of the two sub processes, which go through the entire purchasing process. Buyers of respective responsibility make sure to keep the feedback process running.

3.2.2.7. Supplies and Services Purchased at AstraZeneca

Being mainly a research and development facility the largest product category for the site is obviously laboratory supplies and services. The largest areas for purchase are as follows:

- Laboratory supplies & services (equipment, chemicals, consumables, lab service and maintenance)
- Travel & conference (hotels, travel)
- Information technology & services (software, hardware, IS/IT consultants, telecommunications)
- Services (temporary staff, management consultants, employee benefits)
- Business services (office supplies/office interior, image, print, and copy, canteen, cleaning and laundry, mail and courier, company cars, security and safety)

3.2.3. Importance of Purchasing to Business

In general the largest part of the cost of the goods sold appears to be taken up by purchased materials and services (Van Weele, 2000, p. 18). **Error! Reference source not found.** can illustrate the effects of purchasing savings on companies’ return on investment. It shows how purchasing costs savings may affect the financial performance of some major international

companies.

Company	Purchasing's share in turnover (1997)	RONA 1997	RONA 1997 as a result of 2% purchase savings
Philips	42	12.1	13.5
Stork	50	14.5	17.9
DSM	75	13.1	15.0
Ahold	80	12.8	18.2
Heineken	60	13.9	15.6
Océ	48	9.1	10.0

Table 3-2. Effect of a 2 percent purchasing cost saving on return on net assets (RONA) of some major international companies (numbers in percentage). (Adapted from Van Weele, 2000, p. 19)

Purchasing contributes to improving the company's RONA in two ways.

- Through reduction of all direct materials costs, which can be established by introducing new suppliers, competitive tendering, looking for substitute materials etc.
- Through a reduction of the net capital employed by the company, which can be achieved through longer payment terms, leasing instead of buying etc. (Van Weele, 2000)

It can be concluded that purchasing decisions has a profound impact on the company's net results.

3.3. PURCHASING STRATEGY DELIVERING SUSTAINABILITY

Sustainable development aims "to make quality of life better for everyone, now and for generations to come" (UK Government, 1999).

The focus of purchasing including CSR and SHE is seen as a strategic tool to gain considerable positioning in the market and to increase efficiency, quality, and savings by lowering overall costs. By doing so, supply and demand is viewed as a part of a system to the marketplace. Let it be illustrated how this part of the system can deliver sustainability through the market.

To enable more efficient production processes and better supplies and services while reducing resource use and pollution, many companies are applying a management strategy that combines environmental and economic performances. It is creating more value with less impact. By focusing the management strategy to reduce impact also at the purchasing process, since purchasing has been identified as having a reflective impact on the company's net results, the strategy will approach the problem at the source. In addition, it will increase the pressure on other companies to endorse a more sustainable management strategy in their production, and in the long run in their purchasing.

Sustainable development is a holistic concept, a strategy that requires the integration of economic growth, social equity, and environmental management. Achieving sustainability through the market requires looking at the market system as a whole, including production and consumption. Focusing on either consumption or production ignores their interdependent relationship, and misses the point that both exists to provide supplies and services to the community. The community includes sub-communities such as political/legal, scientific, social, and economic communities. (See Model of CSR/SHE included purchasing strategy promoting sustainable development in economic, so).

One way for the legal and political community to ensure market sustainability is through improving frameworks addressing sustainable production and consumption. The OECD and European Commission, for example, are working to promote management strategies for businesses, which will reduce impact at the

level of the nation-state, and to set the framework conditions for it to succeed. Market reforms to get prices right can promote businesses to endorse CSR/SHE considerations. To give right price-signals to customers is also in the interest of sustainability-minded businesses. In addition, improving market framework conditions will contribute to the ability of business to create wealth. This is examined more in detail in the section for “Private Purchasing Framework”. There is also a dialog among business, civil society, and governments, which is moving away from stakeholder dialogs to partnership progresses. Partnerships for progress are built on common goals, empathy, open feedback, flexibility, ability to compromise, and sharing rewards. (EU Official Document 5, 2001)

The scientific community is creating technological and social innovation to improve quality of life and address production methods contributing to the build-up of pollution and depletion of resources. Markets liberate ingenuity by encouraging experimentation and rewarding those ideas that meet the needs of market sustainability. Experimentation through the market is essential for business and society to understand and test how to best meet people's needs. (WBCSD, 2001)

To increase sustainability the scientific community is trying to innovate better technologies in three distinct performance zones: optimized processes in production (reduce resource use, impacts, and operational costs), cooperation between companies to improve cost efficiencies while moving towards a zero waste target, and innovate supplies and services by delivering better design and functions for lower impact in use and higher market share. Businesses have extensively explored the first two performance zones by total quality management, eco-audits, and environmental monitoring systems, and there is still a lot of potential for action in these areas. In the third performance zone, despite the developments of concepts and tools like eco-design and life cycle analysis², much less has been attempted in this area and can be further developed. (WBCSD, 2000)

Consumer choice in a transparent and competitive market economy is integral to the process of improving sustainability and quality of life. Consumers of the social community must have the necessary information and price signals to make intelligent decisions. The solution could be to create a right value/cost ratio, including all of the information consumers consider relevant to their purchases. Consumer surveys suggest that consumers would act upon information about products' performance, value, safety, environmental impact, and reliability. (UNDP,

² Life Cycle Analysis (LCA) is a method for assessing the environmental aspects and potential impacts associated with a product, by compiling an inventory of relevant inputs and outputs of the defined system, evaluating the potential environmental impacts associated with these inputs and outputs, and interpreting the results. In practice, LCAs may be deliberately simplified or their scope may be limited, but in principle, they are comprehensive, systematic tools.

1998)

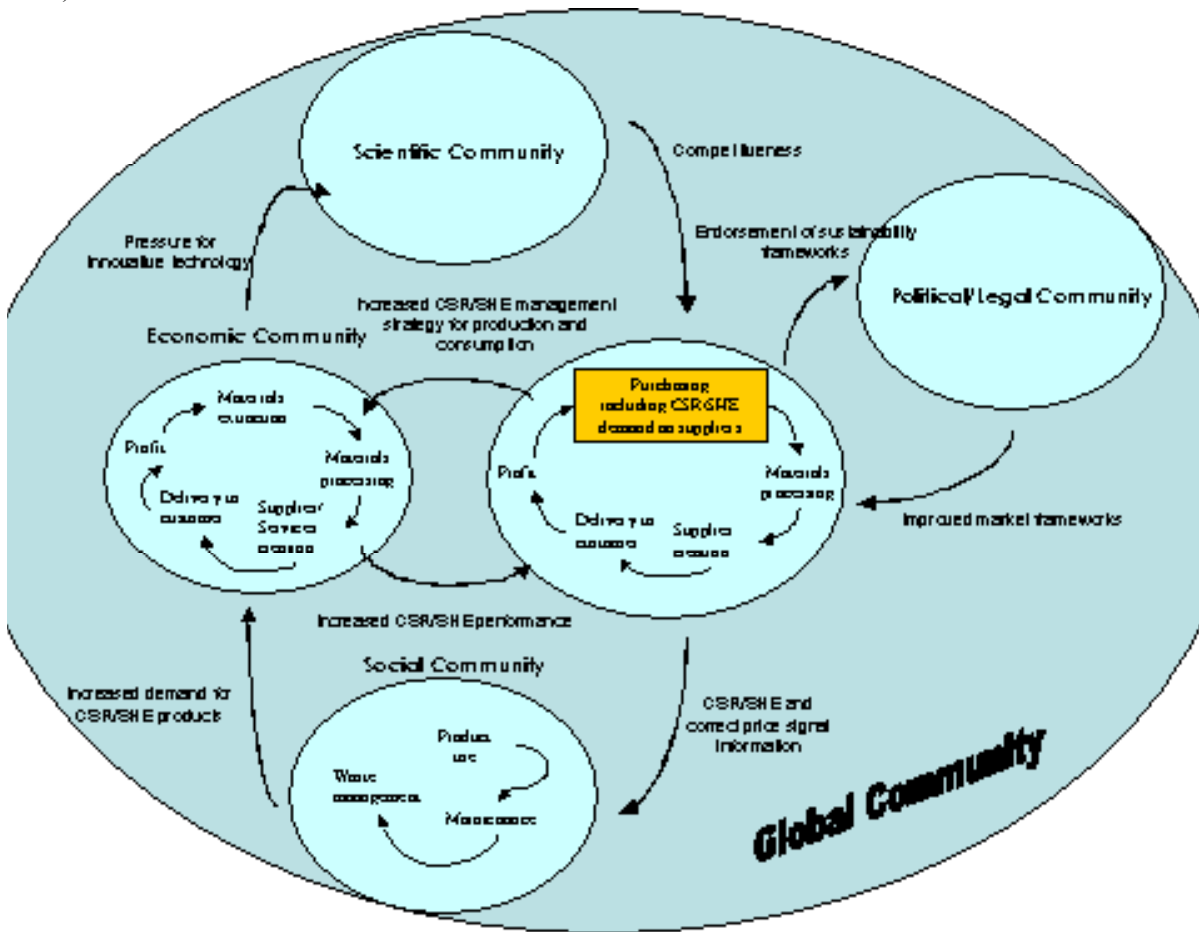


Figure 3-5. Model of CSR/SHE included purchasing strategy promoting sustainable development in economic, social, legal, and scientific communities.

Companies increasingly find that they must communicate with the consumers of the social community, the values and principles on which they base their operations - hence the will to introduce CSR and SHE in businesses and in purchasing. It benefits not only the consumers, but also the producers who have the best practices, since consumers' more sustainable demands will increase the market-share of sustainability-minded companies.

The introduction of CSR/SHE demands in purchasing also shifts the role of businesses from producers to consumers towards other businesses (their suppliers) within the economic community. Through placing pressure on businesses (supply chain management) the company with CSR/SHE demand on suppliers will make them explore the performance zones mentioned earlier (increase management strategy for CSR/SHE performance) at their companies.

Companies including CSR/SHE on their suppliers at purchasing will also pressure the scientific community to the creation of even more innovative technologies. Higher exploration of the performance zones can boost not only innovation, but also competitiveness on the market, decrease costs, and stimulate favorable brand recognition and demand among customers of the social community.

Implementation of CSR/SHE in businesses and purchasing activities also increases the application of political/legal community's sustainability frameworks addressing consumption and production. Improved

market framework conditions are initiatives for businesses to increase competitiveness, which increase their market-shares, decrease costs and increase profits, which increase wealth to political/legal, social, scientific, and economic communities - namely the entire community

3.4. POLITICAL/LLEGAL PRIVATE PURCHASING FRAMEWORK

The private sector differs considerably from the public sector in regards to purchasing activities. First, public purchasing decision-making is often intertwined with political objectives and issues. Second, the budget system used by the government³ does not provide sufficient incentive for budget holders to actively strive for the best value for money. Usually, budgets should be spent in the year they have been assigned. Building up financial reserves and shifting these to the next year is difficult. This explains the “spending fever” that may be observed at the end of each year. Third, most countries still favor a nationalist and protectionist approach when it comes to placing orders at suppliers. In most cases local suppliers, for a variety of reasons, are favored. (Van Weele, 2000, p. 324) The governmental directives on the public sector therefore try to foster a uniform and consistent approach to purchasing decision-making and the environmentally preferred purchasing decision-making in the EU countries. The private sector is, apart from common environmental regulatory and conventional requirements, not steered by EU directives at the same degree.

In the following section it will be demonstrated what the policy makers and the legislative powers have done and are doing to advance environmental considerations in the private sector. Much of the laws, regulations, directives, proposals and decisions that are highlighted in this section are from the environmental controls systems of the European Union. The private companies are however not limited to the EU, therefore effort has been made to present international environmental regulations/guidelines which are commonly applied to multinational corporations. Most of the basic worldwide environmental regulations and directives applicable to the large private sector companies are however quite similar to the EU system. Also, the directives that go beyond conventional environmental regulatory requirements are often voluntary commitments on the behalf of the private sector companies (EU Official document 2, 2001). This is, however, not supported by the findings of Min and Galle (2001) who claim that buying firms which take environmental regulation seriously tend to get involved in green purchasing activities more than firms which do not consider these laws to the same extent. Their findings indicate that environmental regulations have the greatest influence on a firm’s introduction of green activities.

In the European Union strategic focus on environmental issues are made through the Sixth Environmental Action Program (EU Official Document 3, 2001). The program sets out the major priorities and objectives for environment policy over the next 10 years, to year 2010, and details the measures to be taken, as an integral part of the European Community’s strategy for sustainable development.

3.4.1. Existing Legislation and Standards

To date, the legislator’s approach towards business has largely revolved around setting standards and targets and then ensuring companies comply with these standards. This has been supplemented with some market-based instruments, such as: (EU Official Document 3, 2001)

- environmental *taxes* on different products/processes/services (to change price signals in the market in favor of environmentally friendly products);
- environmental *tax reforms* (new/increased environmental taxes while reducing labor taxes in order to further employment).

Environmental taxes have been proven to be effective in both cost and environmental terms, as the differentiated tax rates on leaded vs. unleaded petrol demonstrated, and they also provide incentives for companies to research and invest in less resource intensive technologies. The introduction of environmental

³ By government this section implicitly includes institutions of the central government, the provincial institutions and municipalities, some public bodies such as water supply and energy as well as institutions that are financed by the government.

taxes has often been opposed by the private sector for fear of losses in competitiveness. This explains why most environmental taxes are accompanied by important exemptions. (WBCSD, 2001)

Both within the European Union and internationally a number of programs have been developed, aimed at improving the collaboration between authorities and private companies, and encouraging voluntary action by the private sector to improve their environmental performance. Although these instruments are not primarily focused on products, they might stimulate operators to follow a life cycle⁴ approach. Examples of such instruments are: (EU Official Document 3, 2001)

- The *Eco-Management and Audit Scheme* (EMAS), which encourages companies, on a voluntary basis, to set up site or company-wide environmental management and audit systems that are independently verified by accredited auditors. This system is a EU standard and also applies, in addition to the private sector, to public authorities.
- The international standard *ISO 14001* is a similar environmental management and audit system to EMAS. Other ISO standards include other management systems, for example ISO 9001/2 are quality management and audit systems, which are implemented by a large number of multinational corporations (US-EPA, 1999).
- The *Global Reporting Initiative* (GRI), which was established by the Coalition for Environmentally Friendly Economies and the United Nations Environment Program in 1987, which encourages companies to publish audited environmental or broader sustainable development reports by setting out guidelines on how to report on progress towards meeting sustainable development objectives;
- The *LIFE* program is a Community financial instrument for three major areas of action: Environment, Nature, and Third World Countries. The LIFE III Regulation was published in 2000 and has widened the scope for innovative and demonstration projects designed to illustrate better environmental performance by business and governmental authorities.

3.4.2. New Priority Action

As economic incentives are a main driver, the instruments most effective are probably those, like taxes, that help to correct market failures according to PPP⁵ (the polluter pays principle). Market failures arise when external costs of a product is not reflected in the price, and this is corrected by ensuring that the true environmental cost during the life cycle of products is integrated into the product price. However, some economic incentives, such as subsidies, are showing negative results. Subsidies from the government to the private sector are in some cases resulting in harmful environmental impacts. For example, coal subsidies slow down the shift to cleaner energy production sources because using coal remains artificially cheaper. (WBCSD, 2001)

On the other hand, subsidies can also be used in a beneficial way when they are used to spur development of environmentally friendly production processes. The Commission has adopted new guidelines and strategic approaches to meet environmental objectives set out in the Sixth Environmental Action Program by the following means: (EU Official Document 3, 2001)

- Subsidies having the opposite effect on the environment should be reduced as far as possible, and the Commission is developing a decision on *environmental state aids* which include changes that maximize the potential to use subsidies for environmental purposes whilst ensuring they minimize the impact on competition in the internal market. Companies that fail to meet legislative environmental requirements are penalized. This way, those companies going beyond will be rewarded for their good performances.

⁴The life cycle of a product is often defined as the lifetime of a product from its start point where acquisition of raw materials is carried out to prepare development of the product, through manufacture, packaging and distribution, use, to its end point as waste when it has fulfilled its purpose and therefore is disposed. In a life cycle approach it is required to include the total environmental impact of the product through its entire life cycle.

⁵ PPP is presented in article 174 (2) of the Amsterdam Treaty.

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- The concept of *producer responsibility* has recently been integrated into the EU Directives on End-of-Life Vehicles and Waste Electrical and Electronic Equipment. Producer responsibility relates to the integration of costs occurring once the product has been sold into the price of new products. This encourages prevention at the design stage and allows consumers to bring back end-of-life products free of charge to the producers. The Commission is extending this concept into further areas of Community and Member State legislation.
 - There is currently no standard way of *accounting and reporting for the environment in the annual financial reporting of a company*, which is the principle way for stakeholders to keep themselves informed of the activities, progress, and future plans of the company. To strengthen company financial reporting the Commission has undertaken a study in order to identify disclosers that allow for standardization and comparability of environmental information being presented in corporate annual/financial reports. Guidelines on how to incorporate environmental costs and benefits into a company's annual account might follow.
 - The Commission has put economic incentives forward by calling on the European Investment Bank and other financial institutions, such as the European Bank for Reconstruction and Development, to *strengthen the integration of environmental objectives and considerations into their lending activities*.

Supplementary action is formulated to better inform consumers on the environmental characteristics of products and to encourage producers to develop a better design of products/performances.

Enhancing green demand with the consumers requires need to easy access to understandable, relevant, credible information. This can be available through: (EU Official Document 1, 2001)

- Environmental labeling: ISO has already developed a framework of distinct types of *eco-labels*, differing in degree of life cycle thinking and methodology, for a range of product categories. Comparable to the ISO standard, European eco-labels also exist.
- Green claims and *self-declarations* of environmental information on products, ISO Type II.
- *Product environmental declarations* in line with ISO Type III; consist of quantified environmental data on all significant impacts based on procedures and results from a life cycle study with additional relevant information, for example on environmental management systems or social aspects, if appropriate. Type III declarations are reviewed externally.

Producers need tools and incentives to strengthen business leadership in greener production. By promoting an integrated product policy approach (IPP) throughout the Sixth Environment Action Program the Community wants to encourage the development and availability of tools to improve the environmental performance of products and to strengthen incentives for businesses to take the lead in becoming sustainable companies. Measures to do so include: (EU Official Document 1, 2001)

- For *generation and easy-access of product information* on the life cycle environmental impacts of the products, the Commission considers to assemble in Life Cycle Inventories (LCI) and interpret in Life Cycle Analyses (LCA) such information of products, and gather the information into new databases that will adapt this data to agreed standards. Then stakeholders will have and will be able to use this information on products/services about which they are deciding. The goal of the IPP approach is not necessarily to require full life cycle analysis for all relevant decisions, but, more importantly, to identify key information and its translation into general life cycle thinking.
- A possible instrument to increase the generation and availability of information is to *oblige/encourage producers to supply key data* along the product chain and to consumers.
- The Commission intends to encourage the elaboration, dissemination, and application of *eco-design guidelines*, as one form of effective promotion of life cycle thinking. The development of a strategy for the integration of the environment into the design process will need to take into account the complexity and the diversity of products and the rapidly evolving knowledge and know-how in the design field.

Ensuring Internal Market's Contribution To Sustainable Development	
<i>June 2002</i>	Managerial
<ul style="list-style-type: none"> ▪ Commission proposal for the use of economic instruments for environmental policy which will consider the potential for environmental taxes and charges in the Internal Market 	
<i>December 2001</i>	Legislative
<ul style="list-style-type: none"> ▪ Adoption by European Parliament and Council of a Directive on the promotion of electricity from renewable energy sources in the Internal Electricity Market ▪ Commission proposal for a Framework Directive on Environmental Liability for damages relating to biodiversity, injury of person or property, and contamination of site ▪ Commission Communication on an Integrated Product Policy setting out how the Commission intends to take forward the integration of environmental considerations into the life cycle of products 	
<i>December 2000</i>	
<ul style="list-style-type: none"> ▪ Adoption by European Parliament and Council of an amendment to Council regulation establishing a Community Eco-Label award Scheme ▪ Adoption by European Parliament and Council of an amendment to Council Regulation establishing a Community Environmental Management and Audit Scheme (EMAS) 	Managerial
<ul style="list-style-type: none"> ▪ Commission recommendation on how to integrate environmental considerations into financial reporting ▪ Commission Communication on Environmental Considerations in Public Procurement 	

Table 3-3. Legislative and non-legislative approaches made by the EU for “greening” the market without compromising competitiveness on the internal market for products/services of the private sector (adapted from EU Official Document 5, 2001).

The Commission will by including guidelines on a database. The Commission will also look at the feasibility of promoting green purchasing by introducing an *obligation to carry out, before purchasing, an assessment* of the environmental impact of the different alternatives available that meet the needs of the contracting authorities. (EU Official Document 4, 2000) In this way, decisions will be taken with full awareness of the environmental consequences.

If, despite legislation, injury to persons and damage to their property or to the environment should occur, the Commission will ensure that those who are held responsible for such injury and damage are prevented wherever possible. In December 2001 the Commission proposed a Framework Directive, which establishes *Environmental Liability* on those parties who cause injury to persons or their property, contaminate sites, or cause damage to biodiversity. (EU Official Document 5, 2001)

3.5. INTEGRATING CSR/SHE INTO PRIVATE PURCHASING

3.5.1. CSR and SHE

Environmentally preferable purchasing is often an underlying part of a company’s SHE performance, which in return form an essential part of the comprehensive management system of CSR (corporate social responsibility). There is no formal definition of CSR yet. The WBCSD uses “corporate social responsibility is the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community, and society at large to improve their quality of life” as their definition, to provide insight on how they view CSR (WBCSD, 2002). CSR is essentially a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment, by integrating these concerns in their business operations and in their interaction with their stakeholders. Being socially responsible means not only fulfilling legal expectations, but also going beyond compliance and investing “more” into employee welfare, community programs, charitable donations, stakeholder relationships, and environmental protection. (Carter et al, 2000) Although companies decide voluntarily to adopt CSR, it is not to undermine the power of

commercialism and market advantages. Voluntary action itself flows from the interaction of consumer pressure, media pressure, industry peer pressure, competitiveness pressures etc. This is further explored later in this section.

3.5.1.1. Internal Aspects of CSR and SHE

Within the company, socially responsible practices primarily involve employees and relate to issues such as investing in human capital, and SHE practices. Environmentally responsible practices relate traditionally to the management of natural resources used in the production, but lately the development of greening purchasing activities and supply chain has occurred (Min and Galle, 2001). A major challenge for enterprises today is to attract and retain skilled workers. In this context, relevant measures could include life long learning, empowerment of employees, better information throughout the company, better balance between work, family, and leisure, greater work force diversity, equal pay and career prospects for women, profit sharing and share ownership schemes, concern for job security, and responsible recruitment practices, involving in particular non-discriminatory practices. (Carter and Jennings, 2002)

Health and safety (the S and the H in “SHE”) at work has traditionally been mainly approached by means of legislation and enforcement measures. However, the trend of outsourcing work to contractors and suppliers makes companies more dependent on the safety and health performance of their contractors, especially those who are working within their own premises. (AstraZeneca Internal Reference, 2002) As the focus on occupational health and safety performance and quality of products/services is increasing, companies are increasingly looking at additional ways of promoting health and safety. By using them as criteria in purchasing and as a marketing element for promoting their goods, this can be attained. (Carter et al, 2000)

In the environmental field, environmental investments (the E in “SHE”) are in general reducing the consumption of resources, polluting emissions, waste, and energy. Individual companies have found that less use by attacking the purchasing process, can lead to increased profitability and competitiveness. These environmental investments can be referred to as “win-win” opportunities – good for business and good for the environment. (Van Weele, 2000) This principle has been established for a number of years, and most recently recognized in the Commission’s Sixth Environment Action Program, as illustrated in earlier sections.

3.5.1.2. External Aspects of CSR

CSR extends beyond the doors of the company into the local community and involves a wide range of stakeholders in addition to employees and shareholders: business partners and suppliers, customers, public authorities and NGO’s representing local communities, as well as the environment. Companies contribute to their communities, especially local communities, by providing jobs, wages and benefits, and tax revenues. On the other hand companies depend on the health, stability, and prosperity of the communities in which they operate. For example, they recruit the majority of their employees from the local labor market, and therefore have a direct interest in the local availability of the skills they need. The companies also interact with the local physical environment; for example, there can be a relationship between the environment and the ability of business to attract workers to the region they are located in. The development of positive relations with the local community and thereby the accumulation of social capital is particularly relevant for non-local companies. Multinational companies increasingly use these relations and assets to support the integration of their affiliates into various markets in which they are present. (EU Official Document 2, 2001)

Companies face challenging questions, including how to identify where their areas of responsibility lie as distinct from those of governments, how to monitor whether their business partners are complying with their core values, and how to approach and operate in countries where human rights violations are widespread. Since CSR has a strong human rights dimension, it reduces to some extent the risk of negative consumer reaction, and also helps to improve the company’s corporate image. (AstraZeneca Internal Reference, 2002)

By working closely with business partners, companies can reduce complexity and costs and increase quality. Selection of suppliers is not always exclusively through competitive tendering. In the long run building

relationships may result in fair prices, terms and expectations along with quality and reliable delivery. By applying CSR in supply chain management, companies can guarantee their customers quality, and reliable products and services, in an efficient, ethical and environmentally aware manner. CSR also has an indirect effect on supplier performance through improved trust and cooperation. These effects hold important implications in the areas of customer service, distribution, business-to-business marketing, and profiting. (Carter and Jennings, 2002)

3.5.2. CSR/SHE Practices of AstraZeneca

At AstraZeneca worldwide, the concept of CSR is defined as “all initiatives taken and efforts made by the company to contribute to sustainable development”. The company adopted in 2001 a global strategic approach to corporate social responsibility, with a defined CSR policy and framework. The framework includes a number of other key policies and principles that support the company’s CSR objectives. The key policies and principles are:

- Corporate Social Responsibility Policy
- Code of Conduct
- Safety, Health and Environment Policy
- Global Human Resources Policies
- Bioethics Policy
- Care and Use of Laboratory Animals
- Purchasing Principles
- Other Areas of Public Interest

To study them more closely, the policies and principles are available on the Internet at the international web page of AstraZeneca: http://www.astrazeneca.com/mainnav1/about/csr/policies/c_policies/index.html

The framework for CSR is integrated into all company activities. The company is committed to continuous improvement in their CSR performance through regularly refined action programs, annual internal and external reporting, and regular auditing of their management system.

One of AstraZeneca’s main objectives in their CSR policy is to expand their CSR commitments by encouraging suppliers to embrace standards similar to their own. This involves AstraZeneca to incorporate SHE considerations throughout their whole supply chain.

In AstraZeneca’s Purchasing Principles it is illustrated how exactly this should be carried out. The role of responsibility, general principles for purchasing, CSR/SHE selection criteria when selecting strategic suppliers, contract and business travel requirements, what to include in business review meetings, and implementation strategies are all defined for purchasing. As shown, AstraZeneca has a very well organized, well structured, highly developed, and extensive CSR/SHE framework and management system for the company worldwide. (AstraZeneca Internal Reference, 2002)

3.5.3. Reporting and Auditing

While SHE reports are common today, reports tackling issues such as human rights and child labor are not. The issuing of CSR reports is increasing among corporations. Still a global consensus on the type of information to be disclosed in the report, report format to be used, and the reliability of the evaluation and audit procedure needs to evolve. On the EU level, the Commission has put forward a Recommendation that was adopted in May last years on the “recognition, measurement, and disclosure of environmental issues in the annual accounts and annual reports of companies”. It can be expected to contribute to the development of meaningful, comparable information with regard to environmental issues in the EU. (EU Official Document 2, 2001)

For the last two years AstraZeneca has been issuing CSR reports, in addition to SHE and other more traditional reports.

3.5.4. Effects of Adopting CSR

So far CSR and environmentally preferable purchasing is mainly promoted by a number of large/multinational companies, still a number of companies with good social and environmental records indicate that these activities can result in better performance and can generate more profits and growth (Min and Galle, 2001). The economic impact of CSR can be broken down into direct and indirect effects. Positive direct results may, for example, derive from a better working environment, which leads to a more committed and productive workforce. In addition, indirect effects result from the growing attention of consumers and investors, which will increase their opportunities on the market, and also affect the core assets of a company, such as its brands and image. Further, being recognized as a socially responsible company, for example through listing in an ethical stock market index, it can support the rating of a company and therefore entails concrete financial advantages, since financial institutions are making increasing use of social and environmental checklists to evaluate the risks of loan to, and investments in companies. (EU Official Document 2, 2001) This year AstraZeneca not only stayed in the DJSGI World, but they also made it into the European index, Dow Jones Sustainability Index STOXX, which is harder to make due to the harder competition in Europe. Based on this assessment, AstraZeneca is today in the top 10 percent of sustainability performers worldwide and in the top 20 percent in Europe (in the health care industry). (Dow Jones, 2002)

The US Environmental Protection Agency has in their report “Private Sector Pioneers” (1999) illustrated the results of interviews with eighteen large multinational corporations concerning their environmental purchasing efforts. Companies such as IBM, The Body Shop, Canon, HermanMiller, DaimlerChrysler, McDonald’s, Sony, Warner Bros, and Volvo participated in the study. The results show the companies’ traditional business reasons for adopting environmental purchasing practices include responding to customer interest, distinguishing a company’s products from competitors, pursuing cost savings, and joining an industry trend.

3.5.4.1. Responding to Customer Interest in “Environmentally Friendly” Products and Practices

The companies are taking steps to ensure their purchasing and manufacturing practices reflect the environmental sensitivities of their customers, and they are seeing to that their products incorporate the environmental attributes customers are seeking. Many companies reported receiving phone calls or surveys from existing and potential customers requesting specific environmental information about their products. DaimlerChrysler referenced similar studies, but expressed some concern that it has not yet seen any indication of a strong correlation between customers’ words and customers’ actions. DaimlerChrysler has recent surveys reporting that customers claim environmental performance is important before purchasing an automobile, but similar surveys conducted after an automobile purchase place environmental concerns well below other deciding factors such as the vehicle’s comfort, size, color and engine performance. While customer demand is not a primary reason, DaimlerChrysler is adopting environmentally preferable purchasing practices for other reasons such as to save costs and increase profits.

3.5.4.2. Distinguishing a Company and its Products from Competitors

The companies in the study are also adopting environmentally preferable purchasing and manufacturing practices in an attempt to distinguish themselves from competitors. Since the summer of 1996, Volvo has provided automobile customers in Japan with information on the environmental impacts associated with the manufacture, use and recyclability of each of its models. Following the introduction of environmental specifications, Volvo’s automobile sales in Japan rose 17 percent, from 20.500 units to 24.000 per year. Although it is difficult to quantify any correlation between the increased sales and environmental performance, the company is assuming its products’ environmental performance has some effect. As a result, Volvo is now providing information on the environmental attributes of its automobiles in Europe, Australia and the United States.

The search to improve the environmental attributes of its own products drives Canon’s environmentally preferable purchasing program. Canon believes more and more customers are demanding environmentally

friendly products and cites, in the study, several recent examples of large sales finalized because of its products' environmental attributes.

3.5.4.3. Pursuing Cost Savings

Another important reason many companies are employing environmentally preferable purchasing principles is to pursue potential cost-saving opportunities. Environmentally preferable purchasing requires examining all purchases from a new perspective and questioning previously unchallenged assumptions. Adopting an environmental perspective allows companies to discover and avoid previously hidden costs. It requires looking beyond the initial cost of a product or of a procedural change and examining the savings resulting from reduced material handling, reporting requirements, pollution decrease, or disposal costs that could accumulate over the next five, ten or twenty years. Companies that have adopted this perspective are profiting from the cost savings that result from eliminating unnecessary purchases, avoiding waste disposal costs, and investing in energy-efficient equipment.

DaimlerChrysler saved almost 45 million US Dollars and reduced their pollution impact by 110.580 tons in 1997. Most of these savings resulted from careful screening and tracking of all chemical purchases to eliminate excess purchases; substituting less hazardous chemicals when possible, which significantly decreased disposal costs; and investing in energy-saving measures.

Several companies, including The Body Shop, HermanMiller, IBM and McDonald's, are purchasing lighter-weight or reduced packaging for their products, which significantly reduces product packaging volume, saves money, and reduces impacts on solid waste disposal systems.

3.5.4.4. Joining an Industry Trend

Several of the companies suggested that supplying environmentally preferable products will be an important industry objective in the 21st century. Supplying "environmentally friendly" products requires companies to purchase and use environmentally preferable components in manufactured products and to identify retailers that stock environmentally preferable products (EU Official Document 3, 2001).

In an attempt to identify such products, more than 1.800 Japanese companies and other organizations have joined the Japanese government's Green Purchasing Network (GUN) to learn more about environmentally preferable purchasing and to share product information. GUN has sold more than 10.000 copies of its Environmental Data Books, which compare the environmental attributes of products. (EU Official Document 3, 2001)

As one of the world's leading pharmaceutical companies, AstraZeneca feel they are required to act responsibly. The reasons for it are quite similar to the reasons stated by the above-mentioned companies. In addition, the old and more recent reasons are:

- There is a need to minimize any risk for business interruption due to a supplier having a SHE related accident.
- The insurers for AstraZeneca are becoming more interested in SHE related accidents and liabilities.
- The investors have increased their preference for corporations perceived as environmentally and socially responsible throughout the supply chain.
- Intensified media attention has boosted public opinion in this area.

Also in the case of AstraZeneca, we can conclude that the pressures of safety, health, stakeholder and shareholder interests are pushing to make CSR and SHE issues an integral part of the company's business and identity.

3.5.5. Implementation of CSR/SHE Preferred Purchasing

While companies have incorporated environmentally preferable purchasing principles into their routine operations, very few have formal environmentally preferable purchasing programs in place. Instead,

companies are developing and refining critical components of what could become formal programs. This section provides an overview of these components and of company activities to implement them. The components include developing lists of chemicals to avoid, creating lists of approved products, establishing single-environmental-attribute purchasing programs, considering multiple environmental attributes when making purchasing decisions, and working closely with suppliers to enhance environmental performance

3.5.5.1. Developing Lists of Chemicals to Avoid

Skanska can serve as a good example when it comes to developing lists of chemicals in regards to environmental considerations. Skanska's operations in Sweden have developed an internal database for chemical substances to simplify the selection process of environmentally benign chemicals, and by that also ensure that the employees of the company use the chemical selection process. The database is designed to be accessible at all work sites in Sweden through the Skanska Intranet. It began to emerge during 1998, and today it contains environmental assessments of some 4.500 chemical products.

The database of Chemical Products serves as an effective tool to provide Skanska employees with environmental and health information about chemical products. Based on internal lists of environmentally polluting substances as well as other environmental standards, a product is classified as Restricted (meaning prohibited), Phase-out, Approved or Skanska's Environmental Selection. A table of products is provided so that employees can conduct their own searches based on product type, product name and manufacturer. The contents of the database are continually updated. An international version of the database was recently launched for Skanska employees worldwide. Its assessments of chemical products are based on Skanska's Global List of Substances. (Karin Jönsson, Skanska Sweden AB)

3.5.5.2. Creating Lists of Approved Products

One of the many challenges companies face when implementing an environmentally preferable purchasing program is determining which products on the market are environmentally preferable. While one approach is to eliminate the purchase of all products containing certain chemicals or possessing specific adverse environmental attributes, another method is to develop a list of approved products. Some companies have found that developing an approved products list simplifies the purchasing process because employees simply consult the list before making a purchase, which eliminates the need to screen products against a list of prohibited attributes (UN-EPA, 1999). As shown before, Skanska has approached this also in their makings of a database for chemicals.

3.5.5.3. Establishing Single-Environmental-Attribute Purchasing Programs

When incorporating environmental concerns into purchasing policies, many companies begin with an emphasis on a single environmental attribute. The "buy recycled" program adopted by many companies is an example of a single-attribute program. These companies focus on purchasing products with the highest recycled-content levels. Several companies have found "buy recycled" programs easy to introduce because employees and customers recycle at home and have been exposed to "buy recycled" messages since the early 1980s. Additionally, many manufacturers and suppliers promote and supply a wide variety of recycled-content products. (UN-EPA, 1999)

Since 1990, McDonald's and its more than 24.000 franchise restaurants have spent nearly 3 billion US Dollars on the purchase of recycled-content products. The company is currently spending 350 million US Dollars a year for a wide variety of recycled-content products including dining trays, construction materials, chairs, tables, carpeting, insulation, playground equipment, tiles, napkins, and other paper products and packaging. Other single-attribute programs focus on energy and water efficiency. (UN-EPA, 1999)

3.5.5.4. Considering Multiple Environmental Attributes When Making Purchasing Decisions

While many successful environmental purchasing programs emphasize single environmental attributes, such as recycled content or energy efficiency, companies are increasingly examining multiple environmental attributes before making purchasing decisions. Examining multiple attributes allows companies to further define the economic and environmental differences between products and services when making purchasing

decisions. Some companies examine only those environmental attributes of importance to the company, while others rely on detailed life cycle assessments to compare products. Once companies begin examining multiple environmental attributes for the products they manufacture and begin looking for ways to maximize those attributes, they sometimes discover that improving one environmental aspect harms other environmental aspects or adversely affects other important product attributes such as price or performance. Consequently, companies must determine which attributes are most important to their customers and to the company.

As part of its social and environmental objectives, The Body Shop attempts to avoid the use of animal-derived ingredients, petroleum-based, and synthetic chemicals whenever possible. Every product, however, must meet stringent performance requirements, which sometimes requires the use of chemicals it would otherwise avoid. For example, The Body Shop uses synthetic musk and synthetic whale oils because it believes the synthetic alternatives are more environmentally preferable than the natural alternatives, which would involve destroying the animals from which the oils would be collected. (Wycherley, 1999)

3.5.5.5. Working Closely With Suppliers to Enhance Environmental Performance

In order for many companies to implement environmentally preferable purchasing activities, they must work closely with suppliers to ensure they adequately understand the company's performance, price and environmental requirements. Numerous companies now survey suppliers to assess their ability to help the company achieve its environmental objectives.

Within the group for "Purchase of Environmentally Sound Transportation" initiated by TetraPak (Johan Borglin, TetraPak Sweden AB) a number of representatives from companies that purchase transportation, have agreed upon a common set of documents that may be used to evaluate and follow up suppliers. The purpose of the documents is to work towards improving the environmental effects from transportation, nationally and internationally. Furthermore, the purpose is to increase the communication between the involved parties to achieve constant improvement within the transport sector, on all levels and fronts. One of the documents is "Environmental Evaluation of Suppliers" which contains general questions to evaluate the environmental work of a supplier. The idea is to refer the supplier to this questionnaire, for example, as part of a request for quotation. The advantage of using this questionnaire is that information about the supplier's environmental work is collected in the same manner, irrespective of the purchaser. This will therefore also reduce the workload placed on the supplier, who may use the same questionnaire to reply to several purchasers. The questionnaire is designed to also cover evaluation of suppliers of travel related services (transports of personnel).

3.6. SUMMARY ANALYTICAL FRAMEWORK

One of the conclusions that can be drawn from this chapter is that purchasing is more than supply. Purchasing decisions have a heavy impact on the company's net results, which makes purchasing strategy so important. The strategy of purchasing is a tool that can be directed strategically to advance financial cost savings and other business goals. The introduction of CSR and SHE in purchasing could be considered as a new strategy, which will positively affect the firms' pursuit of profit, new markets, higher market share, improvement of brand image, and also sustainability in the context of social, economic, and natural sustainability. This is the reason for why an expanding number of large corporations are increasingly adopting CSR and SHE concerns in their purchasing. Policy makers and legislative powers are promoting businesses to adopt CSR and SHE frameworks, and in return they are improving market framework conditions, which will contribute to the ability of firms to expand their business and wealth.

While companies are increasingly adopting CSR and SHE principles in purchasing, very few have actually implemented CSR and SHE into a management practice. Companies are now developing activities to implement CSR and SHE, which are: developing lists of chemicals to avoid, creating lists of approved products, establishing single-environmental-attribute purchasing programs, considering multiple environmental attributes when making purchasing decisions, and working closely with suppliers to enhance

environmental performance. Buyers apparently have an important role to play in the development of a CSR/SHE purchasing system and these also considered in supply chain management. The buyers should ensure an optimal purchasing system, including CSR and SHE criteria. How to develop this system is the main concern.

AstraZeneca R&D site in Lund, Sweden has adopted a global strategic approach to CSR, with defined framework and a number of policies and principles included, such as SHE. The CSR framework and SHE is being implemented into purchasing activities and throughout the entire supply chain.

4 APPLICATION, RESULTS AND DISCUSSION

While companies increasingly recognize their social and SHE responsibilities, many of them have yet to adopt management practices that reflect it. They have to integrate CSR and SHE in their day-to-day management involving their whole supply chain, companies' employees and managers. In this section the findings of the study for this thesis will be examined to see how these management practices can be adopted so that they are reflected in the firm's purchasing activities.

4.1. INTERVIEWS WITH BUYERS

Interviews with buyers at AstraZeneca R&D Lund were used to illuminate how buyers interpret and apply the requirements of CSR and SHE in their purchasing practices. Purchasing managers, lead buyers, senior buyers, and buyer/assistant buyers were interviewed individually. Most of them are professional buyers working from the centralized purchasing department, except for 3 buyers who work on a transactional level with decentralized purchases. The questions were grouped into the following sections: buyer profile, CSR/SHE knowledge, CSR/SHE review, objectives, and targets, criteria for purchasing decisions, supplier selection criteria, and local implementation plans for greener purchasing. The questions asked at the interviews are shown in Appendix A.

The structured interviews had room for follow-up questions and semi-open ended discussions. The answers have been analyzed into a set of groups as follows: CSR/SHE action already taken, knowledge of buyers, management responsibilities, CSR/SHE objectives, reviews and targets, and purchasing mechanisms.

The centralized purchasing structure at AstraZeneca Lund is part of a new organization, which means purchasing activities have not functioned in a centralized manner for less than three years. In general, many new practicalities and purchasing practices are therefore being developed and implemented, rather than functioning already. From the interviews of the buyers it is confirmed that CSR and SHE responsibilities are well recognized. Some aspects of SHE have been integrated to the management practices of purchasing very well, such as employee health issues and safety issues. These are regularly considered in all purchasing activities. There are, however, indications of that CSR and environmental concerns are less integrated in purchasing practices, compared to health and safety, in some areas.

4.1.1. CSR/SHE Action Already Taken

Some of the initial work made by buyers in regards to CSR/SHE in purchasing activities have been, for example, to implement CSR/SHE clauses in contracts and agreements, and including CSR/SHE on the agenda of smaller business review meetings with suppliers. As a first attempt to approach suppliers in these issues, information on AstraZeneca CSR and SHE policy, and AstraZeneca's wish to act as a responsible global citizen and thereby purchase from suppliers who have or wants to embrace similar considerations in the issues of CSR and SHE, has been sent out to most strategic suppliers. Surveying suppliers in regards to CSR/SHE was mentioned as an effective way to identify CSR/SHE performances of supplier companies. This analysis would present valuable CSR/SHE information, which could serve as one of the basic criteria/aspects, that sourcing decisions are based on when selecting preferred/strategic suppliers. It is emphasized by Quayle (2002) that sourcing decisions are affected by the companies' policies in the matter of sourcing strategies, and so the policies are hindering good sourcing decisions. Not having the policies, in the case of AstraZeneca, would result in very little directives for making strategic sourcing decisions, which would imply a decentralized purchasing structure, with less possibilities of introducing CSR/SHE aspects, as supported by findings of Warner and Ryall (2001). Their findings of "green" purchasing being difficult to implement in a decentralized purchasing structure, although applicable to local authorities in their survey, are found relevant also for the private sector.

The second attempt for approaching suppliers has been through surveying strategic suppliers with the purpose of mapping their CSR/SHE performances, mainly as a part of the author's research for this thesis. The author's involvement in the CSR/SHE implementation process of purchasing practices has increased the awareness of CSR/SHE issues among both purchasers and strategic suppliers, and has pushed the whole process one step forward. The purchasing department has taken these initiatives. The buyers are showing willingness to make efforts for the integration of SHE/CSR issues in their purchasing activities, and many efforts has already been made in the issues of safety and health.

4.1.2. Knowledge and Training Needs

Even though the buyers have so far received only limited introductory training in CSR/SHE, the overall level of knowledge on these issues is good, and they all agreed on having been communicated from management in this matter. The training needs have been well identified from management, but there is a need for further training among buyers. The need for support from SHE management was raised when discussing identification of CSR/SHE objectives for the purchasing location, setting up targets, and reviewing the whole system. While some actions for implementation of CSR/SHE into purchasing activities have been initiated, there is a need for the development of a local plan for systematic implementation of CSR/SHE criteria into purchasing. Both the SHE department and Purchasing, which has developed a closer collaboration between the two departments, prioritize the implementation process. In this collaboration there is a necessity for the SHE department to offer the buyers proper training to enhance their CSR/SHE purchasing skills.

There are also indications of need for implementing a process for the management of a CSR/SHE supply chain program. The management process needs to be implemented into the practices of purchasing, together with continuous support from the SHE department. The buyers see themselves as generalists, meaning they have general knowledge and insights in many aspects when performing purchasing activities. A buyer needs to have some understanding in many areas when considering a purchase or supplier. Not only do they need to consider CSR/SHE aspects, they also need to consider aspects of legal, financial, logistic, risk management, and etc, to be able to perform a good job. While purchasing is increasing in importance for business, purchasers need to decide their purchases from a greater holistic view. In the development of the process for managing purchasing and supply management, CSR/SHE criteria needs to be added as a natural part of the process, and the support from SHE could be added upon special actions. For example, when performing larger audits of strategic partners, including CSR/SHE aspects, specialized SHE/CSR support is provided.

4.1.3. Business Benefits

It was interesting to analyze what the buyers felt about CSR/SHE integration into purchasing, in terms of business benefit. Being aware of the benefits would increase the initiatives and understanding for implementing CSR/SHE into purchasing management. The buyers could see advantages in many areas. For example, the introduction of increased video conferences instead of business trips had not only made work more effective and timesaving, but also less energy draining and less stressful, which was perceived very positively. The integration of CSR/SHE also increases safety and health issues for the employees, which makes the working environment much more stable and reliable, and employees are benefiting from it. For example, it minimizes the risks of suppliers handling SHE/CSR issues against the law, it increases trust between customer-supplier relationship, it promotes a better environment both internally and externally, not to mention the image of being a serious, caring company, which increases the firms position as a preferred customer.

4.1.4. Purchasing Targets

CSR/SHE issues in purchasing is not conflicting with other areas of interest, instead it is contributing to higher degrees of quality, security, and performance, which has been understood by management. The AstraZeneca R&D Lund purchasing improvement targets for this year is to develop the purchasing process into a fully centralized system, by shifting over to a computer based purchasing system, which is applicable for the entire country. After making strategic sourcing decisions on strategic suppliers, these suppliers are introduced into the computerized purchasing system, which can be used by all purchasers in the Swedish part

of the company. The computer-based system includes electronic catalogs with strategic suppliers for purchasing. This way supplier management system is highly improved, green supply chain management is applied through increased control of suppliers and purchasing activities, and by placing a larger demand for supplies and services to fewer supplier companies the purchasers can negotiate better deals. At the sourcing of a prominent supplier for laboratory supplies at AstraZeneca, SHE criteria was the cause for rerouting supplies coming in from Stockholm by flight, to delivering them by ground transport from Copenhagen. The SHE advantages were great, as well as advantages in delivery time and cost.

At the moment, all purchases have not been centralized to the degree AstraZeneca Lund would prefer. Still, about 30 percent of all purchases are encountered by the problem of employees (local end user) at different locations, with sometimes no professional purchasing skills, purchasing their own supplies, with no regards to strategically negotiated broader agreements or locally negotiated, for ensuring advantage of discounts/possibilities from suppliers for the purchase. As a result, the local end user, having no professional purchasing and often no CSR/SHE skills, have determined which supplier to involve in the purchase, and since professional purchasers are introduced so late in the process, there are no means for avoiding duplicate of work, or agreeing to a less suitable supplier. If the majority of external spending would be conducted in this manner, the system would not be defined as a centralized structure. Findings of Warner and Ryall's (2001) research show that the most important stage in the selection of suppliers is contract specification, as this ensures that all relevant CSR/SHE considerations are included in the contracts from the beginning. When professional purchasers are not involved in the process of contract specification or they are included very late in the process, the chances for CSR/SHE considerations to be neglected in the contracts from the beginning are much greater. This problem is, however, diminishing. The introduction of the national computer based purchasing system is an attempt to minimize these purchases on the transactional level. The purchasing system should maintain centralized, while the transactions (purchase-to-pay processes) are performed dispersed. The closer collaboration between SHE and purchasing means to steer up the process for centralized purchasing with CSR/SHE included.

The computer based system could also be used as a canal for information to internal workers, and thereby it can operate as a tool for spreading CSR/SHE information. In the long run, CSR/SHE criteria could be attached to the computer based system for purchasing, which would make it impossible for purchasers not to fulfill these criteria. Another possibility could be to program the system to always attach CSR/SHE information when sending out purchasing orders. As this section shows, a centralized system brings out many possibilities, also in terms of CSR and SHE.

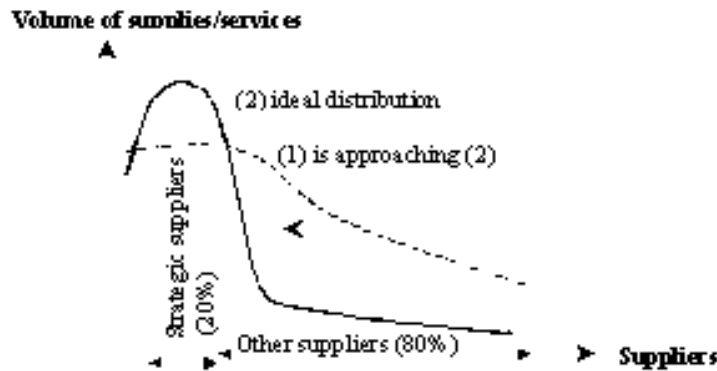
4.2. SUPPLIER EVALUATION FORMS

Evaluation forms pertaining CSR and SHE issues were sent out to almost 30 strategic suppliers. (To see formulation of the evaluation form, see Appendix B.) These strategic suppliers were chosen because of recommendations from buyers, but also because the largest laboratory purchases per year, in economic terms and volume, are requested from these supplier firms. This way, it would be possible to examine a large part of the principle CSR/SHE aspects of R&D Lund.

4.2.1. Focusing on Strategic Suppliers

AstraZeneca's purchases can to a great extent be described as the graph of The relationship between strategic suppliers and purchased volume. Curve number one is ap. The target is to focus the majority of purchases to few strategic suppliers, while a less significant amount of supplies and services could be purchased from a larger number of suppliers, as illustrated by curve number one. Today's purchases on site resemble curve number two, and the tendency is to shape the curve as number one. Through intensive strategic sourcing the strategic suppliers, with the best CSR/SHE performance as one of the criteria, will be selected, so the majority of external spending is purchased at few strategic suppliers, and the rest of the purchases are carried out using many small supplier firms (the intent is of course to reduce the number of small suppliers as far as possible and try to focus all purchases to only strategic suppliers).

This on the other hand does not have to imply that the smaller supplier companies are insignificant in terms of CSR/SHE. On the contrary, these are often less developed when it comes to endorsing expanded systems in any areas, which often is the consequence of being such a small company. By introducing effective supplier sourcing on the operational level, for example by including CSR/SHE clauses in contracts and educating the staff on CSR/SHE issues even on this level, it would be possible to enhance AstraZeneca's total CSR/SHE performance. For this research, however, it will be focused only on strategic suppliers. By making the strategic suppliers aware and encouraging them to embrace similar standards as to AstraZeneca in regards to CSR/SHE, AstraZeneca CSR/SHE performance is intended to increase significantly. These strategic suppliers will, in addition, impact their customers and majority of subcontractors. Focusing on strategic suppliers appears to be an agreeable first attempt in "greening" supply chains and promoting sustainable markets, consumption, and production



solutions.

Figure 4-1. The relationship between strategic suppliers and purchased volume. Curve number one is approaching curve number two at AstraZeneca, Lund.

4.2.2. Evaluation Analysis

A submitted evaluation form would provide information on current and/or planned CSR/SHE practices and management system, level of CSR/SHE training of employees, routine for maintaining and following environmental laws and regulations, and if the company would accept regular auditing of their CSR/SHE performance by AstraZeneca. The response rate was recorded to 60 percent (eighteen suppliers out of thirty-one supplier firms). Considering time limitation and scope for this research, the response rate was satisfying. The evaluation forms were graded by weighing the answers on a point-scale. Assessment and distribution of points has been added in parenthesis behind the room for answers in Appendix B. The results of the supplier companies' CSR/SHE performances are illustrated in Scattered graph of 18 strategic suppliers' scores on the evaluation form. (Suppliers' names are a-r.).

The final scores of the strategic supplier companies a-r are plotted out on the graph. For passing the evaluation, the suppliers need a minimum of 40 points. The minimum level requires the companies to maintain environmental laws and regulations, and to have a minimum of CSR and SHE practices. The suppliers' performances have been divided into areas of red, yellow, and green. Red area indicates disqualified performance. Suppliers in yellow area have approved CSR/SHE performance but have possibilities to improve. Green area indicates "green" (qualified) performance. As shown, no strategic supplier was disqualified on their CSR/SHE performance. If the suppliers are certified by internationally recognized standards such as ISO 14001 or ISO 9001, they are given 150 points, which places them among the green suppliers.

4.2.2.1. Green Suppliers

The group of suppliers with green performance consists of suppliers that are certified and they have also received first-rate scores for their CSR/SHE performances. All six companies are certified in accordance with ISO 14001; some of them are even certified with ISO 9001/2, except company q and l, which are certified only with ISO 9001.

While ISO 9001 does include safety issues, it does not necessarily ensure health, environmental, and CSR management practices. In the case of company q, these considerations have been adopted to the quality management system. However, in the case of company l, they do not apply CSR, health, and environmental considerations in their activities, and still they are one of the companies with the highest CSR/SHE performances. This company has been given very high scores because of its certification with ISO 9001. This is found to be a weakness of the evaluation form, since the company's absence in CSR, health, and environmental performances is not reflected in the assessment. Company l has been interviewed individually, and this issue will be further discussed in next section.

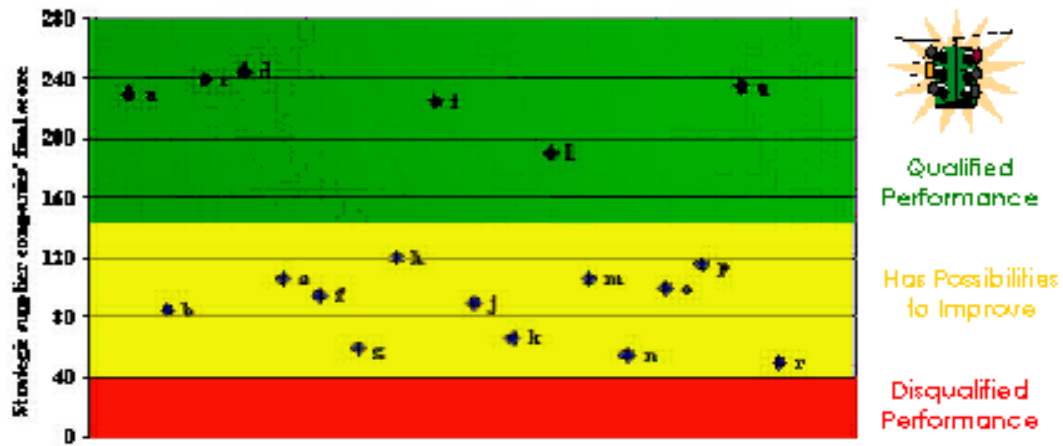


Figure 4-2. Scattered graph of 18 strategic suppliers' scores on the evaluation form. (Suppliers' names are a-r.)

4.2.2.2. Yellow Suppliers

The suppliers within the yellow section have scored between 40 and 150. Their CSR/SHE performance is approved, but they are lacking in some parts in their performance, which need attention, and they have the possibility to improve. Through green supply management including business review meetings, these suppliers will be encouraged to improve their performance in those areas needed to. If the suppliers would show little willingness to improve performance in regards to CSR/SHE, they will eventually be excluded. The yellow suppliers are clearly in different stages of improving their performance. For example, supplier company r has the poorest performance among the companies. The main reason for this is that this company only has one sales division with only 4 employees working in Sweden. Since the CSR/SHE performance of the companies is evaluated for only business units within Sweden, it is often the case that the companies that have small divisions represented in Sweden can not show very thorough CSR/SHE performances. This applies also to company e (12 employees) and company g (19 employees).

The reason for making the disqualified area (red) smaller than the others is that this area is meant for companies with no considerations to CSR and SHE, which is not the case for these suppliers as to the evaluation results. However, the companies placed in lower yellow part need to significantly increase their CSR/SHE performance within a time period of, for example, a year, or they will be excluded from the list.

Some of the companies from the yellow group are planning on certifying themselves in accordance with ISO standards. A certification would immediately place a company in the group of green performers. A few

companies are aiming at having being certified already by next year, which would improve the positions of many companies from the yellow sector to move up to green area. The objective is then to make sure these companies stay in the green area through regular annual audits of the suppliers.

All eighteen supplier companies participating in this evaluation have allowed AstraZeneca to perform annual audits of their CSR/SHE performance. It could be worth mentioning that one supplier, company i, has denied this request, even though they maintain a wide-ranging CSR/SHE management system already. Most of the companies, however, put pressure on the importance of feedback from the customer (in this case AstraZeneca) and regular auditing when dealing with issues of CSR/SHE and company performance. They felt confident that this initiative was the beginning of a developing process since AstraZeneca is aware of the significance of follow-ups. This stresses the importance of the implementation of a management process including CSR/SHE, a process that is “owned” by the purchasers, and audits are a natural part of the management process. It is significant the buyers feel the process is an integrated management process, so that it is acknowledged and held fully by the buyers, while qualified SHE support capabilities are established within AstraZeneca, for supporting purchasing at need, such as at auditing procedures.

4.3. INTERVIEWS WITH SUPPLIER REPRESENTATIVE

Out of the supplier companies participating in the evaluation, seven companies took part in individual interviews (a response rate recorded to 40 percent). These interviews gave an opportunity to reflect and analyze what the company earlier in the evaluation form had answered. It also served as an opening to further develop customer-supplier relationship in the issues of CSR/SHE customer demands and supplier response. In detail, the interviews provided clarifying data on green purchasing practices, corporate CSR/SHE consciousness, reasons for adopting these, business benefit gained so far because of CSR/SHE issues, and future planned actions in this area because of pressure of “greener” demands from customers, such as AstraZeneca. Company n, d, q, l, o, e, and m participated in the interviews; three of them had “green” results at the evaluation, and the other four were graded as “yellow”. To view which specific questions were asked to keep the interviews structured, see Appendix C.

4.3.1. Evaluation Assessment Analysis

To assure that the interviewees are familiar with their company policy on CSR and SHE, they were asked to confirm what had been written in the evaluation form and to share their insights and experiences of CSR and SHE. All the interviewees’ responds were as expected similar to what had been said in the evaluation form, except for company l. The representative for this company was not familiar with the concepts and explained that comparable concepts are not established at their company. This was the impression when evaluating this company earlier, and at the interview it could be confirmed that even though this company have certified to ISO 9001, they are lacking from any form of considerations toward CSR and the environment in their business practices. Any form of certification of a recognized standard is given high points in the evaluation, which resulted in that a company not considering CSR and environmental issues still receives a very high

total score and good final grade, which is illustrated by the case of company l.

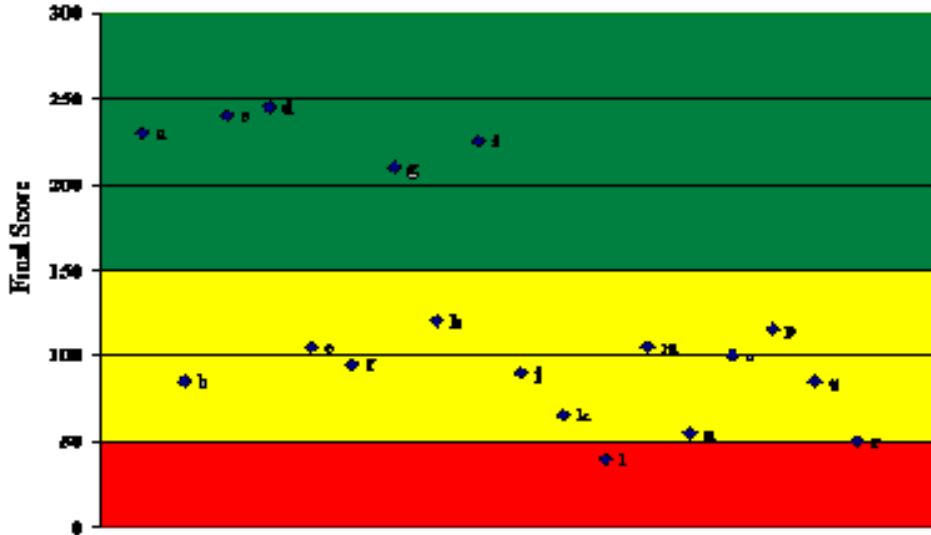


Figure 4-3. Changes to evaluation form assessment disqualify supplier company l and supplier company r, and company n is very close to the limit as well. The yellow suppliers need to be closely monitored, especially the suppliers in the lower part of the yellow area. It is left only five strategic supplier companies with satisfying green performance.

Since ISO 9001 do not ensure CSR or environmental and health aspects, it is re-evaluated to not give 150 points when a company is certified according to only ISO 9000 standards. In that case company l ends up with a total score of 40 points, when subtracted by 150 points. That still puts the company in between red and yellow areas on the graph, which indicates the limit of 40 points for pass may be too low. A company which is not applying any CSR or almost any SHE in their business should be disqualified in their CSR/SHE performance. Thereby the limit for passing is lifted to 50 points. This results in that company l and company r are disqualified, and company n is very close to the red area having only 55 points. Company q was also mentioned to be certified according to only ISO 9001. When subtracting 150 points from this company, the final score is 85 points. This indicates that they have good practices, even though it could be improved, for ensuring CSR/SHE considerations in their ISO 9001 system. The graph's appearance will look a little bit different after the changes, which is shown in Changes to evaluation form assessment disqualify supplier company l and supplier company r, and co.

The interesting finding is that a recognized large company, like company l, can seem very improved and developed in their management system, despite the fact that they are overlooking essential aspects of CSR/SHE. Using surveys as a sourcing-tool for mapping suppliers in respect to various aspects may be effective, but it is recommended to formulate the surveys carefully to assure that they are appropriate for its application.

4.3.2. ISO 14001 an Effective Tool for Implementation of CSR/SHE

The other companies that have certified to ISO 14001 and preferably also to ISO 9000 standard, believe that it is an advantage in the eyes of customers, to have certification of this kind. Moreover, it gives an opportunity to companies to systematically organize their (CSR)/SHE practices, since the standards forces companies to create systems and tools to control their practices. At annual ISO 14001 reviews of environmental aspects, identification of new aspects are conducted to ensure continuous improvements. Through audits purchasing has increasingly been identified as an important aspect that could be improved, which has often lead to the introduction of environmentally preferable purchasing at these firms. It is an advantage to have certified to both ISO standards, since ISO 14001 is an environmental management and

audit tool, and ISO 9001/2 is a quality management and audit tool, together they can monitor and control the entire SHE aspects of the companies. Although it is often expensive to implement, it facilitates the collection and evaluation of SHE data. When a company certifies to ISO 14001/ISO 9000 standards, it often requires such certification by its suppliers as well. When suppliers are certified, it is easier for these companies to get data about their suppliers' CSR/SHE practices. Some of the companies already have supplier management systems with their subcontractors, in addition to their own internal CSR/SHE monitoring practices, and some are incorporating CSR/SHE supply chain management, similar to what AstraZeneca is doing, in an attempt to pursue cost-savings and other advantages mentioned above.

4.3.3. CSR/SHE Improvements

Concepts such as CSR and SHE will only work if their benefits outweigh the costs. As a result of efficient teamwork on the part of companies and suppliers, mainly SHE management has been effectively arranged to meet goals of energy use reduction, materials substitution and reduction, elimination of hazardous substances, and waste management systems. An example of managing waste is, through the cooperation with subcontractors wastes of products from these contractors are returned to these companies. The subcontractors take full responsibility of their supplies and so they accept and handle the waste from their products.

4.3.4. Increased Customer Demand

In regards to CSR, it could be established that it is a developing concept and framework. Companies realize that as far as CSR matters are concerned, they are still at an early stage. While SHE management and policy standards seem much more common, the organization of CSR seemed to be establishing among most interviewee companies.

However, the interviewees emphasized the increased customer demands in the areas of CSR and SHE, and that they are starting to get used to being surveyed and assessed by customers in regards to these issues, in a similar way as to the evaluation form they had submitted earlier. The emphasis from customers on CSR and SHE has increased, according to the companies, during the last couple of years, and much of the work established so far at their companies is partly because of customer pressure. SHE activities are driven by regulations, but also by customer demands, and issues of cost and quality. This confirms the theory of companies developing CSR and SHE management systems because of external pressures, and business interests.

4.3.5. Business Benefits

The interviewees could all see the advantages of establishing these concepts and integrating them in their business. Firstly, they concurred that customer demands are very important, and they were willing to make changes to please their customers. "Customers come first" was an ongoing concern, among the supplier companies, which was repeated quite frequently. Secondly, many of them could see connections between integrating CSR/SHE and a better internal atmosphere, and improved company image externally, which all contributes to increased quality of performance and business, in other words profit. Some of the company representatives even dared to say that their CSR/SHE improvements depend on customer demands. A few companies argued that they will consider CSR/SHE to the extent their customers want them to do so. Is there a demand for it, and then they will consider how to supply it. One company gave an example on how this is applied in practice when the representative explained that their company's SHE management works closely to some of their customers' SHE managements, which makes the communication between companies and implementation process regarding this issue, much easier and effective. Thirdly, the companies have observed that their structural expenditure, insurance costs, and overall expenses have decreased since implementing SHE management system, meaning the companies are advancing financial savings by incorporating CSR/SHE.

4.4. COMPARING BUYERS' AND SUPPLIERS' ANSWERS

Both suppliers and buyers are aware of that higher CSR/SHE performance in purchasing activities is beneficial for business. The perspective of quality increases internally and externally, risk minimization,

better customer-supplier relationship, new markets, higher market share, improvement of brand image and preference as a customer, and financial cost savings could be listed as main interests. CSR/SHE issues in purchasing is not conflicting with other priority areas of interest for business, in fact, it is instead in the companies' commercial interest. Both customer and supplier being positive to the implementation of CSR/SHE in business, implies faster change in shorter time period.

The importance of regular business review meetings (audits) has been emphasized of both buyers and suppliers. By always including CSR/SHE aspects on the agenda at the meetings, the importance of these aspects will eventually go through to all actors; it will also facilitate the need for continuous follow-ups in the performances of the companies to ensure upholding of the system. The significance of feedback to the suppliers on their results is an important part of CSR/SHE monitoring and auditing system. Skanska was mentioned in earlier chapter, they have managed this issue by displaying their suppliers' results of surveys on the Internet. The suppliers thereby have free access to feedback information; they can also compare their performance to other supplier companies, which must be a very effective way to make suppliers implement those CSR/SHE standards preferable to customer. (Karin Jönsson, Skanska Sweden AB)

4.5. CSR AND SHE IN PURCHASING POSITIVELY AFFECTING SUSTAINABILITY

A model showing how sustainable development could be promoted through markets have been developed in chapter three to explain the loops and feedback-loops for the market system in society and the introduction of CSR and SHE considerations in this system. The results of this study has identified and confirmed that the introduction of CSR/SHE considerations in purchasing will promote sustainability.

It is evident that there are initiatives for the private large firms to restructure the role of purchasing and the responsibilities of buyers for making implementation of CSR/SHE in purchasing activities and in supply chain management smoother. By implementing CSR/SHE in purchasing and in supply chain management, firms are gaining business benefits such as stronger positioning in the market by increased market shares and establishment of new markets; efficiency and quality of business; and overall financial cost savings. This will make businesses earn higher profits, which is a key initiative for them to implement CSR/SHE considerations in business activities.

Suppliers responding to their customer demands very positively enable the implementation of CSR/SHE practices in supply chain management. The supplier companies are being willing to this change mainly because of two reasons; firstly, the suppliers are feeling increasing customer demands in this issue, and secondly, the supplier firms would gain the same business benefits as their customers by implementing CSR/SHE considerations to their business, and to their management of their sub-contractors.

Several concrete actions have been suggested for how to advance in the fulfillment of the CSR/SHE implementation process in businesses. Some of these actions are training efforts of buyers, including CSR/SHE clauses in contracts and agreements, including CSR/SHE criteria early in the sourcing process for the selection of strategic suppliers, establishing system for a well-functioning supply management, and performing regular audits of both suppliers and their own business.

Tool	Benefit	Beneficiary
Safety	Quality increasing Compliance Safety performance Reliability Business risk management Supplier performance ensuring	Buyer firms Supplier firms Society

Health	Cost savings in health and welfare Improved working environment Employee efficiency Increased performance	Buyer firms Society
Environment	Security of supply Shorter delivery time Cost savings Environmentally friendly Waste reduction Resource efficiency Market opportunities Compliance with legislation Technological innovation	Buyer firms Supplier firms Society Other stakeholders
Social responsibility	Trust Cooperation Commitment Communication Competitiveness Brand recognition	Buyer firms Supplier firms Society Other stakeholders
Management system	Continuous improvement Regular follow-ups Better understanding (of suppliers) Benefiting from others ISO 14001 registration	Buyer firm Supplier firms Society Other stakeholders

Table 4-1. Effects of implementing CSR and SHE in purchasing.

The interest in this issue from both buyer and supplier firms creates an enormous willingness to change, which indicates a fast development of the process for CSR/SHE considerations being introduced to the market. How the introduction of CSR and SHE in the market will promote sustainable consumption and production methods, will increase pressure on technological innovations, will enhance the legal community to promote market friendly framework, will increase wealth of global community, and how it will lead to sustainability, has been described and examined in chapter three.

It is demonstrated that the introduction of CSR/SHE in purchasing in large companies could be used as an effective tool against greening the market and promoting sustainable development. It is not only a powerful tool, but properly structured, it could be among the less painful. Effects of implementing CSR and SHE in purchasing. summarizes the main conclusions for this discussion.

4.6. VALIDITY OF RESEARCH

In interpreting the results, it must be born in mind that, the 60 percent of suppliers that responded to the survey probably represent those with the greatest CSR/SHE awareness, commitment, and performance. As such, these results could represent a best-case scenario.

The study has involved 60 percent of strategic suppliers within laboratory supplies and services. Even though this is a large product category for R&D site in Lund, it would be more correct to have included the majority of strategic suppliers for all large product categories on site. Time limitation and scope for this thesis have restricted the research.

In addition, the author's scientific objectivity may have been influenced when conducting an investigative research of this kind. That includes observations, interview sessions, formulation of semi-structured questions, and subjectivity when interpreting results. By being aware of this problem, it has hopefully been restricted.

5 CONCLUSION

From the studies conducted for this thesis the main findings suggest following conclusions for how to implement CSR and SHE considerations in the practices of purchasing at AstraZeneca, Lund (following conclusions are applicable to other large private companies, which are under the same premises as AstraZeneca, as described in this thesis):

- A better understanding (training) of, distinctively CSR and environmental aspects in SHE, requirements is needful within AstraZeneca (buyers), and also for suppliers, for example the concrete actions AstraZeneca expects their suppliers to take in these issues.
- Including SHE, and particularly CSR clauses, in supply and service contracts, and other purchasing agreements, is imperative.
- Introduction of CSR and SHE as basic criteria in the sourcing process of strategic suppliers, together with using a significantly greater number of strategic suppliers, which have been selected through the CSR/SHE included sourcing process.
- Minimization of the usage of non-strategic suppliers for purchasing.
- The development of a constant feedback system to suppliers, for better communication and closer customer-supplier relationship, in regards to present status and continuous improvements in these issues.
- The development of a regular formal auditing system of strategic partners, including CSR and SHE on the agenda.
- To make sure this is not just a paper exercise, there is a need for continual progress and benefits documentation, in the development of an integrated purchasing-supply management system added by CSR and SHE requirements. This management system needs to be developed so that it is monitored and owned by the purchasing department, together with specialized assistance from SHE management within AstraZeneca, or external support.

The practice of CSR/SHE in purchasing for private firms requires further research. Specific areas that have not been addressed in this study are many, such as:

- Guidance on effective method of implementation of CSR/SHE in purchasing for private large firms with decentralized or other purchasing structures, which are apart from the centralized structure addressed in this thesis.
- Demonstration of the applicable instruments and tools available today for determining which CSR/SHE preferable supplies/services (more preferably sub-product categories) to purchase.
- Investigation of what benefits are gained from including CSR and SHE in private large firms' purchasing, in not only financial terms, but also in environmental and sociological conditions.

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Appendix A

SEMI-STRUCTURED INTERVIEW WITH BUYER

- 1) Do you have a copy of:
 - AstraZeneca Purchasing Policy
 - AstraZeneca SHE and CSR Principles in Purchasing
 - AstraZeneca Policy for Safety, Health, and Environment (Management standard 6)
- 2a) Has these policies been communicated to you?
- b) How do you ensure that these policies are complied with at your location? Have you established and maintained your CSR/SHE objectives for improvement for your location? Are these being reviewed on a regular basis?
- c) What are the mechanisms by which employees raise concerns with management? How are they being informed of the possibility to do so?
- 3a) What training do you receive in the issues of CSR and SHE?
- b) How are training needs being identified?
- c) How can external stakeholders raise concerns at your location? How are these concerns being managed and addressed?
- 4a) On what level do you make purchases?
- b) What percentage of your purchases goes through a “controlled” purchasing process?
- c) Do you make follow-ups or conduct evaluations for your purchase?
- d) Do you have a documented set of procedures for each step of the purchase-to-pay process shown that comply with CSR/SHE?
- e) Has a formal list of delegated authority been established for each part of the process?
- f) Do you have a procedure to ensure you take advantage of all discounts/advantages from suppliers, whether locally negotiated or part of a broader agreement?
- g) Do you have processes to avoid duplicate?
- 5) Are professional purchasing staff involved in all purchases?
- 6) Where non-purchasing staff is involved do they have formal purchasing skills training?
- 7) Have you agreed on annual purchasing improvement targets? What are these?
- 8a) How should a local plan for implementation of the CSR/SHE guidelines into the purchasing activities look like?
- b) Which suppliers should we focus on?
- c) Do you have an agreed supplier management program with your (strategic) suppliers including implementation of CSR/SHE policies?
- d) How do we make our suppliers aware of our principles and encourage them to adopt a similar approach?
- e) Do you have the following?
 - Any actions already taken in terms of CSR/SHE and suppliers CSR/SHE clause in contracts, in that case what clause in which contract?
 - When selecting strategic suppliers, CSR/SHE is a part of the basic selection criteria. In that case, how heavily is CSR/SHE issues valued in percentage compared to other basic selection criteria's?

- Including CSR/SHE in business review meetings (audits) with suppliers
- Business benefit gained so far because of implementation of CSR/SHE in supplier

Company Information		
Company	Organization no.	Telephone no.
Address	Postcode, City	Telefax no.
Environmental manager	Email address	Direct phone no.
Form submitted by	Email address	Direct phone no.

management

- Feedback from supplier on this issue

Appendix B

ENVIRONMENTAL EVALUATION OF SUPPLIER

Environmental Evaluation

1. Does your company have a management system concerning aspects of safety, health, and environment, according to international or national standards such as ISO, EMAS, and BS etc.? (Please enclose copies of certificates.)

Yes, certified since _____ (year) according to the _____ standard.
If "YES", how large part of your business is certified (in relation to number of units)? _____ %

Have uncertified system (please specify):

No, but plan to have _____ by year

No

2. Does your company have a SHE policy approved by the management? YES NO

If "YES", please state what type of policy?

Environmental policy Health policy Other (specify)

3. Does your company endorse corporate social responsibility, for example by supporting "good-will"-activities? YES NO

If "YES", please describe these in brief:

4. Does your company apply ethical guidelines in areas such as animal welfare and bioethics, gene manipulation, forced labor, child labor, working conditions, non-discrimination against race, gender, sex etc?

Yes, we have ethical guidelines for:

No

Not applicable

5. For CSR and SHE issues, does your company have a clear management structure with defined responsibilities for the performance and risk management? YES NO

If "YES", please state contact information of one of these people in the information box above.

6. Has the staff of your company received basic SHE training? YES NO
If "YES", what proportion of the staff?
 1 – 25 % 25 – 50 % 50 – 75 % 75 – 100 %

7. Does your company perform environmental hazardous activities, which require official authorization? YES NO

8. Has your company identified its major risks within the SHE area? YES NO
If "YES", have you documented:
 The risks involved for your own staff?
 The safety and environmental aspects of the products/services you purchase/supply?

9. Does your company have a program for reduction of your SHE effects/problems, in order to achieve the company's SHE objectives for improvement? YES NO

10. Does your company have a regular routine to ensure that the CSR and SHE objectives are continuously refined and achieved? YES NO
If "YES", please share a few of the most important achievements you have accomplished during the last 3 – 5 years:

11. Does your company maintain directories of all relevant laws and environmental regulations that apply to your business activities? YES NO

12. Does your company have a routine for ensuring that laws and regulations are followed? YES NO

13. In the past or at present, has your company been subject to any inquiries or prosecutions, within the area of CSR and SHE? YES NO
If "YES", please elaborate:

14. Do you as a company accept that AstraZeneca, as your customer, conduct regular auditing of your company's CSR and SHE performance? YES NO
If "NO", please specify why:

Feedback to AstraZeneca from supplier:

AstraZeneca's supplier evaluation:

Revised by: Date:

Points given to supplier:

Positive or negative supplier experiences in the past, or other comments:

Recommendations:

Status of Supplier **A** (Excellent)
 B (Good – has possibilities to improve further)
 C (Fail)

Appendix C

SEMI-STRUCTURED INTERVIEW WITH SUPPLIER

- 1) Are you familiar with the terms SHE and CSR?
- 2) Has AstraZeneca communicated to you about SHE/CSR?
- 3) Have you made follow-ups of the information communicated to you regarding CSR/SHE by AstraZeneca? How? How do you ensure these policies are complied with, at your location?
- 4) Does your company have a SHE policy?
- 5) Does your company have a SHE management system?
- 6) Have the SHE management system been certified in accordance to international standards?
- 7) Has the SHE policy been communicated to employees? Have your employees received any training in issues of SHE? How is your company management's engagement in CSR/SHE issues?
- 8) What CSR objectives do you have for your location? Do you have policy for relevant CSR issues? (SHE, labour practice, any kind of discrimination, code of conduct, etc?)
- 9) Is your CSR performance reviewed on an annual basis? What is your process for reviewing?
- 10) Has the CSR policy been communicated to the employees of your company?
- 11) How do you communicate relevant CSR topics with your local community and other external stakeholders? Do you have a process for maintaining CSR/SHE concerns from your local community and other stakeholders?
- 12) What does your company management think about CSR/SHE in regards to business benefits? Please, give examples of CSR/SHE considerations bringing benefits to the business.
- 13) How are customer demands and concerns regarding CSR/SHE monitored and managed within the company? Could you give examples of actions taken within your company in regards to CSR/SHE, as a result of customer demand?
- 14) What do you think about AstraZeneca's customer demands on SHE and CSR issues?