Long-term effects of purchasing: fact or fiction?

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Summary
Long-term approach to evaluate the performance of purchasing over its entire life-cycle is challenging. It is especially hard to determine the relationship between the early purchasing actions and the long-term consequences of acquiring complex product-service combinations with a long life-cycle. We carried out an interview study with four companies to explore how the long-term purchasing perspective is perceived in different business environments. The results indicate that practices to create long-term consequences of purchasing activities take many different forms. The study highlights practices of the purchasing function when aiming at creating long-term effects of purchasing.

Keywords: purchasing and supply management (PSM), performance, long-term value creation

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Introduction
Recent research has paid attention to purchasing and supply management (PSM)'s role to create value in the long-term. This strategic approach of PSM contributes to the competitive advantage and performance of firms (Carr and Pearson 1999; Yeung, 2008). Successful companies have understood the connection between the work of the purchasing function and achievement of strategic company goals (Carr and Pearson 2002; Paulraj, Chen and Flynn, 2006). Inter-organizational relationships have been emphasized when long-term effects are considered (Howard and Caldwell, 2011). At best, purchasing function can act as a coordinator for external resources crucial in building sustainable success. Many companies desire to take a strategic approach to PSM, but it has proved hard to build the required capabilities to create sustainably successful effects of purchasing. In this study the specific interest is in purchasing with long-standing effects on business performance. Later on in this paper the term purchasing with long-term effects (PLTE) will be used of this concept.

Value creation is an important characteristic of PLTE. Several studies acknowledge the time perspective to value creation (Gupta, Hansen, Hardie, Kahn, Kumar and Lin, 2006; Möller, 2006; Ritter and Walter, 2012). Value created by the purchasing function for the entire business is hard to quantify. The often emphasized financial value (i.e. impacts on cost-reduction) of the purchasing function gives only limited understanding on the indirect benefits that are materialized often only after a long time period. It is especially hard to determine the relationship between the early purchasing actions and the long-term consequences of acquiring complex product-service combinations with a long life-cycle. Howard and Caldwell (2011) link long-term effects of purchasing to lifecycle management, through life capability, temporal dynamics and complexity of products and services.

There is a lack of studies characterizing PLTE in different business contexts, and showing empirically what the long-term effects can be. It also appears that purchasing of performance is still a rarity in practice (Caldwell and Howard, 2011). The length of the time period for the anticipated effects can considerably vary between business contexts. The aim of this study is to investigate different embodiments of PLTE such as complex purchases, partnerships and purchases for projects. In addition, the effects of PLTE will be investigated both from the perspectives of benefits and risks.

Research methodology

The aim of this study is to understand the characteristics of long-term purchasing and its impacts on selected tasks such as supplier selection, supplier collaboration and risk management. The study is part of a broader study including several themes, such as purchasing organization, purchasing strategy, supplier relationship management and performance management within purchasing. The study focuses on the viewpoints highlighting practices of the purchasing function when aiming at creating long-term effects of purchasing.

A literature review was first carried out to understand the existing knowledge on PLTE by emphasizing the following aspects: benefits and risks, complex purchases, partnerships and purchases for projects. These viewpoints were extended in the empirical part of the study. Four case companies were studied, representing both service and manufacturing sectors. The companies are large multi-national (revenue over 1 billion euros; over 10 000 employees) Finnish companies operating mainly in the business-to-business markets. The focus was on the purchasing function of the companies and its value creation potential. Two of the companies operate in the service industries (A and B) and the other two (C and D) in the manufacturing industries. The production of one of the two companies in both services and manufacturing (A and D) is process-type, and their products are rather homogenous with high production volumes. The two other companies (B and C) have a project-type production with at least moderate level of tailoring of services and products for each customer.

24 persons representing managerial positions in the purchasing firms were interviewed. Semi-structured interviews covered the respondents’ perceptions on PLTE. The respondents were chosen so that the understanding about the studied phenomenon would be as diverse as possible. All of the interviewees were in either mid-level (later referred as *managers*) or top-level (later *directors*) managerial positions in the purchasing function or its partner functions such as operations, R&D and finance.

Literature review

The value components induced by the purchasing function are typically built during a longer time period. Overall value can be positive despite the high short-term costs (or low direct value) (Hallikas, Immonen, Pynnönen and Mikkonen, 2014). Delay in effects results partly from the creation of value being dependent on the buyer company (Ritter and Walter, 2012). This type of value can be referred to as ‘value after exchange’ or ‘value in use’ (realized, objective value) (Ramsay, 2005). Longer perspective to value creation means both increased potential and uncertainty. Möller (2006) differentiates different value production types and highlights the differences in value building between building core value in stable and well-established markets (core value building) and emerging networks (future value building via radical innovation). The former is characterized by low relational complexity and current time orientation, while the latter by high relational complexity and future orientation.

A distinction is needed between the value of goods and services reflecting transactional exchange and the value of buyer-supplier relationships (Lindgreen, Hingley, Grant and Morgan, 2012). A key rationale for close relationships is that unique value can be created through collaboration between companies (Kähkönen and Lintukangas, 2012). Close relationships between suppliers and customers can be regarded as a possible embodiment of long-term approach to PSM. Cooperative negotiation and close communication with selected suppliers supports in gaining long-term benefits for the buying company (Carr and Pearson, 1999; Janda and Seshadri, 2001).

Purchasing of complex performance means that the contract criteria include outcome or performance related aspects, sometimes even elements of innovation capability (Caldwell and Howard, 2011; Lewin and Roehrich, 2011). Purchasing of complex performance requires attention to post-contract management including both relational and contractual forms of control. Complexity is caused by the performance complexity in itself (i.e. characteristics of performance) and complexity of infrastructure through which performance is created (e.g. customization level) (Lewin and Roehrich, 2011). Also purchases with short time-scale can be complex (Caldwell and Howard, 2011).

Collaborative purchasing practices

Collaboration is increasingly emphasized in strategic purchasing and purchasing strategies (Zheng, Knight, Harland, Humby and James, 2011). The area of relationship management gives novel avenues for purchasing research emphasizing management of external relationships (Schneider and Wallenburg, 2013). When striving for longer term benefits of purchasing, partnerships with suppliers are an obvious choice to be considered. Usually close partnerships between buyers and suppliers contribute to the ability of responding to market needs and being cost-effective (Lambert and Knemeyer, 2004; McLaren, Head and Yuan, 2002). Each supplier relationship causes costs and more investments are needed when the interaction between parties becomes closer (Gadde and Snehota, 2000). Partnerships can pose new types of risks related to information security, social responsibility and opportunistic behavior (Spekman and Davis, 2004).

Collaborative purchasing practices are especially important in complex projects with time pressures for completion (Pesämaa, Eriksson and Hair, 2009). Collaborative purchasing practices such as joint specification, soft parameters in bid evaluation and supplier self-control have a positive impact on project performance. Purchasing practices may require project-specific tailoring in order to achieve project-specific performance objectives (Eriksson and Westerberg, 2011). Caldwell and Howard (2011) acknowledge the need to implement project management approaches in order to answer to evolving requirements of purchasing.

Risks of PLTE

While there is clear potential in creating value with suppliers over a long time period, uncertainty and risks related to PLTE need to be acknowledged. Optimizing the risks and costs of large-scale efforts is required (Howard and Caldwell, 2011). Two main streams of risk literature were identified relevant to this study: studies about supply risk management in general and studies about organizational power settings and particularly supplier lock-ins. Supply chain-related risk sources are divided in three categories: environmental risk sources, organizational risk sources and network-related risk sources (Jüttner, Peck and Christopher, 2003). Environmental risks arise from accidents, disasters and political environment while organizational risks arise from internal factors such as labor strikes, production uncertainties and IT-system failures. Network-level risks arise from interaction between supply chain parties. Network-level risks can further be divided into three different types: lack of ownership, chaos and inertia. Lack of ownership refers to situations where outsourcing has led to blurred boundaries between buyer and supplier and unclear lines of responsibility. Chaos effects result from over-reactions, mistrust and distorted information throughout the supply chain. Finally, inertia risk refers to general lack of responsiveness to changing conditions and market signals. In case of PLTE, especially network-level risks should be considered because they are potentially comprehensive and long-standing.

Activities to reduce supply risk include forming alliance relationships with the suppliers, having suppliers responsible to develop risk mitigation plans, maintaining common platforms for products and establishing industry standards. Furthermore, supply risks can be circumvented by developing multiple sources for strategic items, holding safety stocks and forming a well-stocked supply pipeline. (Zsidisin, Panelli and Upton, 2000)

The power settings in the supply relationship might not be balanced. Lonsdale (2001) warns of situations related to asset specificity and outsourcing. He states that asset specificity can take different forms and might lead to a post-contractual lock-in where the buyer becomes dependent on the supplier. The supplier's behavior might become opportunistic and they might try to renegotiate the contract during the contractual period. Information asymmetry increases the scope for opportunism, e.g. in situations where a complex business activity is outsourced and supplier becomes over time more knowledgeable than the buyer about the activity. Narasimhan, Nair, Griffith, Arlbjørn, and Bendoly (2009) argue that a party that is at risk of opportunism will desire that their counterpart take on a counter balancing risk of their own. By balancing exposure, the parties receive assurance that their vulnerable positions will not be exploited.

Empirical results

This section contains descriptions of the four case studies, including the interviewees' perceptions of the forms that PLTE can take in their company's business environment, and what benefits and risks can it include.

Case A – Logistics services – Partnerships and long-term commitment

Long-term purchasing was related to two broad categories of issues in Case Company A: partnership contracts with suppliers and the long-term commitment related to the purchased goods and services. All the interviewees identified a connection of the term long-term purchasing to their work. A category manager representing service sourcing said that "*the entire field* [service sourcing] *is precisely what long-term purchasing is about*". Another interviewee, purchasing director, stated that the long-term nature of purchasing has been raised to the strategic core of purchasing. An operations manager stated that long-term purchases are strategic business decisions requiring attention for a longer time, for example for the whole life-cycle of new technologies.

A purchasing director described purchases being divided into two groups: service purchases (opex) and investments (capex). In service purchasing, there are more options and supplier lock-ins will not form easily. ICT services are an exception, though. The investments are large and long in duration, often over 10 years. The business cases for investments are evaluated by an investment advisory board before decisions are made. The following example was given:

> *A small part of the purchases are long-term in nature. For example, production equipment in logistics centers have relatively small supply markets and our company has to commit to*

the supplier's systems at least for 10 years when purchasing them. Contracts in these cases contain support services, maintenance and spare parts.

Other examples of long-term purchases mentioned were facilities, transportation vehicles and ICT solutions.

Partnership contracts were widely mentioned as the main form of long-term purchasing. Partnerships with suppliers involve co-operation during a long period of time. Company A classifies their suppliers into four classes, one of them being partners. Partners are expected to help Company A to be more effective through their know-how and capabilities. At the moment, about 30 % of the company's purchasing spend goes to the partner suppliers but there is an intention to increase the share of partner suppliers.

Long-time co-operation with suppliers may include process and product development actions. It was widely acknowledged that there are areas in which suppliers have superior knowledge. This might require new operating models to work with the suppliers and the company should give suppliers more freedom to be proactive. However, even in partnerships, attention should be paid to assuring that quality and price remain consistent.

Three interviewees stated that the essential feature of long-term purchasing is *commitment*; either voluntary or forced. A category manager stated that in some goods or services there are only a few suppliers available in a small country, which forces forming long-term supply relationships due to lack of alternatives. The necessity to pay attention to the whole lifecycle of the purchases was stressed by an operations manager. The entire life-cycle of the purchase should be evaluated beforehand and making a risk assessment is really important. In long-term purchasing, the company cannot get rid of the purchased objects, or at least it will be difficult.

Case B – Knowledge-intensive services – Technology partnerships

Several interviewees in Company B defined long-term purchasing in terms of the duration of the business impact; the usual answer was that the long time perspective was 2–5 years. A category manager stated that long-term purchases have "*a business impact of at least 3 to 5 years*" and that they are "*sourcing projects where we impact the way we are doing things on a wider scale*". Mentioned examples of long-term purchases in the case context were software platform licenses, data centers and data transfer contracts. Three interviewees mentioned technological choices as a major driver towards strategic partnerships with suppliers and consequently to long-term approach to purchasing. A purchasing director representing indirect purchases said that there are a few long-term investments, data centers being notable examples. In these cases, lifecycle thinking and total cost of ownership considerations are vital.

A purchasing director called long-term technology suppliers as technology partners. According to another director, technology choices are long-term purchasing decisions; even if switching a supplier might be possible, it is very expensive. A part of Company B's make-or-buy decision making is to consider whether to build tools and solutions themselves or to rely upon readily available solutions. The ICT director mentions data transfer solutions as another example of long-term sourcing.

Technological choices the company makes may cause technology lock-ins to technologies provided by single suppliers. These technology lock-ins can sometimes be even decades long.

“*Basically, you are married to the supplier providing the technology as long as you produce the service based on it*.” The company tries to avoid such situations in the future, e.g. when it comes to cloud computing services. The possibility to change suppliers has to remain. The supply market is changing all the time and new suppliers may be creating more competitive solutions. The ICT director stressed that their company should be able to keep their decision power even in long-term supplier relations. The potentially changing needs of the customer company during long purchase contracts are taken into account through early planning and making proper contracts. Scaling possibilities and exit options need to be included.

Case C – Manufacturing production equipment – Purchasing for projects
In Company C, questions regarding purchasing with long-term effects led commonly to confusion among interviewees. It appeared that consideration for longer time perspective in purchasing was not a daily issue. A possible reason for this was that the purchasing function does not handle investment purchases on a daily basis but participate in the investment processes case-by-case if needed as a purchasing director described.

Two interviewees did not have a comment on long-term purchasing. One interviewee representing the R&D function stated that long-term purchasing mainly means annual contracts, while another commented on buying the design work:

> *I do not want to bind myself to any supplier for a long time, because it will eat our competitiveness and motivation. […] If you have long-term binding relationship, it will also make the other party lazy.*

Similarly, a purchasing director related the issue to the balance between trust and contracts:

> *As a starting point, we do not want to bind ourselves in anything. Co-operation is based on trust. But contract-wise, we do not bind ourselves to anything.*

Company C has two different businesses: capital business (manufactured project deliveries) and service business supporting the capital business (e.g. maintenance and spare parts services). In the capital business, the purchasing director linked long-term purchasing to projects. In these projects purchases have longer impacts for the success in project deliveries. The schedule for the capital projects is usually from 9 to 18 months, and the purchases for the projects are to be delivered within this timeline. The interviewee continued that in the service business, the typical delivery time is shorter, only 30 days and the supplier has to be already chosen when the company receives a service order.

Project purchasing was deemed to require a specific approach. The capital projects are sold to the customer with a specific scope. In the beginning of a project it is often not clear what is going to be purchased during the project. The scope of the project gets more defined during negotiations with the customer, and in the project design phase.

Long time perspective was regarded to impact the supplier selection. A purchasing manager stated that the company purchases solutions (such as subassemblies of larger machines) as a part of a long-term plan. In certain products, long-term co-operation with suppliers is necessary. It takes from 6 months to one year until suppliers have learned how to produce the required products. The interviewee stressed the importance of building key supplier network in a long-term manner. In the past, bidding was aggressive but now they try to build up long-term co-operation and look forward. A purchasing director stated that in supplier selection, the value creation capabilities of the suppliers should be evaluated. Value can be additional value or cost reductions.

Case D – Manufacturing goods as inputs to the customers' process – Investments and long-time supplier relationships
Company D divides its purchases roughly into two categories: investments and running costs. *Investments* were mentioned in all six company interviews as a form of long-term purchasing. The production director defined long-term purchasing as "*purchases with long-time and long-term effect to our business*".

The purchasing director of Company D stated:

> *We have three categories of [PLTE]: investment category in itself, MRO category (maintenance, repair and operations) and MRSS category (mill-related support services). For example, some MRO purchases are really large (e.g. annual maintenance for production lines). Long-term purchasing is associated to life cycle thinking especially when it comes to MRO purchases.*

Three interviewees told how investments have a long holding time with certain payback period and depreciation procedures. According to the purchasing director, the company had an investment planning system and explicit investment manuals how to handle investments. Examples of investments include production facilities, big machinery, real estate and their repair investments but also large repairs and process improvements. Time frame for investments is long, starting from 20 years up to 40-50 years. The industry was said to renew itself slowly, e.g. in terms of the production technology.

According to two category managers, investments have an effect on the company's profitability in the long-term through affecting efficiency of the existing processes or development of new products. A purchasing director gave factors for the supplier selection process of investments as follows:

> *Supplier reliability, product and service quality, capability to co-operate, price level, the number of offers if there has been a competitive bid, and the opinion of the plant about each of the bidding suppliers.*

The *long-time supplier relationships* were also mentioned as a form of long-term purchasing in four interviews. An operations director stated that Company D can consider partnerships with suppliers if a certain level of service is required. A purchasing director linked partnerships to longer contracts and mentioned examples of long-term leasing contracts which are often made for 4-5 years.

Similarly to other cases, also risks in long-term co-operation were mentioned. A purchasing director stated that as a form of risk management the company should make sure that there are several suppliers for specified products and services:

> *We always try to find new suppliers, not to hang ourselves to one supplier because that often leads to index-like price increases, and also the service level goes down little-by-little. […] We should not let suppliers know that they are the only available option.*

Discussion and conclusions
The results indicate that the long-term characteristics of purchasing activities in the four companies take many different forms. These forms are investments and technology choices, project-orientation, purchasing of performance instead of resources, and partnerships with supplier companies. Table 1 summarizes the main findings for each of the four companies in terms of their long-term approach to purchasing.

Table 1. Case companies and their long-term approach to purchasing.

Company	Industry	Type of production	Examples of long-term approach to purchasing	Time-frame for long-term effects
Comp A	Logistics services	Process	Investments and leasing contracts for production equipment, ICT systems, facilities, transportation equipment, partnership contracts	5-20 years, the longest supply relationship is over 90 years old
Comp B	Knowledge-intensive services	Project	Technology choices for software platform licenses, data centers, data transfer	1-5 years, over 10 years for data centers, technology lock-ins should be avoided
Comp C	Manufacturing production equipment	Project	Purchasing for projects as opposed to service purchasing	9 months to 5 years, annual contracts in services
Comp D	Manufacturing goods as inputs to the customers' process	Process	New production investments and equipment, major upgrades, key material inputs to production, maintenance (MRO)	Plant life-cycle, from 15 to 40 years, even longer

Companies A and D in the process-type of industries seem to have considerably longer time-frame for looking at long-term effects of purchasing when compared to companies B and C in the project-type of businesses. This is the case, even if one of the two companies in each of the two groups represents services and one manufacturing. The companies with the process-type of production have fixed assets in the form of buildings, production lines and equipment with the life-cycle of up to 40-50 years. Therefore, the relationships and contracts with the suppliers are built keeping the long-term view in mind. On the contrary, for the project-type of companies, the long-term view was from some months up to a maximum of 10 years in some exceptional cases. Both of these companies, and particularly company B in the knowledge-intensive services industry, pay special attention to avoiding potential technology lock-ins with their suppliers.

The case companies perceived the following benefits resulting from the long-term orientation to purchasing:

- Supplier can provide knowledge and capabilities that the buying company does not possess.
- Long-term contracts with suppliers can serve as a source of renewal for the buying company, e.g. through leasing contracts and activities managed by the supplier firms.
- Long-term supplier relationships are more stable than frequently changing relationships. E.g. technology changes caused by starting to use a new supplier involve operative risks. These risks, if realized, can be much more costly than cost savings achieved through competitive bidding resulting in the use of a new supplier with a new technology.
- Technology partnership is essentially the only way to get access to some new proprietary technology platforms.

Supplier lock-in was generally seen as the main risk for all the case firms related to the long-term orientation to purchasing. This risk would take the following forms:

- Reduced performance of the supplier over time.
- Regular price increases.
- Changing to a new supplier with a novel solution being restricted.
- Core knowledge moving away from own company.

Preconditions for successful long-term effects of purchasing are as follows:
- The power situation and trust between the buyer and the supplier need to be balanced. Reaching the balance requires active efforts from both parties and understanding of the other party's situation and needs.
- Investment purchasing have to be throughly prepared and analyzed in advance, including TCO and life cycle analyses.
- In many cases, purchasing with long-term effects implies consideration of owning the activity or sourcing it from a supplier. This means carrying out a thorough make-ro-buy analyses, including analysis of the required capabilities, strategic risks and coordination requirements with a potential external party.

Our empirical results suggest that primarily companies see long-term effects of purchasing rather from the perspective of risks than benefits. Therefore, efforts to get deeply involved in practices that are required to create long-term effects are seen as a 'necessary evil', rather than something that purchasing professionals would naturally and voluntarily seek to advance. It is acknowledged, though, that considerable benefits can be achieved in certain types of strategic purchases, such as investments, technology choices and support for long-term performance of investments. In principle, both buyers and suppliers would like to develop trust-based long-term relationships. On the other hand, they want to avoid long-term lock-ins by all means.

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