

Supplier Development¹

Abstract

This paper is purely conceptual and aims at describing existing research regarding supplier development. Supplier development is an activity that has got a lot of attention in both practice and academia. However, it is concluded that the supplier development framework as it is presented in the literature with the label “supplier development” is quite narrow. To further expand the theoretical framework a number of interesting areas for future research are suggested together with some propositions on how to expand the theoretical framework.

1. Introduction

This paper is purely conceptual aiming at describing research that has been carried out in the area of supplier development and to give some directions on future research that is needed within the area. The paper starts with a general background followed by a theoretical review defining supplier development. Finally some general conclusions about supplier development research today and future directions are given.

When describing trends in industry today concepts that often come up is TQM (c.f. Sandholm, 1997), lean-production (Womack et al, 1990), shorter time to market (Barius, 1994), outsourcing, business process reengineering (e.g. Hines, 1994; Lamming, 1993), focusing on core competencies (Prahalad and Hamel, 1990), etc. There has also been a development in the area of purchasing and we see a shift from classical to modern purchasing (c.f. Axelsson, 1998; Brandes et al, 1998; van Weele, 1994). An ingredient in the more modern relationship oriented view of purchasing is supply base reduction. Ford USA reduced their supplier base from 3200 to 2100 in a

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period of six years. In the first half of the 90s Chrysler went from about 3000 till 1000 suppliers. Rank Xerox is another example of a firm that has reduced its supplier base. They went from 5000 till 300 suppliers in just a few years (e.g. Ford, 1998). A recent study of large Swedish corporations shows that this is an ongoing trend affecting a large part of the supply chains (Larsson, 1999).

This leads to new situations for most of the remaining suppliers as well as for the rest of the suppliers in the supplier hierarchy. The original equipment manufacturers (OEMs) reduce their supply bases only keeping those suppliers that have adopted new good ways of working. Having rationalized the supply base the OEMs will deepen the relationships with the remaining suppliers (e.g. Gadde & Håkansson, 1998; van Weele, 1994). The suppliers that are left out will have to establish new contacts with firms that have kept their position as first tier suppliers, however also they will have to develop their competencies in order to keep up with the demands from the large corporations that determine the rules of the game. This could be illustrated by the automotive industry that demands QS-9000 certification (a standard that among other things require supplier development programs) for their suppliers (Carbone, 1996).

One way of deepening relationships with suppliers, and to take a proactive step in the direction mentioned, is to work with supplier development (e.g. Gadde & Håkansson, 1998). Basically supplier development means that the customer firms take initiatives to trigger and support the development of chosen suppliers.

2. Supplier development in the specialised literature²

2.1 Supplier development defined

One of the authors first who introduced the term supplier development in academia was Leenders who stated that supplier development properly used could “*be an extremely effective purchasing tool*” (Leenders, 1966 reprinted 1989:47), and that therefore is an area of high relevance for purchasing research. Since Leenders’ article, there has been an increasing interest for

² This chapter is based upon a literature review using the phrase “supplier development”. The search was done in library data bases, the ProQuest database and the Internet. Proceedings from the last two Ipsera conferences were also included.

supplier development activities both in academia (Axelsson & Håkansson, 1984; Hines, 1996; Krause & Handfield, 1999; Lilliecreutz & Ydreskog, 1999; Monczka & Morgan, 2000) and in practice (Gadde & Håkansson, 1998; Larsson, 1999). Krause defines supplier development as follows.

“Any effort of a firm to increase performance and/or capabilities to meet the firm’s short- and/or long-term supply needs.”

(Krause, 1997:12)

In a literature review Krause (1997) found that the supplier development literature mainly consists of case studies, and that these case studies primarily come from the automotive industry (e.g. Hines, 1994; Hartley & Choi, 1996). When investigating to what extent companies’ work with supplier development Krause found three different approaches exercised by firms to increase supplier performance (Krause, 1997), namely:

1. Direct firm involvement, i.e. hands on cooperation such as visits, evaluations, feedback etc.
2. Incentive commitment, i.e. promises of future benefits if the supplier increases his performance.
3. Enforced competition, i.e. the use of several suppliers for the same components.

One must keep in mind that the review made by Krause is using a narrow definition of supplier development. There are other examples of buyer-seller research that at least implicitly deals with supplier development mainly within purchasing research (e.g. Ford, 1980). These studies suggest that supplier development is a natural way to further deepen buyer-seller relationships as the relationship matures. Nevertheless, the tentative list presented by Krause gives the reader some basic ideas of how different activities to improve suppliers might be categorised.

2.2 Supplier Development – a strategic activity

When working with supplier development there is a need to stress the importance of long-term cooperation as well as short-term. Krause notes that most firms working with supplier development have short-term performance goals rather than long-term goals such as capability increase (Krause, 1997). Also Watts and Hahn (1993) found that short-term objectives often were emphasised over long-term performance in supplier development programs thus limiting the possibilities for a fruitful interaction process to take place. The same problems are described by the purchasing magazine Innovative

Purchasing that made an investigation examining how firms work with supplier development and found that many responses:

“considered corrective actions for quality or delivery problems as supplier development or limited it to what was required by a QS-9000 quality program.”

(Innovative Purchasing, 2000:1)

This in some senses limited view on supplier development show us that many firms do not view supplier development as a long term process involving both the buyer and the supplier that both parties can gain from. It also seems like many companies see supplier development as an operational tool rather than a strategic one. If used properly supplier development can be a strategic tool that can determine how efficient the firm uses its resource base.

This could be interpreted as a non-explored opportunity that can be explored by actors through proactive work. According to Krause and Ellram necessary aspects for proactive supplier development to be successful are top management involvement and commitment (Krause & Ellram, 1997a) and that the supplier development activities are considered as a strategic activity (Krause & Ellram, 1997b; Krause et al, 1998).

To work with this kind of supplier development means that both parties must make investments in the development program. A prerequisite for supplier development is information sharing and increased communication (Galt & Dale, 1991; Lamming, 1993). According to Krause (1999), commitment, relationship continuity, and communication can be considered to be the antecedents of supplier development. Lamming (1993) argues that joint efforts can be made to reduce costs and rationalise the value-adding process once information between the parties is shared. This means that the information exchange between actors in a supplier development program must be efficient and that different levels (i.e. not only management level) in the involved organisations must interact.

2.3 Possible areas for and ways to work with supplier development

Of course there are a number of different areas that can be improved by supplier development projects. Hahn et al (1990:6) has made a scheme over different possible supplier development activities. The scheme is presented in Table 1.

Table 1 Supplier development activities matrix

Related areas Capabilities	Product Related	Process Related	Operating Related	Systems
Technical Capability	Capabilities in: Design New product intro. Feasibility testing Product improvement	Process capability Process design Automation Reconfiguration	CAD/CAM CIM/FMS JIT/MRP	
Quality Capability	Specification limits Incoming materials control	Process capability Testing equipment Workman-ship	Quality assurance program Quality circles S.P.C. program Worker training	
Delivery Capability	Product mix Materials lead time	Capacity level Process flexibility Set-up times	Order entry system Scheduling flexibility Transportation / inventory system	
Cost Capability	Value analysis R&D expenditure Cost reduction programs	Process efficiency Capital investment Rationalisation of work place	Work productivity Indirect costs Control	

The scheme made by Hahn et al should only be considered as a condensed overview of different areas that can be covered. It must also be mentioned that supplier development is to a great extent a cross-functional activity that should involve a number of different functions in the involved firms (Krause & Ellram, 1997a). Further more it is very technical and doesn't cover more soft aspects of supplier development such as competence development (Mikkelsen & Johansen, 1999). Mikkelsen and Johansen draw upon the resource based perspective (see 2.4) of the firm in their conceptual work about supplier competence development that can be seen as complementary to that of Hahn et al (1990). Mikkelsen and Johansens (1999:602) work is summarized in Figure 1.

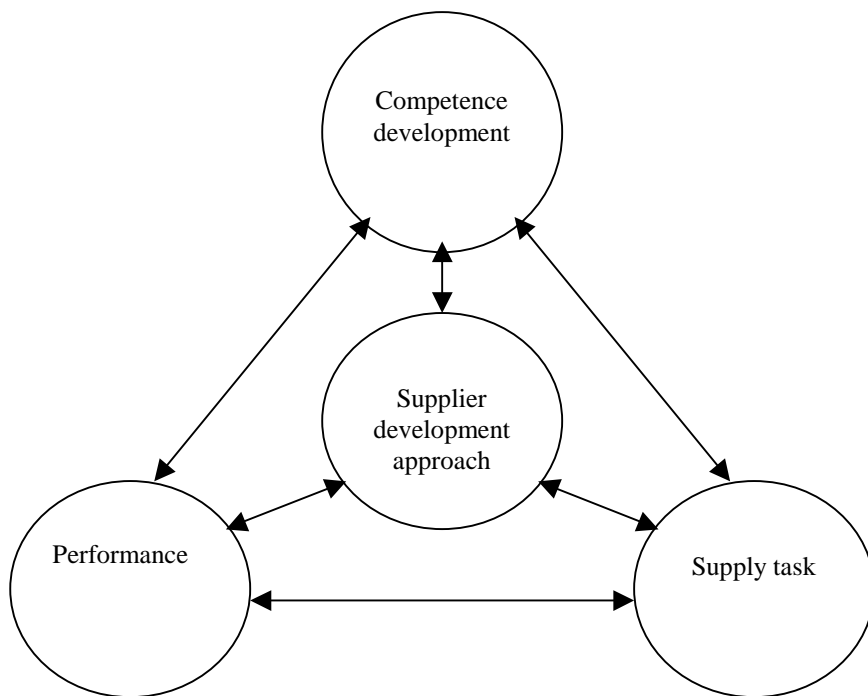


Figure 1 A framework for supplier competence development

The figure illustrates four major areas that according to the authors must be considered as they all affect each other and therefore are critical to the success of the supplier development program. In order to achieve better performance a supplier development approach must be chosen. In this process it is important to define the supply task and to raise the competence

at the involved firms (Mikkelsen & Johansen, 1999). The need to include competence development can be illustrated by Motorola's supplier development program that has received a great deal of attention and is considered to be very successful (Gadde & Håkansson, 1998). The supplier development project was initiated when Motorola recognised that it would be impossible to reach the desired results from their benchmarking without including their suppliers in the process. They are seen as an essential part of the capability system. Because of that Motorola has defined the kinds of qualities they want from their supplier. They have the following demands on the suppliers that they work closely with (Gadde & Håkansson, 1998).

- They shall have perfect quality
- They shall be leading in technology
- They shall use JIT production
- They shall have competitive service

To achieve this, the suppliers' competence must be raised. Motorola works with education program with participants from both the own organisation and the suppliers. To encourage the suppliers, Motorola has four formalised activities in the supplier development program. The four activities are the creation of an advisory board, an annual conference, technical symposia, and a supplier show. The advisory board and the annual conference have been created to increase the communication between Motorola and their suppliers. At the technical symposia and the supplier show Motorola's suppliers presents their technology to Motorola's engineers. As a result of the program, all of the four criteria above have occasionally been improved in the participating firms. (Gadde & Håkansson, 1998) The Motorola illustration also pictures supplier development as a process in which actions are taken in order to achieve some wanted results. Such a process will most probably look different from case to case. Nevertheless, some activities might be more important than other and thus included in most supplier development processes. Hartley and Jones (1997:27) have focused on supplier development processes and they see supplier development as a four-step process with the following steps:

1. Assess the suppliers readiness for change
 - Determine the degree of "fit"
 - Gauge level of management commitment
2. Build commitment through collaboration
 - Manage resistance
 - Use broad-based participation
 - Allow time for learning

3. Implement system-wide changes

- Analyse technical, managerial and social systems
- Ensure that team has technical and change management skills

4. Transition out of the supplier's organisation

- Use "shadow consulting" approach
- Establish follow-up and recognition procedures

As it is a process, these steps sometimes overlap each other, but they make a fairly good description of what the supplier development process might look like. This process starts up with the selection of firms to include in supplier development. Commitment is here an essential part for the supplier development process and it is important that the involved actors are allowed time for learning. When commitment (trust) has been established actual changes can be implemented. In this process the active support from the buyer is an important part. Lastly the implementation of follow-up procedures ensures that continuous improvements can occur as an important part of the process.

In this section we have noted that supplier development is growing in importance. However, we also noted that the number of studies that have been carried out is limited (Krause, 1997). We have also seen that the literature about how supplier development activities should be carried out is quite normative, not fully capturing the heterogeneity that we find in buyer seller relationships since different actors have different resources etc. (Håkansson, 1982).

3. Other literature of relevance for supplier development

In section 2 we saw that supplier development is a cross functional activity that involves people from several parts as well as from different levels of the involved organisations. If we generalise by asking the basic question "what this phenomenon really is about" the scope of relevant theories needs to be broadened. Development at a certain supplier is very much a matter of developing corporate capabilities. The specific aspect is that it is looked upon and, maybe, initiated by the customer.

3.1. A very broad scope of relevant sources of knowledge

With such an approach there are huge amounts of relevant literature from e.g. areas like strategy development and organisational and strategic change. What is the basic thinking in such areas and what does it tell us about supplier development? The initiative to corporate development in the case of supplier development comes (by definition) from an external actor, the customer. Other sources of knowledge that may add to our understanding of this phenomenon should therefore be literature on power and dependence (e.g. Emerson, 1962). Who could force whom to do what, if that actor finds it necessary to exercise of power?

It is also likely so that research about project management is a valuable source. Much of the improvement in organisations come about in specific projects, be it quality projects, product development projects or anything else. Supplier development could be organised as a project and, if so, knowledge about such ways of organising should be valuable.

It is, thus, possible to identify quite a lot of areas of knowledge and expertise that should be relevant to our understanding of supplier development. There are however sources that are very close to a typical supplier development context, that, according to my opinion, really should be referred to. One such area is what is often referred to as interaction and network theory. This literature is not explicitly referred to and utilised to the extent I think it should in the previously mentioned body of knowledge on supplier development. I consider it very relevant and complementary to the literature previously described.

3.2 Interaction and network theory - broader but strongly related sources of knowledge

Supplier development as perceived by the author is really about establishing closer relationships between two (or more) actors in an industrial market. Within the interaction and network approach focusing on actors, activities and resources a number of studies have been done in the area of buyer-seller relationships exploring dyadic and triadic relationships (e.g. Håkansson, 1982; Ford, 1980; 1998), describing how these relationships develop over time. In this literature the heterogeneity of business relationships is stressed and a language has been developed to give justice to the inherent complexity of relationships involving a number of actors (Ibid.).

Håkansson (1987) identify three key elements in network theory namely activities, resources, and actors (the A-R-A-model). In a network value can

be created through activity links (e.g. JIT, concurrent engineering etc.), resource ties (i.e. optimal use of other parties resources), and actor bonds (i.e. the social bonds between actors) (Håkansson & Snehota, 1995; Ford, 1998). Hence a description of the different actors, activities and resources within a network would capture the essence of the network and making the area of interaction and network theory highly relevant for supplier development research.

It is also likely so that the pressure that firms feel (i.e. power and dependence issues, see Emerson, 1962) will have impact on different levels in the network. The studies described in section 2 focused on relationships between OEMs and first tier suppliers. However, as a consequence of the observed changes in the supply hierarchy, described in section 1) it is evident that also smaller firms must take supplier development (developing their own suppliers) in consideration in order to be competitive in the future. Therefore it's of great interest to study how small and medium sized firms (SMEs) work with supplier development, by themselves or within different network constellations (Larsson et al, 2000), in relation both to their buyers and to their own supply base, an area which has been, to my knowledge, unexplored so far.

4. Concluding remarks

The theoretical framework of supplier development show that supplier development is an important activity that has gotten a lot of attention from large firms and academia. It can also be noted that this review of supplier development research is quite narrow as it excludes a lot of the purchasing research that at least implicitly deals with these aspects, and that the number of studies focusing on supplier development are limited.

The importance of the purchasing function is growing. It is also so that the purchasing function has a crucial role in supplier development. Therefore purchasing research can help us when it comes to the cross functional nature of this activity.

Furthermore, studies of buyer-seller relationships using interaction and network theory may both give valuable contribution to the area of supplier development. Such studies focus on the embeddedness of firms in relationships to other actors who both facilitate and constrain development processes.

There is as I see it a need for further studies, in-depth as well as broad, in order to give justice to the complexity within this area. There is room for different contributions such as studies of different industries, SMEs, and different cooperative forms that could fit under the supplier development umbrella.

Perhaps even more interesting is to learn about changes in an entire supply chain. Here aspects of strategic and organisational change might be useful to include. We know that larger OEM firms demand higher quality etc. from their first tier supplier but what happens further down in the supply chain? A chain is not stronger than its weakest link is a saying that could be relevant also in contexts like this. Since many OEM firms today only manage their first tier of suppliers this is an interesting situation to study and learn more about.

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