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Changing sourcing strategies to make the most of them

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Abstract

Companies continuously try to find ways to improve their sourcing and better handle their supplier relationships. This paper explores how a firm changes sourcing strategy by focusing on what motives and considerations are involved. By undertaking an in-depth case study of a Swedish manufacturer of production logistics systems, which has a wide supply network organized with a parallel sourcing structure, two sets of changes of parallel sourcing variants are identified: changes within parallel sourcing and changes in relation to combinations with parallel sourcing. Strategic motives ranging from reducing costs, initiating and diminishing supplier relationships and influencing the network structure are discussed in the paper. It is concluded that both types of changes sometimes seem to be motivated with partly similar motives. The paper ends with implications for both buying and selling firms with regard to changing sourcing strategies.

Keywords: Sourcing strategy, Parallel sourcing, Changing sourcing strategy, Motives, Considerations.

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INTRODUCTION

In recent decades, purchasing and supply management have become strategic issues (Johnson, et al., 2006). In their literature review of the organizing of the purchasing function, Schneider and Wallenburg (2013) identify strategic alignment as one of the main areas of research including different types of purchasing strategies and their implementation. In another recent literature review identifying research opportunities in purchasing and supply management by Schoenherr et al. (2012), investigating supply chain management, including strategic procurement, as an enabler of organizational transformation and strategic change, is identified as a research opportunity.

This paper deals with sourcing strategy and in particular changing sourcing strategy. With regard to sourcing strategies, one major decision is between single and multiple sourcing of each product and this issue can be handled in different ways. Studies have shown pros and cons for each of the two strategies (Lamming, et al., 2000). Other studies have introduced different hybrid approaches that cover part of both single and multiple sourcing strategies to achieve benefits from both; for example parallel sourcing (Richardson, 1993), network sourcing (Hines, 1995) and triadic sourcing (Dubois & Fredriksson, 2008). In order to be able to develop and choose a sourcing strategy, it is important to understand it in relation a buying firm's opportunities for economizing (Najafi, 2013).

Changing sourcing strategy is not only about selecting the 'best' suppliers based on some criteria but it is about the relationships with the suppliers (Pulles, et al., 2014). The strategic decisions or initiatives made with regard to sourcing have different types of economic consequences for the buying firm, the involved suppliers as well as other parties in the business network (Gadde, et al., 2010; Håkansson, et al., 2009). Accordingly, we in line with Baraldi et al. (2014) stress the relational and inter-organisational nature of this phenomenon.

Thus, the paper contributes to the relatively scarce literature dealing with how firms develop their supply networks over time (Holmen, et al., 2007). However, there are some exceptions. Studies have made longitudinal studies of changes in the supply organizations with regard to functional organization, roles and responsibilities (Johnson & Leenders, 2006), while others are dealing with the process of changing sourcing strategies (Faes & Matthyssens, 2009; Faes, et al., 2005). Faes and Matthyssens (2009) studied reasons to change sourcing strategy, intended outcomes and when firms undergo those changes. The changes of sourcing strategy regarded both from a single sourcing to dual or multiple and vice versa, from dual or multiple to single sourcing. Surprisingly, they found that there were similar reasons, mainly cost pressure, to change in both directions. Quality and logistics concerns mainly functioned as reasons to reduce the number of suppliers. Faes and Matthyssens (2009, p. 252) focused at the reasons to change and the intended effects and the process and states "*purchasing strategy changes do take place very erratically over time and in both directions*". Adding to this understanding of changing sourcing strategy forms the background to this paper.

The aim of the paper is to investigate how a firm changes sourcing strategies over time and with which strategic motives. Each sourcing strategy comes with certain benefits as well as costs. To achieve this aim, the paper builds on a longitudinal case study of a Swedish producer of conveyor and production logistics systems.

The structure of the paper is as follows. Below is the theoretical framework described and thereafter is the method of the paper presented. It is followed by the case and case analysis. The paper ends with some concluding remarks and tentative implications for managers.

THEORETICAL FRAMEWORK

Sourcing strategies is part of the overall purchasing strategy and is related to defining how many suppliers a firm will have for one specific component/product/service, given the importance of the component and the structure of the supply market, and how the suppliers are related to each other (van Weele, 2001; Cousins, et al., 2008). Often the literature distinguishes between two primary sourcing strategies; single sourcing and multiple sourcing. In the later years different types of combinations of sourcing structures have been developed such as parallel sourcing, network sourcing, triadic sourcing etc. These sourcing structures are often reefed to as different types of hybrid sourcing structures (Dubois & Fredriksson, 2008).

In the following we have summarised the most important characteristics of the different types of sourcing strategies.

SINGLE SOURCING

This sourcing strategy characterises a buying firm with only one source of supply for a specific product or service. This could be due to the special importance of the product, or the structure of the supply market, i.e. there are only one or a few suppliers available what are able or willing to deliver the specific product. The single sourcing structure often results in mutual oriented relationships built on trust which has developed over a considerable period of time. Often the supplier takes active part in the product development of the buying firm, and product and processes can be jointly developed. From a dependence point of view the buying firm will be more depend on the supplier than vice versa. This has been pointed out as a disadvantage with the single sourcing strategy (Cousins, et al., 2008). The single sourcing strategy is illustrated in Figure 1.

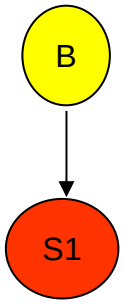

Figure 1 - Single sourcing (Cousins et al., 2008, p. 53)

MULTIPLE SOURCING

This sourcing strategy is characterised by a buying firm with multiple source of supply for a particular product or service. The buying firm will normally have a set of prequalified suppliers to choose from to make sure that the different suppliers both have the capacity and the capability to deliver according to contract and specifications. The suppliers compete with each other based on price and other parameters like quality, delivery time etc. Thus, the multiple sourcing strategy is often viewed as an adversarial approach to handling the suppliers, which also implies that the buying firm is quite independent of a single supplier because it can switch to another supplier relatively easy. The multiple sourcing strategy is illustrated in Figure 2:

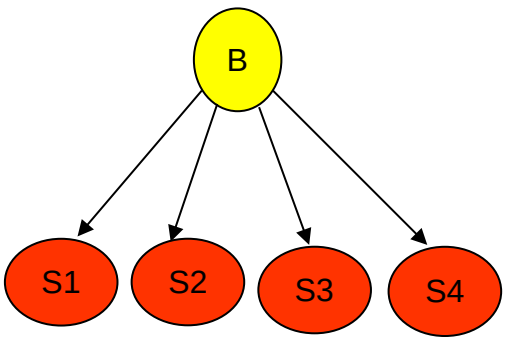

Figure 2 - Multiple Single sourcing (Cousins et al., 2008, p. 53)

DUAL SOURCING

There are fewer articles that described dual sourcing as a sourcing strategy than single and multiple sourcing. Culli and Wu s (1981) was one of the first to use the concept for a situation where a buying firm splits the volume between to (similar) supplier to reduce risk when two suppliers are used simultaneously to replenish stock for a single item. Yu et al. (2009) also describe dual sourcing as a strategy where the buying firm uses two suppliers, but these two do not have to be similar. They claim that one supplier may dominate the other in the terms of business share, price etc., but the buying firm uses two suppliers to reduce the risk of disruption in the supply of goods and services. Thus, one reason for having two suppliers is to reduce stock (because of less disruption in the supply chain).

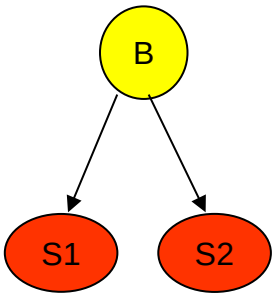

Figure 3 - Dual sourcing

DELEGATED SOURCING

This sourcing strategy implies making one supplier responsible for the delivery of an entire sub-assembly (system) to the buying firm as opposed to an individual part. The buying firm is giving more responsibility to one key supplier who coordinates the rest of the component suppliers. The supplier is often referred to as first-tier supplier. When the buying firm is working more closely with one supplier and leaves the rest of the coordination to this supplier, the buying firm achieve a reduction in the transaction costs (but the first tier supplier can get higher transaction costs).Cousins et al. (2008) claim that one disadvantage with this sourcing strategy is that the first tier (or system) supplier can become very large, and thereby get more power than the buying firm. This can alter the balance in the buyer-supplier relationship.

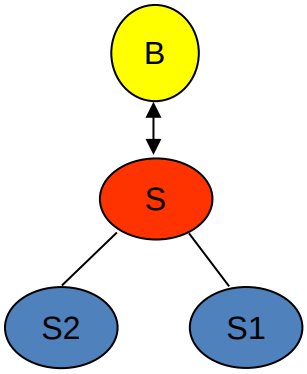

Figure 4 - Delegated sourcing (Cousins et al., 2008, p. 54)

PARALLEL SOURCING

Parallel sourcing is a sourcing strategy which allows the buyer to work on a single basis with each component supplier within a product group, while maintaining multiple sourcing across different product groups. As illustrated in figure aa3, for model M1 suppliers S2 and S4 are both single suppliers but if any problems occur, it is possible to use SI as a substitute for S2, and similar S3 can replace S4 (Cousins, et al., 2008). This structure was first described and tested by Richardson in 1993 when he studied Japanese automakers and how they worked with their suppliers. He realised that *"there are usually several firms within the assembler's supplier group qualified to manufacture a component. The other qualified suppliers may be currently producing similar components for other models or have done so in the past."* (Richardson, 1993, p. 342). Thus, there exist several suppliers in the buying firm's the supplier base with (almost) similar capability that could produce a specific component, but are producing some other components today. By using this knowledge the buying firm can introduce the threat of switching supplier if the currently used supplier is not performing according to expectations. On the other hand, if the supplier is performing well it will remain a single supplier for the specific component on a certain model (or a production site) and the buying firm and supplier will continue to develop a long-lasting and mutual oriented business relationship.

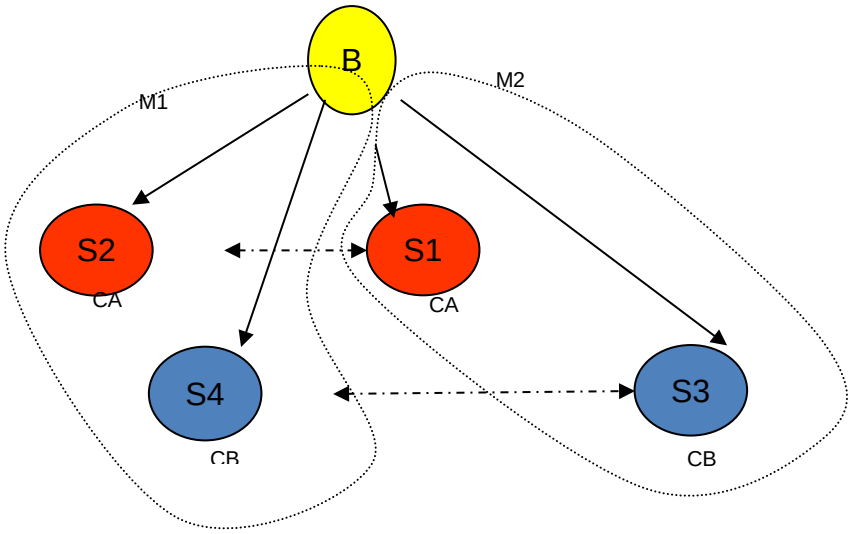

Figure 5 - Parallel sourcing (based on Cousins et al., 2008, p. 56)

NETWORK SOURCING

In a similar vein as the parallel sourcing strategy, the network sourcing strategy has its origin in the Japanese's automotive industry (Hines, 1995). He claims that the supply networks of these automakers are hierarchical and built as a pyramid with cascading suppliers in different tiers. There are very close relationships between the buying firm and the first tier suppliers. Hines (1995) describe network sourcing as a strategy where the buying firm uses two or more suppliers per product group, but were each supplier is guaranteed a minimum percentage of the total volume. If for example the buying firm has two suppliers each of the suppliers are guaranteed 1/3 of the volume and must compete for the last 1/3 based on earlier performance. In this network setting it is important to develop a context where the tension between cooperation and competition can be used to maximise the gain for all the parties involved. The network sourcing strategy is illustrated in Figure 6.

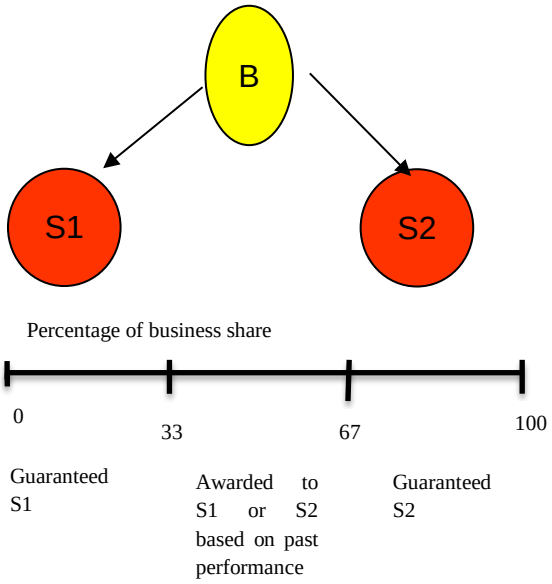

Figure 6 - Network sourcing (based on Hines, 1995)

TRIADIC SOURCING

The triadic sourcing strategy is based on using to (similar) similar suppliers of the same product or component which both are carefully selected. The buying firm is developing long-term and mutual supplier relationships with both the suppliers, but they also create interdependency between the two suppliers, which have partly overlapping capabilities. By doing so the focus changes for the buying firm from managing different dyads to managing a triad. This is complicated because the suppliers are both cooperation partners and competitions at the same time (Dubois & Fredriksson, 2008). Thus, the buying firm needs to balance the relationships between the two suppliers. Furthermore, each of the suppliers

involved are also part of other triadic sourcing structure, which crate further interdependences which the buying firm needs to be aware of. The triadic strategy is illustrated in Figure 7:

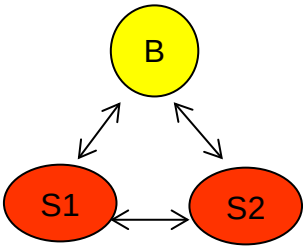

Figure 7 - Triadic sourcing

SUMMARY

Based on the literature review above we can summarise some important characteristics of the seven identified sourcing strategies in the table below. The table is based on an overview from Dubois and Fredriksson (2008), but is extended to contain both the primary and the hybrid sourcing strategies.

Table 1 - Different sourcing strategies in relation to each other (based on Dubois and Fredriksson, 2008, p. 176)

	Single	Multiple	Dual	Delegated	Parallel	Network	Triadic
Number of suppliers	One	Two or more	Two	One or two	Two or more	Two or more	Two
Key competitive Criteria	Development	Cost	Cost and development	Cost and development	Cost and development	Cost and development	Cost and development
Buyer-supplier rel.	Interactive Info and knowledge sharing Product and process co-development	Adversarial	Interactive Info and knowledge sharing Product and process adjustments	Interactive Info and knowledge sharing Product and process adjustments	Interactive and adversarial Info and knowledge sharing Some product and process adjustments	Interactive Info and knowledge sharing Product and process adjustments	Interactive Info and knowledge sharing Product and process adjustments
Rel. between suppliers		Indirect Competitive	Indirect Competitive	Direct Collaborative between different tiers	Indirect Competitive	Direct Competitive Enforced transfer of best practice Simple	Direct Competitive Collaborative due to operational interdependencies Multifacted and/or nested
Supply chain Scope	Dyad	Multiple dyads/ Portfolio	Dyad	Supplier tier structure	Dyad	Supplier tier structure with separate branches	Supply network with embedded firms outside the triad

We have found very few articles that have studied different types of change from on sourcing strategy to another, e.g. from single to multiple sourcing or from parallel to triadic sourcing. One exception is Faes and Matthyssens (2009) who studied buying firms' reasons to change sourcing strategy. They looked at both the change from single to multiple (including dual) sourcing the change from multiple to single (including dual) sourcing. Surprisingly Faes and Matthyssnes (2009) found that some of the same reasons were given, for example cost savings or quality improvements, independent of which direction the change was. This makes it interesting to continue to study change from one sourcing strategy to another, and to see how firms handle the changes.

As one starts looking very carefully at the different types of sourcing strategies described above and reflects on different characteristics to summarise the differences in a table, it soon

becomes apparent that it is quite complicated to separate some of the sourcing strategies from each other. Especially it can be complicated to differentiate between the hybrid forms. Thus, it is clear that to study changes within a specific sourcing strategy (and not between different sourcing strategies) is also of interest. This implies e.g. changes of a supplier within a given sourcing strategy, where one supplier is removed and another one added, but the type of sourcing strategy has no changes. In the following case we shall look at both *changes of sourcing strategies* as well as *changes within a given sourcing strategy* and drivers or motives that lead to the different changes.

RESEARCH METHOD

To be able to capture the phenomenon of changing sourcing strategies as described above, we have undertaken a qualitative research method. This paper uses a single case study methodology (e.g., Easton, 2010) which has enabled us to in-depth study how a firm changes sourcing strategy. The focal firm is FlexLink, a Swedish manufacturer of production logistics systems such as conveyor belts and drive units.

The study underlying the paper focuses on supply network development and it started in 2009 and is currently ongoing. The particular focus of this paper has emerged during the study undertaking a case study method in interplay with the developing literature, framework and empirical data (Dubois & Gibbert, 2010). The literature that has functioned as a starting point has mainly been connected to the Industrial Network Approach and supplier relationships and networks.

In total the case builds on 22 semi-structured interviews with the focal firm and three of its main suppliers complemented with additional contacts through follow-up e-mails, for example. The interviews have been tape-recorded and performed by one of the authors. The interviews have been transcribed and the transcriptions have built a rich case description. This rich case document has been important in the analysis. During the analysis, a number of draft tables have proofed to be especially important to identify the changes and what type of changes they represented. In line with systematic combining (Dubois & Gadde, 2002), we have aimed for matching the emerging framework, empirical data and analysis.

CASE DESCRIPTION: FLEXLINK'S CHANGES OF SOURCING STRATEGY

FlexLink is a Sweden-based producer of conveyor belts, material handling systems and other production logistics solutions. The company formed within SKF's (a Swedish manufacturer of bearings) organization in 1980 and in 1997 it spun off from SKF. FlexLink's product catalogue has a wide scope, ranging from very small components to large modules, all of which can either be sold individually or as parts of systems designed by FlexLink. Having modularity as the central piece of FlexLink's products has enabled FlexLink and its customers to use the items as 'Lego parts' for designing unlimited number of systems, depending on their needs.

FlexLink's markets are spread around the globe, while their suppliers are more concentrated in specific places. Europe is the biggest part of FlexLink's supply network, where Sweden alone is responsible for 60 to 70% of FlexLink's total procurement. Between 5 to 10% of FlexLink's procurement is done in China, and the rest is supplied by suppliers in the rest of Europe and U.S. FlexLink's supply network is made of a relatively small number of key suppliers with which FlexLink has large business volumes and close collaboration.

FlexLink has no manufacturing facilities; all manufacturing operations are undertaken by FlexLink's suppliers. When the produced items are purchased by FlexLink's customers as components, the suppliers ship the items to FlexLink's international distribution center in Poland. Otherwise, if the items are to be assembled in systems designed by FlexLink based on a specific customer's need, the items are shipped to FlexLink's facilities in Poland, Malaysia or U.S. for assembly. In some cases, the items are components of a larger product, such as an idler end that is made of multiple components (see Figure 8). In most of such situations, one of FlexLink's suppliers takes the responsibility of assembling the items to build the product, which in turn would either be sold as a component or installed in a FlexLink-designed system. Each of those components may be manufactured by one of FlexLink's suppliers. In some cases it is FlexLink that takes the responsibility of ensuring about availability of those items to the supplier responsible for assembly, while in some other cases it is the assembly supplier that contacts the item suppliers directly.

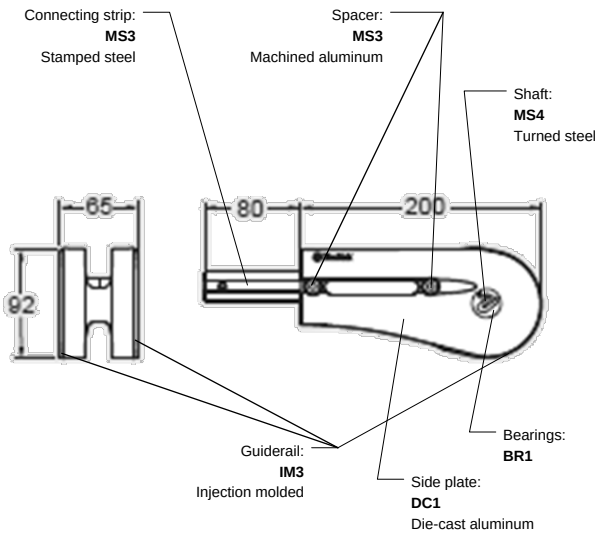

Figure 8 - A model of idler end and its components

FlexLink has suppliers with a variety of technologies. The manufacturing technologies contributing to the biggest shares of FlexLink's business volumes include plastic injection molding, aluminum die-casting, machining, stamping, stainless steel die-casting, zink die-casting, plastic extrusion, aluminum extrusion, and laser cutting. FlexLink usually has a lot of collaboration with its suppliers for developing new products, and therefore geographical closeness is an important consideration for FlexLink, when selecting new suppliers.

Most of FlexLink's suppliers use production tools to manufacture FlexLink's products. The tools related to some technologies are more expensive to own and maintain than others; some are more uniquely usable for FlexLink's products while some others are more generic; and some are easier to be moved from one supplier to another, while some others are almost impossible to use when the relationship with the supplier that uses the tool is stopped. FlexLink's strategy is to own the expensive tools (such as plastic injection molding and die-casting) and let the suppliers own the non-expensive ones. Either way, the responsibility for maintenance of the tools is on the suppliers that use the tools, while major maintenance and replacement of expensive tools is done by FlexLink.

For the expensive tools, FlexLink sees them as investments, meaning that in case that FlexLink decides to have another supplier produce those products, the tools needed for that production would not be needed to be bought again. Although FlexLink buys most of the tools for the suppliers, it does not commit to any volumes. However, FlexLink promises their suppliers that if the relationship discontinues at any point, FlexLink would buy certain volumes as the last deals. For the non-expensive tools, if for any reason FlexLink decides to change the supplier, they can simply buy new tools. This is because the new supplier would have to make modifications to the tools to be able to use them and, given the relatively cheap price of those tools, it is not worth it to move and modify the existing ones.

STRATEGY DEVELOPMENT IN FLEXLINK

"FlexLink is a small but very global company", expresses FlexLink's responsible for corporate development, to show the context in which FlexLink's strategies are made. In 2011, FlexLink decided to add a position to its organizational chart, for corporate development. The intention was to have someone that prepares food for thought and input to corporate strategy development and strategic decision making. FlexLink's previous director of supply division was selected for this position. There are three types of strategies at FlexLink: The corporate strategy, the local business plans for each market, and the product and innovation strategy.

FlexLink has four-year strategy periods. The above-mentioned strategies are defined for each period. Budget is defined for each year with a horizon of two additional years with different scenarios with various aspects, such as sales and operating results. The budget is updated annually.

Each of FlexLink's local units defines a local business plan every year. Those plans are also for one year, with a horizon of two additional years. The plans include strategies for the local sales units, and specify what each local unit needs to do and achieve in the coming year and within two years after that. Those plans are finalized after the corporate budget is set, and take the corporate budget as a starting point to identify what is achievable and what is not. The local business plans are very operational; they focus on activities that need to be undertaken, rather than the long-term ambitions and goals of the unit. Also, those plans are very sales-oriented; they emphasize what sales goals the local unit must achieve and what short term strategies they need to undertake for their local markets in order to achieve those goals.

Other types of strategies are decided on lower organizational levels that FlexLink's group management, and are not documented as strategies; instead they are discussed more as directions and decisions. In sourcing, some examples of strategic decisions primarily made by FlexLink's supply division are deciding on setting up the sourcing unit in Shanghai, expanding sourcing in China, having two suppliers for all tool-bound products, and moving the warehouse form Germany to Poland in 2013.

PLASTIC INJECTION MOLDING

IM2 and IM4 are among the most important suppliers of FlexLink. They both produce injection molded products for FlexLink, and contribute to a very large share of FlexLink's total offering. One of FlexLink's product quality engineers described this relationship, when interviewed, as:

> *"IM2 has been around since day one with FlexLink, they produced our very first prototypes (for the chains). More than 150 FlexLink injection molding tools are at IM2. They have been working with our products for so long that the knowledge and expertise that they have is almost irreplaceable. [If we ever decide] to change from IM2 to another supplier [it] would be very risky. They also know that they are very important for us. We have IM4 too, but IM4 only have half of the volume, and have not been around for as long time as IM2 has been."*

So, IM4 does not have as long a history with FlexLink as has IM2, but their relationship with FlexLink is also very important. FlexLink added IM4 to have another supplier with injection molding technology, because such products are very critical for FlexLink. This means that IM4 can potentially produce the same products as IM2, but they do not. For example, IM4

produces the plain chains, which are very high volume with the highest demand on a regular basis, while IM2 produces more custom-ordered and more specific chains. As one of FlexLink's product quality engineers addressed in an interview:

> *"So, IM4 is more of a volume producer, but if there is a problem with IM2, IM4 can take up the production of those items, because IM4 have the machines, and the tools exist at IM2's factory and can be moved to IM4's. This is not easily done, but it is possible. And of course also the other way round."*

In FlexLink's relationship with IM2, the business volumes continually grew every year until 2008. Starting from 2008, these business volumes have remained relatively constant. One reason for this is that since 2008, when developing new products, FlexLink has been looking for alternative suppliers who can produce the new items. Therefore, without reducing the business volumes with FlexLink, IM2's share of FlexLink's total injection molding business has reduced. At that time FlexLink's profitability in relation to the injection molding products was decreasing, while IM2's profitability was augmenting. FlexLink decided to discuss the issue with IM2 and ask them to reduce their prices. IM2 agreed to reduce the prices, but asked for an additional six months of continuation of the existing deal; a time that FlexLink did not have. Therefore, FlexLink started to put pressure on IM2, and this negatively affected the atmosphere of the relationship. In parallel, the ownership of IM2 was being changed from a family-owned business, to an investor duo, and this had made the interactions between the employees of the two companies more formal, or as FlexLink's responsible for corporate development put it: *"It became more professional, but less friendly."*

At the same time FlexLink were abandoning their relationship with an injection molding supplier in Denmark, called IM7. The plan was to consolidate those supplies with IM2 and IM4. FlexLink used this major volume increase in their relationship with IM2 to make the price decrease possible.

Since around 2005, IM1 was one of FlexLink's suppliers in China. The chains business has one of the largest annual volumes among FlexLink's products. Between 2005 and 2008 IM1 had shown interest in producing the chains for FlexLink, but FlexLink never agreed to make this change. Over time, IM1 established relationships with large customers in the automotive industry, and this changed IM1's directions and interests. In 2008 FlexLink experienced price increases and lack of collaboration from IM1's side. FlexLink's decision makers interpreted this as IM1's lack of interest in continuing business with FlexLink. Eventually FlexLink looked for an alternative plastic injection molding supplier in China, and moved away their tools from IM1. FlexLink's director of supply division described this as *"So, when we told them that we are going to take away the tools, it was no surprise to them."* In around 2008 a former employee of FlexLink in China sourcing recommended IM3 as a potential alternative supplier. After a series of visits and negotiations, a relationship was established between FlexLink and IM3 to cover the product range that was previously produced by IM1. The relationship between FlexLink and IM3 was developed over the years with multiple new plastic injection molded components.

FlexLink's share of IM2's total sales has reduced since 2008. The reason is that, supported and encouraged by FlexLink, since then IM2 has expanded its customer base. In 2008, FlexLink discussed this issue with IM2 and asked them to find other customers too.

> *"We wanted them to find other customers too, because we were afraid that if we struggle, they would go bankrupt. […] We told*

them that we are happy that we are growing and you are growing with us. But you need to do something about relying so much on us."

The interest of the new ownership of IM2 was also in line with this wish of FlexLink. IM2 created a market expansion plan, and added a number of new customers. This has reduced the amount of attention IM2 would pay to FlexLink's business. FlexLink's responsible for corporate development pointed at this when interviewed:

"Because when you are attracting a new customer you have to invest a lot in convincing them to work with you, learning about their products and setting up the production. We could feel some of that but in the end I think it is good for FlexLink that IM2 has those other important customers too. […]

After the agreements were made and the situation became more stable, good cooperation between the two firms was resumed.

Another one of plastic injection molding suppliers of FlexLink is IM5. In 2010 FlexLink acquired the industrial automation business of one of its competitors (AE2) and that gave FlexLink access to IM5 that was one of AE2's suppliers for plastic injection molding. Since then, IM5 has been producing certain models of plastic chains for FlexLink.

IM2 manufactures bigger varieties of more customized products for FlexLink, while IM4 manufactures very high volume products that are essential in FlexLink's offerings or, as described by one of FlexLink's quality engineers during an interview, *"bread and butter"* items. In 2011, when processing their annual product development project, FlexLink decided to find a new supplier to take care of a part of these supplies. IM6 is the supplier FlexLink found for this purpose. This decision was made because the availability of this group of items was very important to FlexLink and thus they felt the need to have another supplier. Besides, FlexLink's cost cutting initiative motivated working with this Hungarian supplier (IM6) that could deliver the products for a much lower cost than IM4.

DIE-CASING IN CHINA AND THE CONNECTED RELATIONSHIPS

FlexLink's first purchases in Asia were made in the 1990s, when they bought a number of injection molding tools in Taiwan. This was mainly attributable to the interest of the company's board in making a purchase in Asia. In 2002, FlexLink decided to try sourcing from China. However, owing to the difficulties of coping with the local regulations and lack of business know-how, they decided to source their desired items via a Swedish import/export company (IE1) active in China sourcing. They started with connecting strips (supplied by DC5) and later added more items such as square nuts (supplied by NB4) to the total China business. Both DC5 and NB4 were only indirectly related to FlexLink via IE1.

In 2004, when FlexLink were considering cost-cutting activities, their business in China became an opportunity for them. The landed cost of an item being produced in China is much lower than when it is made in Europe, mainly for products requiring manual labor. However, energy and raw materials were constantly becoming more expensive. FlexLink's decision to take a more active role in China sourcing was not only inspired by potentially lower costs, but also by the management's decision for branding FlexLink as a cost cutter, and to be able to better use their administrative office in Shanghai (which was previously used for marketing and sales). Hence, in 2004 FlexLink initiated a sourcing unit in Shanghai and found a supplier for die-casting, DC1. DC1 was a small company at the time, and the first items that FlexLink ordered to DC1 were very simple angle brackets. That specific model of

brackets was at the time supplied by one of FlexLink's European die-casting suppliers. DC1's success in satisfying FlexLink, made them increase business volumes with DC1 with additional models of brackets and then over time many other types of die-cast items, all of which were parts of new projects and not sourced previously.

In 2005, FlexLink expanded its China sourcing unit by hiring more employees to make it possible for an expansion of sourcing business in China.

'Drive units' and 'idler ends' are two of FlexLink's most important products used in almost all production systems designed by them or by their customers. Before 2005, they were only produced in one size, large. For many years FlexLink had received demands for more compact versions of these items in order to work with lower speeds and lighter loads. For this purpose, smaller versions of idler ends and drive units were designed with different spacer and shaft sizes, and a new "side plate" was designed that could fit all three different sizes: two new types of idler end and 16 new variants of the drive unit. There was a challenging decision to make: where should the new items be produced? This took place at the same time as FlexLink's first attempts at China sourcing. Despite some resistance in FlexLink Sweden, a decision was made to start production of these new items all at the same time, in China.

FlexLink moved a number of production tools to China and bought a number of new tools (for side plates and injection molded parts) there in order to be able to produce all the required items in the new product package in China. This way they managed to avoid extra shipments from Europe to China. At the same time, FlexLink set up an assembly workshop in Shanghai. The director of the supply division said that that was the right time for this major expansion in China, because

> *"...with only one item it didn't make sense, because then you would have to buy one tool, and produce only one variant. Since you have tool-bound production, it was quite a big threshold; it was a package design, and it was a new product!"*

Avoiding the purchase of new tools in Europe made it easier for FlexLink to make this move. One reason for this decision was the possibility of making this large investment in purchasing new tools in China, rather than Europe, in order to take advantage of lower prices of the tools. Besides, at that point FlexLink decided to keep the production of the items related to the large-sized systems in Europe, since the investment in tools for those products would have had to be paid off before any profit could be realized from the difference between the cost of finished goods in China and Europe, a process that might take some 5 years.

The technology-based multiple sourcing strategy has also helped FlexLink have available options when deciding to make major changes to its supplier relationships. However, ending a relationship in FlexLink's supplier base has mostly been challenging. FlexLink's responsible for corporate development exemplified for this:

> *"During the transition from one supplier to the other, there is a lot of dirty laundry coming out of the closet. Of course the supplier is disappointed. They are all always professional; I have not seen any unprofessionalism. But for natural reasons, instead of focusing on how we can develop and become more efficient and thereby reduce the prices, the discussions shift focus to the supplier trying to find a way to recover from the costs they have spent for FlexLink. Sometimes they come and say that we have, for example, three months of supplies and you have to buy it! When we ask why you*

> *did this without any purchase orders from us, they reply that 'well, you had told us that the volume will be this and this in the upcoming year'. [...] In general we try to be fare in such situations, because if the products are good sellable products, it is a shame to let them go to waste. We would then ask for the same price as we get from the new suppliers, but then the new supplier will be disappointed, because we would have to wait another two to three months before we can start buying from them. So, we try to work out a deal.*

For example, FlexLink used to have three die-casting suppliers in Sweden (DC2, DC3, and DC4), each of which used to produce a couple of groups of die-cast items. After DC1 joined the FlexLink supplier base, the total count of suppliers capable of doing such production was four. Over time, FlexLink continued to gradually move more of the items produced by DC3 and DC4 to DC1. Before starting with DC1, DC4 was responsible for almost 50% of FlexLink's total die-casting business volumes. By 2009, when DC4's business with FlexLink had been reduced to only 20%, DC4 realized that they cannot survive as a manufacturer of high-volume simple items in Sweden. They had lost a large share of their 'fast-movers[1]' due to the significant cost advantage that sourcing those items in China had. Hence, DC4 started to become more flexible and widen their technological scope. This way they managed to keep more low-volume but complex products, while losing the high volume simple items.

In 2011, FlexLink realized that the Swedish die-casters are only responsible for a limited share of total volumes for die-cast items. More specifically, all of FlexLink's dealings with DC3 were down to only ten parts and so they decided to abandon this supplier relationship and transfer their tasks to the three other suppliers in the supplier base. So DC1 was asked to produce four of these items, and the remaining six were consolidated with the other two suppliers; aluminum die-cast items to DC4, and zinc die-cast items to DC2. However, DC3 received one last large order (for about four months of supplies) before being phased out. Afterwards the tools were moved from DC3 to the other suppliers. In this case, the decision to move the tools was on the one hand problematic because it meant that production of the focal items at the other suppliers could not have started before stopping the relationship with DC3. On the other hand, it was a good decision because ending relationships with tool-bound manufacturing is always considered a challenge for FlexLink, when it comes to deciding on what to do with the tools, because the tools are very expensive and the supplier that is abandoned does not need them anymore.

By 2011, FlexLink's business with DC4 was reduced to around 15%. However, since a few years before that, DC4 had made some strategic changes and widened their technological scope, so that they could manufacture more sophisticated items. This was among the reasons that in 2011 between DC3 and DC4, FlexLink chose DC4 to maintain the relationship with. This resulted in an increase of the business volumes to around 30% of FlexLink's total die-cast business volumes.

CONNECTED RELATIONSHIPS

FlexLink, for many of its products that include multiple components, uses its suppliers for assembly. The suppliers that become responsible for such assembly operations are those that manufacture at least one of the components of the assembled product. For example, the idler end model 1 consists of almost the same components as the other models of idler ends,

[1] High-volume simple products that compared to other products it is easier and more promising to move them to China for production.

however its size and capabilities differ from the others. As shown in Figure 9, each of these components is produced by one of FlexLink's suppliers, and assembled by one of them. Two of their Chinese suppliers are involved in the production of this product: DC1 in China die-casts the side plates and uses a sub-supplier to paint them, and MS3 produces the connecting strips out of stamped aluminum. These items are all sent to FlexLink's international distribution center in Germany, and sold from there to MS6 in Sweden. This supplier also purchases injection molded guiderails from IM2 in Sweden and bearings from BR2 in Sweden. MS6 performs some final machining operations on the side plates and assembles all the items together with the shafts they produce.

Such supply settings imply that FlexLink becomes both a customer and supplier to suppliers who perform assembly for FlexLink. The supply chain director of FlexLink explained this as:

> *"Sometimes we are beating on them: you are not delivering, you are not delivering! But they sometimes tell us we cannot deliver because we don't get the components from you! So sometimes we are our suppliers' suppliers".*

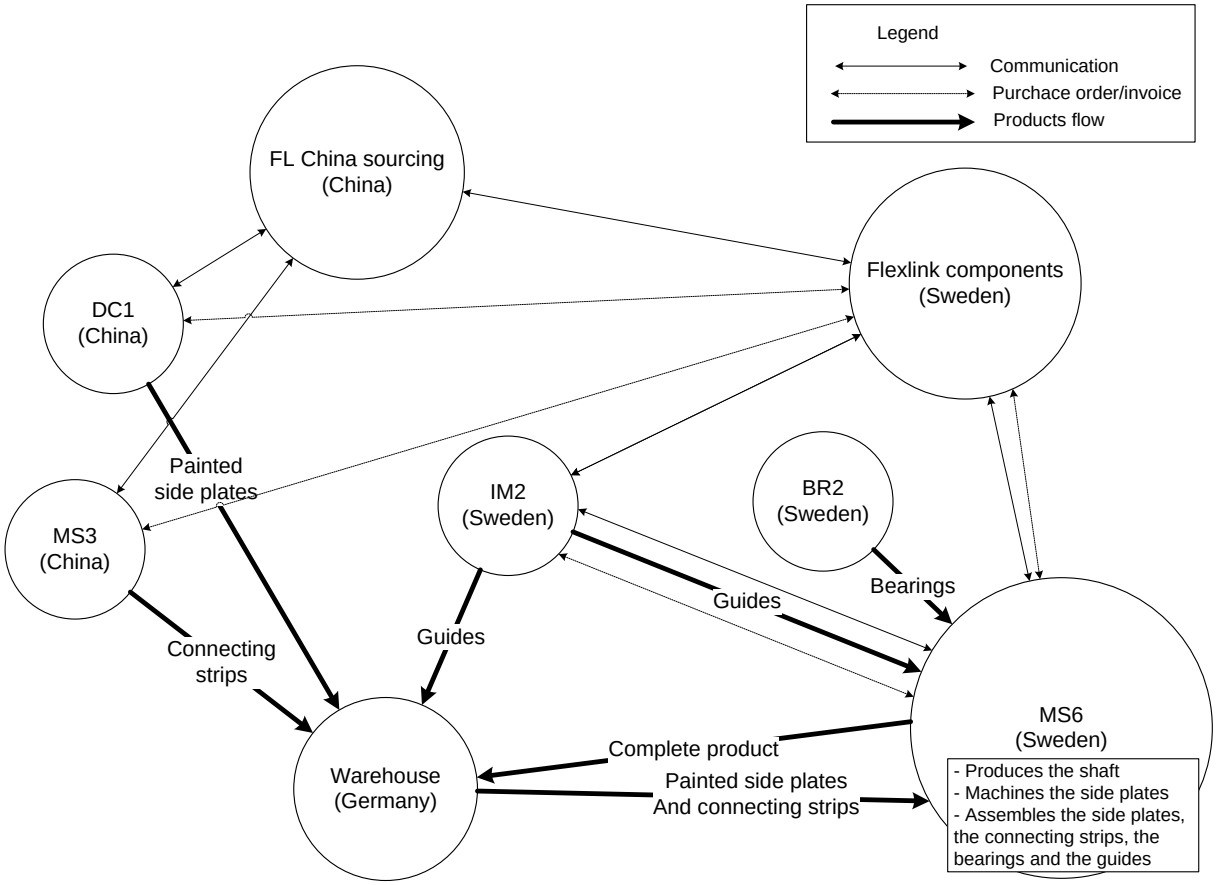

Figure 9 - Supply network for Idler end model 1

In another example of such arrangements, DC1 plays the key role. In 2011, FlexLink was developing a phone bracket to be manufactured in China. A phone bracket consists of a painted die-cast bracket body, two plastic injection molded cover lids and some bolts and nuts. The bracket is produced by DC1, and the lids are molded by IM3 (Figure 10). Normally one of FlexLink's Swedish suppliers would purchase all of the components required from DC1 and IM3, and assemble them, or FlexLink would do that in their own assembly unit in

Shanghai. But at that time FlexLink decided to give the task to one of the Chinese suppliers, and DC1 took the initiative and proposed to take care of this task. FlexLink also preferred to have DC1 do the job rather than IM3, because, as the supply chain director put it:

> *"They are the most experienced ones in China; they know our requirements very well, so we are more comfortable with them buying from IM3 than the other way round".*

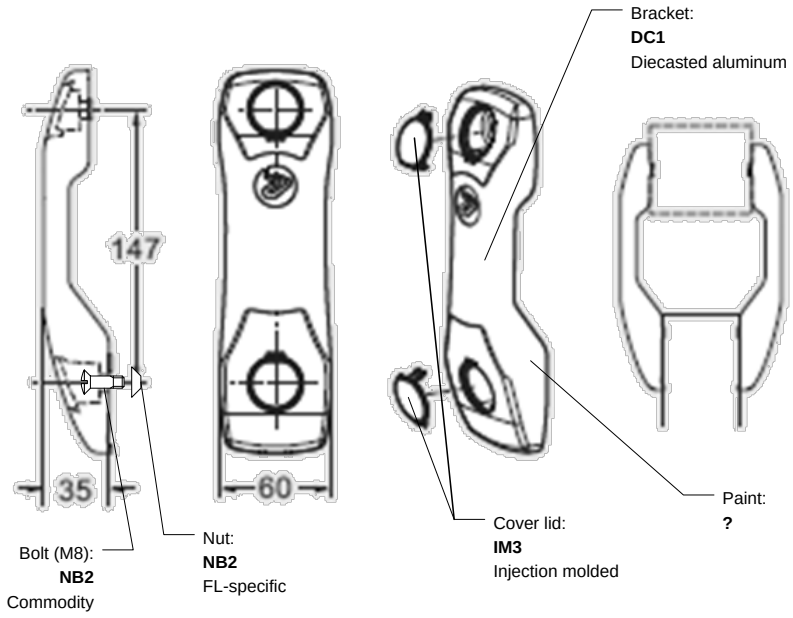

Figure 10 - Phone bracket (an example of connected relationships)

The big process picture can be described as follows: DC1 die-casts the bracket body, removes all the burrs (the sharp edges), and sends it out for painting. After receiving the painted brackets, DC1 pre-assembles the nut and bolt (purchased from NB1[2]) and the covers (purchased from IM3) on it, puts the product in plastic bags, seals the bags and sends them to the consolidation point in China.

The plastic lids are also lighter and cheaper than the die-cast brackets. Therefore, it makes more sense for DC1 to buy from IM3, than to transport all of the heavier and more expensive items to IM3 for assembly. Connectedness among these relationships is not highly under FlexLink's influence. FlexLink, for instance, informs IM3 that DC1 is also allowed to make a purchase of this specific item from them with the agreed price between FlexLink and IM3. Then, DC1 regularly makes purchases from IM3 and assembles them to the items they have die-cast for FlexLink, and sells the complete product to FlexLink. For pricing, FlexLink agrees to pay for the additional purchased items, the assembly workers time, and an additional margin in order to make it beneficial for DC1 to do this for FlexLink. In case that IM3 increases the price of the item (after negotiating with FlexLink), FlexLink compensates the extra cost for DC1. DC1 makes infrequent large batch size purchases (two to three times a year) from IM3, and stores the plastic lids until they are needed. These sales constitute a small share of FlexLink's business with IM3. The supply chain director explained this as:

> *"It is something that IM3 does because it is like a package. We buy other more expensive items from them, and then we say you also*

[2] Another supplier of FlexLink in China, not directly in contact with FlexLink China Sourcing.

have to make the lids. So, for them it's a necessary evil to get the remainder of our business."

Regarding the painting supplier, FlexLink visited them a few times, but does not actively take part in the relationship between them and DC1. FlexLink gives the painting specifications to DC1 and has made DC1 responsible for ensuring it. DC1 pays this supplier, and can change supplier if they realize that the expected quality is not being met. The same goes for the bolts. DC1 is responsible for finding a supplier that provides bolts with proper quality at a reasonable price.

However, the situation is different for the nuts, which are uniquely made for FlexLink in order to fit in their products. The material used in making these nuts is conventional, but the dimensions and design of the nut are unique to FlexLink and NB1 only produces them for FlexLink. FlexLink has not designed this product, but has only defined its specifications.

NB1 is a German company with a subsidiary in China and FlexLink Sweden is a customer of them. NB1's factory in China is contacted directly by FlexLink or its Chinese suppliers, and the purchase is made directly. In Sweden, this item is bought from NB1 Germany in labeled packs of 50. Knowing that they are produced in China, FlexLink has asked DC1 to contact NB1's subsidiary in China and order the nuts there. NB1 does not deliver the nuts to DC1 in labeled packaging. DC1 buy them in full pallets, and thus can manage to acquire the nuts cheaper than what FlexLink can do in Europe, and FlexLink avoids unnecessary transportation of the nuts between Europe and China.

ANALYSIS

Below the eight changes identified are gone through one by one in a table format. The analysis starts with the changes in plastic injection molding, followed by die-casting and other changes.

Plastic injection molding products play the most important role in FlexLink's offering. They are produced in high volumes, and cover a wide range of products that are essential for all FlexLink-produced systems. The two key changes focused above were also mainly motivated by this importance. FlexLink needed to not only ensure availability of those products at all times, but also needed to focus their production on a few but very close suppliers to be able to use their help when developing new plastic injection molding products or solving problems related to them. FlexLink's relationships with IM1 and IM7 could not fit into this model because over the years neither of the two relationships had resulted in the closeness and involvement that FlexLink needed. Hence, the two relationships were abandoned; the volumes of one (IM7) were used to recover the atmosphere of an important relationship (IM2), and the volumes of the other (IM1) were assigned to a newly found supplier.

Table 2 - Change 1: Plastic injection molding, 2008

<table>
<tr><th colspan="5">Injection molding: Change of sourcing strategy in 2008</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td rowspan="2">Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel
To Parallel</td><td>Remove and Add:
From 4
To 3</td><td rowspan="3">- Supply base reduction to avoid unnecessary supplier base handling costs (removing IM7)
- Facilitating improvements in the damaged atmosphere of a strategic relationship (with IM2)
- Abandoning a relationship that did not include satisfactory collaborative atmosphere (IM1)</td><td rowspan="3">IM2:
- Major increase in business volumes
- Enabled price reduction
- Improved relationship atmosphere
IM4:
- No change</td><td rowspan="3">IM3:
- Established a relationship to cover for IM1’s product range</td><td>IM7:
- Relationship abandoned by moving all business volumes away to IM2</td></tr>
<tr><td colspan="2">Comments</td><td>IM1:
- Relationship abandoned by moving all business volumes away to IM3</td></tr>
<tr><td colspan="2">The change was made possible due to the parallel sourcing structure, where other suppliers with almost the same capabilities as IM7 were available at the time of abandoning the relationship with IM7.
Simultaneously, FlexLink abandoned the relationship with IM1 and replaced them with another Chinese supplier, IM3. The problems between IM1 and FlexLink were initiated by FlexLink’s refusal to provide IM1 with the business deals related to a specific high volume product, and IM1’s lack of interest in their relationship with FlexLink, as a result of their refusal.</td><td></td></tr>
</table>

The relationship with IM2 was so important for FlexLink that FlexLink was willing to take various steps to recover its damaged atmosphere, which was a result of change of ownership of IM2 and their over-formalized way of working with customers. In addition to the previous supply consolidation attempt, FlexLink took another step in this direction in 2008 and encouraged IM2 to find other customers. This was to reduce IM2’s dependence on FlexLink’s business, so that in difficult times FlexLink can rely on IM2.

Table 3 - Change 2: Injection molding, 2008 (additional change)

<table>
<tr><th colspan="5">Injection molding: Change of sourcing strategy in 2008 (additional change)</th></tr>
<tr><td rowspan="2">Change of sourcing structure</td><td rowspan="2">Change of suppliers</td><td rowspan="2">Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel
To Parallel</td><td>No change:
From 3
To 3</td><td rowspan="2">- To avoid too much dependence of IM2 on FlexLink, so that IM2 can help FlexLink if FlexLink has major economic difficulties</td><td rowspan="2">IM2:
- Reduced dependence of IM2 on FlexLink
- IM2 pays less attention to FlexLink than before, but still the two firms have good collaboration
IM3:
- No change
IM4:
- No change</td><td rowspan="2">-</td><td rowspan="2">-</td></tr>
<tr><td colspan="2">Comments
This is a reaction FlexLink has to the volatilities in atmosphere of their relationship with IM2 in 2008. The change of IM2’s ownership and relationship handling style had affected their previously very effective collaboration with FlexLink, and now FlexLink was feeling the need for ensuring that good collaboration can be resumed and maintained in the long run. The first change in 2008 (described before) helped resuming a good atmosphere and effective collaboration between the two firms, while the second change (the current one) was FlexLink’s move towards maintaining the relationship.</td></tr>
</table>

In 2011, however, the importance of the availability of plastic chains took FlexLink to take on a different change of strategy. FlexLink had a close relationship with IM4 that was responsible for supplying very high volume plastic chains, but FlexLink did not want to put all eggs in one basket. Their way of doing this was to find a new supplier (IM6) to be a part of the development of the new models of plastic chains. This meant that fewer new products than before would be developed between FlexLink and IM4, but still FlexLink would continue to maintain and use its long-lasting relationship with IM4 for problem solving, new product development and for the production of large varieties of its high volume changes. This way, FlexLink ensured that its relationship with IM4 remained unharmed, while they gained the possibility to have another supplier that can potentially cover for IM4 if needed.

Table 4 - Change 3: Plastic injection molding, 2011

<table>
<tr><th colspan="5">Injection molding: Change of sourcing strategy in 2011</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td>Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel
To Parallel</td><td>Add:
From 4
To 5</td><td rowspan="2">- To ensure about the availability of the high volume chains
- To reduce direct procurement costs (price tag)
- To reduce dependence on one supplier (IM4) for a strategic group of products</td><td rowspan="2">IM2:
- No change
IM3:
- No change
IM4:
- No change in the existing business volumes
- Fewer new products were added, because only a part of the newly developed chains were ordered to IM4
IM5:
- No change</td><td rowspan="2">IM6:
- New relationship established, and new products were developed in this relationship</td><td rowspan="2">-</td></tr>
<tr><td colspan="2">Comments:
Since chains are one of the most important products of FlexLink, their availability is extremely important to them. However, the change did not include sourcing the same items from multiple suppliers. IM6 became responsible for other models of chains than what IM4 is responsible for.</td></tr>
</table>

Another one of important product categories of FlexLink is aluminum and zinc die-cast products. Their importance is not only because of their high volumes and varieties, but also because of including large ranges of items that are simple and easy to be produced in relatively more distant relationships. Before 2004, FlexLink's cost cutting initiatives had driven them towards limited China sourcing via an agent (IE1), and a group of die-cast items (from DC5) and some models of nuts and bolts (from NB4) were chosen for that purpose. However, this delegated sourcing structure that centered IE1 was not suitable for FlexLink's long-term plans, and can be seen as only an initial step towards FlexLink's expansion in China sourcing. In 2004 FlexLink's strategic initiative to start active sourcing in China by setting up a sourcing unit in Shanghai could not bear with very low-involvement relationships with DC5 and NB4 which would only work through a middleman. FlexLink's long-term perspective regarding china sourcing necessitated establishing relationships with suppliers potentially suitable for high involvement relationships in the long run. DC1 was the supplier FlexLink found for this purpose. But FlexLink was the price and quality leader in the market. To avoid the risk of losing that position, their relationship with DC1 had to be started in a cautious manner. That is why DC1 is asked to dually source a handful of simple items that were already being produced by other suppliers of FlexLink.

Table 5 Change 4: Die-casting, 2004

<table>
<tr><th colspan="6">Die-casting: Change of sourcing strategy in 2004</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td>Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel + Delegated
To Parallel + Dual
Add and remove:</td><td>From 6
To 4</td><td rowspan="2">- Removing the middleman to enable close collaboration with suppliers in China
- Strategic initiative by the owners of FlexLink to give them a cost cutting image
- A long term approach to success in China sourcing
- Following the fashion of sourcing in China</td><td rowspan="2">DC2:
- No change
DC3:
- Minor reduction of business volumes as a result of adding DC1 as a dual source for some items
DC4:
- Minor reduction of business volumes as a result of adding DC1 as a dual source for some items</td><td rowspan="2">DC1:
- Relationship started with simple items</td><td rowspan="2">IE1:
- Relationship abandoned and replaced by active presence of FlexLink in China
DC5:
- Relationship abandoned as a result of abandoning the relationship with IE1
NB4:
- Relationship abandoned as a result of abandoning the relationship with IE1</td></tr>
<tr><td colspan="2">Comments:
The start of the relationship with DC1 as a dual source for some items produced by DC3 and DC4 is only the start of FlexLink's active approach to China sourcing. Soon, this dual structure is replaced by a parallel structure, when DC1 is made responsible for products that are not simultaneously produced by any other supplier.
Note: DC2 is not a part of the dual sourcing structure.</td></tr>
</table>

The first tries with DC1 were successful. Following the long-term perspective discussed above, in early 2005 FlexLink decided to introduce new products to its relationship with DC1. DC1's great performance and positive attitude towards improvement and collaboration with FlexLink made FlexLink invest in and develop the relationship further over the years following 2005.

Table 6 - Change 5: Die-casting, early 2005

<table>
<tr><th colspan="6">Die-casting: Change of sourcing strategy in early 2005</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td>Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel + Dual to Parallel</td><td>No change:
From 4
To 4</td><td rowspan="2">- DC1 had satisfied FlexLink, and hence FlexLink found them fit for a long-term relationship
- To acquire some products with lower costs
- Die casting tools are expensive. Dual sourcing meant purchasing duplicate tools for DC1 and DC suppliers in Europe. Avoiding dual sourcing to gain economies of scale on the tools and manufacturing capacity of each supplier</td><td rowspan="2">DC1:
- Expanded business volumes with multiple new products introduced
DC2:
- No change
DC3:
- No change
DC4:
- No change</td><td rowspan="2">-</td><td rowspan="2">-</td></tr>
<tr><td colspan="2">Comments
After FlexLink gets satisfied with the quality of the initial products sourced to DC1, the relationship starts to expand with a number of products that are not produced by any of the other suppliers of FlexLink.</td></tr>
</table>

With DC1 showing commitment and potentials, FlexLink decided to expand the relationship with multiple new products in 2005. A part of those products were newly developed by FlexLink as a part of their new product development project for small and medium sized systems, while the other part included the products already produced by DC3 and DC4 in Europe that FlexLink had decided to move to China. The former part was a long overdue project that FlexLink was not able to launch due to the high landed costs of die-cast products in Europe. But, DC1's ability to deliver high quality products with a low cost, the well-functioning collaboration between FlexLink and DC1, and the bright future the two firms had depicted for their relationship enabled them to start the project. This meant focusing new product development in the die-casting product category on the DC1 relationship, and very limited developments in FlexLink's relationships with DC3 and DC4. Besides, both DC3 and DC4 relationships suffered from losing products to DC1, and this led DC4 to start redefining and widening the technological capabilities they were able to offer to FlexLink; a change that later in 2009 saved the FlexLink-DC4 relationship.

Table 7 - Change 6: Die-casting, late 2005

<table>
<tr><th colspan="5">Die-casting: Change of sourcing strategy in late 2005</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td>Motives for change (Intended strategy)</td><td colspan="2">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel
To Parallel</td><td>No change:
From 4
To 4</td><td rowspan="3">- So that FlexLink could add small and medium size idler ends and drive units to their offering
- To acquire those new products with low costs, because they were supposed to be offered to the market with a lower price
- To expand China sourcing, given FlexLink's long term perspective
- To save costs on tool purchases by making those purchases in China for DC1</td><td rowspan="3">DC1:
- Major expansion of business volumes with new products
- Involvement in solving different production problems, as all those products were newly developed

DC2:
- No change

DC3:
- Major reduction of speed in the expansion of business volumes due to dedicating the new product development project to small and medium size items and DC1

DC4:
- Major reduction of speed in the expansion of business volumes due to dedicating the new product development project to small and medium size items and DC1
- Later widens the technological scope of the capabilities it offers to FlexLink.</td><td rowspan="3">-</td><td rowspan="3">-</td></tr>
<tr><td colspan="2">Comments</td></tr>
<tr><td colspan="2">Besides this important change, FlexLink establishes an assembly workshop in Shanghai to perform local assembly of the items purchased in China. This is a part of their strategy of major expansion in China with small and medium size systems.</td></tr>
</table>

As a result of the trend FlexLink started in 2005, in 2011 FlexLink realized that there are only a few items left in its relationships with DC3 and DC4. Maintaining those relationships with such limited scale was not feasible for FlexLink, hence they decided to rationalize their supplier base. Here DC4's widened scope of technological offering meant new opportunities for FlexLink, and resulted in FlexLink's decision to maintain the relationship with DC4 and eliminate DC3 from its supplier base. The manufacturing of the few items left with DC3 were moved to DC1, DC2 and DC4 and helped increasing scale in those relationships. This was

specifically important, because FlexLink wanted to maintain and improve its promising supplier relationships, and this was a step towards that goal. This was made possible by all that had happened in FlexLink's relationships with the four die-casting suppliers throughout the years; DC2 has always been a close supplier to FlexLink providing help in different ways, DC1 showed promising performance and commitment during the six to seven years of collaboration with FlexLink, and DC4 expanded its technological scope and offered new capabilities and potentials to FlexLink, while DC3 did not take any considerable step towards maintaining business with FlexLink.

Table 8 - Change 7: Die-casting, 2011

<table>
<tr><th colspan="6">Die-casting: Change of sourcing strategy in 2011</th></tr>
<tr><td>Change of sourcing structure</td><td>Change of suppliers</td><td>Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td></td><td></td><td></td><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel
To Parallel</td><td>Remove:
From 4
To 3</td><td rowspan="2">- To reduce supplier base handling costs by rationalizing the number of supplier relationships
- To eliminate an economically infeasible supplier relationship by consolidating business volumes with the other suppliers.</td><td rowspan="2">DC1:
- Expansion of the relationship with additional business volumes of some of the products previously produced by DC3
DC2:
- Expansion of the relationship with additional business volumes of the zinc die-cast products of DC3
DC4:
- Before this change, DC4 has lost around 60% of its business volumes with FlexLink to DC1.
- Due to having a wide technological scope that FlexLink can make use of, FlexLink decides to stay with DC4 and expand the relationship by moving some of DC3's products to DC4.
- After this change, the FlexLink-DC4 relationship expands with a part of the aluminum die-cast products previously produced by DC3</td><td rowspan="2">-</td><td rowspan="2">DC3:
- Only 10 items were left in this relationship. So, FlexLink moved those items to its other DC suppliers and abandoned this relationship
- When abandoning DC3, FlexLink gave one last large purchase order to DC3 for two reasons:
o First, to be fair and have a smooth ending of the relationship
o Second to avoid purchasing new tools. FlexLink moved the existing tools from DC3 to the respective suppliers and save a lot of costs there</td></tr>
<tr><td colspan="2">Comments
Parallel sourcing made this change possible.
DC4's reaction to FlexLink's major expansion in China is interesting. They analyze the situation with a long term perspective and realize that staying in the high volume simple products business with FlexLink cannot be maintained for long. Thus, over a few years they expand their technological scope and manage to offer FlexLink new capabilities that become one of the reasons why FlexLink, during the supply base reduction strategy in 2011, chooses to stay with them rather than DC3.</td></tr>
</table>

The promising relationship with DC1 provided FlexLink with another opportunity in 2011. On DC1's initiative, in addition to manufacturing a large variety of aluminum and zinc die-cast items, they became responsible for purchasing certain items from IM3, performing some operations on them and selling them to FlexLink. Those operations were previously undertaken in-house by FlexLink's assembly unit in Shanghai. With this change, FlexLink outsourced those operations to a supplier that had shown its merits over several years of

collaboration with FlexLink. This was another step in developing the FlexLink-DC1 relationship, which over those years created various new collaboration potentials and opportunities for development, leading to various major changes in FlexLink's overall supply strategies.

Table 9 - Change 8: Die-casting and injection molding, 2011

<table>
<tr><th colspan="5">Injection molding and die-casting: Change of sourcing strategy in 2011</th></tr>
<tr><td rowspan="2">Change of sourcing structure</td><td rowspan="2">Change of suppliers</td><td rowspan="3">Motives for change (Intended strategy)</td><td colspan="3">Effects on the supplier relationships in the sourcing structure</td></tr>
<tr><td>Both in old and new sourcing structures</td><td>Only in new sourcing structure</td><td>Only in old sourcing structure</td></tr>
<tr><td>From Parallel + in-house
To Parallel + delegated</td><td>No change:
From 3 + 5
To 3 + 5</td><td rowspan="4">- To acquire products without the need for in-house assembly operations (expanding outsourcing and lowering in-house investments)</td><td rowspan="4">DC1:
- Increased utilization of their resources
- Gaining a more important role in FlexLink's supply network, and thereby becoming closer to FlexLink

IM3:
- No change in the business volumes
- Purchasing arrangements and deliveries changed due to having to deal with DC1 for deliveries and coordination of production plans

DC2, DC4, IM2, IM4, IM5, and IM6:
- No change</td><td rowspan="4">-</td><td rowspan="4">-</td></tr>
<tr><td colspan="2">Comments</td></tr>
<tr><td colspan="2">DC1 Becomes responsible for delivering a complete product by producing phone brackets, purchasing the lids from IM3 and assembling them with the phone brackets.</td></tr>
</table>

Cutting different categories of sourcing costs were identified to be important motives for the changes made in FlexLink's sourcing strategies. Most of the changes were motivated by reducing direct procurement costs and supply handling costs, and in one instance the increase in supply handling costs was accepted as a side effect of avoiding certain relational risks and cutting direct procurement costs. In changes 1 and 7 this was done by avoiding relationships that lack scale in order to ensure that the supplier base has a rational size and is made of relationships that are worth maintaining. In changes 3 and 5 this was done by avoiding replication of tools that helped reducing tooling costs. However, in change 3 a relationship was ended to avoid a middleman and be able to establish closer relationships with the actual suppliers, which overall increased supply handling costs. But this was at the benefit of reduced direct procurement costs (because direct relationship with the suppliers allowed the buying firm to acquire the product with a lower price).

Direct transaction costs were also showed to be a motive for the change of strategy, only in two instances of strategy modification. Both of those cost reduction motives were related to reduced costs of tool acquisition for certain products. The reason behind such a pattern can be that when one product is at focus, reducing the surrounding costs (production, logistics, etc.) related to that may not need major changes in the sourcing strategy. Small modifications to the sourcing strategy and taking advantage of the upcoming opportunities, as shown in the case, can help reducing such costs.

The buying firm may need to modify its parallel sourcing strategy if increasing the availability of products is at focus. Two ways that this can be done are shown in the case. First, in change 3, the buying firm increases availability of its products by reducing its dependence on the focal. This is done by adding another supplier as a parallel source to the focal one. However, this is done only to avoid the risk of having no supplier for an essential item, if the focal supplier for any reason goes out of business. Second, in change 2, increased

availability of products is ensured in a completely different way. There, the buying firm encourages the focal supplier to find new customers. By adding more customers, the focal supplier gains more scale in its activities and also is less likely to be majorly affected in case that the buying firm has economic hardships. This way, in such difficult times the buying firm would be able to rely on the supplier's short-term compromises.

To develop the product portfolio, the parallel sourcing structure may need to be modified. This was shown in change 3, when a new supplier was added to cover for the products that were to be developed, and in changes 5 and 6 when as a result of creation of more trust between the two firms, the buying firm decided to abandon the dual sourcing structure and use the new supplier for expanding its product portfolio. The specific characteristics of the new supplier, although a part of parallel sourcing, allowed the buying firm to develop its product portfolio in a way that from a marketing perspective it was long overdue.

CONCLUDING DISCUSSION

From the case analysis, we have identified eight changes of sourcing strategy that all relate to parallel sourcing. When scrutinizing the changes in more detail, we see that these changes fall into two categories. Some of the changes take place within the structure of parallel sourcing, named "modification changes". Other changes, however, represent changes with regard to how a parallel sourcing strategy is combined with other sourcing strategies, coined "combination changes". On the basis of these findings, we suggest that a buying company's sourcing strategy ought not only to be viewed as a matter of making a singular choice of sourcing strategy at one point in time, but rather as a continual process where the buying company experimentally makes modifications within the sourcing strategy, and/or combines it with elements from other sourcing strategies, with the aim of increasing the positive contribution from sourcing to the buying company's overall performance. The identification of the variety of efforts at continually improving a buying firm's parallel sourcing strategy represents the first main contribution of the paper.

Closer scrutiny of the different changes made in the buying firm's parallel sourcing strategy enabled us to explore the different strategic motives behind the changes of parallel sourcing. The motives fall into different categories. Some motives relate to the relationship(s) to the suppliers involved in the parallel sourcing structure. We have identified the following considerations related to supplier relationship dynamics: starting new relationship, expanding promising relationship, expanding satisfactory relationship, expanding unsatisfactory relationship, consolidating satisfactory relationship, transforming partly satisfactory and partly unsatisfactory relationship, reducing satisfactory relationship, reducing unsatisfactory relationship, ending unsatisfactory relationship and ending satisfactory relationship. Some of these motives are quite intuitive, such as "reducing unsatisfactory relationship" or "increasing promising relationship". However, others appear more counter-intuitive, such as "ending satisfactory relationship" or "expanding unsatisfactory relationship". The former, however, can be relevant when considering the wider sourcing structure, where a satisfactory but insignificant relationship is ended in order to reduce the supply base handling costs. The latter may reflect an attempt at improving the relationship by giving the supplier increased volume and/or responsibilities so that it fit better into the business context of the supplier.

Furthermore, we can observe that in some changes of sourcing structure, changes are made in one relationship only, while other sourcing strategy changes involve changes in several supplier relationships, either replacing or supplementing the other supplier relationships in the parallel structure. Finally, we saw that preserving one supplier relationship, while simultaneously expanding a relationship to a parallel supplier, can imply that the relative

interest in the former relationship is decreasing. This way, the study depicts a more interactive and less competitive image of parallel sourcing structure, compared to what is conventionally understood, and shows that various benefits can be expected from an interactive approach to parallel sourcing strategy. Changing sourcing strategy in this way has an impact on supplier relationships and their development in both directions: some supplier relationships develop to become more interactive, while others are ended. Hence, the study shows how a firm may start or end a relationship to revise its sourcing structure (displayed as changes between different variations of a certain sourcing structure). The identification of continual sourcing strategy change as involving a large diversity in the mix of changes made of single or connected supplier relationships represent our second main contribution.

In addition to relationship related motives and effects, we also identified a range of motives for sourcing strategy change related to the pursuit of cost reductions, among others: reducing direct procurement costs due to location, reducing direct procurement costs due scale advantages, reducing direct procurement costs due scope advantages, reducing supplier base handling costs, reducing costs related to consequences of availability, reducing costs related to asymmetrical dependence, reducing costs related to investments, reducing costs related to inter-supplier logistics, and reducing costs related to sourcing structure control, intermediation and delegation. Based on our analysis, we suggest that a buying company continuously considers how these cost-related issues can be improved, individually but most often in combination.

We also observed a number of other motives of sourcing strategy changes, for example: pursuing sourcing strategies for sufficient period of time, changing or preserving the buying company's (new) sourcing image, preserving the company's (long-term) supplier relationship strategy image, following the sourcing "fashion" in industry, and enabling the development of new product-offerings by seeking and developing new inputs from suppliers.

Reflecting on the identified motives, we see that motives often combine, in the sense that a change of sourcing strategy often is motivated by several of the above-mentioned. This is not surprising, since the case for making the change can be assumed to appear stronger when several issues can be dealt with at the same time. Furthermore, and in line with Faes and Matthyssens (2009), we observed that the same type of motive can be used for motivating different changes of the sourcing strategy.

In summary, we conclude that buying companies continuously consider, reconsider and experiment with their sourcing strategies. Hence, changing sourcing strategy does not occur at one point in time but is rather to be understood as a continuous process. Furthermore, the motives behind and efforts made towards affecting the sourcing strategy changes are not only manifold, but are considered in joint, and can be used for motivating changes in different directions.

IMPLICATIONS

Based on our study, we offer several implications. For a buying company, we suggest that choice of sourcing strategy is better considered as sourcing strategizing, in order to capture the ongoing nature of the work with improving the sourcing strategy. Any sourcing strategy is "in progress", can and should be altered over time. Buying companies may also benefit from scrutinizing the motives and motivation they rely on when considering making sourcing strategy changes. Whether the motives are mainly relationship and/or cost related, as well as whether they rely on other types of motives. In addition, the buying company may consider

more explicitly the possibilities for and consequences of changes of relationships involved in making changes of its sourcing strategy.

Our findings also have implications for suppliers. In particular, it shows the relevance for suppliers of being aware of which type of sourcing strategy the buying company pursues, and when the buying company is making changes hereof. In addition, it shows that a supplier's relationship to the buying company may change as a consequence of changes made in relationships to other suppliers, whether these perform a parallel, dual or delegated role in relation to the particular supplier in question. Furthermore, a supplier may be better prepared to enter into discussion with the buying company if it is aware of the variety of motives underlying the buyer's attempts at making changes, and may try to influence the buying company's view of the situation by evoking another set of motives, or by framing or enacting the same set of motives in another line of argumentation, to bring about other more beneficial effects for the supplier.

If we lift our view of this study of changing sourcing strategies and relate it to strategizing, a popular theme in the IMP literature, we see potential for interesting contributions regarding sourcing strategizing. Strategizing as suggested by Håkansson and Ford (2002, p. 137) is "*identifying the scope of action within the existing and potential relationships and operating effectively with others within the internal and external constraints that limit that scope*". Strategizing in this sense fits well with our observations of FlexLink's considerations regarding when, why and how to change sourcing strategies.

We have observed that FlexLink has a perception of their supplier network beyond direct counterparts, for example shown by encouraging suppliers to take on other customers. FlexLink acts according to this perception of the network and interacts with suppliers to build, re-build, develop and end relationships. Those interactions have various strategic motives in order to achieve certain outcomes. Related, Ford et al. (2011) suggested a model for managing in networks centered around three inter-connected dimensions: network pictures, networking and network outcomes. These dimensions seem to form fruitful starting points for developing meaning and consequences of sourcing strategizing for firms such as FlexLink working continuously with developing their supply networks. It seems interesting for further studies to build an understanding of sourcing strategizing with starting points in this or other related frameworks.

Finally, there are many routes to Rome. And all routes to Rome lead to other destinations than Rome. Relating to the above observations that various changes are made with the same strategic motives might entail that the important thing is that the sourcing strategy is in focus. Constantly seeking for the 'best' sourcing strategy might be the appropriate starting point for potentially finding it.

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