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Purchasing trends 2008-2013

- A study sponsored by IBX

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Abstract

Background and Purpose

Increased globalization, outsourcing and e-Business have affected the role of purchasing within companies. Nowadays, companies realize the impact and the opportunities of purchasing and have intensified the focus on purchasing as a function and as a concept. This change of focus is generating new ways of working with purchasing as a whole, and frequent updates on the current trends are required in order to understand the rapid changes. Previous trend studies have not been focusing on northern Europe and a study focused on this geographical area would give an alternative perspective in the development of purchasing.

Preconditions and requirements differ in many ways from industry to industry. Consequently, there might be different purchasing trends emerging in each industry, which implies that each industry needs to be analyzed separately to find specific industry trends.

Understanding future purchasing areas that companies will emphasize, as well as being one step ahead of the clients (and potential clients) in those areas, is crucial for purchasing consulting companies, such as IBX. Since solutions and services need to be planned before companies are in need of and asking for them, it is necessary to understand what companies anticipate will become a key activity in the future.

The purpose of this study is to investigate:

- What are the general purchasing trends that companies in northern Europe assess they will emphasize in the future?
- What are the specific purchasing trends in different industries?
- Within which purchasing areas should IBX be able to offer solutions and services in the future?

Methodology

The working procedure for this thesis was to create propositions which were based on findings from previous trend studies, recently published articles concerning purchasing areas and interviews with experts in purchasing at IBX and the Professor in purchasing at Stockholm School of Economics. To test each proposition, an online-questionnaire was set up with questions related to the findings from the literature research and interviews to see if the propositions could be rejected or not. The propositions and the questions were divided into the categories of the IBX framework (Strategy, Processes, Organization, Performance and Technology) and the questionnaire was sent out to 1346 purchasing professionals found in the sales force database of IBX. 146 respondents completed the questionnaire which lead to a 10,8 % response rate. The general trends were then interpreted and statistically analyzed. An industry analysis could not be conducted due to the low amount of respondents in each

industry. However, the possibility for other additional analysis emerged and differences between Leaders vs Laggards as well as Nordic vs Non-Nordic countries could be analyzed.

Previous trend studies

The trends found in the latest studies were that companies will take green and social responsibilities where purchasing will focus on developing strategies to incorporate those responsibilities. Globalization will continue to broadening with more focus on outsourcing and sourcing from China, Eastern Europe and India. Outsourcing of business activities such as purchasing activities and R&D will increase in the future. Involvement and closer integration of suppliers will be incorporated in a greater extent. Purchasing will be involved in more decision making processes and the purchasing process will be integrated to other related functions' processes. New and different skill sets will be required for the future purchaser such as project management skills, change management skills and business development skills. Purchasing will focus on measuring cost reduction and companies will keep on implementing IT-systems to support the purchasing function.

These trends worked as an input in creating the propositions and the online-questionnaire.

Conclusions:

In the strategy category it was found that purchasing will focus more on creating value than savings and companies will continue to develop purchasing strategies that take more environmental and social responsibilities. Maintain and develop relationships with suppliers will be of importance and innovative suppliers will be included in product development to a greater extent than before. India emerges strongly and has the largest increase of all areas in this study and will be equally important as China to source from and outsourcing to. There is a clear tendency that purchasing will have a more protruding role in companies and be involved early in product development and make-or-buy decisions. Outsourcing of purchasing activities undergoes a large increase from 2008 to 2013, but is still rated low.

Trends within the process category were high emphasis on developing a structured enterprise-wide purchasing process, which can be adopted after commodity and supplier markets. Integration between purchasing process and other related functions' processes was rated with high emphasis and include macro-economic parameters in sourcing analysis will be utilized more in the time of the world economic depression.

In the organization category it was found that there will be a decreased usage of a decentralized organizational model and attracting talents to purchasing will be highly prioritized. Most important skills for the future purchaser will be communication skills; cooperation skills; and project management skills, but upcoming required skills were change management skills; strategy skills; and business development skills.

The trends in the measurement category were that companies will increase the amount of measurements in purchasing. Savings and costs are still important but largest increases in

measurements are not cost related, such as green measurements; CSR measurements and measurements for 2nd tier suppliers.

Companies have realized the potential of tools/technologies in purchasing and despite the fact that many companies are utilizing several of the tools on the market today still E-invoicing, Web 2.0, Supplier portals, Contract management, E-sourcing and Supplier performance management were considered by 32-24% of the respondents.

The analysis between respondents who considered themselves Leaders and Laggards indicates that Leaders are focusing more on the majority of the areas in this study. But Laggards have realized the importance of these areas and are not far behind.

The results from that analysis between Nordic and Non-Nordic countries shows that there are not any major differences between the two groups except for that the respondents from Non-Nordic countries placed a greater emphasis on having purchasing involved early in product development and in make-or-buy decisions. This could be related to their appreciation of purchasers having technical skills and that purchasing was seen more as a value creator.

Keywords:

Purchasing, trends, development, future, strategy, processes, organization, measurements, technology, tools, Nordic, Leaders, Laggards, Northern Europe

Sammanfattning

Bakgrund och Syfte

Utbredning av globalisering, outsourcing och e-handel har påverkat inköps roll i företag idag. Företag har insett inköps påverkan och möjligheter samt har intensifierat fokus på inköp både som en funktion och som ett koncept. Detta förändrade synsätt genererar nya sätt att arbeta med inköp och upprepade uppdateringar av trender krävs för att förstå dessa snabba förändringar. Tidigare trendstudier har inte fokuserat på norra Europa och en studie koncentrerad på detta geografiska område skulle kunna ge ett alternativt perspektiv av utvecklingen inom inköp.

Förutsättningar och villkor skiljer sig på många olika sätt från bransch till bransch. Det kan därför finnas olika trender inom olika branscher, vilket innebär att varje bransch måste analyseras var för sig för att hitta branschspecifika inköpstrender.

Förståelse för vilka framtida inköpsområden som företag kommer att lägga tonvikt på samt att ligga ett steg före kunder (och potentiella kunder) inom dessa områden är viktigt för konsultföretag inom inköp, som exempelvis IBX. Eftersom lösningar och tjänster behöver planeras i förväg innan företag efterfrågar dessa är det nödvändigt att förstå vad företag förutspår kommer bli viktiga aktiviteter i framtiden.

Syftet med denna explorativa studie är att undersöka:

- Vilka är de generella inköpstrenderna som företag i norra Europa kommer att lägga tyngdpunkt på i framtiden?
- Vilka är inköpstrender inom olika branscher?
- Vilka inköpsområden borde IBX kunna erbjuda lösningar och tjänster inom i framtiden?

Metod

Tillvägagångssättet för denna uppsats var att ta fram förslag (påståenden), vilka baserades på vad som hittades från tidigare trendstudier, nyligen publicerade artiklar rörande inköpsrelaterade områden samt intervjuer av experter inom inköp från IBX och professorn i inköp på Handelshögskolan i Stockholm. En Internet-enkät upprättades för att testa och kontrollera varje förslag och som innehöll frågor från litteraturstudierna och intervjuerna för att se om varje förslag kunde förkastas eller ej. Förslagen och frågorna var indelade enligt kategorierna i IBX:s ramverk (Strategi, Processer, Organisation, Mätning och Teknologi) och enkäten skickades ut till 1346 stycken yrkesmän inom inköp som fanns i IBX:s säljdatabas. 146 respondenter fullföljde och svarade på hela enkäten vilket ledde till en svarsfrekvens på 10,8%. De generella trenderna tolkades och analyserades statistiskt. En analys av industrispecifika trender kunde inte göras för att antalet respondenter inom varje bransch var för få. Men möjligheten för annan ytterligare analys uppstod och analys av skillnader mellan företag som ligger i framkant och efterföljare inom inköpsutvecklingen samt skillnader mellan nordiska och utomnordiska länder kunde genomföras.

Tidigare trendstudier

De trender som betonades i tidigare studier var att företag kommer fokusera på att utveckla miljömedvetna och etiska inköpsstrategier och införliva dessa så att företag verkligen tar sitt ansvar inom dessa områdena. Globaliseringen kommer att fortsätta att utvidga sig över världen där fokuset kommer att ligga på att upphandla och outsourca till Kina, Östeuropa och Indien. Outsourcing av affärsaktiviteter som exempelvis Forskning och Utveckling (FoU) och inköpsaktiviteter kommer att öka i framtiden samt ökad involvering och integrering av leverantörer i den egna affärsverksamheten. Inköp kommer vara mer involverat i olika beslutsfattanden och inköpsprocessen kommer att bli integrerad med andra relaterade avdelningars processer. Nya krav och egenskaper kommer at krävas på framtidens inköpare som exempelvis att ha förmågan att kunna leda projekt och förändringsarbete samt förmåga för att kunna affärsutveckla. Fokuset för att utvärdera inköps prestationer kommer att ske genom att mäta vilka kostnadsbesparingar som inköp åstadkommer och företag kommer fortsatt att implementera IT-system för att understödja inköpsarbetet.

Dessa trender fungerade som indata vid skapandet av förslag och frågor till Internet-enkäten.

Slutsatser

Inom strategi påträffades trenden att inköp kommer fokusera mer på att vara en värdeskapande enhet än på enbart kostnadsbesparingar. Inköp kommer att utveckla strategier som gör att företaget tar sitt ansvar när det kommer miljöaspekter och etiska frågor. Det kommer att vara viktigt för inköp att underhålla och utveckla relationer med leverantörer och inköp ska se till att innovativa leverantörer blir mer involverade i företagets produktutveckling än tidigare. Att upphandla och outsourca till Indien är ett av de områden som denna trendstudie visade sig ha högst ökning och företag förutspår att Indien kommer vara lika vanligt att upphandla från och outsourca till som Kina i framtiden. Det verkar finnas en klar tendens till att inköp kommer att ha en mer framskjutande roll på företag i framtiden och kommer vara mer involverat i tidiga skeden av företagets produktutveckling och i frågor rörande om produkter ska köpas in eller tillverkas själv. Outsourcing av inköpsaktiviteter uppvisar ett lågt fokus för 2008 men visar en stor ökning i fokus för företag i framtiden.

Trender som kunde hittas gällande processer var att företag kommer att lägga tonvikt på att utveckla en strukturerad inköpsprocess som sträcker sig över hela företaget. Denna inköpsprocess ska kunna justeras efter vilket produkt som ska köpas in och hur leverantörsmarknaden ser ut för just den produkten. Integration av inköpsprocessen med andra närliggande avdelningarnas processer rankades högt och att ta med makroekonomiska parametrar i utvärdering av leverantörsalternativ kommer att nyttjas i större utsträckning i framtiden, särskilt vid återhämtningen efter den globala ekonomiska kris som drabbat alla länder.

Vad gäller trender inom organisationskategorin så kommer decentraliserad organisationsstruktur att minska och att attrahera talanger till att börja arbeta med inköpsfrågor gavs högsta prioritet av de deltagande företagen.

De viktigaste egenskaperna för inköparen i framtiden är att kunna kommunicera, samarbeta och leda projekt. Men de mest trendstarka egenskaperna för den framtida inköparen var att kunna leda förändringsarbete, sätta upp strategier och affärsutveckling.

Trender inom mätning visar att företag kommer att använda sig av flera mätinstrument än vad man gör idag för att utvärdera inköpsfunktionens prestationer i framtiden. Kostnadsbesparingar kommer fortsatt att vara viktigt att utvärdera inköp på men de mätinstrument som uppvisade starkast trender var inte kostnadsrelaterade, som exempelvis miljö- och etikrelaterade mätinstrument samt mätning av leverantörers leverantörer.

Företag har insett potentialen i de verktyg/teknologier som finns att tillgå för att stödja inköpsarbetet och trots att många företag använder flera av dessa verktyg/teknologier så överväger ändå 32-24% av respondenterna att implementera E-invoicing, Web 2.0, Supplier portals, Contract management, E-sourcing och Supplier performance management system.

Analysen mellan företag som ansågs sig ligga i framkant (Leaders) mot de som såg sig som efterföljare (Laggards) inom inköpsutvecklingen indikerade att Leaders hade högre fokus på majoriteten utav de områden som togs upp i den här studien. Men Laggards har också insett vikten av dessa områden och kommer att minska gapet mellan de båda grupperna i framtiden.

De resultat som kunde finnas i analysen mellan nordiska och utomnordiska länder visade att där fanns inga större skillnader mellan dessa grupper förutom att de utomnordiska respondenterna har lagt större vikt vid att inköp ska vara involverat i tidiga skeden utav produktutvecklingen och vara delaktiga i beslut rörande inköp eller egentillverkning av en produkt. Detta kan relateras till de utomnordiska respondenternas uppskattning för att inköparen har en teknisk bakgrund samt att inköp ses som en värdeskapande funktion inom företaget.

Nyckelord
Purchasing, trends, development, future, strategy, processes, organization, measurements, technology, tools, Nordic, Leaders, Laggards, Northern Europe

Table of Contents

1 Introduction

In this introductory chapter, an overall description of the background for this thesis is given, as well as a background discussion, which leads to the purpose and objectives. Further, the current focus and delimitations are explained and this thesis' target groups are defined.

1.1 Background

IBX is a purchasing consulting company that needs to be at the forefront of the continuous development in purchasing. In order to be the most successful consulting company focusing on purchasing issues, IBX needs to find out whether the solutions and services they offer are what companies in all types of industries are, and will be, asking for. Therefore, the authors have been invited to explore the current purchasing trends in the northern European market in order to strengthen IBX's position as a competitive purchasing consulting company.

Increased globalization, outsourcing and e-Business have affected the role of purchasing at companies. At one time, purchasing was considered to be a non-strategic activity that did not really contribute to the company's bottom line and competitiveness. Nowadays, more companies realize the impact and the opportunities of purchasing and have intensified the focus on purchasing as a function and as a concept (van Weele, 2005). This change of focus is generating the development of new ways of working with purchasing.

Researchers (Trent and Monczka, 1998; Carter et al., 2000; Morlacchi et al., 2002; Carter and Ellram, 2003; Giannakis and Croom, 2004; Ogden et al., 2005; Carter and Narasimhan, 2005; Cohen et al, 2008) have investigated purchasing trends before, but since new ways of working are continuously emerging and changing the way of working with purchasing as a whole, frequent updates on the current trends are required in order to understand the rapid changes.

Zheng et al (2007) has made one of the latest literature studies into the future of purchasing and supply management. Therein, a wide-ranging review was made of documented sources related to purchasing and supply from 1995-2003, mainly limited to studies concerning North America and the U.K. In that review, Zheng et al. (2007) asked for studies that focused on other countries. Since none of the previous studies have been focusing on northern Europe, a study focused on this geographical area would give an alternative perspective in the development of purchasing.

1.2 Background discussion

Understanding future purchasing areas that companies will emphasize, as well as being one step ahead of the clients (and potential clients) in those areas, is crucial for purchasing consulting companies. Since solutions and services need to be planned before companies are in need of and asking for them, it is necessary to understand what companies anticipate will become a key activity in the future. This study can, thus, be compared to market research that,

for example, a manufacturing company can do to make customer demands clear in order to know what to develop and produce to satisfy those needs.

Preconditions and requirements differ in many ways from industry to industry. Different industries and companies perceive purchasing in different ways, and the progress towards efficient purchasing varies between the industries which van Weele (2005) illustrates in his purchasing and supply development model (see Figure 1).

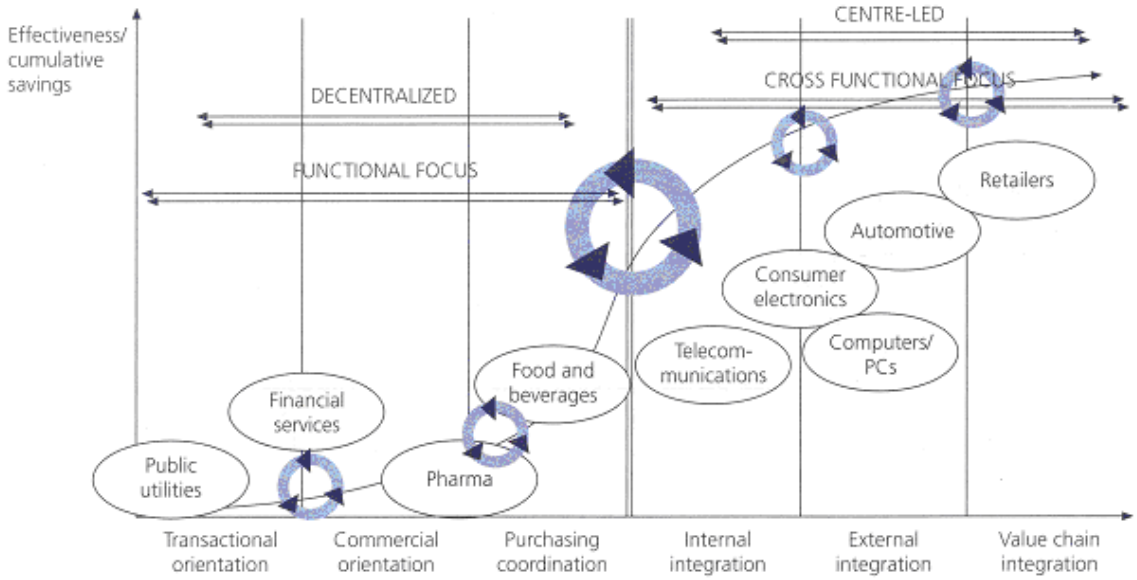


Figure 1– Purchasing and supply development model (van Weele, 2005, p 94)

Consequently, there might be different purchasing trends emerging in each industry, which implies that each industry needs to be analyzed separately. Even companies within the same industry might predict different trends in the future. However, the main task is to find distinct trends that many companies in the same industry are forecasting.

The previous discussion leads to the following specification of this study:

- What are the general purchasing trends that companies in northern Europe assess they will emphasize in the future?
- What are the specific purchasing trends in different industries?
- Within which purchasing areas should IBX be able to offer solutions and services in the future?

1.3 Purpose and Objectives

The overall purpose of this thesis is to distinguish purchasing trends in general.

The objective is to find purchasing areas where IBX should focus on in the future so that they are able to offer the right services and solutions to clients.

1.4 Focus & Delimitations

This study will need information from persons with great knowledge about purchasing. For that reason, the focus will be on collecting information from senior purchasing professionals.

The initial goal of the study is to focus on northern Europe. The definition of Northern Europe in this thesis includes the Nordic countries, the U.K., Ireland and Germany.

Due to the time constraint of 20 weeks, databases that the researchers have easy access to will be utilized to obtain information about senior purchasing professionals in Europe. If contact information for purchasing professionals located in other parts of Europe can be found in the databases, they will also be included to get as many respondents as possible.

The companies in the databases have an annual turnover of at least 300 million Euro which, according to EU-standards (See Appendix 1), are considered to be large companies. Thus, the focus of the study will be on large companies that probably are taking a more pioneering role in the development of purchasing compared to medium-sized and small companies.

1.5 Target Group

This primary target group of the thesis is concerned parties at IBX. Other major target groups are purchasing staff at all types of companies and academic researchers in the field of purchasing. In addition to the previous groups, this thesis can also be of interest to masters students of logistics and purchasing.

1.6 Outline of the thesis

In order to create a good understanding of the study, the thesis is divided into eight chapters and each chapter's predefined contents and objectives are stated in Table 1.

Table 1 – Contents and objectives for each chapter

Chapter	Name	Contents	Objectives
1	Introduction	Introduction of the background and a discussion around the background situation. Purpose and objectives of the study are presented.	Define the framework of the thesis.
2	Presentation of IBX	Overall description of IBX, their products and customers.	Present the sponsor company.
3	Theoretical framework	Latest trend and future studies in purchasing with suggestions for future research. Purchasing development models and IBX framework for efficient purchasing.	Map previous research and different perspectives regarding the development of purchasing.

Chapter	Name	Contents	Objectives
4	Methodology	Description of possible approaches and methods. Choice of methodology for the thesis.	Argue and motivate chosen working procedure.
5	Questionnaire framework and overriding propositions	Propositions with related questions.	Create a framework for the questionnaire.
6	Analysis	Identification of current and future purchasing trends.	Visualize and distinguish purchasing trends.
7	Recommendations	Discussion of areas IBX should focus on.	Emphasize areas which concern IBX products/solutions.
8	Conclusion	Purchasing trends and future research suggestions.	Summarize the major purchasing trends.

2 Presentation of IBX

In the following chapter a presentation of IBX as a company will be given. Furthermore, its products and customers will be described.

2.1 Corporate information

IBX was founded in 2000 through an initiative between Ericsson, SEB and b-business partners with the aspiration to transform purchasing and to forge new and better ways to capture spend. IBX is Europe's leading provider of efficient purchasing solutions and has, since the start, increased its market presence with seven offices across Europe (Stockholm (HQ), Oslo, Helsinki, Copenhagen, Frankfurt, Paris and Oxford) with about 250 employees and performs purchasing transactions in 81 countries. (www.ibx.se)

2.2 Products

IBX wants to enhance its clients' purchasing processes, enabling sustainable value generation and paving the way for new and more strategic approaches to purchasing. For this reason, IBX provides scalable, on-demand software (meaning that the customers pay for what they use) for sourcing and procurement, purchasing expertise and managed services that increase spend under management and improve compliance to generate bottom line results. In addition, they provide support and services for the entire source-to-pay process. The main services IBX provide; sourcing, procurement and managed services, are narrower described below. (www.ibx.se)

2.2.1 Sourcing

IBX delivers strategic and managed sourcing services built around IBX e-Sourcing Suite, which provides sourcing professionals with support for all steps of the strategic sourcing process including program and supplier management, negotiations using RFx software and e-Auctions, as well as analysis and optimization. (www.ibx.se)

2.2.2 Procurement

The IBX e-Procurement Suite is a complete procure-to-pay solution that covers all critical parts of the procure-to-pay cycle including content management, multiple call-off methods, approval workflows, order management and document routing, invoice management and matching as well as spend statistics. The IBX e-Procurement Suite can create a fully electronic invoicing interface with the suppliers, supporting invoice routing in the same channel as order, order response and other key business documents. (www.ibx.se)

2.2.3 Managed services

In order to off-load the purchasing organization and accelerate purchasing initiatives, IBX provides managed services that ease the burdens of purchasing transformation. With services ranging from global support and operational purchasing to content management and co-managed sourcing events, IBX's managed services provide a compelling and viable palette of

support functions. This support allows purchasing functions to excel at purchasing, instead of technology issues or program management. (www.ibx.se)

2.3 Customers

IBX has customers worldwide represented from all major business segments (e.g. retail, manufacturing, chemical, business service etc). IBX's vision is to be the leading provider of services and solutions for efficient purchasing in Europe. Currently, 10 out of Europe's 50 largest companies are IBX customers (e.g. Vodafone, Deutsche Post and Deutsche Telecom), and major Swedish companies, such as IKEA, Ericsson and Vattenfall, are also customers of IBX. (www.ibx.se)

3 Theoretical framework

Firstly, this chapter will provide a summary of the latest trends and future studies in purchasing and supply management. This is followed by suggestions of future research and development of purchasing and supply. Finally, the IBX framework for efficient purchasing is presented.

3.1 Previous purchasing trends/future studies

The changes in purchasing have not gone by without researchers noticing it. Researchers (Trent and Monczka, 1998; Carter et al., 2000; Morlacchi et al., 2002; Carter and Ellram, 2003; Giannakis and Croom, 2004; Ogden et al., 2005; Carter and Narasimhan, 2005; Cohen et al, 2008) have conducted quite a few trend studies about purchasing and the development towards a more strategic role. Some of the latest trend and future studies in purchasing and supply management are hereby presented.

3.1.1 Findings of Zheng et al (2007)

Zheng et al (2007) conducted a vast literature study of future purchasing and supply management research and found 42 core studies from 1995 to 2003 that were of interest and divided the findings from these studies into five categories:

- Business contexts
- Purchasing and supply strategy
- Purchasing and supply structure, roles and responsibilities
- Purchasing and supply system development
- Purchasing people and HRM

The findings in the Business contexts category include macro-environmental driving forces in the economic, demographic, societal, competitive and technological contexts. The key activities found were e-Commerce, globalization and outsourcing. These activities influence the next category, which is purchasing and supply strategies. The findings in this category consist of purchasing and supply involvement in corporate success and strategy. The tendency was that collaboration and alliances with other enterprises would increase. Other findings stressed supplier relationship management as a key issue, when it comes to aligning the purchasing strategy with the corporate strategy. To increase a company's competitiveness, outsourcing and e-Commerce were seen as important factors with especially low-value, non-critical commodity purchases as a potential group to outsource. Another finding, which is accepted and widely known, is the transformation of purchasing from a clerical task to a more strategic role.

The organizational structure and role of purchasing has also been investigated in the past. The conclusion from the articles reviewed by Zheng et al (2007) is that the organizational structure tends to become more of a hybrid, i.e. a mix of centralized and decentralized. The development of cross-functional teams has also been seen as a trend, as well as some

indicators on cross-enterprise teams. The involvement of purchasing in “make-buy” decisions has been low in the past, and the responsibilities for managing the supplier relationships were also lower than expected.

In the supply system development category, trends showed that internet would be used to a greater extent in purchasing and supply management activities. It was implied that external linkages between purchasing sites and suppliers would emerge and create networks. Later studies revealed that the pace at which e-Procurement technologies were implemented was slower than anticipated in the previous trend studies. The implementation plans of e-Commerce differed between large firms and small-medium sized enterprises, but in general, there was a substantial interest in e-Commerce technologies.

The last category, which was changes in purchasing staff and human resource management, includes job profiles, skills, education and number of employed staff in purchasing. Because of the increase usage of e-Commerce, the number of purchasing personnel was expected to decrease. However, the rate of the reduction was not known and the respondents did not experience it as a threat to their job or their function. The competencies needed to become a coveted employee within the purchasing department were business awareness, change management, project management, personal skills and team working. Furthermore, it indicated a shift towards broadening the management role of purchasing and its integration with other business processes.

3.1.2 Findings of Ogden et al (2005)

In 2005 Ogden et al (2005) conducted a study to find out which procurement and supply chain management strategies that would lead to significant improvement (in procurement and supply chain management areas) in the next 5-10 years. The study was designed as a multi-round Delphi study with interviews and questionnaires. The participants consisted of supply executives from different Fortune 1000 companies. The data provided information about procurement and supply chain management areas; potential impact, likelihood to occur and the confidence that the relative position of the various prediction in terms of their likelihood and confidence ratings.

The study's major findings indicate that the supply chain management strategies where moving towards collaboration and integration, both externally and internally. The integration within the organization consisted of cross-functional sourcing teams with members from other departments than purchasing such as marketing, engineering and operations. Integration with members in the supply chain where also likely to occur. It includes sharing critical information and work closely with suppliers to reduce costs and develop new products/services throughout the supply chain. Integrating and managing strategic suppliers where likely to be in focus and pinpointed as a possible core competency in the coming years.

The supply managers predicted that electronic orders would increase and result in immediate forwarding to key suppliers and internal customers. It was also seen as an area that would have high impact on their business unit.

Some of the strategies that were less likely to occur but still could play a major role in the future of supply management included joint investments/ asset sharing along the supply chain, integration and collaboration with competitors, outsourcing supply management activities, measurement of second-tier supplier performance, e-markets and electronic auctions.

3.1.3 Findings of Cohen et al (2008)

One of the recent trend studies in global supply chains was conducted by Cohen et al (2008). The survey was designed to provide critical insight into how industry leaders are globalizing their supply chain operations to achieve competitive advantage in today's challenging business environment. Over 300 global manufacturing and service companies participated in the survey from three major geographic regions, 37 % from North America, 42 % from Europe, and 21 % from Asia Pacific.

The survey population was composed of organizations from a diverse set of industries, with a strong representation of industrial and automotive equipment, consumer goods, electronics and semiconductors, and life sciences companies.

To manage the supply chain on a global basis, the participating companies revealed their future strategies. Several major trends that were going to drive the innovative supply chain design and configuration across all industries were distinguished:

- Globalization, the ratio of a company's value creation outside the home country, is accelerating, leading to large structural shifts for global supply chain organizations and new challenges for successfully managing supply chain performance. While past globalization initiatives focused on manufacturing and assembly, resulting in globalization of warehousing and procurement, future globalization initiatives will also target product and technology development. By 2010 more than half of companies' total operations will be located outside the original home country.

- Pressures to reduce cost and penetrate local markets.

- China and India continue to emerge as major targets for globalization, while Eastern Europe is catching up as a top off-shoring destination due to its proximity to Western Europe and attractive mix of high skills and low costs. China's strong, low cost manufacturing base and the increasing importance to serve the Chinese consumer market are major factors that drive investments to China. The highly skilled pool of talented engineers and the professionalism of leading IT services and engineering providers are reasons to the development of outsourcing of IT, R&D and technology investments to India. Investments in North America and Western Europe will also remain strong as companies look to secure access to local markets and key resources.

- Product quality and safety, as well as supply chain delivery and security, are the most critical concerns when expanding the supply chain globally. Other risks are green supply chain assurance and violation of corporate social responsibility rules.

  Four major risk mitigation strategies are employed by companies:
  - Deploy company resources in supplier locations
  - Implement supplier training
  - Increase frequency of on-site audits
  - Increase inspection of finished goods

  Other mitigation risk strategies applied are dual sourcing[1] and early integration of product development and supply chain management.

- Major barriers to globalization include limited supply chain flexibility and the lack of internal competency to manage partners. Better visibility and management across the supply chain are important keys to overcome these barriers. Other obstacles are lack of globally integrated processes that are supported by IT systems providing required transparency and an appropriate process for partner selection. As the globalization of innovation and R&D functions are accelerating, a clear and consistent approach to partner management will become prerequisite to be successful in the years to come.

- Environmental sustainability is a key consideration in the development of future globalization strategies. Today, sustainability is mainly driven by the need for regulatory compliance and satisfaction of customer demand. It is not yet considered to improve the image of the company or to be a strategic differentiator.

- By 2010, the need for greater supply chain flexibility will overtake product quality and customer service as the major driver for improving supply chain strategy. As more and more partners across continents are included in the supply chain due to globalization the complexity increases. To maintain the flexibility companies focus more on delivery performance, including renewed focus on demand and supply forecasting and better integrating of key suppliers.

3.1.4 New developments in purchasing

According to van Weele (2005), many companies are today confronted with diminishing growth opportunities, which results in a situation where an increase in turnover can only be realized at the expense of the competition and only with a great deal of effort. From this, the pressure on sales prices increase as well on the margins and causes two developments:

- The power has shifted from the seller to the purchaser parties in many markets, which has made the role of the buyer more dominant.

[1] Dual sourcing = using two preferred suppliers to provide the same product or service

- Increased pressure on the sales prices and margins has resulted in increased pressure on direct materials-related costs. The purchasing prices affect the sales prices and that is why many companies look-out for opportunities to keep these prices as low as possible.

As a result of the two developments, the purchasing and supply strategies of industrial companies have undergone major changes, and some of these are:

- *Building leveraged purchasing and supply strategies* - Companies with several manufacturing plants can benefit enormous by combining joint purchasing requirements. A trend towards leveraged or coordinated purchasing strategies is apparent in many large European companies, even across national borders. Previously, this was only the case for raw material; now this approach for purchasing of computer hardware and software, capital goods and components has been applied.

- *Global sourcing* – A company's competitive position is directly related to the competitiveness of its supply base and companies have adopted a global scope towards sourcing issues. Consequently, components are sourced from foreign, low cost countries, and are the reason to why large manufacturing companies have set up International Purchasing Office (IPO) in different regions of the world. Supplier benchmarking, being able to deal with different cultures effectively and negotiate in different languages have become prerequisites for the purchaser today.

- *Supplier integration* – Modern information technology enables companies to improve their materials planning and supply systems internally, but also in their relationships with suppliers. Information technology significantly improves productivity within materials activities. An integrated approach of materials management requires close cooperation between production planning, inventory control, quality inspection and purchasing. In being successful with the integration, system standardization is required. Next, the suppliers should seamlessly be integrated with these applications and this link up facilitates in applying concepts such as total quality control, quick response logistics and just-in-time (JIT) scheduling.

- *Early supplier involvement in new product development* – As more innovations come from suppliers, getting them involved in the early phases of the new product development process becomes an issue of prime concern. The rapid changes in technology together with lower margins, force organizations to work more closely to their suppliers in new product development to deal with these issues. This means that the traditional buyers need to alter and change their traditional way of working and relationships with suppliers. That the buyer should be able to work in cross functional development teams and have sound technical background become now important prerequisites. It is the buyer's job to solve the issue of how to reward innovative suppliers for their contributions and ideas to new product development. Gain and risk

sharing agreements replace the traditional price negotiations and agreements, enabling a more intensive and long term relationship with these suppliers.

- *Reciprocity agreements and compensation obligations* – Companies operating in international markets are often obliged to compensate part of their sales turnover by counter-purchase obligations. The opening up of the Eastern Europe bloc and some South-east Asian countries has made counter trade an issue, which may even open up interesting sales opportunities. Purchasing becomes increasingly involved in fulfilling such obligations.

- *Environmental issues* – No one can have eluded the debate about the environmental issues the world is facing. Environmental problems in many European countries become more prevalent and national governments have become stricter in their regulations at this point. Apart from the environmental issue there is a growing pressure from the public that products should be clean, and come from countries with free trade. One issue is the child labor which requires that companies buy from sources with high integrity. These issues pose new and important challenges to purchasing.

It can be seen from the factors above that purchasing and supply are areas facing many challenges and changes. Most of the problems, however, require intensive interaction, communication and cooperation with other disciplines in the organization. Managing the purchasing and supply function requires a thorough understanding of the purchasing process that take place within the organization to be able to deal with these challenges effectively.

3.1.5 Research Summary Tables

To get an overview of the mentioned areas from the trend research, five tables were created. Each table summarizes the findings from the trend studies, within each category in the IBX framework (see Section 3.4): Strategy, Processes, Organization, Performance and Technology. IBX framework provides a comprehensive structure of purchasing and will be used throughout the thesis. The mentioned areas in the first category, Strategy, are found in Table 2 below.

Table 2 – Summary of mentioned areas within the Strategy category

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Strategy				
China is a major target for globalization			X	
Corporate social responsibilities (e.g. fair trade, child labor etc)				X
Cost reduction strategy		X	X	X
Early supplier involvement in product development		X		X
Eastern Europe is major target for globalization			X	
Environmental/Sustainable strategy			X	X
Global sourcing/Low cost country sourcing				X
Globalization	X	X	X	X
India is major target for globalization			X	

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Information sharing with suppliers		X	X	
Integration of suppliers		X	X	X
Involvement of purchasing in make-buy decisions	X			
Move towards centralized/coordinated purchasing	X			X
Outsourcing	X	X	X	X
Outsourcing of final assembly			X	
Outsourcing of manufacturing		X	X	
Outsourcing of purchasing activities	X	X	X	
Outsourcing of R&D		X	X	
Outsourcing of warehousing		X	X	
Purchasing early involved in product development	X			
Purchasing involved in corporate strategy	X			
Purchasing responsible for Supplier Relationship Management	X			
Purchasing strategy aligned with corporate strategy	X			
Purchasing transformation from operational to strategic	X			
Risk sharing agreements with suppliers		X		X

The strategies mainly concern four phenomena. The first is the continued globalization and its affect on purchasing, such as global sourcing and outsourcing of business activities. Another is the transformation of purchasing, which includes the increased involvement in strategic decisions and new responsibilities. A third phenomenon is increased integration, both internally and externally. And the last one is the environmental and social issues.

Table 3 – Summary of mentioned areas within the Process category

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Processes				
Closer integration with other business processes	X	X		X
Lack of efficient internal processes			X	
Lack of supply chain coordination			X	
Supply chain flexibility			X	

The areas mentioned in the Process category are all influenced by the integration and coordination of business processes.

Table 4 – Summary of mentioned areas within the Organization category

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Organization				
Cross-enterprise teams	X			X
Cross-functional teams	X	X		
Hybrid organizational structure	X			
Move towards centralized/coordinated purchasing	X			X
Reduction of purchasing staff	X			
Purchaser characteristics required:				
Business awareness	X			
Change management	X			

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Involve and reward innovative suppliers				X
Negotiation skills in different languages				X
Personal skills	X			
Project management	X			
Team working	X			
Sound technical background				X

There seems to be a tendency to move towards a more centralized and coordinated purchasing organization. Another area is cross-functional teams, which several of the trend studies point out as important in the future of purchasing. The transformation of purchasing has changed the skill sets that purchasing professionals should have.

Table 5 – Summary of mentioned areas within the Performance category

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Performance/Measurements				
Cost reduction		X	X	X
Focus on delivery performance			X	
Measure suppliers' suppliers		X		

Reducing costs is seen as important, but new performance measurements are evolving. When relationships with 2nd tier suppliers are developing, there is a need to implement measurements to monitor and control them.

Table 6 – Summary of mentioned areas within the Technology category

	Zheng et al.	Ogden et al.	Cohen et al.	van Weele
Technology				
External system linkages	X	X		
Implementation of e-Procurement technologies	X	X		
Integration of purchasing systems with other functions' systems		X		X
IT systems used in purchasing and supply activities	X			
Integrated processes supported by IT-systems (External)			X	
Supplier relationship management (SRM) systems	X		X	X
Integrated processes supported by IT-systems (External)		X	X	

There seems to be a consensus among researchers that technology will change how purchasing is carried out in the future. But the main areas in the future concern integration of the different systems and enabling easier data transfer between them.

3.2 Future research suggestions

Zheng et al (2007) states that future studies within purchasing and supply management should focus on the integration and boundaries of purchasing. For instance, is purchasing still considered to be a formal function or if it has transformed into a purchasing process. Other

areas that should be investigated are service purchasing, environmental purchasing and socially responsible purchasing. Zheng et al (2007) also states that cross sectional comparison between different sectors and countries are needed to find out of if purchasing varies. The competences and skills that the staff should posses are also not clear and need to be examined. Since purchasing has changed from a clerical to a more strategic task, studies that map the development of purchasing are needed.

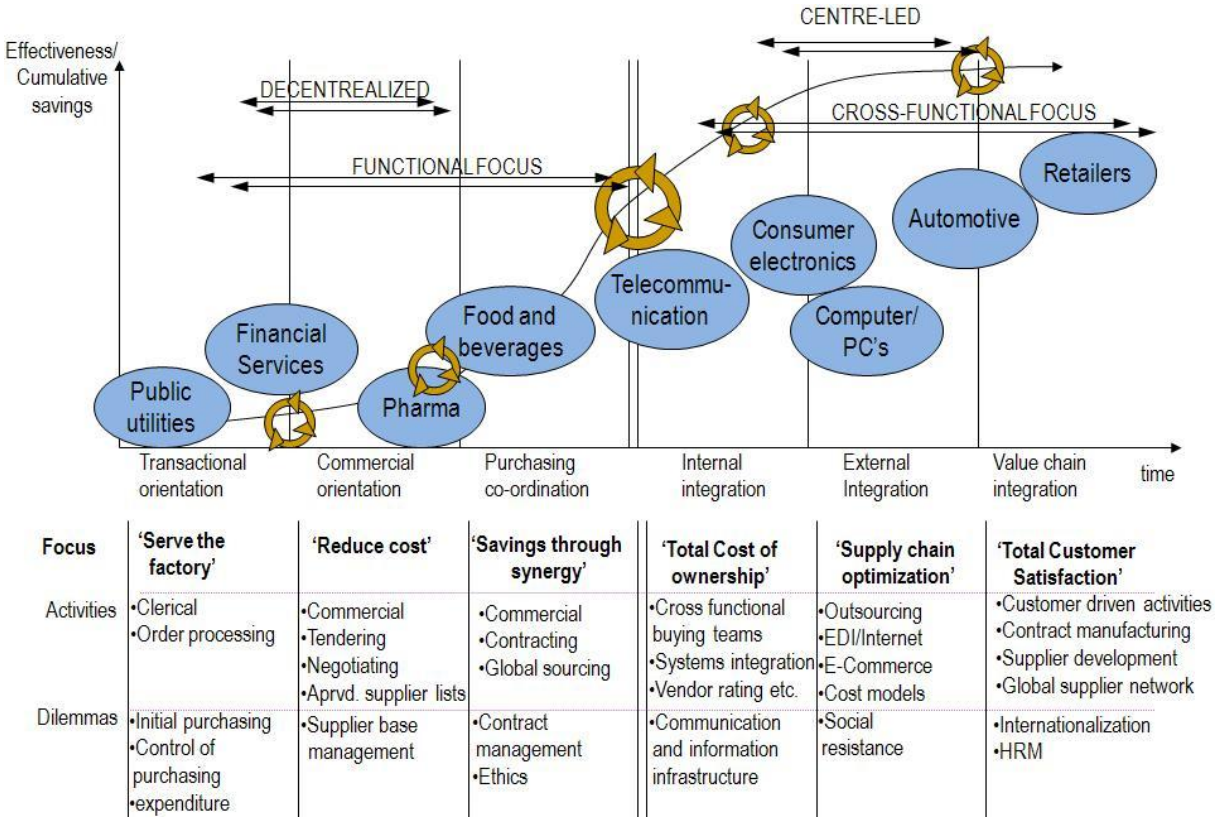
Ogden et al (2005) states that it is best to utilize respondents from companies and organizations that are in the forefront of the purchasing development and should be used in future-oriented research.

3.3 Taking purchasing to the next level

To be able to develop purchasing and satisfy CEOs' desire for bottom-line savings, purchasing managers have to know where their purchasing function is at the moment and look for ways to take purchasing to the next level. In the following sections, two different development models will be presented which both view the development as different stages/phases.

3.3.1 Purchasing and supply development model

The development of purchasing differs between companies and industries. According to van Weele (2005) a company's purchasing development process can be divided into six stages. The stage in which one specific company belongs depends on how purchasing is carried out and organized and what is considered to be the main focus for purchasing. van Weele (2005) distinguished that companies in certain industries usually belong to a certain stage which is demonstrated in Figure 2 below.



Focus	'Serve the factory'	'Reduce cost'	'Savings through synergy'	'Total Cost of ownership'	'Supply chain optimization'	'Total Customer Satisfaction'
Activities	•Clerical •Order processing	•Commercial •Tendering •Negotiating •Aprvd. supplier lists	•Commercial •Contracting •Global sourcing	•Cross functional buying teams •Systems integration •Vendor rating etc.	•Outsourcing •EDI/Internet •E-Commerce •Cost models	•Customer driven activities •Contract manufacturing •Supplier development •Global supplier network
Dilemmas	•Initial purchasing •Control of purchasing •expenditure	•Supplier base management	•Contract management •Ethics	•Communication and information infrastructure	•Social resistance	•Internationalization •HRM

Figure 2 – Purchasing and supply development model (van Weele, 2005, p 94)

Stage 1 - Transactional orientation

In the first stage, the main task of purchasing is to secure raw material and components for production. Non-production related purchases are made directly by the users themselves without a clear purchasing strategy in place. The purchasing department has a decentralized organizational structure with focus on operational and administrative tasks, which has lead to purchasing staff with little or no education. In this stage, there is a reactive culture which implies that as long as there are no complaints, purchasing is doing a good job. Public utilities fit in to this stage.

Stage 2 - Commercial orientation

In the next stage, a purchasing manager has been hired who negotiates with suppliers to get lower prices. The manager has a striving purchasing strategy to lower the cost per unit which leads to independence from other functions like product development, engineering and manufacturing. The management monitors the purchasing function based on cost savings and their contribution to increase the bottom line. The purchasing function develops into a specialist function with staff that has "hands on" experience. Negotiations with suppliers are characterized by a tough climate where suppliers are played against each other to get the lowest price. Financial services are heading into this stage where the Pharmacy sector also is situated.

Stage 3 - Co-ordinated purchasing

At this stage, there is a strong centralized purchasing department which focuses on implementing a uniform purchasing policy with savings through synergy. Nationally negotiated contracts are implemented and much work is done to get cross unit coordination and compliance to be successful. At this stage, purchasing is recognized as a function that not only contributes with savings. Other parameters such as total quality are also influenced and affected by purchasing. Further changes include more attention from top management and an understanding of the purchasing department's value in non-production purchases. Efforts are made to find synergies between different divisions that can increase the purchasing power. The organization is product-oriented with centralized purchasing departments on a divisional level, however there is increased integration and communication between business units. Databases systems are linked over the divisions but still not fully integrated, and computerized information systems are in place but not linked to each other. One typical industry in stage 3 is Food and beverage.

Stage 4 - Internal integration: cross-functional purchasing

This stage is characterized by cross-functional teams with the objective to reduce the total cost of ownership and not just the unit cost of purchased goods. The previous style of confrontational sourcing is gone at this stage and relationships with suppliers are developed with the goal to solve problems together. Purchasing is no longer seen as a function, but as a process that is organized around the internal customers and involved in strategic issues, such as make-or-buy decisions. A center-led organizational structure has been introduced, which puts the purchasing closer to top management. Information systems are now integrated with other internal systems and divisions but not yet with external actors, such as key suppliers. Purchasing performance is measured through internal customer satisfaction surveys and benchmarking. The telecommunication industry fits in this stage.

Stage 5 – External integration: supply chain management

The integration and collaboration with suppliers is the main focus in this stage. Product development and preproduction planning is executed together with supply partners. Investments that will lead to a closer collaboration and integration are done to make the supply chain more efficient and effective, such as fully integrated information systems with suppliers. Corporate purchasing contracts that make it easy for users to release orders through an e-Procurement system are applied to a great extent for non-production products. Cross-functional teams which can be both inter-divisional and inter-organizational are used in the purchasing process and enhance the collaboration between different disciplines, divisions and organizations throughout the supply chain. Computers/PCs and Automotive as well as Consumer electronics are represented in stage 5.

Stage 6 – Value chain orientation

Finally, in the last of the six steps in the purchasing development model, the focus is set on delivering value to the end customer. Suppliers are supporting their customers' marketing and product strategies, as well as actively participating in product development with "the goal to design the most efficient and effective value chain possible to serve the end customer" (van

Weele, 2005, p 96). A joint vision is shared between all organizations and information is distributed generously within the supply chain. One industry that suits in this stage is Retail.

3.3.2 The Continuous Sourcing Cycle

The pressure from CEOs on purchasing, regarding fast and continuous bottom-line savings and ongoing performance improvements, cannot be solved with a static approach. According to Barker and Laseter (2002), a dynamic approach is needed that brings possibilities to change focus. One solution is the Continuous Sourcing Cycle, which consists of four phases: capture margin, reduce cost, manage demand and create value. Rotating between the four phases will create different waves of improvements, see Figure 3.

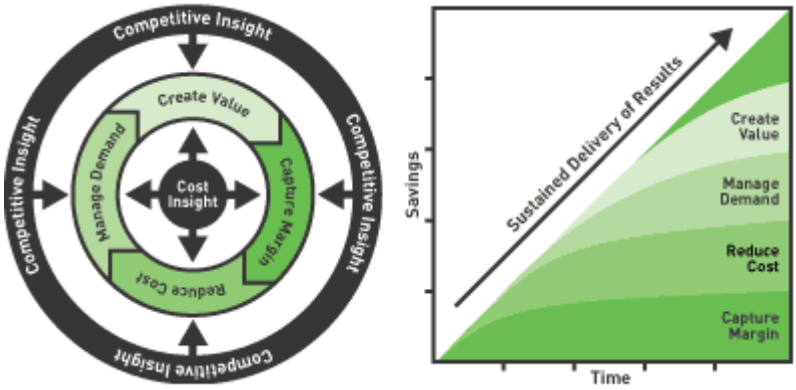


Figure 3- The Continuous Sourcing Cycle (Barker and Laseter, 2002)

Capture margin: In this phase, old purchasing tactics, such as hard/tough negotiations, are applied to reduce supplier prices. Implementation of a broad global supply base creates a competitive environment and new technology such as e-Auctions can be applied to increase the competiveness. These types of tactics provide insight into the supplier markets margins and lead to a better understanding of the ability of the suppliers to lower their prices. Another way to reveal supplier margins is through mergers where companies with the same spend categories can compare prior prices. When the two companies spend volumes are combined, a lower price than either of the previous prices can often be achieved due to the scale of impact.

Reduce cost: In the second phase, the supplier costs are targeted, which involves the suppliers to a greater extend. Efforts are made to simplify the supply chain, and sometimes the suppliers' production processes are changed to better suit the product. It can consist of changing the machines or use new manufacturing technology. Another way to influence the supplier cost is to start sourcing from countries with low labor costs.

Manage demand: During the first two phases, the purchasing function does not need much compliance from the rest of the company. But during the last two phases, there is a need for deeper collaboration since there will be changes that affect the other function to a greater extent. In the manage demand phase, purchasing managers challenge the quantity, quality or service level required by their internal customers. Reducing nonproduction spending, such as

travel costs, are typical targets in this phase and involve mandating economy class, advanced ticket purchasing and the use of preferred airlines. This phase also involves eliminating product features that customers do not need or do not want to pay for.

Create value: After completing the first three phases, the purchasing function's goal should be to create value. The previous phases all include actions that immediately lower purchasing costs, but in this phase, it is not about fast savings; it is about creating value. Hence, changes which add value are targeted even if it involves increased material costs, i.e. supplier recommended features that enhance the sales price. These kinds of changes that increase the purchasing costs are usually hard to get approved by the CEO, but if the previous phases have been successfully completed and made an impact on the bottom-line, it should not be difficult to be convincing.

The Continuous Sourcing Cycle simply states that performance improvements will not emerge if the same things are done over and over again. Purchasing managers will not be able to get continuous performance improvements if they continuously focus on reducing costs and capture margins. They have to seek ways to pursue and reach the next phase whether that is the reduce cost, capture margin, manage demand or create value phase.

3.3.3 The Continuous Sourcing Process vs The Purchasing and Supply Development Model

van Weele's Purchasing and Supply Development Model have some similarities with Barker and Laseter's Continuous Sourcing Cycle. In both models, purchasing development is seen as continuous improvements, with different stages/phases that describe the current focus and areas that should be addressed to take purchasing to the next level.

In the first stages/phases, both models are describing the purchasing function's main goal as reducing purchasing costs. It mainly involves changes that the purchasing function can make without involving any of the other functions in the company. But the more developed purchasing gets, the more interaction and integration is needed with other functions, such as marketing, operations, R&D etc. In the last stages/phases, there is a need to build strong relationships with suppliers and work together to make the supply chain as efficient as possible. The external integration (with suppliers) is addressed as important in both models, and the use of integrated information systems will be needed to improve purchasing performance. In the end, purchasing will not just be a function that lowers costs, but it will play a major role when it comes to creating value to the end customer.

3.4 IBX framework

With companies becoming more specialized, focusing more on core activities that creates value, the more goods and services need to be bought in from external sources. At the same time, the appearance of globalization has changed the way of buying from local to global

markets which make it possible to buy products that are better and cheaper from other markets, far-off the marketplace the companies used to purchase from.

As the surrounding environment has changed a lot the last decades, due to for example globalization, IT and changed consumer patterns, many companies' purchasing function has not changed compared to outside world. The lack of adjustment has lead to that purchasing do not become the asset for companies that it has potential to be in sustaining the competitiveness of the company. The IBX framework provides a practical guideline for how purchasing can be executed to take it to the next level.

One of the first actions a purchasing function should do in the transformation into effective purchasing, is to value assess the purchasing department in order to show the potential of the company's purchasing function and what it can bring. A value assessment is a pragmatic way to analyze the current state of the purchasing function and the value assessment should cover and encompass the areas in the framework (see Figure 4) that IBX has developed. This will provide a comprehensive picture of the current situation and to see where to take necessary actions into the transformation of efficient purchasing.

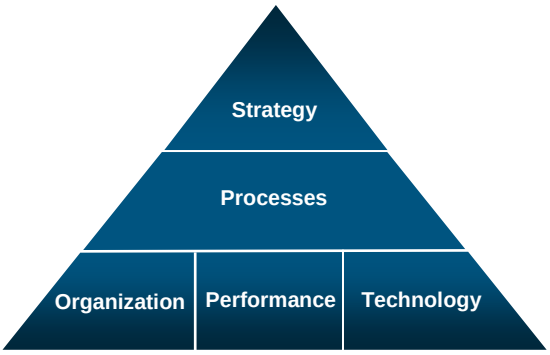


Figure 4 – IBX framework (Bohlin et al, 2008)

From Figure 4 it can be said that a purchasing functions strategy is supported by its processes, which are built up and supported by the organization (such as structure, responsibilities, recruiting, employees etc), performance (measurements of the purchasing function) and the technology that is implemented and used. If everything is all set enables for efficient purchasing that will contribute to the company's bottom line.

A more ingoing description of the areas in the IBX framework is presented hereafter to get a deeper understanding of IBX's view on purchasing.

3.4.1 Strategy

A strategy needs to answer two basic questions:

- What is the mission of the purchasing function?
- How do you complete this mission?

Regarding the first question, the answer highly depends on the situation of the company or industry. For example, if the company is active in an immature industry (such as software and medical technology) where innovation and growth are the most important aspects, to get the right products and services it needs in right time to gain market share, the purchasing function should focus on creating a supplier base that can contribute to innovation. If, on the other hand, the industry is mature or even decline (such as cars or textile) the purchasing function should focus on cost, quality and supply chain efficiency. (Bohlin et al, 2008, p 5)

The current situation of the purchasing function determines and defines the strategy for the future. How to get there depends on the situation but the following things should be dealt with and clear in being successful with the strategy: (Bohlin et al, 2008, p 7)

- The purchasing organization has a formal and established strategy that is in line with overall business targets
- The purchasing organization has a defined scope of responsibilities including category scope, process scope and internal service level
- The purchasing organization has defined how it will achieve the targets in terms of process, organization, HR, measurements and technology

3.4.2 Processes

Processes are vital in being efficient and they also make sure that you are doing the right things at the right time in the right order. Different processes are needed and Bohlin et al. (2008) list the most important ones that should be in place for the purchasing function:

- Strategy review process - The purpose of the process is to secure annual realignment of the purchasing strategy, review and update the core elements of the strategy; both what the purchasing function is responsible for and what the key activities should be for the coming year.
- Sourcing planning process – Sourcing initiatives for each commodity group are planned
- Sourcing group strategy process – This process is used to adjust the sourcing strategy to changing internal (strategy change, volume increase/decrease, the current setup does not work) and external (industry consolidation, technology shift, globalization or new customer demands) factors.
- Sourcing methodology – This one is established to cover data gathering, specification reviews, sourcing strategy, supplier search, competitive bidding, negotiating and contracting. Approximately 80 percent of sourcing is done through this process.
- Procurement and settlement process – A process that secures delivery, low inventories, high contract compliance, low process costs and high service level.
- Supplier development process – A selective process where the company is helping the suppliers in categories that are crucial for the own business.

3.4.3 Organization

The purchasing function is on average responsible for a cost corresponding to nearly 50 percent of a company's revenue (Bohlin et al., 2008, p 10). Hence, it is essential to not only have competent people onboard, but also to have them working in positions that match their skills and qualifications. The organizational category in the IBX framework addresses questions like:

- Purchasing governance – Purchasing should have a steering function that acts as a board to the CPO. Since purchasing is serving several business units or business areas it is not always clear to whom the CPO should report. The steering function has a supporting role and will facilitate in defining the role of purchasing, annual target setting, responsibilities, budgets etc.

- Organizational level – The position of the purchasing director in top management should be reflected and be based on the revenue the purchasing contributes to the company. The more revenue, the higher up in the hierarchy.

- Organizational structure – The design of the structure should effectively balance volume aggregation, business closeness and supply market structures (from national to international markets). A centralized or a decentralized organization can not deal with these three factors all at the same time and therefore a hybrid (also named center-led structure), between local and central responsibilities, is best suited in being an effective purchasing organization.

- Competence and status – Purchasing has never been perceived as the company's top function and the lack of status may be a competence problem. Highly competent staff gets recognition and use this to attract and keep talent. The sourcing personnel are required to have the ability of analyzing and project leading and the majority of the personnel are therefore expected to have some kind of academic degree.

- Compensation and incentive systems – To attract the right personnel the salary levels must be in line with the shareholder value the purchasing functions created. The purchasing function is responsible for a lot of money and if it is capable of savings, let us say 10 percent, would make a high impact on the companies' bottom line. Hence, the compensation and incentive systems should reflect the purchasing function's impact on shareholder value creation and if a company fails to realize this, they will lose in competitiveness.

3.4.4 Performance

The problem most companies are doing is that they measure the things they are good at and not on their weaknesses. The introduction of measurements has a strong psychological effect – first employees will probably be negative during the implement phase. But along with

improving, the measures visualize this procedure and make the motive of measuring accepted. Introduction of new or change of measurements can be used as a vehicle of change in the purchasing function. If the introduction of new measurements is connected to the discussion of the mission of the purchasing function it will generate a common understanding before you start to measure.

Except for the traditional measurements for supplier's performance, such as lead times, quality etc., some examples that is suggested: (Bohlin et al, 2008, p 16 and 44-45)

- Spend analysis
- Contract compliance
- Cost avoidance
- Cost reduction
- Implemented cost reduction savings
- Internal customer satisfaction
- Requisition, PO, or invoice volume
- Spend from single source
- Spend velocity
- Spend with preferred suppliers
- Suppliers accounting for 80 percent of spend
- Sourcing volume
- Spend under management
- Negotiated cost reduction
- Process and contract compliance
- Cost development per commodity
- Process savings

3.4.5 Technology

The purchasing function undergoes the same revolution due to information technology as the manufacturing industry did when it was revolutionized by using standardized machine production instead of craftsmanship. With information technology in administrative functions, such as purchasing, three levels of productivity can be seen: (Bohlin et al, 2008, p 16)

- Automation - Routine tasks are taken over at lower cost
- Process standardization - The rigidity in IT system makes it possible to drive the standardization of how things are done.
- Make information accessible – Information can be spread and obtained much faster, which improves any decision process

The use of technology within purchasing is running across all these lines. Purchase order/invoice matching is automated. Sourcing and call-off processes are standardized, ensuring better suppliers and contracts as well as higher contract compliance. Supplier search

or performance tracking benefits from more assessable information is also benefits that the technology brings.

Implementing technology in purchasing has many benefits and a great impact on the function. This may cause that many companies that start off with an ambitious change agenda within purchasing, end up in an IT mess. The best thing is to take it step by step, implement one software package that fits the company the best and make sure that it gets used. However, indirect material and services are similar from company to company which is why some general guidelines can be made: (Bohlin et al, 2008, p 17)

- Start with e-procurement for indirect material and services. The benefits of e-procurement are that you get an interface to your internal customers, which is instrumental in order to expose your contracts. The company's spend is concentrated on the preferred suppliers, which can have a huge impact on the total purchasing cost. For instance, if high volumes are guaranteed to few suppliers this result in lower prices in the negotiation phase and e-procurement makes sure that these contracts are followed and fulfilled (contract compliance). The tactical and operational purchasing staff is off-loaded and can focus on high-value tactical purchases (e.g. spot buying on non-concentrated products, investments and services)

- In parallel, start with e-sourcing in a small scale to test its benefits. Professional buyers may be against it in the beginning but if it is used in a limited extent, and it seem to be successful, it can be implemented more extendedly.

- Next step is to implement e-invoicing and invoice matching. With e-procurement, the user get electronic purchase orders and can benefit from automatic invoice matching for further automatization. The focus should initially be on high-volume suppliers to make sure the invoice quality is good.

- When all three parts above are in proper place the next step is to continue with more sophisticated tools such as contract management, spend analysis and supplier performance management.

4 Methodology

In the following chapter different relevant methodologies are discussed and the authors' scientific approach is presented. This is followed by the working procedure, which include the authors' choices of possible data collection methods and data analysis methods. Finally criticism to chosen methods are presented and discussed.

4.1 Choice of Scientific Approach

In management research there are several paradigmatic positions that are used, but they vary between the two schools of philosophy generally referred to as positivism and phenomenology (See 4.1.1.1 and 4.1.1.2). (Mangan, 2004, p 566)

Within logistics research, Mangan (2004) suggests that positivism is relevant to get an overview and consider the broad structure of the research question, but to get more in-depth information a phenomenological approach may be better suited. In recent decades, business researchers have developed approaches that merge these two extreme points together in the same study. The use of different research approaches, methods, or techniques is known as triangulation. (Mangan, 2004, p 569)

4.1.1 Paradigm

The concept of the paradigm is essential to all research since it often influences researchers' choice of methodology and their approach to research. Mangan (2004) presents Kuhn's definition of a paradigm as "people's value judgment, norms, standards, frames of reference, perspective, ideologies, myths, theories, and approved procedures that govern their thinking and action".

A paradigm includes three elements: ontology, epistemology and methodology. Ontology deals with the assumptions that are made about the nature of reality (Easterby-Smith, 2002, p 31). For example, is there an objective reality or not? Epistemology deals with how the world is understood and how knowledge about the world is communicated to others. Methodology refers to the combination of techniques used to acquire knowledge about the world. (Näslund, 2002, p 323)

4.1.1.1 Positivist paradigm

The first person who summarized the positivist view in one sentence was Auguste Comte (1853), when he said:

"All good intellects have repeated, since Bacon's time, that there can be no real knowledge but that which is based on observed facts."

This implies that the world is external and objective in its ontology. From an epistemological point of view, it implies that knowledge is only significant if it is based on observations of external reality. The positivists' basic beliefs are that the social world exists externally, and its properties need to be measured with objective methods. (Easterby-Smith, 2002, p 28)

The positivism paradigm can, according to Easterby-Smith (2002), be built upon several points. All positivist philosophers do not agree with every point, but it shows the basics of positivism.

- *Independence:* the observer must be independent from what is being observed.
- *Value-freedom:* the choice of what to study, and how to study it, should be determined by objective criteria rather than by human beliefs and interests.
- *Causality:* the aim should be to identify causal explanations and general laws.
- *Hypothesis and deduction:* science proceeds through hypothesizing general laws and then deducing what is true and false about these hypotheses.
- *Operationalization:* operationalizing concepts so they can be measured quantitatively.
- *Reductionism:* problems are better understood if they are reduced into the simplest possible elements.
- *Generalization:* in order to generalize, it is necessary to select a sample of sufficient size from which deductions may be drawn to wider populations.
- *Cross-sectional analysis:* regularities can most easily be identified by making comparisons of variations across different samples.

Studies that are influenced by the positivist paradigm typically apply quantitative methods, such as questionnaires that can be analyzed statistically. Positivist studies emphasize measurements and analysis of casual relationships between variables. (Näslund, 2002, p 323)

When it comes to a study's validity, positivists ask themselves if the study measured what was supposed to be measured and when it comes to reliability they need to ask themselves if it will yield the same results on different occasions. These viewpoints are different from a phenomenologist.

4.1.1.2 Phenomenological paradigm

The fundamental beliefs of the phenomenological paradigm run counter to the positivist paradigm. Underscoring this paradigm is the belief that the world is socially constructed and subjective (Easterby-Smith et al, 1991, p 27), and in order to understand a specific phenomenon, one must be a part of what is being studied. Hence the task of phenomenologist researcher is not to gather facts and measure how often certain patterns occur, but to focus on meanings and value different constructions and meanings that people place upon there experience (Easterby-Smith et al, 1991, p 24).

Phenomenologists also argue that science is driven by human interest, and consequentially, cannot be value-free. Hence human interests not only guide the way we think, the structure of

work and authority, but they also condition the way we enquire knowledge of the world. Generalizations are also not made by phenomenologists, as they stress the importance of the totality of each situation, and it is best understood if multiple research methods are used to establish different views of a phenomenon (Easterby-Smith et al, 1991, p 27). When studying a phenomenon small samples are used, which are investigated in depth or over time to really understand what is happening and not focusing on finding causal explanations. Since phenomenologists seek in depth information and focus on meanings, qualitative research methods are mainly used to acquire information.

Validity, from a phenomenological viewpoint, is based off of whether or not the researchers gained full access to the knowledge and meanings of informants. When it comes to reliability a phenomenological researcher need to reflect on if similar observations would be made if they were done by different researcher on different occasions. (Easterby-Smith et al, 1991, p 41)

4.1.2 Qualitative and quantitative studies

It is the purpose of the study that decides whether a study is qualitative or quantitative (Björklund and Paulsson, 2003, p.63). Qualitative and quantitative studies state how gathered primary data should be analyzed and processed. In the end, it depends on the analysis methods the researcher intends to apply that decides how data will be expressed.

Quantitative studies contain information that can be measured or valued numerically and can be analyzed by mathematical and statistical methods. Quantitative studies are usually based on the positivist paradigm and researchers try to operationalize each situation so that it can be measured. This makes them less concerned about details (Näslund, 2002, p 328). The opinion among qualitative researchers is that by conducting interviews and observations, they can get closer to the respondent's perspective (Näslund, 2002, p 328). Qualitative studies are used to get a deeper understanding of a specific topic, case or situation. Generalization is lower compared to quantitative studies since the totality of each situation is taken into concern (Björklund and Paulsson, 2003, p 63).

Qualitative and quantitative methods are not mutually exclusive because quantitative data can be interpreted in a qualitative way and qualitative data can be coded in such manner that would allow statistical analysis. (Ghauri and Grönhaug, 2002, p 86)

In quantitative empirical research, an important purpose is to arrive at statistically valid conclusions. In qualitative research, the purpose is seldom to arrive at statistical conclusions, but rather to understand, gain insights, and create explanations. (Ghauri and Grönhaug, 2005, p 121)

4.1.3 Triangulation

The concept of triangulation in research finds its roots in military navigation, where several reference points were used to locate an object's exact position (Bryman, 2007, p 412). In the field of research, triangulation refers to the use of more than one research approach, method or technique when studying a phenomenon. It can be used to increase a study's credibility since almost every method and technique has some flaws. When information is collected through several methods and angles, the study's precision and correctness is likely to increase. (Ghauri and Grönhaug, 2002, p 182)

There are four different categories of triangulation within research: (Easterby-Smith et al, 2002, p 146)

- *Theoretical triangulation:* a theory is taken from one discipline and used to explain situations in another discipline.
- *Data triangulation:* where data is collected from different sources or over different time frames.
- *Triangulation by investigators:* when different people collect data from the same situation and then the results are compared.
- *Methodological triangulation:* when both quantitative and qualitative methods are used to collect data.

In the debate over whether triangulation can be used in research, there are two different opinions or versions: the epistemological version and the technical version. The epistemological version argues that since qualitative and quantitative research are grounded in different epistemological and ontological principles, it is impossible to use them in the same study. The technical version argues that even though qualitative and quantitative research is based on different assumptions about epistemology and ontology, they can be used in the same study to strengthen the results (Bryman and Bell, 2007, p 644).

The authors of this thesis are among the researchers that agree with the technical version (in the debate about quantitative and qualitative research) mentioned by Bryman and Bell (2007) which states that it "gives greater prominence to the strength of the data collection and analysis techniques with which quantitative and qualitative research are each associate and sees these as capable of being fused". It also states that quantitative and qualitative research both have distinctive epistemological and ontological assumptions, but they are not seen as fixed and inevitable. A research method from one research approach (i.e. positivism or phenomenology) can be used in another (Bryman and Bell, 2007, p 644).

In this thesis, a methodological triangulation will be used to explore future purchasing trends. The qualitative part contains unstructured interviews with relevant purchasing experts such as IBX employees and Björn Axelsson, Professor in purchasing. The acquired information from these interviews will be used to gain insight in upcoming focus areas that will be important in the future development in purchasing. The quantitative part will include an online questionnaire survey that is based on the thoughts from the qualitative part and secondary

information from previous trend research and literature studies. Hence, the quantitative part will be used to verify the findings from the qualitative part.

There is no clear guideline for what is the most appropriate research method in doing trend studies. The literature study made by Zheng et al. (2007) about future-oriented purchasing research reveals that the typical method used was a questionnaire survey followed by multiple methods (such as survey and case interviews). Other research methods used were online questionnaire study and the Delphi method (Zheng et al. 2007, p 71), which Ogden (2005) as well used in his study of future supply management strategies. Zheng et al (2007) implied also that increased use of multiple studies such as combined qualitative and quantitative methods are needed in order to understand the trends in this type of studies. Thus, the choice of research method in this study (case interviews and online questionnaire survey) is in line with previous researchers' approach to this type of research.

The two philosophical paradigms, positivism and phenomenology, will also be merged together in this thesis. The positivist paradigm will be addressed in the sense that we will be independent observers and formulate propositions. It will also affect the thesis when using questionnaires and large sampling, which will be deducted to a wider amount of companies. The phenomenological paradigm will be addressed in the way that case study research with unstructured interviews will be used which is an inductive method. The thesis is also driven by human interest, such as IBX, and the use of multiple methods.

4.2 Research Design and Methods

In the following section various research methods are presented which need to be carefully considered in order to conduct the study properly. Explanations as to why the chosen research methods and designs are used will also be given.

4.2.1 Exploratory, descriptive and causal design

According to Ghauri and Grönhaug (2002, p 48) a study can be classified in three different ways, based on the study's knowledge contribution. The classification depends on the nature of the research problem and how well the problems are understood.

If little is known about the specific problem, or if it is difficult to know what kind of information will be available, an exploratory research design is appropriate. This kind of study is often used to pin down the task for a further investigation or contribute ideas for alternative courses of action (Lekwall and Wahlbin, 2001, p 196). In an exploratory study, the researcher tries to theorize through observations and assessing information with the goal to construct explanations for the specific problem or topic (Ghauri and Grönhaug, 2002, p 48).

The next classification is a descriptive research design in which the problem is structured and well understood. A typical descriptive research is the case when a firm wants to look at the size of market Z or map consumers buying habits and opinions. The main purpose is to

describe “how something is”, not explain why it is like that (Lekwall and Wahlbin, 2001, p 196). In business studies, descriptive surveys are used to ascertain views and opinions of employees in an organization (Ghauri and Grönhaug, 2005, p 95).

When a study’s objective is to map cause-effect-relations, a causal research design should be used. This research design focuses on a few variables and explanation factors, which already have been mapped. For example, it is used when one wants to study and explain the connection between income and consumption of a particular product. (Lekwall and Wahlbin, 2001, p 196)

The authors assume that little is known about the future and no one can know for sure which purchasing areas that will be important. Hence, a research design which explores new ideas and outcomes will be used. Literature studies, investigation of previous trend research and interviews of purchasing experts will be applied during the first phases of this study, and these actions are common in exploratory researches (Lekwall and Wahlbin, 2001, p 196).

4.2.2 Inductive, Deductive and Abductive Methods

The inductive method means that the researcher starts from reality and then tries to ascertain patterns that can be summarized in models and theories (Björklund and Paulsson, 2003, p 62). This means that empirical data is gathered and combined with a matching suitable theoretical framework in order to analyze the data. In other words, general conclusions can be drawn from empirical observations through induction (Ghauri and Grönhaug, 2002, p 13).

When using the deductive method, the researcher uses existing theory as a starting point and then creates a hypothesis/proposition based on the theory. The hypothesis/proposition is tested through observations of the reality and then confirmed or refuted. In so doing, conclusions can be drawn about separate phenomena from existing theory (Björklund and Paulsson, 2003, p 62).

The abductive method can be seen as a combination of inductive and deductive methods where the researcher alternates between the theoretical and empirical findings (Björklund and Paulsson, 2003, p 62).

The inductive and deductive methods are illustrated in Figure 5 below.

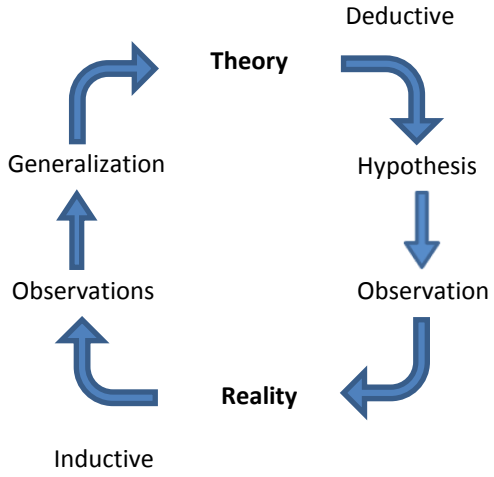


Figure 5 –Inductive and deductive methods (Eriksson and Wiedersheim-Paul, 2001)

This research is of a trend-study nature and the purpose is therefore to test if previous trends are valid or not and if there are any new areas/activities that are upcoming trends. Hence, the abductive research method is suitable since the approach is a mix a deduction and induction; deduction is used in the way of testing former trends from the theory, and induction in the way of finding new trends through theory/proposition building of potential areas from observations that will be tested to see if they can be generalized.

4.2.3 Case study design

The basics of the case study method include a detailed and comprehensive analysis of one single case. The case might consist of a single organization, a single location, a person or a single event which is examined (Bryman and Bell, 2007, p 62). In business research several studies have been made using multiple cases. These studies are labeled as case studies even though a cross-sectional design study might be more appropriate. According to Bryman and Bell (2007) it should be labeled multiple-case study if the study emphasis on the individual case and one of the other labels if the sample of the cases are the most important. A case study can be either inductive or deductive and it is determined whether it is a qualitative (inductive) or a quantitative (deductive) study (Bryman and Bell, 2007, p 65).

In this thesis a qualitative (and inductive) approach to case studies will be applied. Since each interview is seen as very important, the interviews will be seen as multiple-case studies and not as cross-sectional. The case studies will consist of unstructured interviews (with the categories of the IBX framework as a base) with purchasing experts that will contribute with information regarding important purchasing areas. The information will then be used to build propositions for the questionnaire.

4.2.4 Cross-sectional Design (Survey Method)

Cross-sectional design or survey design are two labels for one type of study in which data is collected from more than one case during a set period of time. The goal is to find quantitative

or quantifiable data with two or more variables, which Figure 6 explains. Cross-sectional design is suitable in studies where many variables are of interest, and the connection between the studied variables is quite simple (Lekwall and Wahlbin, 2001, p 220). The variables are then studied and reviewed to find patterns of connections and relations between them. (Bryman and Bell, 2005, p 65)

	Obs 1	Obs 2	Obs 3	…	Obs n
Case 1					
Case 2					
Case 3					
….					
Case n					

Figure 6 – Basic chart of cross-sectional design

This type of study typically uses quantitative methods like questionnaires or structured interviews to collect the information and data needed. But within the field of business research, qualitative methods are sometimes applicable when a cross-sectional design is used. The main purpose is to complement or get in-depth information about the problem through semi-structured or unstructured interviews. (Bryman and Bell, 2005, p 69)

There are many different areas within purchasing that will be investigated in the questionnaire. The areas are chosen based on the findings from the multiple-case studies/interviews. Each industry's/company's (Case) opinion on each area (Obs) will be mapped and analyzed to find patterns. Hence, cross-sectional design is suitable for the questionnaire.

Lekwall and Wahlbin (2001) state that the researcher should consider the possibility of combining case studies and cross sectional design in the same research, for example, applying case studies with the purpose of deciding which factors and relations to focus on in the main study with cross sectional design (Lekwall and Wahlbin, 2001, p 220) and this is the approach the authors have applied in this research.

4.2.5 Primary and Secondary Information

Data can be divided into *primary* and *secondary* information. Primary information is defined as data being collected by the researcher for the actual study, whereas secondary information is defined as data that has been collected for other purposes during other studies or research. Primary information is gathered from the primary source through different methods such as questionnaires, interviews and observations. This means that the data is collected for a particular project at hand and makes the data more consistent with the research question (Ghauri and Grönhaug, 2002, p 81). Secondary information can be found in published and released books, journals, articles, newspapers, and internet and so on. Advantages of secondary data are time and money savings, as well as suggesting suitable methods or data to handle a particular research problem (Ghauri and Grönhaug, 2002, p 78).

In this thesis, both primary and secondary data will be gathered. To fulfill the purpose, primary data is the foundation in this thesis and will be obtained by interviews and questionnaires. Secondary data will be used in building up the theoretical framework.

4.2.6 Theory construction - Propositions

A theory is a statement of relations among concepts within a set of boundary assumptions and constraints (Bacharach, 1989), and is applied to organize a complex empirical world. It is defined as a statement of relationships between constructs or variables. Constructs are approximated units, which cannot be observed directly (e.g. centralization, satisfaction or culture). These constructs are related to each other by propositions. Variables, on the other hand, are observed units, which are operationalized empirically by measurements and related to each other by hypotheses. With assumptions as a boundary, propositions and hypotheses create a system (e.g. theory). See Figure 7.

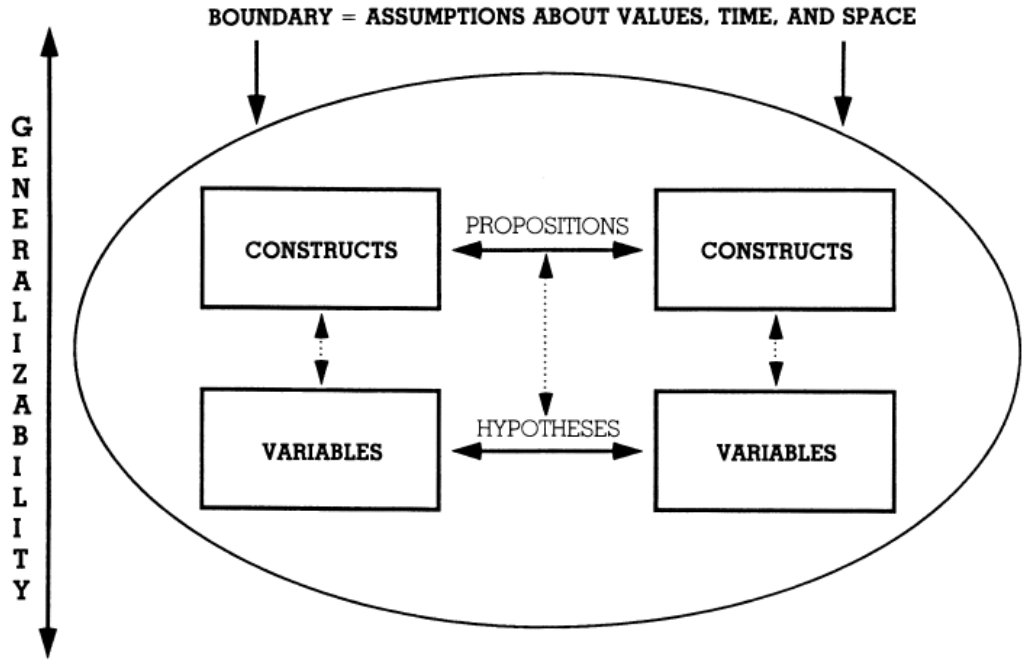


Figure 7 – Theory construction (Bacharach, 1989)

Both propositions and hypotheses are statements of relationships, but on different abstraction levels. Propositions are related to constructs; hence they are more abstract and broad. Hypotheses (derived from propositions) are more concrete and built off of specific variables.

In this thesis, the authors will create statements of relationship on the higher abstraction level, i.e. propositions, regarding the future of purchasing. Each proposition will be tested through related questions (constructs) in the survey.

4.3 Working procedure

In this section, the working procedure of the thesis will be explained and is shown visually in Figure 8 below. To reach the purpose of the thesis, several methods have been used and will be explained further in this section. The authors started out with unstructured interviews with experts who contributed their thoughts about future purchasing areas. These areas, along with purchasing areas found in literature studies and previous trend studies, were included in the questionnaire, which is this study's main activity. The questionnaire was sent out to purchasing professionals in Europe. The respondents were found in the IBX sales force database. Completed questionnaires were then analyzed with SPSS to find the trends.

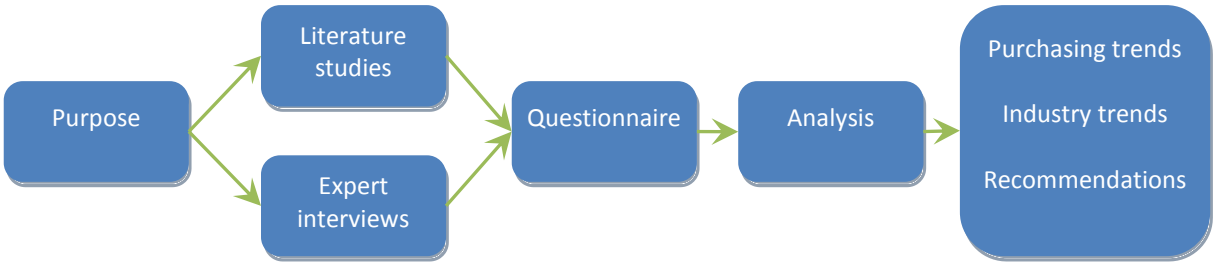


Figure 8 – Working Procedure

4.3.1 Literature studies

Literature is all types of written and published material such as books, brochures, scientific articles, magazines and journals. Information from literature studies is so-called secondary information (see section 4.2.5). Important to be aware of is that information from literature studies can be angled or incomprehensive (Björklund and Paulsson, 2003, p 67). Besides, the selected search methods in databases can cause an incomplete information ground. Where to search, which key words to use, and how to browse is vital in finding material that fits the researcher's own context.

The strengths with literature studies are the large amount of information that can be gathered within a short period of time, and they often help the researcher to chart existing knowledge within the chosen field for building up a theoretical framework (Björklund and Paulsson, 2003, p 69). The disadvantage is that the material is secondary information, i.e. it has been gathered for other purposes, and the researcher has to be sure about what methods have been used and for what purpose the material has been gathered. Therefore, it is of importance to be critical to the collected information and use it carefully.

Publications that have been used in the literature studies in this thesis are books in methodology and research methods, supply chain management and purchasing. Moreover, an extensive amount of articles have been found through the database Electronic Library Information Navigator (ELIN). When researching the methodology and methods, the following key words were combined to search in ELIN: Qualitative, quantitative, research methods and triangulation. Another search was conducted with the goal to find new purchasing areas through articles published from 2006 until today and previous trend studies,

which could be of use in the survey. Key words used during that search in ELIN: purchasing or procurement together with, strategy, processes, organization, performance, technology and trends. The search for new purchasing areas resulted in more than 1200 potential articles which were sorted out through an iterative process (first by the name of the article, secondly the usefulness given by the abstracts) to about 60 articles which could be of interest for this research. Each article was sorted and its topic was written down in a list of potential areas that could be included in the survey (this list of potential topics is published as Appendix 2 in the report).

4.3.2 Expert Interviews

An interview is a conversation where one or more researchers want to acquire information about a particular topic from one or several respondents (Bryman and Bell, 2005, p 135). An interview can be conducted face to face, over the phone, mail or email. Depending on an interviews degree of standardization and structure, it is classified into three main groups: structured, semi-structured or unstructured interviews. (Trost, 1997, p 19)

The first group, the structured interview, is a standardized format with a fixed formulation of questions. The questions are asked in a predicted order and in an identical way to all respondents (Ghauri and Grönhaug, 2002, p 100). This form of interview facilitates the categorization of the answers and makes it easier to analyze them with quantitative measures and statistical methods.

During a semi-structured interview, the researchers follow an interview guide that specifies topics and some questions that will be asked, but questions that are not included in the interview guide may be asked as the researcher picks up on things said by the respondent. But generally, all the same questions will be asked and in a similar wording during all interviews. (Bryman and Bell, 2007, p 474)

An unstructured interview is the opposite of a structured interview and the researchers have not prepared specific questions. Instead they have prepared categories that will be discussed under the researchers' supervision. The respondent is almost given full liberty to discuss reactions, opinions and behavior within the current category (Ghauri and Grönhaug, 2002, p 101).

The last two groups differ from the structured interview in the case that they are qualitative and have a flexible interview process. The emphasis during these interviews must be what the respondent views as important in explaining and understanding events, patterns, and forms of behavior (Bryman and Bell, 2007, p 475). The answers that the researchers want to get during the unstructured and semi-structured interviews are rich and detailed, instead of the structured interview answers that should be easy to code and analyze in a quantitative way.

The case studies consisted of seven interviews (whereof six face-to-face and one by telephone) with purchasing experts. The purpose of the interviews in this thesis was to get

comprehensive information about purchasing areas which the respondents view as important in the future and could be included in the questionnaire. Since the particular areas were not known before the interviews were conducted, unstructured interviews were held which let the respondents contribute with any purchasing area they thought would be of interest in the future.

The interviews were held with one respondent at a time to get individual thoughts and anticipation of the future. The authors were supervising the discussion and made sure it was within the right field, but at the same time give the respondent's full liberty to explain themselves and their views of the future development of purchasing. The categories in the IBX framework were used as a frame in the conversations to get some kind of structure in the interviews. The interview guide used in the case studies can be found in Appendix 3.

If the case interviews are chosen to be summarized (which is common in case studies) the researcher should assess and sort out the things that is worthwhile for the study and only include these in the report (Lekwall and Wahlbin, 2001, p 314). Therefore, the areas mentioned by the respondents were documented and sent back to the respondent to make sure that no area was missing.

The respondents had been chosen based on great purchasing knowledge and consisted of IBX employees and Björn Axelsson, Professor in purchasing. The IBX employees were recommended by the authors' supervisor at IBX and the professor was chosen based on a recommendation from the supervisor at Lund University. All of these respondents can be seen as experts within purchasing and each interviewee's stated future purchasing areas are compiled in Appendix 4 - 10. A summary of the subjects mentioned in the interviews can be found in section 5.1.

4.3.3 Questionnaires

Surveys and questionnaires are among the most popular data collection methods in business research, and the major types of questionnaires are descriptive and/or analytical (Ghauri and Grönhaug, 2005, p 94). A survey is concerned with particular characteristics of a specific topic at one point of time or over a longer period of time with regard to its purpose. Data collected through a questionnaire is either qualitative or quantitative but which one to choose depends on the purpose of the survey. For a relatively small effort, questionnaires can provide a large amount of primary data (see section 4.2.5) in a short time, which seldom can be done with interviews. If the response rate is high, the data from the respondents gives the opportunity for generalization of the findings, which is a great advantage. On the other hand, questionnaires do not provide in-depth information, there is always a risk for misinterpretation of the data, and it is hard to control how accurately the questionnaire has been answered. In addition, the respondents are not given the chance to clarify their answers.

There are several circumstances that might influence respondents and their reactions, as well as their answers. Ghauri and Grönhaug (2005) have summarized the factors that may influence respondents, which are important to consider in this type of research:

- *Sponsor*: when a study is financed or sponsored by a particular organization, this might lead to suspicion and deter respondents from answering questions correctly.
- *Appeal*: a researcher makes on appeal on why or how important it is for him to get answers to his questions and how it can be useful for the respondent/society if the study at hand is performed.
- *Stimulus*: when some type of reward is given to respondents. Here the decision to be made is whether the reward should be financial or non-financial.
- *Questionnaire format*: the appearance, layout length, and even the colour of the paper used have an influence on whether the questionnaire will be responded to properly or not.
- *Covering letter*: its tone and stance has an enormous impact on the respondent.
- *Follow-up*: sending a proper thank-you letter to the respondent, and, if they require them, sending the results of the study as soon as they are ready.

Questionnaires are often suitable in quantitative studies (Björklund and Paulsson, 2001, p.63) and since quantitative data were gathered to verify the findings from the qualitative part to arrive at statistical conclusions, questionnaires suited this purpose and were therefore applied as a method in the data collection.

The quantitative part of this research would include an online questionnaire survey that was using the information from the expert interviews, literature studies and previous trend research as an input. The acquired information was used to build propositions and set up questions for the survey. These propositions were then tested on companies to see if they could be generalized.

To deal with the factors that could influence the respondents, the authors' approach was to have a friendly and appealing tone in the cover letter (can be found as Appendix 11 in the report). The strategy was to point out the interesting topic of the survey (purchasing trends) - a relevant topic to the potential respondents which hopefully was going to arouse curiosity and attract them to contribute to the survey. Additionally, the name of the purchasing Professor Björn Axelsson was also important to show the respondents. The idea was to give the potential respondents a serious impression and immediate credibility to the survey. The fact that the authors were students at Lund University was also utilized in hope that this would bring goodwill to the study and high response rate.

The questionnaire was created in a survey tool called *Easyresearch* which would ease the producing phase and provide an inviting lay-out (with a lot of space between the questions). The intention was to have a limited set of questions to avoid non-response since a time consuming questionnaire is less likely to be completed. No reward was given, since the authors were students and did not have any means to give rewards. Sharing the results with

the respondents was seen as enough encouragement to provide an acceptable response rate. The respondents were anonymous and all contacted individuals, whether if they responded or not, would get the results by e-mail after the thesis was published.

4.3.3.1 Questionnaire format

Questionnaires can either be structured or unstructured. In the case of a structured questionnaire, the questions and answers to be given are predetermined which does not give the respondent any chance to express their view in a real sense. Unstructured questionnaires have only roughly predetermined questions without predetermined answers which allow the respondents to reply in their own words (Ghauri and Grönhaug, 2005, p 92-93). With open-ended questions one may end up with enormous variation in answers that would make coding or categorization difficult or almost impossible (Ghauri and Grönhaug, 2005, p 96).

The length of the questionnaire and its effect on the response rate and responses are important. No available standards have been found regarding how long a questionnaire should be, but a common belief is that the shorter the questionnaire, the higher the chance that it will be returned fully completed. The idea is that the respondent gets tired or loses interest in answering the questions as the length increases (Ghauri and Grönhaug, 2005, p 97).

To get as many responses as possible, the length of the questionnaire was restricted to an amount of questions that required approximately 10 minutes to be answered, which was considered to be an appropriate amount of time that the respondents hopefully could spare.

The questions covered the categories presented in the IBX framework (see Figure 3) and to be able to answer these questions within the suggested time, this required the questionnaire to be of structured nature with pre-stated answers. The questionnaire was standardized for all industries in order to reach the main purpose: finding general purchasing trends.

4.3.3.2 Scales of Measurement

A structured questionnaire consists of standardized questions with pre-stated answers. These pre-stated answers can be arranged and measured in different levels of scales. This relates to specific properties of the obtained measurements, which determines the permissible mathematical and statistical operations (Ghauri and Grönhaug, 2002, p 66).

There are different types of scales of measurement:

- *Nominal scale*: In this scale, numbers (or other symbols) are used to classify objects or observations (Ghauri and Grönhaug, 2002, p 66). So there is no order in this scale and instead "values" are used to define, for instance gender (man or woman).

- *Ordinal scale*: This type of scale has no apparent distance in its scale and can therefore only express whether something is bigger, better or higher and consequently smaller,

worse or lower (Trost, 2007, p 19). Ordinal scale is typically used in rankings of preference data and attitude measures (Ghauri and Grönhaug, 2002, p 67).

- *Interval scale*: When there is an exact and constant distance between each of the observations, then the interval scale of measurement has been achieved. This means that the differences can be compared. The difference between ´1´ and ´2´ is equal to the difference between ´2´ and ´3´, like in the Celsius scale. (Ghauri and Grönhaug, 2002, p 66)

- *Ratio scale*: This scale differs from interval scale in that it possesses a natural absolute zero, one for which there is a universal agreement as to its location. With the ratio scale, the comparison of absolute magnitude of numbers is legitimate. (Ghauri and Grönhaug, 2002, p 66) For example, it can be said that a 40-year old person is twice as old as a 20-year old person.

- *Likert scale*: This scale is supposed to measure the respondent´s level of agreement or disagreement to a statement (Emroy and Cooper, 1991, p 220). It is usually treated as an interval scale with a five-point scale (even though three-point and seven-point scale also occur).

In this study, the ordinal scale was mainly used in the questionnaire since the respondents' main task was to assess their company's current (year 2008) and future (year 2013) focus/emphasis/importance to the suggested areas in the questions. The choice of scale has also been selected in consultation with Jan Bjerseth[2]. The nominal scale and Likert scale were also used in questions where the ordinal scale was not applicable.

The amount of steps in the scale needs to be decided and the first question to be answered is whether an even or odd amount of answering alternatives are going to be used. With an odd amount of answering alternatives the mid-choice become neutral in some way which the researcher can suspect that the respondent might choose of "convenience reasons" (Lekwall and Wahlbin, 2001, p 298) and not really trying to reflect over what they really think about a question. In that case, it is proper using an even amount of alternatives in the scale to "force" the respondent to choose either side. But that, on the other hand, may not be perceived as fair by the respondent and can for that reason answer inaccurately. This was something the authors of the thesis wanted to avoid since this can "produce" trends that were not supposed to be any trends. Hence, an odd amount of answering alternatives was chosen.

The next question is the actual amount answering alternatives. There is no clear rule for what is the most appropriate, but five to nine answer alternatives are usually the amount that is common and as a compromise, seven alternatives are often applied (Lekwall and Wahlbin, 2001, p 298). The authors chose to apply the following scale:

[2] Business Unit Manager, GFK, (080922)

1. No focus/emphasis/importance (depends on the question that is asked)
2. Little/Low
3. Average
4. Strong/High

The scale can be seen as a three-step scale (in reality it is a four step-scale if the "No"-alternative is included). Jan Bjerseth[3] claims that five alternatives are enough in this type of study but the authors chose to not follow this advice since the chosen amount of answering alternatives needed to be adjusted to the amount of questions in the survey. The authors preferred to have more questions that went faster to answer (lesser alternatives requires lesser consideration from the respondents) to cover as many areas within purchasing as possible.

4.3.3.3 Sampling

It is often too complicated to collect data from the entire population one wishes to analyze both from a time perspective and cost perspective. Sampling is primarily associated with quantitative research (Ghauri and Grönhaug, 2005, p 120) and it is useful to make a sample of the population which can represent the population as a whole.

There are two different sample strategies: probability or non-probability sample. The distinctive difference between the two strategies is that in probability sampling, the researcher can quantitatively assess the risk for inference[4] errors, whereas for non-probability sampling, the risks are intuitively assessed (Lekwall and Wahlbin, 2001, p 238), which is a major draw-back.

Examples of some non-probability samples are as follows:

- *Convenience sample*: units that are found to be convenient for some reason are selected (Ghauri and Grönhaug, 2005, p 113).
- *Judgment sample*: judgment is used to try to get a sample which is representative of the population (Ghauri and Grönhaug, 2005, p 113).
- *Quota sample*: certain subgroups of units, like small firms, intermediate firms and large firms, are represented in the sample in approximately the same proportions as they are represented in the population (Ghauri and Grönhaug, 2005, p 113).
- *Snowball sample*: the researcher asks a respondent, who belongs to the target population, to refer to another, who refers to another and so on, like a rolling snowball.

[3] Business Unit Manager, GFK, (080922)
[4] Inference = general conclusions about a population drawn from observations

Examples of probability samples:

- *Simple random sampling*: a key characteristic of such samples is that all units in the population have the same chance of probability of being included. (Ghauri and Grönhaug, 2005, p 114)
- *Systematic sample*: a systematic sample involves selecting every *n*th unit in the used register after a random start (Ghauri and Grönhaug, 2005, p 115).
- *Stratified sampling*: A sample where the parent population is divided into a mutually exclusive and exhaustive subset and a simple random sample of units is chosen independently from each subset. (Ghauri and Grönhaug, 2005, p 116)
- *Cluster sampling*: the population is divided into mutually exhaustive subsets and a random sample of the subsets is selected. (Ghauri and Grönhaug, 2005, p 117)

Probability sampling requires well-defined methods that, in some cases, can be both time- and money-consuming. The pros and cons will have to be weighed carefully in choosing the most practical and economical method to ensure high quality and accuracy in the results. With non-probability sampling, it is not possible to make valid inferences about the population (Ghauri and Grönhaug, 2005, p 113). Such samples can not be seen as representative for the target population.

Since it is not possible to calculate the magnitude of the random error in the non-probability sample, then there is no possibility in giving any rules for how big the sample size should be to get secure findings (Lekwall and Wahlbin, 2001, p 252).

In the sampling procedure, non-probability samples were selected because of the time and money constraints. In addition, to get access to databases with contact information about every senior purchasing professional within the focus region was considered to be next to impossible.

Within non-probability samples, the convenience sample was used in this thesis. Convenience sampling is suitable when economical, practical and time restrictions are prevailing (Lekwall and Wahlbin, 2001, p 250). In the field of business and management, convenience samples are very common and indeed are more prominent than are samples based on probability sample (Bryman and Bell, 2007, p 198).

Consequently, the convenience sample was applied in this thesis. The sample originated from the sales force database at IBX, which contained contact information about purchasing staff at companies that have been contacted by IBX. These companies were either current clients of IBX or presumptive clients to IBX. All companies in the databases were contacted and asked to participate in the study. Regarding the contact information to Danish companies, there could be found contact information to several persons within the same enterprise. In these cases, the authors made sure that maximum three persons were contacted and these were selected by appropriate titles. Afterwards, it could be concluded that no company was represented more than one time.

Zheng et al. (2007) declared that many of the survey-based studies they took into account in their literature study tended to use convenience samples, such as membership databases of professional bodies, to get access to relevant persons who can contribute in this type of research. Hence, using convenience sampling is common in researches of this type and the choice of convenience sample in this study does not differ from other comparable studies.

The questionnaire consisted of the questions motivated in section 5.2 and was sent out to 1346 purchasing professionals in nine countries. The distribution of the recipients can be found in Figure 9.

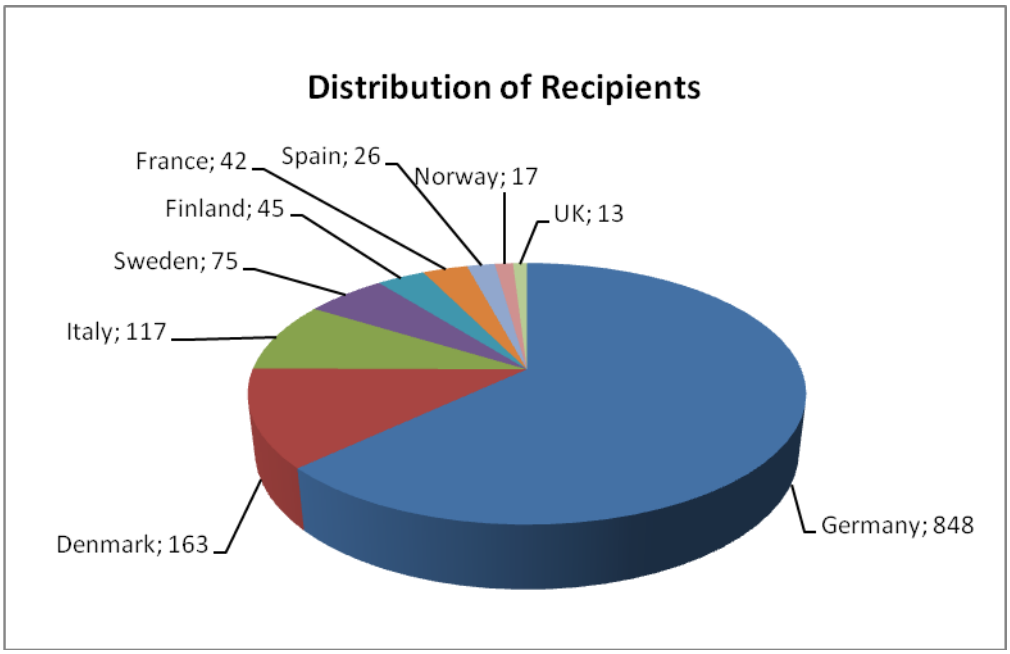


Figure 9- Distribution of recipients

As can be seen in Figure 9, a vast majority of the people in the IBX database were from Germany and just a few from the U.K.. Hence, this skewed distribution of recipients could be a potential bias. It was stated in delimitations and focus (section 1.4) that if contact information to purchasing professionals located in other parts of Europe could be found in the databases, they would also be included in the survey. Purchasing professionals outside the focus region found in the databases were potential respondents from France, Spain and Italy.

4.3.3.4 Distribution

When the questionnaire is prepared and ready to be sent out then decision about how to send out the questionnaire has to be made. Questionnaires can be distributed in several ways, for instance by telephone, post, fax, E-mail or on a webpage where the respondent can answer the questionnaire over the internet.

Sending out by post or fax is a cheap process and gives the respondent the opportunity to answer the questionnaire whenever the person has time for it; for example, during a break,

when traveling, or other occasions. However, there might be some difficulties if the respondent has any further questions or needs further information to be able to answer the questionnaire properly. The same concerns are valid for e-mail distribution (or even cheaper than for post/fax), in addition to the respondent needing access to a computer and internet as well.

A more time-demanding approach is to call the respondent and let them do the questionnaire over the telephone. This has the advantage of getting answers fast, but on the other hand, it may be difficult to get in touch with everyone and at an opportune moment. Depending on what time of day the phone call is made, the contacted person may find the phone call to be disturbing, and consequentially, answer hurriedly or inaccurately to get rid of the interviewer.

A questionnaire on a webpage can give extended information, such as explanations, clarifications etc, nearby to the respondent and it is easy for the respondent to answer the questionnaire if it is of structured nature. This lends to the ease of answering the questionnaire since it is just a mouse-click away, and hopefully more respondents will complete it. The quick procedure of answering is a big advantage. In addition, the responses are already properly structured and make the compiling process quick, which aids in the data analysis later on in SPSS (discussed in section 4.4.2). Besides, the questionnaire is easy and cheap to construct in a survey tool so the right format can be created to facilitate and invite people to answer the questionnaire.

In surveys of larger sizes the questionnaire should be sent out to a test group before sending it out to the respondents. There are always details that have been misjudged and these factors turn up when the questionnaire starts to be used and it is therefore a good idea to send it out in a test round. (Lekwall and Wahlbin, 2001, p 302)

The authors found the advantages with an online-questionnaire format most valuable and the questionnaires were distributed in this way. The only draw-back was that the questionnaire has to be filled in online and could not be answered in a printed (paper) format due to time constraints (no time for administration of answers in paper format). And, also, the online-questionnaire were tested on a small group of people before sending it out to the respondents to find details that needed some adjustment.

4.3.3.5 Response rate and non-response

Concerning the response rate there is no clear and general acceptable response rate. It varies from one research to another and is depending on the circumstances. According to Lekwall and Wahlbin (2001) it can generally be said that if the main purpose is to describe some values for a target population, for instance the proportion that thinks a product is good, a big amount of non-responses is devastating for the research. As a rule of thumb, a research with a response rate below 70-80 per cent should report and highlight the error risk in the findings due to the non-response (Lekwall and Wahlbin, 2001, p 323).

In particular all types of survey research non-response occurs and there are several reasons to why: (Lekwall and Wahlbin, 2001, p 233)

- The researcher can not get in touch with the respondent, due to he/she is not available for some reason (e.g. holiday trip, not at home during some parts of the day etc) or the researcher has got the wrong address.
- The researcher gets in touch with the respondent but he/she is not capable of participating due to sickness, refusal, language difficulties etc.
- The answers are incomplete or careless completed.

The non-response should be limited to the extent that is possible (e.g. through sending out reminders, dealing with the influence factors mentioned in section 4.3.3 etc) and, if a large amount of non-responses is the case, analyze the potential effects (bias) that the non-response causes for the findings in the research. In general, one should perceive the findings with skepticism if the response rate in below 60-70 per cent (Lekwall and Wahlbin, 2001, p 235) due to high risk of non-response bias.

To get credibility in the findings the authors expected at least a response rate of 70 percent. The response rate and the non-response were analyzed, as well as comparing the early and late responses to see if there could be any potential biases in the results.

The issue of non-response is of particular significance, because it has been suggested by researchers that response rate to surveys are declining in many countries (Bryman and Bell, 2007, p 196). In trying to deal with this issue, the time span for answering the questionnaire was three and a half week, including two reminders that were sent out to those who have not answered during that period. According to Jan Bjerseth[5], using an online survey requires a five-day span for the respondents to answer the questionnaire. After five days have expired most of the respondents (who are willing to answer) have answered and the questionnaire can be closed down since much more respondents are not expected. But the authors were using a wider time span to ensure that as many respondents got enough time to answer the online survey, in case they were away on longer business trips or had a temporary hectic schedule.

Totally, 189 potential respondents started the questionnaire, whereof 146 respondents completed the whole questionnaire. In order to minimize the risks for biases in the results the authors chose not to include the incomplete answers in the analysis since they were considered to have high bias risk. The dropouts may be caused by the questionnaire being perceived as too time consuming. It was recommended in the cover letter that the questionnaire would take approximately 10 minutes to complete and this could have been an understatement by the authors.

The authors controlled the early and the late responses and it can be concluded that no really bias could be found, although there certainly can be bias caused for this reason. Since the

[5] Business Unit Manager, GFK, (080805)

response rate was lower than expected, it made every single response important to the survey in trying to distinguish trends.

4.3.4 Analysis of data

The questionnaire part of the study will provide quantitative data. The data can be codified, i.e. the answering alternatives are given a value, enabling the use of mathematical and statistical techniques for descriptive, explanatory, and predictive purposes (Ghauri and Grönhaug, 2002, p 64). These techniques can be of a simple nature, such as following common descriptive measures described by Ghauri and Grönhaug (2005):

- *Mode*: is the category or observation that appears most frequently in the distribution. It is an appropriate measure when the nominal scale is used.
- *Median*: is defined as the observation located halfway between the smallest and the largest observation in the distribution. The median is most frequently used the central tendency of ordinal scale variables.
- *Mean*: is defined as the sum of all observations divided by their number. This measure is appropriate for data at the interval and ratio scale levels.

Another typical measure is the standard deviation which is defined as the average dispersion in the distribution from the mean value. This can give an indication of how well the respondents "agree" in one question but should be interpreted carefully.

Each pre-stated answer was codified according to Table 77:

Answer alternative	**Code**
No focus/emphasis/importance	0
Little/Low	1
Average	2
Strong/High	3

Table 7- Codifying table

The codifying was done automatically in SPSS which enable calculation of the mean value. A rule of thumb is that one should be careful when interpreting the mean value when an ordinal scale is used. Mean value can be misleading for the gathered data because the ordinal scale provides the respondent's subjective rank of a question. Basing an analysis on just the mean value in case of ordinal case is not enough and complementary analysis is needed.

Lars Ek[6] said it was possible to calculate the mean value in this particular case since the questions and answering alternatives were consistent throughout the survey. The authors found this was a major advantage when showing the results of the gathered data because a

[6] Data analysts expert, (081120)

mean value provides an initial analysis which is easy to understand. Explaining statistics can sometimes be difficult in making it sound simple and understandable for the readers.

To further analyze the data statistical methods are needed and are described in the next section.

4.3.4.1 Statistical methods

The collected data needs to be analyzed in some way and since the data from questionnaires is of quantitative form, there are several mathematical and statistical techniques to get information from the data. In cross-sectional designed studies, statistical methods are, in general, applied in the analysis (Lekwall and Wahlbin, 2001, p 213). The field of statistics involves methods for describing and analyzing data and for making inferences about phenomena represented by the data. Some of these analyzing techniques are presented below:

Regression analysis: A useful technique in analyzing the correlation between a response variable and the other ingoing variables to find causal relationships.

Discriminant analysis: This method is used to classify individuals. The starting point is that each individual or object belongs to one or more predefined categories. By analyzing the values, one tries to decide which of these categories each individual belongs to. (Körner and Wahlgren, 2005, p175)

Cluster analysis: The purpose of this analysis is to gather objects or clusters that in some way have something in common. Distances between the objects are calculated and those objects which are closest to each other are grouped. (Körner and Wahlgren, 2005, p175) This analysis is searching an answer to the question: "Which of the investigated units form natural groups with regard to the values of the measured variables?" (Lekwall and Wahlbin, 2001, p 345).

Factor analysis: This analysis answers the question: "How are the investigated variables` values connected to each other?" Thus, factor analysis can reduce the amount of variables that tend to measure the same phenomenon into one variable instead, and thereby, make the data more manageable for further analysis. (Lekwall and Wahlbin, 2001, p 345)

The chosen mathematical and statistical method in this thesis was Student's t-test which was used as a complementary analysis to the mean value in finding the general trends. Student's t-test is used to compare the means of two samples. The trends were calculated as the difference between 2013 and 2008. The Student's t-test was testing if there was significant difference between the responses of 2008 and 2013, and would provide the mean difference with belonging confidence interval. Factor analysis was also conducted in the sense of finding underlying dimensions and patterns in the responses concerning technologies in purchasing in

order to give recommendations to IBX. These decisions have been made in consensus with Lars Ek[7].

4.3.4.2 SPSS

When the data collection is finished, it is time to make necessary calculations to answer the questions stated in the purpose of the thesis. With the help of a suitable statistic program, a computer can execute calculations of statistical methods that otherwise would have taken far longer to do. One powerful, reputable, and widely used program is SPSS. One of the authors of this thesis has experience in using SPSS, and therefore, SPSS were used in the data analysis. Lars Ek was supporting and supervising this process to make sure that the results were correctly calculated and interpreted.

Testing the statistical significance in the findings can and should be done when using a survey method (Lekwall and Wahlbin, 2001, p 346). Which significance level to choose depends on the circumstances and in exploratory studies it is acceptable to use a "wider" significance level, such as a level of 10 percent (Lekwall and Wahlbin, 2001, p 327) but the authors chose to the more common significance level of 5 percent.

4.3.5 Credibility

Credibility can be explained as the study's trustworthiness and is based on the following three aspects: reliability, validity, and objectivity. Reliability is defined as the degree of consistency in the measurement, i.e. to what extent the researcher gets the same measure over repeated tests. Validity is defined as the extent the researcher measures what was intended to be measured (Björklund and Paulsson, 2003, p 59). Both validity and reliability can be increased by using numerous perspectives in the study; one way is to use triangulation. Objectivity is defined as to what extent the researcher's personal values affect the working procedure of the study (Björklund and Paulsson, 2003, p 59) and thereby also affecting the results. To increase the objectivity, the researcher should motivate the choices made during the study so the reader can follow the working procedure and make one's own standpoints.

4.3.5.1 Reliability

Since the propositions for the questionnaire were grounded in; literature studies, several conducted and transcribed interviews of IBX employees with experience in different fields of purchasing, and a Professor in purchasing, make this study of potential trend areas reliable. Because the online-questionnaire had been sent out to a large amount of potential respondents who could answer the questionnaire at their leisure during a three and a half week span, this further increases the reliability of this study.

[7] Data analysts expert, (081120)

4.3.5.2 Validity

The study in this thesis has been conducted with unstructured interviews of individuals with great knowledge in purchasing which increase the validity. The precise wording of questions is crucial in achieving maximum validity of survey information collected through asking questions (Ghauri and Grönhaug, 2005, p 97). Therefore, the questionnaire has been made with consultation from Jan Bjerseth[8] who gave general advices regarding; formulating questions and choice of scale. Moreover, since the respondents in the questionnaire needed a senior purchasing position within the company they are likely to have great knowledge about the development of purchasing, which increase validity.

4.3.5.3 Objectivity

The study is as objective as possible since the authors have offered criticism and given their grounds for the different choices made during the working procedure. In doing so, the readers have the opportunity to take their own standpoint to study's findings. However, IBX as a sponsor company, may influence the study in certain ways (for instance their database has been used), but the authors have tried to be as objective as possible throughout the study and it is important to point out that the authors are not employed by IBX.

4.4 Criticism to chosen methods

There are always drawbacks with chosen methods, and it is important that the researchers are aware of these. Criticisms about the choices that have been made during the survey are discussed next in this chapter.

4.4.1 Interviews

The criticism that can be said about the sample for the interviews is that the major part are employees of IBX, and for that reason, may damage the objectivity of this thesis. Contacts with purchasing professionals at several companies were fruitless or could not be arranged during the time when the interviews were conducted. That is the reason why the majority of the interviewees were IBX employees.

4.4.2 Questionnaire

As was mentioned in section 4.3.3, the deficiencies with questionnaires are that they do not provide in-depth information, difficulty in controlling how accurately the questionnaire has been answered and that the respondent's are not able to express, comprehensively, what they believe in real sense.

The essence of the questionnaire is to achieve a high response rate and accuracy in the data, which leads to substance in the findings. It is important, however, to be aware of those factors that may influence the responses. For example, the fact that the survey was sponsored by IBX could potentially affect the responses given. Therefore, the authors' were hoping that by

[8] Business unit manager at the market research company GFK

including the name of Lund University encourage the purchasing professionals to respond. Moreover, since the findings themselves would be valuable to the study's participants, it was unnecessary to offer other forms of rewards in order to increase the response rate.

4.4.3 Questionnaire format

A criticism to the structured format of the questionnaire is the non-exhaustive data it provides. The decision was made as a tradeoff between exhaustive data and a greater response rate in the sense of a structured format is easier and less time consuming to complete, which the potential respondent may appreciate more than an unstructured format. The risk with an unstructured format is to get very short answers that do not provide any deeper information. In this case, a structured format is better suited since more questions can be included which is essential to cover many potential trend areas.

Since the authors want substance in their findings, and the study is made using a triangulation (see section 4.1.2) approach, the deeper information will come from the interviews. Besides, the structured format does not give the respondent any chance of conveying any own opinions except for the questions stated in the questionnaire.

4.4.4 Scale of Measurement

Respondents are reluctant to give extreme judgments which leads to a central tendency error (Emroy and Cooper, 1991, p 211). This may cause problems with the chosen four-step scale in the survey. The amount of alternatives may have been too few to really provide the trends. But this was a tradeoff between the amount of answering alternatives and the amount of questions. The authors found it was more important to cover as many areas as possible in finding general trends which was made on the cost of fewer alternatives which does not require the same amount of reflection from the respondents. The suggested time of 10 minutes to complete the questionnaire was below the average value of 18 minutes. The distribution of the time it took to complete the questionnaire can be seen in Figure 10.

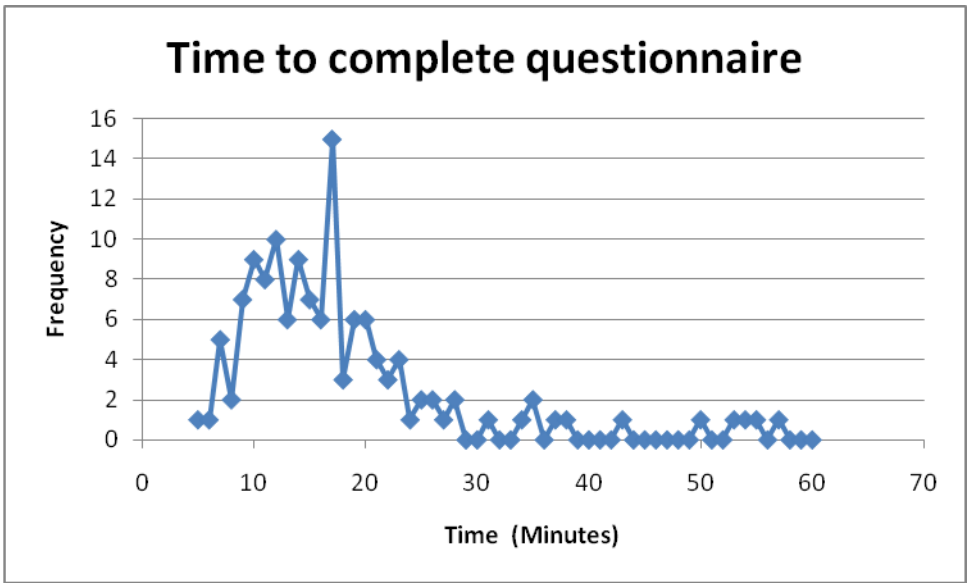


Figure 10 – Time to complete the questionnaire

If the scale would have been extended with two more alternatives, the authors would have expected the average completing time to increase, which possibly would have resulted in a lower response rate.

4.4.5 Sampling

With non-probability sampling it is not possible to calculate the magnitude of the random error and the chosen convenience sampling does not generate a sample that is representative of the target population. This implies that the generalized conclusions are only valid for the used sample and not for the whole target population. But the time savings and the access to relevant purchasing professionals through using the IBX sales force database are considered to be valuable for this study and consequently, it was applied. The disadvantage in doing so may damage the objectivity in the study since the sample is IBX-related. Attempts to access to databases from other purchasing organizations, such as ELA[9], IPSERA[10], SILF[11] could have been made. But in this study the authors made the decision that the IBX sales force database was adequate because they contained many relevant and potential respondents.

Criticism to only take large companies into account can be discussed. Leaving medium-sized and small companies out of this survey was not the initial intention from authors. The reason for this was because the IBX database was not containing any companies of these sizes. Medium-sized and small companies' point of view could definitely be interesting in surveys of this character to cover the whole spectra of companies when exploring general trends.

4.4.6 Distribution

There are many advantages of using an online questionnaire survey and one of them was the distribution aspect with the simplicity of filling in the structured questionnaire on the internet. The drawback was, however, that the questionnaire had to be answered online and could not be printed out in a paper format (so the respondent could fill it in during, for them, better occasions) because there was no time for the authors to administrate the answers from a paper questionnaire. The authors assumed that the respondents appreciated the online format and that there was a three and a half week span for them to answer which was considered to be more than needed, according to what Jan Bjerseth[12] recommended. The questionnaire was tested on a small group of people at IBX to find, if any, details that need to be adjusted in order to secure the quality before the distribution to the potential respondents.

4.4.7 Response rate and non-response

With only 146 complete answers out of 1346 the response rate lays approximately around 10.8 percent, which can be considered to be low. The authors were aiming at a response rate of 70 percent before starting the survey and in this case the response rate did not reach this goal. Perhaps this had to do with:

[9] European Logistics Associations
[10] International Purchasing and Supply Education and Research Association
[11] Sveriges Inköps- och Logistikförbund – Swedish Purchasing and Logistics Association
[12] Business Unit Manager, GFK, (080805)

- The questionnaire was seen to be too time consuming
- The potential respondents had no time to spare to answer the questionnaire
- They were not interested in contributing
- The company had the policy of not contributing to studies of any kind
- No rewards was given
- The survey was not given a serious impression
- The potential respondents could not be reached

The actual response rate (10,8 %) was small compared to what was expected, but the actual amount of respondents located in Europe, excided for example Cohen et al (2008) who had 126 (42 % of 300) respondents from Europe. Since this study is concentrated to Europe, the amount of respondents is considered to be satisfying.

It is inevitable that non-response will occur and the authors will be clear about the frequency of the distribution of the answers and the non-response. Analysis of potential biases in the response were made (See section 6.1), but there is always a risk of missing underlying biases that the authors could not find or be aware of.

4.4.8 Analysis of data

The most crucial moment in statistical analysis is the interpretation of the results that SPSS will present on the screen. Without the right theoretical background in statistics, it is difficult to understand what can be said from the print-outs from SPSS. Both authors have taken at least one course in statistics in their education, so the risk of misinterpretations was decreased. Besides, Lars Ek was assisting with his experience of data analysis to avoid misinterpretation of the results in SPSS.

4.4.9 Influence from IBX

The influence from IBX mainly consists of the use of their database. The authors have decided to use the database since it saves a lot of time and the respondents in this database were from the focus region and were known to have some sort of senior purchasing role.

Furthermore, IBX employees have been interviewed that possessed expert knowledge about purchasing. These people have been recommended by the supervisor at IBX and even if they do have great knowledge about purchasing they still can be seen as important influences/bias from IBX.

5 Questionnaire Framework and Overriding Propositions

This chapter begins with a summary of the conducted interviews and is followed by choices of propositions and related questions used in the questionnaire.

5.1 Interview summary

The purchasing areas mentioned in the interviews (see Appendices 4-10) are divided into five tables, according to the categories in the IBX framework. General comments about each category's contents can be found below each table. The findings within the first category, Strategy, are found in Table 8.

Table 8 - Summary of mentioned areas within the Strategy category

	Thorsén	Bohlin	Hall-qvist	Hassel-skog	Bengtsson	Axelsson	Titus
Strategy							
Category management	X	X					
Corporate Social Responsibilities	X		X	X	X		X
Changed focus on sourcing strategy - from global sourcing to local sourcing	X		X	X	X	X	
Ethical purchasing strategy	X	X	X	X	X		X
Globalization	X	X	X	X			
Green purchasing strategy	X	X	X	X	X		X
Insourcing of business activities				X			
Internal interactions (between purchasing and manufacturing, R&D, marketing etc)	X	X			X		
Investing in purchasing (e.g. systems, organization, personnel etc)						X	X
Outsourcing of R&D	X					X	
Purchasing involve suppliers in product development	X			X			
Purchasing is value creator	X	X		X		X	
Purchasing is working proactive - instead of reactive	X	X					
Outsourcing of purchasing activities						X	
Purchasing strategy aligned with corporate strategy		X				X	
Purchasing transformation from operational to strategic	X	X	X	X	X	X	
Supply chain integration		X		X	X	X	
Sustainable purchasing strategy	X		X	X	X		X
Low cost country sourcing				X	X		
Purchasing involved in make-or-buy decisions		X					

Many experts agreed that a company's environmental and social responsibilities will have the highest priority in the upcoming years. Although globalization, outsourcing and low-cost country sourcing were anticipated to still be on the agenda, it was also predicted that that companies would focus more on local sourcing in regards to taking environmental responsibilities. Furthermore, purchasing seems to be more involved and integrated with other business activities.

Table 9 - Summary of mentioned areas within the Process category

	Thorsén	Bohlin	Hall-qvist	Hassel-skog	Bengtsson	Axelsson	Titus
Processes							
Automated purchasing processes (through IT systems)				X	X	X	X
Clear and defined processes		X	X	X		X	X
Documentation of processes/Best practices							X
Flexible purchasing process – adapt after component and its supplier market	X	X					
More parameters used in sourcing analysis (e.g. situation analysis - not just price)	X		X		X		
Processes ensuring contract compliance	X	X	X		X		
Utilize TCO in a greater extent						X	

Companies seem to lack efficient purchasing processes since there is a need for defined processes. These processes will be automated to facilitate contract compliance. The purchasing process needs to be flexible when sourcing different components/systems.

Table 10 - Summary of mentioned areas within the Organization category

	Thorsén	Bohlin	Hall-qvist	Hassel-skog	Bengtsson	Axelsson	Titus
Organization							
Academic degree required for future purchaser			X	X	X	X	
Attract top talents - "The war for talent"	X	X	X	X	X		
Centre-led organization	X	X		X	X		
Cross-functional teams			X			X	
Framework for organization - clear and defined roles, responsibilities, team, processes etc.			X				
Competence training		X		X	X		
Move towards centralized/coordinated purchasing			X	X			
Multi-cultural	X						X
Reduction of purchasing staff							X
Salaries and incentive systems in line with other business functions			X		X		
Future role in companies: Chief Sustainability Officer							X
Purchaser characteristics required:							
Analytical skills	X		X		X		
Business awareness		X				X	X
Change management skills					X		
Master the financial economic "language"						X	
Project management	X	X	X		X		
Strategy skills		X				X	
Understand and use IT systems			X		X		

System team - responsible for implementing, maintain, support of e-procurement					X		

When purchasing becomes a more strategic function, an academic degree will be required and necessary skill sets of the purchaser are likely to be project management skills, business awareness and analytical skills. Attracting competent talents will be an issue for companies and lead to a war for talent. The organization will seemingly to go towards centralization and the centre-led/hybrid model and is anticipated to be the common applied organization model.

Table 11 - Summary of mentioned areas within the Performance category

	Thorsén	Bohlin	Hall-qvist	Hassel-skog	Bengtsson	Axelsson	Titus
Performance							
Apply financial management techniques in purchasing						X	
Clear and defined measurements		X	X				X
Measure spend for products/commodities that represent 80 percent of total spend			X				
Spend analysis		X	X	X			X
Use more measurements						X	
Environmental/Green measurements			X		X		X
Measure suppliers' suppliers			X				X
Realized savings					X		
Contract compliance					X		
Volumes purchased through e-procurement					X		

Clear and defined measurements, together with green measurements and measuring the supplier's supplier, are anticipated to be important in the performance category. Conducting spend analysis will be necessary for the purchasing function.

Table 12 - Summary of mentioned areas within the Technology category

	Thorsén	Bohlin	Hall-qvist	Hassel-skog	Bengtsson	Axelsson	Titus
Technology							
B2B-communities/Web 2.0 - social networks for transfer of competence	X			X			X
Contract Management solutions		X	X	X			X
Implementing e-sourcing and e-procurement	X	X	X	X	X	X	X
Integration of systems (e.g. sourcing, procurement, warehouse systems, finance etc)	X		X	X	X	X	X
Spend analysis solutions		X	X	X			X
Supplier Performance management systems in place			X	X			X
Systems for Supplier database/ Supplier portals		X		X			
User-friendly interfaces/technology				X	X		
Invoice systems				X	X		

Utilizing the available technology will be more common and is predicted to be one of the first steps in order to be successful with purchasing. The next step is to integrate the purchasing systems with other business functions' systems.

5.2 Propositions

With the information from the literature studies and the expert interviews, propositions will be made in this section and tested through different relevant questions to see if they can be generalized to the study's sample. These propositions and questions will be motivated by the summary tables of the literature studies and expert interviews.

In order to give the questionnaire a clear and coherent structure, it was divided into six parts: initial questions, strategy, processes, performance, organization and technology.

5.2.1 Initial questions

To get some basic facts about the respondents, the authors wanted information about:

- *The business segment/industry of the company*
- *The location of the respondent (personally based)*
- *The size of the company - (since the authors were aware that each company had an annual turnover of more than 300 million Euro, the top 3 classes in the Statistics Sweden-standard for turnover (See Appendix* 12*) was used to classify the companies.)*
- *What position the respondent held at the company they represent*
- *What influence/responsibility the respondent has regarding purchasing decisions*
- *In which stage (maturity) the respondent considered the company to be in the development of purchasing (leader, challenger or follower)*

In explorative studies with cross-sectional design, it is central to have sufficient diversity in the investigated units such as size, industry and location (Lekwall and Wahlbin, 2001, p 313), which necessitated the first three questions. Besides, these questions provided basic information and made it possible to get data for the industry/sector analysis and to analyze discrepancies between countries. Zheng et al (2007) suggested that cross sectional comparison between different sectors and countries are needed to find out how purchasing varies, but this is only possible to do if enough data/responses are gathered.

Asking where the respondent is personally based was considered to be better than asking where the company is located because it is difficult to define where multinational companies are located. Take for example, IKEA, which is considered to be a Swedish company, yet has its headquarters in the Netherlands. Most likely, a respondent from IKEA would have said that IKEA is located in the Netherlands. Therefore, it was necessary to ask the respondent where he/she is located.

The next two questions were important in order to ensure that a relevant person has answered and to see what kind of responsibility they have at their company, so as to avoid a biased

sample. A person's title might connote something different in different countries, industries, or companies and does not necessarily reveal the level or type of responsibilities within the company. Thus, a question about one's responsibilities regarding purchasing decisions was included.

The last question controls whether the respondent represents a company that is in the forefront of purchasing development, which Ogden et al (2005) stated would be the best type of company to use in future-oriented research. With this question, the authors wanted to see if there are any discrepancies in the trends between "leaders" and "laggards" in purchasing.

5.2.2 Strategy Propositions

From the literature studies and the expert interviews, three different propositions were formulated, as well as questions that would to be used to test the propositions within the strategy category. The discussion and derivation of each proposition is presented below.

5.2.2.1 Strategy Proposition 1 - More focus on local sourcing

From the literature studies and experts interviews it could be concluded that companies are outsourcing business activities (e.g. manufacturing, final assembly etc), which has been an ongoing process during the last several decades. Even core activities (e.g. R&D activities) are now outsourced to low-cost countries with the purpose of focusing more on "the inner heart" of the business' core activities. With regards to purchasing, some researchers and experts revealed that outsourcing of activities within the purchasing department is likely in the future.

The tendency to source more globally, with cost reduction as an incentive (so called low-cost country sourcing), still seems to be strong. However, many of the experts stated that companies will be focusing more on local sourcing than on global sourcing in trying to reduce the transports distance, and through that, reduce the effects of pollution on global warming. On the other hand, Cohen et al (2008) stated that outsourcing to/sourcing from China would increase and that India and Eastern Europe would be upcoming targets for these actions.

Further, the question should be asked: has the globalization/outsourcing peaked and will more local sourcing lead to in-sourcing of business activities? According to one expert, companies are considering taking back outsourced activities since the distance between functions, such as manufacturing, R&D, marketing etc., makes it difficult to interact and can cause problems when developing and releasing products.

The definition about what is considered to be "local" sourcing is not clear, whether it means that sourcing has its limits within a company's native and neighboring countries or within the whole of Europe (for companies in Europe).

This discussion leads to *Strategy Proposition 1*: *SP1 Increased focus on local and regional sourcing in the future*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) focus/emphasis on:
    - Global sourcing
    - Regional sourcing (e.g. within Europe)
    - Local sourcing (native and neighboring countries)
    - Sourcing from and outsourcing to:
        - China
        - India
        - Eastern Europe
    - Green purchasing strategy
- The current and future possibility of:
    - Insourcing of business activities
    - Outsourcing of core activities
    - Outsourcing of purchasing activities

5.2.2.2 Strategy Proposition 2 - Environmental and social responsibilities

Today's highly important topics, and areas which Zheng et al (2007) suggested more investigation in, are the environmental and social responsibilities of companies, with special focus on what the purchasing department is doing to contribute to these issues. Many researchers and experts stated that environmental/green and social responsibilities will have the highest priority in the purchasing strategies in the future. Purchasing must assure that the purchased goods are produced and distributed with low impact on the environment and ensure that their suppliers, as well as the suppliers' suppliers, are following ethical, social and human rights, as well as child labor regulations. Customers will take for granted that companies take their responsibilities in such important issues.

Take for example the news[13] from this year about child labor and horrible working conditions for employees at Ericsson's suppliers in Bangladesh. This was a setback for Ericsson, who had guaranteed that no such things could be found in those factories, which resulted in bad publicity for the company. Such publicity is not favorable for any company and Ericsson may suffer from a bad reputation for a long time.

Therefore, it is important that companies are working more closely with their suppliers, assisting them in producing products with low impact on the environment, and supporting them in upholding ethical labor standards, such as banning the use of child labor. There is a need to follow up—setting standards and monitoring compliance—to make sure that none of these issues are occurring. Otherwise, a company can end up in the same difficult situation as Ericsson.

If a company is dealing with a supplier (1st tier) who is following the company's guidelines and regulations, then the 1st tier should not be dealing with a supplier (2nd tier) who allows

[13] http://www.thelocal.se/11762/20080514/

child labor or causes harm to the environment in some way. An interesting question is whether companies are working proactively and developing partnerships with 2nd tier suppliers (or lower) to avoid these kinds of issues.

This discussion leads to *Strategy Proposition 2*: *SP2 Purchasing will have high priority in developing strategies for taking environmental and social responsibilities*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) focus/emphasis on:
    - Corporate social responsibility (CSR); including ethical, social and human rights; in purchasing
    - Green/environmental purchasing strategy/initiative
    - Developing partnerships with 2nd (or lower) tier
    - Green/sustainability measurements such as carbon footprint
    - CSR measurements such as child labor tracking
    - Measurements for 2nd tier supplier

5.2.2.3 Strategy Proposition 3 - Status

In the past, as long as purchasing made sure there were goods in supply, purchasing was considered to be doing their job. Companies have now started to realize the impact purchasing can have on the business and its potential asset to the company. The transformation from being operational to a strategic function - working proactively instead of reactively as some experts stated - is in progress, and purchasing should be seen as a value creator.

But to be recognized as a value creator, purchasing must receive higher status within the company. With higher status, purchasing should be represented more in top management and have more of an impact on vital decisions made by the company.

Early involvement of purchasing in the product development process enables purchasing to utilize their network of innovative suppliers into the development process, resulting in better and more innovative products at lower cost. This has, to some extent, already been done with 1st tier suppliers, but will this continue to spread down to 2nd tier suppliers? Purchasing can, at the same time, affect the decision of whether the product should be produced in house or bought from external sources.

In today's business environment, it is very common to work in alliances/partnerships with other companies in the supply chain. When purchasing is developing these partnerships on a more strategic level, they could also be responsible for Supplier Relationship Management (SRM) [14] since they already have deep contact with the suppliers. As discussed, purchasing should have more responsibility and be better utilized by the companies.

[14] Supplier Relationship Management = Management for setting up processes, guidelines, policies, procedures, technologies used etc that will be applied between the company and contracted suppliers

This discussion leads to *Strategy Proposition 3*: *SP3 Purchasing will receive higher status and increased responsibilities at the company in the future*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) focus/emphasis on:
    - Purchasing involvement in top management
    - Early involvement of purchasing in product development
    - Purchasing involvement in make-or-buy initiatives
    - Involvement of innovative suppliers into product development
    - Supplier relationship management (SRM) strategies
    - Developing partnerships with 2nd (or lower) tier
- The companies agreement to the statement: *"Purchasing is a value creator"*

5.2.3 Process Proposition – Enterprise-wide framework

According to the Process category in the IBX framework (see section 3.4.2), clear and defined processes are essential to be successful within purchasing. Cohen et al (2008) stated in their report that many companies are suffering from inefficient internal processes which leads to a lack of structure in the work. Therefore, a framework for the purchasing process should be developed to provide structure for purchasing decisions.

With a structured purchasing process, it would be easier to integrate the process with other related business processes, such as R&D and finance. Integration with other related processes was something Zheng et al (2007) found to be an ongoing trend.

Some experts recommended a flexible purchasing process that can be adapted to a specific component and its supplier market. When sourcing to fulfilling a specification, sourcing whole systems from one supplier instead of sourcing components from several suppliers can sometimes be better. Depending on the market structure, the purchasing process may not always fit the components or systems the company intends to purchase. Ability to change the process for different components and systems may help increase the performance of the purchasing process.

With a flexible purchasing process, different competencies may be needed when sourcing diverse products. Using cross-functional teams in the sourcing process can provide that kind of flexibility.

With diverse competencies in the sourcing team, various parameters can be included when analyzing alternatives. For example, using macroeconomic parameters in the sourcing process was something experts recommended to be included in the evaluation, especially given today's global financial crisis.

Total Cost of Ownership was addressed by one expert as an area that companies would utilize to a greater extent in the future. Previously, companies have not put enough effort to develop a comprehensive model which takes all cost into consideration, and not until the model is fully developed, it can be seen as a powerful tool in purchasing decisions.

This discussion leads to the *Process Proposition*: *PrP Companies will have an enterprise-wide framework for their purchasing process that is integrated with other functions to enable flexibility*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) focus/emphasis on following process initiatives:
    - Structured enterprise-wide purchasing processes
    - Flexible purchasing processes – adaptable after commodity and supplier markets
    - Integration between purchasing processes and the processes of related functions
    - Use cross-functional teams in sourcing process
    - Include macroeconomic parameters in sourcing analysis
    - Total Cost of Ownership (TCO) / Product Life Cycle Cost

5.2.4 Organization Propositions

From the literature studies and the expert interviews, three different propositions were formulated, as well as questions that would to be used to test the propositions within the organization category. The discussion and derivation of each proposition is presented below.

5.2.4.1 Organization Proposition 1 - Skill sets

What many experts suggested, e.g. to increase the status of purchasing, is that the purchaser is required to have an academic degree. Exactly what kind of education was not clear. But one expert suggested Industrial engineering and management. The other experts did not name a particular field of study, but just stated that some kind of degree would be necessary.

Zheng et al (2007) suggested for future research that an evaluation be made of the competencies and skills that the purchasing staff should posses. The requirements of the purchaser's skill sets will probably differ when the purchasing function moves from an operational to a more strategic role. Purchasing staff also needs to communicate these changes to the other departments when implementing them in the organization.

Both researchers and experts explicitly expressed project management, business development, strategy, and analytical skills as important in the future. Another skill brought up by the interviewed experts was IT systems skills, since purchasing technology and tools are being implemented to a greater extent. To really utilize the potential of these systems, one has to understand and be willing to use them.

To evaluate and map competencies, which Zheng et al (2007) requested, the authors included several other skills such as change management, communication, flexibility, negotiation, leadership and cooperation skills.

This discussion leads to *Organization Proposition 1*: *OP1 When purchasing are going from operational to strategic - the most important skill sets for the purchaser will be project management; IT systems ;business development; strategy; and analytical skills*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) rank of importance to following skill sets:
    - Education/academic degree
    - Project management skills
    - Strategy skills
    - Communication skills
    - Business development skills
    - Analysis skills
    - Change management skills
    - Negotiation skills
    - Cooperation skills
    - Leadership skills
    - Flexibility
    - IT system skills
    - Technical background

5.2.4.2 Organization Proposition 2 - Decreased decentralization

According to researchers and experts, there is tendency among companies to apply the centre-led organization model (hybrid between a centralized and a decentralized organization model). Purchasing is moving towards coordinated and centralized purchasing in order to gain the benefits of larger amounts of purchased goods (leverage buying, impact of scale) and utilize the new purchasing technologies such as e-Procurement and e-Auctions. The large organizations might not be able to fully centralize their purchasing organization, but on the whole, organizations will be moving towards a more centralized structure. Thus, the decentralized organization structure will not be applied by companies to the same extent.

This discussion leads to *Organization Proposition 2: OP2 Decentralized organization structures will decrease*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) organization model

5.2.4.3 Organization Proposition 3 - "The war for talent"

Most of the experts stated "the war for talent" as the biggest challenge for companies (i.e attracting competent talents to work with purchasing). Since the status of purchasing has been on a moderate level, working with purchasing is perhaps not that desirable for young talents today. This is an issue companies must take seriously in order to sustain and develop a competitive and value-creating purchasing function.

This discussion leads to *Organization Proposition 3: OP3 Companies will have high priority on attracting talents*

Based on the discussion above, questions selected for the questionnaire are:

- The companies' current (year 2008) and future (year 2013) rank of importance to following statements:
    - Attracting top talent to purchasing
    - Nurturing talent in purchasing
    - Retaining talent in purchasing

5.2.5 Performance Proposition – More measurements

"What gets measured gets done" - a simple but true phrase. If one has performance measurements, one is probably eager to continuously improve the measurement's results if they have proven to be bad or low. Like some experts stated, in trying to improve and develop, one needs to use more measurements. The measurements should be clear and defined, which make them easy to monitor and evaluate.

What to measure in the purchasing department is a different question. Traditional measurements such as price/cost reduction, quality, lead time, delivery performance etc are widely used. But it is also important to measure internal efficiency such as spend with preferred suppliers, purchasing process compliance and internal customer satisfaction.

In order to develop purchasing and take it to new levels, several new areas and details are put in focus. To monitor these new areas and details, new measurements need to be implemented.

What researchers and experts proposed was for example:

- Spend analysis
- Cost avoidance
- Measure suppliers' suppliers (2nd tier)
- Green measurements
- Contract compliance
- Volumes purchased through e-procurement

Measurements from the performance category in the IBX framework (see Section 3.4.4) were included in the questionnaire, in order to increase the list of performance measurements.

This discussion leads to the *Performance Proposition*: *PeP Companies will increase the amount of performance measurements*

Based on the discussion above, questions selected for the questionnaire are:

- If the company is considering to increase or decrease the amount of questions
- The companies' current (year 2008) and future (year 2013) rank of importance to following performance measures:
    - Negotiated cost reduction savings
    - Implemented cost reduction savings
    - Spend under management
    - Cost avoidance
    - Savings/Operating costs
    - Suppliers accounting for 80 percent of spend
    - Supplier performance (price, delivery, quality, service, etc.)
    - Requisition, PO, or invoice transaction volume
    - Internal customer satisfaction
    - Spend with preferred suppliers
    - Spend velocity
    - Spend from single source
    - Purchasing process compliance
    - Green/sustainability measurements such as carbon footprint
    - CSR measurements such as child labor tracking
    - Measurements for 2nd tier supplier

5.2.6 Technology Proposition - Increased use of technology → less staff

Many experts were requesting automatization of the purchasing process, and technology (IT systems) was seen as an enabler for efficient purchasing. It helps to provide more information and data and can be managed more easily. With more information at hand, one can make better analyses during the sourcing process, which in the end, results in better sourcing decisions. With shorter Product life cycles and a high priority to reduce the time to market, there is a demand for a quicker sourcing process, which technology can facilitate.

The intention was to investigate which technologies are currently being utilized by purchasing functions and to see if they intend to implement other technologies suggested by researchers and experts in the future.

The technologies/tools the researches and experts suggested were:

- E-procurement and E-sourcing. These tools have been on the market during this decade and facilitate the operational purchasing process and the sourcing process.
- Spend analysis – facilitates the analysis of:
    - How much has been spent?
    - On which products?
    - From which suppliers and how much on each?
    - Etc.
- Contract management – This tool can manage the contracts with the negotiated terms and conditions with suppliers, for example, and ensures compliance.
- Supplier performance management – As companies are sourcing more globally and trying to keep low inventory levels, this makes the supply chain fragile for disruptions, potentially causing enormous costs for companies. Supplier performance management is a tool that keeps control over and measures a company's suppliers. [15]
- E-invoicing (EIPP) – will connect the purchasing process to the finance process and facilitate in the payment of delivered orders. According to some experts, there is a big gap between these processes.
- Supplier portal(s) – Companies can share information and experiences about suppliers they have worked with in these kinds of portals.
- Web 2.0 (Networks, blogs etc) - is similar to communities and networks like Facebook and Linked but is in this case, suited for Business-to-Business. The purpose is to share information and connect employees working with similar assignments within the company but in different parts of the world, for example.

Kanter (2008) stated that "purchasers are becoming more important to managing risk" and that "managing risk can not be managed by one function…it needs procurement and risk managers to collaborate". Thus, purchasing is a new area where risk analysis/management tools can be applied.

- Risk analysis/management – Aids in risk assessment and how to manage risks through developing strategies to mitigate the consequences of risks.

Along with more technologies involved in purchasing decisions, which are automating the purchasing process, the need for fewer personnel may be needed. It is interesting to see if the amount of persons in the staff will decrease.

This discussion leads to the *Technology Proposition: TP Purchasing technologies and tools are implemented to a great extent, which will reduce the amount of persons working with purchasing.*

Based on the discussion above, questions selected for the questionnaire are:

[15] http://www.aberdeen.com/summary/report/other/SuppPerf_093004a.asp

- The companies' current use of the following purchasing technologies/tools; and/or if they are expected to implement these in the future:
    - Spend analysis
    - E-sourcing/E-auctions
    - Contract management
    - E-procurement
    - Supplier performance management
    - E-invoicing (EIPP)
    - Supplier portal(s)
    - Web 2.0 (Networks, blogs etc)
    - Risk analysis/management
- What changes the companies see in the amount of persons in their purchasing staff today (year 2008) and future (year 2013)

6 Analysis

The chapter contains analysis of the received responses. First, the trends that could be distinguished from all responses are presented and discussed. Then, there is a discussion about the industry trends and trends between Leaders and Non-Leaders countries. Finally, the chapter ends with trends between Nordic and Non-Nordic countries.

6.1 Initial questions

The purpose of the initial questions (see section 5.2.1) was to categorize and provide basic facts about the respondents. The distribution for each question is presented and analyzed for potential bias in this section.

6.1.1 The business segment/industry of the company

Figure 11 illustrates the distribution of the business segment each respondent represented.

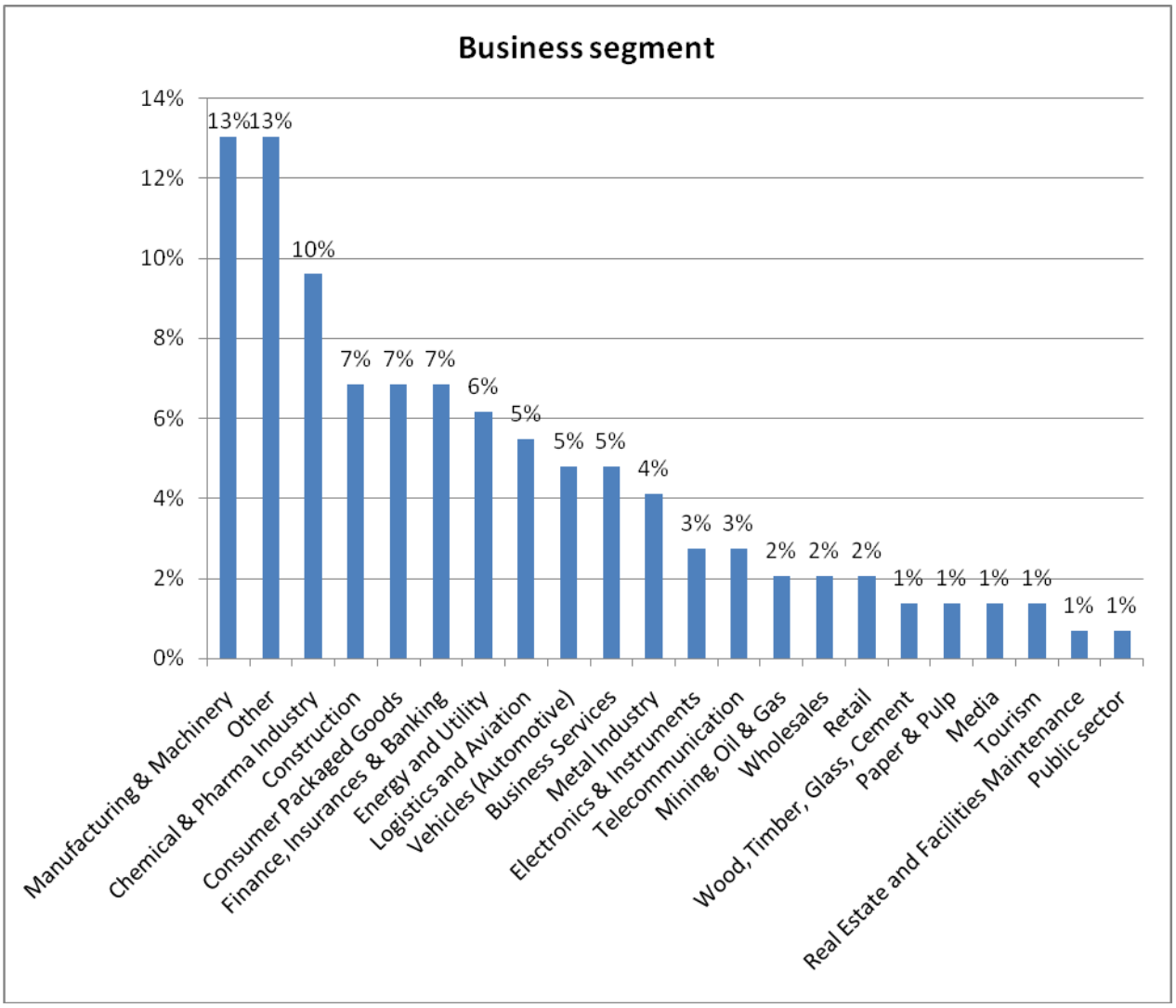


Figure 11 – Distribution of Business segments

This chart indicates which business segments the survey respondents belonged to. The largest identified segments can be seen on the left side of Figure 11, and consist of Manufacturing & Machinery, Chemical & Pharma Industry, Construction, Consumer Packaged Goods and Finance, Insurance & Banking. There is also an unidentified category "Other" where the respondents placed themselves if they could not find an appropriate business segment. The amount of respondents placing them in the "Other"- alternative was surprising since its value was higher than expected. Since as many as 13 percent could not find their business segment out of 23 industry alternatives, it can be concluded that it is difficult to embrace all the possible business segments that respondents consider themselves to belong to.

6.1.2 Where the respondent is personally based

The geographical location of the respondents that completed the survey can be seen in Figure 12.

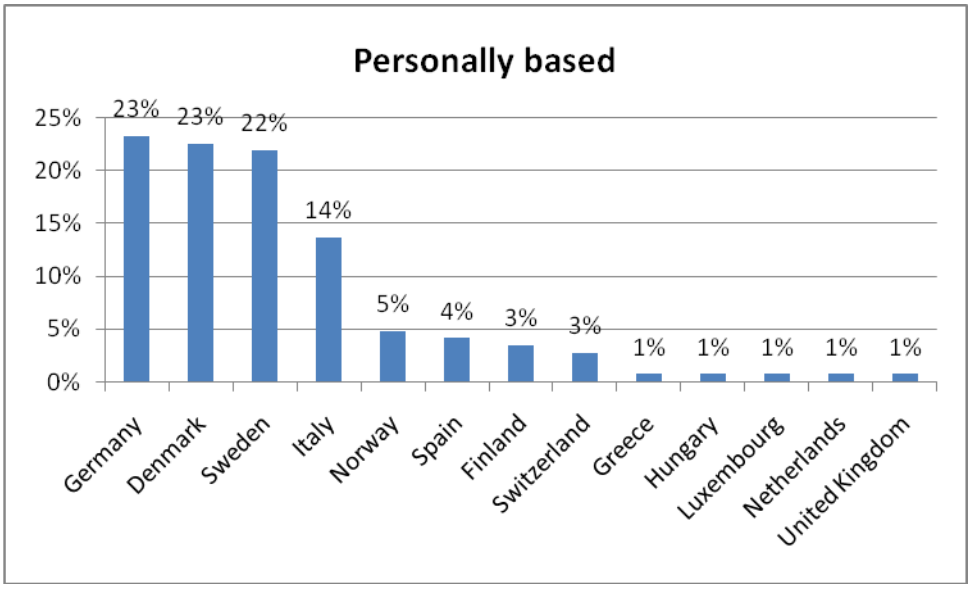


Figure 12 - Respondents location

The main contribution came from Germany, Denmark and Sweden. The size of each category was fairly small, which makes it difficult and would have been misleading to analyze and compare purchasing trends for each country. If the distribution of the responses is put in relation to the distribution of the recipients, potential bias can be discussed. With Germany having a much larger pool of potential respondents, yet having almost the same amount of actual respondents as Sweden, for example, this indicates a relative low response rate from Germany. Further, there were no responses at all from France, see Figure 13 below.

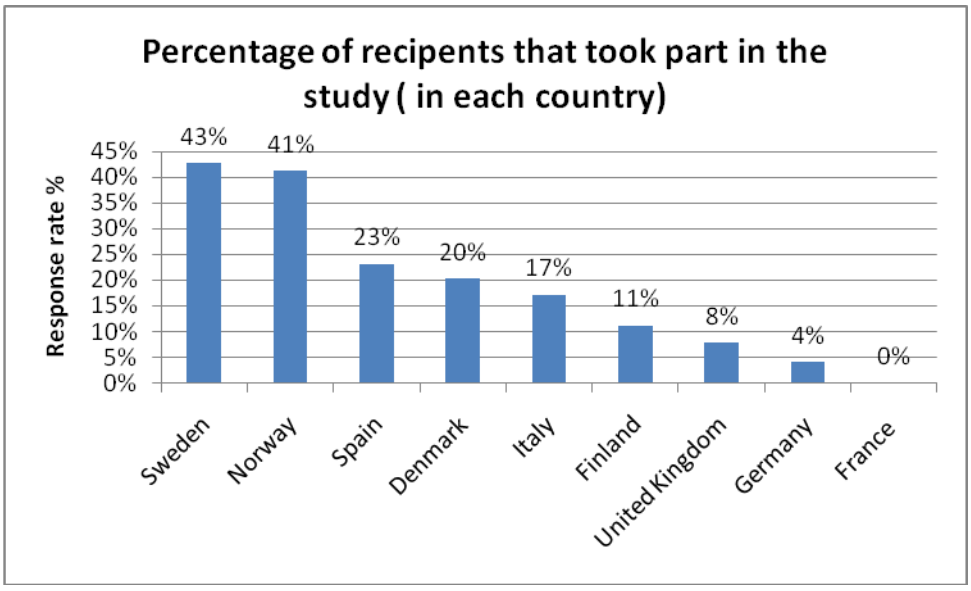


Figure 13 - Response rate (100% would indicate that every recipient in that particular country would have completed the survey)

Perhaps the questionnaire should have been translated into German or French to receive higher responses from these countries. This observable fact (bias) may also be due to Lund University not being well known beyond the Scandinavian borders. The opposite can be said about Lund University's reputation within the Scandinavian countries, where the relative response rate was much higher.

It is worth noticing that there are some new countries represented in the sample compared to the countries the questionnaire was sent out to. The reason could be that the database has not been updated lately, i.e. a purchaser has moved to a new location since the last update, or that a person has been registered incorrectly.

Even though the questionnaire was sent out to countries outside of the focus region, the majority of respondents were located in Northern Europe, see Figure 14.

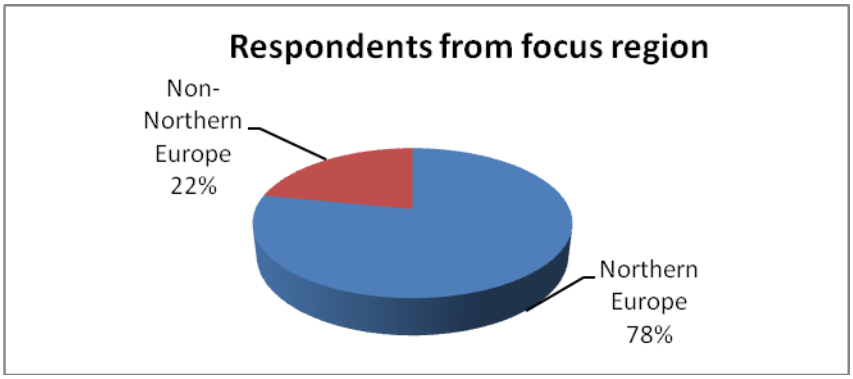


Figure 14 – Respondents from Northern Europe (focus region) and Non-Northern Europe

Another interesting finding was that approximately half of the respondents where located in the Nordic region (i.e. respondents from Sweden, Norway, Denmark and Finland), see Figure

15. This makes it interesting to analyze any differences or similarities between Nordic and Non-Nordic countries.

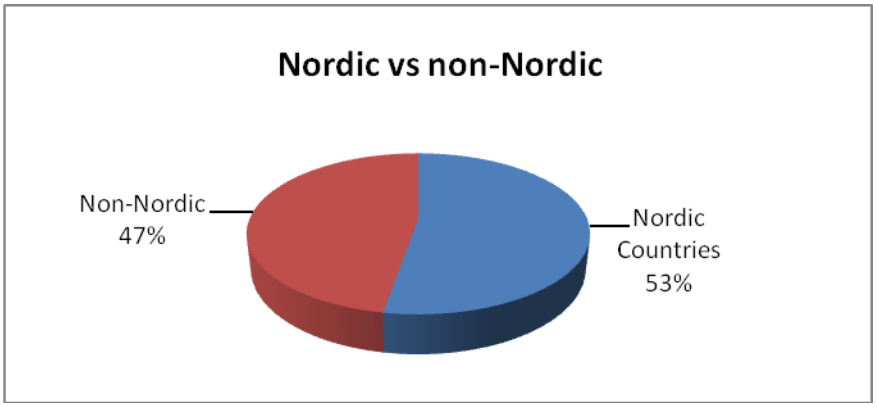


Figure 15 – The distribution of respondents from Nordic countries and Non-Nordic countries

6.1.3 The size of the company

Figure 16 shows the size of the companies in terms of annual turnover. The major part of the respondents work for companies with an annual turnover that exceeds 1000 Million Euros. Only 18 % of the companies had an annual turnover that was less the 500 Million Euros, which makes the companies that took part in this study fairly large.

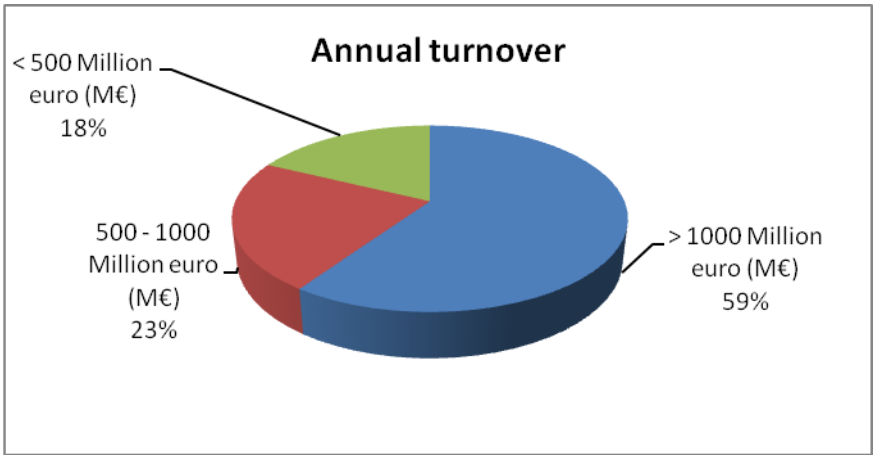


Figure 16 - The companies' annual turnover that the respondents represent

6.1.4 The respondent's position at the company

An important parameter that affects the credibility of this study is the respondent's role. The goal was to get input from senior purchasing professionals with great knowledge about purchasing. Figure 17 states the respondent's role and shows that 70 % were in charge of purchasing/procurement at their company, which gives the findings good credibility in the end.

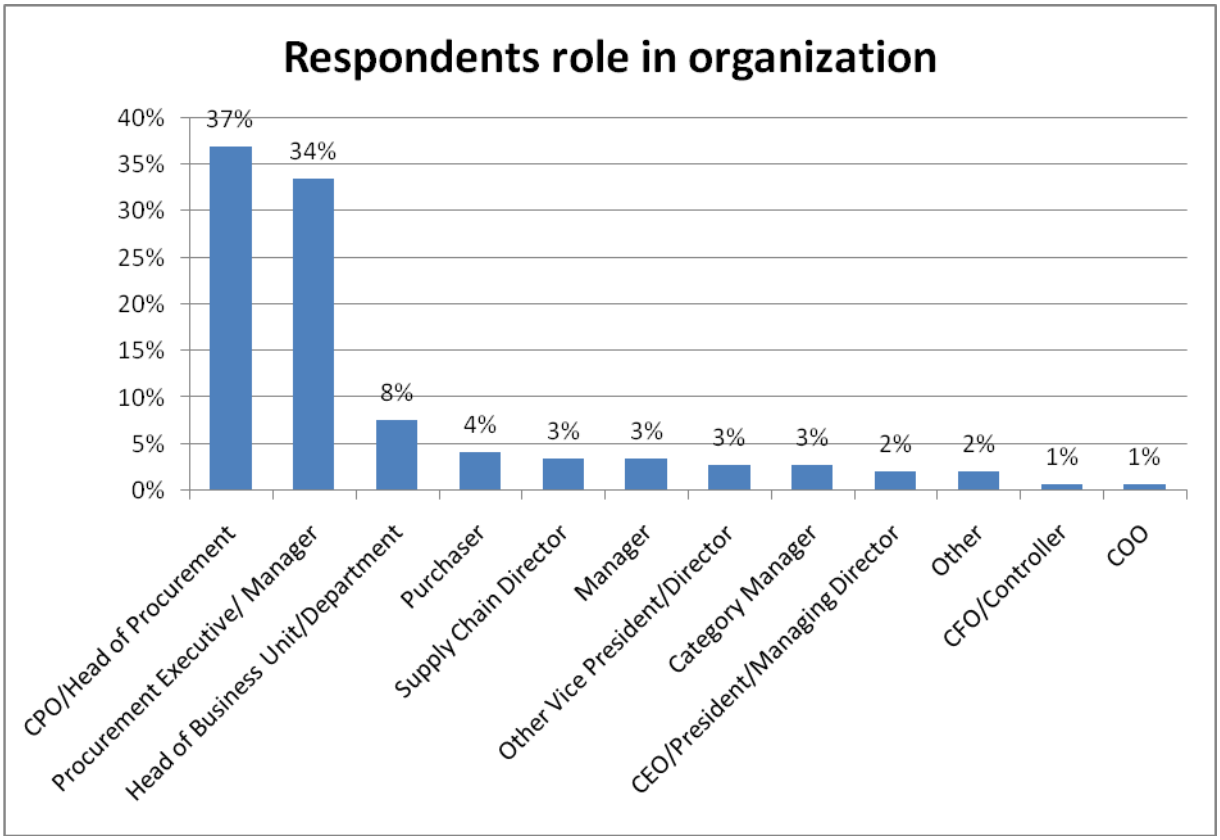


Figure 17 - Respondents role at their company

6.1.5 The respondent's influence regarding purchasing decisions

Another essential parameter is if the respondents can affect the development of purchasing at their company since the questions in the survey concerned the future of purchasing. Figure 18 shows that 80 % had decision making responsibility and 19 % influence decisions regarding purchasing. Those figures clearly imply that the respondents affect how purchasing will be carried out in the future. These figures also give credibility to the results of this study.

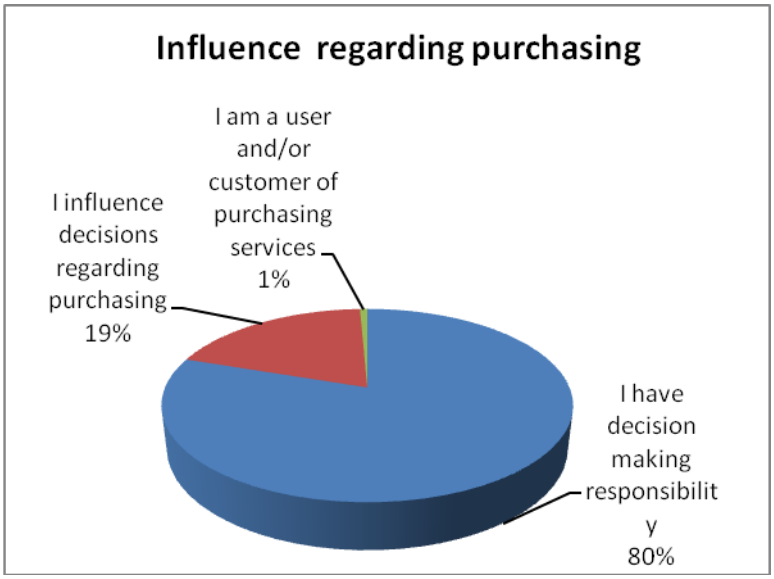


Figure 18 – Respondent's influence regarding purchasing decisions

6.1.6 The maturity of the Company

The respondents were asked to assess how far their company had come in the development of purchasing. Figure 19 indicate that 8 % consider themselves as followers, 43 % as industry average and 49 % as leaders. The Leaders is the most interesting category when it comes to the future since they are taking purchasing to new levels and seek new ways to improve purchasing. Therefore, the leaders' opinions will be analyzed separately (section 6.4) from the challengers' and followers' opinions to see if they are heading in the same direction as the leaders in the development of purchasing.

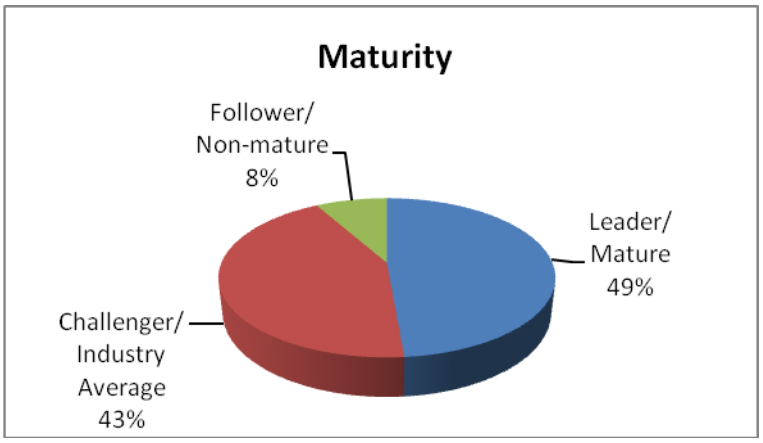


Figure 19 - The respondent's assessment of their purchasing functions maturity (concerning purchasing development)

Discussion

There is a wide range of different business segments as well as geographical locations. But most important is that all respondents are located within Europe's borders, where approximately 78 percent were from the focus region (see Figure 14).

A remarkable observation is the size of the companies. With around 60 percent of the companies having an annual turnover of more than 1000 Million Euro, the survey contains responses from very large companies.

The results from the last questions imply that the respondents have great impact on the development of purchasing and have very relevant positions at their company. Furthermore, around 50 percent of the respondents represent a company that is taking a leading role in purchasing. With regard to the backgrounds of the 146 responses, there will be high credibility in the results.

6.2 Analysis of the Propositions

In the following sections, each proposition's trustworthiness is discussed and analyzed from the mean value charts. Each area's mean value for 2008 and 2013 is found in Appendix 13. The statistical changes/trends are calculated with Student's t-test and the results can be found in Appendix 14.

6.2.1 Strategy Proposition 1 - More focus on local sourcing

The calculated mean values for the questions related to *SP1 Increased local and regional sourcing in the future* are shown in Figure 20.

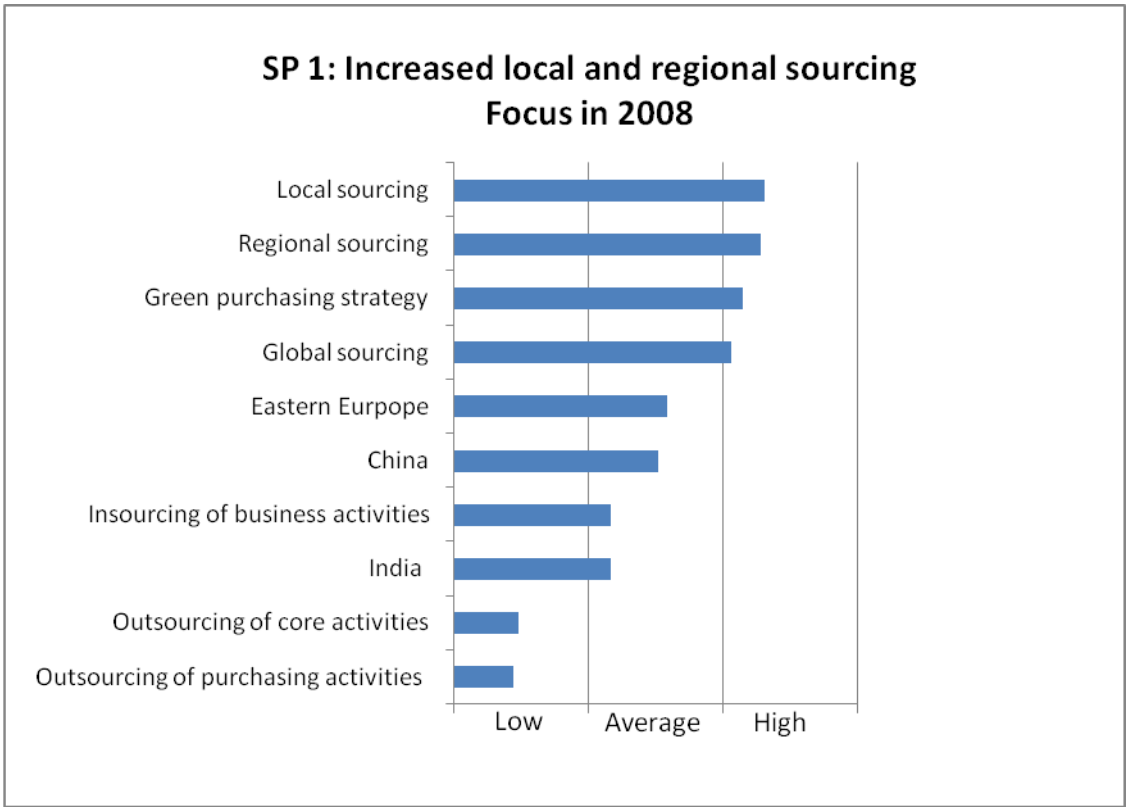


Figure 20 - Mean values in 2008 for areas included in the questionnaire, regarding Strategy Proposition 1

From the bar chart above (Figure 20) it can be concluded that companies currently put their focus on local and regional sourcing. However, global sourcing is also of high importance. There is also a slightly higher value for sourcing from Eastern Europe than sourcing from China and India (were India's value differ from the two other countries). This might relate to the fact that a green purchasing strategy is seen as an important area and companies consider the shorter distance to Eastern Europe as an advantage.

Outsourcing of core activities, as well as of purchasing activities, receives a low value and is currently not seen as an important area. In regards to that, insourcing of business activities is considered to be more likely which might relate to that companies find the interaction between manufacturing , R&D and marketing to be difficult when developing and releasing new products. The assessment for the areas in 2013 with each change (trend) indicated can be seen in Figure 21 below.

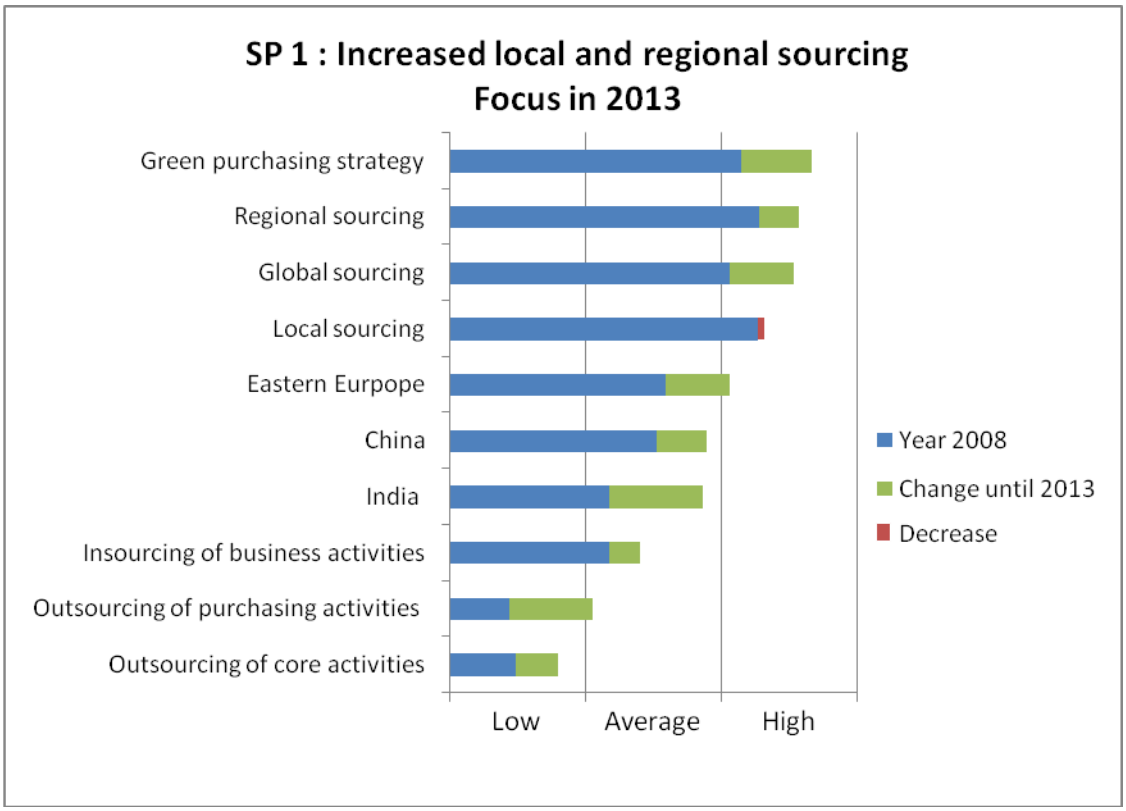


Figure 21 – Mean values in 2013 for areas included in the questionnaire, regarding Strategy Proposition 1

Green purchasing strategy is seen as the most important area in the future. Despite a relatively high mean value for 2008, the importance of a green purchasing strategy still has a major increase in 2013. In relation to that, regional and global sourcing is also assessed to be of high importance in 2013 and has switched places with local sourcing in terms of focus. Local sourcing (native and neighboring countries) is the only area in this proposition which the respondents assess to decrease but this is according to Appendix 14 not statistically significant (which all the other differences are) and local sourcing has still a high focus value in 2008. The fact that local, regional and global sourcing are all important say that companies want to source within their own region and decrease their contribution to global warming, but they still want to take advantages that global sourcing brings through buying cheaper and better products in other parts of the world.

Even though green purchasing strategy is seen as the area with highest focus, companies still assess that global sourcing will increase. One of the typical countries to source globally from has been China, which is still assessed to be important in 2013. However, India, which has had a less prominent role, is assessed to be almost equally important in 2013 and go through the largest increase of all areas in this study. Eastern Europe will keep a strong position and these three countries will be major targets for globalization.

When it comes to outsourcing of purchasing activities, there is a large relative increase until 2013. This can be seen as an indication that purchasing professionals currently analyze the possibility to outsource some of the purchasing activities by 2013. Insourcing of business activities almost keep the same focus value for 2013 as for 2008 and outsourcing of core

activities does not go through the same increase as outsourcing of purchasing activities and has a low value for 2013.

The statistical change (from the Student's t-test) from 2008 until 2013 for the areas in SP1 can be seen in Figure 22. A green bar indicates a positive trend and a red bar indicates a negative trend. The areas are arranged in a descending order, with the largest increase at the top.

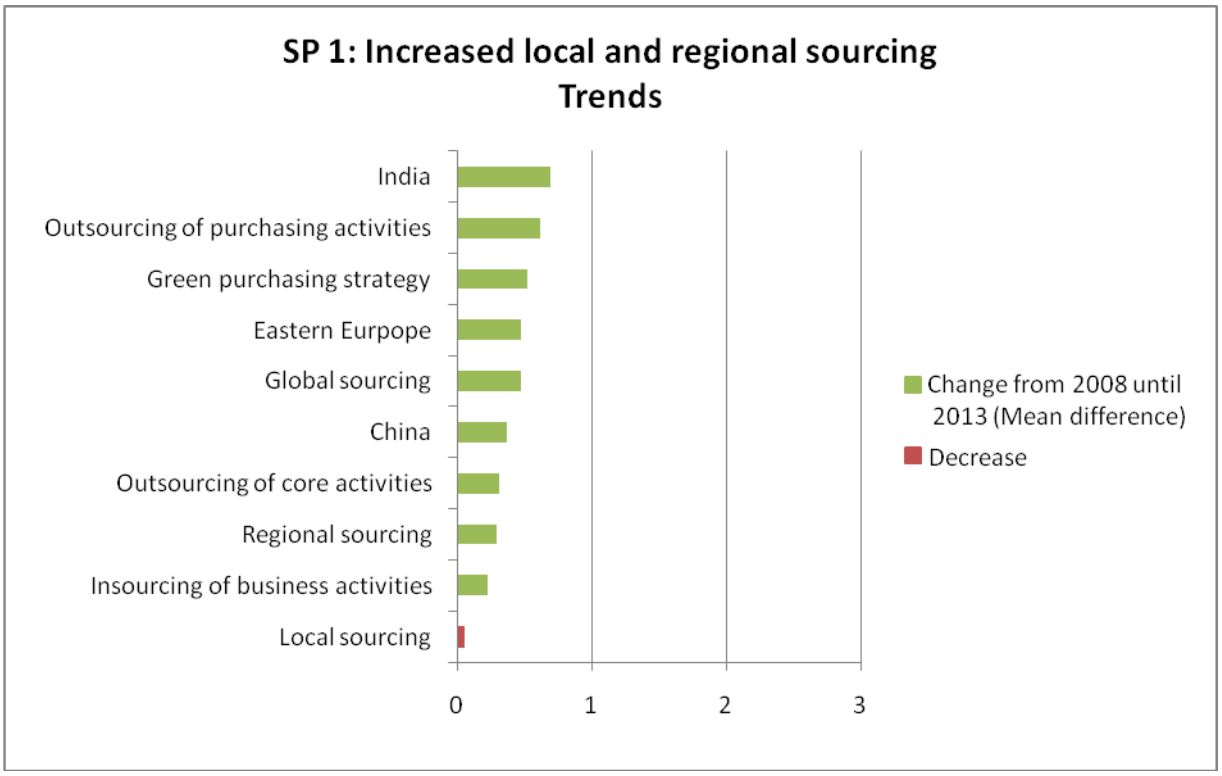


Figure 22 – Ranking of changes from 2008 to 2013 for Strategy Proposition 1

Discussion

The strongest positive trends are sourcing from and outsourcing to India, followed by outsourcing of purchasing activities and green purchasing strategies. Could sourcing from or outsourcing to India and outsourcing of purchasing activities be related? According to Snell (2007), India together with China, are on the top of the list of destination where companies offshore purchasing functions. Another factor that brings India to the top of potential countries to source from/outsource to, could be the fact that English is spoken to a great extent compared to other Asian countries. Furthermore, India has a prominent role when it comes to developing advanced technology due to the well educated workforce. But that does not seem to be the reason in this study, since the focus on outsourcing of core activities, such as research and development, is very low. However, India has vast manufacturing capabilities and is likely to be a target for global sourcing initiatives. The increased focus on, especially, India and China may be correlated to outsourcing of purchasing activities since companies need persons with local knowledge about the markets and business culture when establishing their company in these countries.

It is slightly remarkable that the green/environmental purchasing initiatives have a clear tendency to increase and have the highest value, but at the same time, companies will decrease their focus on local sourcing (native and neighboring country sourcing). A possible reason could be the growing importance of regional sourcing, which companies may view as a good enough effort to decrease the environmental impact and carbon dioxide pollution due to transportation. Another reason could be that the products that the companies need cannot be sourced locally or is cheaper to source regionally i.e. Eastern European countries.

It can be concluded that companies will try to take responsibility and take serious actions to ensure low contribution to global warming. Being "green" or taking environmental purchasing initiatives is a current trend that grows even stronger in the future, while at the same time, regional and global sourcing increases. The issue companies need to deal with is how to solve this equation.

According to Figure 22, there is a large variation in the trends for the areas in this proposition. On the whole, global sourcing will continue to broaden over the world and companies in Europe are not an exception. Most of the areas suggested by previous research and the interviewed experts, were predicted to increase in importance, which they also did in this the case. However, local sourcing which was this propositions main statement is anticipated to decrease, but this was not statistically significant according to Appendix 14 and local sourcing did receive a high focus value in 2013. Hence, Strategy Proposition 1 can not be rejected.

6.2.2 Strategy Proposition 2 - Environmental and social responsibilities

The calculated mean values for the questions related to *SP2 Purchasing will have high priority on developing strategies for taking environmental and social responsibilities* are shown in Figure 23.

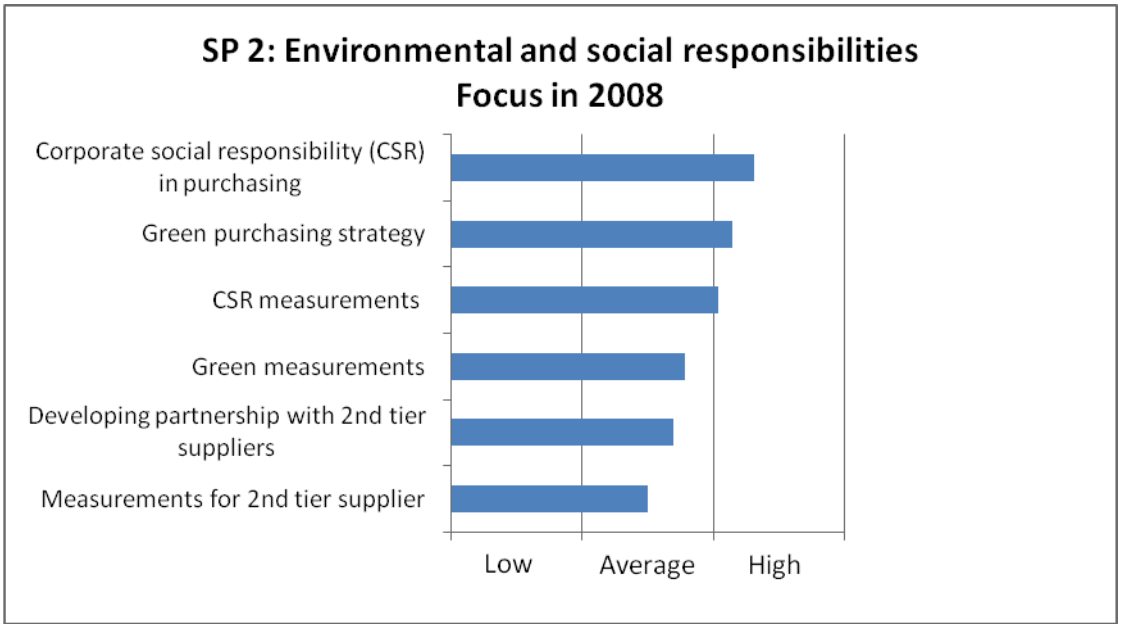


Figure 23 - Mean values in 2008 for areas included in the questionnaire, regarding Strategy Proposition 2

According to Figure 23, there is currently a high focus on strategies regarding environmental and social responsibilities. Corporate social responsibilities have been an issue for the companies a bit longer than the environmental responsibilities, and it is possible that is the reason why CSR measurements are more important than green measurements. Developing partnerships with 2nd tier suppliers as well as measurements for 2nd tier suppliers receives an average focus for 2008 and could be one solution to ensure that partners in the supply chain take their responsibilities.

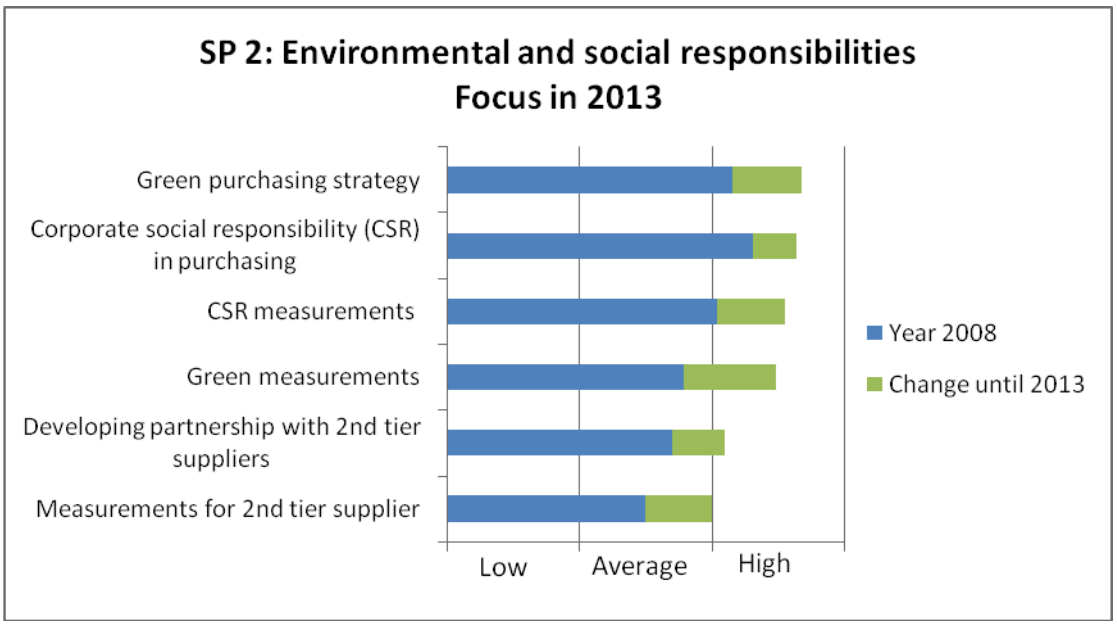


Figure 24 - Mean values in 2013 for areas included in the questionnaire, regarding Strategy Proposition 2

The assessment for 2013 with each area's change (trend) is visualized in Figure 24 and indicates a strong positive trend for green purchasing strategies that results in the highest value for 2013 together with corporate social responsibilities. These strong values are not surprising since these two areas were announced to be the most important by the majority of the experts (see Table 8). When companies focus on green purchasing strategies, there is a need to develop and implement green measurements. Green measurements (as well as CSR measurements) show a significant shift in importance and have the strongest positive trend in this proposition. It can be concluded that companies will take their responsibility and take serious action to ensure low contribution to global warming.

Developing partnership with 2nd tier suppliers receives an average focus today. However, the trend is pointing at a moderate increase in the future, and in 2013, it is considered to be a high focus area. Along with developing partnerships, there will be measurements to monitor these suppliers, and the findings show that there will be more focus on these measurements in the future. This might indicate that companies intend to ensure that the partners in the supply chain take their responsibilities seriously.

The statistical change (from the Student's t-test) from 2008 until 2013 for the areas in SP2 can be seen in Figure 25.

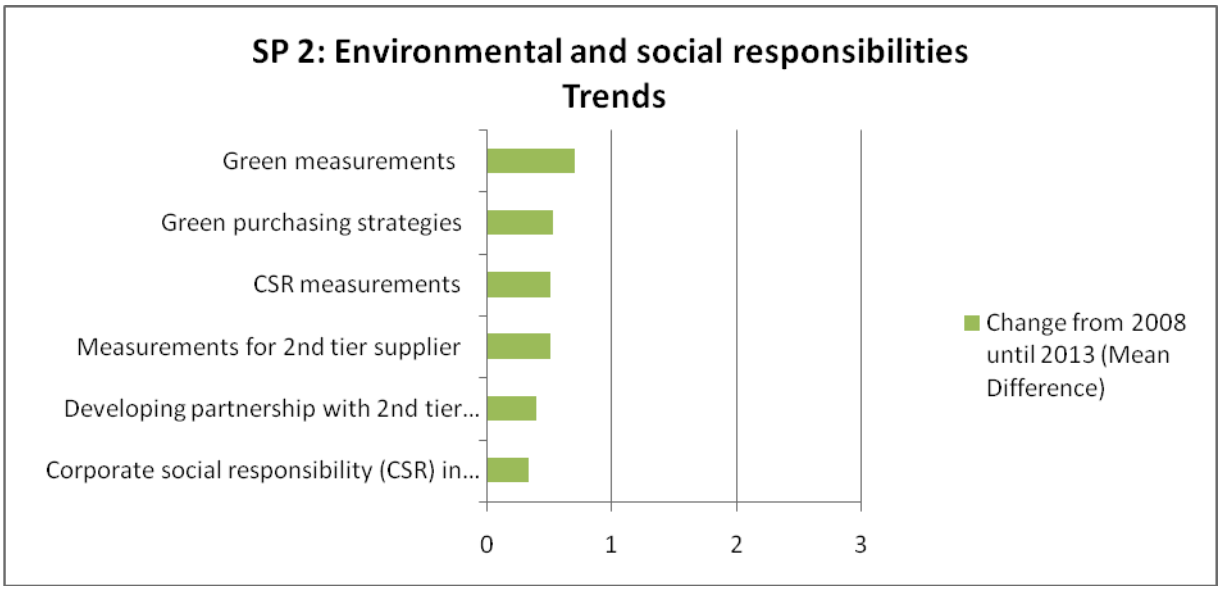


Figure 25 - Ranking of changes from 2008 to 2013 for Strategy Proposition 2

Discussion

Undoubtedly, companies intend to be socially and environmentally responsible. The CSR works together with the green purchasing strategies will be even more prioritized in the years to come. There seems to be a general, small difference in importance between the area in question and its related measurement, both for 2008 and 2013. This has a natural explanation, which is that the company must decide to focus on the area before measurements can be implemented.

Partnership with 2nd tier suppliers will also increase and expand the collaboration within the supply chain. Measurements for 2nd-tier suppliers will evolve when the collaboration becomes more intense, but it can also be seen as if companies have to take more responsibility for the whole supply chain, and therefore measure 2nd-tier suppliers.

Sourcing decisions will therefore be affected by environmental and social responsibilities to a greater extent since most end customers do not want to buy products that consist of parts being produced in questionable circumstances, such as child labor or in a way where the environment has been harmed. Therefore, green measurements are seen as important in the future, and there may even be companies that consider putting a label on their products that states how the product has affected the environment. To provide this kind of information to customers, companies will have to develop strategies and procedures that ensure that suppliers measure their pollution and take environmental responsibility.

As suggested by previous research and the interviewed experts, all of these areas are anticipated to increase in importance. Consequently, Strategy Proposition 2 can not be rejected.

6.2.3 Strategy Proposition 3 - Status

The calculated mean values for the questions related to *SP3 Purchasing will receive higher status and increased responsibilities at the company in the future* are shown in Figure 26.

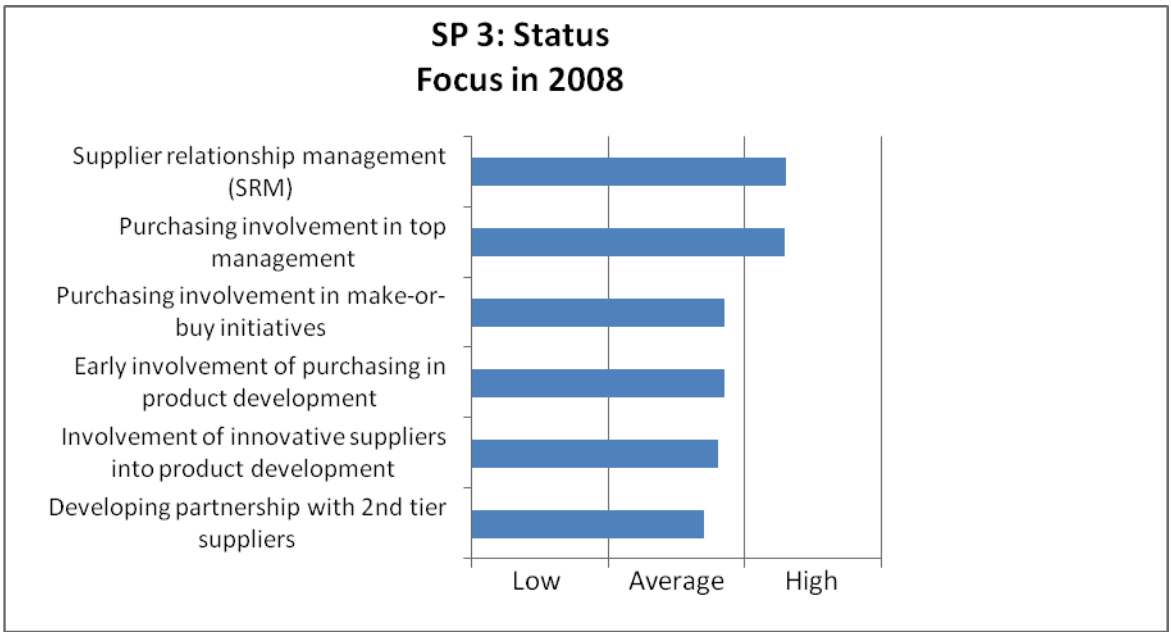


Figure 26 - Mean values in 2008 for areas included in the questionnaire, regarding Strategy Proposition 3

Although companies are collaborating and developing partnerships with different suppliers, companies must, more importantly, maintain and manage these relationships. Supplier relationship management is seen as the most important area in this proposition, see Figure 26. It appears that companies have started to realize the potential of purchasing by including them in the top management, which is the other area that receives a high focus value for 2008.

The other areas in this proposition are related to the purchasing function's involvement in product development, integration of suppliers in product development and make-or-buy decisions. These areas, suggested to be important according to researchers in Table 2, receive average focus values for 2008.

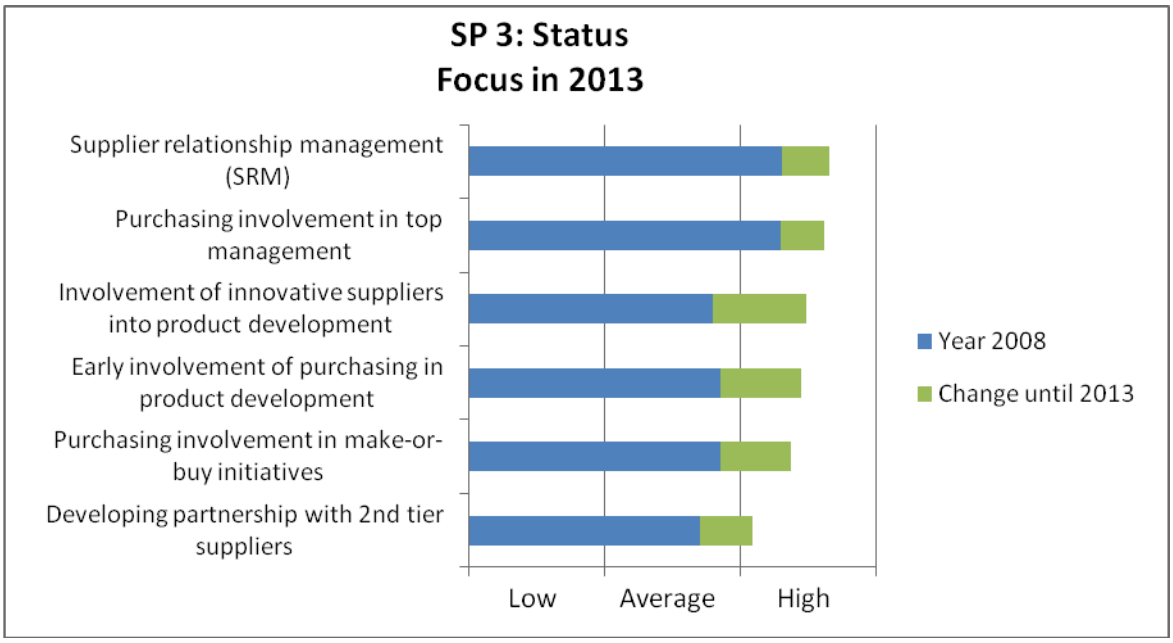


Figure 27 - Mean values in 2013 for areas included in the questionnaire, regarding Strategy Proposition 3

Supplier Relationship Management will increase from its already strong position in 2008 to an even higher level in 2013, according to Figure 27. Supplier management strategies that include guidelines, processes, policies and procedures need to be developed in such way that the concerning partners know what to expect and are comfortable with the collaboration.

Representation of purchasing in top management seems to have a quite strong position today and will increase even more in the future to a very high value. If purchasing is involved in top management and affects strategic decisions, the possibility to contribute with savings and create value increases.

Involvement of innovative suppliers in product development is closely connected to purchasing being involved early in the development process. Not only are they related to each other, but they also seem to have the same development, according to Figure 27. With a modest value in focus today, these areas are two of the areas in this survey, which will increase the most. When purchasing is involved in the product development process, they can also affect if a product should be bought from external suppliers or manufactured in-house. That is another area where purchasing will have more influence.

The importance of developing partnerships with 2nd tier suppliers is lower than for involving innovative suppliers, which might signify that companies are working more closely with its supplier (1st tier) than with its supplier's supplier (2nd tier).

The statistical change (from the student's t-test) from 2008 until 2013 for the areas in SP3 can be seen in Figure 28.

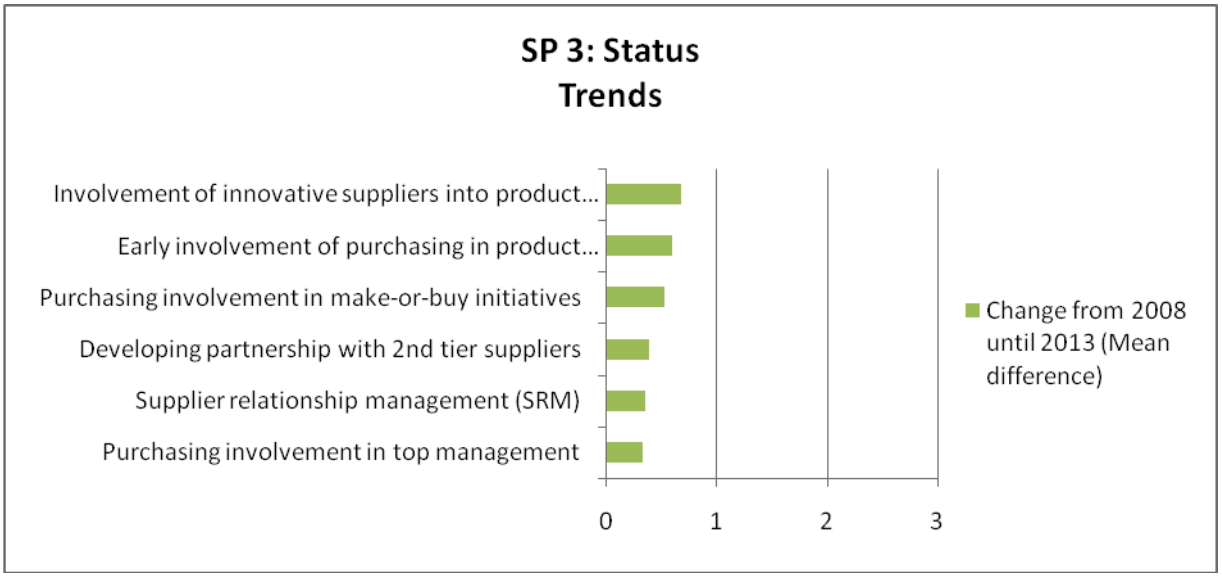


Figure 28 - Ranking of changes from 2008 to 2013 for Strategy Proposition 3

Discussion

Along with purchasing receiving more attention and status, purchasing will be more involved in other parts of the business where it not only creates savings, but also value. Before, purchasing was involved late in the development process with the objective to make sure that the right components were accessible in time for the production start. If delays were experienced early in the development process, greater time constraints were placed on purchasing to find suitable components. When purchasing is involved early in the development, they can contribute with the knowledge of how to make the product cheaper without sacrificing the quality. Their knowledge can be utilized in the way that they know what components suit their own manufacturing process or use their network of suppliers who might be able to produce it better or cheaper.

It is worth noticing that companies try to develop partnerships further down in the supply chain. As has been said in Strategy Proposition 2, the main reason for developing partnerships with a 2nd tier supplier is probably for securing the flow of goods in the supply chain and making sure they are following environmental and social regulations. But in the business world today, companies are no longer competing with each other. Instead, it is the supply chains that compete, and by working closely with 2nd tier suppliers, it is possible to increase the quality, productivity and efficiency for their supply chain. It becomes more of a team effort in which it is important that all participants are aware of and can affect the strategy for the supply chain. Purchasing will need to play a key role when integrating suppliers to sustain the company's and the supply chain's competitiveness.

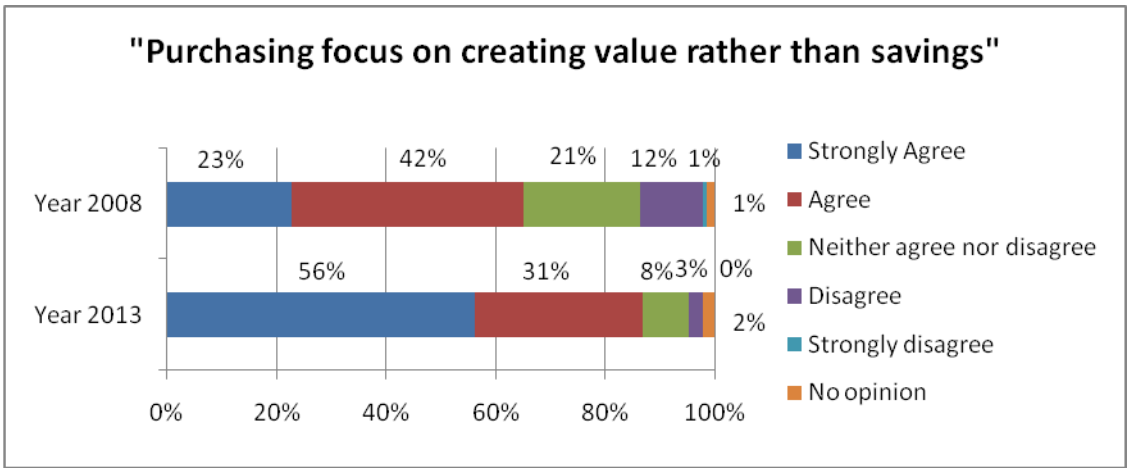


Figure 29 – The respondents' opinion regarding "Purchasing focus on creating value rather than savings"

As can be seen in Figure 29, 65 percent agreed or strongly agreed with the statement that purchasing is seen as a value creator today. In 2013, this number has increased to 87 percent. These figures show that purchasing will continue the development from operational to strategic and seek new ways to create value.

The companies seem to integrate and work closely with suppliers in the supply chain. A value creating focus, which is shown for instance by involving suppliers in product developing, indicate the fifth and the sixth stage of van Weele's development model (see section 3.3.1) and the last stage in the "Continuous Sourcing Process" (see section 3.3.2.), i.e. in the two models last stages which implies the respondents can be said to be in forefront of purchasing.

The increased presence in top management indicates that purchasing will receive higher status and affect decisions regarding issues that they have not been able to affect previously. As suggested by previous research and the interviewed experts, all of these areas are anticipated to increase in importance. Thus, Strategy Proposition 3 can not be rejected.

6.2.4 Process Proposition – Enterprise-wide framework

The calculated mean values for the questions related to PrP *Companies will have a enterprise-wide framework for their purchasing process which is integrated with other functions to enable flexibility* are visualized in Figure 30.

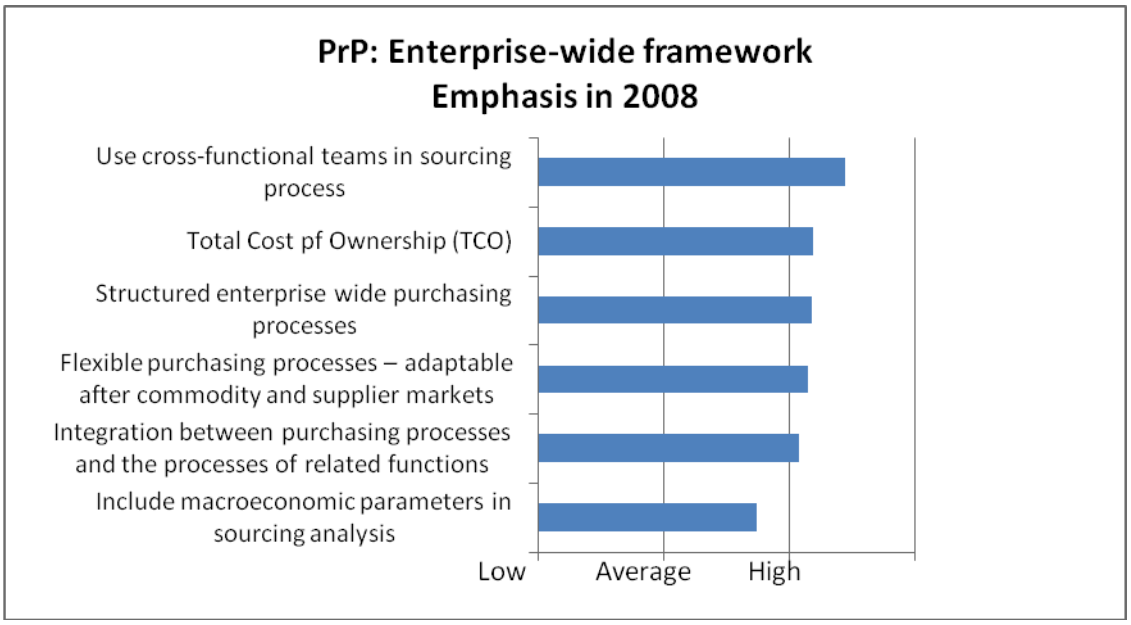


Figure 30 - Mean values in 2008 for areas included in the questionnaire, regarding the Process Proposition

Cross-functional teams have been pointed out by previous research and experts (see Table 4 and Table 10) as an important area in the future of purchasing. According to this study's findings, it is still of high importance. Furthermore, there is a greater focus on developing the purchasing process. A structure-wide purchasing process, as well as flexible purchasing processes, Total Cost of Ownership and integration the purchasing process to related functions' processes, receives high values for 2008.

The only question in this proposition that did not get a high emphasis rating was; include macroeconomic parameters in the sourcing process.

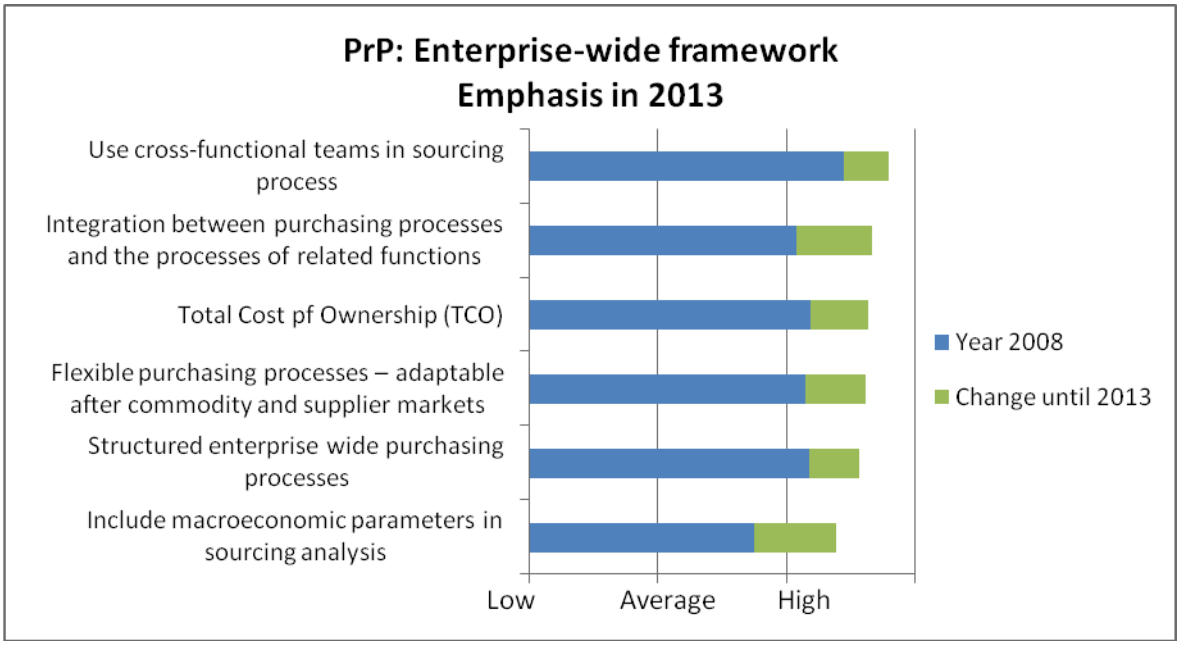


Figure 31 - Mean values in 2013 for areas included in the questionnaire, regarding the Process Proposition

The high value for cross-functional teams both in 2008 and 2013 imply that it is applied in many purchasing functions today and will be utilized even more in the future. Using cross-functional teams in the sourcing process is one common internal strategy that is incorporated in purchasing. Another internal strategy is the integration between purchasing processes and the processes of other functions, which is predicted to increase majorly until 2013. Connecting purchasing processes to other related processes creates clear interfaces, where it becomes obvious to the succeeding function what the output is from the preceding function's process. This facilitates a smoother transition between different functions. The integration of processes can be an area which enables the utilization of Total Cost of Ownership to a greater extent, which also gets a high emphasis value for 2013.

A structured enterprise-wide purchasing process, as well as a flexible purchasing process, are both seen as important in 2013 and receive high emphasis values. It is a bit remarkable that a structured purchasing process is almost equally important as a flexible purchasing process. But these two questions need to be separated in the way that a structured enterprise-wide purchasing process only is a guideline, implemented throughout the company, for how purchasing should be executed. A flexible purchasing process can be a part of a structure wide enterprise purchasing process, which gives space to adapt the process to the product and its supplier market.

Including macroeconomic parameters in sourcing analysis is an area that is perceived as less than average in emphasis today but has the largest increase compared to the other areas in this proposition. The current financial crisis is probably pushing this area to a higher level in 2013 but since companies are affected by the global economic climate to a greater extent today due to globalization, macroeconomic parameters might be of interest in sourcing decisions. Including macroeconomic parameters such as taxes, interest rates, customs duties, education level, inflation, unemployment etc. will provide more dimensions that are taken into consideration and lead to better sourcing decision.

The statistical change (from the Student’s t-test) 2008 until 2013 for the areas in PrP can be seen in Figure 32.

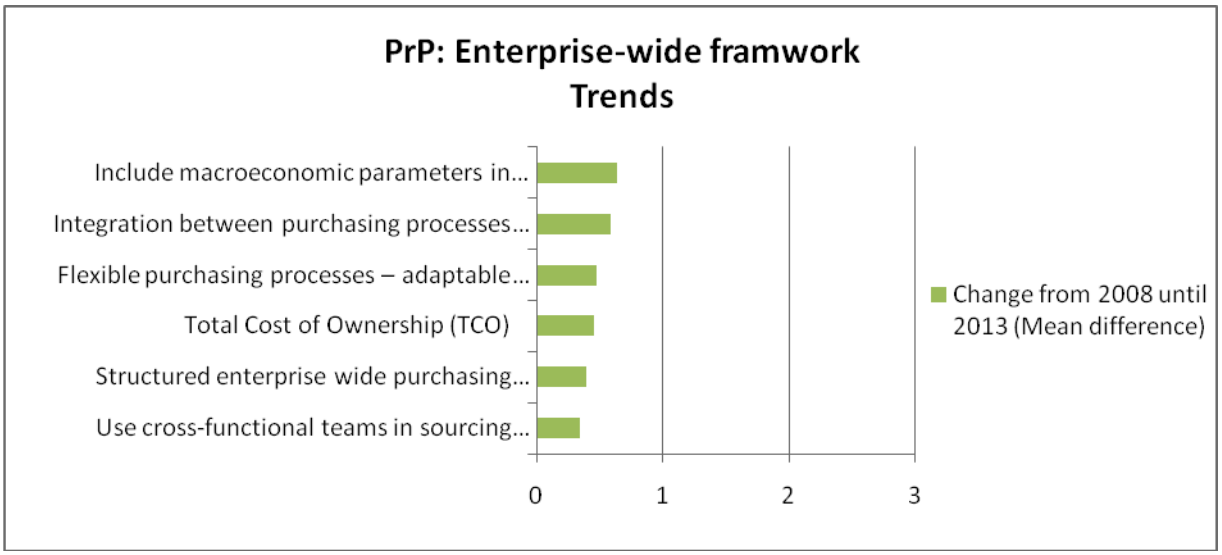


Figure 32 - Ranking of changes from 2008 to 2013 for PP

Discussion

The companies in Europe seem to be implementing and emphasizing the areas within this proposition. A structured and flexible purchasing process that is integrated with and connected to other business functions' processes is likely to be implemented and might enable a comprehensive understanding of the total cost of ownership. Cross-functional teams are commonly utilized in the sourcing process, and the diverse competencies provide a broader base for analyzing different parameters in the sourcing process. Thus, macroeconomic parameters are likely to be one area which companies include in the sourcing process when trying to recover from the current financial crisis.

Utilizing cross-functional teams and Total Cost of Ownership together with integrating purchasing with other functions at the company are typical for companies in the fourth and fifth stages of van Weele's development model (see section 3.3.1). This indicates that many of the respondent companies are in the forefront of the development of purchasing, which Figure 19 also reveals.

As suggested by previous research and the interviewed experts, all of these areas are anticipated to increase in importance. Processes are vital in being efficient according to the IBX framework (see section 3.4.2) which the companies seem to emphasize in the future. Thus, the Process Proposition can not be rejected.

6.2.5 Organization Proposition 1 - Skill sets

The calculated mean values for the questions related to *Organization Proposition 1*: *OP1 When purchasing are going from operational to strategic - the most important skill sets for the purchaser will be project management; IT systems ;business development; strategy; and analytical skills* are visualized in Figure 33.

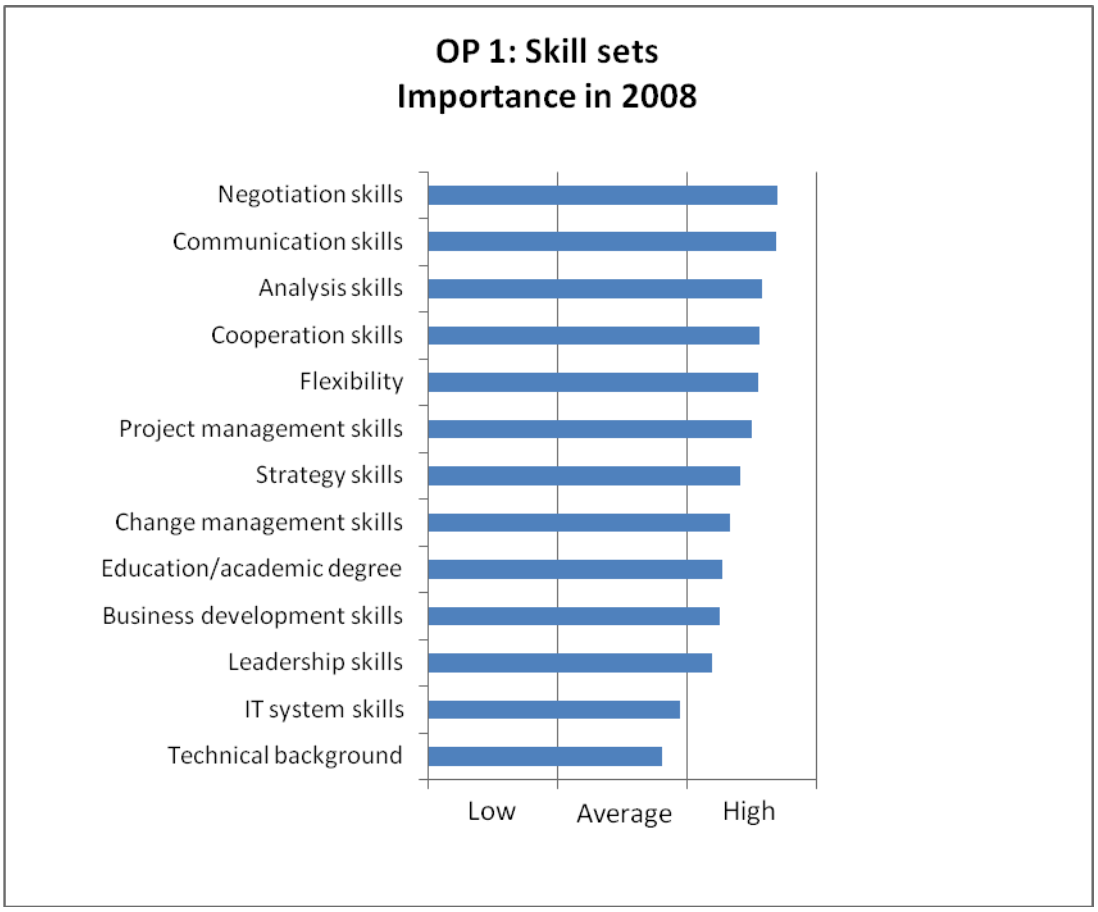


Figure 33 - Mean values in 2008 for areas included in the questionnaire, regarding Organization Proposition 1

Currently, negotiation skills are considered to be the most important skill for a purchasing professional. It implies that negotiation is still the main activity for a purchasing professional. However, there are several other skills that are of high importance which can be seen in Figure 33. IT system skills and a technical background, on the other hand, only receive an average importance value.

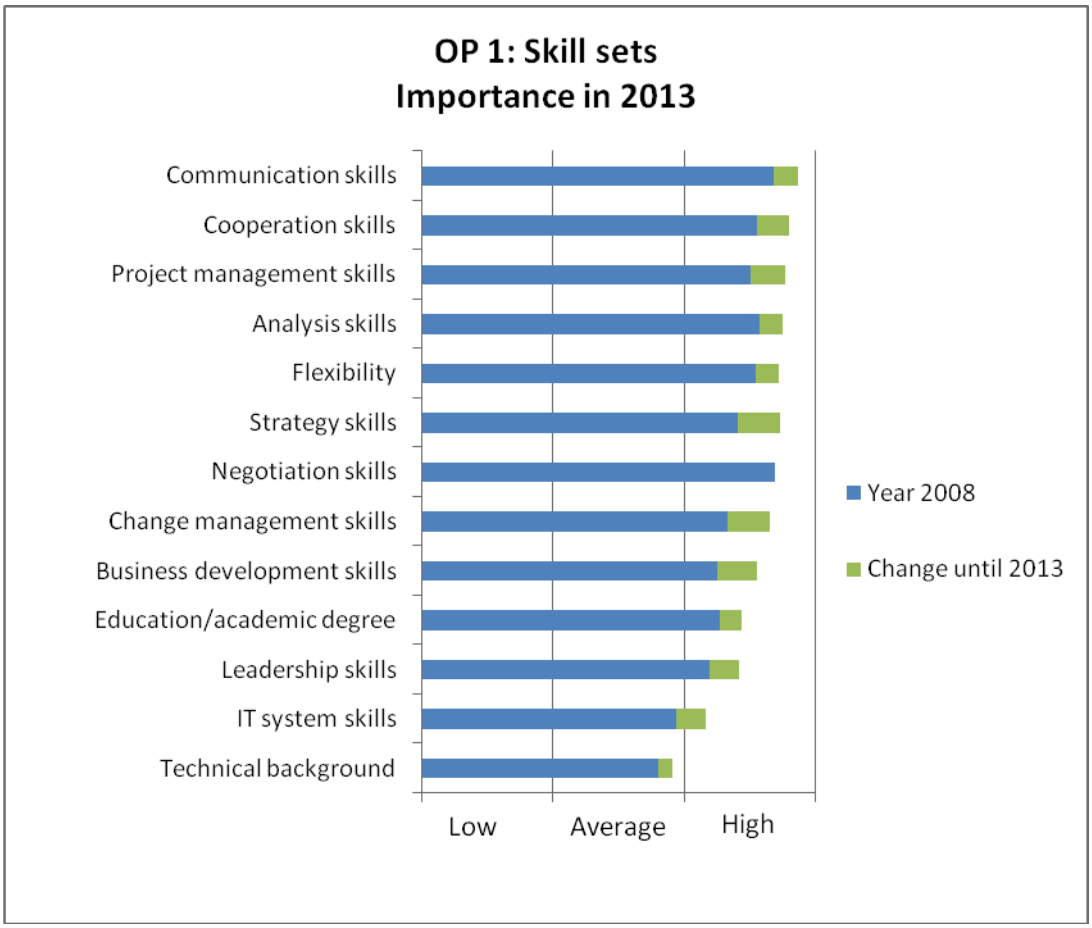


Figure 34 - Mean values in 2013 for areas included in the questionnaire, regarding Organization Proposition 1

Almost all the suggested skills are seen as important in the future, but there are some small shifts (see Figure 34) in the ranking. There is only one skill that does not increase in importance, Negotiation skills.

The statistical change (from the Student's t-test) from 2008 until 2013 for the areas in OP1 can be seen in Figure 35.

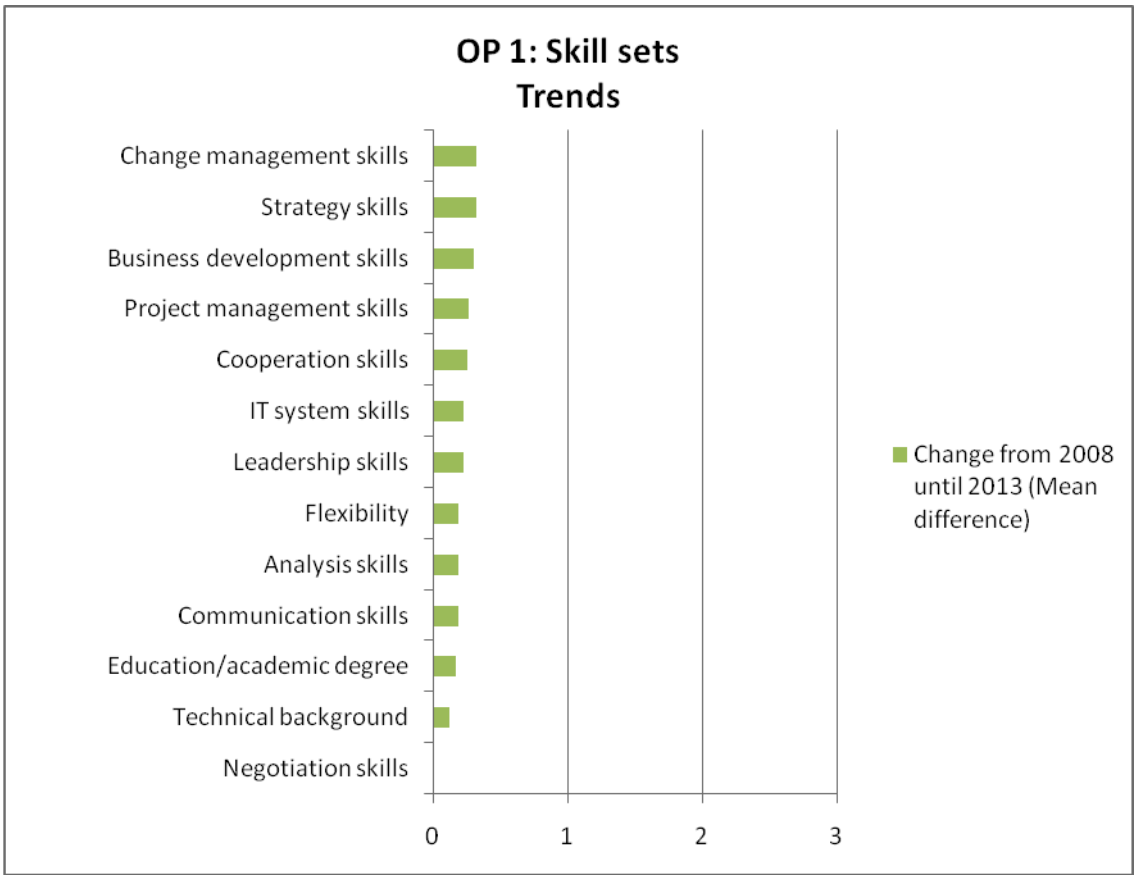


Figure 35 - Ranking of changes from 2008 to 2013 for Organization Proposition 1

Discussion

As can be seen in Figure 34, almost every suggested skill is important today and in the future. The purchaser was not required to have a technical background. However, a purchaser must possess many different proficiencies. The highest ranked skill for 2013 is communication, while the skill with the largest increase in importance is change management. Both of these skills concern the ongoing transformation of purchasing, from operational to strategic and the implementation of purchasing technologies such as e-procurement. The changes should be implemented and communicated to the rest of the organization which might be the reason why these two skills are in the top of each chart. The relatively low importance of IT systems skills assessed by the respondents is remarkable since IT systems are implemented to a great extent (see section 6.2.6). Could the reason why the implementation of technologies such as e-procurement sometimes fails or does not reach its full potential, be caused by an underestimation (by companies) of the IT systems skill needed to master these new technologies? Possibly, since one expert (Bengtsson) stated that the systems need to have a more user-friendly interface.

The only skill that does not increase is negotiation skills, which might indicate that the experts were right when they stated that purchasers will put more effort into preparing and implementing sourcing contracts than negotiation, see Figure 36 below.

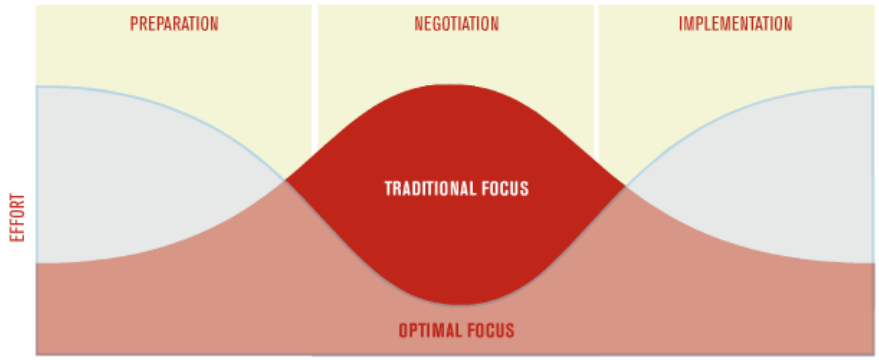


Figure 36 – New optimal focus in the sourcing process (Bohlin et al, 2008)

As anticipated, the skills which imply that purchasing will be more strategic, such as strategy skills, business development and project management skills all will be important in the future. An academic degree was also seen as important and might be necessary to increase the status of purchasing which is stated in the organization category of IBX framework (see section 3.4.3).

As was suggested by previous research and the interviewed experts, all of these areas are anticipated to increase in importance. Thus, Organization Proposition 1 can not be rejected.

6.2.6 Organization Proposition 2 - Decreased decentralization

The pie charts for the question related to *Organization Proposition 2: OP2 Decentralized organization structures will decrease* can be found as Figure 37 and Figure 38.

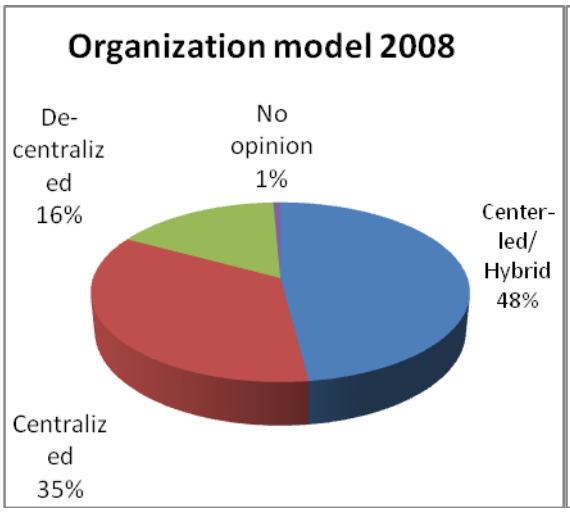


Figure 37 – The companies' organization model in 2008

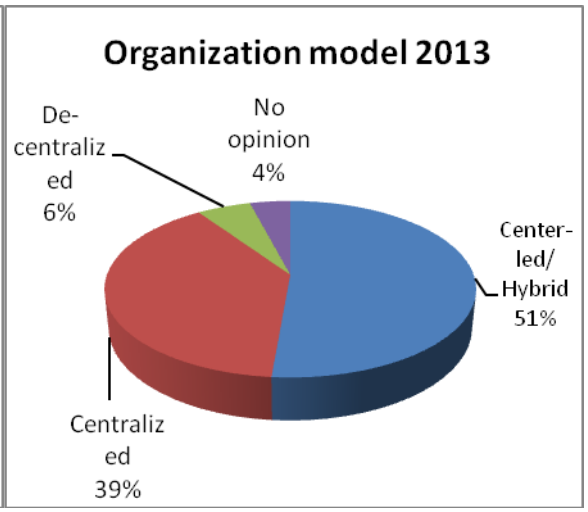


Figure 38 – The companies' organization model in 2013

Discussion

Centre-led organization is the dominating organization model, and it might be because 59 % of the participating companies have an annual turnover that exceeds 1000 Million Euros and are considered to be large companies that possibly have staff spread throughout the world.

Centre-led is also mentioned in the IBX framework (section 3.4.3) as the most suitable organization structure when balancing volume aggregation, business closeness, supply market structures and in the end reach efficient purchasing. The decentralized structure can not deal with these issues effectively and one can say that this structure is dying out among large companies due to its lack to efficiently organize multinational companies and van Weele imply in his purchasing development model that a decentralized organization is not appropriate to take purchasing to new stages (see section 3.3). From the pie charts above it can be concluded that the decentralized organization model will decrease from 16 to 6 percent in 2008. Thus, Organization Proposition 2 can not be rejected.

6.2.7 Organization Proposition 3 - "The war for talent"

The calculated mean values for the questions related to *Organization Proposition 3: OP3 Companies have high priority on attracting talents* are plotted in Figure 39.

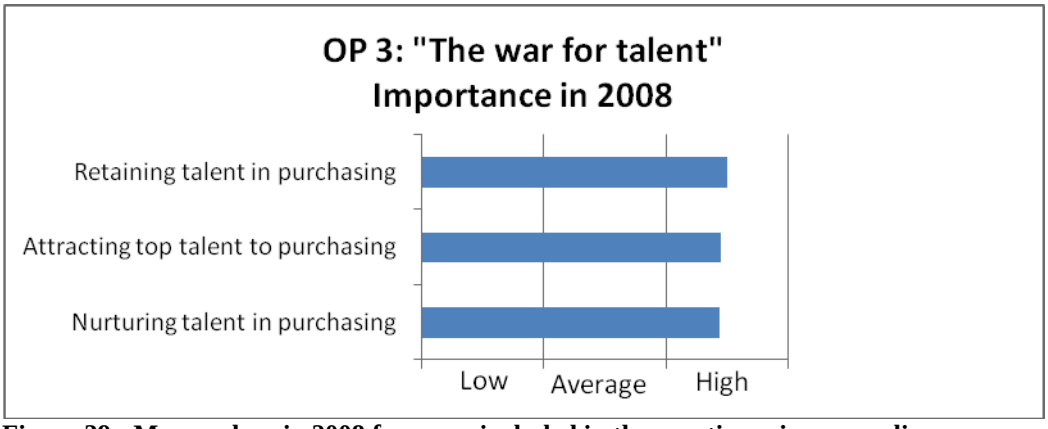


Figure 39 - Mean values in 2008 for areas included in the questionnaire, regarding Organization Proposition 3

The focus on retaining, attracting and nurturing talents receives almost equally high values for 2008, and they are all seen as important tasks. But retaining talents is seen as most important.

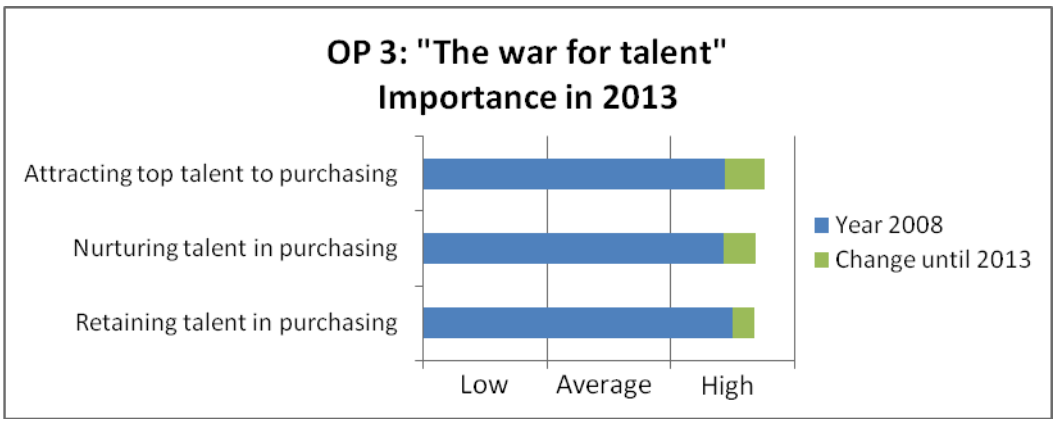


Figure 40 - Mean values in 2013 for areas included in the questionnaire, regarding Organization Proposition 3

In 2013 there is a slight shift of importance, which makes attracting talents the most important task and retainting talents falls down to number three in the ranking.

The statistical change (from the Student's t-test) from 2008 until 2013 for the areas in OP3 can be seen in Figure 41.

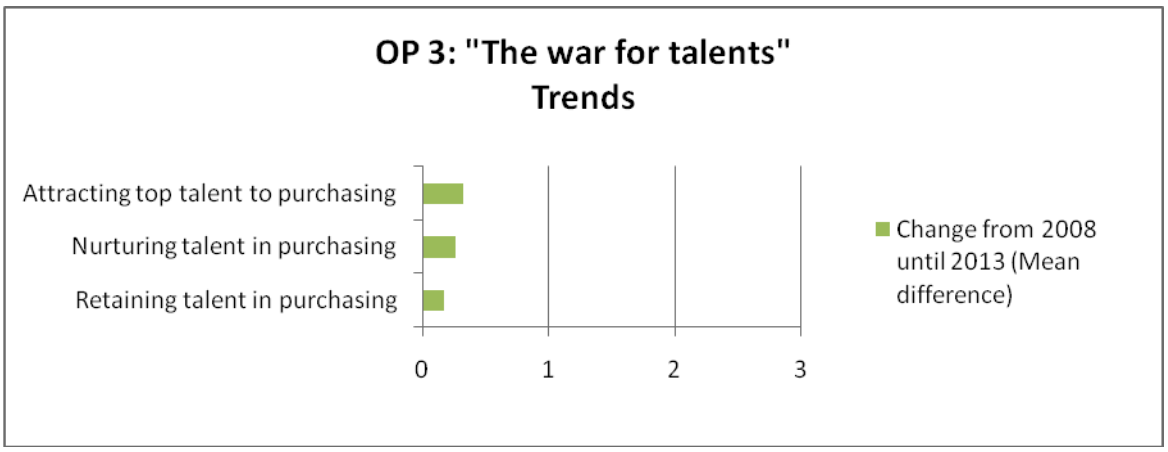


Figure 41 - Ranking of changes from 2008 to 2013 for Organization Proposition 3

Discussion
Interviewed experts stated that one major challenge for purchasing would be to get competent staff. They anticipated that there would be a "war for talents". According to Figure 40, the experts seem to be right. Attracting, nurturing and retaining talents are all areas with very high mean values, according to the study. Attracting talents to purchasing is essential to increase its status, which purchasing is most likely eager to do, since purchasing previously has been a function/department where people were relocated after years of good work to finish their last years before retirement. This has changed since companies have realized the potential of purchasing. However, some purchasing functions are still stuck in the old pattern and need talents who can develop and change the purchasing function.

To deal with these issues the IBX framework suggests (see section 3.4.3) and has a point in that purchasers must be recognized as a competent and educated staff to attract and keep talent. As what could be found in Organization Proposition 1 (see section 6.2.3.1) higher skill sets are needed for purchasers and these requirements will assist companies to attract future talents. Hence, Organization Proposition 3 can not be rejected.

6.2.8 Performance Proposition – More measurements

The calculated mean values for the questions related to *Performance Proposition*: *PeP Companies will increase the amount of performance measurements* are visualized in Figure 42.

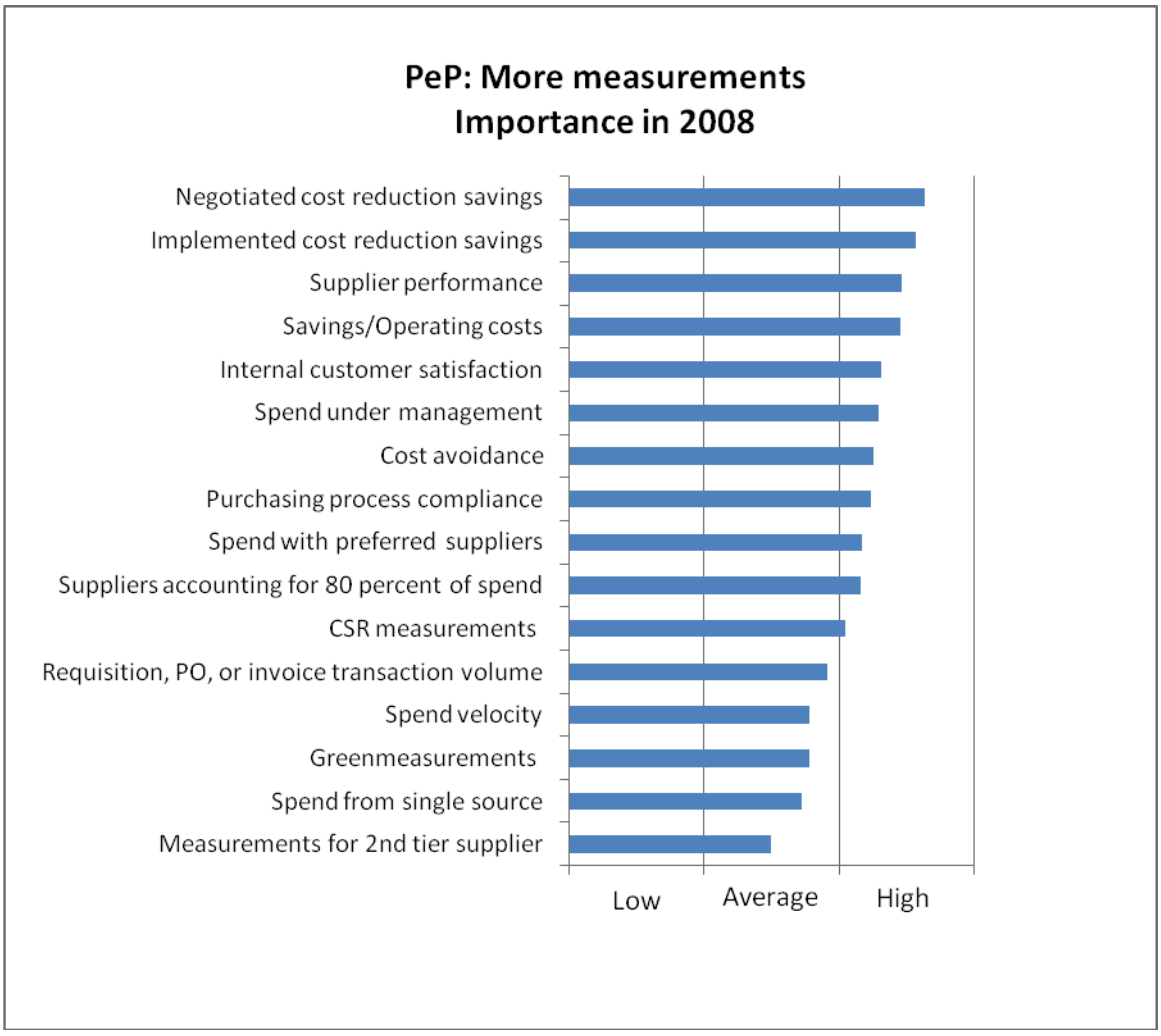


Figure 42 - Mean values in 2008 for areas included in the questionnaire, regarding the Performance Proposition

The highest priority in 2008 is negotiated cost reduction savings which might be related to the findings in Organization proposition 1, which showed that negotiation skills are seen as most the most important skill for a purchaser today. There are several other measurements that are currently of high importance, such as implemented cost reduction savings, supplier performance, savings/operating costs etc (see Figure 42). Thus, savings and cost parameters will still be most important. Areas such as spend velocity, green measurements, spend from single source and measurements for 2nd tier suppliers have average importance for 2008.

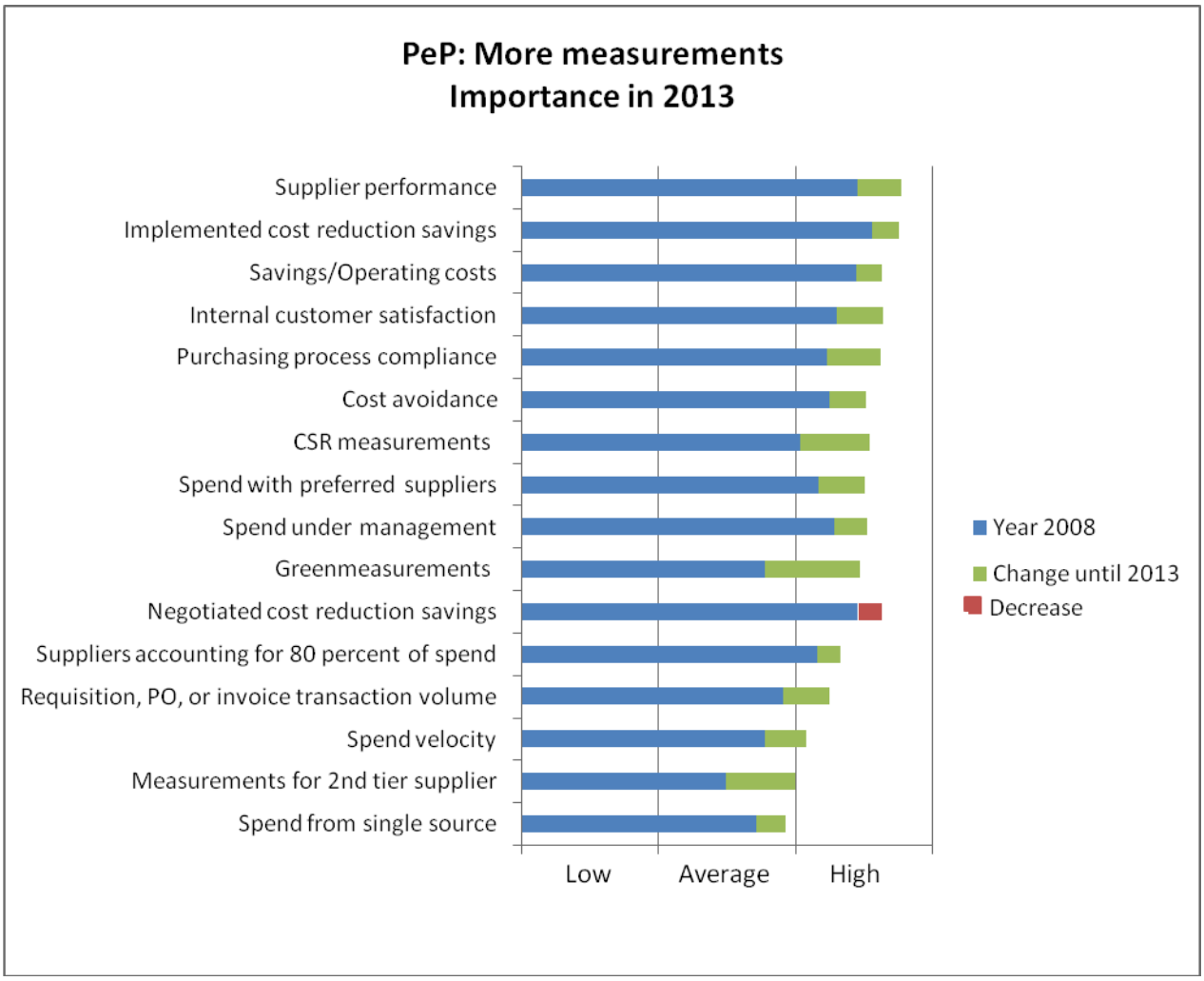


Figure 43 - Mean values in 2013 for areas included in the questionnaire, regarding the Performance Proposition

From Figure 43, it can be concluded that every measurement except one increases - negotiated cost reduction savings - which was the highest ranked measurement for 2008. Supplier performance is anticipated to be the most important measurement in 2013. There are several measurements, such as internal customer satisfaction and process compliance that have shifted to the top of the list.

The measurements that increase the most are green measurements, CSR measurements, measurements for 2nd tier suppliers and purchasing process compliance. Green and CSR measurements are closely related to the fact that companies develop strategies to take environmental and social responsibilities (See Strategy Proposition 2). Measuring the organization's purchasing process compliance is important to make sure that contracts and agreements with suppliers are followed by the organization and is helpful for avoiding maverick buying[16].

[16] Maverick buying = A term used when centrally negotiated contracts are only used by operating units in a small extent (van Weele, 2005, p 174).

Spend velocity switches from average to high importance, which might be due to the fact that companies want less capital tied-up in the warehouse. Several other spend measurements also increase in importance, and the experts that anticipated that spend analysis would be used to a greater extent, tend to be correct.

The statistical change (from the Student's t-test) from 2008 until 2013 for the areas in PeP can be seen in Figure 44.

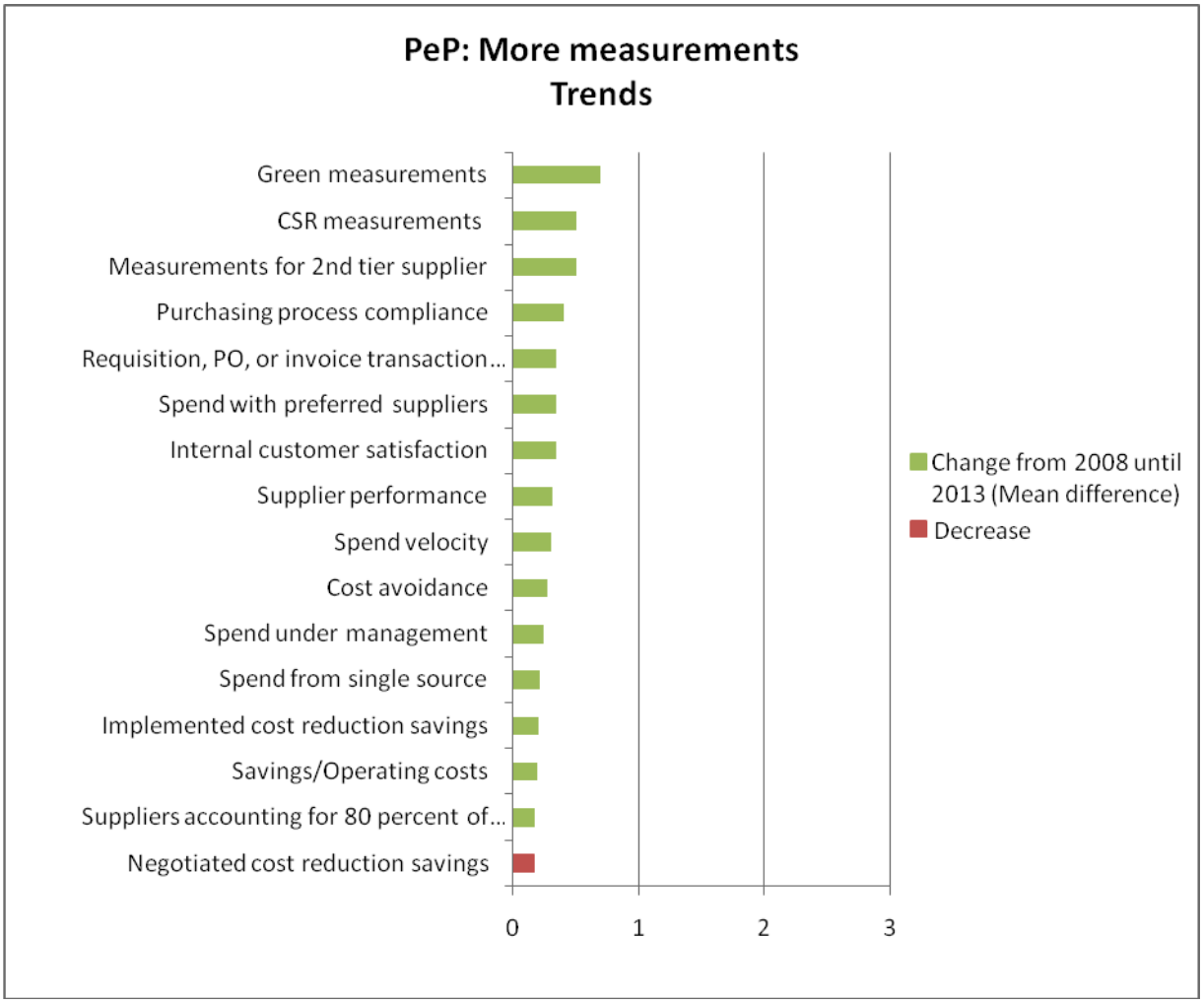


Figure 44 - Ranking of changes from 2008 to 2013 for the Performance Proposition

Discussion

Even though there seems to be a high degree of importance on all of the included measurements, 52 % still answered *increasing* on the question whether their company is considering increasing or decreasing the amount of measurements (see Figure 45). Savings and cost parameters will still be most important to companies today and in the future. But the largest increase in measurements are not cost related which Figure 44 reveals where the first eight measurements relates to other areas, such as environmental and social responsibilities, measurements for 2nd tier suppliers and purchasing process compliance.

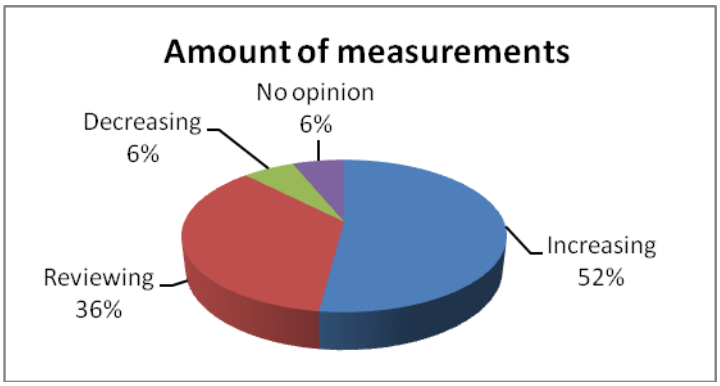


Figure 45 – Change in amount of measurements

This clearly shows that measuring and monitoring of purchasing is likely to become a very important activity in purchasing functions in the future, which the IBX framework also suggests (see section 3.4.4). One is always eager to improve results from bad performance and with several more measurements it will become natural to make vital efforts to keep up, maintain and improve theses measurements continuously which will in the end result in a more efficient purchasing function. Thus, the Performance measurement Proposition can not be rejected.

6.2.9 Technology Proposition – Increased use of technology → less staff

An implementation chart for the questions related to *Technology Proposition: TP Purchasing technologies and tools will be implemented to a great extent, which will reduce the amount of persons working with purchasing* is found as Figure 46.

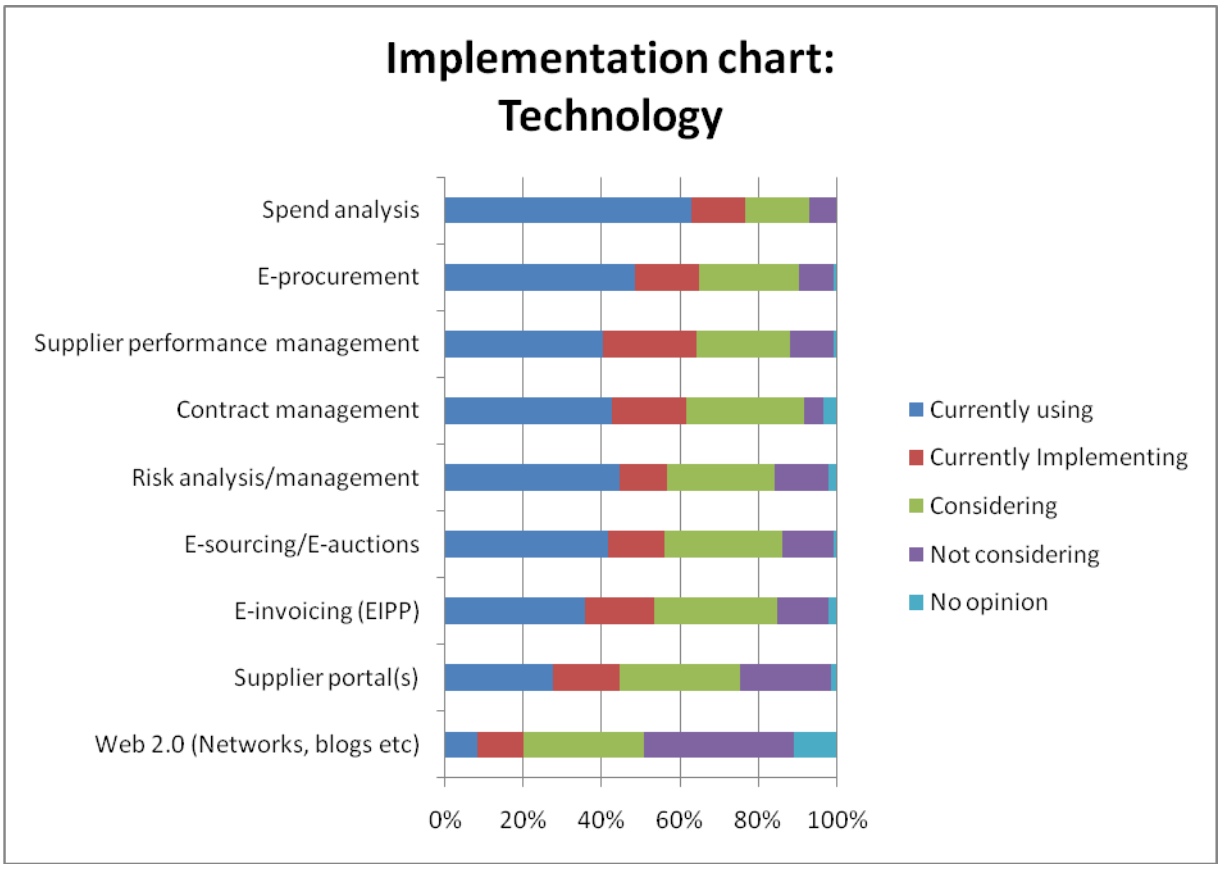


Figure 46 – Implementation chart regarding purchasing technologies/tools

The ranking of the technologies in Figure 46, is based on the values of *currently using* and *currently implementing*. Approximately sixty percent of the companies are already using or currently implementing the first seven technologies, according to Figure 46. Furthermore, there are only approximately 10 % of the companies that do not consider implementing these technologies. This indicates that these areas will be used to a great extent in the future and that there is a need for companies that can provide these kinds of technologies.

The percentages of respondents considering implementing the technologies in their organization are seen in Figure 47 below.

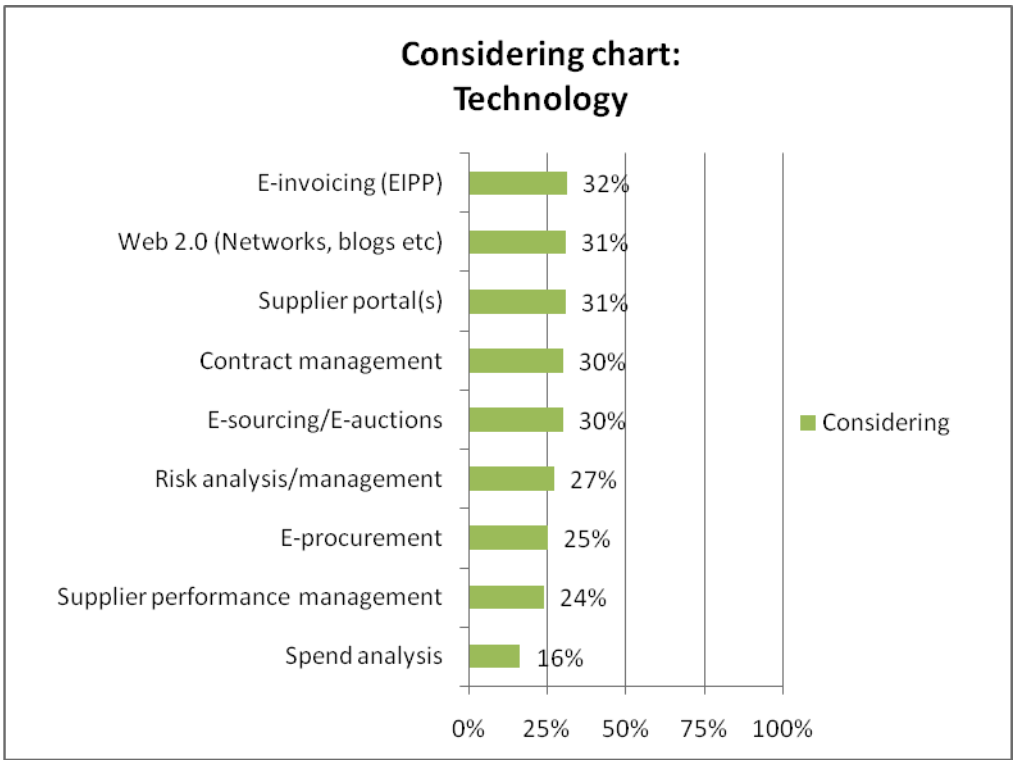


Figure 47 – The considering ratio for each purchasing technology/tool

The technology that has the highest considering ratio is E-invoicing, which facilitates the integration of the purchasing process with the finance process. This supports the findings from section 6.2.2, which stated that there will be more integration between the purchasing process and other business processes.

Web 2.0 is only implemented in a small percentage of the companies. However, there seems to be a fairly large interest, according to Figure 47, in using technologies that connect employees from different parts of the organization and facilitates knowledge exchange. Thoresson (2008) says in his article that the suppliers of Enterprise Resource Planning (ERP) systems want to integrate Web 2.0 with the ERP systems to draw synergy effects from the two technologies. One advantage of doing so concerns the communication between co-workers. It will be easy to find the related discussions that have been held for a specific object in the ERP system to get the background for that particular decision. Another advantage is the interaction with customers where customers can discuss with other customers or functions at the company if they need any help of any kind. So, connecting Web 2.0 with ERP system will provide pros for both the employees and the customers and perhaps this fact explains the high consideration from the companies regarding Web 2.0.

Supplier portals where companies can share information about their experience with suppliers to other companies are also considered by many companies. Supplier portals will help companies to avoid contracting unreliable suppliers and suppliers providing inferior quality. This information is valuable to any company and this might explain why companies are interested in this technology.

On the whole, there seems to be equal interest in all of the tools, except for spend analysis solution, which has a fairly lower consideration rate than the other technologies. But this depends on the high implementation rate that the tool already has today and should not be interpreted in a negative way.

The authors asked themselves if the introduction of technologies in purchasing will lead to a decreased amount of people working with purchasing. Figure 48 shows the findings from the question in the questionnaire.

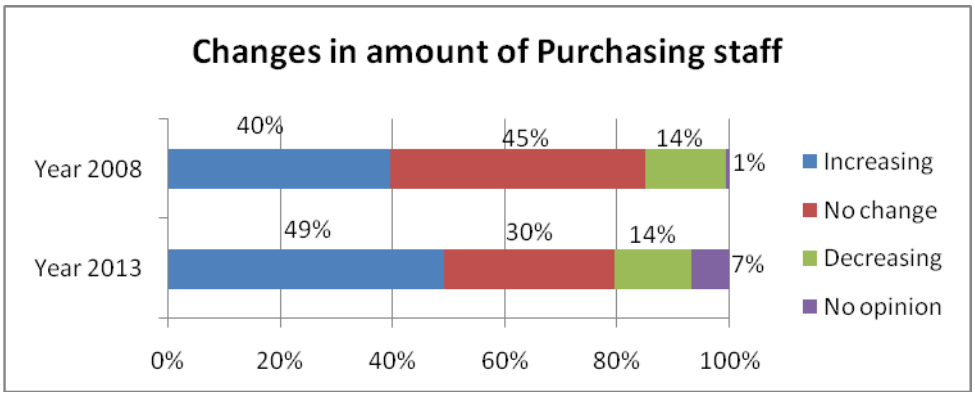


Figure 48 – Changes in amount of Purchasing staff in 2008 and 2013

It can be concluded that the respondents assess that the purchasing organization will increase its staff in both in 2008 and in 2013.

Discussion

In the future, technologies will be used in purchasing to a much greater extent than today. However, it does not seem to affect the amount of purchasing staff in a major way. It will, however, probably affect the type of work that a purchasing professional carries out. The transformation of purchasing from operational to strategic is affected by the introduction of technologies like e-procurement and e-sourcing. At first, these technologies might be seen as a threat to purchasers but they should not. They will not make purchasers redundant; rather, they will just change the way purchasing is carried out. Hence, the Technology Proposition is rejected.

6.3 Industry trends

After the general trends were analyzed, specific industry trends was intended to be analyzed. Since the 146 respondents were spread out on 23 business segments, according to Figure 11, an industry analysis was not meaningful to conduct. The respondents within each business segment were too few.

Therefore, efforts were made to categorize the 23 business segments into the ten sectors[17], based on the Stockholm exchange markets (OMX) indexes. But after consultation with Lars

[17] http://www.omxnordicexchange.com/investors/Trading_information/sectors/?languageId=1)

Ek, it was concluded that the new sectors were too small as well, and the output from such an analysis would not be fully reliable or trustworthy. Thus, no industry trends were analyzed.

6.4 Leaders vs Laggards

Since the distribution between Leaders and Laggards (challengers and followers) was almost equal (see Figure 19), there was a possibility to compare these two groups with each other to find differences in the trends.

The mean values for 2008 and 2013, as well as the mean difference (trend) for each area and each group, were calculated. The calculated results can be found in Appendix 15 and the values are presented, in charts below, for each area with the mean value for 2008 plus its increase (trend) for 2013. The first bar indicates Leaders and the second bar indicates Laggards. This makes it easy to compare the bars and see where differences can be found. The areas are grouped in the following order: Strategy – External, Strategy – Internal, Processes, Organization - Skill sets, Organization – Structure, Organization – Talents, Performance/Measurements and Technology.

Strategy – External

From Figure 49, it can be concluded that Leaders are in front in all areas in this category, except for local sourcing, which Laggards seem to focus more on than Leaders. This can be a result of Laggards not having such a fully developed network of worldwide suppliers as Leaders. In addition, it can also be said that the advantage Leaders have in comparison to Laggards is almost the same, and they are both anticipating the same development (trend) in the future concerning the other areas, which is an interesting finding. This results in Leaders continuing to be a bit ahead of Laggards in this category.

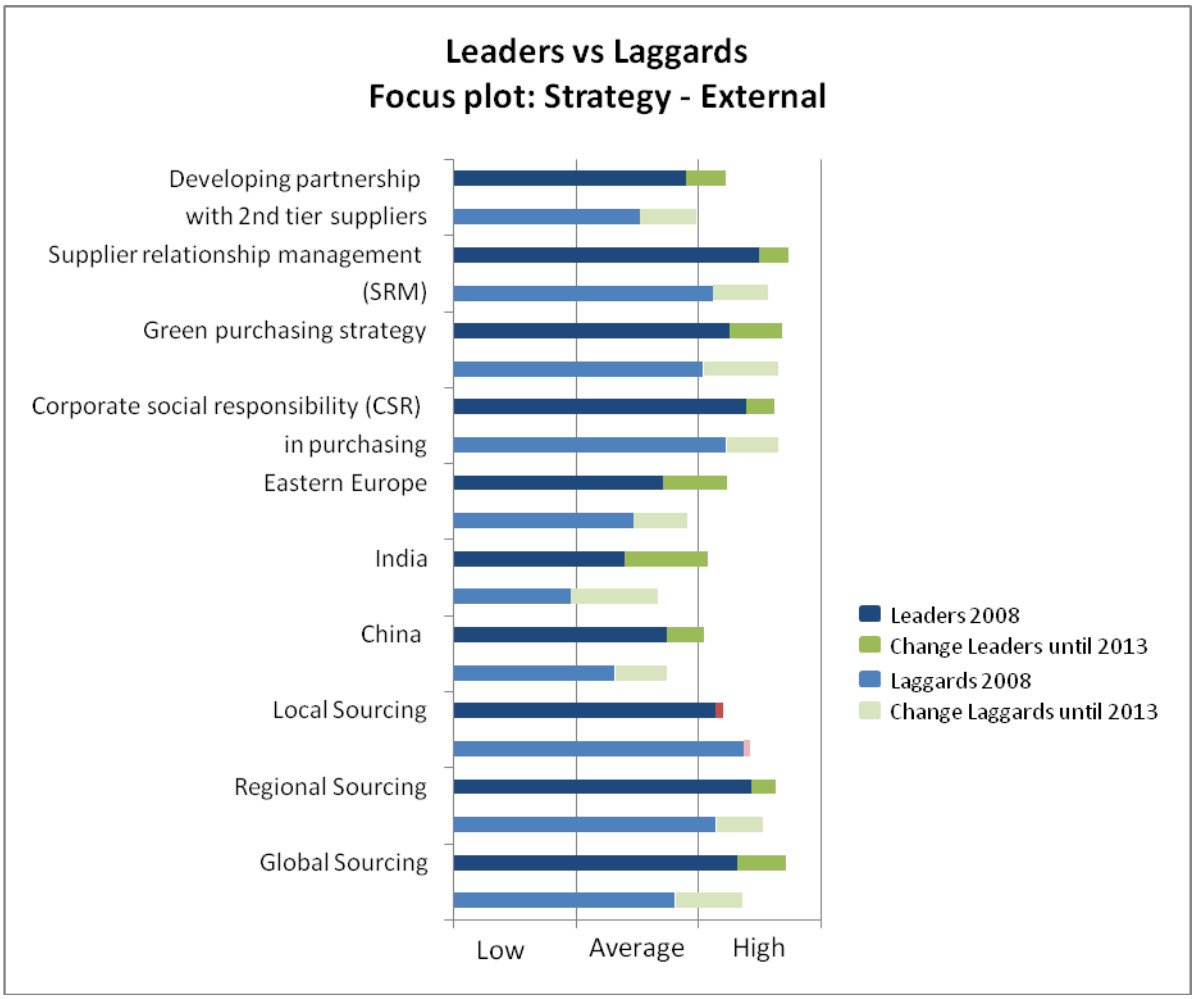


Figure 49 – Comparison between Leaders and Laggards regarding Strategy - External

Strategy - Internal

Figure 50 shows that Leaders are in front of Laggards in the majority of the areas in the Strategy – Internal category. Leaders in purchasing are especially getting more responsibilities and are more utilized in areas concerning product development, make-or-buy decisions and in the relationships with the suppliers. Laggards' purchasing departments are probably undertaking more operational tasks in the purchasing process. Leaders do see the potential that purchasing has and use the purchasing function's knowledge to influence decisions throughout the company.

Two areas that received a low score in this category but that were slightly more focused today and in the future by Laggards than Leaders, were outsourcing of core activities and purchasing activities. This finding can be explained by Laggards feeling their purchasing function should deliver more results and value than they do today (there is a reason why these companies see themselves Laggards) and thus, see potential in outsourcing purchasing activities to a third party provider who can execute them more effectively. Leaders do not need to do this since they consider themselves as leaders. But one needs to keep in mind that these areas were not perceived as high focus areas by the participating companies and should not be exaggerated.

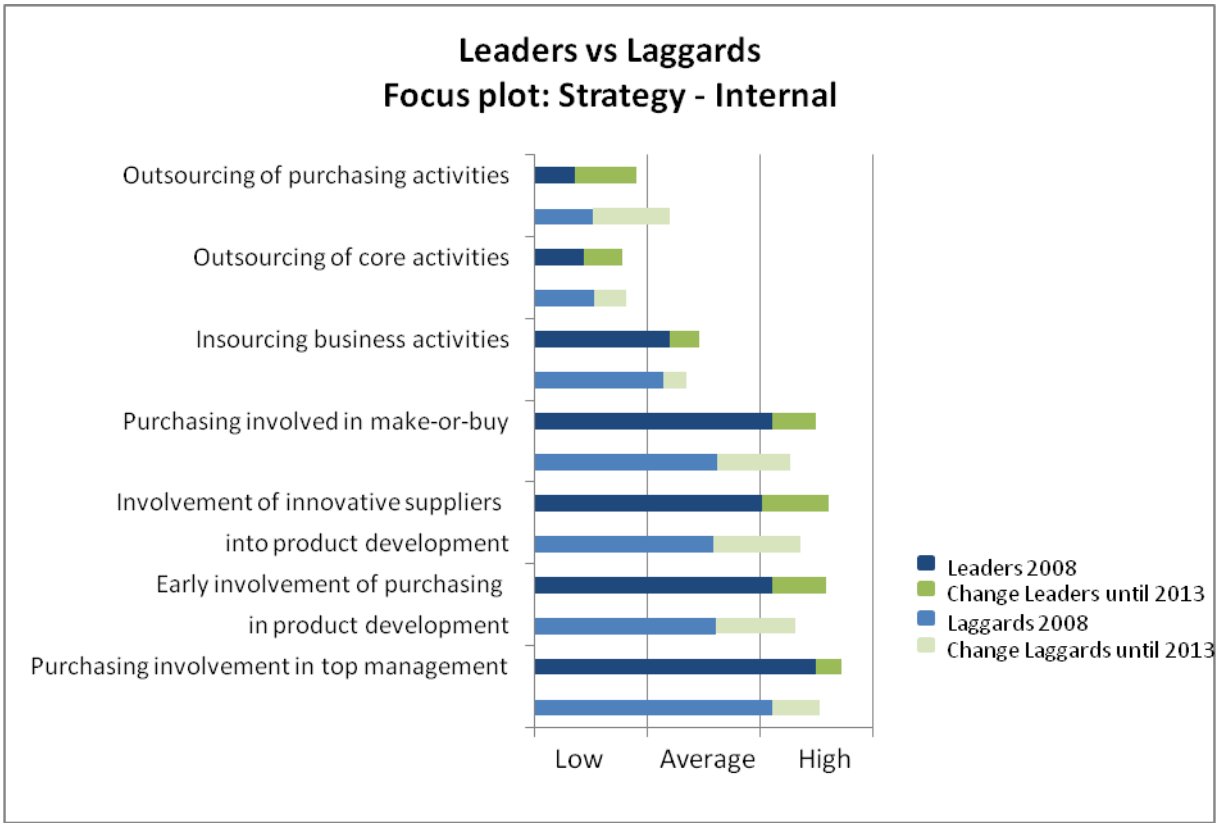


Figure 50 – Comparison between Leaders and Laggards regarding Strategy - Internal

Leaders' advantage against Laggards in the areas in this category might be explained by Figure 51 where it is said that Leaders consider purchasing to be value creators in 2008 more than Laggards. In 2013, Laggards will have the same opinion as Leaders (and will actually agree even more in the statement in Figure 51) and this shows that purchasing will receive more status in many companies in Europe in the future and that the transformation from a tactical to strategic function is in under progress.

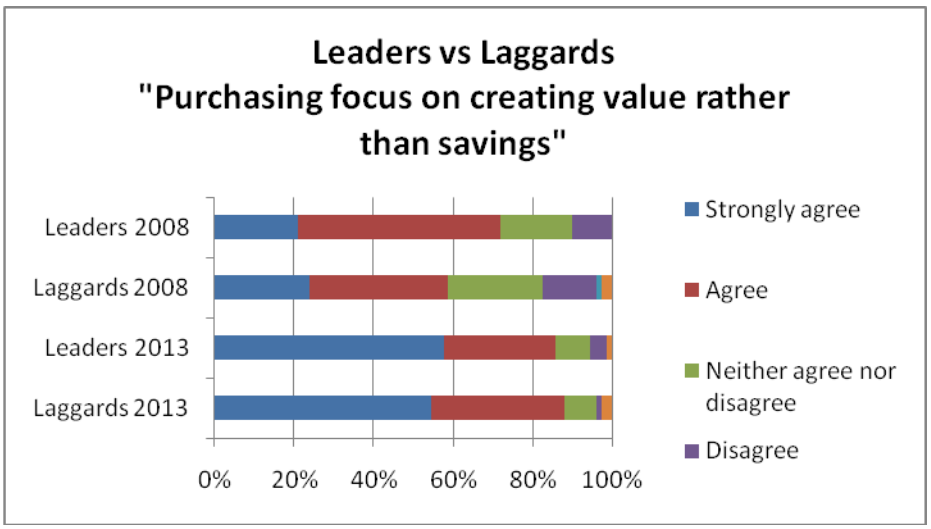


Figure 51 - Leaders' and Laggards' opinion about purchasing being a value creator

Processes

It seems like companies who are taking a protruding role in purchasing already have realized the importance of structured purchasing processes, which allows flexibility, connected to other related processes. The necessity of structured processes becomes even more important for companies of such magnitude that participated in this survey when trying to realize savings. Emphasis on using different competencies (cross-functional teams) and utilizing Total Cost of Ownership as a tool in the sourcing process seems to separate Leaders from Laggards, according to Figure 52. Macro-economic parameters are utilized to a larger extent in Leaders' sourcing process, which can be a result of Leaders sourcing more globally.

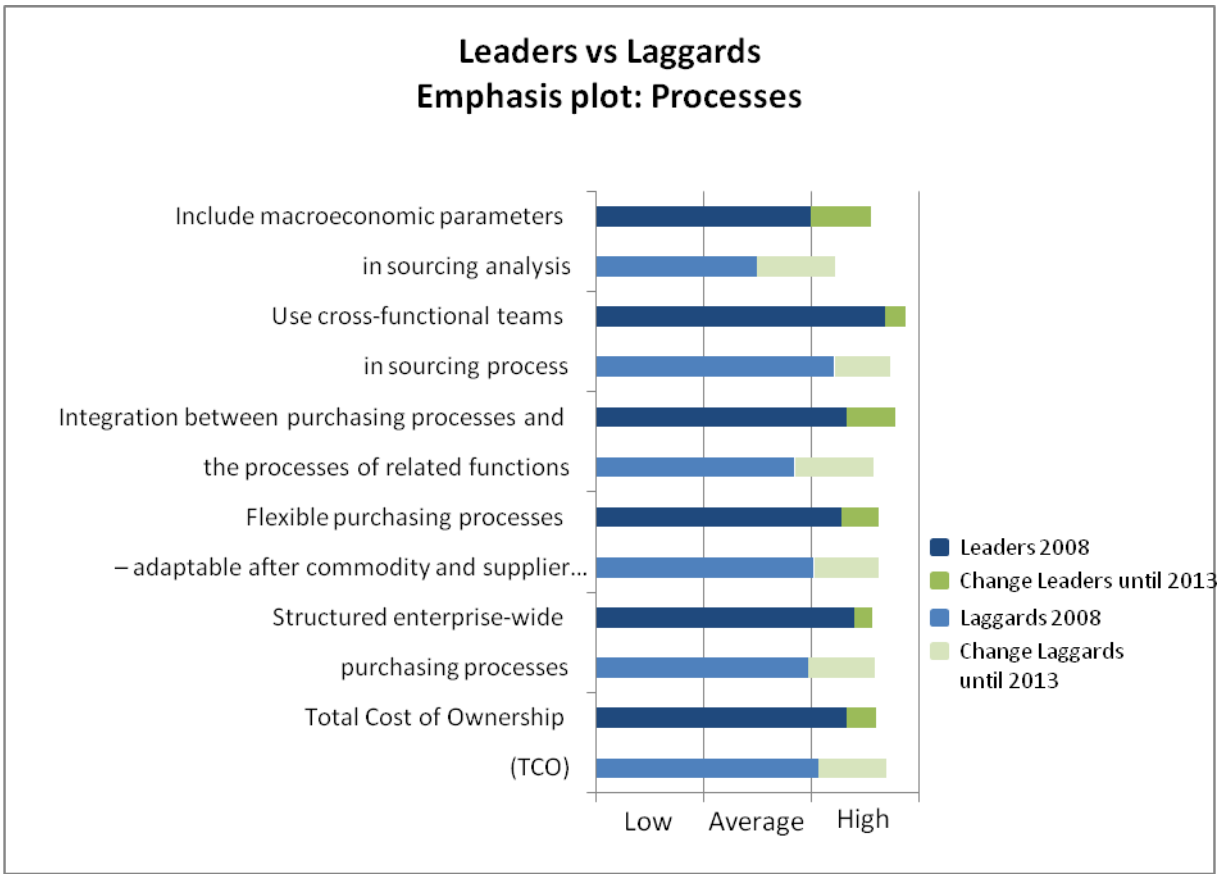


Figure 52 – Comparison between Leaders and Laggards regarding Process

Organization - Skill sets

Overall, it can be concluded from Figure 53 that the requirements of the purchaser are fairly greater in leading purchasing functions than for Laggards and the small differences between Leaders and Laggards indicate that they have the same view and ranking of these skills which is an interesting finding. To be in the forefront, the requirements on the staff are automatically greater, and this is also the case between Leaders and Laggards with regard to the skill sets of the purchaser. Interesting finding

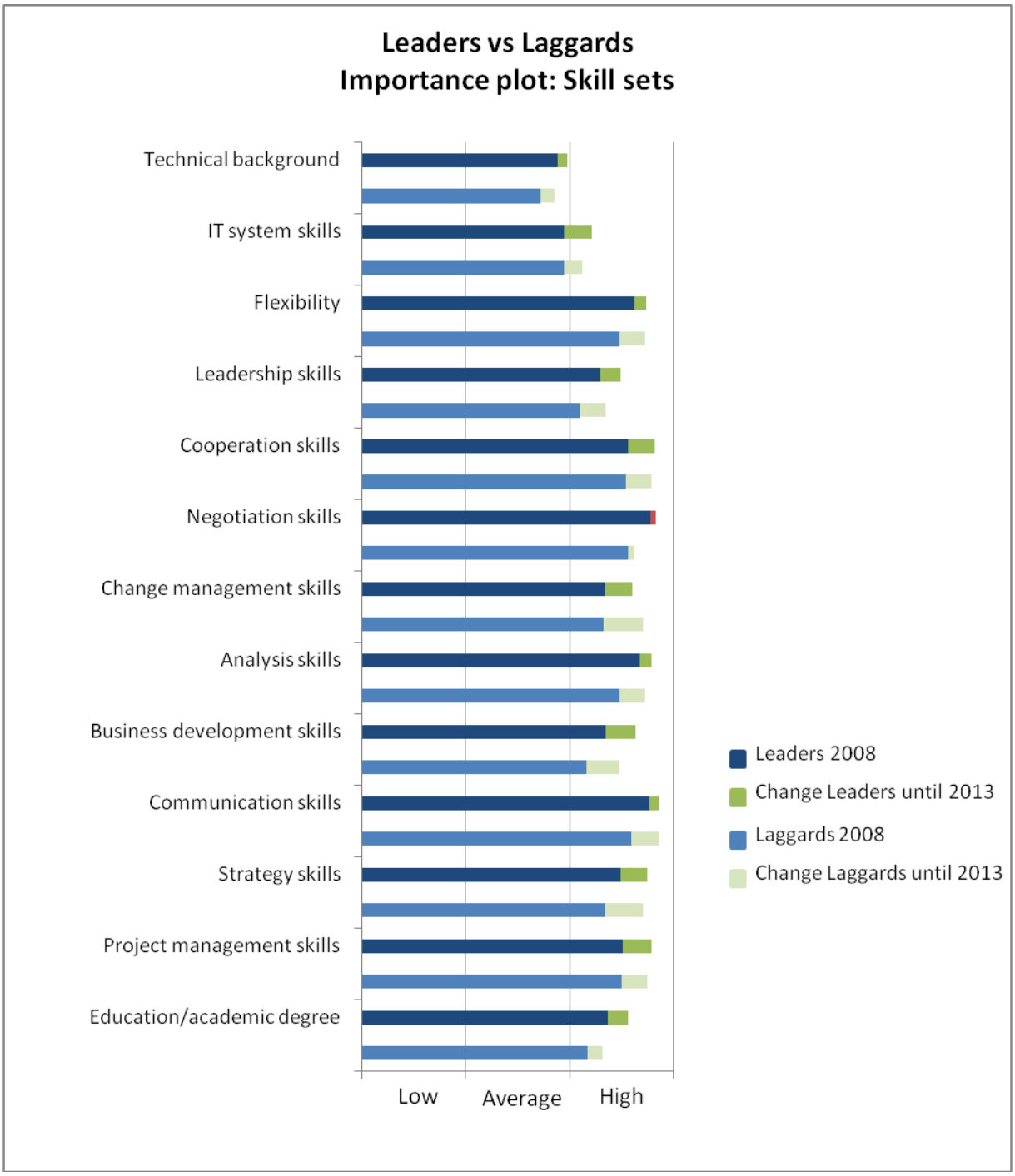


Figure 53 – Comparison between Leaders and Laggards regarding a Purchaser's skill sets

Organization - Structure

According to Figure 54, Laggards apply a decentralized organization model to a much greater extent than Leaders in 2008. But in 2013, there is only a small percentage of both Leaders and Laggards that anticipate a decentralized organization model. Leaders are currently using a centralized organization model most but there is a slight shift towards a Centre-led organization in 2013.

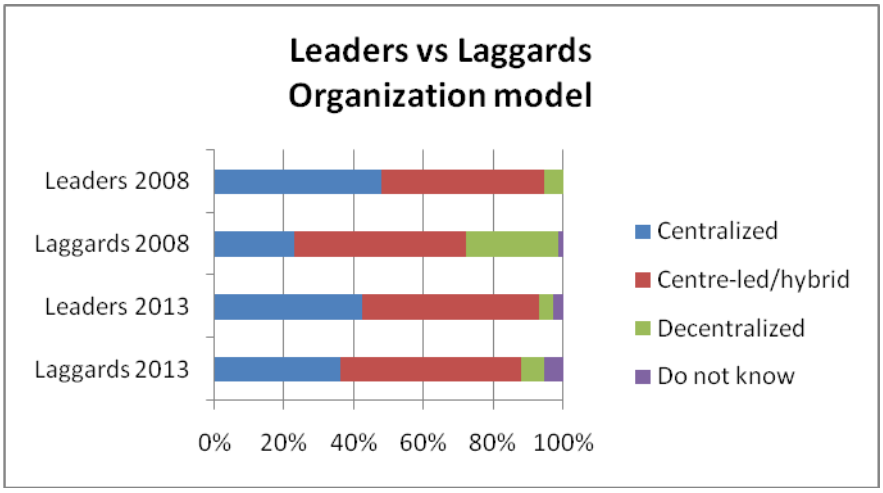


Figure 54 - Comparison between Leaders and Laggards regarding their organization model

Two factors that the authors anticipated to reduce the amount of purchasing staff in the organizations were the increased implementation of technologies and the current financial crisis. But according to Figure 55, Leaders and Laggards will increase the amount of purchasing staff in both 2008 and in 2013. The figure also reveals that Laggards assess to increase the amount of purchasing staff in 2013 more than in 2008, which might be a method to catch up the Leaders in terms efficient purchasing.

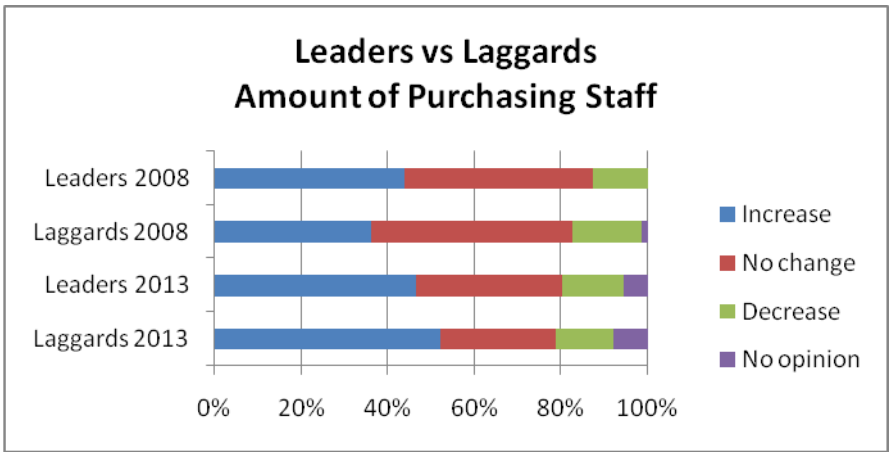


Figure 55 - Comparison between Leaders and Laggards regarding the amount in the purchasing staff

Organization - Talents

Leaders and Laggards seem to agree when it comes to retaining, nurturing and attracting talents to purchasing. They both seem to find these areas equally important, although Leaders seem to be slightly stronger in their opinion according to Figure 56.

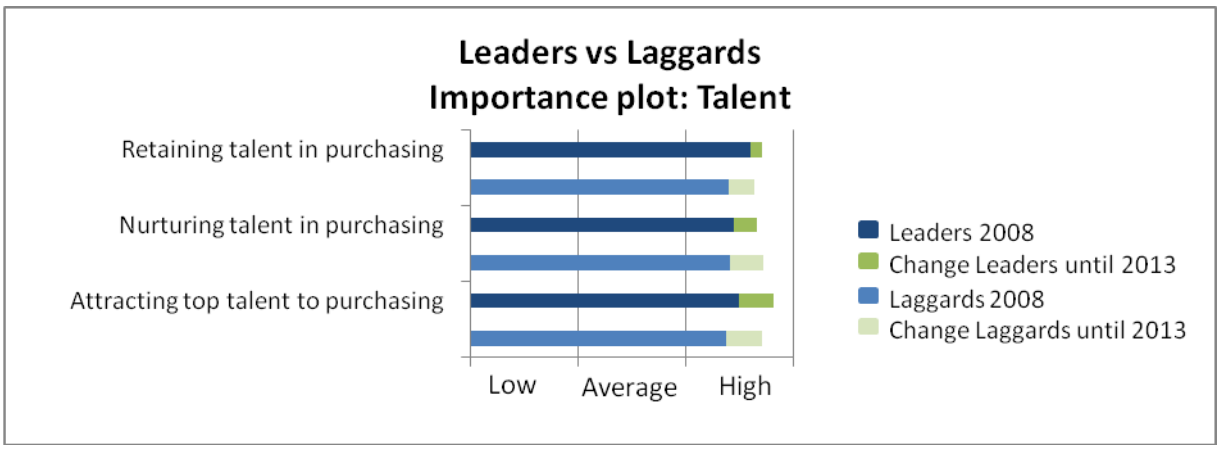


Figure 56 – Comparison between Leaders and Laggards regarding Talent

Performance/Measurements

What comes to mind is that Leaders are measuring more and have already realized the importance of using several indicators. Large companies' purchasing functions are dealing with a large amount of money and this places a greater significance on concentrating the volumes to the most advantageous and suitable suppliers to gain benefits from large volumes, which need to be followed up of how well this was executed. Measuring the supplier's supplier appears to be vital to leaders as well, in order to monitor the supply chain.

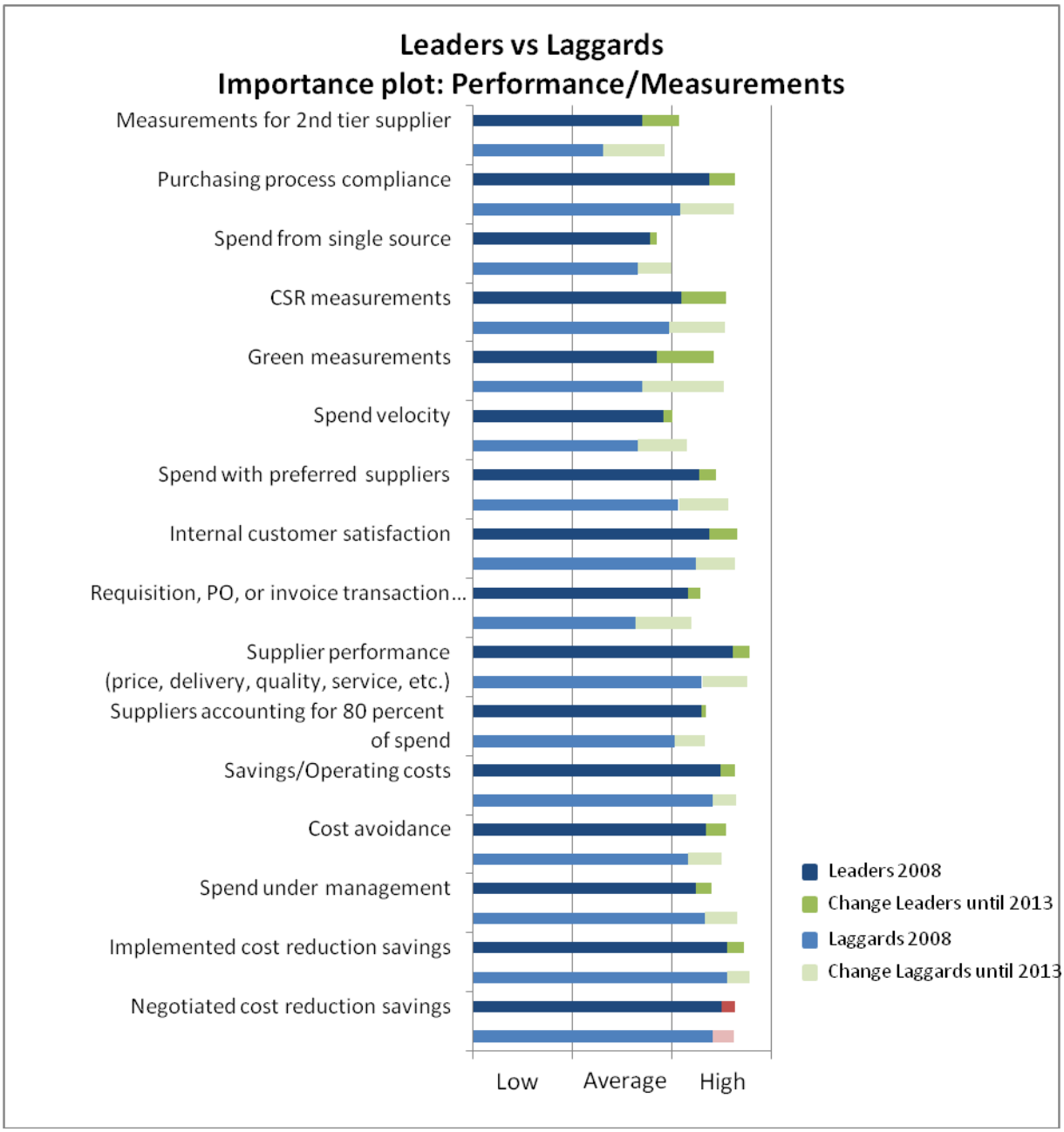


Figure 57 – Comparison between Leaders and Laggards regarding Performance Measurements

But what can be seen from Figure 57 is that Laggards rate the importance of measurements to the same degree as Leaders in 2013, with some types of measurements being even more important for some of them (e.g. green measurements, spend from single source, spend

velocity and spend with preferred suppliers). Laggards may have realized the importance of continuously evaluating themselves, and in the future, there is no difference between Leaders and Laggards when it comes to measurements, which Figure 58 also illustrates.

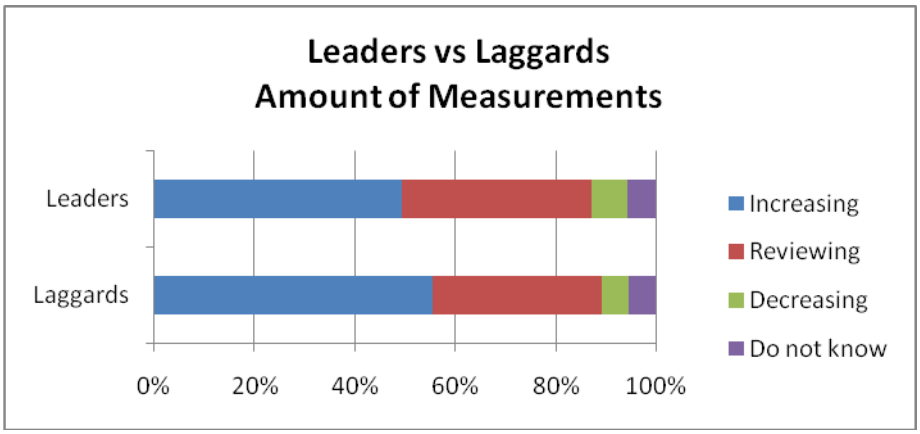


Figure 58 - Comparison between Leaders and Laggards regarding amount of measurements

Technology

Risk analysis and supplier performance management seem to separate leading purchasing functions from followers today, but Laggards are considering these solutions to a great extent. Supplier portals and E-invoicing are slightly more utilized by Leaders, but Laggards also appear to be interested to the same extent as Leaders for these tools as well. Contract management is more appealing to Leaders, whereas Laggards appear to be more interested in e-procurement, e-sourcing and E-invoicing than Leaders. This is an interesting finding that is difficult to explain. Spend analysis seems to be implemented to a large extent (approximately 75 per cent) for both Leaders and Laggards, according to Figure 59.

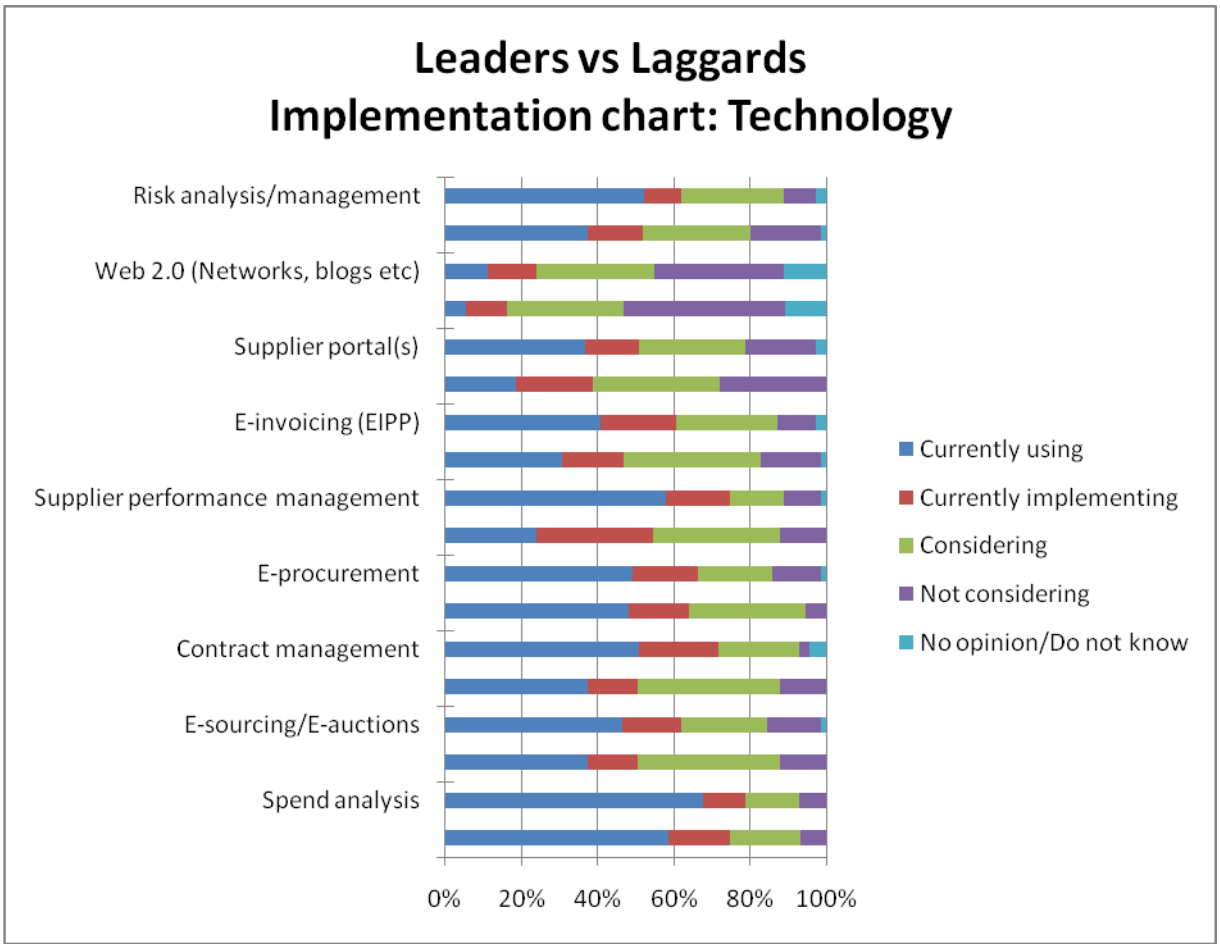


Figure 59 – Comparison between Leaders and Laggards regarding implementation of Technologies

Discussion

In general, Leaders are in front in the suggested areas in this survey which indicate that these areas stated by experts and found in literature studies are relevant and important, and characterize leading purchasing functions in Northern Europe. But Laggards are not far behind and have also realized the importance of these areas. Thus, the gap between Leaders and Laggards is anticipated to decrease in the future according to the findings in this study. The specific areas that Laggards rate higher than Leaders are local sourcing in Strategy – External, outsourcing of purchasing activities and core activities in Strategy - Internal, and spend under management and implemented cost reduction savings as measurements. E-

procurement and E-sourcing were tools Laggards considered implementing more than Leaders.

6.5 Nordic vs Non-Nordic

The distribution of respondents between Nordic (Sweden, Denmark, Norway and Finland) and Non-Nordic (Germany, Italy, Spain, Switzerland, Greece, Hungary, Luxembourg, Netherlands and United Kingdom) countries was evenly divided (see Figure 15), and provided the opportunity to compare these two groups in the same way as for leaders and laggards. Thus, the approach to this analysis is identical with leaders and laggards (see section 6.4) and the areas are grouped in the same order: Strategy – External, Strategy – Internal, Processes, Organization - Skill sets, Organization – Structure Organization – Talents, Performance/Measurements and Technology.

Strategy - External

On the whole, from Figure 60, there is a common view in the areas in this category with regard to their importance today and their future development (trend). Nordic countries are more into Corporate Social Responsibilities and green purchasing strategies than Non-Nordic countries. Non-Nordics seem to prioritize supplier relationship management and develop partnerships with 2nd tier suppliers.

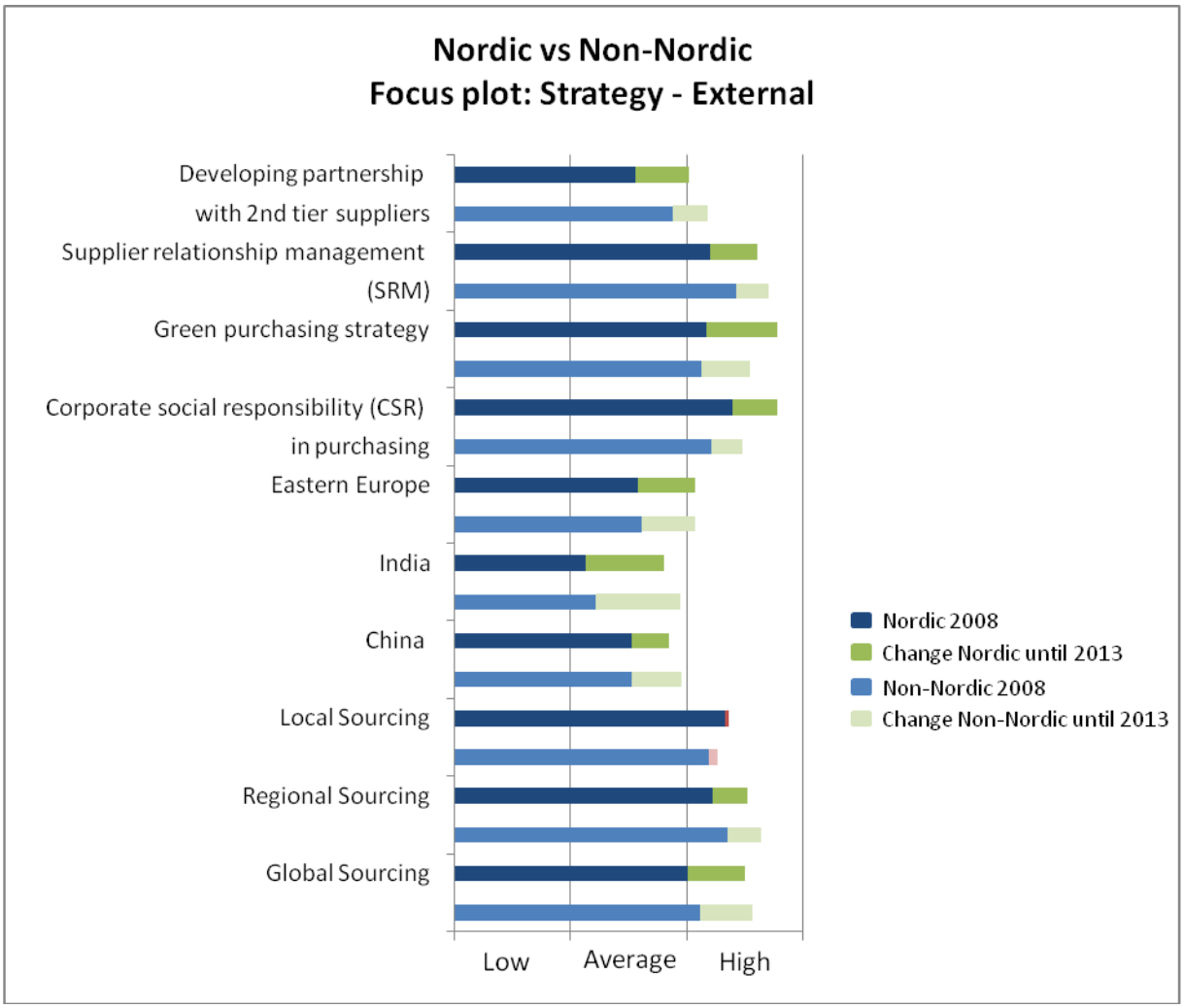


Figure 60 – Comparison between Nordic and Non-Nordic countries regarding Strategy - External

Strategy - Internal

Non-Nordic countries have slightly higher values for 2008 concerning purchasing involved in make-or-buy decisions and early involvement of purchasing in product development. Figure 61 reveals further that Non-Nordic countries are more likely to take back business activities in-house and are also more willing to outsource purchasing activities today. But one must keep in mind that the values of insourcing of business activities and outsourcing of purchasing activities were quite low so there should not be any rough conclusions about these areas. Otherwise, the responses from the Nordic countries were analogous to the responses from the Non-Nordic countries.

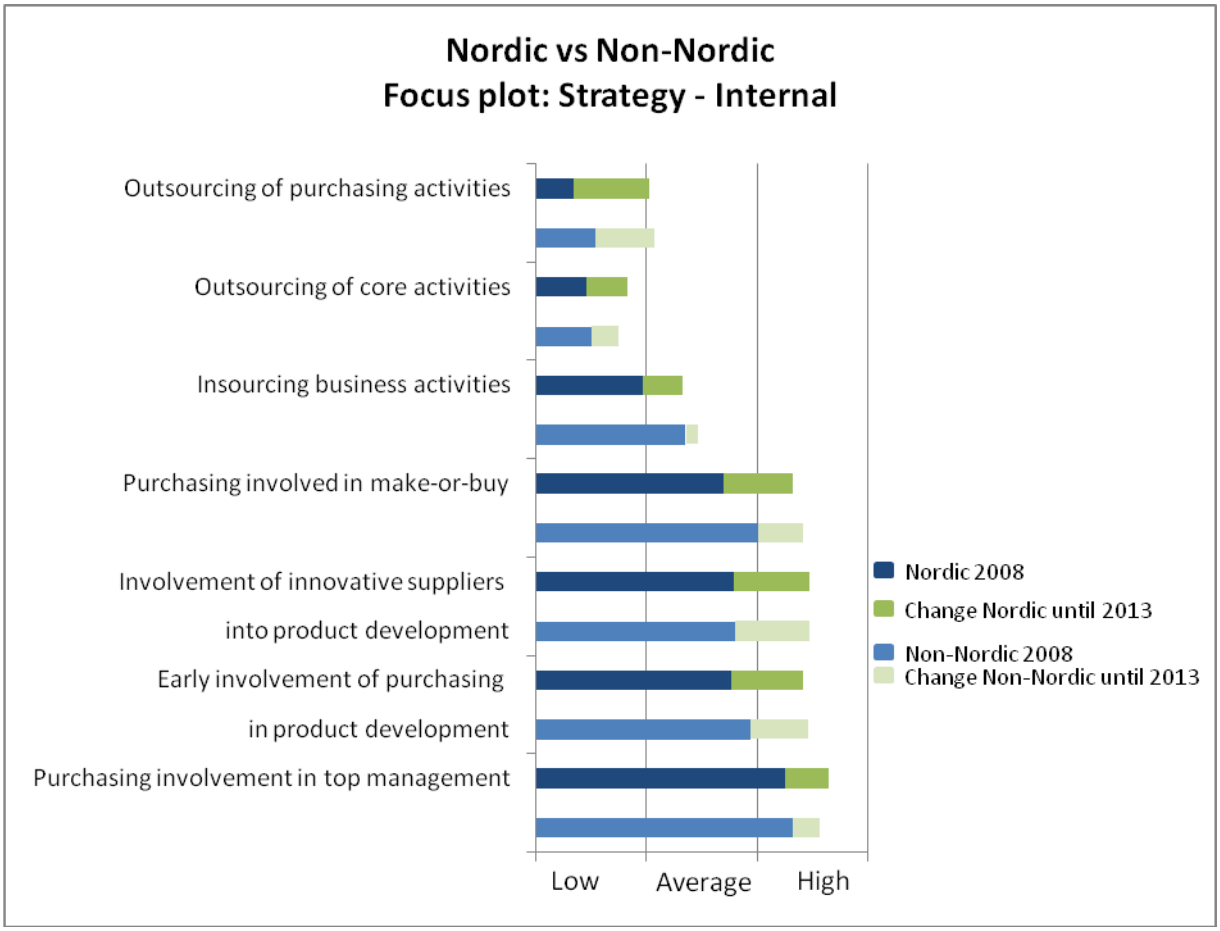


Figure 61 – Comparison between Nordic and Non-Nordic countries regarding Strategy - Internal

An interesting finding in Figure 62 is that outside the Nordic countries' borders companies perceive purchasing as a value creator much more than in the Nordic countries. The authors ask themselves if this could imply that the transformation of purchasing from operational to strategic have come further outside of the Nordic borders. In 2013 the Nordic and Non-Nordic countries will have the same view with regard to the statement in Figure 62.

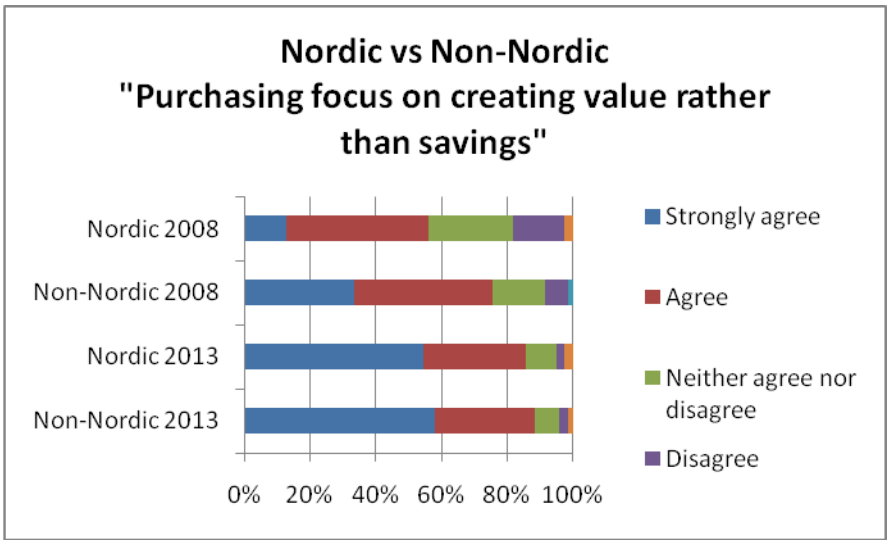


Figure 62 – Nordic's and Non-Nordic's opinion about purchasing being a value creator

Processes

No big differences can be found in Figure 63 but Non-Nordic countries found Total Cost of Ownership (TCO), including macroeconomic parameter in sourcing process, integration of the purchasing process to related functions' processes and a flexible purchasing process, fairly more important than the Nordic countries.

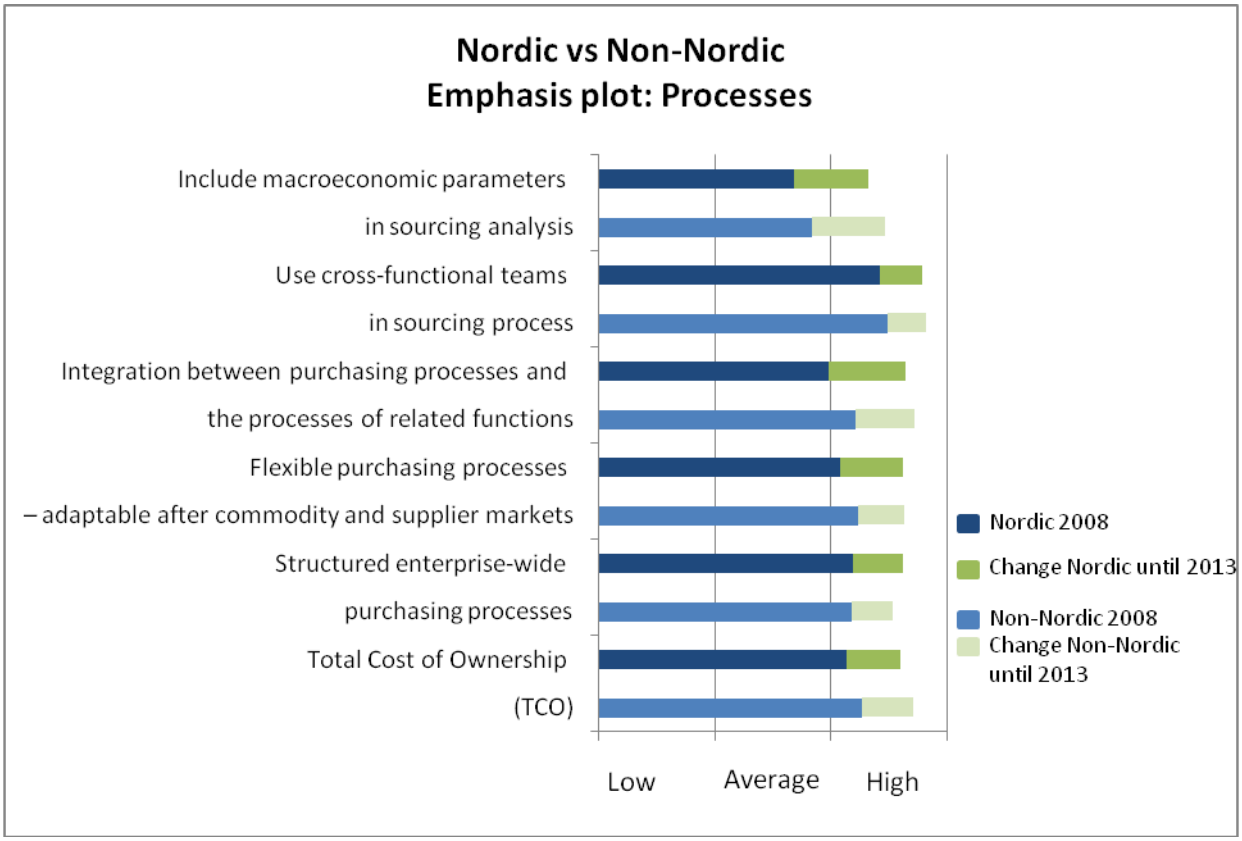


Figure 63 – Comparison between Nordic and Non-Nordic countries regarding Process

Organization - Skill sets

In general, the Non-Nordic countries seem to have slightly higher demands on the purchaser than companies in the Nordic region .The most significant finding in Figure 64 is that the technical background of a purchaser is perceived as having much more importance among the responded Non-Nordic countries. Being flexible and leadership skills also received high values from the Non-Nordic countries

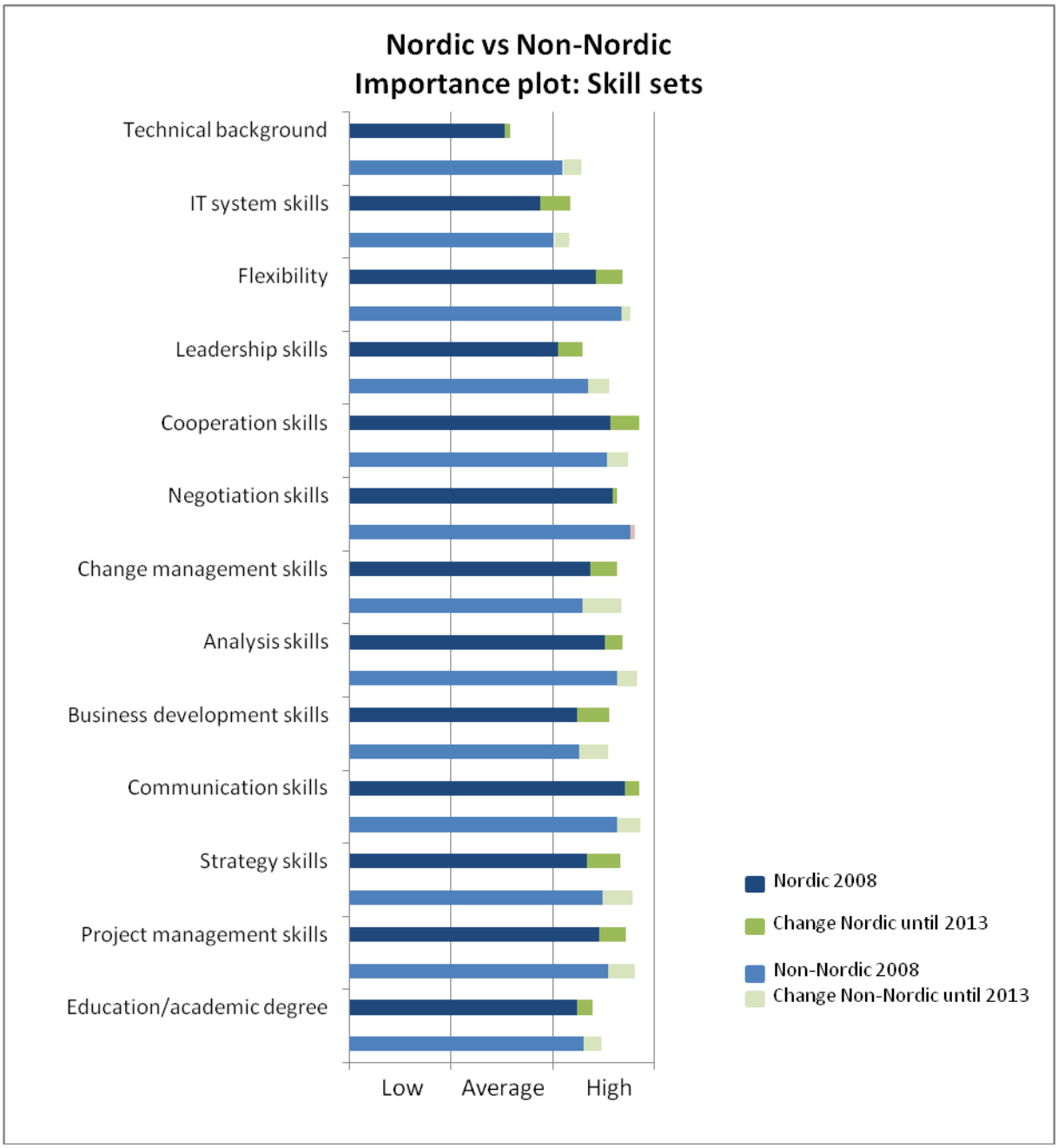


Figure 64 – Comparison between Nordic and Non-Nordic countries regarding a Purchaser's skill sets

Organization – Structure

Figure 65 show that Non-Nordic countries have applied the centre-led/hybrid organization model in a greater extent than the Nordic countries. Decentralized models are more common in the Nordic region today but in the future they will also apply the centre-led/hybrid organization model in the same extent as Non-Nordic countries and the decentralized models will decrease for the two regions.

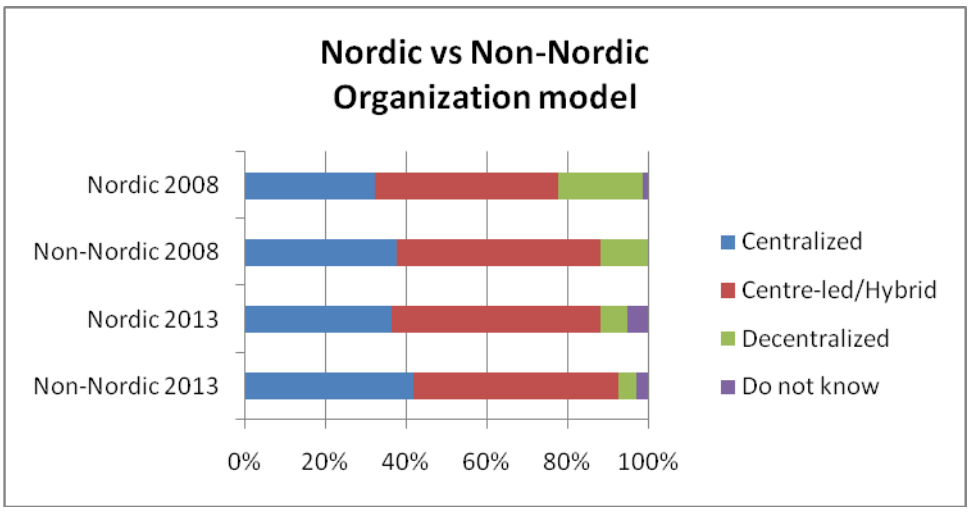


Figure 65 - Comparison between Nordic and Non-Nordic regarding their organization model

Figure 66 reveals that Nordic companies will expand their purchasing organization in both 2008 and 2013. A majority of the Non-Nordic companies will not change the amount of purchasing staff in 2008 but anticipate to increase the size of the purchasing organization in 2013.

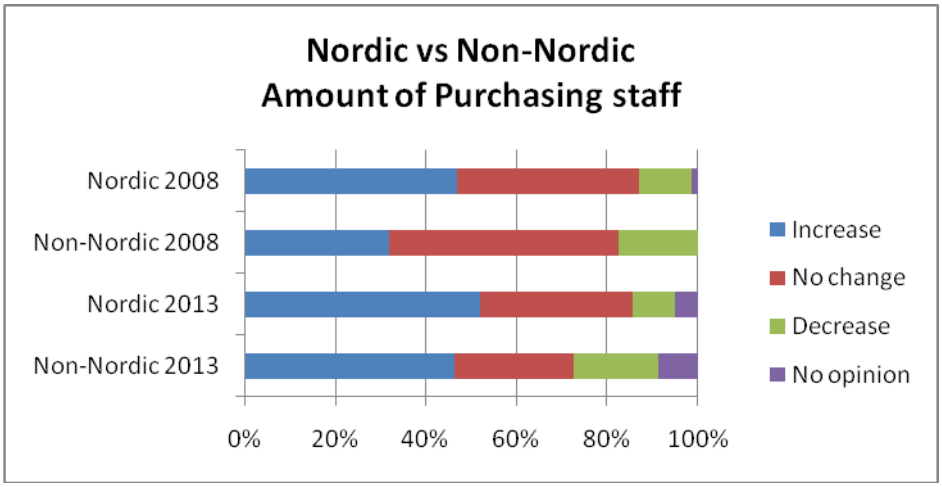


Figure 66 - Comparison between Nordic and Non-Nordic regarding the amount in the purchasing staff

Organization – Talents

Nordic countries found retaining and nurturing talents slightly more important than Non-Nordics, which can be seen in Figure 67. However, they both agreed on these areas as being highly important for companies today and even more so in the future.

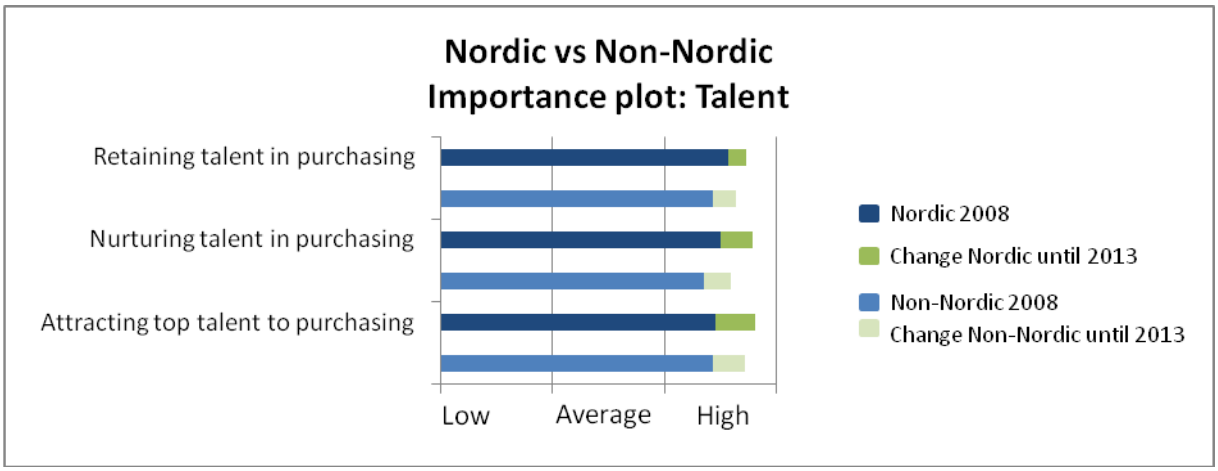


Figure 67 – Comparison between Nordic and Non-Nordic countries regarding Talent

Performance/Measurements

Nordic countries placed more emphasis on having Corporal social Responsibility and green measurements, which is not surprising because they received high values in Strategy – External above. Internal satisfaction also received a higher value compared to Non-Nordic countries. From Figure 68 it can be concluded that Non-Nordics seem to prioritize process compliance more than the Nordic countries.

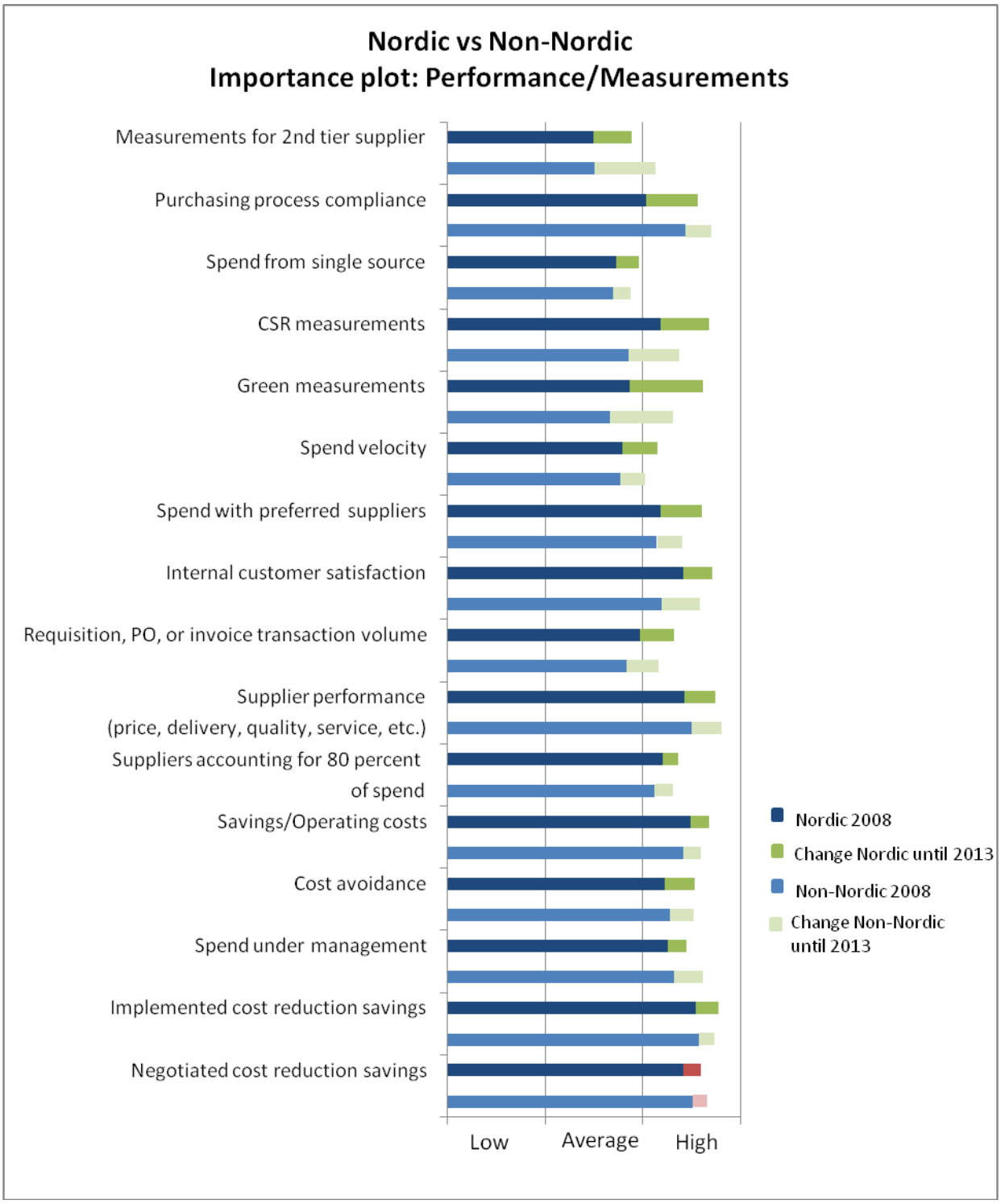


Figure 68 – Comparison between Nordic and Non-Nordic countries regarding Measurements

Overall, the two regions seem to have a common view regarding to increase or decrease the amount of measurements and this is shown in Figure 69 below.

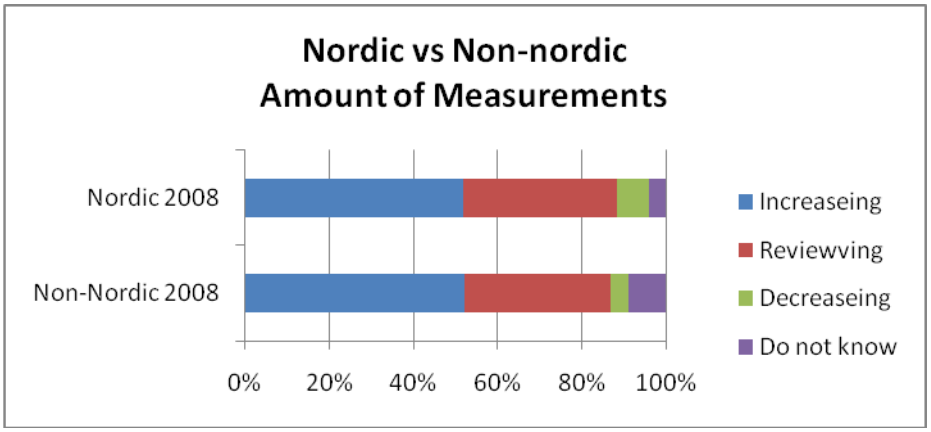


Figure 69 - Comparison between Nordic and Non-Nordic regarding amount of measurements

Technology

An interesting and remarkable finding here is that all tools/technologies received equal responses from the two regions, except for e-sourcing/e-auctions which seem to appeal to the responded countries outside the Nordic borders (see Figure 70).

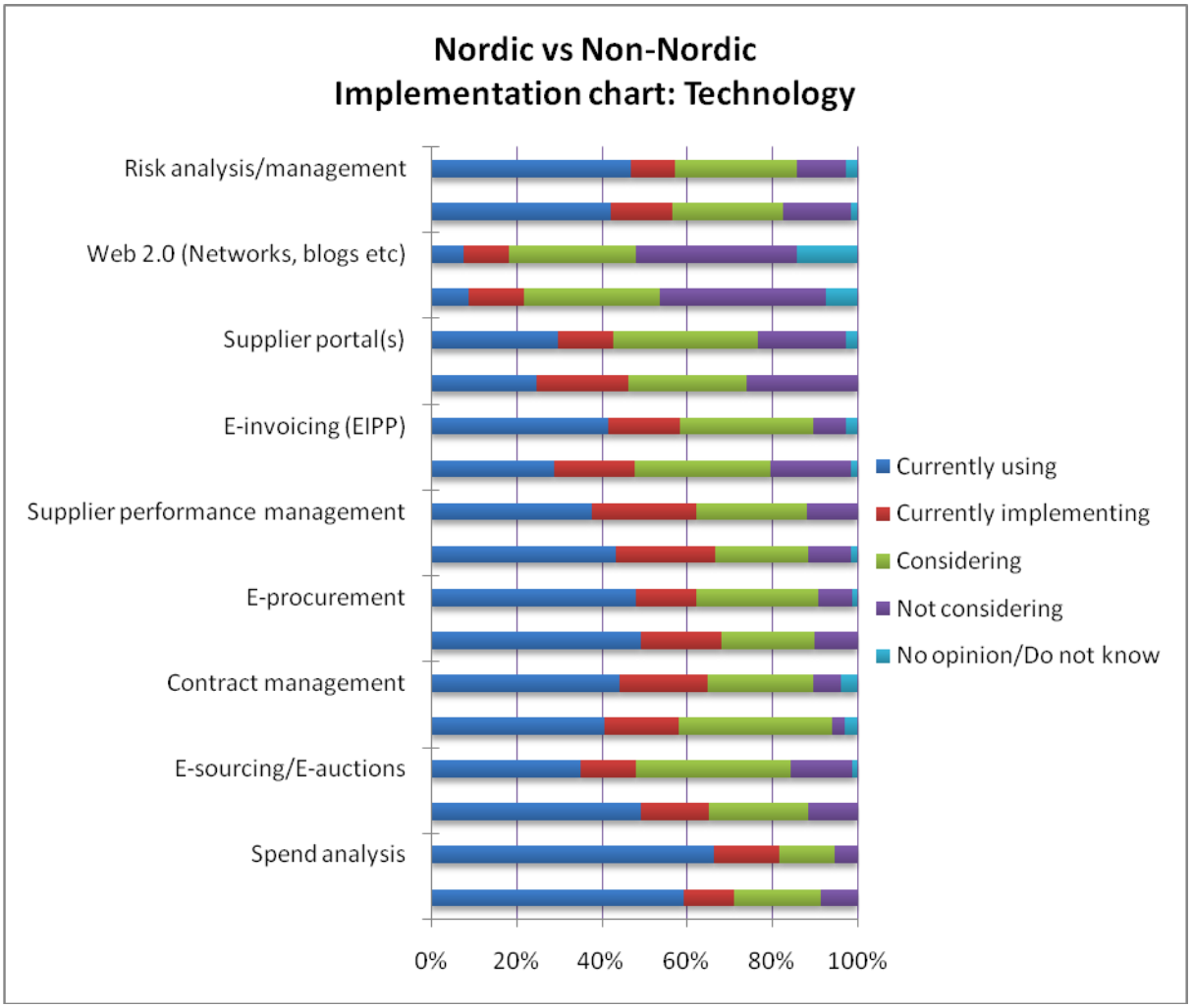


Figure 70 – Comparison between Nordic and Non-Nordic countries regarding implementation of Technologies

Discussion

In general, the differences between Nordic and Non-Nordic countries were almost negligible as demonstrated by their common view on the suggested technologies/tools. E-sourcing, however, was an exception in which Nordic countries showed more interest in this tool. Non-Nordic countries emphasized more in having purchasing involved early in product development and in make-or-buy decisions. This can also be linked to Non-Nordic countries' appreciation of purchasers having technical skills. These differences might be explained by the Non-Nordics are more seeing the purchasers as value creators than the Nordic countries and by Table 13 below, which illustrates that more Leaders than Laggards can be found in the Non-Nordic responses, whereas the opposite can be said about Nordic responses.

Table 13 - Distribution of responses over Leaders and Laggards for Nordic vs Non-Nordic

	Nordic	Non-Nordic
Leaders	32	39
Laggards	45	30

6.6 Factor analysis of Technology

A factor analysis was conducted on the responses of the suggested technologies in the survey. The purpose of Factor analysis is to reduce the number of the measured variables (technologies) which tend to measure the same phenomenon into a new dimension or factor (Lekwall and Wahlbin, 2001, p 345). Based on the correlations between the variables and by means of principal components independent factors were extracted. The essential calculations are presented in Appendix 17 in the report.

The calculations of the technology responses ended in the extraction of 3 independent factors. In Table 14 these 3 factors are presented in order of importance and they represent in total 65% explained variation, which is considered to be a high value. Strong correlations (or loadings) between the separate technologies and the corresponding factor were found.

Table 14 – Factor analysis of Technologies

Factor 1	Factor 2	Factor 3
Supplier portals	Supplier performance management	E-procurement
E-invoicing (EIPP)	Spend analysis	E-sourcing
Web 2.0	Contract management	
	Risk analysis/management	

Variables (tools) included in Factor 1 relate to the *distribution of information*. Variables in Factor 2 relate to the *controlling of purchasing activities* and finally Factor 3 is essentially based on tools that *facilitate the purchasing process*.

Interpreting an individual factor could be done in the following way: a randomly selected respondent has similar opinions for the technologies in this factor. For instance, considering factor 2, a respondent intending to implement a spend analysis solution is most likely interested in implementing supplier performance management, contract management and risk analysis solutions (if the respondent has not already implemented these before). The same reasoning is valid for the other two factors.

7 Recommendations to IBX

This chapter contains recommendations to IBX based on the analyses from the previous chapter.

From the perspective of IBX, the most interesting findings relate to the technology part of the study. Since IBX provides some of the suggested tools (like e-sourcing and e-procurement) that have been brought up in the study, IBX should also take into account how companies consider the other tools/technologies when they are reviewing their product portfolio.

IBX should develop and have all tools in place in their portfolio. Many respondents revealed that they are considering implementing several of the suggested tools, except for spend analysis solutions, which seems to already be implemented to a large extent according to the general trends figures in the technology proposition (see section 6.2.9). A finding from the Process proposition (see 6.2.4) that IBX should consider in their future development of tools/technology is the integration of purchasing processes and the processes of other related functions. A tool for this purpose is E-invoicing, which also received the highest consideration rate among the mentioned technologies. The authors recommend that IBX implement E-invoicing in their products.

If IBX is directing its products towards Laggards, then there are big opportunities since Laggards have not implemented the tools to the same degree as Leaders, and they are showing an interest in realizing purchases of tools/technologies, especially for e-sourcing and contract management.

From a regional perspective, Nordic countries (in this case Sweden, Norway, Denmark and Finland) are showing an interest in e-sourcing, which makes this an important market for IBX to take advantage of.

The factor analysis in section 6.6 indicates that IBX should develop different packages, especially Factor 1 with Supplier portals, E-invoicing and Web 2.0, since they have the highest increase (trend) among the suggested tools (see section 6.2.9). The interpretation of these factors is that presumptive clients are likely to be interested in all of these tools if they are showing interest in just one of them. Factor 3 consisted of e-sourcing and e-procurement, and this package is already in their product portfolio. In regards to the large interest for e-sourcing, there is surely an interest in trying to provide a package consisting of e-sourcing and e-procurement, especially in the Nordic countries.

One of the major trends found in this study was the green and corporate social responsibilities that companies in Northern Europe will take. When companies are dealing with these issues, IBX should be able to provide support and advice in this area, as well as support systems to follow up how well the responsibilities are being taken care of by the company and its suppliers.

Another strong trend was involving suppliers in the product development, and here, IBX Consulting could be advisory in how to integrate suppliers better with, for example, product development.

With the new required skill sets for the purchaser, IBX should be able to offer coaching in change management, business development and project management, which were strong upcoming requirements found in this study. Coaching of purchasers can be related to consulting companies providing selling and marketing coaching in order to enhance companies' staff in these functions.

8 Conclusions

In this final chapter the major general purchasing trends are presented as well as brief findings from the comparisons between Leaders vs Laggards and Nordic vs Non-Nordic. In the end there is a discussion around the findings and future research.

The aim of this study was to distinguish general purchasing trends and if possible, distinguish industry trends as well as give recommendations to IBX regarding solutions and services that they should be able to offer to clients. Due to the amount of respondents in each (wide spread distribution of) business segments, an industry analysis could not be conducted. However, the possibility to analyze Leaders vs Laggards and Nordic vs Non-Nordic countries emerged.

8.1 General purchasing trends

The general trends have been divided into the categories in the IBX framework:

Trends within Strategy:

- Purchasing will focus more on creating value than savings.
- Companies will continue to develop purchasing strategies that take more environmental and social responsibilities.
- Maintain and develop relationships with suppliers will be of importance and innovative suppliers will be included in product development to a greater extent than before.
- When it comes to possible countries to source from/outsource to, Eastern Europe receives the highest rating. But India emerges strongly and has the largest increase of all areas in this study.
- There is a clear tendency that purchasing will have a more protruding roll in companies and be involved early in product development and make-or-buy decisions.
- Outsourcing of purchasing activities undergoes a large increase from 2008 to 2013, but is still rated low.

Trends within Process:

- High focus on the purchasing process.
- Integration between purchasing process and other related processes.
- Develop a structured enterprise-wide purchasing process, which can be adopted after commodity and supplier markets.
- Increased utilization of Total Cost of Ownership.
- Include macro-economic parameters in sourcing analysis has the largest increase in this category and will be utilized more.

Trends within Organization:

- Decreased usage of a decentralized organizational model.
- Increased amount of purchasing staff.
- High priority on attracting talents (in purchasing).
- The ranking of different skills for purchasers can be found in Table 15.

Table 15 – Top 5 ranking Skill sets

Top 5 ranking - Skill sets			
Rank	**Importance 2008**	**Importance 2013**	**Largest increase**
1	Negotiation skills	Communication skills	Change management skills
2	Communication skills	Cooperation skills	Strategy skills
3	Analysis skills	Project management skills	Business development skills
4	Cooperation skills	Analysis skills	Project management skills
5	Flexibility	Flexibility	Cooperation skills

Trends within Performance:

- Companies will increase the amount of measurements in purchasing.
- The only measurement that decreased in importance was negotiated cost reduction savings.
- Savings and costs are still important but largest increase in measurements are not cost related, see Table 16.

Table 16 – Top 5 ranking Performance measurements

Top 5 ranking - Performance measurements			
Rank	**Importance 2008**	**Importance 2013**	**Largest increase**
1	Negotiated cost reduction savings	Supplier performance	Green measurements
2	Implemented cost reduction savings	Implemented cost reduction savings	CSR measurements
3	Supplier performance	Savings/ Operating costs	Measurements for 2nd tier supplier
4	Savings/Operating costs	Internal customer satisfaction	Purchasing process compliance
5	Internal customer satisfaction	Purchasing process compliance	Requisition, PO or invoice transaction

Trends within Technology:

- In descending order, E-invoicing, Web 2.0, Supplier portals, Contract management, E-sourcing and Supplier performance management are considered by 32-24% of the respondents.

- Companies have realized the potential of tools/technologies in purchasing.

8.2 Comparison analysis

The analysis between respondents who considered themselves Leaders and Laggards indicates that Leaders are focusing more on the majority of the areas in this study. But Laggards have realized the importance of these areas and are not far behind. The fact that Leaders in most cases rate the areas higher than Laggards implies that the concerned areas in this thesis are highly topical and that these areas will be of great importance in the future development of purchasing.

Furthermore, an analysis regarding differences between Nordic and Non-Nordic countries was made. The results from that analysis show that there are not any major differences between the two groups except for that the respondents from Non-Nordic countries placed a greater emphasis on having purchasing involved early in product development and in make-or-buy decisions. This could be related to their appreciation of purchasers having technical skills and that purchasing was seen more as a value creator.

8.3 Discussion of findings

If one looks back to the tables in section 3.1.5, which describes a summary of previous researchers' suggestions of important and upcoming areas in purchasing, the authors of this study can conclude that the researchers were right since the majority of the areas were considered to be prioritized by companies in the Northern Europe region.

The areas in this study exhibited a statistically significant increase in focus and importance in the future (except for the measurement negotiated cost reduction savings and local sourcing which decrease was not significant) for the general trends. This can be a result of that the areas brought up in the study really are important, but it can also be explained by companies having a positive view of the future and assess that they will have enough time to deal with all of these areas in the years to come.

8.4 Future research suggestions

In this study, purchasing trends have been analyzed through a wide spectrum of areas and the findings are more on an abstract level. Even more interesting areas could have been included in the study, such as systems support teams, purchasing strategy aligned with overall corporate strategy, sourcing from other countries etc., but the authors had to draw a limit and the most relevant questions were chosen. The wide range of interesting findings, such as the large focus on green purchasing strategies, the future requiring skill sets for the purchaser and the technologies that are and will be implemented to a great extent in purchasing functions, implies that there is a need to analyze purchasing from a narrower perspective to get a more detailed picture.

This study was focusing on large companies, and it is advisable to conduct a study regarding purchasing trends in medium-size and small-size companies from a greater variety of countries. A wider scale of measurement should be used in future studies to get more accurate results in the findings. One of the strongest findings relates to environmental and social responsibilities in purchasing, research regarding how it will be executed and which measurements to use is recommended. Another finding that should be investigated is how the purchasing process should be designed to be both structured and flexible.

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Figure sources

Figure 1– Purchasing and supply development model (van Weele, 2005, p 94)

Figure 2 – Purchasing and supply development model (van Weele, 2005, p 94)

Figure 3- The Continuous Sourcing Cycle (Barker and Laseter, 2002)

Figure 4 – IBX framework (Bohlin et al, 2008)

Figure 5 –Inductive and deductive methods (Eriksson and Wiedersheim-Paul, 2001)

Figure 7 – Theory construction (Bacharach, 1989)

Figure 36 – New optimal focus in the sourcing process (Bohlin et al, 2008)

Other figures are illustrated by the authors.

Appendices

Appendix 1 – EU classification: Company size

Enterprise category	Headcount	Turnover
Large	≥ 250	> € 50 million
Medium-sized	< 250	≤ € 50 million
Small	< 50	≤ € 10 million
Micro	< 10	≤ € 2 million

Source: Commission Recommendation (2003/361/EC) and Eurostat

Appendix 2 – List of articles

Area	Title	Author	Year	Published by
STRATEGY				
Purchasing transformation - operational to strategic	Strategic move	Colin Masters; Greg Brownlee; Lee Parkinson	2007	Supply Management; Feb 1, 2007; 12, 3; ABI/INFORM Global, pg 17
	Levels of strategic purchasing: Impact on supply integration and performance	Antony Paulraj, Injazz J. Chen, James Flynn	2006	Journal of Purchasing & Supply Management 12 (2006) 107–122
Environmental and social responsibilities	Break through the barriers	Neil Jones	2007	Supply Management; Jun 21, 2007; 12, 13; ABI/INFORM Global pg 38
	Costing the earth	Rebecca Ellinor	2007	Supply Management; Jan 18, 2007; 12, 2; ABI/INFORM Global pg 24
	Sustainable, environmental...	Paul Snell	2008	Supply Management; Feb 14, 2008; 13, 4; ABI/INFORM Global
	Sustainability or manipulation?	David Hawkins	2007	Supply Management; Sep 6, 2007; 12, 18; ABI/INFORM Global
	Sustainability: not just a checklist	David Hawkins	2008	Supply Management; Apr 24, 2008; 13, 9; ABI/INFORM Global pg.16
	Position of influence	Barbara Morton	2007	Supply Management; Nov 15, 2007; 12, 23; ABI/INFORM Global pg 42
Amount of suppliers	The optimal number of suppliers considering the costs of individual supplier failures	Alex J. Ruiz-Torresa, Farzad Mahmoodib	2007	The International Journal of Management Science Omega 35 (2007) 104 – 115
	Single sourcing versus multiple sourcing	Roman Inderst	2008	The Rand Journal of Economics; Spring 2008; 39, 1; ABI/INFORM Global pg 199
Supplier collaboration/ partnership	Partner with suppliers to smooth out price fluctuations	William Atkinson.	2006	Purchasing. Boston: Aug 17, 2006. Vol. 135, Iss. 11; pg. 24
Collaboration with competitor	Let's work together	Emma Clarke	2007	Supply Management; Jul 19, 2007; 12, 15; ABI/INFORM Global pg 26

Area	Title	Author	Year	Published by
Strategic sourcing	Strategies for Strategic Sourcing		2008	www.industryweek.com I january 2008 I IW
	Strategic Sourcing: What's All the Buzz About?	Joanie F Newhart	2006	Contract Management; Jan 2006; 46, 1; ABI/INFORM Global pg 26
	Strategic Sourcing: Securing the Long-Term Victory	Joe Stewart	2007	Contract Management; Sep 2007; 47, 9; ABI/INFORM Global pg 10
Supplier Relationship Management (SRM)	Maximizing value through supplier relationship management	Patrick M Byrne	2006	Logistics Management; Feb 2006; 45, 2; ABI/INFORM Global pg 24
	Great Expectations	Helen Gilbert	2006	Supply Management; Jun 8, 2006; 11, 12; ABI/INFORM Global pg 20
	Power and control (Customer of choice)	Jake Kanter	2008	Supply Management; Mar 27, 2008; 13, 7; ABI/INFORM Global pg 13
Economic downturn - impact on purchasing	Buyers take stock (Opportunity to get noticed)	Jake Kanter	2008	Supply Management; Jan 31, 2008; 13, 3; ABI/INFORM Global pg 13
Outsourcing of purchasing activities	12 steps to outsourcing	Guy Strafford	2007	Supply Management; Nov 15, 2007; 12, 23; ABI/INFORM Global pg39
	How to survive procurement outsourcing	Paul Teague	2006	Purchasing; Mar 16, 2006; 135, 4; ABI/INFORM Global
	Outsource deals on the up	Anonymous	2006	Supply Management; Jan 5, 2006; 11, 1; ABI/INFORM Global pg 10
	Outsourcing lands in procurement	William Atkinson	2006	Purchasing; Mar 16, 2006; 135, 4; ABI/INFORM Global pg 46
	Procurement outsourcing: Right for you?	Carter, J.R., Markham, C.J., Monczka, R.M.	2007	
	To outsource or not to outsource?	Cooper, A.	2007	
	Should buying be outsourced?	Fleming, S., Stapleton, C.	2007	
	Procurement outsourced	Loken, A.	2006	
	Buyer, outsource thyself	Snell, P.	2007	
	Speaking out on outsourcing	Zubco, N.	2008	

Area	Title	Author	Year	Published by
	(www.Industryweek.com)			
Purchasing consultants				
	Perfect partners?	Clarke, E.	2007	
Global sourcing	Procurement for High Performance	Paul D. Loftus.	2006	Supply Chain Management Review. New York: Dec 2006. Vol. 10, Iss. 9; pg 22
Early supplier involvement	Modelling procurement effects on cooperation	Eriksson, P.,E., Pesämaa, O.	2007	
Negotiations	How to negotiate with suppliers	Carbone, J.	2007	
Purchasing strategy aligned with corporate strategy	Boston Scientific aligns sourcing organization with corporate goals	William Atkinson.	2007	Purchasing. Boston: May 3, 2007. Vol. 136, Iss. 7; pg. 17
	Buying plans must fit company's aim	Paul Snell	2007	Supply Management; Mar 15, 2007; 12, 6; ABI/INFORM Global pg 6
ORGANIZATION				
The benefits of employing Chinese buyers	The benefits of employing Chinese buyers	Ellinor, R.	2008	
	Search for stars	Mattios, G.	2008	
Purchaser – the recruiter of talents	Buyer: the new recruiters?	Snell, P.	2008	
Procurement outsourcers wins the battle of top talents	Outsourcers win talent war	Snell, P.	2008	
Skill sets needed in the Supply Chain	Johnson Controls outlines supply chain skills assessment	Atkinson, W.	2007	
Purchaser characteristics:				
Knowledge in marketing and advertising	Content expertise vs procurement expertise	Atkinson, William	2006	
Macroeconomic knowledge	Commodities forecasting: It's all in your head	Stundza, T.	2007	

Area	Title	Author	Year	Published by
Integrity, honesty, initiative, technical expertise, leadership	Buyer profiles: an empirical investigation of changing organizational requirements	Faes, W., Knight, L., Matthyssens, P.	2001	
Communication, contract management, money management	Money management becoming a critical skill	Teague, P.	2008	
The importance of communication in team work	Mind the gap	Woodham, T.	2006	
PERFORMANCE				
	World-Class Supply Practices Boost Shareholder Value (ROI)	Robert A Rudzki	2006	Financial Executive; Apr 2006; 22, 3; ABI/INFORM Global pg 26
	Refocusing on Performance	Neal J Couture	2006	Contract Management; Oct 2006; 46, 10; ABI/INFORM Global pg 2
Clear and defined KPIs	Picturing performance	Dan Scharf	2006	Summit; Jan/Feb 2006; 9, 1; ABI/INFORM Global
	Wanted: Suppliers who think like you	Susan Avery	2006	Purchasing; Mar 16, 2006; 135, 4; ABI/INFORM Global pg 43
	First-class delivery	Baxter, G., Lee-Warden, C., Henfrey, N.	2007	
Supplier performance	Evaluate to accumulate	Emma Clarke	2006	Supply Management; Apr 13, 2006; 11, 8; ABI/INFORM Global pg 30
	Rules of the game	David Birch	2008	Supply Management; Jan 31, 2008; 13, 3; ABI/INFORM Global pg 34
PROCESSES				
	COMMERCIAL CONTRACTING BEST PRACTICES	Gregory A Garrett	2008	Contract Management; Jan 2008; 48, 1; ABI/INFORM Global pg 44
	Standardized procurement	Glenn Ackerley	2007	Summit; Oct 2007; 10, 6; ABI/INFORM Global pg 2
TECHNOLOGY				

Area	Title	Author	Year	Published by
e-procurement strategies	The Optimization and Design of Procurement Strategy in E-Commerce	Guangshu Chang	2006	Proceedings of the 2006 IEEE Asia-Pacific Conference on Services Computing (APSCC'06)
	E-procurement software supports business strategies	David Hannon.	2007	Purchasing. Boston: Dec 13, 2007. Vol. 136, Iss. 15; pg. 48, 1 pgs
	Getting "best value" from eprocurement: Analytics software turns data into in...	Richard Bray	2008	Summit; Jan/Feb 2008; 11, 1; ABI/INFORM Global pg 4
Spend analysis	Spend-analysis providers meet with business intelligence specialists in software market showdown	Anonymous	2007	Manufacturing Business Technology. Highlands Ranch: Mar 2007. Vol. 25, Iss. 3; pg. 42
	Spend Intelligence: The Next Wave of Spend Analysis	Sudy Bharadwaj	2006	Supply Chain Management Review. New York: Sep 2006. Vol. 10, Iss. 6;
Managing spend through e-purchasing systems	Temporary measures	Vail, S.	2006	
Theoretical/Conceptual adoption models of e-procurement systems	Why Do Firms Adopt E-Procurement Systems? Using Logistic Regression to Empirically Test a Conceptual Model	Soares-Aguiar, A., Palma-dos-Reis, A.	2008	
	Moving Procurement Systems to the Internet: The Adoption and Use of E-Procurement Technology Models	Davila, A., Gupta, M., Palmer, R.	2003	
	To be or not to B2B: Evaluating managerial choices for e-procurement channel adoption	Dai, Q., Kauffman, R.,J.	2006	
Benefits of e-procurement	Getting best value of E-procurement	Bray, R.	2008	
Quality of e-procurement systems	The role of quality in e-procurement	Vaidyanathan, G., Devaraj, S.	2008	

Appendix 3 – Interview Guide

Interview Guide for Specialists/Experts

What is your current position?

How many years have you been working with purchasing related issues?

What is your background/experience of purchasing?

What do you consider to be your main (expertise) subject?

When we say purchasing trends, what do you think of spontaneously?

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

Processes

Organization

Performance

Technology

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. _____
2. _____
3. _____
4. _____

5. _____

Appendix 4 - Interview Torbjörn Thorsèn 080912

What is your current position?
Marketing Project Manager IBX
Writer of the magazine *Efficient Purchasing* and the *Purchasing Transformation blog*

How many years have you been working with purchasing related issues?
Since 1997

What are your background/experiences of purchasing?

Developed "Click-to-buy" application at Ericsson
Designer of IBX applications
Editor of the book "Purchasing Transformation" (2008)

What do you consider to be your main (expertise) subject/s?

Marketing
Communication
Graphic design

When we say purchasing trends, what do say spontaneously?

- Manage globalization
    - Outsourcing of R&D
    - Market appearance in outsourced countries (Short TTM)
- Changed focus in purchasing process (Proactive instead of Reactive)
- Former purchasers will be redundant. Project leaders and Analysts are the "new" purchasers

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Manage demand
    - Internal interactions between purchasing, manufacturing, R&D etc
- Purchasing is a value creator
    - Focus on creating value – not savings
        - Suppliers lose innovation ability
        - Bankrupting of suppliers
    - Use/involve suppliers in R&D work
    - Sustainable sourcing

- Wider spectrum/more parameters included when analyzing sourcing alternatives
  - Focus on quality, lead times, situation analysis etc – not just price
- Corporate Social Responsibility + Ethic + Green purchasing
  - Limited resources + pollution from transports →Local sourcing
- Category management

Processes

- Flexible purchasing process – find new ways of working
  - Adapt process after component and its supplier market
- Process compliance/ contract implementing

Organization

- Shifting in competence for purchaser
  - Successful in global sourcing →knowledge about local markets→Multi-cultural staff→Difficulties in attracting talents from all local markets (supply - demand) →Recruiting crucial for companies
- Changed mindset for purchasers from reactive to proactive
- Centre-led organization

Performance

-

Technology

- Sourcing tool for monitoring and analyzing of quality, lead times, commodity prices, external environment etc
- Integration of sourcing, procurement, warehouse systems etc
- Social networking
  - Suppliers + Internal (competence transfer)

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. Supply chain flexibility
2. Globalization of non-manufacturing
3. Managing the global supply chain
4. CSR, Environmental, sustainable, social procurement
5. Value focus (not cost)
6. Recruiting talent

Appendix 5 - Interview Leif Bohlin: 080922

What is your current position?
CEO, IBX Group AB

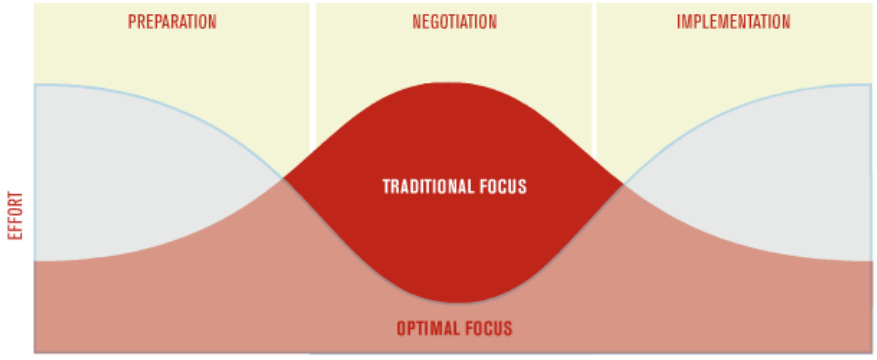
What is your background/experience of purchasing?
Purchaser at SAAB 1992
Purchasing Consultant A.T. Kearney 1996
Purchasing Consultant Cartan
IBX since 2000 working with Strategy development
Key Account Manager at IBX (Ericsson, Volvo)
Started the consulting department at IBX
CEO at IBX since 2008

What do you consider to be your main (expertise) subject in purchasing?

- Purchasing strategies
- Strategic sourcing
- Purchasing transformation
- Wide knowledge about purchasing in general

When we say purchasing trends, what do you think of spontaneously?

- The transformation of purchasing from transactional task →strategic task
- New focus (mainly indirect purchases but also direct purchases to some extent), more effort spent on preparation and implementation compared to before when negotiations where the most time/effort consuming activity, see figure below.



- The new purchasers will be project leaders, strategist, businessmen, and controller.
- Shorter time to market → Need of faster preparations → Increased use of e-Sourcing which speed up the process and leads to faster preparations

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

- Strategy
  - What purpose does purchasing have in the enterprise?
    - Transformation from Capture margin to Value creation
  - Alignment of purchasing strategy with corporate strategy
  - Different strategies for different product groups (Portfolio management)
  - Purchasing involved in make-or-buy decisions

- Processes
  - Well structured purchasing process
  - Communicate and implement purchasing agreements (Reach compliance)
  - Actively monitor spend, products etc.

- Organization
  - New competences and skills; project leader, internal marketer, build relations, businessmen, strategist
  - Centre-led organizations will increase
  - Decentralized and centralized will still be needed in some industries
  - Category management
  - More efforts will be put on competence and skills training

- Performance
  - Different measurements depending on the product group
  - Structured ways to follow-up measurements

- Technology
  - Increased use of software in purchasing
  - Increased visibility (both internally and externally)
  - Through e-Sourcing one will be able to reuse "contracts" which will lead to a faster purchasing process
  - Share information in a joint database

Rank your top 5 purchasing areas that you think will be important in the next 3-5 years:

1. Green purchasing
2. Changed competences and skills (more strategic focus)
3. Visibility (Internally and externally)
4. Ethical purchasing
5. Increased globalization (boundaries will continue to fade and small companies will use global sourcing to a greater extent)

Appendix 6 - Interview Christer Hallqvist 080923

What is your current position?
Practice Leader, Category Management, IBX Group AB

How many years have you been working with purchasing related issues?
20 years

What is your background/experience of purchasing?

SAAB Automobile (1989-94)
Category manager, Power train

Ericsson (1994-99)
Manager Operational development,
Director Corporate Sourcing Indirect Material & Services,
Conceptual engineer of Ericsson's proprietary eProcurement system (Click-to-buy)

Advisor Management Consulting Sweden AB (A research based managing consultancy company) (1999-2000)
Managing Director and co-founder

IBX Group AB (2000-)
Co-Founder
Start up of e-procurement
Key account manager
Sourcing consult

What do you consider to be your main (expertise) subject?
Strategic sourcing

When we say purchasing trends, what do you think of spontaneously?

"What is the mission for purchasing?" →If purchasing is decided to transform to be more strategic → competent personnel necessary

Most important to attract talents (students), through increased status and credibility to purchasing, in the sense of:

- Academic degree is needed as a purchaser

- More favorable salaries and incentive systems, at least in line with other jobs requiring academic degree

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Changed focus on sourcing strategy; from global → local sourcing, due to environmental issues caused by transports, oil price etc.

- Green purchasing, Corporate Social Responsibilities (CSR) etc. will influence all strategic moves in the future

    - Purchaser must secure that CSR policies are followed by 1st tier suppliers (and also 2nd tier…depending on how far one want to go in the supply chain)

- Attract top talents
    - Increased attractive force → Strategic issue and status/image question that must get higher priority in the agenda of the enterprise to attract talents

- Increased complexity → more focus on core activities → more and more goods and services need to be bought in from external sources → increased focus on purchasing

- Maintained focus on purchasing over the whole business cycle (not just now during "bad" times)

Processes

- Processes' interfaces should be clear. Obvious about what each step should generate in the process – The importance is not the number of steps, rather HOW to execute each step in the best way.

- Higher focus on the main perspective for a process and to why it is applied

- Stakeholders involved in sourcing process should reach consensus and decisions need to be made on facts

- Understanding of information searching – how to do this in a right manner

Organization

- To handle the ever increasing complexity, cross-functional teams are vital in being successful in the way of working with purchasing.
    - People from different geographic locations and competencies are needed to work together since competencies in law, macroeconomics, technology etc are necessary for a successful outcome in purchasing.

- Purchaser should…

    - Have a more holistic think, more understanding and comprehensive view in the commodity sourcing process, like measuring a country's macroeconomic factors, such as:
        - Competitiveness
        - Cost of electricity etc.
        - Taxes
        - Demography and its development
        - Level of education
        - And so on…

    - Have high abstraction capacity
    - Be forward-looking
    - Have leader characteristics

- Organizational structure should be centralized in some way (does not necessarily need to be fully centralized, decentralized or centre-led) to gain benefits in the sourcing process

Performance

- Consensus about what to measure and that it is measured in the same way every time and everywhere - otherwise useless

- Key measure: Spend analysis – capture spend for products/commodities that represent 80 percent of total spend (Spend Under Management is very important)→ System support needed

- At least have 4-5 KPIs that are rigidity measured

Technology

- Competent staff required who can understand and use the advantages of systems and tools.

“Seller wants to decrease competition – buyer wants to increase competition”

- Systems and tools can…
    - …handle much more parameters and facilities in the analysis in a sourcing process to make better decisions
    - … up-hold the competition longer in the sourcing process
    - …input from suppliers is uniformly gathered
    - …easier to analyze and optimize supplier bids

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. Attract top talents
2. Framework for organization – clear and defined roles, responsibilities, team, processes, way of working etc.
3. Green purchasing, CSR…big impact in choice of supplier →local sourcing
4. Information – in the way of searching, gathering, monitoring…
5. Technology – use the benefits to manage the larger amount of data and in the analysis phase

Appendix 7 - Interview Gustav Hasselskog, 080924

What is your current position?
Senior Vice President Consulting

How many years have you been working with purchasing related issues?
9 years

What is your background/experience of purchasing?
Incentive
Management trainee

Gambro (2001-2003)
Involved in the major reconstruction of Procurement at Gambro
Head of Product Development

IBX (2003-)
Head of IBX Sweden
Senior Vice President Consulting

What do you consider to be your main (expertise) subject?
Strategy analysis
Value assessment

When we say purchasing trends, what do you think of spontaneously?

- Competence
    - Academic degree required

- Centralized purchasing
- Utilize the existing technology in purchasing
- Dealing with CSR and environmental issues
- Academic development

    - More focus on research in purchasing, such as…
        - Corporate Social Responsibilities (CSR)
        - Implementation of Procure-to-Pay systems
    - More professors in purchasing etc

- Technology sourcing – purchasing are sourcing innovation companies to support the R&D function in new product development.

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Decrease of off-shoring
- Insourcing
- Increased low cost souring in Asia and Africa
- Shorter time to market – local sourcing
    - But general trend will still be global sourcing

Processes

- Integration of technology and processes
- Moving towards process standardization → need of system, tools and technology → more time to focus on strategic sourcing

Organization

- Increased centralization of purchasing (Centre-led)
    - The technology development need a more centralized organization
    - But regional purchasing offices will still exist

- More training
- Increased focus on recruiting
- Purchasing as value creator
- Increased status for purchasing – Because of Increased purchased value, complexity, profit contribution, and academic degree.

Performance

- Spend analysis
- Measure:
    - "How much of the sourcing work is in line with Best Practices?"
    - "How many products are bought through e-Procurement?"

Technology

- Automatized of spend analysis
- Web-based collaboration (Web 2.0) – sharing of…
    - List of suppliers
    - Supplier evaluations
    - etc

  …between companies that are buying similar goods.
- Supplier databases where everyone contributes with information
- More user-friendly interfaces and technology

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. Competence

2. Globalization – Increased contribution from low cost countries to companies' own competitiveness
3. Environmental issue
4. CSR
5. -

Appendix 8 - Interview Mikael Bengtsson, 080925

What is your current position?
Practice Leader, Implementation management, IBX Group AB

How many years have you been working with purchasing related issues?
11 years

What is your background/experience of purchasing?
Ericsson

Hewlett Packard Consulting
Consultant

Arthur Andersen/BearingPoint
Consultant

IBX (2006-)
Consultant e-Procurement
Project manager

What do you consider to be your main (expertise) subject?
e-Procurement

When we say purchasing trends, what do you think of spontaneously?

- Use of technology and tools, such as
  - e-Procurement
  - e-Sourcing
  - Automated invoicing
- Increased attention and focus on purchasing in companies
  - More focus on indirect purchases
- Employ competent personnel
- Competence training
- Integration of purchasing in Supply chain
  - More focus on research in purchasing, such as…
    - Corporate Social Responsibilities (CSR)
    - Implementation of Procure-to-Pay systems
  - More professors etc
- Increased environmental awareness
  - Important parameter to include in sourcing process
  - Companies want to be prominent as environmental "care-takers"
  - →Local sourcing

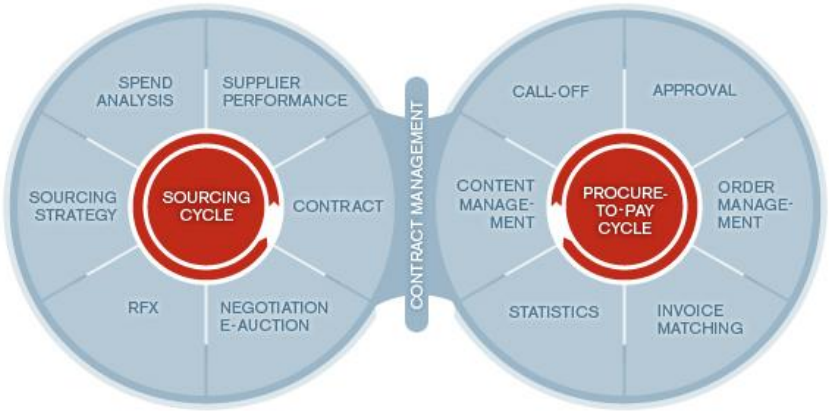
From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Integration in supply chain
- Increased low cost souring in Asia and Africa
- Competence
    - Well-educated
    - Capable of seeing the whole picture in Supply Chain (Holistic view)
    - Project leader + Change manager
    - System/software knowledge
- Focus on attracting talents
    - Higher salaries
    - "Talent war" between companies

Processes

- Integrate invoicing process to purchasing process
- Greater understanding of the purchasing cycle/loop see figure below: sourcing→procurement→statistics→sourcing…



Organization

- Competence
- Balance between centralized and decentralized structure
- System team – one team…
    - responsible for…
        - Deciding what systems the company needs
        - Implementation
        - Maintenance
        - Education
        - Support

    …of systems such as e-Sourcing and e-Procurement at the company.

- Competence training

Performance

- Measure :
    - "true"/realized savings (especially for indirect material and services)

    - Contract compliance – how well are the contracts fulfilled?
    - Purchasers should be measured on how well the purchasing agreements are used within the company
    - How good is the purchaser on distributing the contracts within the company?
    - Environmental parameters
    - Volumes purchased through e-procurement

Technology

- Integration of purchasing systems and…
    - invoice systems
    - logistic systems (solutions)
    - supplier's systems
- Technology will be…
    - easier to use
    - more functional
    - cheaper
    - easier getting access to
- Increased systems competence

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. CSR
2. "War for talent"
3. Monitor purchasing loop… (sourcing→procurement→statistics→sourcing…)
4. Supply chain integration (more integration in the SC)
5. Increased usage of systems/technology and a need for a systems support team

Appendix 9 - Interview Björn Axelsson, 080929

What is your current position?
Professor in purchasing (SILF)
Professor in marketing, Stockholm School of Economics

How many years have you been working with purchasing related issues?
Several years

What is your background/experience of purchasing?
A mix of purchasing and marketing during the entire academic career

What do you consider to be your main (expertise) subject?
Development/improvement of purchasing
Sourcing of services

When we say purchasing trends, what do you think of spontaneously?

- Companies realize the need of adequate infrastructure within purchasing →Large investments in purchasing, such as:
    - IT system
    - Organization
    - Competent personnel

- Globalization
    - Not only outsource manufacturing but also R&D
    - Low cost country sourcing will decrease for large companies
        - But medium size companies will begin low cost country sourcing

- More IT systems are used within the company
    - Purchasing systems are integrated with other enterprise systems → increased control

- Outsourced operational purchasing activities → Knowledge in business and strategy are needed for purchasers

- Academic degree will be required

- Mix of backgrounds in purchasing staff, such as:
    - Marketing
    - Sales
    - Recruitment of industry specialists

- Financial economic knowledgeable purchasers
    - Will increase purchasing's acknowledgement→ increased status, power

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Purchasing strategy aligned with corporate strategy
- Purchasing is value creator – not only cut costs

Processes

- Clear and defined processes
- Automated through IT systems
    - Danger: Processes will be too rigid
- Utilize/better approach to Total Cost of Ownership

Organization

- Purchasing organization structure is adopted individually for each company

Performance

- More measurements
    - Measurements that indicate the direction (e.g. Balance Scorecard) and not only costs
- Apply financial management techniques in purchasing
- Use measurements in structured way

Technology

- Number 1 priority is to implement and use existing technologies in the purchasing organizations

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. Clear and defined structure in collaborations/Partnership/long-term relationships
    - Joint developed goals
2. Business networks – Supply chain integration
    - Work with supply chain more actively
3. Value creator – see business opportunities – generate incomes
4. Purchaser need to master the financial economic "language"
5. Outsourcing to low cost countries will decrease

Appendix 10 - Telephone Interview Robin Titus, 081007

What is your current position?
Product Manager at IBX

How many years have you been working with purchasing related issues?
9 years

What is your background/experience of purchasing?

Portum (1999-2005)
E-sourcing developer

IBX (2005-)
(Portum was merged together with IBX)

What do you consider to be your main (expertise) subject?
E-sourcing

When we say purchasing trends, what do you think of spontaneously?

- High priority of Sustainable – Green purchasing strategy
    - Predictions from a conference that Robin participated in last week in USA revealed on future CSOs in companies: Chief Sustainability Officers
    - Systems for supplier database
        - Will contain and provide "Sustainable" information at hand and help in the decision phase of selecting supplier (Supplier portals)
            - Will say if a supplier is "good" or "bad", if it has:
                - Certification of fair trade
                - Certification of no child labor
                - Be "green"
                - etc
            - "Is it good for the company to sign a contract with this supplier?"
            - Can be shared/updated by external companies → Suppliers are willing to update this database themselves – otherwise bad reputation

- Spend analysis solutions
    - high need of full visibility on your spend (especially now in the economic situation that is prevailing)
        - "Which contracts do we have?"

        - "Which suppliers do we use and how much?"
        - "How long are the contracts?"
        - "Which currencies are used?"
        - etc

From your perspective, what are you anticipating to be the general upcoming trends in 3-5 years (in the categories of the IBX framework)?

Strategy

- Importance of integrated approach/connection of systems...
    - Many stand-alone systems such as:
        - e-sourcing
        - e-procurement
        - contract management
        - etc

    …will lead to request for complete solutions from the companies.

- Sustainable - Green purchasing (as was mentioned above)

Processes

- Documentation/maintaining knowledge of processes – since many people switch jobs → need of documentation of Best Practices → Valuable knowledge for the company and good for new recruiters to learn → Systems in place to support this

Organization

- Reduced staff – due to:
    - Current finance crisis
    - More work on less people →Need of systems

Performance

- Supplier Management/Supplier Performance Management systems in place to measure:
    - KPIs; such as:
        - Sustainability
        - Certifications are followed
        - Price
        - Quality
        - Etc

- Need to complement this “hard facts” with asking others who has knowledge about the suppliers in the company
- Measure over a specific period to see tendencies/indications of direction

Technology

- IT systems for sharing of information
  - Social networks – one part in the information sharing systems
    - especially for internal information sharing
    - can either share or give directions to persons with the desired information within the company

Rank your top 5 purchasing areas that will be important in 3-5 years?

1. Spend analysis – provides good overview and future purchasing strategies are based on this analysis
2. Supplier Management and Supplier Performance Management systems in place
3. Contract management
4. Establish social networks/communities – good tool for internal information sharing
5. -

Appendix 11 – Cover letter

E-mail to respondent

Dear _____,

We are two students, Johan Warenlöv and Christoffer Hårte, from The Faculty of Engineering at Lund University and we are asking ourselves:

What are the future purchasing trends?

This is the topic of our Master thesis that we are currently working on. Interviews with purchasing experts (e.g. Björn Axelsson, Professor at Stockholm School of Economics) about future purchasing areas/activities have been held during two weeks in September 2008 to setup a questionnaire.

You have been contacted because we believe that you have great knowledge about this topic and we are in need of your predictions and assessments about the future development of purchasing.

We would really appreciate if you could contribute to our study and spare 10 min of your time to fill out a structured web questionnaire with pre-stated answers, which is divided into five purchasing categories; Strategy (Internal and External), Processes, Organization, Performance/Measurements and Technology.

You will be given the findings when the thesis is published.

Click on the link below to start

Link to the questionnaire:

Thank you!

For any further questions, please contact us.

Christoffer Hårte cim04ch4@student.lth.se

Johan Warenlöv cim04jw3@student.lth.se

Appendix 12 – Swedish classification: Company size

Class	Turnover class
0	< 1 tkr
1	1 - 499 tkr
2	500 - 999 tkr
3	1 000 - 4 999 tkr
4	5 000 - 9 999 tkr
5	10 000 - 19 999 tkr
6	20 000 - 49 999 tkr
7	50 000 - 99 999 tkr
8	100 000 - 499 999 tkr
9	500 000 - 999 999 tkr
10	1 000 000 - 4 999 999 tkr
11	5 000 000 - 9 999 999 tkr
12	> 9 999 999 tkr

Source: Statistics Sweden

NB! The classification is expressed in Swedish crowns (SEK). To approximately transform the currency into Euro - divide by 10.

Appendix 13 - Mean values

Area	2008	2013
Global Sourcing	2,06	2,53
Regional Sourcing	2,28	2,59
Local Sourcing	2,31	2,27
China	1,52	1,88
India	1,17	1,85
Eastern Europe	1,59	2,08
Corporate social responsibility (CSR) in purchasing	2,31	2,65
Green Strategy	2,15	2,68
Supplier relationship management (SRM)	2,3	2,67
Develop 2nd tier partnerships	1,7	2,11
Purchasing involvement in top management	2,29	2,62
Early involvement of purchasing in product development	1,85	2,46
Involvement of innovative suppliers into product development	1,8	2,48
Purchasing involved in make-or-buy	1,85	2,37
Insourcing of business activities	1,17	1,4
Outsourcing of core activities	0,48	0,79
Outsourcing of purchasing activities	0,44	1,06
Structured enterprise purchasing processes	2,18	2,58
Flexible purchasing processes	2,15	2,63
Integration of related functions' processes	2,08	2,7
Cross-functional teams in sourcing process	2,45	2,82
Macroeconomic parameters in sourcing analysis	1,75	2,4
Negotiated cost reduction savings	2,63	2,46
Implemented cost reduction savings	2,56	2,75
Spend under management	2,29	2,5
Cost avoidance	2,25	2,54
Savings/Operating costs	2,45	2,65
Suppliers accounting for 80 percent of spend	2,16	2,36
Supplier performance (price, delivery, quality, service, etc.)	2,46	2,78
Requisition, PO, or invoice transaction volume	1,91	2,25
Internal customer satisfaction	2,31	2,63
Spend with preferred suppliers	2,17	2,51
Spend velocity	1,78	2,11
Green/sustainability measurements	1,78	2,48
CSR measurements	2,04	2,54
Spend from single source	1,72	1,93
TCO	2,19	2,66
Purchasing process compliance	2,23	2,63

Area	2008	2013
Measurements for 2nd tier supplier	1,5	2,01
Education/academic degree	2,27	2,43
Project management skills	2,5	2,77
Strategy skills	2,41	2,72
Communication skills	2,68	2,85
Business development skills	2,25	2,55
Analysis skills	2,57	2,75
Change management skills	2,33	2,65
Negotiation skills	2,69	2,69
Cooperation skills	2,55	2,8
Leadership skills	2,19	2,42
Flexibility	2,54	2,72
IT system skills	1,94	2,17
Technical background	1,8	1,9
Attracting top talent to purchasing	2,44	2,76
Nurturing talent in purchasing	2,43	2,7
Retaining talent in purchasing	2,5	2,68

Appendix 14 – Mean difference: Student's t-test

Explanation:
t = t-value
df = degrees of freedom
Sig. (2-tailed) = statistical significance between values of 2013 and 2008
Mean difference = the average difference between 2013 and 2008 (in that order)
Lower and Upper = 95 % confidence interval for mean value

	t	df	Sig. (2-tailed)	Mean Difference	Lower 95% Confidence Interval of the Difference	Upper 95% Confidence Interval of the Difference
Global Sourcing	8,4	140	0	0,47518	0,3633	0,587
Regional Sourcing	5,017	141	0	0,29577	0,1792	0,4123
Local Sourcing	-0,83	142	0,408	-0,04895	-0,1656	0,0677
China	5,405	143	0	0,36806	0,2334	0,5027
India	11,282	142	0	0,69231	0,571	0,8136
Eastern Europe	7,592	142	0	0,47552	0,3517	0,5993
Corporate social responsibility (CSR) in purchasing	6,297	140	0	0,32624	0,2238	0,4287
Green Strategy	9,408	141	0	0,52113	0,4116	0,6306
Supplier relationship management (SRM)	6,405	142	0	0,34965	0,2417	0,4576
Develop 2nd tier partnerships	6,572	138	0	0,38849	0,2716	0,5054
Purchasing involvement in top management	5,965	143	0	0,32639	0,2182	0,4346
Early involvement of purchasing in product development	9,377	139	0	0,59286	0,4678	0,7179
Involvement of innovative suppliers into product development	11,434	139	0	0,67857	0,5612	0,7959
Purchasing involved in make-or-buy	9,079	137	0	0,52174	0,4081	0,6354
Insourcing of business activities	3,719	125	0	0,23016	0,1077	0,3526
Outsourcing of core activities	5,982	134	0	0,31111	0,2082	0,414
Outsourcing of purchasing activities	10,782	139	0	0,61429	0,5016	0,7269
Structured enterprise purchasing processes	6,771	141	0	0,39437	0,2792	0,5095
Flexible purchasing processes	7,147	138	0	0,47482	0,3435	0,6062
Integration of related functions' processes	10,355	139	0	0,59286	0,4797	0,7061
Cross-functional teams in sourcing process	6,628	142	0	0,34965	0,2454	0,4539
Macroeconomic parameters in sourcing analysis	10,171	138	0	0,64029	0,5158	0,7648
Negotiated cost reduction savings	-3,385	140	0,001	-0,17021	-0,2696	-0,0708
Implemented cost reduction savings	4,185	140	0	0,19858	0,1048	0,2924
Spend under management	4,249	132	0	0,2406	0,1286	0,3526
Cost avoidance	4,898	140	0	0,2695	0,1607	0,3783
Savings/Operating costs	3,369	138	0,001	0,18705	0,0773	0,2968

	t	df	Sig. (2-tailed)	Mean Difference	Lower 95% Confidence Interval of the Difference	Upper 95% Confidence Interval of the Difference
Suppliers accounting for 80 percent of spend	2,747	136	0,007	0,17518	0,0491	0,3013
Supplier performance (price, delivery, quality, service, etc.)	5,254	142	0	0,31469	0,1963	0,4331
Requisition, PO, or invoice transaction volume	5,337	137	0	0,34058	0,2144	0,4668
Internal customer satisfaction	5,646	141	0	0,33803	0,2197	0,4564
Spend with preferred suppliers	5,903	140	0	0,34043	0,2264	0,4544
Spend velocity	4,829	118	0	0,30252	0,1785	0,4266
Green/sustainability measurements	10,286	141	0	0,69718	0,5632	0,8312
CSR measurements	8,292	138	0	0,5036	0,3835	0,6237
Spend from single source	3,115	134	0,002	0,20741	0,0757	0,3391
TCO	6,63	142	0	0,45455	0,319	0,5901
Purchasing process compliance	6,503	142	0	0,3986	0,2774	0,5198
Measurements for 2nd tier supplier	7,894	133	0	0,5	0,3747	0,6253
Education/academic degree	4,518	144	0	0,16552	0,0931	0,2379
Project management skills	5,581	144	0	0,26207	0,1693	0,3549
Strategy skills	6,41	143	0	0,3125	0,2161	0,4089
Communication skills	4,133	143	0	0,18056	0,0942	0,2669
Business development skills	5,439	142	0	0,3007	0,1914	0,41
Analysis skills	4,031	143	0	0,18056	0,092	0,2691
Change management skills	5,588	143	0	0,31944	0,2064	0,4325
Negotiation skills	0	143	1	0	-0,0675	0,0675
Cooperation skills	5,745	143	0	0,25	0,164	0,336
Leadership skills	4,987	143	0	0,22222	0,1341	0,3103
Flexibility	3,937	143	0	0,18056	0,0899	0,2712
IT system skills	4,561	143	0	0,22222	0,1259	0,3185
Technical background	2,25	143	0,026	0,11111	0,0135	0,2087
Attracting top talent to purchasing	6,542	141	0	0,32394	0,226	0,4218
Nurturing talent in purchasing	5,773	137	0	0,26087	0,1715	0,3502
Retaining talent in purchasing	4,12	140	0	0,1773	0,0922	0,2624

Appendix 15 – Leaders vs Laggards

Group Statistics

Explanations:
N = amount of respondents
Mean = mean difference (trend) between 2013 and 2008 for Leaders and Non Leaders on each area

Area	Maturity	Mean value 2008	Mean difference	Mean value 2013
Global Sourcing	Leader/Mature	2,31	0,3971	2,71
	Non Leader/mature	1,81	0,5479	2,36
Regional Sourcing	Leader/Mature	2,43	0,2059	2,63
	Non Leader/mature	2,15	0,3784	2,53
Local Sourcing	Leader/Mature	2,2	-0,058	2,14
	Non Leader/mature	2,41	-0,0405	2,37
China	Leader/Mature	1,74	0,3043	2,05
	Non Leader/mature	1,32	0,4267	1,75
India	Leader/Mature	1,4	0,6765	2,08
	Non Leader/mature	0,96	0,7067	1,67
Eastern Europe	Leader/Mature	1,71	0,5217	2,24
	Non Leader/mature	1,47	0,4324	1,91
CSR	Leader/Mature	2,39	0,2319	2,62
	Non Leader/mature	2,23	0,4167	2,65
Green Strategy	Leader/Mature	2,26	0,4286	2,69
	Non Leader/mature	2,04	0,6111	2,65
SRM strategies	Leader/Mature	2,49	0,2429	2,74
	Non Leader/mature	2,12	0,4521	2,57
2nd tier partnerships	Leader/Mature	1,9	0,3235	2,22
	Non Leader/mature	1,53	0,4507	1,98
Purchasing in top management	Leader/Mature	2,49	0,2319	2,72
	Non Leader/mature	2,11	0,4133	2,52
Purchasing involved early in product development	Leader/Mature	2,1	0,4783	2,58
	Non Leader/mature	1,61	0,7042	2,31
Purchasing involve suppliers in NPD	Leader/Mature	2,01	0,5857	2,6
	Non Leader/mature	1,59	0,7714	2,36
Purchasing involved in make-or-buy	Leader/Mature	2,11	0,3846	2,49
	Non Leader/mature	1,62	0,6438	2,27

Area	Maturity	Mean value 2008	Mean difference	Mean value 2013
Insourcing business activities	Leader/Mature	1,2	0,254	1,45
	Non Leader/mature	1,14	0,2063	1,35
Outsourcing of core activities	Leader/Mature	0,44	0,3333	0,77
	Non Leader/mature	0,52	0,2899	0,81
Outsourcing of purchasing activities	Leader/Mature	0,36	0,5441	0,9
	Non Leader/mature	0,51	0,6806	1,19
Structured enterprise purchasing processes	Leader/Mature	2,4	0,1714	2,57
	Non Leader/mature	1,97	0,6111	2,58
Flexible purchasing processes	Leader/Mature	2,28	0,3478	2,62
	Non Leader/mature	2,03	0,6	2,63
Integration of related functions' processes	Leader/Mature	2,33	0,4571	2,79
	Non Leader/mature	1,85	0,7286	2,58
Cross-functional teams in sourcing process	Leader/Mature	2,69	0,1831	2,87
	Non Leader/mature	2,22	0,5139	2,73
Macroeconomic parameters in sourcing analysis	Leader/Mature	2	0,5571	2,56
	Non Leader/mature	1,5	0,7246	2,22
Negotiated cost reduction savings	Leader/Mature	2,63	-0,1286	2,51
	Non Leader/mature	2,63	-0,2113	2,41
Implemented cost reduction savings	Leader/Mature	2,56	0,1714	2,73
	Non Leader/mature	2,56	0,2254	2,78
Spend under management	Leader/Mature	2,25	0,1538	2,4
	Non Leader/mature	2,33	0,3235	2,66
Cost avoidance	Leader/Mature	2,34	0,2029	2,55
	Non Leader/mature	2,17	0,3333	2,5
Savings/Operating costs	Leader/Mature	2,49	0,1449	2,64
	Non Leader/mature	2,41	0,2286	2,64
Suppliers accounting for 80 percent of spend	Leader/Mature	2,3	0,0441	2,34
	Non Leader/mature	2,03	0,3043	2,33
Supplier performance (price, delivery, quality, service, etc.)	Leader/Mature	2,62	0,169	2,79
	Non Leader/mature	2,31	0,4583	2,76

Area	Maturity	Mean value 2008	Mean difference	Mean value 2013
Requisition, PO, or invoice transaction volume	Leader/Mature	2,17	0,1159	2,28
	Non Leader/mature	1,64	0,5652	2,2
Internal customer satisfaction	Leader/Mature	2,38	0,2817	2,66
	Non Leader/mature	2,24	0,3944	2,63
Spend with preferred suppliers	Leader/Mature	2,28	0,1739	2,45
	Non Leader/mature	2,07	0,5	2,57
Spend velocity	Leader/Mature	1,92	0,0893	2,01
	Non Leader/mature	1,66	0,4921	2,15
Green/sustainability measurements	Leader/Mature	1,85	0,5775	2,42
	Non Leader/mature	1,71	0,8169	2,53
CSR measurements	Leader/Mature	2,1	0,4429	2,54
	Non Leader/mature	1,97	0,5652	2,54
Spend from single source	Leader/Mature	1,78	0,0615	1,85
	Non Leader/mature	1,65	0,3429	2
TCO	Leader/Mature	2,32	0,2817	2,61
	Non Leader/mature	2,07	0,625	2,69
Purchasing process compliance	Leader/Mature	2,38	0,2535	2,63
	Non Leader/mature	2,08	0,5417	2,63
Measurements for 2nd tier supplier	Leader/Mature	1,71	0,3692	2,08
	Non Leader/mature	1,3	0,6232	1,93
Education/academic degree	Leader/Mature	2,37	0,1972	2,56
	Non Leader/mature	2,18	0,1351	2,31
Project management skills	Leader/Mature	2,51	0,2817	2,79
	Non Leader/mature	2,5	0,2432	2,74
Strategy skills	Leader/Mature	2,49	0,2535	2,75
	Non Leader/mature	2,34	0,3699	2,71
Communication skills	Leader/Mature	2,76	0,0986	2,86
	Non Leader/mature	2,59	0,2603	2,85
Business development skills	Leader/Mature	2,34	0,2857	2,63
	Non Leader/mature	2,16	0,3151	2,48
Analysis skills	Leader/Mature	2,68	0,1127	2,79
	Non Leader/mature	2,47	0,2466	2,72
Change management skills	Leader/Mature	2,34	0,2676	2,61
	Non Leader/mature	2,33	0,3699	2,7
Negotiation skills	Leader/Mature	2,83	-0,0563	2,77
	Non Leader/mature	2,56	0,0548	2,62

Area	Maturity	Mean value 2008	Mean difference	Mean value 2013
Cooperation skills	Leader/Mature	2,56	0,2535	2,82
	Non Leader/mature	2,54	0,2466	2,79
Leadership skills	Leader/Mature	2,3	0,1972	2,49
	Non Leader/mature	2,09	0,2466	2,34
Flexibility	Leader/Mature	2,62	0,1127	2,73
	Non Leader/mature	2,47	0,2466	2,72
IT system skills	Leader/Mature	1,94	0,2676	2,21
	Non Leader/mature	1,95	0,1781	2,12
Technical background	Leader/Mature	1,89	0,0845	1,97
	Non Leader/mature	1,72	0,137	1,85
Attracting top talent to purchasing	Leader/Mature	2,49	0,3239	2,82
	Non Leader/mature	2,38	0,3239	2,71
Nurturing talent in purchasing	Leader/Mature	2,45	0,2174	2,67
	Non Leader/mature	2,41	0,3043	2,72
Retaining talent in purchasing	Leader/Mature	2,61	0,1127	2,72
	Non Leader/mature	2,4	0,2429	2,65

Appendix 16 – Nordic vs Non-Nordic

Group Statistics

Explanations:
N = amount of respondents
Mean = mean difference (trend) between 2013 and 2008 for Nordic and Non Nordic on each area

Area	Group	Mean value 2008	Mean difference	Mean value 2013
Global Sourcing	Outside Nordic countries	2,12	0,4478	2,56
	Nordic countries	2	0,5	2,5
Regional Sourcing	Outside Nordic countries	2,35	0,2941	2,64
	Nordic countries	2,22	0,2973	2,52
Local Sourcing	Outside Nordic countries	2,26	-0,0735	2,19
	Nordic countries	2,36	-0,0267	2,33
China	Outside Nordic countries	1,52	0,4265	1,95
	Nordic countries	1,53	0,3158	1,84
India	Outside Nordic countries	1,22	0,7206	1,94
	Nordic countries	1,13	0,6667	1,8
Eastern Europe	Outside Nordic countries	1,61	0,4545	2,07
	Nordic countries	1,57	0,4935	2,06
CSR	Outside Nordic countries	2,21	0,2615	2,47
	Nordic countries	2,39	0,3816	2,77
Green Strategy	Outside Nordic countries	2,12	0,4242	2,54
	Nordic countries	2,17	0,6053	2,77
SRM strategies	Outside Nordic countries	2,42	0,2794	2,7
	Nordic countries	2,19	0,4133	2,61
2nd tier partnerships	Outside Nordic countries	1,88	0,2969	2,18
	Nordic countries	1,55	0,4667	2,02
Purchasing in top management	Outside Nordic countries	2,32	0,25	2,57
	Nordic countries	2,26	0,3947	2,65
Purchasing involved early in product development	Outside Nordic countries	1,94	0,5294	2,47
	Nordic countries	1,77	0,6528	2,42
Purchasing involve suppliers in NPD	Outside Nordic countries	1,81	0,6716	2,48
	Nordic countries	1,79	0,6849	2,48
Purchasing involved in make-or-buy	Outside Nordic countries	2,02	0,4091	2,42
	Nordic countries	1,7	0,625	2,32

Area	Group	Mean value 2008	Mean difference	Mean value 2013
Insourcing business activities	Outside Nordic countries	1,36	0,1077	1,47
	Nordic countries	0,97	0,3607	1,33
Outsourcing of core activities	Outside Nordic countries	0,51	0,2462	0,75
	Nordic countries	0,46	0,3714	0,83
Outsourcing of purchasing activities	Outside Nordic countries	0,54	0,5303	1,07
	Nordic countries	0,34	0,6892	1,03
Structured enterprise purchasing processes	Outside Nordic countries	2,18	0,3485	2,52
	Nordic countries	2,18	0,4342	2,62
Flexible purchasing processes	Outside Nordic countries	2,23	0,4063	2,63
	Nordic countries	2,08	0,5333	2,61
Integration of related functions' processes	Outside Nordic countries	2,21	0,5077	2,72
	Nordic countries	1,97	0,6667	2,64
Cross-functional teams in sourcing process	Outside Nordic countries	2,49	0,3284	2,81
	Nordic countries	2,42	0,3684	2,79
Macroeconomic parameters in sourcing analysis	Outside Nordic countries	1,83	0,6308	2,46
	Nordic countries	1,68	0,6486	2,32
Negotiated cost reduction savings	Outside Nordic countries	2,66	-0,1515	2,51
	Nordic countries	2,6	-0,1867	2,41
Implemented cost reduction savings	Outside Nordic countries	2,57	0,1642	2,74
	Nordic countries	2,54	0,2297	2,77
Spend under management	Outside Nordic countries	2,32	0,2969	2,62
	Nordic countries	2,26	0,1884	2,45
Cost avoidance	Outside Nordic countries	2,28	0,2388	2,52
	Nordic countries	2,23	0,2973	2,53
Savings/Operating costs	Outside Nordic countries	2,42	0,1818	2,6
	Nordic countries	2,49	0,1918	2,68
Suppliers accounting for 80 percent of spend	Outside Nordic countries	2,12	0,1875	2,31
	Nordic countries	2,2	0,1644	2,37
Supplier performance (price, delivery, quality, service, etc.)	Outside Nordic countries	2,5	0,3088	2,81

Area	Group	Mean value 2008	Mean difference	Mean value 2013
	Nordic countries	2,43	0,32	2,75
Requisition, PO, or invoice transaction volume	Outside Nordic countries	1,83	0,3333	2,17
	Nordic countries	1,97	0,3472	2,32
Internal customer satisfaction	Outside Nordic countries	2,19	0,3881	2,58
	Nordic countries	2,41	0,2933	2,71
Spend with preferred suppliers	Outside Nordic countries	2,15	0,2537	2,4
	Nordic countries	2,19	0,4189	2,61
Spend velocity	Outside Nordic countries	1,77	0,25	2,02
	Nordic countries	1,79	0,3559	2,15
Green/sustainability measurements	Outside Nordic countries	1,67	0,6418	2,31
	Nordic countries	1,87	0,7467	2,62
CSR measurements	Outside Nordic countries	1,86	0,5156	2,37
	Nordic countries	2,19	0,4933	2,68
Spend from single source	Outside Nordic countries	1,7	0,1846	1,88
	Nordic countries	1,73	0,2286	1,96
TCO	Outside Nordic countries	2,26	0,4412	2,71
	Nordic countries	2,13	0,4667	2,6
Purchasing process compliance	Outside Nordic countries	2,44	0,2647	2,71
	Nordic countries	2,04	0,52	2,56
Measurements for 2nd tier supplier	Outside Nordic countries	1,51	0,625	2,13
	Nordic countries	1,5	0,3857	1,89
Education/academic degree	Outside Nordic countries	2,3	0,1739	2,48
	Nordic countries	2,24	0,1579	2,39
Project management skills	Outside Nordic countries	2,55	0,2609	2,81
	Nordic countries	2,46	0,2632	2,72
Strategy skills	Outside Nordic countries	2,49	0,2941	2,79
	Nordic countries	2,34	0,3289	2,67
Communication skills	Outside Nordic countries	2,64	0,2206	2,86
	Nordic countries	2,71	0,1447	2,86
Business development skills	Outside Nordic countries	2,26	0,2794	2,54
	Nordic countries	2,24	0,32	2,56
Analysis skills	Outside Nordic countries	2,64	0,1912	2,83
	Nordic countries	2,51	0,1711	2,68

Area	Group	Mean value 2008	Mean difference	Mean value 2013
Change management skills	Outside Nordic countries	2,29	0,3824	2,68
	Nordic countries	2,37	0,2632	2,63
Negotiation skills	Outside Nordic countries	2,81	-0,0441	2,76
	Nordic countries	2,59	0,0395	2,63
Cooperation skills	Outside Nordic countries	2,54	0,2059	2,74
	Nordic countries	2,57	0,2895	2,86
Leadership skills	Outside Nordic countries	2,35	0,2059	2,55
	Nordic countries	2,05	0,2368	2,29
Flexibility	Outside Nordic countries	2,68	0,0882	2,77
	Nordic countries	2,42	0,2632	2,68
IT system skills	Outside Nordic countries	2,01	0,1471	2,16
	Nordic countries	1,88	0,2895	2,17
Technical background	Outside Nordic countries	2,1	0,1765	2,28
	Nordic countries	1,53	0,0526	1,58
Attracting top talent to purchasing	Outside Nordic countries	2,43	0,2836	2,71
	Nordic countries	2,45	0,36	2,81
Nurturing talent in purchasing	Outside Nordic countries	2,35	0,2308	2,58
	Nordic countries	2,5	0,2877	2,79
Retaining talent in purchasing	Outside Nordic countries	2,43	0,197	2,63
	Nordic countries	2,57	0,16	2,73

Appendix 17 – Factor analysis

The calculated correlations between technologies are presented below.

		Spend analysis	E-sourcing/E-auctions	Contract management	E-procurement	Supplier performance management	E-invoicing (EIPP)	Supplier portal(s)	Web 2.0 (Networks, blogs etc)	Risk analysis/management
Correlation	Spend analysis	1,000	,214	,441	,313	,379	,243	,158	,119	,270
	E-sourcing/E-auctions	,214	1,000	,219	,664	,173	,110	,126	,198	,120
	Contract management	,441	,219	1,000	,247	,440	,389	,291	,290	,315
	E-procurement	,313	,664	,247	1,000	,127	,310	,194	,168	,030
	Supplier performance management	,379	,173	,440	,127	1,000	,233	,199	,186	,356
	E-invoicing (EIPP)	,243	,110	,389	,310	,233	1,000	,583	,428	,241
	Supplier portal(s)	,158	,126	,291	,194	,199	,583	1,000	,473	,345
	Web 2.0 (Networks, blogs etc)	,119	,198	,290	,168	,186	,428	,473	1,000	,315
	Risk analysis/management	,270	,120	,315	,030	,356	,241	,345	,315	1,000

Total Variance Explained

	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,229	35,880	35,880	2,123	23,585	23,585
2	1,443	16,037	51,916	2,039	22,657	46,242
3	1,217	13,526	65,442	1,728	19,200	65,442

Extraction Method: Principal Component Analysis.

The correlations between the technologies in each factor is found in the table below.

Rotated Component Matrix(a)

	Component		
	1	2	3
Supplier portal(s)	,839		
E-invoicing (EIPP)	,762		
Web 2.0 (Networks, blogs etc)	,758		
Supplier performance management		,788	
Spend analysis		,726	
Contract management		,690	
Risk analysis/management		,566	
E-procurement			,901
E-sourcing/E-auctions			,866

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.