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The Impact of Sourcing Practices on Software Pricing

Master of Science Thesis in the Master Degree Programme Supply Chain Management

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Abstract

How companies craft and maintain profitable pricing is an issue that has gained recognition by scholars during the recent decade. This pricing research has during the later years further been adapted to assist software suppliers in determining how to appropriately price software products. Findings from this research assume that pricing is mainly to be decided by the supplier. There are however emerging broader perspectives on pricing in a relational context. In that respect pricing can be used as a factor to influence and alter the relationship between a supplier and a buying company.

This study views software pricing from the perspective of a buying company. The purpose is to explore the pricing process for software products sourced by a global company. The study has a specific focus on describing and analyzing how different sourcing practices affect the variation in software prices.

The study was conducted as a retrospective multiple-case study of software sourcing cases at the focal company. It was found that by skillful negotiation and by applying appropriate sourcing practices a buying company can have significant impact on pricing of a software product. For example, leveraging on the differences in incentives within the supplier's organization and exploiting the suppliers licensing forms are ways for a buying company to influence the pricing process. The study further concludes that sourcing practices can influence variation in all parameters in a software price model.

KEYWORDS: business negotiations, sourcing practices, software pricing, software sourcing

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First, at Chalmers University of Technology we would like to thank our supervisor Benedikte Borgström. She constantly helped us to stay on track as well as guided and encouraged us to move forward, even during her holidays.

Conducting this master thesis gave us a unique opportunity to learn about the IT and software industry, which we believe is one of the most vibrant businesses of our time. We would therefore like to thank Fredrik Olsson at our host company "Intco" for giving us this fantastic opportunity and for his great work as a company supervisor for this study. Doing a study like this would not have been possible without his thorough commitment and support.

As we carried out this study we received valuable help and insights from co-workers at Intco's office. We have also concluded that we met or phoned at least one Intco employee from just about every continent in the world. The interest and support for this study all of them displayed has been amazing to experience. As was their willingness to set off time to share with us their views and experiences. These contributions are the essence of this study and for that we owe them great many thanks!

Finally we would like to thank our families, near and dear for their everyday support and encouragement.

Gothenburg, December 2011

Henrik Kjellgren Petter Liif

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1 Introduction

The introduction consists of a brief overview of the focal company for the stud, the problem and related theory. The purpose of the study is then presented together with what the study strives to contribute.

1.1 Problem background: Intco AB and SWD

The focal company in this study is referred to by the pseudonym "Intco" (International Company) and is one of the world's biggest suppliers of telecommunications (telecom) equipment. The company does business throughout the world, mainly with telecom operators.

Software sales are of great importance for Intco's business as the telecom industry is merging and competes as well as cooperates with the traditional IT industry. Although it has not been Intco's original focus, its growing software business has placed Intco among one of the biggest software companies in the world.

1.1.1 SWD and Intco's software offerings

One of Intco's business units is denoted "SWD" (Software Division) in this study. SWD mainly provides software solutions for multimedia content to telecom operators and media companies. The software solutions Intco can offer such companies cover a quite wide area. A big product area provides business support systems that help telecom operators to monitor and analyze their networks. Another important product area is software that enables television to be broadcasted over Internet Protocol. Finally, SWD sells various mobile applications for telecom operators, –for example applications for mobile positioning systems, advertisement solutions and payment services.

Intco and SWD can take different roles as it sells these software solutions to end-customers. In situations where software products are provided by a third party, two roles for Intco are especially important for this study (see Figure 1):

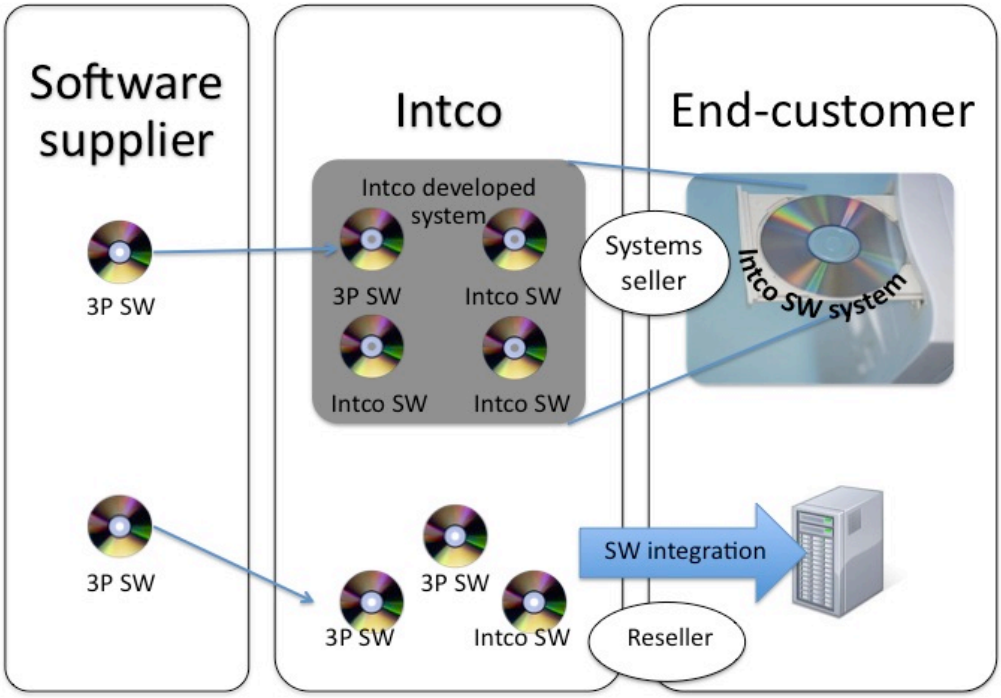

Figure 1: Two of Intco's roles while selling software.

Systems seller: Intco sources software to be embedded with other software from both Intco and other suppliers. Intco's end-customer then receives an Intco in-house developed system, which is built up of multiple software components.

Reseller (as systems integrator): Intco sources a software product and resells it to the customer as a stand-alone software product. Intco normally resells the software under its original brand in a systems integration project consisting of software from both Intco and other third-party software products. Intco is yet the main interface to the end-customer.

This clear discrimination between systems seller and reseller gives a generalized view and in reality the boundaries often become blurred. In systems integration projects for example, Intco sometimes resells third-party software together with own in-house developed software systems.

1.1.2 SWD's supplier base

SWD's supplier base, regarding both hardware and software, is mapped according to direct spending in Figure 2. In total SWD has more than 100 suppliers. A few suppliers represent an extraordinary amount of the spending (from here we denote them as SWD's "large suppliers") while there is a vast amount of suppliers to whom SWD has very low direct spending. There is also a large amount of suppliers of open source software and Intco has no direct spending at all for those suppliers. SWD has a different approach regarding sourcing from the large suppliers than for the rest of the suppliers. SWD is obliged to achieve a year-on-year "double digit cost reduction" for their sourcing activities. Thus, there is a heavy

focus to reduce spending on the large suppliers. The focus on the vast amount of other suppliers is to manage SWD's interaction with them in an efficient way and mitigate risks.

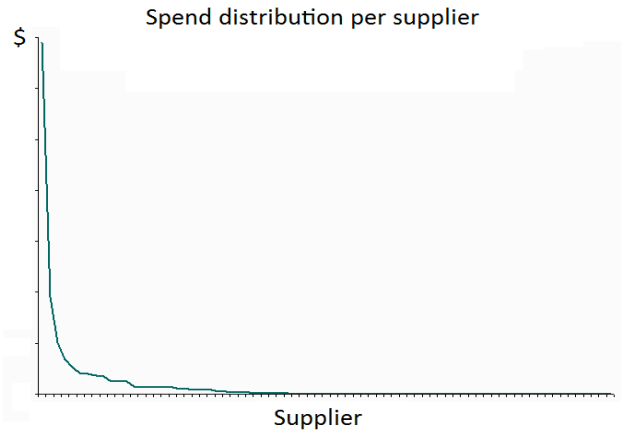

Figure 2: Spend distribution per supplier.

For this study Intco provided us with a chart from an earlier unpublished empirical software study of a vast amount of software deals. The chart concluded that there appears to be no correlation between the size of a software deal and the price discount. A second conclusion that could be drawn from the chart is that there is a huge variation in discount rates for software products.

Intco sourcing managers have experienced that they tend to pay vastly different prices for similar or even identical software products. This creates a somewhat confusing sourcing situation since the reference points for software prices become vague. There is also variation in the agreements for support and service for the software as well as regarding how business risks are distributed between Intco and the software supplier. While negotiating and interacting with software suppliers, different sourcing managers apply different sourcing practices. But there has been no compilation or assessment of the different practices. This has therefore raised an interest within Inco regarding how different sourcing situations and sourcing practices can affect the outcomes in software sourcing. An enhanced understanding about what circumstances motivates which price for a software product makes it easier to assess different sourcing scenarios and applying the right sourcing practices.

1.2 Theoretical background

Suppliers in industrial networks often become important providers of technological development and innovation for the buying company (Gadde et al., 2010). Supplier-customer relations also often progress into value-creation processes of different potential (Möller and Törrönen, 2003). Consequently, managing purchased items and the supplier base has become a task of increasingly strategic importance. In this respect Gadde and Håkansson (2009) criticize what is perceived as the "traditional norms" constituting effective business-to-business purchasing. In brief, these norms assume that there is an established market with several non-unique suppliers and that price is the only relevant cost to consider. The norms also stipulates that suppliers should be kept interchangeable and at an arms-length from the buying company. Gadde and Håkansson (2009) suggest in contrast to these

norms that the external cost, where price is the dominant part, is not the only important parameter in sourcing. In addition to the external costs, different suppliers might give rise to significantly different internal costs for supplier handling. More importantly, different suppliers also commonly vary in terms of what revenues they are capable of creating for the buying company.

In some businesses, price is only a small portion of what acquiring, using and scrapping the product or service actually costs. In others, price stands for almost the entire cost (Gadde et al., 2010). Total costs for purchased goods and services make up a large part of the total expenditure for most companies; on average 50 %, but it's not uncommon with up to 70-80 % (Gadde et al., 2010).

Pricing research normally sides with the supplier's goals and strategy and is seldom viewed from the buying company's perspective. Hinterhuber (2004) explains how suppliers by active management of pricing can elevate their profits. Different tools are presented to determine a profitable price range followed by suggestions on how to implement price changes. Lancioni (2005) stresses the need for a supplier to view pricing and price setting as a strategic process. According to Lancioni (2005), pricing has been an overlooked area in industrial marketing by both researchers and companies. Garda (1993) elaborates from a business strategy perspective on how a better pricing understanding increases chances of not missing out on opportunities to gain higher revenue from certain sales. The supplier can also use such understanding to avoid eroding market profitability while, for example, lowering prices to gain market shares (Garda, 1993).

As a supplier strives to influence its relationship with the buying company, price appears to be a factor that somewhat falls behind. Instead more efforts are put into managing product features, distribution and promotion to suit the customer (Lancioni, 2005). A more successful way to manage the relationship, according to Lancioni (2005), would be for the supplier to consider both the customer's product/service requirements *and* the customer's willingness to pay for it.

Returning to the buying company's perspective, Gadde et al. (2002) view pricing as a part of a relational context between a supplier and a buying company. More specifically, the study concludes that a buying company does not have to accept price levels as given. –Even without a competitive bidding situation there are often ways for a buying company to receive lower prices.

1.3 Some software specific implications on pricing and sourcing

The costs of providing software mainly consist of the cost of developing it and the cost of maintaining it. While sourcing software, many of the reasons that rationalize volume discounts for physical products, as mentioned by for example Monahan (1984), are not valid. For a software supplier there are for example no production savings in larger orders, since the cost of producing (i.e. copying) another unit of software is close to zero anyway. Bontis and Chung (2000) state that for software, the variable cost of sale is lower than for hard goods and the costs for physical handling are negligible.

Software pricing is a challenge, not least for the software supplier. Wiederhold (2006) elaborates on how valuation of a software product should be done according to its inherent intellectual property and emphasize the costs and revenues the supplier can generate from software maintenance. Bontis and Chung (2000) highlight that different users realize different value from software in different ways and that software pricing must be able to adapt to that. Lehmann and Buxmann (2009) list different parameters of software pricing that a software supplier should take into account while crafting a pricing model. Cusumano (2007) notes a general shift in how software pricing is approached. –Before, there was a heavy focus up-front license fees. Now, revenues are instead increasingly being generated from maintenance fees and services.

To our knowledge there is no study that addresses the large variation in software pricing from the perspective of a buying company. It may therefore be of interest to investigate how a buying company, by the means of different sourcing practices, can influence the price of a software product.

1.4 Purpose

The purpose of this study is to explore the pricing process for software products bought by Intco's Software Division. The study has a specific focus on describing and analyzing how different sourcing practices affect the variation in software prices.

1.5 Contributions

The literature regarding pricing in industrial network settings is mainly found within the field of marketing. It is a consequence based on the assumption that it is the selling company that decides the price models and aligns pricing with its marketing strategy. There is however also research that views pricing as a variable for exchange between companies (see for example Gadde et al., 2002). That means that the buying company has potential to impact the pricing process. This side of pricing is less explored, but we hope that our study can bring increased insight in this matter. Further, there are also recent studies describing pricing in the software industry that has rendered theories we will use to structure the empirical findings within the field.

Companies such as Intco can benefit significantly from increased knowledge about pricing in software sourcing. As described in 1.1.2, software discount rates vary to a high degree. Exploiting the potential for high discounts for certain frequently sourced software products will therefore have a directly positive contribution to the cost-reduction goal set up for SWD's sourcing function.

There is both competence and experience within Intco's organization regarding software sourcing. The company however lacks an overview of the sourcing practices that are applied throughout Intco's global organization. Therefore, this study will explore different software sourcing practices that have been applied within Intco to influence the pricing process. The practices will then be compared with pricing- and sourcing literature. We strive to reveal and explain various practices and hope that the study will spread knowledge of these practices throughout Intco's organization.

2 Frame of reference

The frame of reference is introduced with a description of the specific characteristics of software. The roles of the buying company are then presented, followed by the supplier base and how suppliers can be handled. There are implications on sourcing that are specific for software, something that needs to be further explored before the sourcing practices are introduced. How the buyer can affect the software pricing process is then explained. Finally, the variety in software pricing is addressed.

2.1 Software characteristics

Software can be described and defined in terms of intellectual capital and as being intangible. Bontis and Chung (2000, p. 246) for example state, "Software is the intellectual capital output of the codified knowledge of a programming team". Kittlaus and Clough (2009, p. 5) describe software as "an intangible economic good, with no physical form, its utility or value not even perceptible in another form". Wiederhold (2006), however points out that software is different from other intangible goods, such as music and books, regarding that it usually is modified and improved over time.

Kittlaus and Clough (2009) further explain the importance of a context for software to be used and perceived: Software needs some sort of hardware, for example a mobile phone, to function and be useful. Software is perceived through a user interface or as a result of a transaction, for example as a confirmation of a successful transfer of money via an online-bank account.

2.2 Structuring in telecom supply chains

Companies in the IT- and telecom equipment industry commonly alternate their roles between being *systems sellers* and *systems integrators* (Davies et al., 2007). In both roles the company strives to become a provider of customized solutions rather than single products.

Whether acting as a systems seller or as a systems integrator has implications on the supply-side of the company. To clarify the contrasts Davies et al. (2007) describes the systems seller at one end of a spectrum. Such a company relies on single suppliers and has extensive control of all components and abundant proprietary technology in the systems it sells. A systems seller can produce and integrate multiple components of hardware, software and services into a total system (Davies et al., 2007). According to Davis et al. (2007) the systems seller employs a higher degree of vertical integration upstream towards its included products.

At the other end of the spectrum is the systems integrator who is less focused on in-house products and instead relies on access to multiple suppliers. The supply structure is highly reconfigurable and the company has a better understanding of competing suppliers' different technologies. A systems integrator is able to combine components from multiple suppliers into a system. That ability sometimes trumps the systems seller's competitive advantage of delivering a mainly in-house developed system (Davies et al., 2007). Customer needs are sometimes so complex that a systems seller's own organization is not versatile and capable enough to cover them. Instead the customer's problem implies a need of

products, services, support and technologies from several suppliers (Davies et al., 2007). This need is highly present in the telecom industry, as is confirmed by Bengtsson and Johansson (2011). The authors conclude that telecom networks have an increasing need to include "best-of-breed products" and services from multiple suppliers.

According to Bengtsson and Johansson (2011) a company (comparable to a systems seller or systems integrator) might sometimes encounter that their IT -supplier also acts as a competitor by trying to conduct sales directly to the end-customer. Bengtsson and Johansson (2011) describe how the company then faces the choice of either starting to treat the partner solely as a competitor or trying to cooperate and compete with it simultaneously (a so called co-opetitive relationship). Acting in a competitive way means that they try to exclude the competitor to be a part of a system offering. This could be an applicable strategy if the company has a dominant market position. If the customer prefers a solution more similar to what a systems –integrator offers, the co-opetitive approach is more applicable (Bengtsson and Johansson, 2011).

2.3 The supplier base

A framework that has become predominant in supplier base –mapping is a matrix developed by Kraljic (1983). This framework (Kraljic –matrix) categorizes supplied items or commodity groups according to economic importance and the supply risk. Economic importance refers to factors such as total spending on the purchased item or the profit impact it has on the buying company. Examples of supply risk factors are the number of suppliers and the ability to use substituting items. Four different commodity groups can then be identified: Non-critical items, bottleneck items, leverage items and strategic products (see Figure 3).

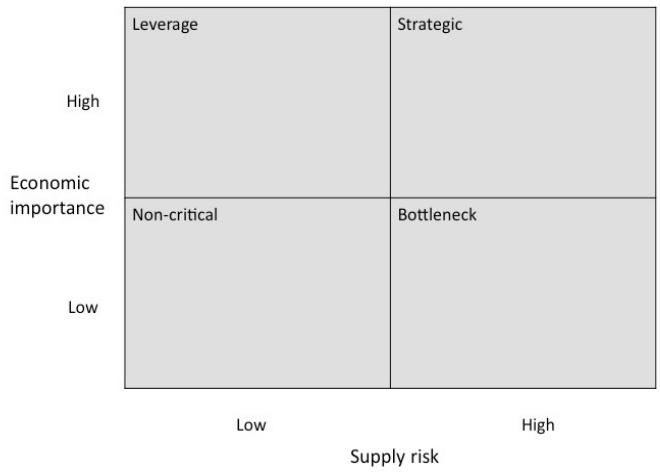

Figure 3: The Kraljic Matrix (Kraljic, 1983).

In contrast to the Kraljic –matrix, Gadde et al. (2010) suggest less focus on commodity groups in supplier base mapping. The Kraljic –matrix tend to often discard dimensions of the supplier base that might be more important than supply risk and economic importance. Therefore Gadde et al. (2010) promote a description based on the supplier base's variety, complexity and heterogeneity.

Variety concerns finding the critical differences in the supplier base regarding products, services and supplying companies. The variety classification then recognizes that suppliers impact buying companies in different ways, for example as providers of technology and in terms of the value the end-customer perceives. The variety may change over time and different end-customers may assess the variety in the industrial network differently.

There is also a *complexity* dimension, meaning that there are normally many options regarding how to organize the supplier base. Predominantly, there is complexity in choosing the amount of suppliers to rely on and the number of items sourced from each supplier. This complexity must be addressed in a meaningful way. Gadde et al. (2010) mention that companies often relate to the spending distribution in the supplier base as a given distribution. Consequently, efforts are focused into reducing spending on the major suppliers. Less attention is directed to the actual composition of the supplier base, which might be just as important.

Finally, the resources in the supplier base are *heterogeneous*, i.e. they have no predetermined value. Value instead depends on how resources are combined and used together with other resources throughout the industrial network. The key question is then what heterogeneity in the supplier base should be exploited how the buying company should relate to critical resources among the suppliers.

2.4 Software specific implications on sourcing

Much of the criticism presented by Gadde and Håkansson (2009) has implications on software purchasing. There are very few signs of the traditional purchasing norms (as described in the background in 1.2) in contemporary studies of software sourcing and in descriptions about the IT- and telecom industry. There are three points we would like to make with regards to that:

1. The traditional assumption about interchangeable suppliers and arms-length relationships (as described by Gadde and Håkansson, 2009) appears to be an inapplicable approach regarding relationships with software component suppliers. The main reason for that is the entanglement that arises between a company and its software supplier. Ulukuniemi and Pekkarinen (2005) have empirically shown that the cost of switching to another software supplier is high, even if the software component is a standardized product and the purchase itself requires limited interaction with the supplier. Unlike for many other purchased items, the relationship with a software supplier cannot be terminated after the product transaction. The supplier is still needed for support of the software component and when new versions of the software are released. Ulukuniemi and Pekkarinen (2005) further state that sourcing of software components requires extensive managerial efforts that the costs associated with that may be rather significant. Kittlaus and Clough (2009) claim that the main reason for high switching costs is that software never is used in an isolated way. Instead the software is integrated in the company's complete software landscape and switching it requires considerable efforts and comes with significant risks.

2. This study mainly assumes a chain consisting of a supplier who developed the original software, the focal buying company and its end-customer who will use the software

product. In this context Ulukuniemi and Pekkarinen (2005) bring forth another after-sales issue affecting and requiring a long-term relationship: -Who should support the buying company's customer regarding the software component? According to Ulukuniemi and Pekkarinen (2005) it is common that the buying company lacks sufficient knowledge about the software to offer a complete support. The supplier on the other hand, is sometimes unwilling to accept the full responsibility of any unwanted effects the software component may impose on the end-customer.

3. The software market is not characterized being an established market. Kittlaus and Clough (2009) describe how so-called software eco-systems tend to bring several companies together to exploit common technologies. There is also a high degree of trust in market leaders in the software industry. One reason for that is the *network effect*, where the utility for an end-user of a product increases with the amount of other actors using the same product. Gallaugher and Wang (2002) have empirically shown the presence of network effects in the software market. Another reason brought up by Kittlaus and Clough (2009) is the perceived low risk of a software market leader going out of business.

2.5 Sourcing practices

A specific focus in this study is how the buying company can use different sourcing practices in order to affect the variation in software prices. There are countless ways to affect pricing and the other party in a business negotiation, as shown by Karrass (1993), Fischer et al. (2011) and Schuh et al. (2009). For instance, the Purchasing chessboard by Schuh et al. (2009) suggests four strategies, 16 levers and 64 methods in which to handle the supplier. Further, the work of Karrass (1993) covers 200 practices, including those that mean to improve the relationship with the counterpart as how to concessions are to be made. However, no general discussion can capture all kinds of practices that are used while negotiating commercial agreements and what practices that will be appropriate in a specific negotiation will vary with the situation (Bond, 2004).

The handling of the suppliers and how the relationships with them are to be exploited sets what sourcing practices that are appropriate to use to a large extent. This means that the available sourcing practices are delimited once the actual negotiation is started. Therefore, both sourcing together with supplier relationships and negotiations will be handled in this chapter.

2.5.1 Sourcing and supplier relationships

Kraljic (1983) suggests a mapping of company strength versus supplier strength, which then yields a sourcing strategy of *diversifying*, *balancing* or *exploiting* the supplier base. These strategies aim towards providing the buying company with some sort of leverage or make the buying company able to counter strong suppliers. Hingley (2005) concludes that it is common to have asymmetric distribution and exploitation of power in business-to-business relationships. Power imbalances do not however always have to be negative and destructive for the relationship. According to Hingley (2005), close and long lasting buyer-supplier relationships can be formed despite one party having less power than the other as long as both gain from the relationship.

The Purchasing Chessboard

A criticism that it is not enough to pit suppliers against each other on price has been drawn on by the consultancy company A.T. Kearney (Schuh et al., 2009). Driven by the notion that sourcing in general is becoming a more strategic task and takes place on a "seller's market", Schuh et al. (2009) have developed a "Purchasing Chessboard" (see Figure 4). This model identifies an appropriate purchasing strategy by mapping the sourcing need according to supply power versus demand power. Schuh et al. (2009) base their model on supply and demand power because they believe those concepts are easy for managers and sourcing practitioners to comprehend and relate to. Because of this, before we will further describe the purchasing chessboard, some aspects of power and the leverage that it creates needs to be pointed out.

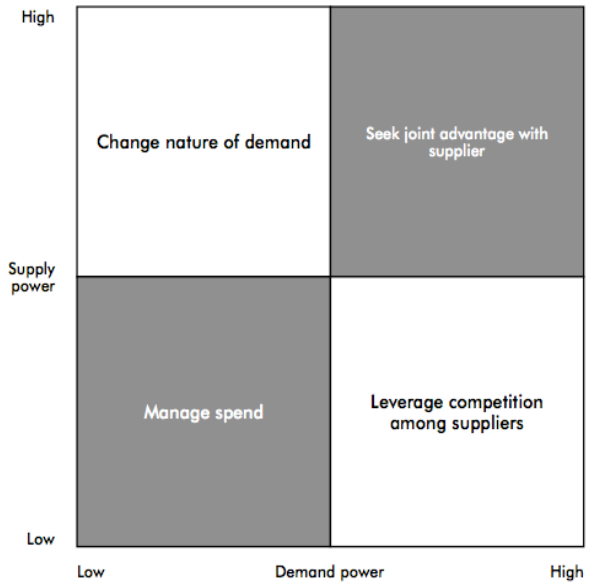

Figure 4: Purchasing Chessboard, the four basic strategies (Schuh et. al., 2009).

Volkema (2006) states that leverage is commonly used to describe any sort of advantage. As an example, leverage can be defined as *"the more it costs party B not to have an agreement with party A, the more leverage party A has"* (Volkema, 2006, pp.3). Kennedy (2004) states that leverage can be practically anything that a party has discretion over. Volkema (2006) highlights that there are some critical characteristics of leverage to understand, for example that leverage is based on beliefs and that it is dynamic.

Leverage is based on beliefs in the sense that it is the perceived leverage, real or imagined, that is of essence. For instance, if none of the parties think that there is an advantage, there is no leverage. On the other hand, if for example the supplier believes that the buying company has leverage, the buying company has an advantage. Consequently, both parties can think that they do have leverage at the same time, and also both can perceive that they do not. The dynamics of leverage means that it changes as the conditions for a situation changes. As an example, if there at first does not seem to be any competitors to a supplier, it has leverage towards the buying company. However, if the buying company discovers that there actually are other options it can use, i.e. that there is competition, leverage changes.

So the challenge for the buying company is therefore to handle the leverage in an appropriate way. There are two ways to do this: to increase the own leverage (for example by making ones offer more attractive/valuable) or decrease the counterpart's leverage (for example by pointing out competitors) (Volkema, 2006).

However, what should be noted is that it is not easy to counter leverage (Volkema, 2006). This is logical, since an advantage hardly can be seen as a real advantage if it is easy for the counterpart to avoid. Consequently, in order for company A to counter company B's leverage, company A may have to accept that it may be difficult and expensive to do so. However, company A still benefits from doing so compared to doing nothing at all. For instance, a buying company wanting to switch a supplier that has considerable leverage towards the buying company could have to be prepared to pay substantial switching costs in order to do so. Fischer et al. (2011) relates to this kind of situation by emphasizing two things: 1) the buyer must protect itself from giving in more than it should and 2) it must make the most of the resources it possess. Having a bottom line, by for example setting a maximum price that one can pay, helps the buyer to resist pressure from the supplier. However, Fischer et al. (2011) add that while a bottom line gives protection from a very unbeneficial agreement, it can also hinder the invention of a new solution. Therefore, they claim that it is better to have a "best alternative" to a negotiated agreement. It may for instance be better to accept a very high price rather than no deal at all if there is no realistic alternative. A party with low power must also use the resources it has in order to produce a better deal (Fisher and Ury, 2011, Karrass, 1993). For instance, the more knowledge the buyer has about how the supplier works, its incentives, products etc, the better position it can obtain, although the supplier has a lot more power.

Unlike Kraljic (1983), the sourcing strategies in the Purchasing Chessboard are not only based on leveraging or handling strength in relation to the supplier. *Leverage competition among suppliers* is only suggested as a strategy if the buying company is clearly stronger than the supplier. If the buying company and the supplier both has much power in the relationship, the buying company should, according to this model *seek joint advantage with the supplier.* When the supplier is stronger than the buying company a strategy to *change nature of demand* is suggested. This means that the buying company should, through innovative re-thinking of its supply needs, free itself from dependency of monopolistic suppliers. The forth strategy in the Purchasing Chessboard is to *manage spend* in cases where power of both supply and demand is low. This strategy proclaims that the buying company bundles or consolidates demand of supplied items to reduce sourcing costs (see Figure 4).

In order to further illustrate in what ways and with what practices the buying company can affect the supplier, the sixteen levers in the Purchasing Chessboard will now be presented. For further illustrations of the strategies, levers and methods of the chessboard, see Appendix A.

Manage spend

Demand management – by managing and/or reducing demand from certain suppliers, savings can be obtained.

Co-sourcing – in order for a company to increase its demand power towards the supplier, it can either consolidate its demand across different product categories bought from the supplier, or make purchases together with other companies, increasing the sizes of the deals.

Volume bundling – by bundling volumes, the buying company can benefit from the economies of scale of the supplier.

Commercial data mining – there is important information to be found in a buying company's already existing commercial data. Potential for cost savings and other useful information might be revealed by properly analyzing this data.

Change nature of demand

Risk management – this constitutes the different defensive measures that can be used in order for the buying company to ensure that its customers will be supplied. For instance, a way to reduce risk is to have a solid and proactive strategy towards bottleneck products, or use vertical integration to secure product supply.

Innovation breakthrough – there are several reasons to why a buying company may find itself completely dependent on a supplier; a monopoly, a patent or perhaps specifications that only fit with the specific supplier. The solution to this is to radically change the setting and type of demands through innovation.

Technical data mining – since sourcing is becoming more complex due to shorter life cycles and increased differentiation, it is harder to obtain advantages through a supplier's economies of scale. It is therefore important to structure this complexity, for example by using different kinds of analysis and benchmarking. In this manner, improvements can be made, for example by cooperation between R&D and production.

Re-specification – since a large part of the costs for a product is determined in the early stages of its development, it may sometimes only be possible to make savings by going back to the initial specification. In this way, the buying company can shape the product based on what characteristics and features that are really needed and exclude those that are not, thereby avoiding unnecessary costs.

Leverage competition among suppliers

Globalization – the ability to reach almost anywhere in the world has given companies the possibility to both buy from low cost countries, but has also given them access to a worldwide market. This increases the possibility to leverage suppliers against each other.

Tendering – to obtain transparency in prices in the supplier market, tendering is commonly used.

Target pricing – although few suppliers are likely to reveal their cost structure to a buying company, there are different methods that can assess the cost. An example is to use statistical methods to determine the target prices based on technical parameters.

Supplier pricing review – the prices of current suppliers are often not systematically calculated, therefore there is a need for more uniform standards for pricing, which is given by a supplier pricing review. For instance, this can be done by unbundling the suppliers offer, breaking down the price of a product into the prices of its components.

Seek joint advantage with supplier

Integrated operations planning – by trust and information exchange, the buying and supplying companies can cooperate and thereby reduce inventories and make better sales forecasts in order to both cut costs and add value.

Value chain management – considers systematical optimization of the value chain and the value-generating units linked to this. An example is revenue sharing.

Cost partnership – by cooperating intensely with a small number of suppliers, costs can be significantly reduced, for example by jointly developing ideas for cutting costs.

Value partnership – the ability to share risks and optimize the growth of value is the key here, i.e. creating a win-win situation.

Purchasing Chessboard and negotiations

On a general level, the presented levers can be seen as something that to a high extent makes up the setting for the business negotiations that takes place between the buying and supplying companies, affecting in what direction they will develop.

2.5.2 Negotiations

Perude and Summers (1991) claim that negotiations are fundamental phenomena in interfirm exchange behavior in industrial markets. Agndal (2007, pp. 2), states that there are many definitions of what a negotiation is, but that it is common to consider it as "*a decision process where two or more parties try to influence each other through different means of communication with the purpose of achieving their own as well as common interests*".

Influencing and affecting the other party in order for it to change does however not have to result in a less beneficial outcome for the affected party. Achieving both own and common interests can at times be problematic, but also presents an opportunity in order to achieve a deal that in total is more beneficial than the initial one (Fischer et al., 2011).

The negotiation subject spans many different areas (as is shown by Agndal (2007) and Dabholkar (1994)). For instance, Agndal's (2007) model of business negotiations has four main elements: negotiation parties, negotiation context, negotiation process and negotiation outcomes. The negotiation parties include organizational as well as individual variables, such as the experience and motives of the individual negotiator and the relationships between the parties. The negotiation context concerns the setting of the negotiation and the issues that are negotiated. The negotiation process includes the offers, practices and communication that are used. Finally, the negotiation outcomes focus on the actual economic results as well as the perceived outcome.

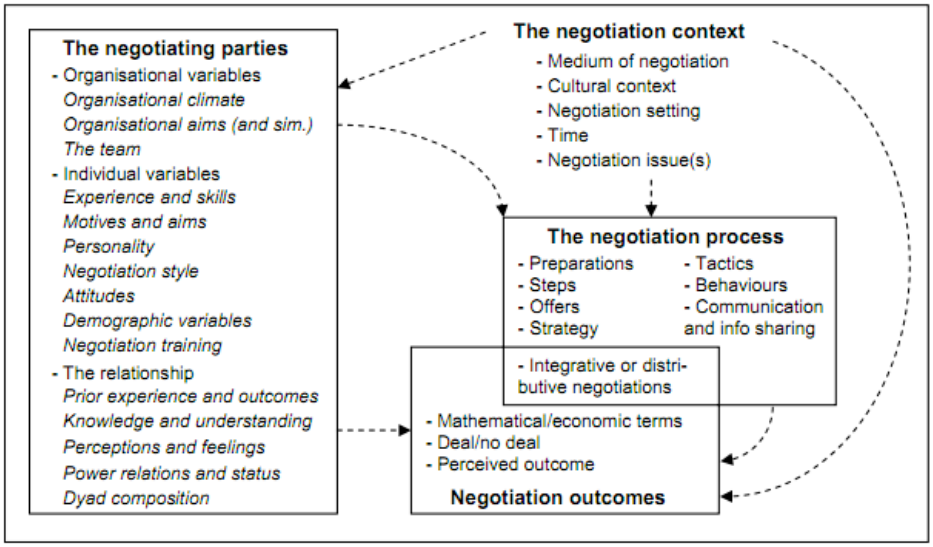

Figure 5: Elements of negotiation (Agndal, 2007).

Sycara and Dai (2010) claim that the elements in Agndal's (2007) model are most often viewed in a static way. They argue that in order to obtain a negotiation process that moves towards an outcome desired by both parties, the elements must be *managed* more dynamically over time. Consequently, by managing and changing the elements of the negotiation, the outcome can in turn be affected.

Problem solving and aggressive/positional bargaining

Perude and Summers (1991) state that there are two basic strategies for a buyer in negotiations: problem solving and aggressive bargaining. The purpose of problem solving is to find ways in which to amplify the benefits of the buyer-supplier relationship, i.e. to *expand* the negotiation pie. Aggressive bargaining concerns how the benefits from the deal shall be *shared* between the parties. Perude and Summers (1991) define it as the extent to which for example the buyer tries to use different tactics in order to create concessions from the supplier, while the buyer does not concede at all. Contrasting from other literature, such as Fischer et al. (2011), Perude and Summers (1991) argue that problem solving and aggressive bargaining are not polar opposites, but instead two different strategies that the can be used more or less in the negotiation.

Similar to Perude and Summers (1991) definition of aggressive bargaining, Fischer et al. (2011, pp. 4) introduce "positional bargaining". This is often a chosen strategy in situations where each party holds on to a position, arguing for it regardless of what *interests* that the parties really have. An example is the simple haggling between a buyer and seller over a price, both starting at a low/high price and then making offers that may result in a price somewhere in between. In these situations, there is a high risk of breakdowns and that the outcome becomes unbeneficial for both parties, both in terms of the actual deal and also the relationship between the parties.

At a first glance, many negotiations appear to be fixed-sum games, where positional bargaining is the main strategy that the negotiating parties use. Fischer et al. (2011) stresses the importance for the negotiating parties to broaden their options, thereby inventing

solutions that are advantageous to both parties. From the Harvard negotiation project[1], Fischer et al. (2011) develop an alternative to the positional bargaining by changing the game. There are four basic points in doing so:

1. Separating people from the problem - by separating the people from the problem, the risk of an infected relationship decreases. By centering the actual problem, the negotiation does not become personal for the involved parties. It is thereby easier for both parties to make concessions, minimizing the risk of positional bargaining and an outcome that benefits neither of them. Since positional bargaining likely puts the relationship and the core questions in conflict, separating people from the problem becomes a way to ensure that the problem can be solved while maintaining a good relationship. A similarity can be seen with the element of the negotiating parties in Agndal's (2007) model, specifically the individual variables and the variables associated with relationship between the parties. For instance, by separating people from the problem, the need to take on a positional bargaining approach decreases. Because of this, both the negotiation style and attitude towards the other party can change. This will likely also affect the relationship; better understanding the counterpart and having a more positive perception of it.

2. Focusing on interests instead of positions - focusing on interests instead of positions is closely related to separating people from the problem. The importance lies in that it is the parties' *interests* that really matter and it is the interest that causes the parties to decide which positions to take on. As an example, a buyer may be willing to pay a high price for a specific feature of a product. If the feature is not there, the buyer's willingness to pay is much lower, even lower than the price offered by the supplier. In this situation, there is a high risk that the two companies will lock themselves into positions, assuming that they don't communicate their incentives towards each other. The deadlock can thereby be avoided by focusing on why the parties want certain things. Relating to the model by Agndal (2007), it appears as if it is especially the element called negotiation process that can be affected by focusing on interests. By communicating and focusing on what is really essential, better offers that suit both parties can be made.

3. Inventing alternatives to create mutual benefit – by inventing options for mutual gain, the negotiation pie is made larger, creating a win-win situation. A creative option can make the difference between reaching an agreement or just a deadlock. However, the change or option does not have to imply any difference in total cost/price, but it may be the *change itself* that is important (Karrass, 1993). Hence, there is a higher probability that both parties can achieve a more beneficial deal if given the option to make choices based on what is important for them.

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[1] The mission of the project is to "improve the theory and practice of conflict resolution and negotiation by working on real world conflict intervention, theory building, education and training, and writing and disseminating new ideas".
(http://www.pon.harvard.edu/category/research_projects/harvard-negotiation-project/)

Fischer et al. (2011) state that it is how each party views the situation that both makes up the problem and parts of the solution in negotiations. Regardless of practice used, *using the perspective of the other party* is one of the most critical things for a negotiating party. This is also highlighted by Karrass (1993).

However, there are situations where there can seem to be little reason to create mutual benefit. If there are good possibilities to leverage suppliers against each other, there may for the buying company appear to be little need to find mutually beneficial solutions. Instead, the buying company can try to use aggressive bargaining in order to get its will through (Perude and Summers, 1991). Further, the profitability in finding a mutually beneficial deal may at times be low in this kind of scenario, increasing the motives for the buying company to exploit its advantageous negotiation position.

Agndal (2007) calls this whole reasoning for integrative and distributive negotiation, where the integrative negotiation concerns how to create a win-win situation and the distributive negotiation how to divide the negotiation pie. This can be seen as having an effect on the negotiation outcome (Agndal, 2007). By expanding the deal, increasing the number of negotiable aspects, the potential for an integrative outcome grows. However, while improving the odds for achieving a more beneficial deal in economical terms, Agndal (2007) states that the more options possible, the parties have greater expectations on what kind of deal that is possible to get. They may therefore be more dissatisfied as all these options are not realized to their benefit.

4. Insisting on using objective criteria – there will be situations where the negotiating parties have interests that conflict, regardless of how much they try to create a mutually beneficial deal. In such cases, using some kind of objective criteria to help determining what is reasonable is a good aid in finding a solution. For instance, if the conflict concerns price, the price from another, similar deal could be used as a reference point. By using an objective criterion, Fischer et al. (2011) claim that the discussion becomes much easier to handle for the parties; it does not become personal as in a situation where each party is just trying to force the other one to concede. Objective criteria, such as the on that a similar deal constitutes, makes up part of the negotiation context, but it can also be considered as a plain tactic in order to strengthen ones position.

2.6 Pricing process

In a long-term relationship with frequent interactions between a supplier and a buying company the influence of pricing is not isolated to single transactions (Gadde et al., 2002). Suppliers as well as buying companies can use pricing to influence each other. Garda (1993) gives examples of how suppliers can use pricing to find more profitable positions in the market. But, as Gadde et al. (2002) points out, pricing is not necessarily something entirely set by the supplier. Pricing might instead become an interactive process in the relationship between a supplier and a buying company.

Kittlaus and Clough (2009) promote the pricing pyramid by Nagle and Hogan (2006) (see Figure 6) to illustrate how a software supplier should work with pricing in a structured and strategic way. Although the model is supposed to make prices remain relatively robust in

price negotiations, it recognizes the impact of the buying company and the sales setting. In this way the model can serve as an interesting way to illustrate a buying company's potential impact on a supplier's pricing schemes and price level.

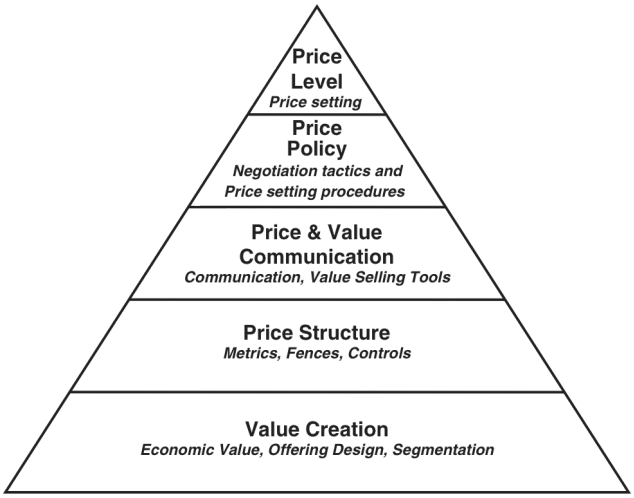

Figure 6: The pricing pyramid (Nagle and Hogan, 2006).

2.6.1 Value creation

Nagle and Hogan (2006) build their model from a value-based pricing perspective. They however point out that a customer seldom has to pay all that a product is actually worth to it. The value that is important for a supplier to consider is the offering's value relative to the alternatives that are available to the customer. In this respect, it becomes important for the supplier to estimate the value of the factors that differentiates its offering from the competitors' offerings. This valuation of an offering further varies with regard to which customer that is taken into consideration. Thus, the value-creation level in the pricing pyramid is meant to assist the supplier in doing a reasonable segmentation of customers and create profitable offerings for those segments.

Lehmann and Buxmann (2009) more explicitly consider three main approaches that a software supplier can have in formation of price; cost-based, competition-oriented or value-based. Hinterhuber (2008) states that competition between suppliers puts pressure on prices under the presumption that the offered product/service is difficult to differentiate. Therefore, from the buying company's perspective, a situation where there are several competing suppliers with similar product offerings to choose between seems preferable, giving the buying company the ability to play the competing suppliers against each other in order to obtain a better deal (Perude and Summers, 1991). Kittlaus and Clough (2009) point out that the buying company's ability to leverage competition among suppliers easily becomes restricted for software products. Once a supplier has been selected and its software product is installed, other components in the buying company's software landscape become interdependent of, creating switching costs.

According to several authors (see for example Wiederhold (2006) and Bontis and Chung (2000)), cost-plus pricing is inapplicable in software pricing. Similarly, Harmon et al. (2005), state that it is the value that customers reap from software that should be reflected in the

pricing rather than the cost it took to produce it. For instance, some brilliant software products may be of great value to a customer whereas the cost incurred to write its code was relatively small. Correspondingly, huge software development costs may be rendered waste if no customer wants to buy the final product (Wiederhold, 2006).

2.6.2 Price structure

As Bontis and Chung (2000) also conclude regarding software products, Nagle and Hogan (2006) state the supplier's price structure must be aligned with the buying company's value realization. I.e. the factors that trigger a payment from the buying company must be connected to the activity where the software creates value (Bontis and Chung, 2000). For the supplier it is also, according to Nagle and Hogan (2006), important to have a price structure that ensures that payments cover the costs of serving the customer. The price structure should not allow customers to generate higher costs without a subsequent increase in payments.

Kittlaus and Clough (2009) remind software suppliers that impropriate metrics in the price structure might make potential software customers reject buying the software product. Once a metric is chosen it is also difficult for a software supplier to enforce changes in metrics for a software product without loosing sales (Kittlaus and Clough, 2009).

Lehmann and Buxmann (2009) highlights the assessment base as a component in software pricing, defining it as consisting of the factors which trigger payments for the software product. Lehmann and Buxmann (2009) make a distinction between usage-dependent and usage-independent assessment bases. A usage-dependent assessment base yields payments according to the extent of usage of the software. It could for example be a metric that triggers payments based on the number of transactions the software performs. A usage-independent assessment base could for example be based on the amount of CPU:s (Central Processing Unit) that utilize the software.

2.6.3 Price and value communication

The supplier should try to avoid intense price discussions and reduce price sensitivity of the offering by price and value communication (Nagle and Hogan, 2006). For instance, this implies making the customer aware of the features of the product and how these features can satisfy an unmet need of the customers. Adding features and functions to a product and selling it in one package at a fixed price is called price bundling and has a high relevance in software sales (Lehmann and Buxmann, 2009). For instance, it is often natural to bundle a software license with the other two buckets of revenue (as denoted by Cusumano, 2007), - maintenance and service (Lehmann and Buxmann, 2009). Cusumano (2007) state that companies bundle new applications and features with older versions of their software products in order to persuade the customers to either upgrade the version or keep on paying the maintenance fees. Harmon et al. (2005) claim that the customers may have varying preferences concerning the individual products, but that the overall demand will be raised if the buying company considers the value for the bundled package to be larger than for the individual components. Further, the bundled offer is often offered to the same price as the initial software product, no additional price is thereby charged for the new features. Hence, buying companies do not see a cost associated with these features (Cusumano,

2007). Bakos and Brynjolfsson (1999) state that the more goods there are in the bundle, the easier it is to predict the customer's willingness to pay. Further, Harmon et al. (2005) highlight that while a bundled offer is initially cheaper than buying the components individually, it increases the switching costs. Therefore, from the buying company's perspective, awareness is necessary about the part bundling plays in the pricing process.

From the perspective of the buying company, the intriguing question is how a buying company can utilize a value-based discussion with the supplier. The most receptive actor to a value-based discussion is according to Kittlaus and Clough (2009), the end-user of the software product. However, while this study does not focus on the end-customer, the value for the systems seller/integrator is likely to be closely connected to the value for the end-customer.

2.6.4 Price policy

Both Kittlaus and Clough (2009) and Nagle and Hogan (2006) explain that a company's ability to affect a supplier's price structure and price level is to a large part depending on the structures that protects the supplier's price integrity. A supplier following best practice should have a formal way of determining how to alter its pricing and designate people who can make such decisions (Kittlaus and Clough, 2009). Identifying and influencing those people may then be of great importance in order for the sourcing company to affect pricing.

Nagle and Hogan (2006) mention how companies have sometimes been able to take advantage of suppliers' lack of discipline in weighting the bottom line in pricing against deal closure. A way to exploit this, which is also mentioned by Kittlaus and Clough (2009) and Cusumano (2007), is to approach the supplier at the last week of the fiscal quarter. Excessive discounts can then be obtained from a supplier whose primary goal is to optimize quarterly sales figures.

Another way to disrupt the decision making structure within a supplier's pricing policy is to involve the supplier's high-level managers. Those managers are often likely to second-guess their subordinated negotiators and have a need to demonstrate decision-making ability that eventually will grant larger discounts (Kittlaus and Clough, 2009). From another point of view, Karrass (1993) consider it an advantage to switch the negotiator, for both the buying company and the supplier, to someone higher up in the hierarchy. As an example, a sourcing manager that takes over negotiations from his subordinates has the possibility to draw back previous concessions, introduce new arguments, delaying agreements and so on. This can discompose and confuse the seller and thereby improve the chances of getting a better deal.

2.6.5 Price level

With regard to price level at the top of the pyramid, Nagle and Hogan (2006) state that for the supplier, the ultimate goal in price setting is to maximize profitability. There are however different aspects regarding which price that will do so. The supplier's finance department for example, tends to prefer a price with a good contribution margin. The marketing department on the other hand is likely to prefer a price that will gain and sustain market shares for the supplier (Nagle and Hogan, 2006).

Kittlaus and Clough (2009) claim that the most important guideline for the price level is what the supplier's sales force is able to convince potential customers that the software product is worth. Since willingness to pay varies between a supplier's customers, a supplier could go back to the base of the pyramid and create additional offerings of the software product with different functionalities. Kittlaus and Clough (2009) however elaborates on how there is a trade-off between creating several offerings of the same software product and eventually accepting that the price level will not fit all customer segments. From a buying company's perspective this opens up for negotiating the value it perceives in the software in relation to pricing.

2.7 Variety in software prices

This study is based on the perception that there is great variety in software license discounts, as is highlighted both in the purpose of the study and in 1.2.

Software price does not only consist of the license fee, but also service and maintenance, denoted "buckets of revenue" by Cusumano (2007). Consequently, the distribution between the sizes of each of the buckets has an effect on the variety in software prices.

The pricing process described in 2.6 implies that there, in each step of the pricing pyramid, are factors rendering potential for various pricing outcomes. Concerning the value creation, Nagle and Hogan (2006) point out that software pricing should be value-based and that this perspective can be seen as a mean to segment suppliers with different willingness to pay. Hence, there is a variety in software price depending on the buying company's willingness to pay. With the same reasoning, while software prices may differ between different companies, prices could also differ for the same companies in different situations, assuming that the individual buying company's willingness to pay changes. However, Lehmann and Buxmann (2009) consider that software pricing could also be based on competition. This could then disrupt any value-based pricing approach, resulting in a totally different price. This would be the case if the supplier had a monopoly. The design of the offer may also differ between different customer segments. Different customers may desire different abilities from the software or have other varying demands, something that may create several offerings of the same product. This may then contribute to the variety in software prices.

The price structure sets what different factors that trigger payments from the buying company. The chosen factors and metrics should, according to Nagle and Hogan (2006), be aligned with what the buying company reaps value from. Consequently, if the supplying company chooses to use a usage dependent assessment base, these should vary depending on how the buying company uses the software product.

By communicating the value of the offering, the suppler tries to enhance the buying company's willingness to pay. Nagle and Hogan (2007) state that the buying company must acknowledge the value it can reap from the software product. A buying company that does not see the value (or claim that they don't) in a product will thereby be less willing to pay for it. How the value of the product is communicated, both from the suppliers and buying company's perspective, will therefore impact the variety in software prices. As an example,

bundling other software applications with the initial offer can enhance the attractiveness of the offer.

In order to affect the supplier's price level and price structure, the buying company can utilize the suppliers pricing policy. It is the sourcing manager's skills in making the supplier deviate from its price policy that can determine the outcome. For instance, Nagle and Hogan (2006) mention the possibility to utilize the increased incentive to sell at the end of the fiscal quarter that some salesmen have. Hence, the ability to use such weaknesses in the supplier's price policy may thereby result in very different prices depending on how successful the sourcing manager is.

3. Method

This section presents and motivates the methodological approach to the problem of the study. Then follows a description of the methods used to find and review literature, conduct case studies, collect data and analyze the findings. Finally the methods are evaluated and discussed.

3.1 Methodological approach

To empirically understand the pricing process in a meaningful way, we needed an *insider's view* (Bryman, 1997) of the process and its context. We therefore carried out a qualitative study and strived towards an epistemological position while conducting it. To establish such a position, the major part of the data for the study was sought out and compiled at Intco SWD's office. There we could work with this study alongside SWD's sourcing managers and interact with them on a daily basis. This rendered a *close relation* between researchers and the subject of research (which is another characteristic for qualitative studies according to Bryman (1997)). We applied what Bryman and Bell (2007) call *constructionism* towards the problem area. It implies that social phenomena and interactions are in a constant state of change rather than pre-given.

Our purpose stipulates a buying company's perspective of the pricing process and the study was consequently carried out in a buying company's sourcing milieu. We tried to study the pricing process and the sourcing context through the eyes of sourcing practitioners. It was consequently not an objective position where we could investigate the pricing process from both Intco's and its suppliers' perspective. Doing such a comparative study would be impossible due to the confidentiality between a buyer and a supplier that surrounds much of both the sourcing and pricing processes. Our non-objective position is natural since the study is done for the benefit of a buying company. As a result we study the pricing process through the means of different sourcing practices.

3.2 Literature review

As Bryman and Bell (2007) describes is common in inductive research, we reconsidered the boundaries of the subject for the study as we learnt more about it. Therefore it was difficult to conduct systematic literature reviews within specified fields. The literature studies started out as a narrative review simultaneously as we defined and structured the problem of this study. This meant that we had a wide scope regarding topics as we started reviewing literature and previous studies. As our study became more focused we then gradually included and excluded literature.

To find relevant literature regarding sourcing and supplier relationships we began by reviewing Gadde et al. (2010). At Chalmers University of Technology this book is used in advanced courses about sourcing and supply chain management. It gives an overview of different contemporary theories in the field and could thereby guide us to other associated literature. Intco sourcing managers presented us with the Purchasing Chessboard by A.T. Kearney (Schuh et al., 2009). This framework has been developed in order to provide guidance to sourcing professionals about how to manage contemporary challenges within their companies' supplier bases.

Within software pricing Kittlaus and Clough (2009) among other things present the pricing pyramid by Nagle and Hogan (2006) in a software context. In addition to that specific pricing literature by Nagle and Hogan (2006), we also reviewed Anderson et al. (2009) and articles published in Industrial Marketing Management to obtain a broader marketing management view of pricing. To understand the content of a software price we used a framework developed by Lehmann and Buxmann (2009) that describes different parameters of pricing models for software. Other well cited sources we found in this narrative review are Bontis and Chung (2000) and a column in Communications of the ACM by Cusumano (2007).

To reduce the risk of missing relevant literature within the software pricing area we carried out a search in the databases Emerald Library, Science Direct, JSTOR and ProQuest Central. The keywords were: *software pricing*, *software sourcing*, *software purchasing*, *software buying*, *software price models*, and *pricing AND sourcing*. Sources about software pricing and software price models had to be considered based on when it was published; -the software business has evolved tremendously during the recent decade and thus we had a high need for contemporary literature. We also had to discard literature about irrelevant types of software, for example software that solely is developed for a specific hardware.

A significant amount of literature covering business negotiations appears to be popular science with low academic credentials. Agndal (2007) has done an overview of business negotiation articles published from 1996-2005 and their findings. We used this to get an initial overview of the scientific findings regarding business negotiations. Agndal (2007) presents these in a model showing what elements that make up the negotiation and how they affect one another as well as the outcome. This gave us a framework to relate to when reviewing other literature. We conducted a search in the same databases as for the previously mentioned software pricing literature. Keywords were: *negotiation(s)* combined with *business*, *software*, *sourcing*, *purchasing*, *practice*, *buying*, *price* and *pricing.* Eventually we found Fisher et al. (2011), which has derived from the Harvard Negotiation Project. It seemed to be a respected source because previous editions of the book have been a rather well cited within the field since its original publishing in 1983. A sourcing manager we interviewed at Intco advised us about Karrass (1993). Although Karrass (1993) presents negotiations in a popular science -fashion, the author has conducted extensive research within the field and is rather well cited.

3.3 Case studies

In order to explore the operative sourcing practices a multiple-case study of different sourcing practices was applied in which the unit of analysis was price variety. Eisenhardt (1989) state that case studies are applicable when there is little previous knowledge about a phenomenon and that current perspectives are inadequate. Considering our quite novel approach of studying pricing from a buying company's perspective, we found case studies as a suitable method. Eisenhardt (1989) highlights that case studies are likely to create novel theory and have a close fit between theory and empiric data. Case studies have the advantage of allowing in-depth investigation of a limited problem during a limited time frame (Bell, 1993). Bell (1993) points out that some important processes exposed by a case study might remain hidden in a survey regarding the same problem. Yin (1981) further

explains that a case study is useful to examine a phenomenon in its real contemporary setting when the research subject is hard to separate from its context.

A multiple-case study was carried out where all cases involve Intco's sourcing operations from a particular supplier denoted "Alpha". Alpha is a representative case in the sense that Intco spends a significant amount of money sourcing software products from them. Alpha is a very powerful supplier as it is one of the world's major software companies. Thus, the case studies may render insights about the pricing process and sourcing practices that are valid to other companies who are also sourcing from large, powerful software suppliers.

A second reason to choose cases about Alpha was that it appeared fairly easy to access rich information, relevant to the purpose of this study. Intco sources software from Alpha for projects all around the world. This gave us the opportunity to access information about varying cases from different regions within Intco's global organization. The global scope of the cases also made the study inclusive of country specific differences in the contexts and processes.

In order to include a contrasting example about sourcing from the large suppliers, we studied a single case about an additional supplier denoted "Beta". Intco has different preconditions for its relationship with Beta and most important, the pricing process is in many aspects different when sourcing from Beta.

3.3.1 Inquiry to respondents and selection of sourcing cases

Our supervisor at Intco presented us with an e-mail list of Intco sourcing managers around the world, which he thought could have interesting experiences regarding sourcing from Alpha. In order to obtain comparable cases but yet receive multiple experiences, we suggested that we wished to discuss the most common and well-known software product Alpha produces. This software product is commonly included in Intco's solutions. Including sub-organizations that the e-mail was forwarded to, we estimate that around 25-30 people received our inquiry. Most of the recipients sent a reply but many recipients declined participation due to time restrains or not having a relevant case to present. Based on this method we eventually obtained five cases (Case USA, Algeria, India, UAE and Japan) regarding sourcing from Alpha. All case-interviews except Case UAE were conducted over telephone. Data about Case UAE was instead collected in a face-to-face interview. Case UAE did regard a different Alpha software product, but was included in the study since its pricing process was comparable to the other cases. The opportunity to study Case Turkey and Case Global Framework came about as we worked at SWD's office. These interviews were conducted in a face-to-face setting.

The respondent at Intco who handles the relationship with Beta works in proximity to the Intco office where we carried out the study. Reaching her with the inquiry was therefore easy and we conducted several interviews with her. We did not focus on any particular case in these interviews. The reason was that the respondent keeps regular contact with Beta and had several sourcing experiences to tell us about. We believe that the respondents aggregated knowledge about sourcing from Beta gave us richer information than what recollections of single sourcing cases would have given us. A summation of the cases and suppliers can be seen in Table 1.

Table 1: Cases and suppliers

Case	Supplier
USA	Alpha
Algeria	Alpha
Turkey	Alpha
India	Alpha
UAE	Alpha
Global Framework	Alpha
Japan	Alpha
Beta	Beta

3.4 Data collection

From June -November 2011 we collected data and carried out our study at SWD's office facilities.

3.4.1 Participant observation

A large part of our data is consequently generated from participant observation as we could interact with the organization's members on a daily basis. At the end of the study we were also invited to participate in a software conference that was held at SWD's office. This gave us the opportunity to meet with sourcing managers from all over the world and attend presentations where Intco managers shared experiences regarding software sourcing.

Other data and information about Intco was selected and provided to us by our supervisor at Intco, among that a PowerPoint presentation of SWD's sourcing strategy from 2010. We also had access to Intco's intranet throughout the study.

3.4.2 Interviews

The study is to a major part based on information gathered from in total 16 interviews (see Table 2). Most interviews were conducted during July –October 2011. Both the case-interviews and the orientation interviews regarding Intco's sourcing and pricing context were based on semi-structured interview guides (see Appendix B). The open structure of the questions made it easy to identify and further discuss particular interesting issues within the theme of the interview. I.e. extract the "rich information" about sourcing practices that constitutes the critical results of this study. The respondents often also took the chance to highlight issues of relevance to the topic that we had not considered before.

Table 2: Interviews

Interview type	Number of interviews	Approximate time/interview
Orientation interviews	8	30 min
Case interviews	8	30 min

The interview guide was sent to the respondents in advance, in order to let them understand the study's purpose and prepare their answers. For the interviews that

concerned the case studies, this was especially important since the respondents were asked to present a case of their own choice.

All of the interviews regarding Intco's sourcing and pricing context and four out of eight case-interviews were held with two interviewers and one respondent. The interviewers decided in advance who would be asking the interview questions and keep track of the interview guide in order to avoid confusion during the interview.

The order in which the questions were asked varied slightly since it often happened that the respondent answered multiple questions in one answer. Therefore, getting a natural flow in the conversation sometimes required altering the order of the questions.

All interviews were recorded, with the permission of the respondents. Therefore, few notes needed to be taken by the interviewers. Reducing the need to take notes enabled the interviewers to be fully engaged in the interaction, being more able to for example ask follow up questions or ask the respondent to clarify certain industry specific constructs.

Since four of the case-interviews were held with sourcing managers located in different parts of the world (USA, Algeria, India and Japan), they had to be held over telephone. Those interviews were conducted with only one interviewer. During a few telephone interviews there were disturbances during the call. The recordings were proved to be useful in these cases, offering the possibility to re-listen to the conversation as many times as was necessary. It however became slightly difficult to make appropriate follow-up questions directly in the conversation with the respondent.

3.4.3 Processing interview results

After each interview, the essential parts of the recording were transcribed. The recordings were saved to enable the possibility to listen to them again, should the transcripts not give complete answers. This was especially useful when interviews were conducted over telephone. All respondents who were quoted in the study reviewed the quote and its context.

3.4.4 Validating interview material

We had the opportunity to contact the respondents after the interviews with follow-up questions and clarifications of certain statements. The respondents were always offered to review the interview transcript and contact us to correct any statements.

Many respondents, as well as their co-workers, worked in direct proximity to us at Intco. This made interaction and discussions with them a natural part of the work as we carried out the study. All respondents that are stationed abroad attended a software conference held at SWD's office. That gave us the opportunity to meet with them face-to-face and in some cases further discuss their views on the subject and our study. We also passively observed a workshop regarding how to source the software products that are within the same category as the software product in our Alpha –cases.

3.4.5 Kraljic -matrix and Purchasing Chessboard discussions

As a part of Interview 3 and 5 we presented the two dimensions of the Kraljic –matrix to the respondents. The purpose was to enhance our understanding of Alpha and Beta in the

context of Intco's supply side. Both respondents were previously aware of the model. We then asked them to comment on the model with regard to Alpha and Beta and, if they found the model applicable, suggest where to map the two suppliers' within it.

In order to confirm and concretize our understanding of Intco's supplier relationships with Alpha and Beta, we used the Purchasing Chessboard as a point of departure. For Alpha this raised some technology questions, which we attempted to clarify in Interview 6. During one of our case interviews about Beta we presented and discussed Intco's and Beta's relationship from the view of the Purchasing Chessboard.

3.5 Analysis method

Based on our interviews, we eventually concluded that the Kraljic –matrix was inapplicable in our study since it disregarded important aspects of Intco's supply side. The interviews, the case studies and other comments from Intco managers helped us to instead describe the supplier base with regards to *variety*, *complexity* and *heterogeneity* according to Gadde et al. (2009).

We used the Purchasing Chessboard, not as a normative tool but as a basis to analyze considerations about sourcing practices. Based on power distributions between Intco and Alpha and Beta, we tried to present a reasoning regarding the potential and constrains of the methods presented in the Purchasing Chessboard. This was then to help enhancing the understanding about the sourcing practices we identify later on in this study.

3.5.1 Investigating the pricing process

We did not come across any framework for how a pricing process can be affected by a buying company. The pricing pyramid by Nagle and Hogan (2006) was instead used as a framework to reveal how a software price model is constructed. We compared the sourcing practices with the different levels in the pricing pyramid to analyze how they impacted pricing.

We conducted both within-case analysis and cross-case analysis to reveal sourcing practices that affected price variations in the eight cases. We started by writing individual descriptions of each case. Eisenhardt (1989) suggests reviewing cases according to categories or dimensions while conducting cross-case analysis. We therefore compiled a table that gives a comprehensive view of all cases according to several comparable categories. The table and case descriptions provided our initial base for within-case and cross-case analysis of sourcing practices. This led us on to distinguish and analyze the sourcing practices that prevailed in one or several cases.

3.6 Evaluation of method

Trustworthiness can be used as criterion to evaluate qualitative studies and this criterion encompass the *validity* and *reliability* evaluations normally done in quantitative studies (Bryman and Bell, 2007). Bryman and Bell (2007) present four components of trustworthiness: *credibility, dependability, confirmability* and *transferability*. In addition Bryman and Bell (2007) present different aspects of *authenticity* as a criterion to evaluate the wider political impact of a study. These aspects are *ontological, educative, catalytic* and *tactical authenticity* as well as *fairness*.

3.7 Method discussion

According to Bryman and Bell (2007) qualitative interviewing tend to be loosely structured and gives opportunities for the respondent to present his own point of view and to talk freely around questions. This proved to be valuable for this study in order to describe the sourcing context and different pricing issues in a relevant way. The respondents could from their experience highlight issues of importance to the topic that we had not considered before.

A problem regarding this method was that it was occasionally hard to avoid having the respondents commenting directly on the theoretical concepts according to their own concept-interpretations. Initially this happened due to minor flaws in the interview questions. But even when the interview guides were adjusted, it was sometimes difficult to relate to concepts and theories without mentioning them directly. We mitigated this problem by reversely evaluating such interview answers according to literature.

3.7.1 Trustworthiness

Trustworthiness can be used as criterion to evaluate qualitative studies and this criterion encompass the *validity* and *reliability* evaluations normally done in quantitative studies (Bryman and Bell, 2007). In addition Bryman and Bell (2007) presents different aspects of *authenticity* as a criterion to evaluate the wider political impact of a study. As Bryman and Bell (2007) present trustworthiness it consists of four components:

- *Credibility:* Our supervisor at Intco validated the information about Intco that we obtained in an unstructured way as we carried out the study at SWD's office quarters. We employed respondent validation throughout the interviews by offering all respondents to review the interview transcripts. A few respondents rejected that offer by stating that they on beforehand trusted the interviewer's ability to interpret their answers correctly.

- *Dependability:* Our supervisor at SWD Intco continuously audited the progress of this study to ensure a correct view of the business environment in and around Intco. The supervisor assured that the study was carried out in a way that was fair to the participants, mainly by reviewing the interview guides. On Intco's behalf he also made sure that the involved companies' identity remained at a reasonable level of anonymousness in the report.

- *Confirmability:* Our study was not carried out from an objective position where we could investigate the pricing process from both Intco's and its suppliers' perspective. Doing such a comparative study would be impossible due to the confidentiality between a buyer and a supplier that surrounds much of the pricing practices. The lack of structural objectivity is however not a major concern is this study since the purpose regards the pricing practices that are beneficial for a buying company.

  As previously mentioned, respondents sometimes helped us identify areas and theories of interest to our study. The risk of such "parallel guidance" from respondents is that the study becomes skewed towards areas that are of particular

interest to the respondent rather than to the study. Their suggestions were therefore always related to the purpose and problem analysis of the study.

- *Transferability:* A common criticism against the case study method is that it usually becomes hard to generalize results (see for example Yin (1981)). The most significant transferability issue we have noted is that several interviewees have mentioned that Alpha is a particularly difficult supplier to handle. Alpha leverages its power over its customers to a very high degree and employs a very strict sales policy. Alpha is one of the largest software companies in the world with an enormous customer base. On the other hand, those extreme attributes of Alpha might have made our conclusions more robust since they show how Alpha, despite its power, can be affected. We therefore believe the insights about the pricing process in this study could be applicable in similar software sourcing situations in other companies.

  It is harder to evaluate the transferability of Beta. Our study did not have any particular focus on revenue sharing as a philosophy for pricing negotiations. Beta was mainly chosen as a case because it had a pricing process that proved to be in stark contrasted to the Alpha-cases while still being a powerful supplier.

  To some extent the results might be transferable to other types of products that has similar characteristics as software products. I.e. low marginal production and distribution costs and customer value that is highly dependent on the products use-context.

3.7.2 Authenticity

Bryman and Bell (2007) present fairness as a criterion for authenticity meaning that different views among the members of the social setting should be presented. We argue that a high degree of fairness has been preserved. The cases involve representatives from a wide variety of Intco's local organizations from all over the world as well as globally responsible managers. We also had the impression that the respondents we interviewed were central stakeholders in the cases they presented. Our main reservation is that some sourcing managers declined participation due to time restrains and that we therefore might have missed some potentially relevant Alpha-cases.

The other four criteria of authenticity that Bryman and Bell (2007) present are ontological, educative, catalytic and tactical authenticity. Ontological and educative authenticity means that the study has made the members of the social setting better understand their social milieu and the perspectives of other members. Few if any, sourcing manager at Intco previously had the aggregated knowledge of all sourcing cases we have presented in this study. Therefore we believe the study has contributed knowledge to Intco sourcing managers about the various approaches to software sourcing and pricing throughout Intco's global organization.

Catalytic and tactical authenticity means that the research has spurred and empowered members of the social setting to take action. Our purpose to explore the pricing process implies a stronger focus on ontological and educative authenticity than on catalytic and

tactical authenticity. We however argue that the knowledge this study provides by highlighting and analyzing sourcing practices that prevailed in previous cases may indeed lead to changes. Foremost, the results may present sourcing managers with suggestions and for them novel views about how to handle any powerful software supplier in a price negotiation.

4 Results

This section will present the empirical findings of the study. First, findings regarding Intco's software supplier base and supplier relations are presented. This includes an introduction of the suppliers Alpha and Beta. Secondly, the eight cases are presented individually and finally a summary of the case findings is given.

4.1 Strategic issues of Intco's software supplier base

According to SWD's sourcing strategy presentation from 2010 that we have reviewed, major parts of SWD's year-on-year cost savings must be accomplished by constantly reduce spending on the large suppliers. SWD's suppliers are most commonly mapped with regards to Intco's spending on them. This perspective was illustrated in the spending graph that was presented in 1.1.2and is also put forward in SWD's sourcing strategy presentation.

The end-customer's complete IT –systems are often categorized according to a model called the IT –stack, which can be seen in Figure 7. The IT-stack separates hardware products from different software and gives a technological categorization of IT –systems (see Appendix C for a description of the categories). SWD also often categorizes hardware and software products according to the IT –stack in its sourcing procedures. For SWD's sourcing managers the model is meant to increase the tendency to consider interchangeability and leverage competition between different suppliers within the IT –stack categories. The model is a strategic tool to frame different sourced products and thereby helps exposing competition between certain products.

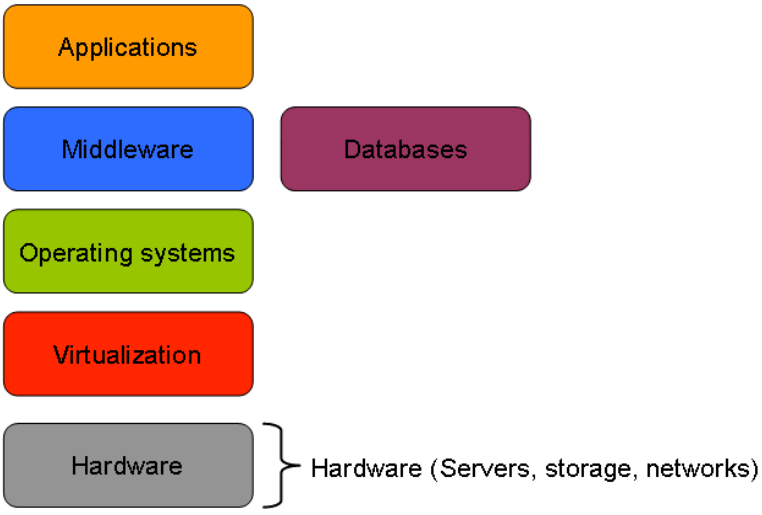

Figure 7: The IT-stack

It is important to note that in this context sourcing according to the IT –stack is only a tool for the sourcing managers to structure their sourcing activities. From the suppliers' point of view, they often strive to deliver products with functionality that spans across the layers in the IT-stack. There is a trend of consolidation in the software business where larger software companies acquire smaller software suppliers. Acquisitions are often an important part of many large software companies' growth strategy. Thereby many large software suppliers increase their ability to deliver products throughout the categories in the IT –stack.

The telecom industry is "evolutionary" and Intco's customers are not very keen on switching old products and systems as long as they function properly. This means that Intco's customers often rely on systems based on rather old technology. Intco then has to support these technologies even though there might exist newer and better replacement products. Consequently Intco is required to keep interfaces to suppliers who support a vast array of hardware and software.

4.2 Software supplier relationships

Several of Intco's large suppliers are global software companies and they do not depend on any "large customers". It is then is hard for Intco to influence those suppliers in terms of having a large impact on their sales. A way that sometimes works instead is to emphasize Intco's unique ability to reach end-customers within the telecom industry.

We have received what appear as somewhat contradictory views of what supplier relationships Intco should engage in. One director at SWD told us that long-term, close cooperation is a way for Intco to be able to manage the software technology dependencies and influence suppliers to work for common goals. He further mentioned that supplier cooperation must take into account the overall goals and strategies of the supplier. Another SWD director put forward a slightly contrasting view: "*-We don't marry our suppliers, but we are still able to have some good relationships.*" The implication is that Intco primarily bases selection of partners and suppliers on what deal that presently "is on the table".

4.2.1 Alpha

Supplier Alpha is a well-established global software company and a market leader in their main software product category. Software sales make up around 70% of Alpha's revenue, while the remaining revenue comes from its services and hardware sales (Alpha press release regarding quarterly financial results, Q4 2011). Alpha has an extremely vast customer base and although Intco is one of their largest accounts, it only represents around one percent of their revenues.

Intco and Alpha does not only have a buyer-supplier relationship. Alpha has developed software products that directly compete with some of Intco's software products (Intco business intelligence). Interviewee 2 mentioned that it is altogether hard to "avoid" Alpha in the software business Intco is a part of. A main reason for that, which also was found in our case studies, is that Alpha markets themselves to all actors along the supply chain, including the end-customers. Several sourcing managers at Intco have stated that a maxim that 20 years ago described IBM, is becoming true throughout the IT-industry about buying software from Alpha. The maxim 20 years ago read: *"You won't get fired for buying from IBM"*. The implication was that IBM was a reliable, stable and safe supplier and that sourcing from IBM involved very few risks.

Pricing of Alpha's software product

The Alpha software product we look at in this study is within Alpha's main software product category. Alpha's software product is best described as making up an entire category in the IT –stack (although it is often difficult to entirely frame a software product into an IT –stack category). Intco normally has two licensing options when sourcing this software product; to buy an embedded license or to buy a full-use license (also called a stand-alone license).

Buying an embedded license means that the license will be incorporated as a component into Intco's solution. The user can then only interact with Alpha's software via the Intco solution. Because of these limitations in intended usage, such a license is heavily restricted and the license lives and dies with the Intco -solution in which it is embedded. Intco has a global agreement with Alpha for embedded licenses. The agreement stipulates a high discount rate, partly because of the heavy restrictions. Intco's role under this licensing form is similar to the systems seller structure we described in 1.1.1.

In some cases, especially when Intco acts as a systems integrator, the end-customer needs full-use licenses from Alpha. In those cases Alpha's product is sold under its own brand and the end-customer can bypass the Intco solution when accessing Alpha's software. Intco has an agreement with Alpha for full-use licenses also, but the discount is much lower than for embedded licenses. Normally Intco negotiates to obtain additional discounts in each individual sourcing case.

When we did the case studies (see chapter 4.3) we found that in some regions of the world, Intco does not source Alpha's full-use licenses for systems integration projects. In for example Poland and Mexico the telecom operators (i.e. the end-customers) themselves have agreements with Alpha for a much higher discount rate for full-use licenses of the software product. Therefore Intco is normally bypassed as systems integrator in those regions as Alpha sells its software product directly to the end-customers. Intco can only apply for a "finders fee" for initiating a deal between Alpha and the end-customer. This is a standardized procedure where Alpha rewards companies who have acted as "resellers" of Alpha's software product.

Power distribution and dependencies of Alpha's software product

Alpha's power as a supplier is greater than Intco's power as Alpha's customer. This has become a problem when Alpha does not comply with Intco's commercial way of including Alpha's software products in end-customer solutions. Affecting Alpha to change their policies seems difficult; the managers at the Intco-account at Alpha are receptive to Intco's suggestions but do not have the power to change Alpha's policies. Intco's upper management has better ability to communicate with policy makers at Alpha but the efforts have so far only rendered marginal results.

We explored the possibility to reduce the dependency of Alpha's software product in Interview 6. The following aspects were elaborated upon:

- Technologically, there are ties between the Alpha software and the Intco solutions when Intco acts as a systems seller. These ties are not impossible to break but it is, depending on the type of solution, more or less cumbersome.

- Alpha's software product is considered a stable and well-proven product. It is relatively easy to obtain technical support for it and Alpha commonly achieve leadership regarding new functionality within the particular software product category.

- There seem to be a sense of safety among Intco's solution designers in including Alpha's software product as well as habitual reasons for doing so.

4.2.2 Beta

Beta is a small software company that supplies only one software product that is used in Intco's solutions. Beta's software product is within the application category in the IT –stack. The software is incorporated as an "OEM (Original Equipment Manufacturer) –software product" and is sold under the brand of the enclosing Intco solution to the end-customer. At the same time the end-customer is well aware of the part Beta's software product plays in the total solution. That gives Intco a role that is somewhat between systems seller and reseller of Beta's software product.

Pricing of Beta's software product

Intco and Beta originally decided on a revenue-sharing model, which stipulated a percentage of the end-customer's price that Intco was to pay Beta for including its software. That model was later abandoned because Beta reckoned that Intco in a few deals had given too much discount to the end-customer. As a replacement, Intco now set out from a fixed price-list for sourcing Beta's software. The list prices for Beta's software components are set at a high level in order to lower the risk for Beta of missing out on revenues in its businesses with Intco. In most cases Intco does not agree to pay the list prices. Instead Intco normally argues for a discount based on estimations of the end-customer's willingness to pay for the total solution as well as the degree of competition in winning the deal with the end-customer. Intco also motivates some of its discount requests by the volume of licenses they source from Beta.

Power distribution and dependencies of Beta's software product

Beta and Intco have had a business relationship for a long time. Intco is by far Beta's largest customer and the proliferation of Beta's software is for a large part due to the global reach of Intco's sales organization. Despite its modest size, Beta has been very successful and has kept Intco dependent of its product. Beta is still generating substantial revenue but the market is becoming saturated and the initial excitement about its software is fading. Beta's software product is also somewhat beginning to lose its great relevance in Intco's solutions.

Intco has the main responsibility for sales to end-customers in Beta and Intco's relationships. Beta does sometimes accompany Intco in the sales process of the total solution when the software from Beta needs in-depth explanations and promoting. Beta also approaches end-customers of its software product directly. However, there is a mutual understanding that Beta must not approach Intco's end-customers in a competitive way.

4.3 Case studies

The settings, pricing processes and negotiations and outcomes of the eight cases will now be presented.

4.3.1 Alpha Case USA

Intco was to deliver a system uniquely designed for the designated customer. For that project there was a need to include a full-use license for Alpha's software product. The decision to use Alpha's software was set by Intco's design unit and when entering the negotiation phase, there were no other options. The customer was very price sensitive and would possibly cancel or delay the project if the price became too high. Lowering the price from Alpha was a way for Intco to maintain an acceptable price and reasonable costs for the project.

The respondent was Intco USA's sourcing manager who was responsible for negotiating with Alpha. According the respondent, Alpha's sales representatives were rather upright and honest to Intco, which created a good atmosphere throughout the negotiations.

A matter that according to the respondent is a constant struggle with Alpha in USA is a payment flow disagreement. Alpha insists on invoicing and initiating the payment flows for support the moment it receives the purchase order for the software product. In reality, the software product is not installed and used until several months later when the end-customer's system is setup and ready to "go live". This results in a gap where Intco has to pay for Alpha's product and wait several months until the end-customer pays for Intco's solution.

Pricing process and negotiations

At the start of a negotiation, Alpha's sales representatives argued that they could offer no more than Intco's globally entitled discount. To counter, the respondent claimed that he was aware that other Intco sourcing managers in another region had received substantially higher discount for the same software product. To further make the case for a better discount, the respondent argued that Alpha's high price would transfer to the end-customer. Intco as well as Alpha then risked cancelation or delay of the end-customer project, leaving both companies short of sales. In this negotiation that argument had a major impact on the outcome. The respondent added that transferring end-customer requirements or competitive conditions to Alpha in this way often helps in obtaining better pricing. Further, the respondent perceived that it normally is easier to get a better price from Alpha at the end of Alpha's fiscal quarter. The Alpha sales representatives then offer additional discounts in order to reach as many deal closures as possible just before Alpha's quarterly report.

In this case, as well as in other similar cases in USA, Alpha did not yield regarding the payment flow disagreement. Sometimes the local Alpha representative can hold off the invoice for a while, but that is a locally applied tactic from the sales representatives rather than a compromise of Alpha's policy.

Some long-term discussions about future cooperation did also take place. Intco predicts a rise in future demand of these kinds of software products due to the rapid growth data transferred in telecom networks.

Outcome

Intco obtained a slightly higher discount compared to what was initially proposed by Alpha. As mentioned, Intco was not able to hinder the unbeneficial payment flow and was invoiced by Alpha long before payment was due from the end-customer. The respondent and SWD's central sourcing organization discussed the discount and concluded that it was within the same "discount interval" as similar deals done elsewhere.

4.3.2 Alpha Case Algeria

This case concerned the sourcing of full-use licenses from Alpha for an Intco solution. Intco did not want to embed the software since they wanted the flexibility that comes with full-use licenses. The issue was the price for the full-use licenses.

The sourcing team was looking for other alternatives to Alphas software product, but it was too difficult concerning the specific Intco solution that this case concerned. In terms of performance, Alphas software product is considered (by Intco) to be the best in the market. Using another software product from a different supplier would be technically possible, but hard to realize practically.

Pricing process and negotiations

Commercially, many issues were discussed but the payment flow and license discount were the main issues. Concerning the service level, Intco tried to negotiate back-to-back agreements. This meant that Intco tried to obtain the same service level from Alpha that the end-customer required. However, Alpha's local sales representatives were very hard to affect and unwilling to make any changes from their usual terms. According to the respondent, this is due to Alpha's dominant market position and the sales representatives knew that the risk of loosing the deal was small.

Alpha's local representatives initially offered Intco the global discount for full-use licenses. Since it was considered far too low by Intco's sourcing managers, Intco escalated the issue to Alpha's upper management to possibly get a better discount. The process for doing so was considered to be complicated, bureaucratic and time consuming, both by Intco as well as the local Alpha's representatives. The sales representatives from Alpha even used this as an argument to prevent Intco from escalating and to support its view on pricing. However, Intco still made this request. In order to further support an increased discount, Intco tried to consolidate the volumes in the region and also to invest in the same products as the rest of the region. Alpha's discount approval is partly based on the size of the deal and large deals also gets more attention from Alpha. Another argument used to lower the price was that the license price offered by Alpha to Intco has an impact on the price Intco can offer the end-customer.

There were some discussions concerning future cooperation. At the regional level, meetings were held discussing all Alpha business. For instance, these meetings regarded additional opportunities and the consolidation of volumes.

Outcome

The final discount was significantly higher than what was initially offered and the bought licenses were no different than what was offered from the beginning of the negotiation. The evaluation of the negotiation outcome was made with respect to the license discount that the end-customer would have obtained if it had bought the licenses. This discount was the same as the discount initially offered to Intco.

4.3.3 Alpha Case India

Intco in India had previously bought full-use licenses from Alpha. The Alpha-licenses were used in an Intco-solution that the end-customer had bought, but Intco were responsible for the support for the solution, including these licenses. When the support contract for the licenses was to be renewed, as it is every year, Intco discovered that they were using the licenses in such a way that Intco just as well could have bought embedded licenses. However, local Alpha representatives did not agree on this. Consequently, the discussion concerned if Intco was fulfilling the requirements for embedded licenses or not.

The price of the support contract is a certain percentage of the price for the licenses. Since full-use licenses are much more expensive than embedded licenses, the price for the full-use support contract was much higher than the price for the embedded support contract. Intco would therefore benefit from buying both new embedded licenses and a corresponding support contract compared to renewing the support contract for the full-use licenses. It was not possible to only buy a support contract for embedded licenses to the already bought full-use licenses.

Pricing process and negotiations

There were several different parties involved in the negotiations; Intco's local representatives and representatives from Intco's central sourcing function. Alpha was represented by both its local sales representatives and also by its central Intco account.

Since the case concerned a support contract, there were only two options: renewal or not. There was no opportunity for Intco to buy support from another supplier.

The local Alpha representatives were inflexible concerning their view of the licenses, claiming that they were used as full-use licenses and that the support contract had to be renewed locally. An explanation for this standpoint from Alpha's sales representatives was that they would receive a sales commission if the support contract was renewed locally. Consequently, they were trying in different ways to make Intco renew the support contract locally. Alpha approached the end-customer, which in turn contacted Intco and claimed that it wanted a full-use license and thereby that the support contract was to be renewed locally. Alpha also tried to delay the negotiations so that the old support contract would expire, forcing Intco to renew it locally due to time pressure.

Due to this, Intco turned to Alpha's central Intco account. They claimed that if Intco fulfilled the requirements for an embedded license, they could buy an embedded license together with a support contract for the embedded license. They also promised Intco that they would help Intco with support in case that Intco's present support contract would expire.

Intco and Alpha's central Intco account investigated if Intco fulfilled the terms for using embedded licenses, which they did. If Intco had not fulfilled the terms, Intco would have had to get back to the local Alpha sales representatives in India and renew the support contract there.

Outcome

Since Intco fulfilled the terms for using embedded licenses, Intco bought new embedded licenses together with the corresponding support contract. According to the respondent, Alpha's central Intco account understood that they had to cooperate since it was apparent that they had not informed Intco that they were entitled to a more beneficial license and support contract from the beginning.

4.3.4 Alpha Case Turkey

The starting point for this case was that Intco had acquired a systems integration company in Turkey. Through this acquisition Intco had a business opportunity to do a systems integration project for a Middle Eastern telecom operator. For this project Intco needed a substantial amount of full-use licenses for Alpha's software product. The software product would run on an abundant amount of CPU:s in Intco's solution. CPU usage is a prime assessment base for Alpha's software product and thus, the price Alpha initially offered was very high. It then became critical for Intco to reduce price for the software product. Otherwise Intco's cost would be unacceptably high and the end-customer would not proceed if the project became too expensive.

The negotiation was initially conducted between Intco in Turkey and Alpha's local sales representatives. The respondent was involved at a later stage and acted as SWD's central sourcing support. The respondent also involved representatives from Alpha's global Intco account.

Pricing process and negotiations

The initial negotiations did not render enough pricing improvements for Intco. Alpha's sales representatives insisted on their initial price, which was based on the global full-use license agreement. Intco then started to investigate the possibility to source and include embedded licenses instead of full-use licenses for the project. As mentioned earlier, embedded licenses come with a much higher discount rate compared to full-use licenses. Therefore, SWD's central sourcing support was mainly involved because Intco sources embedded licenses from Alpha's global Intco account. These discussions with Alpha's global Intco account was kept separated from the discussions in Turkey and solely regarded the ability to source embedded licenses for the project.

Embedding Alpha's software product meant that Alpha's sales representatives in Turkey would lose the deal and associated sales commission. This created a "heated" and confrontational atmosphere for the proceeding negotiations between Intco and Alpha in Turkey. Embedding the software product restricts the software's functionality and Alpha's local sales representatives argued strongly that the software product was not "embeddable" for this project. As they put it, the end-customer would loose too much of the ability to

customize the software-product if it was included as an embedded license. Eventually, the threats of embedding made Alpha's sales representatives considerably more flexible regarding the price and assessment base that they offered for full-use licenses.

Outcome

Finally Intco bought full-use licenses through Alpha's sales representatives in Turkey. The discount was substantially higher than the initial offering. Further, Intco obtained a maximum limit regarding how many CPU:s Alpha could use in its assessment base to trigger payments. Alpha also agreed on a support cap, meaning that there was a maximum limit for how much Alpha could invoice Intco for support for the software product.

4.3.5 Alpha Case United Arab Emirates (UAE)

In this case Intco acted as a systems integrator for a project that involved an Intco software product as well as hardware and software products from several other suppliers. A main reason for Intco to engage in this project was to learn more about systems integration and the value Intco added was quite low. An Indian company taken on board by Intco performed the actual systems integration. Alpha supplied three software products for this project (among them the same software product as in the other Alpha cases). The most interesting price discussion however regarded another Alpha software product than the one we focus on in the rest of this study. We denote this product "Sigma" and it is within the application category in the IT –stack. Intco does not have any framework agreement with Alpha or standard discount rate regarding Sigma.

The process, in which Intco and the end-customer designed the systems and decided what products to include, took around one year. In this process Alpha faced competition from another supplier that offered a software product that could be included instead of Sigma. Alpha had the opportunity to sell directly to the end-customer; they even had a better relationship with them than Intco had. Despite that, Alpha did not want sell directly since it was associated with some risk considering if/when they would get paid. This is a problem that is common among the end-customers in the region. Selling through Intco then became a way for Alpha to eliminate such payment risks. However, Alpha heavily promoted their product towards the end-customer since they knew that Intco could switch from Sigma to the product supplied by Alpha's competitor. Eventually, as the requirements for the solution were specified, it became clear that Sigma was the preferred software application for the customer's system.

The respondent was at the time a sourcing manager at Intco in UAE and he was involved in the negotiations with Alpha's local sales representatives in UAE. The negotiation atmosphere was quite hostile, something that the respondent thought partly was due to the business culture in the region. The negotiation setting somewhat lacked creativity and it took a long time to decide how to design the solution, both with Alpha and the end-customer.

The main commercial issue was the price level for the license and payment conditions. The end-customer wanted to pay when it had "accepted" the solution from Intco. Alpha wanted

to get paid at once when the license was delivered to Intco. This created a gap where Intco had to pay Alpha while not gaining any revenue from the end-customer.

Pricing process and negotiations

Alpha was only willing to negotiate the discount level, not the payment conditions. As there was no framework agreement for the Sigma product it had to be included according to Alpha's terms and conditions. However, since the end-customer accepted these terms and conditions, this did not become a major issue. Considering the price for the license, Alpha was at first unwilling to lower it, arguing that it would undermine their prices in their local market. This eventually resulted in Intco discussing to remove Alpha's products completely from the solution, despite that Alpha was already chosen as supplier. That threat was according to the respondent the most important factor that made Alpha yield so that an agreement was finally reached.

Outcome

The final price for the license was slightly lower compared to the initial offering. However, these last percentages of discount took long time for Intco to gain. Alpha did not yield regarding when to invoice Intco. The final price for the license was compared with the price that the end-customer would have received if it was approached directly by Alpha. Alpha's price to Intco was slightly better than the discount the end-customer would have received in a similar deal with Alpha.

4.3.6 Alpha Case Global Framework re-negotiation

This case concerns a re-negotiation of Intco's global framework agreement for embedded licenses of Alpha's software product. The central sourcing group at SWD who handles large suppliers engages in these types of negotiations quite seldom. These negotiations also tend to take very long time; -normally more than six months and this particular re-negotiation with Alpha went on for around two years.

The reason Intco wanted to re-negotiate this agreement was that Alpha had radically raised its list prices due to downturn of the USD currency. Intco's discounts are only tied to Alpha's price list and when the price list changes, the price Intco has to pay changes accordingly. On top of that, Alpha had tripled a certain factor in the assessment base for the embedded license of its software product. This was to enforce further steep price increases on Intco for certain solutions with an embedded license of Alpha's software product. These price increases risked, according to the respondent, to ruin the business between Alpha and Intco.

After the first year of negotiations the respondent took a leading role in a small group of senior Intco sourcing managers who negotiated with Alpha. Alpha mainly negotiated through their global Intco account.

Pricing process and negotiations

Intco's main focus throughout the negotiations was to solve the problems that had arisen within the existing framework agreement. At some points in the negotiation Intco tried to indicate to Alpha that Intco could, in the long-term, move away from Alpha's software

product. But Intco also mentioned continued dependence on Alpha as an argument for Alpha to give Intco an attractive deal.

On one hand, the atmosphere was rather good throughout the negotiations. On the other hand, Intco's sourcing managers did not perceive that Alpha's negotiators were given much responsibility from Alpha's higher management. Instead Alpha's negotiators could merely inform Intco about Alpha's policies and what demands they thought were likely to be approved or declined by their managers. Alpha's policy was a recurring argument as Alpha's negotiators defended their pricing model.

The process to shape a new agreement was to a large part conducted through escalations to Alpha's upper management. An obstacle for Intco in this process was that Alpha's upper management sent entirely new requests and terms back to Intco as they replied to escalations. One such reply imposed an entirely new, "Alpha standardized" software support model on Intco. This would consequently tear apart the old Alpha-Intco agreement on software support and be gravely disadvantageous to Intco. Intco and Alpha's negotiators had to further escalate this part of the contract to higher management levels at Alpha. Finally, the case was brought to Alpha's vice president who conceded to Intco's request to continue using the old software support agreement.

The price level itself turned out to be rather easy to decide on in this negotiation; -that part took only a few weeks. It was, according to the respondent, harder to handle all requests that came through the escalations processes. Once an issue had been rejected in an escalation, Alpha's negotiators were normally not allowed to escalate the same issue again. Intco then found it most effective not to obstruct about the less important terms in the negotiation. That way Intco could instead put all its effort into finding solutions to the most urgent issues.

Outcome

Intco managed to obtain a framework agreement where the price of the software product will be fixed (i.e. detached from Alpha's price list) for a few years ahead. The agreed price level was even lower than it was before Alpha's price list increases. As mentioned, Intco also managed to maintain its old support agreement with Alpha. Intco however had to concede to the disadvantageous change in the assessment base of the software product.

The respondent mentioned that an important learning from this case is that it is possible to change quite much about Alpha but you have to spend a significant amount of time to do so. On the other hand it is rather exceptional that agreements cannot be reached in a smoother way considering that Intco and Alpha already have an established business relationship.

The negotiation also made Intco's sourcing managers to start to consider what would happen if Alpha uses its rights to dissolve the framework agreement. They concluded that Intco's product leaders should not calculate their business cases on those prices from Alpha that at a low level at the moment. Instead they should base their commercial estimations on "normal" price levels.

4.3.7 Alpha Case Japan

Intco in Japan needed a full-use license for Alpha's software product, which was to be included in an Intco solution for a customer project. At the time Alpha Japan did not conduct direct sales of software but instead used a local distributor. Because of that a disagreement emerged regarding if Intco's global discount for full-use licenses still would be applicable for the deal. On top of that, Alpha used an exchange rate between USD and Japanese Yen (JPY) that was significantly disadvantageous to Intco compared to the regular market exchange rate.

The two respondents work as sourcing managers for Intco in Japan. The negotiation also involved the local distributor and Alpha's global Intco account. Intco Japan considered buying a full-use license from Alpha globally but once that was suggested a sales representative from Alpha in Japan was introduced.

Pricing process and negotiations

Confusion characterized the atmosphere in some of the negotiations between Intco and Alpha. Alpha globally referred to Alpha Japan, which in turn was not familiar with Intco's global discount rates. Intco Japan therefore had to be very insistent to put forward their view on which price list that applied.

When Alpha Japan took responsibility for the deal it imposed Alpha's internal exchange rate between USD and JPY on the deal. Alpha's sales representatives admitted that it was an unreasonably bad rate for Intco and only referred to Alpha's policies to defend it.

Outcome

Eventually Alpha agreed to apply the global price list although the software product would be bought from Alpha Japan through the local distributor. This meant that Intco Japan received a discount according to the global price list but a margin was added on the price to compensate the local distributor. Intco Japan further managed to buy the software according to the local distributor's terms and conditions, which turned out to be more beneficial than the ones otherwise applied.

Alpha was less accommodative about its internal currency exchange rate. Intco Japan managed to obtain a slightly better rate than was originally offered but it was still significantly higher than the market exchange rate.

4.3.8 Case Beta

When Intco sources Beta's software product, Intco commonly requests a certain discount from Beta's list price. The reason for this is that the price list is not in line with what Intco could possibly charge an end-customer. Many negotiations start off with these discount requests and they tend to become main issues in negotiations. In order to sort out more difficult cases, Intco–managers usually meet face-to-face with Beta's managers on a monthly basis.

Beta is very selective in what kinds of business it chooses to engage in, and discard deals that do not fit Beta as a company. Examples of such deals are deals with low profitability,

deals with potential hassles with other parties and deals involving insecurity and risks. Instead, Beta strives for businesses where the rules are clear and specified that defines how much revenue Beta will obtain from the deal. Intco has for example operations in the Indian market where Beta is reluctant to come on-board. Intco engages in this business to maintain its market shares rather than make hefty profits in the short term. Beta resists such schemes since these businesses will only be profitable in the long-term.

Pricing process and negotiations

The negotiations between Intco and Beta tend to become unpredictable and dependent on interpersonal matters. Intco reckon that Beta representatives sometimes retract statements and terms previously agreed on and that Beta sometimes blocks deals for no obvious reason. When the negotiations stall in this way, Beta and Intco often resort to simple "haggling" to be able to eventually move forward. Intco perceives that the main reason for Beta's obstructive behavior is to put Intco in situations where Intco becomes tied-up and forced to give in to excessive demands.

An example when Beta acted in a more opportunistic way was when a Beta representative, together with a local regional manager from Intco, promised away far too much in a solution to a local operator. Beta then obtained a profitable deal, while the costs for Intco exceeded revenues. This example does according to Intco –managers indicate how Beta sometimes oversteps its mandates. It also reveals that Beta does sometimes seek out business situations where Beta gains on Intco's expense. There are however contrasting examples of cases where Beta and Intco carried out joint efforts to achieve common business success.

There are situations where stalemates occur in the negotiations between Intco and Beta. As an example, an end-customer wanted to re-negotiate the contract with Intco and change the assessment base. This would mean less revenue for Intco in the short term, but with a potential growth further on. A new contract was signed between Intco and the end-customer, but Intco also had to make Beta accept the new contract. Intco was then in a difficult position, having promised to use the new contract towards the end-customer but not being certain that Beta would accept this. Beta was not very keen on accepting a new assessment base since it would decrease its revenues. Intco's tactic in situations such as these is to create transparency and show how much revenue they get to share in the long term. From that point it is easier to discuss the upside of the deal and make Beta accept it.

Outcome

Because of some of the above stated reasons, Intco has had a rather low trust in their relationship with Beta. Beta and Intco has also recently taken steps to avoid stalling negotiations and exploitation of one another to increase the degree of trust in the relationship.

The outcomes are to a large extent dependent on the total revenue from the end-customer. A good price from the end-customer in combination with clearly stipulated conditions creates lesser friction in the negotiations between Intco and Beta.

4.3.9 Summary of cases

Table 3 presents a summary of the cases according to certain categories.

Table 3: Summary of cases

Case	Negotiated price components	Atmosphere	Software licensing form	Ability to source from competing supplier	Supplier interaction with end-customer	Sourcing practices with major impact on outcome	Outcome
USA	License discount rate and payment flow	Cooperative	Full-use	No	Attempts were made by Alpha but stopped by Intco.	Transferring end-customer price pressure. (End-of-quarter sourcing).	Slightly increased discount
Algeria	License discount rate and payment structure	Cooperative	Full-use	Low	None	Escalations to Alpha's upper management, Consolidation of sourcing, Transferring end-customer price pressure	Significantly increased discount
India	Software support contract	Confrontative (India), cooperative (Intco-account)	Embedded (part of the negotiation)	No	end-customer to request a full-use license	Cooperation with Intco-account. Proving entitlement to buy embedded licenses	Better support contract
Turkey	License discount rate, assessment base and software support	Confrontative	Full-use (part of the negotiation)	No	None	Threatening to buy embedded licenses.	Significantly increased discount, better assessment base, limited support payments
UAE	License discount rate and payment flow/risks	Confrontative	N/A	Yes	Extensive marketing by Alpha UAE.	Threatening to switch supplier.	Slightly increased discount
Global Framework re-negotiation	Price level, support agreement and assessment base	Cooperative	Embedded	Yes (long-term)	N/A	Presenting long-term ability to exclude Alpha, Cooperation with Alpha's Intco-account, Escalations to Alpha's upper management	Lower price level, maintained support agreement, disadvantagous assessment base
Japan	License discount rate and currency exchange rate	Confusing	Full-use	No	None	Insisting on a correct price list, Refering to market currency exchange rate.	Price according to global price list, better terms and conditions, less disadvantageous currency exchange rate
Beta	License discount rates	Varying	N/A	No	Some	Transferring end-customer price pressure, Presenting clear win-win situations.	Varying

Most cases concerned purchases of full-use licenses. The main negotiated price component was the license discount rate, which was addressed in all cases were it was applicable. For instance, this was not the situation in Case India since license discount rates were already set. However, there were also other price components, such as the factors in the assessment base or the payment flow that were central issues in some negotiations.

Almost every case with Alpha involved some interaction with not only the initial Alpha representatives, but also with the other levels in the supplier's hierarchy. In Case Beta, this does not happen since Beta is a small organization and all negotiations are conducted with the same representative from Beta. The atmosphere and will of the supplier to be accommodating was also varying, sometimes even within an individual case.

In all but one case, the sourcing took place within ongoing end-customer projects. Consequently, this limited the ability to switch supplier. This possibility varied from being very low to impossible. The possibility that competing suppliers might be introduced was clearly addressed in Case UAE and Case Global Framework.

The outcome of the cases varied. With respect to the negotiated price components, it was in general much easier for Intco to affect the license discount level than the other parts that made up the supplier's price, such as the assessment base and payment flow.

5. Analysis

The analysis first presents some considerations of Intco's supplier base and supplier relationships. Then an analysis is conducted about the sourcing practices found in the cases. The last part in this section analyzes how Intco can affect pricing variations according to the pricing pyramid –framework.

5.1 SWD's software supplier base and supplier relationships

To gain a contextual understanding of the pricing process we start the analysis section by analyzing Intco's supplier base and supplier relationships.

5.1.1 Intco's supplier base

Alpha and Beta according to the Kraljic-matrix dimensions

The Kraljic –matrix is cumbersome to apply on the software products SWD sources. The economic importance of the same sourced software product may vary vastly depending on what final Intco –solution it will be included in. It is also common that the supplier offers different prices and different licensing schemes depending on the use-context of the end-customer. An example of that is seen in the different discount levels and usage rights between an embedded and full-use license for Alpha's software product. There is also ambiguity regarding the supply risk –axis. For different Intco –solutions there is different interchangeability of the included software products. It does not appear to be any supply risk involved in gaining access to Alpha's software product, -it is more a question about how much Intco has to pay for the licenses. That supply risk is different in obtaining Beta's software product. Beta seems to be selective and reserved while choosing which end-customer projects to engage in together with Intco. Finally, once a software product has been chosen, the end-customer needs support for that product throughout its lifecycle. Thereby there is an inherent supply risk regarding that interaction with the software supplier must go on long after the initial transaction of licenses.

Variety, complexity and heterogeneity in Intco's supplier base

We found that a description based on the Kraljic–matrix only partly revealed the characteristics of SWD's supplier base. To provide a richer picture we also analyze the supplier base according to variety, complexity and heterogeneity as presented by Gadde et al. (2010) (see chapter 2.3).

Critical variety issues in the supplier base:

A large part of Intco's variety issues stems from the end-customers' demand for various products, technologies and services. Intco is thus expected to act as an interface to such resources. Not the least, Intco's role as a systems integrator depends on its ability to work with *different* software suppliers' technologies. This is a strong argument to why dominant software companies such as Alpha (and in some cases Beta) should not be completely cut-off as Intco's suppliers.

A critical variety issue in the supplier base for Intco is when to approach the supplier base from an IT –stack/category perspective and when it is more reasonable to consider sourcing according to which company to partner with. A strict sourcing approach from the IT –stack categories gives a perspective on variety according to what each supplier can offer within each category. But normally Intco must also consider the variety that can be exploited when suppliers are responsible for supplying systems across the categories. Alpha is a prime example since it offers solutions throughout the IT -stack. Synergies may arise by sourcing complementary Alpha products in several categories in the IT-stack. On the other hand, this increases Alpha dependency and reduces the ability to exploit the variety among other competing suppliers.

Since interaction with a software supplier is needed also after the delivery of a software product, the variety in the supplier base must also be considered over time. It can also be of great strategic value to foresee risks of supplier consolidations in the supplier base.

Critical complexity issues in the supplier base:

The sourcing function at SWD is obliged to achieve a double digit cost reduction every year (Sourcing strategy, 2010). The distribution of spending in SWD's supplier base is skewed beyond the Pareto distribution; fewer than 20 % of the suppliers represent a lot more than 80 % of Intco's spending. Hence, in order to obtain a significant spend-reduction, it is only worthwhile to consider a few suppliers regarding direct spending. Alpha and Beta are among those suppliers. The long tail of suppliers where Intco spends relatively little is out of scope of our study. A short comment we however would like to make regarding those suppliers is that many of them cannot easily be excluded from the supplier base since they control unique capabilities and resources. That characteristic is also valid about Beta, which controls a unique software product that is of high importance for Intco. On the other hand, Beta is rather confined in the supplier base since Beta only supplies one product to Intco. Alpha easily becomes a lot more "entangled" since it is capable to supply a broader range of products. We consequently think that a key complexity dimension in SWD's supplier base is taking into account how easily Intco can break apart from and replace different software suppliers. As has been mentioned, it is difficult to cut-off any software supplier instantly. The use-context of each software product raises different needs for support and updates of the software and thus makes software products and suppliers more or less easily interchangeable.

Critical heterogeneity among the resources in the supplier base:

A great issue concerning heterogeneity in the supplier base and affecting how Intco approach suppliers are the different types of company organizations in the supplier base. Many companies, such as Beta, possess unique technology resources and products within the telecom industry. But to their disadvantage, they consist of rather small, local organizations and thus have a limited ability to serve their end-customers. By supplying Intco they can proliferate their products on a global scale by taking advantage of Intco's service network and international marketing ability. Other suppliers, where Alpha is a good example, are global companies just like Intco. According to a comment made in Interview 1 such companies does not depend on any "large customers" and Intco only plays a marginal

role in the proliferation of Alpha's products. The issue of exploiting heterogeneity to attract such suppliers then becomes more complicated. One way is to emphasize Intco's unique ability to reach certain end-customers within the telecom industry (Interview 1).

As described in 4.1 Intco is expected to be the end-customers' interface to access the resources needed to support both new and previously installed solutions. As Intco accepts such a role it must be decided whether Intco or the original software supplier possesses the best resources to provide such support. In Alpha's case the option of embedding software versus delivering a full-use license provides some guidance. Normally Intco supports products where Alpha software is embedded while Alpha takes the support responsibility (and support incomes) from delivered full-use licenses.

5.1.2 Supplier relationships

Reflections about Alpha and the Purchasing Chessboard strategies and levers

Alpha has a significantly large power advantage over Intco. Schuh et al. (2009) suggest *changing nature of demand* as a basic strategy for such sourcing situations. The four levers within that strategy are marked in Figure 8 (for the methods see Figure 15 in Appendix A).

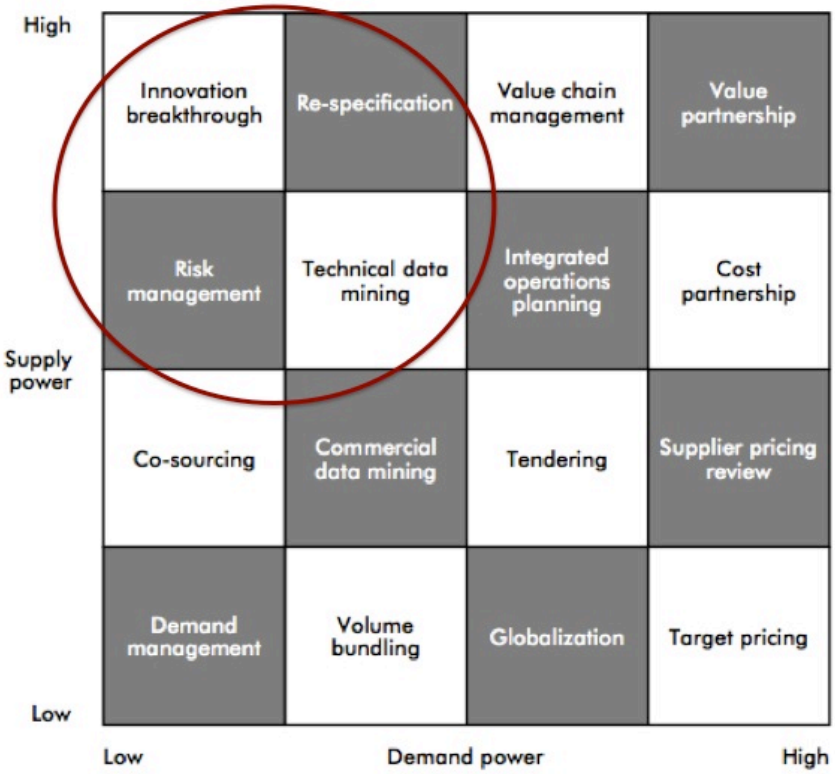

Figure 8: Purchasing Chessboard levers (Schuh et al., 2009).

The basic strategy involves considering to technologically circumventing the need for Alpha's software product. There are however several limitations and drawbacks in doing so. Theoretically, re-specification of pre-designed Intco solutions can be done to exclude Alpha's software product. It will however require considerable efforts to dissolve and replace the technological couplings between the software product and the rest of the solution. The cost of re-specification would probably outweigh the gains in many cases.

Intco could yet while designing future solutions try to increase its technological ability to source software products similar to Alpha's from other suppliers. This could be done through methods from the levers *innovation breakthrough*, *re-specification* and *technical data mining*. Although, the gains from exclusion must be weighted against the advantages of Alphas product; it is considered to be a reliable, easily supportable software product and Alpha enjoys product –leadership within this software category. In a process where Intco increases technical interchangeability Intco has to assess which functionality of the software product that is absolutely necessary. Most likely Intco would face the choice to discard some of the functionality that is specific for Alpha's software product to enable interchangeability. A dilemma might then arise if Alpha specific functionality of the software product is part of the Intco solution's competitive advantage. But from the present situation, where Alpha's software is sometimes habitually chosen, we believe there is unexploited potential in more thorough technical and commercial evaluations.

Another lever worth extra consideration with regards to Alpha is *risk management*. Schuh et al. (2009) mention careful drafting of a contract and lobbying as ways to influence actions of a powerful supplier (within the methods *intelligent deal structures* and *political framework management*). From our cases it appears that Alpha is very protective of their standard ways of doing business. Alpha's sales procedures, with little authority given to the sales representatives, are designed to avoid deal structures that are disadvantageous to Alpha. All cases that involved changes beside the discount rate for the licenses, involved escalations to higher levels in Alpha's hierarchy. The most explicit view of this process was seen in Case Global Framework. A conclusion from that case was that it was much easier to agree on a price level than to agree on most of the other great clausal issues in that case. Regarding how deals are constructed, we think an important part for Intco is to make Alpha recognize business risks that Intco takes on in some situations. In Case UAE and Case USA, Alpha shielded itself from uncertainties regarding when (or if!) the end-customer will pay, by selling through Intco. Pressing on this issue in negotiations with Alpha appears to us to be a valid argument for Intco in order to claim better terms and/or a lower price.

To politically influence Alpha might be hard since Alpha is not dependent of any specific sole actor in the IT-industry. If Intco however manages to find common ground with a few other Alpha –customers, they might together be able to influence Alpha on a higher level. An issue with potential for this could be Alpha's unfair internal currency exchange rates.

Reflections about Beta and the Purchasing Chessboard strategies and levers

Both Intco and Beta have high power in this relationship and consequently, Intco should seek a joint advantage with Beta according to the Purchasing Chessboard. The levers within this basic strategy are marked in Figure 9 (for the methods see Figure 16 in Appendix A).

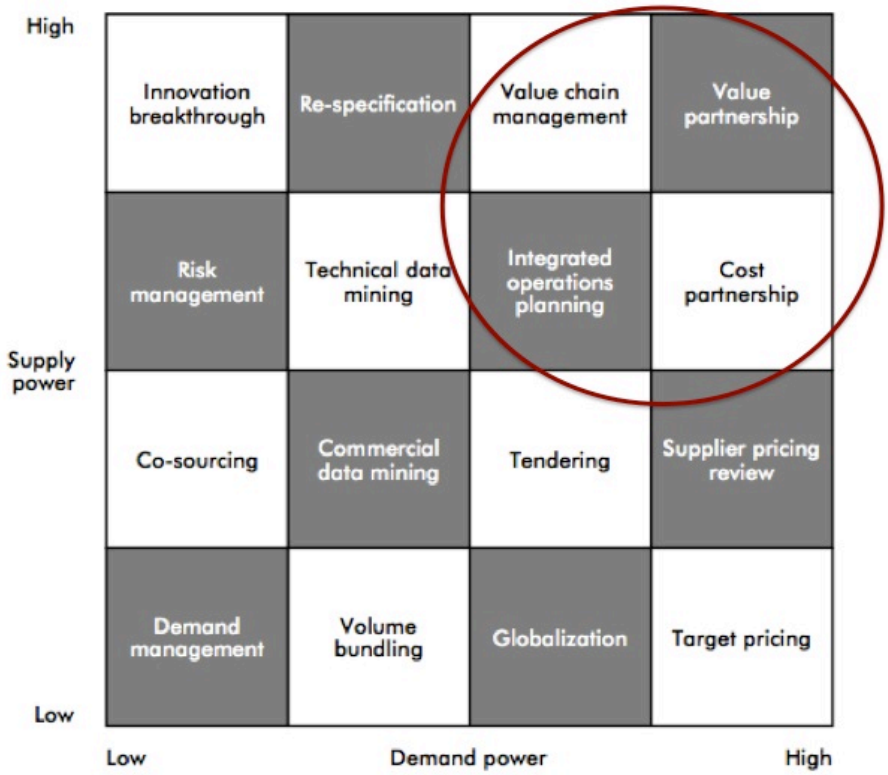

Figure 9: Purchasing Chessboard levers (Schuh et al., 2009).

The method *project based partnerships* within the lever *value partnership* in the Purchasing Chessboard mirrors the cooperation between Intco and Beta rather well. Both companies are careful regarding long-term commitments but may collaborate extensively within specified projects. In successful cases they might also approach the end-customers together to enhance their joint revenues. The purpose is to enhance the value and the revenues received from the end-customers. Seeking joint advantages even further, by for example forming a *strategic alliance*, seems unlikely to happen. Neither Beta nor Intco appears to strive for more permanent cooperation and both companies can maintain most of their strategic capabilities on their own.

Within the lever *value chain management* is the method *revenue sharing* suggested. Although the pure revenue sharing model has been abandoned in favor of a price list, the philosophy of revenue sharing seems to be a foundation for the relationship. Beta's software product is an important component when it is included in Intco's systems. There is however often arguments arising regarding what makes a fair share of the revenue for Beta. These disagreements are expressed in negotiations when Intco makes discount requests from Beta's price list. Due to such disagreements, as well as to the absence of permanent cooperation, it appears unlikely that Intco and Beta will move into any value partnership or a sharing model based on profit. Profit sharing might also be difficult because of the circumstances in these industry networks. It easily arises issues and disagreements regarding what costs that a deal might impose on either Intco or Intco's software supplier. Such costs could include what it costs to deliver and install the software product for the end-customer and what it costs to support the end-customer afterwards.

5.2 Pricing process

The sourcing practices identified in the cases will now be presented and analyzed. Table 5 shows the practices considered to have a major impact on the price outcome.

Table 4: Sourcing practices with major impact on price outcome.

Case	Sourcing practices with major impact on price outcome
USA	Transferring end-customer price pressure End-of-quarter sourcing
Algeria	Escalations to Alpha's upper management Consolidation of sourcing Transferring end-customer price pressure
India	Cooperation with Alpha's Intco account Proving entitlement to buy embedded licenses
Turkey	Threatening to buy embedded licenses
UAE	Threatening to switch supplier
Global Framework	Presenting long-term ability to switch supplier Escalations to Alpha's upper management Cooperation with Alpha's Intco-account
Japan	Insisting on a correct price list Referring to market currency exchange rate
Beta	Transferring end-customer price pressure Presenting clear win-win scenarios

5.2.1 Interacting with the supplier's upper management

In almost all Alpha cases, there was a need to interact with Alpha –managers with higher authority than the sales representatives. It appears evident that Alpha protects its pricing policies by not allowing sales representatives to concede to customers' price demands without higher management reviewing the case first. On top of that is also a very strict sales policy imposed, which was most evident in Case Global Framework. In Case Global Framework, as well as in Case USA, this led to a cooperative atmosphere between Intco and Alpha's sales representatives. Alpha and Intco then managed to focus on interests instead of positions as recommended by Fisher and Ury (2011). What would make or break those deals for Intco was whether lower pricing and a reasonable price structure could be obtained. In Case Global Framework Intco learned that the most effective way to obtain this was to focus its efforts on those factors where Alpha seemed most likely to compromise. The sales representatives was above all focused on fulfilling sales and the way to do that was to accommodate Intco's needs and to help get escalation requests approved by Alpha managers. A contrasting example appeared in Case Algeria where the initial view on escalation requests was put forward as a nuisance. Alpha's sales representatives attempted to leverage on that problematic process to deter Intco from escalating pricing requests and push for a deal based on Alpha's initial price proposal. Alpha's escalation process is indeed

complicated and the results are difficult to predict (which was apparent in Case Global Framework). Intco's sourcing managers did in this case conduct a successful escalation request anyway. By that, Intco also circumvented what otherwise could have turned into a positional bargaining situation with Alpha's local sales representatives.

Sometimes Alpha's upper managers are the key, rather than an obstacle in the pricing process. This was illustrated in Case India and Case Japan where pricing issues involving Alpha's local sales representatives were settled by cooperating with Alpha's global Intco account. In Case India Intco managed to obtain a better support contract by retroactively highlight Alpha's restrictions surrounding the embedded license. Intco focused their effort into convincing Alpha's global Intco account that the licenses were not used beyond what is stipulated in the embedded licensing form. Meanwhile, Alpha's local sales representatives in India obstructed and insisted on a local renewal of a full-use license support agreement. By eventually proving their case to Alpha's global Intco account, Intco obtained a support agreement that was in line with the embedded licensing form. In Case Japan, Intco involved Alphas upper management in order to compile a correct price list and to approve usage of the global conditions. These two involvements of higher management did however not affect Alpha's price policy or price models for their software product. It was rather just alert ways of tapping on Alpha's own, already stipulated price policies. It can although be noted that in Case India Alpha's upper managers second-guessed the local sales representatives. But the reason for that was that Alpha's global Intco account had a more consistent view on price policy. The local sales representatives were primarily driven by their incentive to push through a local renewal of the support agreement.

In Case Beta Intco faces Beta's upper management from the start. Since Beta is a company with such a small organization the negotiators are also Beta's ultimate decision level. The lack of several steps in the hierarchy can be both an advantage (in the sense that it is only one stage that needs to be convinced) and a disadvantage in the sense that there is nowhere else for Intco to turn if negotiations face a stalemate. Further, since the decision process spans several steps, Beta's upper management is given the chance to change demands or several times. This makes the negotiations with Beta complicated, especially if Intco cannot find another way to increase its leverage towards Beta.

From a theoretical point of view, turning to the supplier's higher management is thought of as an advantage by Kittlaus and Clough (2009), but a disadvantage by Karrass (1993). In the cases from USA and Algeria, this has proven to be a successful practice. On the other hand, in Case Global Framework, Alphas higher management accepted a lower price level and usage of the previous support agreement, but rejected any changes to their suggested assessment base that was jointly proposed to them by Intco and Alphas local representatives. Also, while the discount was slightly increased in Case USA, the payment conditions were still not possible to change. Hence, it seems as if the discount is possible to change by using this practice, but that the price policy as a whole stands quite firm towards it.

5.2.2 Switching licensing form

The choice to buy embedded licenses or not is primarily a technological question. Alpha did probably not anticipate that sourcing situations would occur where Intco easily could swap a full-use license for an embedded license. The choice has however impact on Intco's projects and solutions beyond sourcing matters. Usage terms for an embedded license are heavily restricted and may contribute less end-customer value to Intco's solution than a full-use license. Nevertheless, the threat of embedding appeared realistic enough for Alpha's sales representatives in Turkey that they finally were forced to relate the pricing of the two licensing types to each other. I.e., the economic value of the full-use licenses was put on pair with the value of embedded licenses. At the same time Alpha's Turkish sales representatives would lose the deal if Intco embedded the software product. Consequently Intco was offered a significant additional discount for the full-use licenses. Intco was also granted beneficial dispensations from Alpha's regular price structure.

This sourcing practice rocked the foundation of Alpha's pricing model in a way Alpha probably has not foreseen. We however believe Intco needs to be cautious while applying this sourcing practice. Alpha is probably not very keen on seeing embedded licenses of its software product being used when Intco originally approached Alpha's local sales representatives as a systems integrator. If Intco suggests embedding in a too flagrant manner where Alpha clearly intends to sell full-use licenses, chances are high that Alpha counteracts and sharpens its sales policies even more.

5.2.3 Transferring end-customer price pressure

In Case USA, Algeria and Turkey transferring the end-customer price demands appeared to be a successful practice to make Alpha offer higher license discounts. It is a logical consequence since both Alpha and Intco will lose a deal if the end-customer does not accept the pricing of Intco's solution. Alternatively, Intco might find a less expensive alternative to Alpha's software product. In order for Alpha to win the deal it has to offer more attractive pricing or somehow approach the end-customer without Intco. In Case USA we found that in some projects, Alpha is also the supplier to Intco's competitor for the same end-customer project. In such cases Alpha wins a deal as long as the end-customer does not cancel its project entirely. In Case UAE Alpha had a good, established relationship with the end-customer. That relationship was used by Alpha for marketing efforts to make the end-customer demand that Alpha's software product should be included in Intco's solution. That way Alpha might have raised the customer's willingness to pay and/or shielded itself from price pressure on Intco being transferred to Alpha's software product.

In Beta's case, the revenue that can be gained from the end-customer is pivotal since it is the main argument when Intco applies for discount from Beta's price list. Transferring the customer's price demands therefore seems to be a standard procedure while sourcing from Beta. It is on the other hand often a great source of disagreements between Intco and Beta. Negotiations get locked as Beta discards Intco's applications for discounts as unnecessary and Intco claims that the price list is unreasonably steep without any discount. In conclusion, discussing the end-customer's price preferences is an inherent part of the relationship between Intco and Beta, rather than a sourcing practice. The subject initiates negotiations and affects how difficult it will be to reach an agreement with Beta.

By communicating the customer's price pressure, Intco can set an upper limit for pricing in the negotiations (comparable to the "bottom line" that Fisher and Ury (2011) emphasize). This price pressure must however appear credible to the supplier and not as just a way for Intco to increase its margins. The end-customer's price pressure normally regards the whole solution while Intco only transfers price pressure of a certain software product to the supplier. This transfer of price pressure and competitive conditions are a main cause of disagreement between Intco and Beta. Beta's high initial price level can be derived from an ambition to not automatically accept a deal where Intco has been too generous towards the end-customer. By keeping a high price level, Beta can review the pricing since Intco almost always has to apply for a discount. Thereby Beta lowers the risk of leaving money left on the table for Intco. When this practice has been used in negotiations with Alpha, Alpha did not either entirely stop pressing for higher prices. But, in combination with other practices, it provided powerful leverage for Intco.

What should be noted here is that the practice seems applicable when Intco is negotiating with a supplier that has high power, assuming that Intco uses the practice in an honest way, not tricking the supplier into believing that the end-customer is willing to pay less than is actually the case. By using the end-customers willingness to pay, Intco takes on a somewhat more cost-orientated view on pricing. By doing so, Intco gives up the possibility to source software that they can re-sell on or integrate with a high rate of return.

Negotiations with Beta sometimes get stuck due to Beta having a "bottom line" in terms of what sort of agreements it wishes to enter. Bringing Beta into a business opportunity and making Beta accept the basic set-up of a deal normally precedes the pricing process. We will therefore not analyze this aspect further.

5.2.4 Consolidating volumes and creating a win-win situation

In Case Algeria as well as in Case Beta, Intco tried to enhance a win-win situation to make the supplier more accommodative. Expanding the deal by consolidating sourcing in the region of Alpha's software product became a way to motivate higher discount in Case Algeria. The assumption of a "fixed pie" (as denoted by Fisher and Ury (2011)) was re-investigated and Alpha obtained more sales and Intco received a higher discount. Increasing the size of the deal may therefore be effective up to a certain deal size. This is reasonable to anticipate since to small deals are likely to not even be negotiated. However, to make a comparison between increases in sourced volumes and additional discounts is out of the scope of this study. Many sourcing managers have also told us throughout this study that they think buying additional volumes is a rather inefficient way to gain higher discounts. To them, a more efficient way to affect pricing seems to be to prove that there is competition among suppliers.

Creating a clear and specified win-win situation appears to be a necessity when sourcing from Beta. Deals where the win for Beta is low and uncertain makes Beta obstructive in price negotiations and often reluctant whether to carry out the deal at all. Increasing the earnings for both Intco and Beta is inherent in the revenue sharing concept that the relationship was founded on. Beta however seems to only comply where revenues are generated in the short-term and where Intco shields Beta from any risks.

5.2.5 Switching supplier

We investigated the ability to switch supplier and refer to competing suppliers in all cases. There are currently no alternative suppliers to Beta. Since Beta is aware of their software products uniqueness. Threatening to switch supplier is therefore not an option while negotiating pricing with Beta.

Whilst it often may be technologically possible to switch from Alpha's software product, the time and efforts it would take create lock-in effects. The cost for switching supplier might therefore be greater than what is gained in pricing by replacing Alpha or Beta. However, just bringing up considerations to switch supplier seemed have a significant impact in pricing negotiations. In Case UAE and Case Global Framework it would have been hard for Intco to replace Alpha (and in Case Global Framework it regarded the long-term cooperation with Alpha). But just introducing that Intco considered doing so, helped Intco obtain better pricing.

In order to mitigate lock-in effects, efforts should be made by Intco in the design phase to enable the usage of different supplier's software products. Thereby Intco might gain greater pricing leverage from competition in the supplier base in the future. However, while this is desirable, it is likely to be easier said than done. For instance, Alpha is a very dominant player and considered (by Intco and the end-customers) to have the best performing products in the market. Breaking away from such a supplier may be possible from a technical point of view, but the impact on the performance of Intco's solutions must be taken into consideration together with the possibility to successfully market and sell the solution to the end-customer.

5.2.6 Negotiating at the end of a supplier's fiscal quarter

Exploiting sales representatives' urgency to obtain a purchase order before the end of a fiscal quarter was only mentioned in Case USA. This study can therefore not reveal whether or not such behavior is widespread throughout Alpha's global sales organization. Nonetheless we think it is remarkable that Alpha, which otherwise seems to have a very rigid sales policy, cannot curb undisciplined pricing at the end of fiscal quarters. Sales representatives sometimes even appear to be the ones who initiate such discussions. It seems as if the incentive to close deals overthrows any other principles that Alpha may have regarding pricing.

By pushing for excessive discount at the end of Alpha's fiscal quarter Intco could be able to set a new bottom line for the price of Alpha's software product in future deals. I.e. "not buying at the end of a fiscal quarter" is not likely to be a valid reason for less discount in any similar negotiation in the future. As mentioned in the frame of reference, there is a major risk for pricing erosion when the supplier fosters such sales behavior. At the same time, Alpha's sales representatives might try to mitigate this risk by avoiding making deals comparable. Full-use licenses are commonly bought for highly customer unique Intco solutions. Alpha's sales representatives might then motivate their increased discount as if it is a unique deal for a unique solution, rather than as a way to save their quarterly sales figures.

5.3 Pricing variations and the pricing pyramid

Here, we discuss the variation in pricing in the different cases and how Alpha and Beta's price models were affected by Intco's sourcing practices. The pricing pyramid is used as a generic model to illustrate how Intco may impact different parameters of a price model.

5.3.1 Sourcing practices and value creation

As mentioned in the analysis about the Kraljic-matrix in chapter 5.1, the economic importance of Alpha's software product is highly dependent on its use-context. Alpha's software product can be used within an Intco developed software system or can be delivered as a stand-alone product, which the end-customer may use more freely. Consequently, Alpha came up with an embedded licensing model and a full-use licensing model. These two offerings come with different prices due to their different usage restrictions and differences in value that they provide to the users.

Alpha did probably not anticipate that there would occur situations where the customer could motivate ambivalence whether to buy an embedded or a full-use license. This happened in Case Turkey and Intco was thereby able to disrupt Alpha's design of these two software product offerings. Since only the full-use license is sold through local sales representatives, the full-use license suddenly had to compete on pricing with the embedded offering of the software product. We argue that Intco needs to be cautious while applying this sourcing practice, especially when encountering people at Alpha who can change policies. Alpha is not very keen on discussing embedded licenses when Intco originally approached Alpha's local sales representatives as a systems integrator. If Intco suggests embedding in a too flagrant manner where Alpha clearly intends to sell full-use licenses, chances are high that Alpha counteracts and sharpens its sales policies.

5.3.2 Sourcing practices and price structure

In all cases it appeared difficult to change the price structure of a supplier. As was exemplified in Case Global Framework, Alpha seems to be more willing to lower the price on the license than to adjust other parameters in the structure that triggers payments. A demand was put forward in Case Algeria that Alpha should align its price structure with the same software price structure as Intco offers to the end-customer. Doing so would better align pricing of the software product according to the value and the costs that Intco generates from it. To create a close tie between pricing and value realization is recommended by Nagle and Hogan (2006) in order to maximize profitability. In Case Algeria, Alpha did not compromise its policy but managed to sell its software product anyway. Considering Alpha's rigorous policies, it might have been beyond the sales representative's authority to change the price structure and/or did the sales representatives not perceive any need to do so to win the deal. In this case Alpha ended up with higher sales revenue by not conceding. The drawback for Alpha might be that it establishes a view of Alpha at Intco as a rather non-cooperative supplier. For Intco it is a motive to further consider alternatives to sourcing Alpha's software product, for example by reviewing the Purchasing Chessboard - methods within the strategy *change nature of demand*.

There were only large adjustments in the supplier's price structure in Case Turkey. The disruption of Alpha's offering design had effects on the pricing structure. The price structure

of full-use licensing had to compete with the price structure of embedded licensing, which caused Alpha to concede on its assessment base and support scheme.

5.3.3 Sourcing practices and Price and value communication

Alpha has a strong brand associated with its software product. The influence of that is seen as Intco product designers often prefer to include Alpha's software product in their software solutions. Intco's perceived safety in choosing Alpha's software product is an effect of what Nagle and Hogan (2006) denotes economic value assurance. Rather than relying on quantifiable performance metrics, Alpha takes advantage of its reputation in the software market as a well-proven, reliable choice when motivating the price for its software product. In Case Global Framework Intco signaled that it was prepared to consider other suppliers than Alpha in the future. By responding to Alpha's value communication according to tangible metrics, Intco could put more weight behind such signals. It would disregard the more obscure parts in Alpha's value communication and help Intco avoid exaggerating the safety in choosing Alpha. As a systems integrator, Intco must pass its own price and value communication on to the end-customer while reselling Alpha's software product. Otherwise the end-customer may overemphasize its need for Alpha's software product and make it difficult for Intco to put any pressure on Alpha to lower its price.

In Case Beta the joint price and value communication to the end-customer is critical to increase the total revenue for Beta and Intco to share. Therefore Intco are on equal footing with Beta in exploiting their joint price and value communication when approaching the end-customer. From a perspective of shared revenues the disagreements are beyond value communication of the features of Beta's product. Instead it is about determining the value each party contributed with for a solution both parties have a high degree of knowledge about.

5.3.4 Sourcing practices and pricing policy

Alpha's pricing policy might appear to be rigorous and well formalized but this study has revealed several weaknesses in it. Alpha's pricing policy leaves room for Intco to cooperate with the sales representatives against the hindrances set up by Alpha's higher management. Sales representatives at Alpha appear to mainly be driven by the sales commission they derive from deal closure. By keeping the sales representatives interest in deal closure in mind, Intco sourcing managers have in some cases been able to cooperate with them. For Alpha's sales representatives, the chances of deal closure then increase if they accommodate Intco's demand for lower prices and better terms. The obstacle for both Intco and Alpha's sales representatives to circumvent is Alpha's higher managers who must approve Intco's requests. Rather than getting locked in positional bargaining, Intco and the sales representatives then work together to increase chances of getting escalations approved. Shrewd sourcing managers might in this situation be able to make the sales representatives selling their own managers on terms that are acceptable to Intco, rather than selling Alpha's terms to Intco. According to Nagle and Hogan (2006), suppliers risk such sales behavior if they do not have sales policies that are consistent throughout their organizations.

The same deal closure -incentive contributed as sales representatives resorted to accepting internal competition between different licensing models in Case Turkey. Intco could also look further into if Alpha's pricing policy opens up for end-of-quarter discounts as was described in Case USA.

5.3.5 Sourcing practices and price level

It is important for Intco to stay aware that Alpha normally only commit to a discount rate according to a price list for its software product. Alpha reserves itself to update and raise the price list as it sees fit. Case Global Framework and Case Japan further showed that Alpha sometimes let currency exchange rates affect its price level. In both cases Alpha's pricing policy makers tried to roll a significant price increase onto Intco with sole regards to the USD exchange rate. This behavior erodes the validity of Alpha's pricing. Alpha does not accompany this price increase with any additional value to its customers. Neither are Intco or any other of Alpha's customers guilty of imposing any additional costs on Alpha. In the long-term these price increases should also tempt Intco to move away from sourcing Alpha's software product (and it did in Case Global Framework). This price level increase hits all of Alpha's customers, regardless of industry, equally. It is difficult to see Alpha defend such actions by any other means than its leverage over its customers. Therefore it could be an issue where Intco together with other Alpha customers can lobby for a more fair policy (i.e. use *political framework management* according to the Purchasing Chessboard).

As has been described, Beta sets out from an aggressively high price level, which then spurs a price negotiation between Intco and Beta that sets the final price. Since the person who negotiates on Beta's behalf also sets the price policy, Intco cannot exploit any discrepancies between pricing policy and enforcement of pricing.

6. Conclusions and discussion

This section presents the conclusions with respect to the purpose of the study. A discussion is then held about the contributions of the study has made to existing literature and what the study has contributed to software sourcing managers. Finally, suggestions for future research are made.

6.1 Conclusions

This study has explored pricing of software while sourcing from powerful software suppliers. Pricing has proven to be susceptible to the actions of a buying company's sourcing managers. By skillful negotiation and by applying appropriate sourcing practices a buying company can indeed have significant impact on pricing of a software product. For Intco pricing is a critical factor while sourcing software products from Alpha and Beta. Alpha and at times Beta, is the most powerful party in its respective supplier relationship with Intco. Intco's influence in the pricing process is pivotal for those supplier relationships to sustain despite the negative power imbalances between the companies.

To understand the pricing process in these business-to-business relationships one must however look beyond the initial power distributions between the involved companies. Intco has been able to gain different kinds of leverage in pricing negotiations despite the supplying company's power and the fact that Intco often has no alternative supplier. A key to create such leverage is to understand how the supplier's organization works and is structured. As has been illustrated in our case studies, the sales representatives might not able to apply supply power to the same degree as the supplier they represent can aggregate in total as a company. A single deal might be of low significance for the supplier as a company, but could be of great significance for a few sales representatives. Therefore, staying aware of what motivates the sales representatives Intco negotiates with, is as important as knowing the overall strategic goals of the supplier. In our Alpha –cases the sales representatives appeared to have great incentives to finalize deals within their own local sales organizations. Intco's sourcing managers can in those situations gain leverage by presenting a scenario where a local deal in some way is not going to happen. Several such scenarios, that form the leverage for sourcing practices, have been revealed in this study and we have done a conclusion of them in Figure 10.

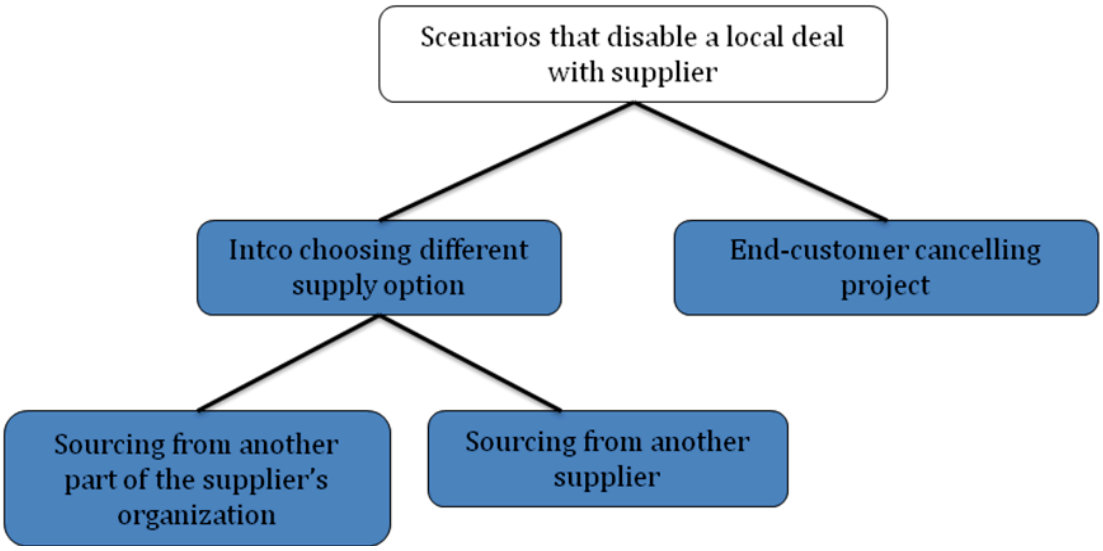

Figure 10: Scenarios that disable a local deal with supplier.

The threat of the end-customer cancelling the project has been the source for Intco's practice of transferring the end-customer price pressure onto the supplier. This sourcing practice is not only useful to create leverage against the supplier. It is also necessary for Intco to consider the end-customer's price pressure in order to identify the limits of a profitable deal.

Intco has also successfully affected pricing by threatening to change licensing form and thereby source from another part of the software supplier's organization. Thus, we have shown that a buying company can sometimes exploit different licensing forms beyond the software supplier's intentions. We therefore argue that buying companies need to consider software licensing forms not only based on what the software supplier communicate, but also learn for themselves how to best use different offerings.

The limited ability to source from alternative software suppliers is the main reason for the suppliers' high power in this study. However, when contemplations about using alternative suppliers have been presented, the sales managers have indeed become more accommodative to Intco's price demands.

Sourcing practices that leverage on these alternative courses of action for buying companies force the supplier to defend their position as supplier and as participator in the industrial network. A way to do so is to accommodate pricing demands from both Intco and (in extension) from the end-customer.

Intco has been able to counter the supplier's initial leverage by interacting with different interfaces in the supplier's company organization. In some cases, the local sales representatives have been more accommodative than their upper management. The opposite situation also occurred in some cases. Local Alpha representatives have further appeared to be less strict in following company policies compared to its upper management. In either situation, by exploiting how large suppliers' organizational structures functions, Intco can break stalemates and obtain better deals.

From the perspective of the pricing pyramid as a generic price model for software, the buying company can impact and disrupt the software supplier's price model from its initial design of an offering to the decision of a final price level. To exemplify, we illustrate the impact of three sourcing practices on the suppliers pricing scheme (according to the lower pricing pyramid levels) from our Alpha cases in Figure 11.

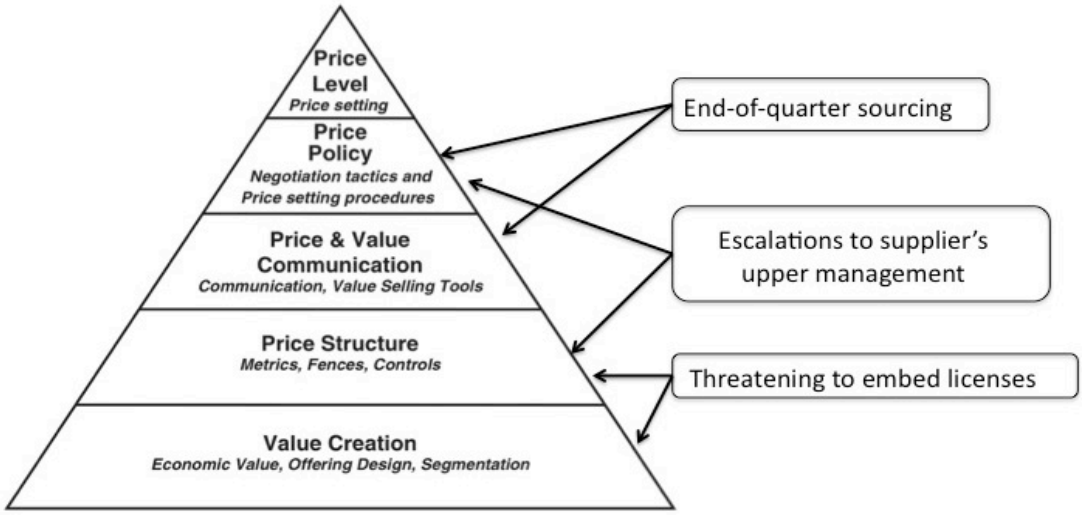

Figure 11: The impact of three sourcing practices in comparison with the Pricing pyramid by Nagle and Hogan (2006).

Our study can additionally conclude that the price level of licenses appears to be the parameter least safeguarded by Alpha. It seems much more eager to keep triggers for support payments, factors in the assessment base and other price structure parameters excluded from influence from buying companies.

6.2 Discussion of theoretical contributions

The purpose of this study has been to explore the pricing process for software products from a buying company's point of view. There is abundant literature about sourcing and several studies concerning software pricing. But there is a literature gap in the literature concerning how a buying company can affect the price of the software products it sources. Considering the large variations in pricing of software products and the consequences it has on the buying company's expenditure, we think such an approach is of great interest.

Gadde et al. (2002) suggests pricing to be approached from the buying company's point of view, especially in cases where the buying company is more powerful than the supplier. We have approached pricing from a buying company's perspective in relationships where the supplier has high power. Yet we see that pricing has been susceptible for the buying company in those interactions. An important learning has been that even though the supplier as a company has high power, that supplier normally also has an account team or sales representative who is compelled to push through sales. Those actors are highly dependent on Intco's sourcing function to gain sales and rewards for their work. Taking a holistic view of the buying company's power in comparison with the power of the supplier is

important to shape an appropriate sourcing strategy. But we think the most interesting among our findings are the discrepancies between the overall company power distributions on the one hand, and on the other hand the actual applications of power and leverage. To some extent the study confirms the proposition by Hingley (2005) that power imbalances in a business-to-business relationship can be accepted. But we make the reservation that although Alpha has a more power than Intco, Alpha is kept at arms-length distance in the relationship.

Nagle and Hogan (2006), Hinterhuber (2004) and Lancioni (2004) call on suppliers to be more systematic in crafting their prices. They especially emphasize ways to relate pricing with customer value throughout the price setting process. For buying companies such as Intco relating pricing to value is equally important, not the least since Intco later has to defend its own pricing towards the end-customers. The variety of pricing discussions exemplified in this study shows that software pricing must be evaluated beyond upfront paid license prices. In several cases other factors such as the service agreement or the assessment base was equally important or more important than the price for the upfront licenses. This is an important remark considering the shift in software pricing towards a heavier focus on payments for support and services as described by Cusumano (2007).

For a buying company to have a meaningful understanding of software pricing it must understand the metrics and structures behind it. Nagle and Hogan (2004), Kittlaus and Clough (2009) and Lehmann and Buxmann (2009) have done elaborate work useful for software suppliers to manage their price models in a coherent way. This study has exemplified how a buying company may impact the structure of such software price models. Although, this study has also shown that it is easier for a buying company to adjust a final price level than to tamper with the mechanisms inside the software supplier's price model.

We have found, as Gadde et al. (2002) also mention, that a buying company can affect prices by other means than exploiting competition between different suppliers. For instance, by transferring the price pressure of the end-customer towards the supplier Intco introduces a bottom line in the negotiation. If the bottom line appears credible it will not be overstepped and the supplier must thereby adapt its pricing accordingly, or lose the deal. A main theme in negotiation literature is to either strive for a deal that is beneficial for both parties or to resort to positional bargaining. This study shows that threats and cooperation can be used simultaneously in some sourcing settings. By taking advantage of different decision levels in the supplier's organizational structure the buying company can apply different approaches in negotiations to influence the supplier.

We believe that these findings can contribute insight about these sourcing matters to other companies that are acting as systems sellers or systems integrators. There are several very powerful global suppliers in the software market. Within these software suppliers' vast customer bases, there are most likely other companies with sourcing and pricing issues similar to the problem we have considered in this study.

This study provides SWD with a picture of what sourcing practices are used throughout the organization and what affect they have had on the price outcome. The results and

conclusions can hopefully complement the views and experiences of the individual sourcing managers at Intco.

6.3 Future research

Due to our limited time and resources, we have focused on two of Intco's suppliers in the study. Studies including additional software suppliers of different sizes and different other characteristics, such as power towards Intco, could give a more comprehensive view of the subject. As would studies from different focal companies, -studies similar to this one can be conducted with software buying companies in other businesses and in other positions of industrial networks.

To contribute enhanced validity to findings, we think it would be valuable for the problem area if researchers could get an even better insider's view by observing an ongoing price negotiation. This however requires large efforts and resources by finding an appropriate sourcing case to observe and most importantly, both the buying company and the supplier must then accept the premises of the researcher.

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Appendix

Appendix A: Purchasing Chessboard

Overview of the Purchasing Chessboard:

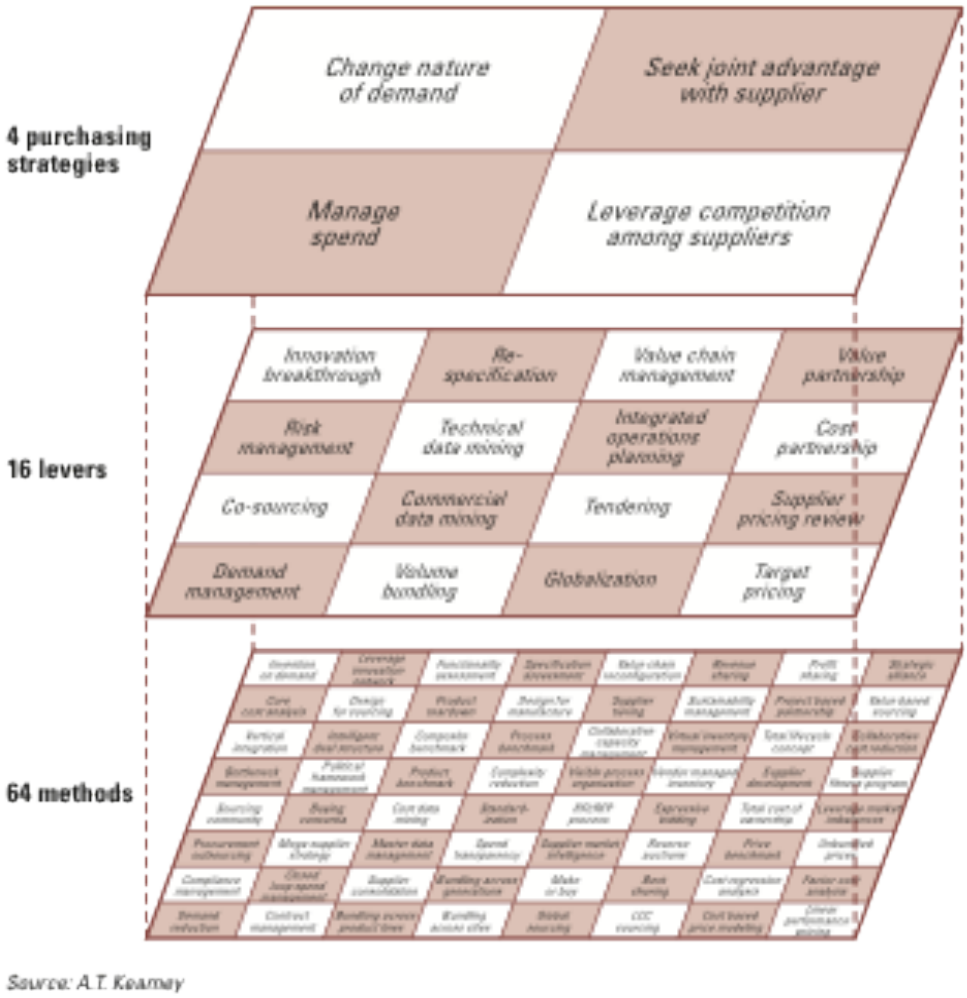

Figure 12: Purchasing Chessboard (Schuh et al. (2009))

The four basic strategies:

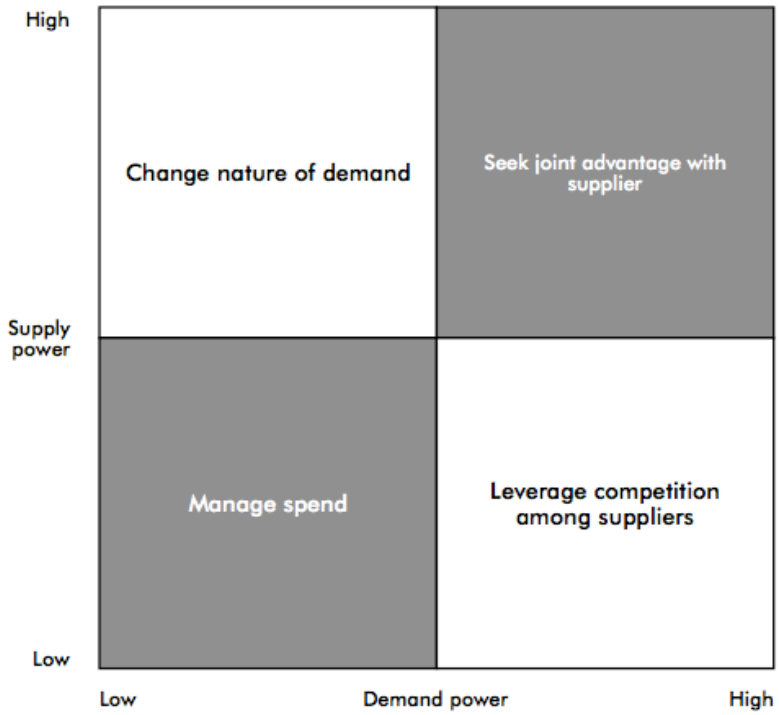

Figure 13: The four basic strategies (Schuh et al. (2009))

The 16 levers within the four basic strategies:

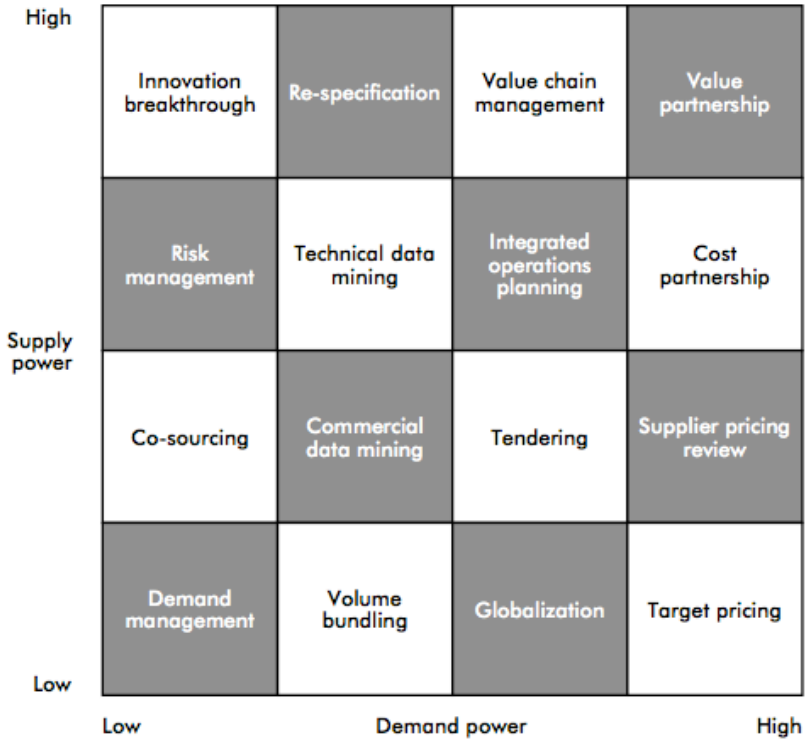

Figure 14: The 16 levers within the four basic strategies (Schuh et al. (2009))

The 16 methods within the basic strategy *Change nature of demand*:

Invention on demand	**Leverage innovation network**	Functionality assessment	**Specification assessment**
Core cost analysis	Design for sourcing	**Product teardown**	Design for manufacture
Vertical integration	**Intelligent deal structure**	Composite benchmark	**Process benchmark**
Bottleneck management	Political framework management	**Product benchmark**	Complexity reduction

Figure 15: Methods within strategy "Change nature of demand) (Schuh et al. (2009))

The 16 methods within the basic strategy *Seek joint advantage with supplier*:

Value chain reconfiguration	**Revenue sharing**	Profit sharing	**Strategic alliance**
Supplier tiering	Sustainability management	**Project based partnership**	Value based sourcing
Collaborative capacity management	**Virtual inventory management**	Total lifecycle concept	**Collaborative cost reduction**
Visible process organization	Vendor managed inventory	**Supplier development**	Supplier fitness program

Figure 16: Methods within strategy "Seek joint advantage with supplier) (Schuh et al. (2009))

Appendix B.1 Interview 1

Date: 2011-07-08

Work title of respondent: Director Strategic Sourcing

Purpose of interview: Gain understanding of Intco's supplier base and software pricing

Introduction questions

1. Please briefly tell us about your organization's work!

2. Is Intco a big customer for all (big) suppliers?

3. Are there other common characteristics for the suppliers that come to your mind?

4. What trends do you/Intco observe in software sourcing regarding:

5. Is any pricing approach, - cost-based, value-based or competition-based, dominant in software sourcing?

5 b. Does Intco try to increase competition between suppliers?

6. Is Intco aware of the supplier's cost and does such knowledge matter in pricing?

6 b. Is the supplier aware of Intco's profit margins to their customers?

7. Does Intco also try to push the supplier to increase the value of their product?

8. What is the optimal relation with the supplier with regard to value?

Appendix B.2 Interview 2

Date: 2011-07-11

Work title of respondent: Vice president

Purpose of interview: Obtain information about how Intco handles their suppliers with regard to software price

Introduction questions

1. Please briefly tell us about your organization's work!

2. Can you specify two or three areas where SWD are trying to improve its software sourcing?

3. How does SWD segment its suppliers?

4. What trends do you/Intco observe in how the larger suppliers operate?

5. Is Intco aware of that suppliers might also be competitors?

6. Are there situations where Intco don't negotiate price?

7. What kind of pricing do the suppliers use; cost based, competition based or value based?

8. Are the suppliers aware of competition?

9. What different value, except the product itself, is important in sourcing?

10. If the view of the value of a product differs between the supplier and Intco, is this because the supplier has poor knowledge in the market or because it uses a "trick"?

11. What does the supplier gain from the cooperation with Intco?

12. Does Intco have a strategy to increase the value in the products that they source?

13. What kind of relationship does Intco want to have with the suppliers

14. How does the power balance look like?

15. What kind of price structure would Intco prefer?

Appendix B.3 Interview 3

Date: 2011-08-19

Work title of respondent: Director Strategic Sourcing

Purpose of interview: Mapping of suppliers

Introducing questions

1. To your knowledge, has Intco done any mapping of the software supplier-base before (apart from mapping according to spending)?

2. Pricing models for software are highly standardized, but change overtime. What drives this change?

3. Is revenue sharing used?

Key questions

4. Where in the Kraljic matrix would it be appropriate to map different software products according to the category based sourcing structure (based on the IT-stack)?

5. How do you appreciate Intco's buying power relative to the supplier's power regarding:

a) Beta?

b) Alpha?

6. Are there any significant shifts in power in any supplier-Intco relationship?

7. What “software eco-systems” must Intco adapt to in the telecom business?

8. How does Intco help shaping certain “software eco-systems”? How significant is Intco’s sourcing function in this (compared to the suppliers and Intco’s other strategic decision makers)?

Appendix B.4 Interview 4

Date: 2011-08-28

Work title of respondent: System Architect

Purpose of interview: Obtain information about the interchange ability in Alphas software product

1. Is it hard to re-design old products into using a different software product (than Alpha’s software product)?

2. What are main technological reasons why Alpha’s software products are designed into new Intco solutions?

3. How do you view the possibility to use other vendor’s software product products to a wider extent?

4. Are there other reasons to why a product designer would prefer Alpha’s software product (e.g. “sense of stability”, the designer is used to work with Alpha specific features)?

Appendix B.5 Interview 5

Date: 2011-09-01

Work title of respondent: Strategic Sourcing Manager (responsible for Alpha)

Purpose of interview: Obtain information concerning Intco’s relationship with Alpha

Introduction question

1. Please tell us about your role and your interaction with Alpha!

2. What is the main reasons/gains from sourcing from Alpha?

3. What is bought from Alpha and what part do these products play in the solutions Intco sells?

4. Did the supplier size of Alpha increase when they bought Sun?

Key question mapping:

5. What are the main reasons why Alpha represents such a big part of the spending?

6. Where in this (Kraljic) matrix would it be appropriate to map (the main part) of the deals with Alpha (software products).

Key questions –power:

7. How would you describe the power balance between Intco and Alpha?

8. To what extent/how does Alpha exploit its power in sourcing negotiations?

9. To what extent/how does Intco exploit its power?

Key questions –the co-opetitive relation:

10. To what extent is Alpha Intco's supplier and competitor respectively? Is the amount (value of competing deals vs. value of supply) quantifiable?

11. Does Alpha's dual relationship with Intco affect how they interact with Intco in the sales/sourcing context? How?

12. Is Alpha Intco's customer in any significant context?

13. Does Alpha's ability to compete with Intco affect:

a) the amount of spending/purchased volume that is allocated to Alpha?
b) the depth of cooperation with Alpha?

Appendix B.6 Interview 6

Date: 2011-08-25

Work title of respondent: Strategic Sourcing Manager

Purpose of interview: Obtain information concerning Alpha's software product

1. Is it hard to re-design old products into using a different software product (than Alpha's software product).

2. Are the commercial or the technological arguments for choosing Alpha (for new products) dominating?

Appendix B.2 Cases

Date: Various

Work title of respondent: Strategic Sourcing Manager (mainly)

Purpose of interview: To get respondents view on how sourcing practices that he/she applied affected the outcomes of a specific sourcing case.

Purpose of our study: The purpose of this study is to explore the pricing process for software products bought by SWD*. The study has a specific focus on describing and analyzing how different sourcing practices affects the large variation in software prices.

**All company/business unit names will be referred to by fictitious names in our report.*

Introducing questions

1. Do you have any questions about the purpose of our study or about this interview?

2. Please tell us a little about your job and your background in sourcing!

3. Is the case you will tell us about a typical case or an extreme/unique case? (Both types of cases will work fine and are of interest to us). Please briefly introduce the case!

Setting

4. Who were involved in the negotiations?

5. What were the preconditions for the sourcing negotiation once you started discussing the commercial issues?

- To which extent were technology/product specifications already set?
- What possibilities were there to use any other supplier's software product?
- Was Alpha able to approach the end-customer in any way without going through Intco?

6. How would you describe the atmosphere between Intco and Alpha during the negotiation(s)?

7. What were the main topics you discussed with Alpha? (Regarding both technical and commercial issues).

8. Along with the deal that was on the table that day, did you discuss any other possible deals or future/ongoing opportunities for cooperation with Alpha?

Negotiation/discussion

9. When and how were the commercial issues approached? How was the discussion initiated?

10. What commercial issues were mainly discussed?

11. What were the major areas of disagreement/friction in the negotiations?

12. Do you think Alpha were flexible or willing to compromise regarding their offering? Why/Why not? What ability did you have to modify the offering?

13. Which arguments did the Alpha salesman use to support his position on price?

14. Which arguments/tactics did you use to lower the price?

15. In your view, which tactic used in the negotiation determined the outcome of the deal?

Outcomes

16. What was the initially proposed price by the supplier (including any initial discounts)?

17. What was the final price/discount?

18. Was the solution you finally bought different from the initial offering? (Software, services, terms and conditions). What ability did you have to modify the offering?

19. How did you evaluate the price?

Ending question

20. Is there anything you would like to add?

21. Would you like to review the transcript of this interview? (We will not transcribe the interview word-by-word but rather the main points and main reasoning in your answers.)

Appendix C: The IT-stack

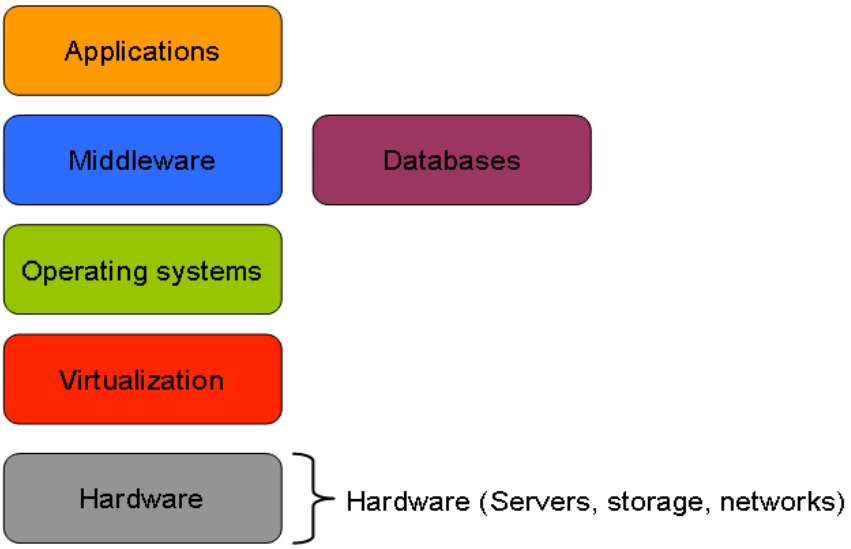

Figure 17: The IT-Stack (Intco Internal)

The categories of the IT-stack are explained further in this section:

- Hardware – the software in the IT-stack is run on hardware, such as servers and storage
- Virtualization – the purpose of the virtualization layer is to divide the hardware resources between different IT-stacks
- Operating systems – is a link between the hardware and the applications that a user wants to run
- Middleware – ties together the applications and the operating systems. However, the borderline between operating systems and middleware is becoming more and more unclear, what was considered to be an operating system some years ago can today be seen as middleware
- Applications – different software programs
- Databases – information that is organized in such a way that it is easy to search for, store and change it