Extra-Role Behavior in Buyer-Supplier Relationships

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Abstract

This study develops theory and provides empirical evidence regarding the antecedents and consequences of extra-role behavior in supply relationships (i.e., supplier behaviors that go beyond formal role definitions and responsibilities and are oriented toward helping the buyer firm, referred to as partner ERB). Communal motivations, instrumental motivations, and role formalization explain the variation in partner ERB. Further, the effect of partner ERB on relationship profitability is contingent on the buyer partner's qualifications and the degree of technological unpredictability. An empirical test is presented based on 223 buyer-supplier relationships. Partner ERB has several drivers including role formalization. While partner ERB generally increases buyer profitability, in certain cases (e.g., for poorly chosen suppliers in a predictable environment) it may actually decrease it.

Introduction

Effectively managing supply relationships for firm profitability and competitive advantage represents a key concern in channel relationship management (e.g., Cannon & Perreault, 1999). A major complicating factor is the impossibility in any kind of inter-firm cooperative setting to specify all possible contingencies contractually (Macaulay, 1963). Even if possible, complete contractual specification entails substantial costs associated with discovering and negotiating pre-specified contractual responses to all potential contingencies (Klein, 1996). These contractual restrictions in combination with buyer firms' increasing expectations of supplier firms have challenged effective buyer-supplier relationships (Kauffman, 2001). On the one hand, buyers address this challenge by identifying good suppliers using increasingly demanding selection criteria. On the other hand, suppliers often go to great lengths to signal that they are 'dedicated' suppliers. An important behavioral expression of such dedication is a supplier doing more than what is formally required in order to help out the buyer firm, referred to as 'extra-role behavior' or—in an inter-firm setting— partner ERB. In view of the increasing demands on suppliers and the limitations of contracts for effectively coping with an unpredictable environment, channel theory and practice can benefit from a better understanding of the phenomenon of partner ERB and its drivers and consequences. Somewhat surprisingly, very few empirical channel studies devote explicit attention to such pro-social behaviors (exceptions include Cannon & Homburg, 2001 and Lusch & Brown, 1996). The intention of the present study is to examine the drivers and the consequences of partner ERB displayed by supplier firms in buyer-supplier relationships.

ERB, doing more than what is formally required, has received attention in marketing (e.g., MacKenzie, Podsakoff, & Ahearne, 1998; Maxham & Netemeyer, 2003; Podsakoff & MacKenzie, 1994) as well as from related fields, including social psychology (e.g., Katz & Kahn, 1966; Pearce & Gregersen, 1991; Wright, George, Farnsworth, & Mahan, 1993) and

management (e.g., Kim & Mauborgne, 1996; Van Dyne & LePine, 1998). However, this literature has exclusively studied relationships between individual employees and firms, with a focus in the marketing literature on the relationship between salespersons and the sales organization. Partner ERB in inter-organizational settings remains unexplored. This manuscript aims to fill this void by providing a theoretical discourse on partner ERB, deriving a set of hypotheses, and testing the conceptual framework through an empirical study of over 200 buyer-supplier relationships.

More precisely, this study aims to contribute to the literature in three ways. First, from a theoretical point of view, the introduction of ERB in marketing channel research extends the literature on ERB from the classic employee-firm context to the firm-firm context. Also, it extends channel theory by drawing attention to positive behaviors that go beyond formally agreed upon role definitions, displayed by a supplier firm for the benefit of the buyer firm. Essentially, partner ERB differs from relational norms such as solidarity in that norms are bilateral expectations that behaviors are directed toward the relationship which result from a cooperative atmosphere and feelings of mutuality (Jap & Ganesan, 2000; Macneil, 1980). Partner ERB, however, refers to behavior displayed by an individual exchange partner. While pro-social behavior may result from a cooperative atmosphere within the dyadic relationship, it may also be driven by instrumental factors such as impression management. What sets a study of partner ERB apart is hence its focus on partner-specific pro-social behavior.

This brings us to the second intended contribution. Drawing from the ERB literature in social psychology and organizational behavior, a set of drivers of partner ERB is derived that is relevant to a channels context. While the classic motive for engaging in ERB discussed in the prior literature relates to feelings of positive affect resulting from a cooperative atmosphere (e.g., Van Dyne & Ang, 1998), instrumental motives related to impression management are likely to be influential as well (e.g., Bolino, 1999). Particularly in an inter-

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firm setting, such instrumental motivations require more attention. Further, role formalization is expected to influence the occurrence of ERB, but interestingly, the literature provides contradictory rationales. On the one hand, the governance literature has drawn attention to the restrictions of detailed formalization of roles and responsibilities in contracts (Jap & Ganesan, 2000; Macaulay, 1963). On the other hand, the organizational literature stresses the restrictions of role ambiguity, which occurs when roles and responsibilities are not sufficiently formalized (Katz & Kahn, 1978; Shenkar & Zeira, 1992). The empirical test will contrast both lines of thought and examine whether role formalization strengthens or weakens partner ERB.

A third contribution relates to the value of partner ERB to the firm. Virtually the entire prior ERB literature has assumed that such pro-social behavior benefits the actor to which the behavior is directed. However, this assumption can be questioned in business markets where the effect of partner ERB on relationship profitability is likely a function of partner characteristics and environmental conditions. Theoretical arguments for such contingency effects will be presented, and it will be empirically shown that partner ERB is only profitable to the buyer firm in specific situations. This has implications not only for channels research, but also for the ERB literature broadly.

In sum, contributions to the channels literature include the study of pro-social behaviors and an alternative perspective on role formalization. Contributions to the ERB literature include an elaboration of instrumental motivations in an inter-firm context and attention to contingency conditions. The empirical test is based on a survey among 223 buyer firms active in industry sectors related to industrial machinery, equipment, and components. The cross-sectional character of the data does not allow for unambiguous causal inference, but the pattern of findings is in line with the developed theory. The findings provide a more comprehensive picture of the motivational sources than what has been portrayed in the prior

ERB literature, leading to managerial recommendations as to how to stimulate partner ERB. Further, the results show that partner ERB is only associated with greater relationship profitability under specific contingency conditions.

Theory and hypotheses

Defining Partner Extra-Role Behavior

ERBs are efforts voluntarily exerted beyond the call of duty (Kim & Mauborgne, 1996). Within the confines of an organization, it refers to creative behaviors that go beyond role descriptions for the benefit of the firm. The origins of the ERB concept can be traced back to the role conception of the individual employee, as proposed in the social psychology of organizations (Katz & Kahn, 1966).[i] ERB is mostly associated with positive consequences such as decreased voluntary turnover among salespeople (MacKenzie et al. 1998) or individual employee performance (van Dyne & LePine, 1998). Nevertheless, some scholars have argued that ERB may at times be less helpful than hoped for, for example if the extra help is ineffective or inaccurate (e.g., Podsakoff & MacKenzie, 1994).

Beyond the traditional intra-firm context, doing more than what is formally required has particular value in marketing channel contexts, where contracts are necessarily incomplete and costly to draft (Klein, 1996; Macaulay, 1963). Partner ERB is defined as a partner firm's behaviors that go beyond formal role definitions and responsibilities, oriented toward helping a channel partner. It is important to distinguish partner ERB from dyadic relational norms of flexibility and solidarity that emerge over the course of a channel relationship as a result of feelings of mutuality and affective commitment (Heide & John, 1992; Noordewier, John, & Nevin, 1990). Partner ERB reflects an individual actor's actions oriented toward a channel partner as opposed to relational norms that pertain to the dyad rather than an actor in the dyad. Partner ERB can even occur in the absence of dyadic relational norms, for example when it is instrumentally motivated, as explained below.

Drivers of partner ERB in buyer-supplier relationships

A rich literature in organizational behavior, social psychology, and management has identified a number of motivations for actors to engage in ERB. These can be broadly classified into communal and instrumental motivations. Popular phrases such as "beyond the call of duty" (e.g., Kim & Mauborgne, 1996; Schaubroeck & Ganster, 1991) or "good soldiers" (e.g., Groth, 2004) illustrate the focus in the prior literature on altruistic motivations inspired by feelings of positive affect. However, more recently it has been suggested that ERB can also stem from instrumental motivations and serve as a signal to generate a positive impression (Bolino, 1999). Instrumental motivations are particularly likely to play a dominant role in an inter-firm setting, where behaviors have been considered as more instrumental and calculative than among individuals (e.g., Williamson 1996). In particular, suppliers displaying ERB may seek to generate a positive impression for competitive reasons (to have an edge over competing suppliers) or for cost reasons (to avoid the costs associated with relationship termination). In addition to communal and instrumental motivations, prior literature has suggested that the degree of role formalization may affect ERB.

Communal motivation. There is an extensive body of literature that relates ERB to concepts that qualify the cooperative character of a relationship between actors, such as relational bonds (Heckman and Guskey 1998), value alignment and shared values (Deckop, Mangel, & Cirka, 1999; Maxham & Netemeyer, 2003), and commitment (Mackenzie et al. 1998; Van Dyne & Ang, 1998). Prior marketing literature has suggested that a cooperative atmosphere can lead to the emergence of relational norms such as flexibility and solidarity as a partner commits to be responsive to requests that go beyond the usual expectations (Ganesan, 1994; Sako, 1992; Sirdeshmukh, Singh, & Sabol, 2002). The extant literature quite uniformly leads to the following hypothesis:

H1   A cooperative atmosphere in a buyer-supplier relationship enhances partner ERB.

Instrumental motivations. Bolino (1999) has suggested that ERB can serve as an impression-enhancing and self-serving instrument. Translated to a marketing channels context, partner ERB can be a beneficial strategy in that it aids in sustaining a reputation as a fair exchange partner. Such a reputation is valuable when the supplier firm needs to distinguish itself from direct competitors, such as in the case of multiple sourcing. Multiple sourcing provides the buyer firm with an exit option and the opportunity to increase or decrease each individual supplier's share of business over time. As a result, a multiple sourcing strategy increases the buyer's control over each supplier (Seshadri, Chatterjee & Lilien, 1991) and increases competition among suppliers (e.g., Tullous & Utecht, 1992). One way for suppliers to distinguish themselves from competing suppliers is to do more than what is formally required, a behavior that signals that the supplier is dedicated to the relationship. It has been shown in intra-firm settings that ERB displayed by an employee and directed toward a supervisor improves the supervisor's opinion of the employee (Bolino, Varela, Bande, & Turnley, 2006). Similarly, a buyer may develop a more positive image of the supplier if the latter engages in partner ERB. In sum, multiple sourcing motivates the supplier to display partner ERB as a means to create a differential advantage over competing suppliers:

H2   A buyer firm's multiple-sourcing strategy enhances partner ERB.

A supplier may not only engage in impression management to ensure its share of business over competing suppliers, but also to avoid the costs of relationship termination. These costs are higher when a supplier has made more investments dedicated to the relationship that could not be redeployed easily if the relationship were terminated and hence the cost of switching to a new partner firm is high (see for example Anderson & Weitz, 1992). Transaction cost theory has argued that this leads to a safeguarding problem since the buyer firm can opportunistically exploit this position (Williamson 1985). Since a supplier that faces high switching costs is more subject to the whims and wishes of the buyer firm, it would benefit from making the

buyer firm more favorable toward the supplier. Therefore, again from an instrumental impression management perspective, high switching costs may stimulate suppliers to display partner ERB.

H3   A supplier firm's switching costs enhance partner ERB.

Role formalization. The degree of role formalization is also likely to affect the occurrence of partner ERB. Interestingly, the governance and organizational literatures provide conflicting arguments. Macaulay's (1963) interviews with businessmen and lawyers illustrate the complexity of this link. Some interviewees explained that conflict tends to arise from ambiguous contracts whereas others argued that too much contractual detail might be restrictive. Several governance studies have focused primarily on the inflexibility that may result from detailed role formalization, arguing that detailed contractual specification of roles and responsibilities can be counter-productive in that they can be interpreted as signals of distrust (e.g., Ghoshal & Moran, 1996; Jap & Ganesan, 2000). Interestingly, the organizational literature provides arguments for exactly the opposite effect. Prior studies have associated role *ambiguity* with negative consequences such as conflict and low productivity (Katz & Kahn, 1978; Shenkar & Zeira, 1992), which in turn are likely to de-motivate ERB. Formal contracts serve as "miniature constitutions, setting out the parameters of each party's duties in general terms" (Hadfield, 1990). According to this logic, contracts have been described as alternative ways to not only design decision-making structures and assign responsibilities, but also, more generally, to establish a framework for future interaction (Macaulay 1963; Masten 1996). Moreover, an additional argument in favor of a positive effect for role formalization on partner ERB relates to the signaling value of ERB. Clarity with respect to the exchange partners' roles implies that ERB will be more readily observable, which strengthens its value as a signal of dedication. Going beyond the call of duty in the

presence of such clarity is more likely to be noticed and eventually rewarded by the buyer firm. Both lines of thought are contrasted in the following competing hypotheses:

H4a   Role formalization reduces the degree of partner ERB.

H4b   Role formalization increases the degree of partner ERB.

Partner ERB and relationship profitability

Lusch and Brown (1996) provided one of the few empirical channel studies that devoted attention to pro-social behaviors such as helping out the channel partner. Contrary to expectations, these authors did not find support for a positive link between pro-social behaviors and firm performance. This lack of a positive effect is interesting since as discussed next, there are a number of reasons to expect a positive relationship, but on the other hand, the effectiveness of such pro-social behaviors, in particular partner ERB, is likely to be contingent upon a number of factors.

First of all, partner ERB is valuable as it involves the help of a third party beyond contractually specified conditions. As a result, the buyer firm gains access to its exchange partner's resources (such as technological expertise or time) 'free of charge,' as opposed to when the same resources are sourced internally or bought in a market context. Moreover, partner ERB may also decrease costs. Cannon and Homburg (2001) found that suppliers that are willing to accommodate the buyer firm's unanticipated changing needs by applying rules and policies loosely have lower operation costs. In addition, partner ERB lessens the need for re-negotiation and adaptation of contractual clauses. Since partner ERB may both be valuable and reduce costs, the following baseline hypothesis is suggested:

H5   Partner ERB enhances relationship profitability.

Even though H5 posits a positive relationship, this effect is likely to be contingent upon at least two conditions. Based on the channels literature as well as ten interviews with experts

(see below), two moderating factors were identified: supplier qualification and environmental unpredictability.

For partner ERB to benefit the buyer firm, the supplier not only needs to be willing to display it, it also needs to be capable of doing so effectively. MacKenzie and Podsakoff (1994) suggested that ERB in general might be of little help if it turns out to be inaccurate or ineffective. Partner ERB requires additional effort from the supplier firm, sometimes in complex knowledge domains. For instance, suppliers in industrial markets may give advice to the buyer firm with regard to the latest technological developments. Hence, for partner ERB to be effective and accurate, it is important that the supplier has the right qualifications to take initiative in situations not foreseen in the contract. Buyers often engage in qualification processes for identifying suppliers that are resourceful, reliable, and possess the appropriate (technological) skills. If a supplier was selected after extensive evaluation of partner qualifications along different dimensions (technical capability, financial strength, product quality, etc.), its extra efforts are more likely to be beneficial than those of a supplier selected without such extensive evaluation. If the supplier firm is not sufficiently qualified, its efforts to assist the buyer firm might in fact even be harmful. Hence:

H6 Partner ERB enhances relationship profitability more when the supplier was selected after more extensive partner qualification.

Second, a main advantage of a supplier displaying ERB is the flexibility it provides. In industries characterized by unpredictable technological change, the difficulty of writing detailed contracts is exacerbated. In such environments, partnerships are less attractive (Kauffman, 2001). However, if the supplier is willing to do more than formally required, this can help the buyer firm in the course of technological evolution. Interviews with industry experts suggested that such help could vary from offering advice to technologically fine-tuning the component for the buyer's sake. Hence, in unpredictable environments, a supplier's

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ERB can make the supply relationship a competitive asset that contributes to the buyer firm's profitability:

H7   Partner ERB enhances relationship profitability more in more unpredictable environments.

Control variables

A supplier with a strong reputation for fairness in dealing with its exchange partners is expected to display ERB because reputation is a valuable asset, the value of which decreases when the supplier is unable to sustain it (Anderson & Weitz, 1992; Macaulay, 1963). At the same time, partner ERB may strengthen the supplier's reputation as a fair exchange partner. While a cross-sectional design is unable to unequivocally pinpoint the direction of causality, a positive association is expected. Further, the buyer firm's switching costs are included to assess the effect of supplier switching costs at given levels of buyer switching costs. Two antecedents of partner ERB have been associated in prior literature with relationship profitability. On the one hand, a cooperative atmosphere has been associated with positive relational outcomes (e.g., Verhoef, 2003). On the other hand, practitioners have considered multiple sourcing as a beneficial strategy in a competitive environment, as it enables the firm to benefit from a larger diversity of technologies (Tullous & Utecht, 1992)[ii]. Figure 1 presents the suggested overall conceptual model, with the solid arrows representing the hypothesized effects.

--Insert Figure 1 about here--

Empirical test

Sample

The data gathering process consisted of qualitative and quantitative phases. Face-to-face interviews with eight purchasing managers guided the construction and fine-tuning of the survey instrument. In addition, ten purchasing managers were interviewed to gain an

understanding from practice regarding the factors likely to moderate the profitability of partner ERB. The latter interviews led to the addition of these moderating factors to the conceptual model. Moreover, the respondents uniformly agreed that flexibility as displayed by behaviors beyond the contract is of great importance in buyer-supplier relationships.

For the quantitative study, 838 firms active in SIC classes 35 (Industrial and Commercial Machinery and Computer Equipment) and 36 (Electronic and Other Electrical Equipment and Components) were randomly sampled from the Dutch database Reach, a cross-industry database of registered firms in The Netherlands. The sample is limited to small to medium-sized firms (i.e., with a maximum of 500 employees) to avoid large size differences and enhance comparability. Each of the 838 firms was contacted by telephone to identify a key informant with sufficient knowledge on supply relationships. The key informants subsequently received a personalized letter requesting their participation. Then, all key informants were contacted by telephone to schedule an appointment for administration of the questionnaire by telephone. 223 respondents provided complete responses usable for analysis, a 27% response rate. The respondents were requested to complete the questionnaire for a recent purchasing agreement in which they were personally involved which represented an important rather than a routine purchase, and which involved a product component needed on a regular basis. As an incentive, respondents were promised a summary of results, and $5 per completed survey was donated to a charity. The respondents scored on average 6.05 and 6.15 on 7-point scales that measured their level of involvement and knowledge regarding relationships with suppliers, respectively. The average reported supply agreement was worth $3 million.

Measures

All constructs, except for multiple sourcing, were measured using multiple-item scales in a survey among managers at buyer firms. Partner ERB was measured using a 4-item 7-point

scale based on the conceptualization of the construct in the prior literature, i.e., with a focus on helping the buyer firm when not formally required. More precisely, the items are derived from the measure used by Kim and Mauborgne (1996), among others. Note that this measure reflects partner ERB as perceived by the buyer firm. Cooperative atmosphere was measured with a 4-item 7-point scale (derived from Geyskens, Steenkamp, Scheer, & Kumar, 1996). Multiple sourcing was measured by asking the respondent if its firm also purchases the same component from other suppliers. Switching costs were measured using 3-item 7-point scales reflecting the likely cost in terms of redeploying personnel, knowledge wasted, and necessary adaptations to the production system if the relationship with the supplier were to terminate (consistent with the difficulty to redeploy investments that are specific to the relationship, Anderson & Weitz, 1992). The measure of role formalization was based on Lusch and Brown (1996) and Wuyts and Geyskens (2005) (the latter label this construct "detailed contract drafting"). The scale for relationship profitability was self-constructed, using prior measures such as the one proposed by Jap (2001), but with a stronger focus on the contribution of the specific relationship to firm profitability. Partner qualification was measured by asking the respondent how much effort was made to verify that the supplier was qualified in six dimensions, ranging from technical skills to business philosophy[iii]. Technological unpredictability was measured with a 3-item 7-point scale reflecting the predictability of technological development in the given product component, derived from Stump and Heide (1996). Reputation for fairness was measured with a 3-item 7-point scale, based on Anderson and Weitz (1992). The measurement appendix provides the exact measures for all constructs, including their Cronbach α value as an indicator of internal reliability.

Evaluation of the measurement model

Structural equations modeling (Lisrel 8.3) was applied to evaluate the measurement model. In view of the number of constructs and data restrictions, two measurement models are evaluated

(see Antia & Frazier, 2001, for similar practice), one including partner ERB and its antecedents and consequences, and one including the moderator variables. The comparative fit index (CFI) for the first model is 0.94, the goodness of fit index (GFI) 0.89, and the standardized root mean square residual (SRMR) 0.06. The model for the moderator variables has a CFI of 0.93, a GFI of 0.92, and an SRMR of 0.05. Both models are acceptable because the CFI/GFI indices are close to or greater than the 0.90 recommended level, and the SRMR values are close to 0.05.

Second, concerning individual item reliabilities, none of the loadings of individual items on their corresponding constructs are below the 0.70 threshold level. All factor loadings are significant, indicating convergent validity (Anderson & Gerbing 1988). With one exception (technological unpredictability: 0.65), all Cronbach α values exceed Nunnally's (1978) 0.70 guideline.

Third, discriminant validity was assessed in two ways. Following Fornell and Larcker (1981), the square root of the average variance extracted (AVE) for each construct was compared with the correlations of that construct with all other constructs. As Table 1 indicates, the square root of AVE (on the diagonal) is higher than the correlations for all constructs. In other words, each construct shares more variance with its measures than with other constructs. Further, the χ^2-values of the original measurement model were compared with a measurement model in which a restriction was added that the items of two constructs (e.g., partner ERB and cooperative atmosphere) must load on the same latent construct. For all pairs of constructs, the first model is superior to the latter, indicating discriminant validity.

--Insert Table 1 about here--

Finally, in view of the survey method, it is important to consider possible common method variance (CMV) bias. While the use of different measurement formats (e.g., multiple sourcing versus partner ERB) and the consideration of interaction effects may eliminate some possible

CMV concerns, two tests were conducted. First, a test was conducted to verify if the results are robust for the inclusion of a latent methods factor, as recommended by Podsakoff, MacKenzie, Lee, & Podsakoff (2003). This involved creating a method factor specified such that all construct items load on it. The inclusion of this method factor did not alter the pattern of results, suggesting that the reported results are not confounded by CMV bias. Second, the marker variable technique proposed by Lindell and Whitney (2001) involved comparing the correlations between measures before and after a CMV correction. The second-lowest item-to-item correlation was considered as a conservative indicator of CMV bias, and this indicator was discounted from all correlations (see also Malhotra, Kim, & Patil, 2006). There were no significant differences across the patterns of observed correlations and discounted correlations, suggesting that CMV bias was not substantial in this study.

Correlations

Only experimental studies can provide unequivocal evidence of causality. While longitudinal studies may help address some causality issues (e.g., Jap, 2001), the traditional cross-sectional survey provides associations between constructs. Even when the null hypothesis of no association between constructs is rejected, the exact nature of causality remains ambiguous. Therefore, a logical first step in analyzing cross-sectional data is to examine simple associations between constructs, as reflected in the correlation matrix (see Table 1). A first comforting observation is that none of the correlations are excessively high, with a maximum of 0.47 (between role formalization and partner qualification). Second, as expected on the basis of the conceptual model, partner ERB is associated with several of the constructs included in the study. Third, a subset of constructs related to buyer evaluations (partner ERB, cooperative atmosphere, relationship profitability, and reputation for fairness) consistently exhibit positive inter-construct correlations while their association with unrelated constructs such as switching costs and technological unpredictability are consistently low.

Estimation method

Two equations are specified which explain, respectively, partner ERB and relationship profitability. Since partner ERB serves as an explanatory variable in the relationship profitability equation, the two equations are estimated jointly. The system is estimated with full information maximum likelihood estimation. All the parameters of the system are estimated simultaneously, accounting for all the information in the model (Maddala, 1977), contrary to instrumental variable approaches such as 2SLS where only the restrictions of a single equation are recognized (i.e., the latter is an example of a limited information method). Further, contrary to instrumental variable approaches, full information maximum likelihood does not require searching for exogenous variables that are sufficiently correlated with the endogenous variable while being uncorrelated with the error term. One drawback of full information methods is that mis-specification in one equation affects estimates in all equations. However, as explained below, specification tests show no indication of mis-specification. A multivariate normal distribution of the contemporaneous errors is assumed.

--Insert Table 2 about here--

Estimation results

Table 2 presents the full information maximum likelihood estimation results. An alternative model specification where both equations were estimated separately with OLS showed remarkably similar results. Each equation was tested for specification error due to omitted variables and incorrect functional forms (i.e., if log or power transformations would improve the model), but Ramsey's RESET test did not indicate any form of specification error. Following the logic of mediation analysis (Cannon and Homburg 2001; Lehmann 2001), it was investigated whether the addition of other partner ERB antecedents in the relationship profitability equation improved the model (i.e., adding direct paths from switching costs,

reputation for fairness, and role formalization to relationship profitability). None of the additional parameters were significant nor did they improve the model fit.

The results in Table 2 provide substantial support for the hypotheses regarding the drivers of partner ERB. Partner ERB is stronger in channel dyads characterized by a more cooperative atmosphere ($\beta = 0.327$, $p < 0.01$), supporting H1. Further, the buyer's multiple sourcing strategy ($\beta = 0.313$, $p < 0.01$) and the supplier's switching costs ($\beta = 0.216$, $p < 0.01$) both stimulate partner ERB. These results support hypotheses H2 and H3, respectively. Finally, role formalization enhances partner ERB ($\beta = 0.157$, $p < 0.01$), as suggested in H4a. As to the control variables, a supplier's reputation for fairness is positively associated with partner ERB ($\beta = 0.128$, $p < 0.05$). The buyer's switching costs, however, have no significant effect on partner ERB ($\beta = 0.134$, ns).

The estimation results also support H4, that partner ERB leads to higher profitability ($\beta = 0.327$, $p < 0.05$). More interesting are the conditions under which partner ERB contributes most to relationship profitability. As hypothesized in H6, partner ERB contributes more to relationship profitability when the supplier was selected after more extensive partner qualification ($\beta = 0.210$, $p < 0.01$). Further, partner ERB contributes more to relationship profitability in more unpredictable environments ($\beta = 0.256$, $p = 0.01$), supporting H7.

In order to better understand the implications of these interaction effects, the regression coefficient of partner ERB is calculated at different levels of the moderating variables (see Table 3; the results are based on standardized variables to avoid multicollinearity problems). Considering values of partner qualification at one standard deviation below versus one standard deviation above the mean (Jaccard, Turrisi, & Wan, 1990), the effect of partner ERB is insignificant at 'low' levels of partner qualification ($\beta_L = 0.117$, ns) but strongly positive at 'high' levels of partner qualification ($\beta_H = 0.537$, $p < 0.01$). Similarly, the effect of partner ERB is insignificant at low levels of technological

unpredictability (β_L = 0.071, ns) but strongly positive at high levels of technological unpredictability (β_H = 0.583, p < 0.01).

The impact of partner ERB can be further analyzed in different scenarios when both moderators are fixed at specific values[iv]. In the situation where the buyer firm performs very low partner qualification (two standard deviations below the mean) in a predictable environment (one standard deviation below the mean), the impact of partner ERB becomes negative on the basis of the FIML estimates, but with a *t*-value of 1.469, it is only significant at the 10% level using a one-sided test (β_{LL} = -0.349; $p_{one\text{-}sided}$ < 0.10). Repeating the same procedure on the basis of OLS estimates provides very similar results. Interestingly, the negative effect of partner ERB on relationship profitability under the same conditions of very low levels of partner qualification and a predictable environment becomes more significant when estimating the equations with OLS (β_{LL} = -0.409, p < 0.05). In sum, partner ERB is profitable in some situations, but not in other situations, as further discussed in the next section.

--Insert Table 3 about here--

Finally, concerning the control variables in the relationship profitability equation, the main effects of partner qualification and unpredictability are not significant. While these variables are important in that they describe the environment under which partner ERB is profitable, they have no additional direct effect on relationship profitability. A cooperative atmosphere increases relationship profitability above its indirect effect through partner ERB (β = 0.212, p < 0.01). The expected additional effect of multiple sourcing is insignificant (β = -0.147, ns).

Discussion

Overall, these findings confirm the importance of partner ERB in marketing channels. While prior research on ERB, with its dominant focus on employee-firm relationships, has assumed

the relationship between ERB and performance to be homogenous and positive regardless of context, the present findings lead to a more nuanced picture. Partner ERB is particularly profitable when the supplier was carefully selected after extensive partner qualification and under conditions of high technological unpredictability, where flexibility is more valuable. The latter finding extends Noordewier et al.'s (1990) result that relational elements in a buyer-supplier relationship lead to lower costs in more turbulent environments. The contingency effects found in this paper also indicate that there are settings where partner ERB is ineffective. In fact, extra-role behavior may have a negative effect on relationship profitability when a less qualified supplier does more than formally required in a predictable business environment.

The other question addressed in this study is what drives the supplier to display ERB. The findings point to both communal and instrumental motives. On the one hand, partner ERB is driven by a cooperative atmosphere in the buyer-supplier relationship. This motivation is close to the dyadic concept of relational norms such as flexibility and solidarity, as discussed in the channels literature (e.g., Sirdeshmukh et al., 2002). In addition, the findings underscore the relevance of other, more instrumental motives to display ERB. Suppliers can do so for the purpose of impression management. Suppliers are more likely to display ERB when faced with competing suppliers or high switching costs. By assisting the buyer firm even when not contractually required, supplier firms may hope to gain respect and legitimacy, and as a result retain their share of business and avoid the costs of relationship termination. Buyer firms can benefit from the insight that their strategic choices such as multiple sourcing can stimulate the exchange partner's ERB. Having multiple suppliers provides an exit option, which in turn increases the supplier's need to prove its dedication and legitimacy.

Finally, strong support is found for one of two contrasting arguments regarding role formalization. In line with previous literature on extra-role behavior in intra-firm settings

(Katz & Kahn, 1978; Shenkar & Zeira, 1992), this study shows that extra-role behavior is more likely to occur when contracts provide more detailed role descriptions. This suggests a role for contracts different from control and conflict resolution, where in fact contracts have been shown to be relatively ineffective (e.g., Macaulay, 1963). Detailed contracts formalize role descriptions and thus play a structuring and guiding role by setting out the parameters that define each party's duties in general terms (Hadfield, 1990). Not only does such clarity foster efficient exchange, it also provides a window of opportunity for an exchange partner to engage in impression management and distinguish oneself visibly from competing exchange partners by going beyond these predefined roles.

Limitations and future research

One drawback of the survey approach is that all variables are collected from one respondent, leading to possible common method variance bias. Studies using data from matched dyads or more objective performance measures might indicate whether the survey approach used in this study was indeed restrictive. It is important to note that the respondent did not report on its own behavior and performance, but rather on the exchange partner's behavior and relationship profitability. Also, both a common method factor test as well as the marker variable test indicated that CMV bias is not a major concern. It is also comforting to find a significant effect for multiple sourcing (which is an objective 0/1 measure) as well as several interaction effects in the expected direction, effects that can hardly be attributed to CMV bias. Nevertheless, future studies might use different methods to validate the reported findings.

Also, the cross-sectional survey method does not allow strong conclusions regarding causality. For example, the association between a partner's reputation for fairness and partner ERB may indicate that concerns over reputation lead to partner ERB, but partner ERB may in turn also increase a partner's reputation for fairness. An empirical approach that

accommodates dynamics over time (e.g., a longitudinal study) may point to an iterative process over time. Another limitation is that while this study examines the impact of partner ERB on relationship profitability, one of the implicit assumptions is that partner ERB leads to increased flexibility, which ultimately benefits end customers. To fully grasp the underlying process, a more detailed examination of flexibility may be in order. Finally, this study is limited to the general construct of "extra-role behavior", whereas more in-depth studies, perhaps case-based, might reveal different ERB subcategories. For example, it would be interesting to categorize ERB in terms of the distance of the extra-role activities from the in-role activities. One could argue for an inverted-U effect of distance on relationship profitability, since extra-role behaviors could benefit the buyer firm up to a point where the extra-role activities are insufficiently connected to in-role activities.

This study was primarily intended to contribute to the channels literature in marketing. Channels scholars have devoted relatively little attention to positive behaviors, whereas negative behaviors (such as opportunistic exploitation) or positive attitudinal constructs (such as trust or commitment) have received much attention. The few studies that investigate pro-social behaviors concentrate on relational norms, which are intrinsically associated with a cooperative atmosphere in a dyad. However, as has been argued in employee-firm settings (e.g., Bolino, 1999) and as this study shows empirically, pro-social behaviors can also result from more instrumental motivations. In turn, the insights from this inter-firm study may also inspire studies on employee-firm ERB in both marketing and organization. This study shows not only that the positive effect of partner ERB for relationship profitability is a function of contingency conditions, but also that in some situations, it may actually hurt the buyer firm. Perhaps the best way to broadly advance the relational literature would be to further investigate such contingency conditions in multiple contexts.

Table 1

Means, standard deviations and correlations

Measure	Correlation matrix								
	ERB$_P$	COOP	SWC$_S$	FORMAL	RPROF	QUAL	UNPRED	REP$_S$	SWC$_B$
Partner ERB (ERB$_P$)	0.70								
Cooperative atmosphere (COOP)	0.44**	0.77							
Supplier's switching cost (SWC$_S$)	0.27**	0.01	0.75						
Role formalization (FORMAL)	0.29**	0.24**	0.14*	0.69					
Relationship profitability (RPROF)	0.33**	0.34**	0.02	0.14*	0.72				
Partner qualification (QUAL)	0.27**	0.30**	0.11	0.47**	0.16*	0.76			
Technological unpredictability (UNPRED)	0.09	0.07	0.12	-0.03	0.09	-0.04	0.64		
Reputation as an exchange partner (REP$_S$)	0.25**	0.27**	0.04	0.12	0.19**	0.17*	-0.05	0.71	
Buyer's switching costs (SWC$_B$)	0.18**	0.10	0.20**	-0.01	0.25**	0.00	0.31**	-0.02	0.73
Mean	4.05	5.13	2.27	4.44	4.10	4.81	2.46	5.53	2.25
Standard deviation	1.15	1.14	1.10	1.33	1.11	1.19	1.23	.97	1.34

Notes: diagonal elements are the square roots of average variance extracted; * $p < 0.05$; ** $p < 0.01$

Table 2

Partner ERB Drivers and Consequences

A: Drivers of partner ERB

Variable	Hypothesis (expected sign)	Coefficient (standard error)	p-value
Cooperative atmosphere	H_1 (+)	0.327 (0.054)	0.000
Multiple sourcing	H_2 (+)	0.313 (0.111)	0.005
Supplier's switching costs	H_3 (+)	0.216 (0.059)	0.000
Role Formalization	H_{4a} (-) / H_{4b} (+)	0.157 (0.047)	0.001
Supplier's Reputation for Fairness		0.128 (0.058)	0.027
Buyer's switching costs		0.134 (0.072)	0.061
Constant		-0.146 (0.081)	0.071

$R^2_{adjusted} = 0.32$

B: Consequences for relationship profitability

Variable	Hypothesis (expected sign)	Coefficient (standard error)	p-value
Partner extra-role behavior (ERB_p)	H_5 (+)	0.327 (0.165)	0.047
ERB_p * Partner qualification	H_6 (+)	0.210 (0.066)	0.001
ERB_p * Environmental unpredictability	H_7 (+)	0.256 (0.099)	0.010
Partner qualification		-0.017 (0.059)	0.771
Environmental unpredictability		-0.010 (0.069)	0.887
Cooperative atmosphere		0.212 (0.077)	0.006
Multiple sourcing		-0.147 (0.125)	0.240
Constant		0.015 (0.093)	0.875

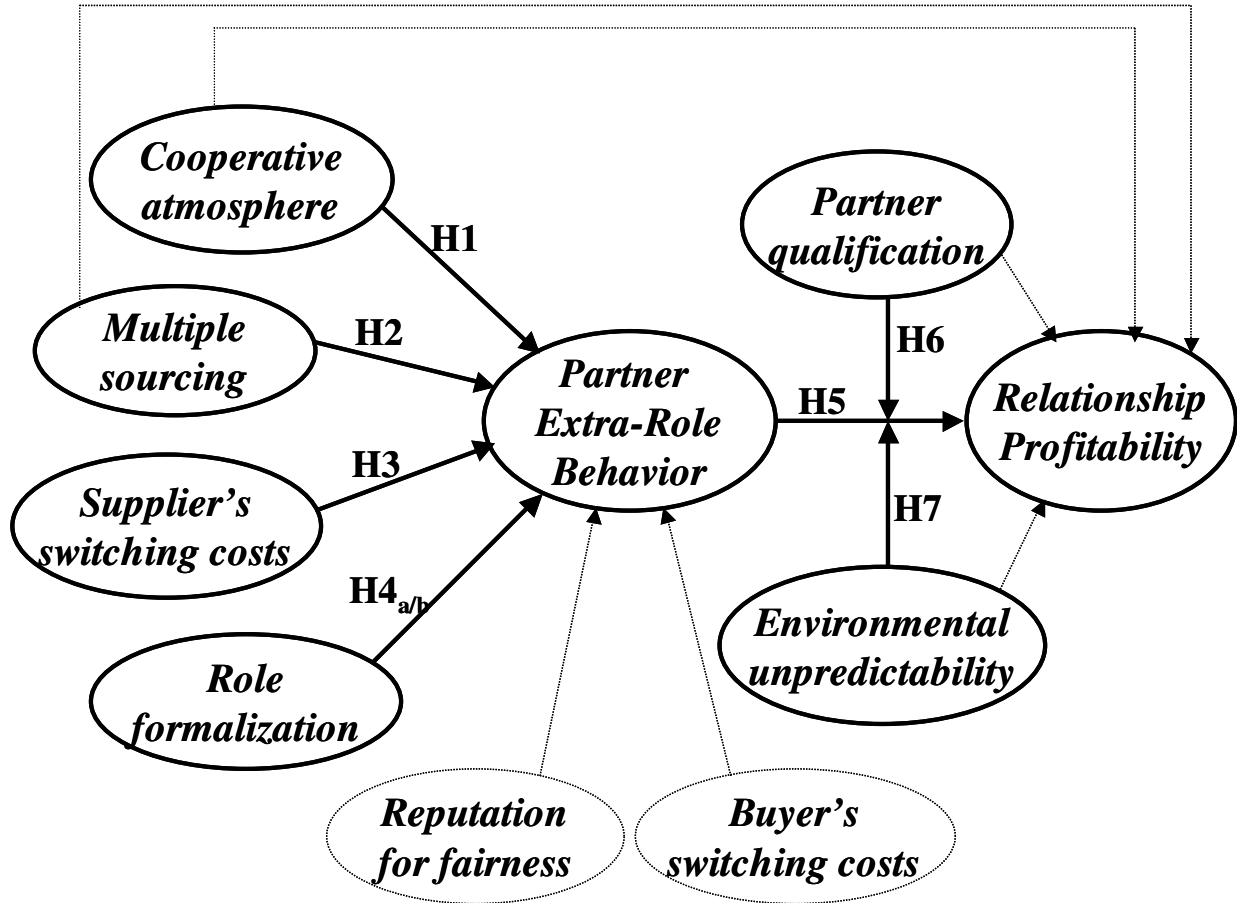$R^2_{adjusted} = 0.21$

Table 3

Simple slopes of partner ERB in different conditions

Conditions	Simple slope partner ERB (standard error)
Partner qualification 1 standard deviation *below* the mean	0.117 (0.181)[n.s.]
Partner qualification 1 standard deviation *above* the mean	0.537 (0.174)**
Environmental unpredictability 1 standard deviation *below* the mean	0.071 (0.181)[n.s.]
Environmental unpredictability 1 standard deviation *above* the mean	0.583 (0.203)**
Partner qualification 2 standard deviations *below* the mean & environmental unpredictability 1 standard deviation *below* the mean	-0.349 (0.238)[†]

** $p < 0.01$ (two-sided)
[†] $p < 0.10$ (one-sided)

Figure 1

Conceptual Framework

MEASUREMENT APPENDIX

Construct	Measure	Cronbach Alpha
Partner ERB	• This vendor frequently takes actions that strictly speaking are not required of him if these actions will be of help to our firm. • This vendor accepts responsibilities and exerts energy well beyond the minimum required levels to support our firm. • This vendor voluntarily devotes effort and exercises initiative not formally required of him to achieve optimum performance for our firm. • This vendor goes beyond what is formally required of him when he can be of service to our firm.	0.77
Cooperative atmosphere	• In this relationship, each party typically keeps its promises because it genuinely cares about the other party's interests. • In this relationship, both parties have a clear intention to cooperate closely because of mutual positive feelings. • In this relationship, both parties believe they should cooperate well because they share the same values and interests. • In this relationship, each party takes into account the other party when making important decisions, because they share a strong feeling of loyalty to one another.	0.84
Supplier's switching costs	• If this supplier ended the relationship with our firm, it would need to invest a lot of time and effort redeploying those of its employees who are presently serving our firm. • If this supplier ended the relationship with our firm, it would be wasting a lot of knowledge that is tailored to this relationship. • If this supplier ended the relationship with our firm, it would need to adapt its production system substantially before it could work with another buyer firm.	0.81
Role formalization	• In dealing with this supplier, our contract precisely defines the role of each partner. • In dealing with this supplier, our contract precisely defines the responsibilities of each partner. • In dealing with this supplier, our contract precisely states how each party is to perform. • In dealing with this supplier, our contract precisely states what will happen in the case of unplanned occurrences.	0.89
Relationship profitability	• Our relationship with this supplier has had a positive influence on the profitability of our firm. • Our firm has realized large profits because of our relationship with this supplier. • In all, our relationship with this supplier has largely exceeded our expectations in terms of profitability. • In terms of profitability, the relationship with this supplier is a success.	0.80
Partner qualification	We have undertaken substantial efforts to verify that this supplier qualifies for our firm with respect to: • Product quality	0.89

	• Technical skills • Financial strength • Skills with respect to delivery policy • Compatibility of production processes • General business philosophy of the supplier	
Technological unpredictability	• General technological developments regarding this component are very unpredictable. • It is difficult to stay ahead of the continuous technological improvements in this component. • We find it hard to anticipate technological developments regarding this component	0.65
Supplier reputation for fairness	• This vendor has a reputation for fairness in dealing with buyers. • This vendor has a reputation for being concerned about its buyers. • Some buyers think this vendor only looks out for itself. (reversed)	0.75
Buyer's switching costs	• If we ended our relationship with this supplier, we would need to invest a lot of time and effort redeploying those of our employees who are presently serving this supplier. • If we ended our relationship with this supplier, we would be wasting a lot of knowledge that is tailored to this relationship. • If we switched suppliers, the production system that incorporates this component would need to be adapted substantially before we could start working with another supplier.	0.78

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Endnotes

[i] Examples of extra-role behavior, such as assisting colleagues, are sometimes also referred to as Organizational Citizenship Behavior (Bateman & Organ, 1983), which further underscores the one-sided focus of the literature on the individual employee.

[ii] For alternative model specifications, please see below.

[iii] Note that this measure is also treated as a reflective scale rather than a formative scale, as partner qualifications typically involve each of these subdomains. The qualitative interviews indicated that while partner qualification varies in intensity, suppliers are typically evaluated on all aspects of product quality, technical skills, financial strength, delivery policy, compatibility, and business philosophy.

[iv] For $\hat{Y} = b_1 X + b_2 Z + b_3 XZ + b_4 Q + b_5 XQ + b_0$, the standard error of the simple slope of X at fixed values z and q can be calculated as $s_b = \sqrt{s_{11} + 2zs_{13} + 2qs_{15} + 2qzs_{35} + z^2 s_{33} + q^2 s_{55}}$, where $s_{ij} = \mathrm{cov}(b_i, b_j)$.