The Influence of Supplier Development on Gaining a Preferential Buyer Status, Supplier Adaptation and Supplier Relational Embeddedness

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Abstract

In this paper we investigate the outcomes of supplier development as perceived by the supplier. More specifically, we investigate whether supplier adaptation occurs as a result of the interplay among supplier development, preferential buyer status and supplier relational embeddedness. Supplier relational embeddedness provides information to the buyer about the supplier's intentions to reciprocate and stay close with the buyer. We examine the linkages between supply chain management research on supplier development, organization theory research on adaptation, social capital and networks in order to investigate how buyers can influence their competitive position in a supplier's portfolio of competitive buyers. Furthermore, we introduce into our conceptual model a number of relational mediators (i.e. trust, commitment and satisfaction) advancing existent research on supplier development and adaptation. The results show that the relationship between supplier relational embeddedness and a buyer's investments in supplier development are partially mediated by supplier trust, satisfaction (economic) and commitment (affective). Supplier relational embeddedness is an important mediator between investments in supplier development and gaining preferential buyer status that eventually effects in supplier adaptation.

Keywords
buyer – supplier relationship, supplier adaptation, relationship marketing programs, supplier development, preferential buyer status, supplier relational embeddedness

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Introduction

In this paper we investigate the outcomes of supplier development as perceived by the supplier. First to mention the term "supplier development" was Leenders (1966). At that time he defined it as manufacturers' efforts towards increasing a number of relevant suppliers and their performance improvement. Krause et al. (1998) label supplier development as any activity that a buying firm initiates in order to improve suppliers performance. Taking into account social exchange theory we argue that inter-firm relationships represent interactive and reciprocal behavior of individuals in organizations (Hallen et al., 1991). The behavior of individuals translates into organizations or some parts of organizations being influenced by social exchanges in an inter-firm relationship (Muhkerji and Francis, 2008). Therefore, any behavior related to exchanges between partners in a relationship has underlying expectations of reciprocity (Dwyer et al., 1987; MacNeil, 1980; Noordewier et al., 1990). Introduction of reciprocity into supply chain management research is also inline with Palmatier et al. (2006) suggestions for future research.

In our approach we follow Wagner's (2006a/b) and Krause et al. (2007) recommendation for future research and take a supplier's perspective for investigating on the returns of supplier development. We advance Wagner's (2006a/b) study by taking into account the effect of supplier development on the supplier's intentions to strengthen its ties with the buyer via closeness and reciprocity. For this, we translated the ideas of Rindfleisch and Moorman (2001) on closeness and reciprocity into a new concept named supplier relational embeddedness.

This paper aims to provide insights whether a buyer's investments in supplier development influence a supplier's intention to adapt to the buyer's needs and requirements and to give a buyer a preferential buyer status. Another contribution is that we will provide clarity on whether the interplay among such concepts as supplier development, supplier adaptation and preferential buyer status is mediated by supplier relational embeddedness. In relationship marketing literature, many relational concepts are treated as mediators (Palmatier et al., 2006), however, in our study we use the most common ones: trust, calculative and affective commitment, as well as social, common and economic satisfaction. These relational mediating concepts were designed specifically as mediators between supplier development and supplier relational embeddedness.

To summarize, we investigate the influence of supplier development practices on supplier adaptation and gaining preferential buyer status, mediated by supplier relational embeddedness. Our approach takes a supplier's perspective on the investments that buyers make in supplier development

and whether these investments boost adaptations that suppliers make in order to comfort the buyer. It is of academic and practitioners interest to find out under which circumstances suppliers are adapting and willing to stay close and reciprocal. Investigating how suppliers perceive a buyer's supplier development efforts lets us gain valuable insights into drivers of reciprocal behavior of suppliers. Last but not least, this study contributes to the present measurement of supply chain management concepts and applies a formative approach, instead of the commonly used reflective one, whenever relevant.

As far as the structure of the paper is concerned, first, our theoretical point of view is explained. Then, the methodology for our data analysis is described together with the data collection procedure and the sample. Next, the results of our electronic survey are presented and elaborated on in the discussion part. Finally, the paper concludes with managerial implications and future research recommendations.

Theoretical framework, conceptual model, measurement and hypotheses

Supply base reduction results not only in a reduced number of suppliers but also has its consequences in allocation of larger spend volumes to fewer suppliers (Manoocheri, 1984; Hahn et al., 1986; Pilling and Zhang, 1992; Kekre et al. 1995). Previously, in early 1980s, Hahn et al. (1983) advised that allocation of larger spend volumes to fewer suppliers would bring benefits to buyers. Subsequently companies noticed that supply base reduction facilitates building more collaborative and interdependent buyer – supplier relationships (Gulati and Sytch, 2007; Chen and Paulraj, 2004). Yet, these closer ties between buyers and suppliers increase both a buyer and supplier mutual dependence (Carr and Kaynak, 2007). This interdependence made buying firms realize the need to work closely with suppliers in order to realize cost savings (Wagner, 2006b), quality, delivery, capability and financial performance improvement (Krause et al., 2007; Modi and Mabert, 2007).

Sharing the view of the Business Council for Sustainable Development (BCSD) we believe that the earth has limited capacity to provide material and energy. Thus, following this resource-limited view, we agree with Grewal and Slotegraaf (2007) that when faced with limited resources and fierce competition managers struggle with accessing and organizing these limited resources so that to leverage competitive advantages of their organizations. This entails the stream of supplies' purchase-safeguarding oriented thinking that is aligned with Bew (2007) who claims there has been a shift in buyers' behavior. Purchasing focus turns to attain priority in getting supplier-provided resources which are limited in availability and of high value to both parties in the relationship. The switch to relationship marketing, instead of an arm's length exchanges, and the limited availability of certain resources caused buyers to pay increased attention to understanding antecedents and consequences of involvement in close partnerships with suppliers (e.g., Krause 1999; Krause et al., 2007; Modi and Mabert, 2007). Moreover, Bew (2007) argues that the dependence of buyers' performance on suppliers makes buyers more "tied" to their suppliers than ever before. Before a buyer starts to be closely tied to a supplier, a buyer usually starts the supplier evaluation and selection process (Krause, Scannell, and Calantone, 2000). Since supplier evaluation is aimed at investigation of a supplier's performance and its comparison with competition. One of the main outcomes of supplier evaluation is the indication of areas at a supplier's site that are eligible for improvement. Yet, only after this evaluation, the relationship improvement process via supplier development efforts may start (e.g., Wen-Li et al, 2003; Wagner 2006a; Wagner 2006b; Krause et al., 2000). We further this notion by a claim that supplier evaluation is one of the components of ongoing supplier development efforts. We distinguish three components of supplier development such as supplier evaluation, operational supplier development and strategic supplier development. In our view these three supplier development components act in parallel and form an ongoing cycle.

Supplier Development

Krause et al. (2007, p. 529) claim that supplier development may be composed of such activities from a buying firm as "goal setting, supplier evaluation, performance measurement, supplier training, and other related ones". Previously Krause (1997) claimed that direct involvement as a factor of supplier development consisted of a set of practices such as: formal supplier evaluation, certification, recognition, informal supplier evaluation, supplier site visits, training, and buyer sites and facilities visits, as well as verbal or written demand for performance improvement. This set of practices composing direct involvement indicates a multidimensional nature of supplier development. However,

although academia elaborates on a number of constructs in the context of supplier development, an immense majority of literature focuses only at a few of them (e.g., Wagner, Krause et al., 2000, Krause et al. 2007; Benton and Maloni, 2005; Wen-li et al., 2003, Modi and Mabert, 2007). Wuyts and Geyskens (2005) investigate the role of detailed contract drafting and close partner selection on the formation of buyer-seller relationships. Gulati and Sytch (2007) focus on dependence asymmetry and joint dependence and the effects of embeddedness on a manufacturer's performance. So far most of the studies, except Prahinski and Benton (2004) examined the influence of supplier development and its outcomes from a buyer's perspective. However, Prahinski and Benton (2004), though they attempted to measure indirect influence strategy as direct supplier development efforts, they were not so consistent in the use of the measurement when compared to previous research findings and existing theory (e.g., Krause et al. 2000; Krause et al. 1998) or even their own conceptual assumptions. Therefore, their conclusions might not be that precise. To counterbalance, this research builds on previous findings and adapts a supplier's perspective. Furthermore, we divide supplier development according to the level of buying firm involvement and the complexity of implementation based on Sanchez-Rodriguez et al. (2005). Consequently, our approach embraces supplier development seen as a continuum. We differentiate between supplier evaluation, operational supplier development and strategic supplier development as dimensions composing supplier development concept.

The notion of achieving competitive advantage due to investments in supplier development (Likert and Choi, 2004; Wagner, 2006b) is not of complete novelty. Majority of the research in the area of competitive advantage in the context of supply chains and buyer-supplier relationships (BSRs) focuses on the antecedents of BSR such as trust and commitment (Anderson and Weitz, 1992; Doney and Cannon, 1997), communication behavior in terms of communication quality, information sharing and involvement as well as feedback (Mohr and Nevin, 1990; Mohr and Spekman, 1994). Buvik and Reve (2001) investigated safeguarding of relationship-specific investments but limiting to the application of specific assets and their contractual safeguarding. Whereas, managing business-to-business relationships in terms of strategic assets revealing potential of preferential benefits was already noticed in n1980s (e.g., Webster, 1984; Jackson, 1985; Ganesan, 1994; Cannon and Homburg, 2001). To address the challenges of relational assets assignment that buyers face, they apply a number of strategies to identify, evaluate and select suppliers with the aim of supplier base reduction, selection of key suppliers for consideration for process and product development improvements and investments, and to advance buyer-supplier collaborative relationships (Hahn et al., 1990; Galt and Dale, 1991; Krause et al., 1998, Krause et al., 2000).

Examples of buyers' investments in suppliers, with reference to social capital and resource based view theory, refer to indirect and direct supplier development programs (Wagner, 2006a/b; Kause et al., 2000; Krause et al., 2007). Indirect development programs are in place when a buyer assigns only limited direct resources to a supplier (Krause et al., 2000; Monczka et al., 1993). In that sense they are inline with narrow supplier development (Hahn et al. 1990). Narrow supplier development programs represent passive programs that focus on supplier identification, supplier evaluation and supplier selection with the goal of compliance of a supplier's offer with the buyer's needs and requirements. Thereafter, we will refer to indirect supplier development as to supplier evaluation. Supplier evaluation represents a set of indicators that compose improvement requirements that suppliers need to fulfill in order to collaborate with the buyer (e.g., targets, certificates), are measured and that they are recognized for. That definition is consistent with the view of Prahinski and Benton (2004) on supplier evaluation and communication of the results driven by the expectations that the supplier will incorporate changes in order to improve noted deficiencies.

On the contrary, broader supplier development programs represent activities undertaken by the buyer towards active supplier development. These activities are carried on with the proprietary aim to improve "supplier capabilities' for long-term mutual benefit of both parties" (Hahn et al., 1990, p.3; Sako, 2004). The broader supplier development is aligned with the view of direct supplier development programs that are characterized by committing financial and/ or human capital by a buyer and playing an active role in developing a supplier (Krause et al., 2000; Monczka et al., 1993). Throughout the text we use the term operational supplier development in order to refer to direct collaboration investments in terms of working together on the site: standardization of product specifications, involvement in improvements of production, technology and quality. The definition of operational supplier development was adapted from Wagner (2006a/b) but adjusted in our study

according to the stream of research arguing that improvement of product quality is the most important objective of supplier development investments (Watts and Hahn, 1993; Forker, Ruch and Hershauer, 1999). Hence, the definition is aligned with the objective of supplier development. That is also inline with Rogers et al. (2007) claim that buyers focused on cutting the number of suppliers and the increase in the efficiency of the remaining ones, with the focal interest in performance' rise.

However, there are also such direct investments in supplier development that are more specific, advanced and time and resources consuming as well as complex to implement by the buyer. These supplier development efforts represent strategic supplier development. Strategic supplier development embraces early supplier involvement in new product and process development as well as supplier training. In these strategic supplier development investments a buying company is deeply involved in the core processes of with a supplier. Here a buyer acts beyond realizing basic operational improvements. We would refer to this kind of supplier development as "strategic supplier development".

The first approach that we are aware of to distinguish different levels of supplier development was by Sanchez-Rodriguez et al. (2005). The authors differentiate among basic, moderate and advanced supplier development. However, they mix a bit of each supplier development dimension in every distinguished type. We focus on supplier development as a formative second order construct composed of first order formative concepts as well. Therefore, we create a multidimensional continuum concept of supplier development.

Nevertheless, supplier development executes "a direct and critical role in achieving performance improvement" (Krause et al., 2000, p. 49). Moreover, a company applying an influence strategy such as supplier development programs (Prahinski and Benton, 2004), can be perceived as aiming at affecting the supplier to gain desired actions (Frazier and Summers, 1984). That kind of approach constitutes influence strategy in supply channels and is perceived in our study as aimed at achieving preferential buyer status and supplier adaptation.

Preferential Buyer Status

Existing relationship marketing research focuses on types of bonds formed with a customer (Berry, 1995; Berry and Parasuraman, 1991), as well as types of benefits offered to customers (Gwinner, Gremler, and Biner, 1998). According to Palmatier et al. (2007) each researcher elaborates on financial, social and structural categories of relationship marketing (RM). Moreover, Palmatier et al. (2007) classify social, structural and financial value categories as programs that suppliers implement to manage their customer base. They focus their research on the outcomes that sellers may expect in return from a buyer. Consistent with Palmatier et al. (2007) social RM embodies company efforts aimed at personalizing the dyadic exchanges (e.g. invitations to special social events, organized internally or externally, or meals). In the effect of such social RM activities a company gains a special treatment. We use the concept introduced by Palmatier et al. (2007) under the term "Preferential Buyer Status" that refers to gaining a special priority status within a supplier's firm. Whereas, Structural RM practices represent "Supplier Adaptation" with reference to special value–added benefits i.e., electronic order – processing interface, customized offer or procedural and process changes within organizational structure of the supplier. Financial RM programs represent explicit direct financial profits as incentives from past and/or future loyalty i.e., discounts, promotions, free products and other benefits that can be easily calculated money – wise.

We adapt Palmatier et al. (2007) insights into our study and perceive these RM programs as different benefits of supplier development practices. Preferential Buyer Status was measured by suppliers' perception of granting a buyer preferential treatment compared to other competitive buyers in the suppliers' customer portfolio. Supplier Adaptation is perceived as an attainment of a goal of supplier development aimed at supplier performance improvement (Hahn et al., 1990, Krause et al., 2000). In our study we limit ourselves to measuring social and structural benefits in terms of Preferential Buyer Status and Supplier Adaptation. Based upon our qualitative analysis (12 interviews with key account managers) it was decided that financial RM programs were less relevant for our study. That is due to the results of our qualitative analysis (12 interviews) that were preliminary to the quantitative data collection. The interviewed key account managers, salespersons, and purchasers argued that there were no financial benefits in their buyer-supplier relationships. Nonetheless, it could be a limitation of our study, and financial benefits may be measured appropriately with reference to buyer and supplier

financial performance. This indicates that in future studies the measures and concept of financial benefits could be translated into supply chain management theory and applied.

Supplier Adaptation

The notion of adaptation first enriched relationship marketing literature in business-to-business context with Hakansson's (1982) to notice that adaptation (of the products exchanged or the exchange process itself) was an important aspect of interfirm relationships. Hallen et al. (1991) claim that long lasting interfirm relationships can be characterized by both, interaction and adaptation processes. Adaptation processes refer to processes in which firms adjust their business practices exclusively for the other party in the collaborative exchange. Brennan et al. (2003) introduced the concept of dyadic adaptation that refers to either behavioral or organizational modifications implemented by one organization in order to fulfill the "specific needs" of another organization (p. 1639). Additionally, they claim that "in a unilateral dyadic adaptation the firm implements a specific modification for an exchange partner without any reciprocal modification by that partner". Whereas, a mutual/ bilateral dyadic adaptation is characterized by the exchange partners reciprocal adaptations. Furthermore, Brennan et al. (2003) find that adaptation facilitators are a buyer's power, buyer's support, and managerial agreements towards relational exchanges between the firms.
Furthermore, the origins of the adaptation adjustments can be sought in sociological theory of selling and interaction studies. For instance, according to Tosi (1966) companies are able to develop an effective selling relationship. Such an effective selling relationship can be obtained as an outcome if a selling company adapts its selling behavior to a customer's expectations. In other words, an effective selling relationship stands for a wide range of adjustments made by a selling firm to comfort the buying firm. Moreover, reciprocity theory states that reception of any benefits leads to creation of debts that can be lessened only by reciprocation (Cialdini, 2001). Hence, we argue that investments in supplier development made by buyers are aimed at achievement of certain goals i.e. expectation of some benefits in return and thus create reciprocation debts with the supplier. These reciprocation debts can be lessened either by rewarding the buyer with a preferential buyer status, or supplier adaptation to conform the buyer in achieving its performance in production-oriented goals, or both of these.

The above theoretical elaboration on Supplier Evaluation, Supplier Development, Preferential Buyer Status and Supplier Adaptation lets us formulate the following hypotheses:

H1: Supplier Development has a positive influence on Preferential Buyer Status.
H2: Supplier Development has a positive influence on Supplier Adaptation.
H3: Preferential Buyer Status has a positive influence on Supplier Adaptation.

So far the outcomes of such a buyer's involvement in supplier development were investigated in terms of operational and financial performance of a buyer and supplier (e.g., Vonderembse and Tracey, 1999; Krause et al., 2007). Both, a buyer and supplier firm performance were measured similarly. Although, researchers studied which characteristics of a supplier firm are important when a buyer is evaluating the supplier already four decades ago. Inline with current research, quality, cost, delivery, flexibility and capability of a supplier are at the top of the list of important supplier performance characteristics (Wind, Green and Robinson, 1968). Whereas, the bottom of the list is occupied by other supplier performance characteristics such as reciprocity and personal benefits received by a buying firm. Reciprocity was also encountered in the study of Perrault and Russ (1976) as one of the eight characteristics of a supplier that a buyer takes into account when making a purchase decision. We advance existent research on supplier development and adaptation, by including a measure of reciprocity and closeness in our study that is relational embeddedness. Rindfleisch and Moorman (2001) refer relational embeddedness to the strength of ties, and define it specifically as the degree of reciprocity and closeness between the relationship's participants (adapted from Rindfleisch & Moorman, 2001). In our study supplier relational embeddedness represents behavioral consequence of supplier development that leads to preferential buyer status and supplier adaptation.

Relational Embeddedness

Existent body of research argues that strong relational bonds increase interaction between actors whereas weak bonds decrease it (Berry, 1995; Hakansson & Snehota, 2000). In order to better understand the interactions between buyer-supplier relationship' participants, and the nature of the bond between them, we build on the notion of embeddedness (Hagedoorn, 2006) originating from network theory on social exchanges in a focal relationship between two actors.

Relational Embeddedness has already been attracting academia's attention in social networks, alliances, partnerships (e.g., Hagedoorn, 2006) and teamwork in new product development since a few decades. Nevertheless, in our study we use the new concept of supplier's relational embeddedness that is based on the work of Rindfleisch and Moorman (2001). Supplier relational embeddedness (SRE) refers to the degree of a supplier's reciprocity and closeness to the buyer in supplier-buyer relationship.

Merriam Dictionary provides two definitions of reciprocity. First, it is defined as mutual dependence, action or influence. Second, reciprocity stands for a mutual exchange of privileges. Closeness, on the other hand, is defined as a noun that represents secrecy, parsimony, precision, familiarity or proximity. In the context of the strength of ties theory we perceive closeness as the state of being in a very personal or private relationship. However, Rindfleisch & Moorman (2001) summarize previous studies findings on relational embeddedness and its role in alliances. They state that there is a relationship between a high degree of relational embeddedness and high levels of cooperation (Gulati, 1999). Furthermore, relational embeddedness behaves as a governance mechanism in terms of controlling for opportunistic behaviour, coordination problems, as well as lowering the costs of information, monitoring enforcement (Zenger, Lazzarini, and Poppo, 2002).
In the sense of controlling for opportunistic behavior supplier relational embeddedness is similar to loyalty. Therefore, we mediate the relationship between supplier development and supplier relational embeddedness with a number of relational mediator concepts such as trust, commitment and satisfaction. Rindfleisch & Moorman (2001) state that there is a relationship between a high degree of relational embeddedness and high levels of cooperation (see also Gulati, 1999). Building on the relational benefits approach, we advance Hennig-Thurau et al. (2002) argument on the necessity of both parties in a relationship to benefit in order to continue in the long run. Furthermore, we decided to use the concept of supplier's relational embeddedness in order to provide insight into a supplier's reciprocity and closeness to the buyer. We assume that relational embeddedness, due to its nature, acts as a measure of behavioral intentions of the supplier to stay loyal to the buyer.

Including relational embeddedness in our model is in line of Palmatier et al. (2006) call for research that tests the effect of reciprocity of relationship investments and benefits (in our case benefits are translated in preferential buyer status and supplier adaptation). In our model supplier relational embeddedness is hypothesized as a mediator between Supplier Development and Preferential Buyer Status and Supplier Adaptation. We hypothesise the following:

H4: Supplier Development has a positive influence on Supplier Relational Embeddedness.
H5: Supplier Relational Embeddedness has a positive influence on Preferential Buyer Status.
H6: Supplier Relational Embeddedness has a positive influence on Supplier Adaptation.

Relational Mediators and Control Variables

So far, the most important relational concepts, trust and commitment were treated separately in research (e.g., Wagner (2006a/b); Krause et al. (2007)) and we enclose them both, also differentiating between calculative and affective commitment. By considering two types of commitment we test whether there are also other factors that influence relational embeddedness. Following this approach we also include a supplier's economic and common satisfaction. This adds to the current stream of supplier development efforts' appreciation by the supplier and admission of a special treatment to a buyer due to not only cognitive but also affective drivers.
Palmatier et al. (2006) claim that trust, commitment and satisfaction play the role of relational mediators between relationship marketing and relational performance in terms of outcomes. Commitment plays an important role in every relationship, unless it is transaction – based. The reason why commitment is more important in long – term relationships is that it reflects a desire to continue a

relationship of a perceived value (Moorman, Deshpande, and Zaltman, 1993). Garbarino and Johnson (1999) found that for long-term relationships commitment is a mediator between trust and future intentions in customer relationship management (CRM). Satisfaction, on the other hand, is more important in case of captive buyers representing short – term transactional relationships. In general, satisfaction stands for an emotional state arising in response to an individual's evaluation of an interaction experience (encounters) (van Dolen, de Ruyter and Lemmink, 2004) in comparison to alternatives (Smith, 1998).

Satisfaction

In this study we examine three types of satisfaction, common and economic (Geyskens and Steenkamp, 2000). Anderson and Naurus (1984, p.66) define organizational satisfaction as a "positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm". We define common satisfaction the same as the organizational satisfaction. Dwyer (1984) claims that satisfaction in a business partnership stands for the measured difference between benefits and costs involved in the exchanges between relationship participants. Satisfaction evolves over time (similarly to commitment) due to the experience a buyer gains with a product and its supplier (Homburg, Koschate, and Hoyer, 2005). Economic satisfaction represents purely economic outcomes of the relationship (Geyskens and Steenkamp, 2000).

H7a: Common satisfaction mediates the relationship between supplier development and preferential buyer status.
H7b: Economic satisfaction mediates the relationship between supplier development and preferential buyer status.
H7c: Supplier Development Assessment mediates the relationship between supplier development and preferential buyer status.

Commitment

Morgan and Hunt (1994, p.22) claim that "presence of relationship commitment and trust is central to successful relationship marketing". Furthermore, they claim that the relationship between satisfaction and loyalty is mediated by both, commitment and trust. Commitment reflects a desire to sustain and continue a relationship of a perceived value (Moorman, Deshpande, and Zaltman, 1993). The two most often distinguished types of commitment are affective (attitudinal) and calculative. **(**de Ruyter, Moorman and Lemmink, p. 272, 2001)**.** Affective commitment – refers to the "like" feeling of a buyer to a supplier, psychological attachment based on feelings, and calculative commitment – refers to a firm's motivation and need to continue the relationship (ibid.) that represents losses in case a relationship would terminate (Geyskens et al., 1996). Morgan and Hunt (1994) found significant relationships between the level of a buyer's relationship commitment and his acquiescence, propensity to leave, and cooperation, all of which can be regarded as behavioral outcomes of relationships.

H8a: Affective commitment mediates the relationship between supplier development and preferential buyer status.
H8b: Calculative commitment mediates the relationship between supplier development and preferential buyer status.

Trust

In general trust is referred to as the belief in an exchange partner's honesty and benevolence. Trust in an organization refers to the perception of honesty as the confidence in the reliability and integrity of a trading partner (Morgan & Hunt, 1994) and motivation to rely on that confidence (Moorman, Deshpande, and Zaltman, 1993). Benevolence represents the belief that a trading partner is interested in and motivated to work for mutual welfare (Geyskens, Steenkamp and Kumar, 1998). Zaheer, McEvily and Perrone (1998) advance this definition by adding that trust in an organization depends on the degree of collectively held trust level of organizational members toward the partner firm. Therefore, making the link between individual's trust and organizational as the view of trust in an organization is developed by individuals who are representative of that organization.

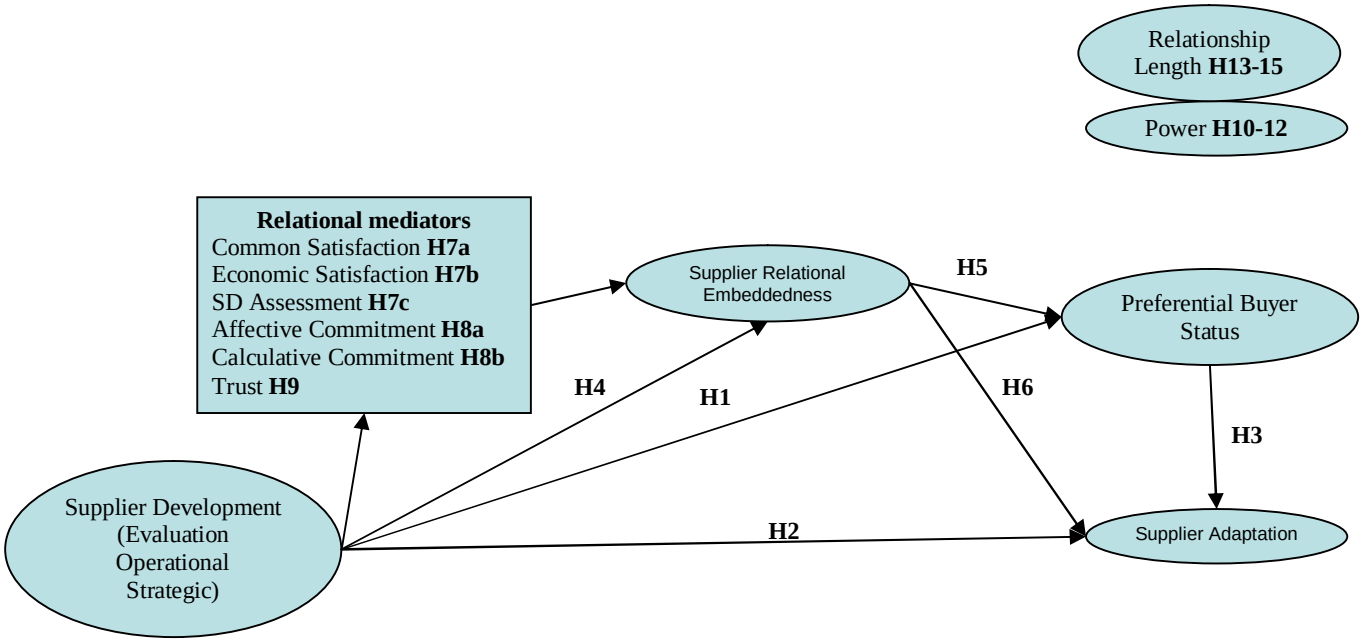
H9: Trust mediates the relationship between supplier development and preferential buyer status.

Control variables

We check for the influence of power, accessibility of a contact person, supplier turnover, sales level to the buyer and relationship length. Especially important is Buyer's Power that represents the ability of one party to influence or evoke a change in another's behavior (Mohr, Fisher and Nevin, 1996). Furthermore, because supplier development and supplier adaptation use firm's resources we thought that larger firms are likely to engage in these efforts more, thus we controlled for size using annual turnover and the level of sales turnover to the buyer (similar approach to Krause et al., 2007):

H10: Power has a positive influence on SRE.
H11: Power has a positive influence on preferential buyer status.
H12: Power has a positive influence on supplier adaptation.
H13: Relationship Length has a positive influence on SRE.
H14: Relationship Length has a positive influence on preferential buyer status.
H15: Relationship Length has a positive influence on supplier adaptation.

Conceptual Model



Methodology

A thorough literature review in search for ground theoretical basis and best practices was conducted. Based on that literature study we made a list of relevant concepts, their definitions, measurements and causal relationships. Several experts from different fields (Purchasing, Supply Chain Management and Marketing) were consulted to discuss the concepts and hypothesis. For our study, we selected a company that produces air compressor equipment (total turnover close to 3 billion euro) that is part of a global industrial group. The company has a mature purchasing and supply management function and practices supplier development.

Our first step was to interview a number of practitioners from both buyer and supplier side in order to determine the most appropriate elements of a buyer supplier relationship relevant to the specific industry. Secondly, we designed a survey questionnaire that we discussed in our focus group. After

that, a web-survey was designed and pre-tested. Finally, we were able to test our hypothesis among a large number of suppliers.

We conducted in total 13 in-depth semi-structured interviews with purchasing managers (5) and key account managers (7) from Germany, Belgium, Italy and India. Next, the interviews identified the appropriate decision makers as respondents for research on buyer – supplier relationship management. Both, a buying company' representatives and supplying companies' representatives agreed that key account managers are most knowledgeable about all interactions involved between the dyadic partners at a supplier's site. Therefore, key account managers were selected as the most appropriate respondents of our survey.

Following the analysis of interviews we organized a workshop with our test panel (interviewees) in order to discuss a draft version of the survey questionnaire and benefit from their further suggestions for improvements. Next we conducted a pilot study. The sample in this project is represented key account managers (KAMs) at a supplier's side. Our electronic survey (in NetQuestionnaire) is measuring suppliers' perceptions on a set of items measuring the relationship quality at a seven-point scale. The invitations were sent to 254 suppliers and we received 185 usable responses back, resulting in a satisfying response rate of 72.83%. In the data analysis we include several control variables e.g., a buyer's power, the length of a buyer-supplier relationship, the length of a purchasing manager-buying company relationship, and perceived accessibility of the contact persons at a buyer's site. The survey was rolled-out in the beginning of December 2007 and the research team finished the data collection in February 2008. SmartPLS was used to analyze the data.

Measurement

Table 1 Measurement Sources Table:

Supplier Relational Embeddedness was developed based on Reindfleisch and Moorman (2001)
Supplier's Trust in a buyer was developed based on Kaufman et al. (2006)
Affective Commitment was developed based on Kumar et. al. 1994
Calculative Commitment was developed based on Kumar et. al. 1994
Economic Satisfaction was developed based on Geyskens and Steenkamp 2000
Common Satisfaction was developed based on Doney and Cannon (1997) and Cannon and Homburg (2001)
Preferential Buyer Status was developed based on Palmatier et al. 2007
Supplier Adaptation was developed based on Palmatier et al. 2007
Supplier Development was developed based on Wagner (2006 a/b) and Krause et al. 2007
Power of the Buyer was developed based on Mohr, Fisher and Nevin (1995)
Accessibility of a Contact Person at a Buyer's site was developed by researchers
Duration of a Supplier– to –Buyer relationship represents one of demographics measures
Duration of a Key Account Manager of a Supplier– to –Buyer's business relationship represents one of the demographics measures

Results

The hypotheses were tested using structural equation modeling with smartPLS.

The individual values for R^2 for Supplier Relational Embeddedness (SRE), Preferential Buyer Status (PBS) and Supplier Adaptation (SA) are .51, .17, and .42, respectively, which means that the model explains 51% of the variance in SRE, 17% in PBS and 42% in SA (see Table 2). As far as relational mediators R^2 are concerned, AC=.12, CC=.001, ES=.19, OS=.23, SDA=.30, and Trust=.18. According to Cohen (1988) the values of R^2 of .02, .13 and .26 can be interpreted as small, medium and large. Thus, except CC and AC the relational mediators have small (AC), medium (ES, OS) and large (SDA) R^2 effect sizes (i.e., a measure of the degree of the effect of the treatment that is independent of sample sizes). To measure the internal consistency of indicators composing given concepts we use composite reliability (CR) and average variance extracted (AVE; Fornell and Larcker, 1981). All CRs exceed the

cut-off value of .7 (Nunnally and Bernstein, 1994) and AVEs exceed cut-off vale of .5 (see Table 2) (Fornell and Larcker, 1981).

Table 2 AVEs and CRs

	AVE	Composite Reliability (CR)
AC	0.66	0.85
CC	0.70	0.90
ES	0.58	0.85
Evaluation	0.00	0.00
OS	0.57	0.84
Operational	0.00	0.00
Power	0.56	0.79
PBS	0.64	0.84
Rel Length	0.79	0.88
SDA	0.73	0.89
Strategic	0.00	0.00
SA	0.00	0.00
SD	0.57	0.94
SRE	0.52	0.77
Trust	0.64	0.88

Due to the lack of more sophisticated fit measures in smartPLS, we use Vinzi et al.'s (2004) global fit measure for PLS based on R^2 for the endogenous constructs. That measure of GoF (goodness-of-fit) is computed as the square root of the multiplication of AVE and R^2. Inline with Cohen's (1988, 1992) classification and the recommended cut-off value for AVE=.5 (Fornall and Larcker, 1981), we distinguish criteria for small, medium and large effect sizes of R^2 at .1, .25 and .36. The GoF for our model is 0.39, which slightly exceeds the cut-off value for the large effect size of R^2.

Table 3 Relationships coefficients and hypotheses significance

Relationship	Beta	t-value	p-value	Conclusion
Evaluation -> Supplier Development	0.37	17.79	**sig**	
Operational -> Supplier Development	0.47	26.43	**sig**	
Strategic -> Supplier Development	0.25	15.35	**sig**	
Supplier Development -> Preferential Buyer Status	0.01	0.13	**ns**	**H1 – reject**
Supplier Development -> Supplier Adaptation	-0.02	0.21	**ns**	**H2 – reject**
Preferential Buyer Status -> Supplier Adaptation	0.51	8.74	**sig**	**H3 – fail to reject**
Supplier Development -> Supplier RE	0.23	3.19	**sig**	**H4 – fail to reject**
Supplier RE -> Preferential Buyer Status	0.19	2.54	**sig**	**H5 – fail to reject**
Supplier RE -> Supplier Adaptation	-0.02	0.30	**ns**	**H6 – reject**
Supplier Development -> OS	0.48	9.32	**sig**	**H7a – reject**
OS -> Supplier RE	0.14	1.13	**ns**	**H7a – reject**
Supplier Development -> ES	0.43	6.34	**sig**	**H7b – fail to reject**
ES -> Supplier RE	0.17	2.02	**sig**	**H7b – fail to reject**
Supplier Development -> SD Assessment	0.55	9.50	**sig**	**H7c – reject**
SD Assessment -> Supplier RE	-0.06	0.64	**ns**	**H7c – reject**
Supplier Development -> AC	0.35	5.59	**sig**	**H8a – fail to reject**
AC -> Supplier RE	0.19	1.69	**sig**	**H8a – fail to reject**

Supplier Development -> CC	0.01	0.09	**ns**	**H8b – reject**
CC -> Supplier RE	0.01	0.14	**ns**	**H8b – reject**
Supplier Development -> Trust	0.42	7.16	**sig**	**H9 – fail to reject**
Trust -> Supplier RE	0.20	2.64	**sig**	**H9 – fail to reject**
Power -> Supplier RE	0.05	0.77	**ns**	**H10-reject**
Power -> Preferential Buyer Status	0.22	2.76	**sig**	**H11-fail to reject**
Power -> Supplier Adaptation	0.26	3.67	**sig**	**H12-fail to reject**
Rel Length -> Supplier RE	-0.06	1.11	**ns**	**H13-reject**
Rel Length -> Preferential Buyer Status	0.22	3.15	**sig**	**H14-fail to reject**
Rel Length -> Supplier Adaptation	0.07	1.14	**ns**	**H15-reject**

Conclusions

Our research is to examine the role of investments in supplier development on preferential buyer status and supplier adaptation. Although previous research has addressed the direct effects of supplier development on financial, quality and operational performance, the effect on relational concepts and actual supplier adaptation has been largely ignored. This study attempts to close these gaps, and its findings suggest that supplier relational embeddedness is an important mediator between supplier development and preferential buyer status. There is no direct effect of supplier development on either preferential buyer status or supplier adaptation. We therefore discuss our managerial contributions and describe some limitations of this paper.

Managerial Contributions, Limitations and Future Research

Our findings have important implications for practice. Buyers investing in supplier development should be aware of the interaction between the investments, building closer position to the supplier, the actual supplier adaptation and the availability of the preferential buyer status. Logically, when a buyer invests its resources in supplier development then the expectation is that the supplier will use it for the relationship benefit. Buying companies are wondering how much they should invest since they are afraid that by helping to develop the supplier they are also helping other competitive buyers, which might affect their competitive advantage. But the question is whether the suppliers who receive help also perceive it as useful and indeed necessary to adapt to. Our results however, indicate that supplier development does not have direct influence on supplier adaptation or a preference for one investing buyer over another competitive buyer. Additionally, supplier development does not have any direct influence on building a buying company's position among other competitive buyers. This relationship is partially mediated by relational concepts such as trust, affective commitment, and economic satisfaction. Supplier relational embeddedness (SRE) mediates the relationship between supplier development and preferential buyer status. SRE also mediates the relationship between relational mediators and preferential buyer status. Hence, firms may conclude that not only investments in supplier development will lead to adapting to the needs and requirements that they have towards their suppliers. Buyers investments will make the supplier adapt only if the buyer is perceived as a preferred buyer compared to other competitive buyers. Therefore, not only working on consulting is important, but building long-term trust, affective commitment and economic satisfaction. There is also good news that calculative commitment (CC) does not emerge as the effect of supplier development investments and does not play the role of the mediator between supplier development and SRE. Moreover, common satisfaction does not mediate the relationship between supplier development and SRE either.

Nevertheless, firms can conclude from this research that in case that they are not powerful buyers they can trigger other relational issues to build a competitive position in a supplier's portfolio of competitive buyers. That is, they will get a preferential buyer status and supplier adaptation by developing trust, affective commitment and economic satisfaction.

Finally, a well known phenomenon of buyers having power and therefore receiving preferential buyer status is confirmed. Since power has influence on preferential buyer status and supplier adaptation. However, power does not influence supplier relational embeddedness that is an important mediator for small and medium buyers' obtaining directly preferential buyer status and

indirectly supplier adaptation. The question in our study is whether there are any reasons why supplier relational embeddedness does not lead directly to supplier adaptation. Another control variable, the relationship length, has a direct effect on preferential buyer status. That is, the longer the relationship between the firms and the key account manager and the firm, then the more preferred that buyer becomes. This result is a strong implication for favoring the orientation for building long-term relationships.

Several limitations of this research bring disadvantages to the discussion. First, we focus only on behavioral outcomes of supplier development, leaving behind financial and operational evaluations of its worthiness. Future research could study supplier's perceptions on all three outcome dimensions. Moreover, we recommend that research on supplier development and supplier adaptation bring in trust, information sharing in terms of interpersonal information sharing and impersonal types such as information technology. Furthermore, we encourage researchers to examine other outcomes of preferential buyer status than supplier adaptation. Since we argue there are more outcomes of collaboration, and especially as a chosen preferential buyer, than just supplier adaptation. Thus, for instance, also influence on innovativeness or new product development could be studied. Finally, a dyadic study would uncover insights into perceptions of both, buyers receiving a preferential buyer status and building a competitive position via supplier development and relational mediators and suppliers granting such benefits.

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Appendix Measurement scales:

Measurement: Supplier Evaluation

ISRD_A	Buyer X sets clear improvement targets.
ISRD_B	Buyer X uses a formal procedure to evaluate our performance (e.g. audits, quality and/ or delivery measurement).
ISRD_C	We are recognized by Buyer X for the improvements we realize.
ISRD_D	We have been certified to work with Buyer X.

Measurement: Operational Supplier Development

DSRD_1	Buyer X visits our site to assess our processes.
DSRD_4	Buyer X standardizes product specifications together with us.
DSRD_5	Buyer X collaborates with us to improve our manufacturing processes.
DSRD_6	Buyer X gives us technological advice (e.g. on materials, software).
DSRD_8	Buyer X gives us quality related advice (e.g., on the use of inspection equipment, quality assurance procedures).

Measurement: Strategic Supplier Development

DSRD_2	We receive training from Buyer X.
DSRD_3	We are early involved in the new product development process of Buyer X.
DSRD_7	Buyer X gives us product development advice (e.g., on processes, project management).

Measurement: Preferential Buyer Status

SOP_1	Buyer X receives special treatment from us.
SOP_2	Buyer X receives invitations to special internal events (internal managerial meetings, engineering day, customer day) organized by our company
SOP_3	Buyer X receives special information from us.

Measurement: Supplier Adaptation

STP_1	Buyer X receives special value-added benefits from us (e.g., inventory control, expediting, training).
STP_2	We have made specific investments for Buyer X (e.g. EDI, packaging, delivery, KANBAN).
STP_4	We assigned additional dedicated personnel to Buyer X.

Measurement: Supplier Relational Embeddedness

SRE_2	Our employees share close social relations with the employees from Buyer X.
SRE_3	We feel indebted to Buyer X for what they have done for us.
SRE_4	We expect that we will be working with Buyer X far into the future.

Measurement: Supplier's sales turnover percentage to the buyer:

TURNOVER	How much of your total turnover in percentage is sales to Buyer X?

Measurement: Supplier's Annual Turnover:

TotalCompTurnover	What is your company total turnover in millions of euro?

Economic Satisfaction Measurement:

ES_1	The relationship with Buyer X has provided our firm with a profitable market position.
ES_2	Through the relationship with Buyer X we were able to attract other customers.
ES_3	The supplier improvement programs of Buyer X help us to perform better.
SRE1	The relationship that we have with Buyer X can be defined as "mutually beneficial".

Supplier Development (SD) Assessment

ES_4	Buyer X provides our firm with support of high quality.

ES_5A	Buyer X provides competent resources for problem solving.
ES_5B	Buyer X provides resources for problem solving at the right time.

Affective Commitment Measurement:

AC_1	It is pleasant working with Buyer X that is why we continue the relationship.
AC_2	We want to remain a supplier to Buyer X.
AC_3	Our decision to remain a supplier for Buyer X is based on our attraction to the things that Buyer X represents as a company (e.g., image, brand, reference).

Calculative Commitment Measurement:

CC_1	There is too much effort (time and/or energy and/or expense) in switching to another customer, that is why we stay with Buyer X.
CC_2	Right now staying with Buyer X is a matter of necessity since no feasible alternatives exist.
CC_3	It would be hard for us to transfer the investments we have made in support of Buyer X to another customer, so we continue the relationship.
CC_4	It is too difficult to switch to another customer because of the lack of good alternatives, therefore we stay with Buyer X; otherwise, we would consider leaving.

Trust Measurement:

T_1	We can count on Buyer X to follow through on their commitments.
T_2	Hidden motives are not a concern in this relationship with Buyer X.
T_3	When making decisions, Buyer X considers our business interest as well as its own.
T_4	We trust that Buyer X keeps our best interest in mind.
T_5	Buyer X is honest with us.

Buyer's Power as reported by a Supplier:

POW_1	We are confronted with strong penalties when violating Buyer X's procedures.
POW_2	Buyer X can pretty much dictate how well we produce the product.
POW_3	Buyer X has a significant influence on our operations.
POW_4	In the past 6 months, Buyer X has changed and/ or influenced our programs and/ or procedures and/ or policies.

Accessibility of a Contact Person at a buyer's site (adapted from Palmatier et al., 2007):

CONTACT_A	We have problems in accessing our contact persons from the following Buyer X departments: Engineering
CONTACT_B	We have problems in accessing our contact persons from the following Buyer X departments: Production
CONTACT_C	We have problems in accessing our contact persons from the following Buyer X departments: Quality (SQA)
CONTACT_D	We have problems in accessing our contact persons from the following Buyer X departments: Purchasing
CONTACT_E	We have problems in accessing our contact persons from the following Buyer X departments: Accounting

Duration of a Supplier– to –Buyer relationship:

B2BCOOPER	How long has your company been a supplier to Buyer X?

Duration of a Key Account Manager of a Supplier– to –Buyer's business relationship:

P2BCOOPER	How long have you, as a representative of your firm, been cooperating with Buyer X?