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A Capability Perspective on Relationship Ending and its Impact on Product Innovation Success and Firm Performance

Zaefarian, G., Forkmann, S., Mitrega, M., and Henneberg, S.

Abstract

How to manage in business relationships due to resource-dependence issues has become one of the most important research topics in management and strategy research. Such business relationships with customers and suppliers are pivotal for the success of collaborative innovation activities and ultimately firm performance. However, business relationship management is most often researched with regard to organizational capabilities in the context of the development of already existing relationships, or the instigation of new ones. Ending business relationships as a managerial activity with strategic importance, and the underlying organizational capabilities enabling such relationship terminations, have not been at the core of research in this area. In order to affect product innovation activities positively, a company must be able to effectively re-use the resources, which have been freed by ending business relationships. Thus, our article focuses on relationship ending capabilities and their impact on product innovation success, as well as overall firm performance. This is carried out empirically in the context of a sample of supplier companies to the Iranian automotive industry. We support our findings by outlining that relationship ending capabilities make available resources, which were previously used in a suboptimal manner, and which can subsequently be used to instigate new or strengthen existing collaborative business relationships with positive

effects for innovativeness. We furthermore show that the impact of relationship ending capabilities is amplified by the organizational culture, specifically the attitudes within the focal company regarding acceptance of relationship terminations.

Keywords: Relationship ending capability; network expansion capability; product innovation success; relationship termination acceptance

1. Introduction

The importance of business relationships and alliances for a firm's competitive advantage is well documented and primarily anchored in the resource-based view of the firm and in transaction cost theory (Franco and Haase, 2013). One important driver of firm competitiveness is the ability to continuously innovate in fast paced business environments (Björk and Magnusson, 2009; Hoholm and Olsen, 2012; Padula, 2008; Von Hippel, 1988). However, product innovation is resource-intensive and alliances offer a mechanism to access resources to innovate, such as knowledge, people, or technology which firms do not own or control themselves (Gemünden et al., 1996; Huang and Rice, 2012; Perks and Jeffery, 2006; Un et al., 2010). In this context, product innovation is dependent on a company's ability to mobilize other business actors, such as customers or suppliers (Lau et al., 2010; Mouzas and Naudé, 2007; Wognum et al., 2002) and the capabilities to manage in such business relationships therefore become important antecedents of product innovation success. Such capabilities have been conceptualized in the context of network competence (e.g. Ritter, 1999; Ritter and Gemünden, 2003, 2004), networking capability (e.g. Mitrega et al., 2012; Mort and Weerawardena, 2006),

relational capability (e.g. Capaldo, 2007) and alliance capability (e.g. Draulans et al., 2003; Kale et al., 2002; Kauppila, 2013).

Researchers have argued for the importance of managing business relationships and alliances according to their life cycle stages (Heimeriks et al., 2009; Hoffmann and Schlosser, 2001; Swoboda et al., 2011). However, while capabilities linked to the stages of initiation (Bierly III and Gallagher, 2007; Cummings and Holmberg, 2012; Holmberg and Cummings, 2009; Medcof, 1997; Vollmann and Cordon, 1998) and development (Draulans et al., 2003; Hoffmann and Schlosser, 2001; Kauppila, 2013; Pick, 1999; Swoboda et al., 2011; Vollmann and Cordon, 1998) are well-researched, aspects of *relationship ending* have not been covered in the same detail (Havila and Medlin, 2012; Ritter and Geersbro, 2011). In this context it is noteworthy that research has shown that the increased focus on alliance management and relationship development can lead to inertia and lock-in situations (Perks and Jeffery, 2006), which in turn compromise firm innovativeness and long term growth (Gassmann et al., 2010; Kauppila, 2013; Padula, 2008; Rahman and Korn, 2012). From this perspective firms are in danger of not only tying up their relationship management resources in underperforming alliances, but also hamper themselves in pursuing relationships with promising new alliance partners (Padula, 2008; Rahman and Korn, 2012).

Thus, capabilities related to ending business relationships are important as they allow firms to unlock and redeploy resources towards creating relationship portfolios with high product innovation potential (Gadde and Snehota, 2000; Leverick and Cooper, 1998; Padula, 2008; Rahman and Korn, 2012; Zaheer et al., 2000). This requires an understanding of which business relationships are not beneficial anymore, and which

therefore need to be ended, as well as the ability to implement a process of effective relationship ending. Such capabilities would allow resources to be better allocated, and would thus improve the innovation efforts of a company as well as its overall performance. From this perspective, relationship ending capabilities provide a favorable condition in which the business relationship portfolio can be re-designed and new inter-firm resource combinations are allowed to develop in order to better leverage innovativeness (Dixon et al., 2013; Heimeriks et al., 2009; Wilden et al., 2013).

Our research takes its main research question from these considerations, and we aim at understanding the impact of relationship ending capabilities (REC) on product innovation success, and ultimately on firm performance. We focus specifically on such company capabilities, which refer to the decisions and actions by a focal actor in a business relationship to end that relationship (Tähtinen and Halinen, 2002). Our emphasis is on supplier relationships as one important form of alliances (Franco and Haase, 2013), as these have been shown to play an important role in firms' product innovation efforts (Cousins et al., 2011; Petersen et al., 2003; Un et al., 2010).

Our study contributes to the existing literature on alliance and business relationship management (e.g. Draulans et al., 2003; Kale et al., 2002; Kauppila, 2013) by clarifying the concept of relationship termination through the development of a multi-dimensional model of relationship ending capabilities. In this context research has drawn attention to the importance of managing alliances and relationships along life-cycle stages and our study fills an important gap with respect to the ending stage (Heimeriks et al., 2009; Hoffmann and Schlosser, 2001; Swoboda et al., 2011). We further contribute by outlining ways to actively shape and reconfigure relationships portfolios in an effort to align

resources within fast paced competitive environments through the re-use of freed resources (Dixon et al., 2013; Heimeriks et al., 2009; Hoffmann, 2005; Padula, 2008; Wilden et al., 2013).

Our argument will proceed as follows. We first explore the literature on business relationship ending and develop a nomological model for relationship ending based on the resource-based view and dynamic capability perspective. We then derive relevant research hypotheses and outline our research design. Next, we test our hypotheses with a sample of 156 suppliers of the automotive industry in Iran. This is followed by a discussion of the findings and their managerial implications. The article concludes with limitations as well as directions for further research.

2. Business Relationship Ending

2.1. Concepts of Relationship Ending

Business relationships are often compared to ‘marriages’, however, as Johnston and Hausman (2006) note, the issue of ‘divorce’, i.e. the ending of a relationship, is less often used as a metaphorical device. When relationship ending is mentioned, this is regularly done in a context of trying to find ways to improve, re-engage and recover fading business relationships (Anderson and Jap, 2005; Purinton et al., 2007; Salo et al., 2009; Wagner, 2006). For example, in a strategic alliances context, Furrer et al. (2012) have introduced a circumplex model of response strategies to dissatisfied strategic alliances that consists of seven different responses (i.e. neglect, patience, considerate voice, creative voice, aggressive voice, opportunism, and exit). In their model, exiting from a

strategic alliance is considered as a legitimate response strategy when a partner is dissatisfied with the strategic alliance.

Reasons for ending business relationships are manifold and can be argued to have an ambiguous effect with regard to their impact on the innovativeness of companies. On the one hand, they can have a negative effect on the focal company and its ability to innovate, as crucial resources (e.g. technology) may now be missing. On the other hand, companies may need to end intentionally undesirable business relationships and thereby improve overall firm performance, for example those relationships that are not profitable, or troublesome, or that are hindering other beneficial activities (Good and Evans, 2001).

However, there may exist further reasons why a company may want to end a business relationship. Such reasons can be linked to the focal company, for example due to resource scarcity which could mean that only a limited number of relationships can be maintained and thus even profitable relationships may have to be eliminated from the portfolio, or to business model considerations, which means that certain business relationships (although profitable) do not provide a minimum level of return (Gadde and Snehota, 2000). Other reasons for undesirable business relationships relate to aspects of the dyad of the business relationship (e.g. conflict in the relationship which cannot be resolved; Vaaland, 2006), or to the business network level (e.g. dynamics in the network affect a focal company or a dyadic relationship as part of connected change incidences; Halinen et al., 1999).

Relationship ending is discussed under several names in the literature, such as relationship termination, dissolution, disengagement, or exit. Relationship ending refers to the intentional decision and implementation of managerial activities aimed at ending a

business relationship which otherwise would have continued. As such, relationship ending relates not to those relationships that have a natural end built into them, for example project relationships or episodic and interimistic relationships (Halinen and Tähtinen, 2002; Lambe et al., 2000). For the context of our study we adopt a commonly used definition of relationship ending as characterizing a situation when all activity links, resource ties, and actor bonds have ceased to exist between two parties (Tähtinen and Halinen-Kaila, 2000). However, even under such circumstances certain personal relationships can still exist (Alajoutsijärvi et al., 2000; Tidström and Åhman, 2006). Furthermore, we stress the intentional nature of relationship ending, i.e. the focus on a managerial decision by one partner to discontinue a business relationship. In this context relationships can be abruptly stopped (as in the famous Marks & Spencer – Baird case; Harrison, 2004), or more slowly fade away (Åkerlund, 2005; Gronhaug et al., 1999).

Relationship ending is often explicitly or implicitly seen as something negative or counterproductive, which is to be avoided (Vaaland, 2004; Vaaland et al., 2004). Thus, the scarcity of relational strategies to avoid relationships to end has been lamented (Beverland et al., 2004). Problem-solving strategies, for example the circumplex model of Furrer et al. (2012), or ‘passive aggressive’ strategies for negotiations have been mentioned as providing positive effects on relationship continuation (Ganesan, 1993), as have managerial activities that increase commitment (Tsiros et al., 2009) or trust (Yang et al., 2012). However, other scholars have argued that in some situations continuing certain relationships can be harmful, and that ending relationships can therefore be beneficial and desirable (Alajoutsijärvi et al., 2000; Havila and Wilkinson, 2002; Rahman and Korn, 2012). The phenomenon of relationship ending has gained some attention as part of the

relational management literature. Tähtinen and Halinen (2002) found a dominant stream of research on relationship ending within the Industrial Marketing and Purchasing (IMP) Group using interaction models (Ford and Håkansson, 2006; Gadde et al., 2003). This research focuses both on reasons as well as processes of relationship ending. Most of these studies are conceptual or qualitative in nature.

A competence called organizational relationship termination was explicitly defined and empirically explored by Ritter and Geersbro (2011) and more recently by Havila and Medlin (2012). The study by Ritter and Geersbro (2011) was specific to customer relationships and proposed termination competence as a set of business attitudes rather than concrete organizational routines, while the study by Havila and Medlin (2012) focuses on one specific closure event of a manufacturing plant using a knowledge perspective (Nonaka and Takeuchi, 1995; Tsoukas and Vladimirou, 2001). Thus, these studies did not illustrate to what extent organizational routines oriented towards ending business relationships affect a company's innovativeness. A more process-oriented understanding of Customer Relationship Management (CRM) is provided by Reinartz, Krafft and Hoyer (2004) who posit relationship termination as one dimension of the CRM process. However, their empirical study could not find a significant relationship between CRM termination processes and economic performance of a firm. By contrast, Mitrega et al. (2012) illustrated that in case of both customer relationships and supplier relationships termination capability is one of the crucial aspects of competitive advantage by providing a positive impact on companies' financial performance.

Thus, for the purpose of our research we adopt the concept of relationship ending based on Mitrega et al. (2012) and define relationship ending as a capability made up

from the two sub-dimensions of ending *preparation capability*, and ending *process capability*. This is in line with a parsimonious RBV-oriented perspective and the dynamic capabilities view (e.g. Teece et al., 1997) which posits that companies' behavioral routines affect directly outcomes, and orientations (i.e. attitudes) are understood as moderating factors (Morgan et al., 2009). In the following, the overall nomological model, linking relationship ending capabilities (REC) to product innovation success and firm performance will be introduced.

2.2. A Relationship Ending Model based on the Dynamic Capability Perspective: Innovation Success and Firm Performance

Relationship ending as a specific aspect of the dynamic management of business relationships is, first, related to a *preparation capability*. This capability refers to both evaluating and selecting unfavorable business relationships with suppliers and as such it implies monitoring activities of a focal firm, which relates to understanding (i.e. defining and measuring) the value of a particular business relationship, in our case those of supply partners. Secondly, a relationship ending capability refers to a *process capability*, i.e. activities by the focal firm to disengage from a relationship with a supplier. This ending process capability has to be understood as complementary to the ending preparation capability. A relationship ending process capability encompasses the managerial practices and routines that are in place to end undesirable relationships, either abruptly or through a managed phasing out process. Such formal processes to achieve a 'beautiful exit' (Alajoutsijärvi et al., 2000) may relate to defined responsibilities for such activities, as well as templates for the communication of a relationship ending.

These two capability constructs are linked in a nomological model as antecedents to product innovation success and firm performance, as suggested by the RBV logic. Product innovation relates to functionally or otherwise improved or new offerings (such as products or services) and implies increased benefits for the customer. Managing interactions with other business partners is important for product innovation activities (Gemünden et al., 1996; Lau et al., 2010; Un et al., 2010). Based on the resource-dependence logic (Pfeffer and Salancik, 1978) as well as the knowledge-based view of the firm (Nonaka and Takeuchi, 1995), focal companies need to mobilize innovation-related resources through business relationships. Similar considerations are also underlying the open innovation paradigm (Chesbrough, 2006). In this context suppliers have a specific importance for providing crucial resources and are often seen as innovation partners (Handfield et al., 1999; Petersen et al., 2003; Wognum et al., 2002). In fact, a study by Un and colleagues (2010) shows that supplier R&D collaborations have the highest positive impact on product innovation success (while those with universities, customers, and competitors have less positive, and even negative effects).

Thus, selecting as well as de-selecting the right supplier relationships is important for the product innovation success of a company (Emden et al., 2006; Petersen et al., 2003; Wognum et al., 2002), and therefore ways of managing undesirable supplier relationships can be postulated as an important driver of product innovation performance, as unwanted supplier relationships can hinder optimal relational resource allocation in business relationships. Conflict-ridden supplier relationships, as well as opportunism in business relationships, have been shown to have a detrimental effect on innovation activities (Bstieler, 2006).

A crucial mechanism which explains the importance of relationship ending capabilities for the success of firm's innovation activities is that the identification and dissolution of unfavorable business relationships frees resources which can be re-used in initiating and/or strengthening other business relationships, with a positive effect on product innovation (Leverick and Cooper, 1998; Padula, 2008). Thus, an important nomological element of our argument is that companies need the ability to use the freed resources in better ways (Rahman and Korn, 2012). The underlying key argument is that ending a relationship makes resources available for other uses; however, we also argue that not necessarily all the freed up resources can be effectively reallocated to product innovation efforts. For example, once a relationship has ended, the freed resources may not be immediately available due to time effects or because they are tied up as relationship-specific investments. Thus, we expect that these aspects can compromise or hamper the effect of relationship ending capabilities on product innovation success (i.e. there is a limit to the extent to which resources become effectively available to be re-used immediately). Therefore, the key argument in our study is that companies, which are better at re-allocating such freed resources to important new or established business relationships should therefore be able to better capture the value from their relationship ending capabilities. In this respect, we argue that network expansion capabilities play a key role in effectively reallocating freed up resources toward initiating or strengthening business relationships. Such capabilities would allow a firm to better utilize its business network and more effectively leverage external resources for product innovation efforts. To verify this claim, in this study we examine whether the link between relationship ending capabilities and product innovation success is amplified when organizations

possess capabilities towards systematically expanding and strengthening their supplier network and therefore are able to re-allocate freed-up resources.

Furthermore, in line with the RBV logic of our model, certain cultural or attitudinal aspects are expected to influence the effect of relational capabilities (such as the relationship ending capabilities) on innovation activities and their success (Morgan et al., 2009; Siguaw et al., 2006). We focus specifically on the moderating effect of termination acceptance, i.e. the attitudes which prevail in the company regarding the ending of business relationships. Such attitudinal moderators are common for RBV models and relate to whether and how certain capabilities are used by managers (Fiol, 2001; Teece et al., 1997). We thus follow Siguaw, Simpson and Enz (2006) and do not conflate attitudes and culture on the one hand, with organizational behaviors on the other hand (however, see Menguc and Auh, 2006 for an alternative argument).

Product innovation success can be linked with the performance of the overall company. Without product innovation success, most companies will not be able to survive in the competitive market place. Previous research has found that product innovation success is linked to sustainable competitive advantages of the firm (Baer and Frese, 2003; Han et al., 1998; Yang, 2010). The overall nomological model as used in our study is depicted in figure 1.

Insert Figure 1 about here

3. Hypotheses Development

3.1. Relationship Ending Capability and Product Innovation Success

Relationship Ending Capability, made up from its two dimensions of evaluating and selecting unfavorable business relationships on the one hand (i.e. REC preparation), and managing ending processes related to these unfavorable business relationships on the other hand (i.e. REC process), enables a firm to free-up resources that would be otherwise linked to unfavorable business relationships (Gadde and Snehota, 2000; Rahman and Korn, 2012; Zaheer et al., 2000). Considering fast-paced competitive environments, firms are required to continuously search for new resources, knowledge, and skills that enable them to create new product or service offerings. The approach towards building new relationships as well as ending some inefficient relationships creates a dynamic resource allocation focus for continuous innovation. This approach is in line with the alliance portfolio perspective in that diversity and mobility of the portfolio is the key to superior product innovation (Padula, 2008; Wuyts and Dutta, 2012). From a resource-based view, access to diverse resources has several advantages, which lead to greater levels of new product success (Paladino, 2007), for example, it allows for the proliferation of creative thinking through enabling combination of diverse technological domains (Goerzen and Beamish, 2005). It also provides access to external information and facilitates new knowledge assimilation. In addition, diversity of alternative resources available to a firm certainly increases the strategic options, which comes with the ability to choose between different business relationships. The dynamism and mobility of the relationship portfolio therefore enables a firm to acquire a strategic bundle of resources that enhances its innovation success rate. This relationship portfolio dynamism loop is only complete (i.e. such portfolio mobility is effective) in cases where

firms have developed capabilities to end unfruitful and ineffective business relationships (Rahman and Korn, 2012). We therefore hypothesize that:

H₁ - Relationship Ending Capability has a positive effect on Product Innovation Success.

3.2. Product Innovation Success and Firm Performance

Product innovation in our study encompasses both product improvements (i.e. minor changes to an existing product) as well as new product development. Research on drivers of product innovation success is manifold (see for example Evanschitzky et al., 2012; Paladino, 2007). Although some literature suggests that the success rate of new products is as low as 25% (Evanschitzky et al., 2012), it is important to understand how spending on new product development improves firm performance in the long-term. To gain competitive advantage and superior market positions, a firm's new product development must perform successfully. From a theoretical perspective, successful product innovations, that is creating innovative offering which are more relevant and valuable for customers, can generate – to some extent – monopoly profits (Artz et al., 2010). The proposition that there is a positive relationship between product innovation and firm performance has received support from many studies (Han et al., 1998; Li and Atuahene-Gima, 2001). For example, Cho and Pucik (2005) found that firm innovativeness leads to firm profitability and growth. In their longitudinal study, Artz et al. (2010) confirmed that product announcements were found to be positively related to different aspects of firm performance, such as return on assets and sales growth. Consistent with previous works, we therefore argue that product innovation is directly linked to firm performance:

H₂ – Product Innovation Success has a positive effect on Firm Performance

3.3. Network Expansion Capability

A central mechanism which links relationship ending capability and the success of product innovation activities is that the identification and dissolution of unfavorable business relationships frees resources which can be used in initiating and/or strengthening other business relationships which have a more positive effect on product innovation (Beverland et al., 2004; Leverick and Cooper, 1998). Thus, an important nomological assumption of our argument is that companies have the ability to use the freed resources in a better way (Rahman and Korn, 2012). Companies which are better at re-using such resources in important new or established business relationships should therefore be able to better capture the value inherent in relationship ending capabilities. This requires firms to systematically scan and monitor their external environment as well as their existing supplier relationships for new innovation opportunities (Cousins et al., 2011; Leverick and Cooper, 1998), which is similar to an ‘absorptive capacity’ in organizational learning (Schildt et al., 2012). As valuable resources that drive innovations (e.g. new product designs) are often embedded in new or existing business partnerships, firms with the capability aimed at expanding their supplier network or strengthening their existing supplier relationships are more likely to benefit from their relationship ending capabilities (Capaldo, 2007). We therefore hypothesize that the link between relationship ending capabilities and product innovation success is amplified (positively moderated) for companies with a higher network expansion capability.

H₃ – Network Expansion Capability positively moderates the effect of Relationship Ending Capability on Product Innovation Success

3.4. Termination Acceptance

In line with our conceptualization of relationship ending as a capability, we argue that the successful use of such capabilities depends on the attitudes of the managers in deploying them. Relationship ending capability is aimed at the dissolution of existing business relationships, which are deemed to be unfavorable, costly, or ineffective. However, the successful use of such capabilities depends on the mindset of managers in the firm regarding such dissolutions.

Firms often have a number of unfavorable relationships that drain their strategic resources. Despite this situation, dissolving business relationships could be seen as something undesirable, personally uncomfortable, complex, and conflict-ridden. Some managers may hesitate to address this issue, which makes some firms shy away from ending unfavorable relationships, even if they have the capabilities to do so (Giller and Matear, 2001). This attitude towards dissolution can be captured in the construct of relationship termination acceptance, i.e. the willingness of a firm's managers to understand the favorability of business relationships, as well as the willingness to ultimately end relationships that are not beneficial for the company. Although relationship termination capability is seen as a unique capability that firms should develop, managers often find it difficult to accept relationship termination as a legitimate option in managing business relationships. In this context Ritter and Geersbro (2011) argue that managers' attitudes toward relationship termination can facilitate (or hinder) the termination process. Thus, with higher termination acceptance in a focal firm, the relationship ending capabilities are more likely to be deployed, as well as implemented in an appropriate manner. Thus, our next hypothesis is:

H₄ – Termination Acceptance positively moderates the effect of Relationship Ending Capability on Product Innovation Success

4. Research Design

4.1. Sample

The proposed model was tested via a sample drawn from the Middle East, specifically the Iranian automotive industry. Iran's economy is growing, yet it is rather a closed economy, which is similar to many other countries in the Middle East, e.g. Jordan and Saudi Arabia. The automotive industry in the Middle East is dynamic and has established itself successfully over the last few decades. On the one hand, the very specific geo-economical conditions of Middle Eastern countries has pushed the automotive industry in this region to become self-sufficient to a large extent, with the aim to produce cars with less dependency on foreign suppliers. In Iran, this aim has given rise to the emergence of important first and second-tier domestic suppliers to several main car manufacturers. On the other hand, international car manufacturers are now recognizing the importance of Middle Eastern markets, which had remained fairly untouched previously (Killing, 2012). Consequently many of the car manufacturers in the Middle East are joint venturing with international companies such as Peugeot, Citroen (France), Volkswagen (Germany), and Kia Motors (South Korea) in Iran, with Land Rover (UK) in Jordan; and with BMW (Germany), Nissan (Japan), and Hyundai (South Korea) in Egypt (Killing, 2012). As a result, the competition in the automotive industry in Iran and other Middle Eastern countries is increasingly fierce, and thus the buyer-seller relationships in this sector are an important factor of innovativeness and firm competitiveness. Hence,

this setting is ideal for examining relationship ending capabilities in a buyer-supplier relationship context.

We used a multiple-informant approach to collect data from automotive supplier firms. We designed two questionnaires: a) a *purchasing survey* to collect data regarding antecedents, moderators, and dependent constructs from the purchasing managers/general managers of the supplier company, and b) a *R&D survey* to collect data regarding mediators (product innovation success) from the R&D managers of that company. We first developed an English language version of both questionnaires, and then translated them into Persian. Following that, the questionnaires were independently back-translated into English to enhance conceptual and translation equivalence (Douglas and Craig, 2007). We re-worded a small number of questions to enhance the accuracy of the translation. Next, we conducted face-to-face interviews to pre-test the questionnaire with 10 CEOs of automotive suppliers in Iran to ensure the comprehensibility of the translated questionnaire. This procedure resulted again in some small final refinements of both questionnaires.

To collect the data, we followed a key informant approach and phoned purchasing managers and R&D managers of 500 suppliers of major Iranian car manufacturers. 340 of them indicated their willingness to participate in our study and we mailed the purchasing and R&D questionnaires separately to the respective managers. We initially received two matched questionnaires back from 143 suppliers, after which we made a reminder phone call to the remaining companies. We collected further matched questionnaires from 51 suppliers, reaching a total of 194 firm responses (i.e. 388 questionnaires) with a response

rate of 38.8%. We discarded responses from suppliers that provided only one of the questionnaires (either purchasing or R&D).

In order to verify each respondent's knowledge, and to increase the validity of our findings (Kumar et al., 1992), we added the following item to the purchasing questionnaire: "To what extent do you feel knowledgeable about issues relating to the performance of your firm", and "To what extent do you feel knowledgeable about issues relating to the innovativeness of your firm" to the R&D questionnaire. Both items are based on 7-point bipolar scales anchored in: poor knowledge (1) to excellent knowledge (7). Respondents with less than satisfactory knowledge (i.e. lower than 4 on the 7-point scale) were removed from further analyses (thus, their firm was eliminated from further consideration). We also identified those cases with disproportionately high numbers of missing values in our constructs and eliminated them from further analysis, thereby arriving at a purified sample size of 156 firms (i.e. 312 questionnaires) with an adjusted response rate of 31.2%. The informants' average knowledgeability for the abovementioned two questions were 6.06 and 6.08 respectively.

Table 1 provides an overview of the sample composition. Most companies showed characteristics of SMEs, only one quarter had more than 250 employees. They are well established in the market (three quarter of all firms had been operating for more than 10 years) and represent mostly manufacturing companies.

Insert Table 1 about here

4.2. Non-response and Common Method Bias

Following Armstrong and Overton (1977), the data was split into early and late responses, i.e. those we received after the reminder phone call. Subsequently, a number of Chi-square and t-test analyses were carried out to compare these groups based on various descriptive variables (e.g. number of employees, company age) as well as various constructs in our model (e.g. relationship ending capability, product innovation success). Results of these tests indicated no significant differences between these groups, suggesting that late-response bias is not problematic. We further conducted a short telephone survey about our key construct (i.e. relationship ending capability) with 50 randomly chosen non-respondent firms and compared the results with our sample. No significant differences were found between respondents and non-respondents, therefore indicating that non-response bias is unproblematic.

We took several precautions as part of procedural remedies during the *ex-ante* research design and the administration of the questionnaire to minimize potential common method variance (CMV). Following the suggestion by Podsakoff, Mackenzie, and Podsakoff (2012), we used a multiple-informant approach to obtain measures of independent and dependent variables from two different sources respectively. We also ensured respondents of their anonymity, placed questions randomly in the questionnaire to minimize predictability of the answers, avoided the use of academic terms and, where needed, we provided explanations regarding ambiguous terms.

We also performed additional statistical *ex-post* tests to ensure that CMV was not a concern in our data. First, we performed Harman's single-factor test. The result of the unrotated factor solutions in our exploratory factor analysis revealed that the biggest factor explains only 33.24% of the variance, with all factors with Eigenvalues greater than one

accounting for 75.80%. Secondly, following the suggestion of Chang et al.'s (2010), we used the common methods variance factor approach suggested by Podsakoff and colleagues (2012) as an alternative test. The common method variance factor controls for the effects of an unmeasured latent methods factor. To assess the potential effects of the method bias, we added an additional first-order factor to our structural model, which we labeled 'common factor'. We then allowed all items to load on their theoretical constructs, as well as on this latent common factor, and re-estimated our structural model. The inclusion of the common factor in our structural model therefore controls for the effect of any method bias (i.e. this procedure controls for that portion of the variance in the measurement model that results from measuring all questionnaire items from the same source). Comparing the results of this new structural model with the original model suggests that the overall pattern of significant as well as insignificant paths remains the same in both models. Those paths that were significant in our original structural model remained significant in the new structural model though the path coefficients changed slightly. The fact that path significance pattern have not changed between these two models suggests that CMV does not impose a significant effect on our findings (Podsakoff et al., 2012).

4.3. Construct Operationalization

Our focal constructs use existing and already tested multi-item measurement models based on 7-point Likert scales (all anchored in 1 "strongly disagree" and 7 "strongly agree"). All first-order measurement models are reflective, in line with their original conceptualization. The two aspects of relationship ending capabilities, i.e. preparation and process, use items adapted from Mitrega et al.'s (2012) relationship termination

capability construct. Preparation and process therefore correspond to the originally posited two sub-dimensions (i.e. capability to select unfavorable business relationships, and capability to discontinue relationships with unfavorable partners) in Mitrega et al. (2012). In line with their theoretical argument, preparation and process are conceptually distinct, however, together they define the meaning of the construct of relationship ending capability, therefore suggesting a formative operationalization (Jarvis et al., 2003; MacKenzie et al., 2005). Based on this, a second-order construct of Relationship Ending Capability (REC) was used in a formative manner (Diamantopoulos et al., 2008; Diamantopoulos and Winklhofer, 2001) corresponding to what is known as a reflective-formative hierarchical latent variable model (Becker et al., 2012). The mediating construct of product innovation success is adapted from Gemünden et al. (1996). The focal outcome of firm performance was measured according to Reinartz et al. (2004). The moderator construct of network expansion capability was adopted from Mitrega et al. (2012) and is informed by a set of items from the selection and attraction aspects of their relationship initiation capability construct. Therefore, network expansion capability is aimed to represent the focal company's ability to expand the supplier network portfolio by initiating new supplier relationships. Finally, termination acceptance was based on Ritter and Geersbro (2011). Item wordings for all constructs are provided in the appendix. Additionally, we also included the availability of alternative supply partners, firm size, and firm age as control variables in our model.

4.4. Measurement Models

Before the overall model can be estimated, the different measurement models are assessed in terms of their reliability as well as convergent and discriminant validity.

Table 2 shows the results of an initial exploratory factor analysis (EFA) performed in SPSS version 17.0 for the overall measurement model (principle component analysis with direct OBLIMIN as non-orthogonal rotation method; Conway and Huffcutt, 2003). All items load highly onto their respective factor (equal or above 0.65), with no cross-loadings above 0.3 (see table 2). Next, a confirmatory factor analysis (CFA) was performed in LISREL 8.80 (Jöreskog and Sörbom, 2006). The results show satisfactory model fit (RMSEA (<0.08)=0.074; NFI (>0.9)=0.92; CFI (>0.9)=0.96; IFI (>0.9)=0.96; $\chi^2_{df=174}=319.85$; $\chi^2/DF (\leq 2)=1.84$). Table 3 displays the CFA results for the overall measurement model. All item loadings are equal or above 0.57, supporting convergent validity. All composite reliabilities are equal or above 0.78, indicating good internal reliability for all the constructs in our study (see table 4). The average variances extracted (AVE) of all constructs are equal or above 0.55. The square root of the AVE of each construct is greater than the correlations of each construct with the other model constructs (Fornell and Larcker, 1981; Hair et al., 2012a; Sarkar et al., 2001). Altogether our results support the reliability as well as convergent and discriminant validity of our measurement models.

Insert Tables 2, 3 and 4 about here

5. Analysis and Findings

To test our model, an appropriate statistical analysis technique needed to be used. Given the relatively scarce empirical literature on relationship ending, the focus of our model is exploratory in nature and aims at developing and refining theory by assessing the predictive relevance of REC for product innovation success and firm performance.

For this purpose variance-based partial least squares structural equation modeling (PLS-SEM) is recommended (Hair et al., 2012a; 2012b, Henseler et al., 2014; Fornell and Cha, 1994; Reinartz et al., 2009; Robins, 2012; Sarstedt et al., 2014). PLS-SEM works well with relatively small sample sizes and complex models (Fornell and Cha, 1994; Hair et al., 2012a; 2012b; Henseler et al., 2014; Reinartz et al., 2009) and is particularly advantageous for testing models that simultaneously utilize reflective and formative measurement models (as in our case with reflective first-order and formative second-order constructs) (Becker et al., 2012; Hair et al., 2012b). SmartPLS 3.0 (Ringle, Wende, & Becker, 2014) was used to test the model (for recent application of PLS-SEM in the context of this study see Lew and Sinkovics, 2013; Furrer et al., 2012; Swoboda et al., 2011; Wilden et al., 2013).

In line with our theoretical argument (based on Mitrega et al., 2012) and the empirical findings of the EFA and discriminant validity analysis, REC preparation and REC process form two important conceptually distinct sub-components of relationship ending capability (REC), thereby justifying a second-order formative operationalization (Diamantopoulos et al., 2008; Diamantopoulos and Winklhofer, 2001; Jarvis et al., 2003; MacKenzie et al., 2005). The second-order formative REC construct has been operationalized in SmartPLS 3.0 (Ringle, Wende, & Becker, 2014) as a reflective-formative hierarchical latent variable model using the repeated indicator approach with Mode A as the mode of measurement on the second order construct and applying the path weighting scheme. The corresponding regression weights for REC preparation and REC process on REC are 0.60 (t-value=18.70) and 0.52 (t-value=19.10) respectively, indicating that REC is appropriately measured by the two sub-dimensions (Hair et al,

2012b). As suggested for formative measurement models, we also assess multi-collinearity (Diamantopoulos and Winklhofer, 2001; Hair et al., 2012a; 2012b): The variance inflation factors (VIF) for all constructs show values well below 5 (the highest recorded VIF is 1.81), thereby indicating that multi-collinearity is not a problem (Hair et al., 2012a).

To test our hypotheses we used the path weighting scheme with a maximum of 300 iterations. To compute t-statistics, we applied a bootstrapping procedure with 5000 bootstrap samples (Hair et al., 2012a). Table 5 provides an overview of the results. In order to assess the nomological validity of the model, it is suggested to assess the explained variances R^2 (i.e. in-sample prediction) for the focal dependent constructs (Sarkar et al., 2001; Sarstedt et al., 2014). Our model explains 29% and 35% of the variation in product innovation success and in firm performance respectively. Furthermore, it is suggested to assess Stone-Geisser's Q^2 (Geisser 1974; Stone, 1974) as a measure of predictive relevance (i.e. out-of-sample prediction), which should be larger than zero (Sarstedt et al., 2014). We used a blindfolding procedure and cross-validated redundancies with an omission distance of nine (to ensure that the number of observations divided by the omission distance is not an integer; Hair et al., 2012a) and both dependent constructs show satisfactory Q^2 values with 0.16 and 0.23 for product innovation successes and firm performance, respectively, in support of predictive relevance of our model (Hair et al., 2012a; 2012b).

The results show that the path between REC and product innovation success ($\beta = 0.22$, $t\text{-value} = 2.15$) is strong and significant, and in the expected direction (i.e. positive), supporting H_1 . Firm performance is also strongly, significantly and positively affected by

product innovation success ($\beta=0.41$, t-value=4.54), thus providing support for H₂. We also tested a direct path from REC to firm performance, which is positive and significant ($\beta=0.19$, t-value=2.33) suggesting partial mediation. Note that the indirect effect of REC on firm performance can be computed as $0.22 \times 0.41 = 0.09$. Given that the direct effect of REC on firm performance is 0.19, the total effect can be calculated as the sum of direct and indirect effect ($0.19 + 0.09 = 0.28$). Hence, the variance accounted for (VAF) by the mediation is $0.09/0.28=0.33$ suggesting that product innovation success mediates a total of 33% of the effect from REC on firm performance.

Considering the exploratory nature of our study and the focus on predictive accuracy for the analysis of the interaction effects, we follow the suggestions by Henseler and Chin's (2010) and use the product-indicator approach in SmartPLS 3.0 (Ringle, Wende, & Becker, 2014) to test our moderation hypotheses. The data was first mean-centered before the product terms of the latent predictor and latent moderator indicators were computed (Chin et al., 2003). The resulting product terms were then used as indicators to model the two interaction terms (Chin et al., 2003): network expansion capability \times REC, and termination acceptance \times REC. We then linked each of these two interaction terms to product innovation success as the pertinent dependent construct. According to our results, network expansion capability positively moderates the REC and product innovation success relationship ($\beta=0.09$, t-value=2.10), in support of H₃. Furthermore, termination acceptance significantly moderates the effect of REC on product innovation success ($\beta=0.14$, t-value=2.55), in support of H₄.

Insert Table 5 about here

6. Conclusion and Implications

6.1. Discussion

In this study, we examined the relationship between relationship ending capability and product innovation success. We further linked product innovation success to the overall performance of the firm. Furthermore, we tested the moderating effect of network expansion capabilities and termination acceptance on the links between relationship ending capability and product innovation success.

The results of our variance-based Partial Least Squares analysis revealed that at least within our sample of the suppliers of the car industry in Iran, relationship ending capability significantly enhances the success rate of product innovations. The R^2 for product innovation success is 0.29, indicating the significant aspect of innovation success which is explained by the outlined mechanisms of reallocating resources from less successful business relationships to new or existing ones where these resources can be better exploited to achieve innovation success. These results indicate the importance of managerial and R&D capacity as well as capital and technologies being aligned with the best collaborative business relationships to achieve superior product innovations. However, our results also suggest that relationship ending capability can explain less than one third of the variance in product innovation success. This result indicates that other factors not considered in this study also contribute to the success of product innovation in a firm. One explanation for this finding is that by ending a business relationship, not all resources become immediately available to be re-used in initiating new business relationships or strengthening existing ones. Thus, a time-lag effect maybe hypothesized

for the impact of relationship ending capability on product innovation success. Furthermore, we only consider ending capabilities *vis-à-vis* suppliers in our study; innovation success is also affected by relational initiation and development capabilities (Mitrega et al., 2012) as well as by collaborations with other actors such as customers or competitor alliances, which are not covered in our research design. In addition, internal aspects of the focal company, such as learning orientation, or R&D and commercialization capabilities, and not considered in our research and provide alternative explanations for product innovation success (Caloghirou et al., 2004, Nieto and Santamaría, 2007, Tsai, 2009).

In addition, we found that product innovation success has a positive and significant effect on firm performance. We also examined the moderating effects of network expansion capability and termination acceptance on the links between relationship ending capability and product innovation success with the results suggesting that both, network expansion capability and termination acceptance positively moderate the REC and product innovation success relationship.

To interpret these findings, in a follow-up study we conducted several in-depth interviews with CEOs, VPs for supply chain management, and VPs for procurement management of 11 companies in our data set, who are at the forefront of making decisions about establishing, developing, or terminating relationships with their suppliers and partners. They argued that the business network in the Iranian car manufacturing industry heavily emphasizes on the development of new products due to market requirements. Also, Iran's car manufacturers aim to increase their market share in the Middle East. The prerequisite of pursuing such strategies is to concentrate on constantly

improving and innovating products. Thus, in effect many suppliers are required to pay much attention to product innovation and to explore effective approaches to business collaborations. Hence, mobilizing strategic alliances with key partners in order to orchestrate their business network are among effective solutions for sustainable product development success from the suppliers' perspective. Through relationship portfolio management strategies, of which relationship ending is an integral component, suppliers of car manufacturers in Iran have been able to significantly improve the innovativeness of produced parts, which in turn has led to higher quality of produced cars in Iran. Several new lines of products have been introduced to the domestic market as well as to other Middle Eastern markets, indicating the effectiveness of such collaborative, portfolio-based strategies.

Hence, the respondents confirmed that the portfolio of strategic partnership with suppliers and more importantly their portfolio of collaborative networks in the broader sense undergo frequent changes. This implies that based on the nature of innovation as well as over time, some collaborative relationships become inevitably obsolete and firms need to develop new business relationships. The changing nature of strategic collaborative partnership together with the fact that these focal firms can effectively manage only a limited number of these partnerships highlights the importance of ending as well as building strategic relationships as unique capabilities that these firms need to develop in order to succeed in such environments.

6.2. Contributions, Theoretical Implications and Managerial Implications

Research on relationship ending is scant and most studies are either conceptual or qualitative, using case study methods (Payan et al., 2010). Thus, not enough knowledge

exists about organizational routines to discontinue business relationships and the impact of such capabilities on company competitiveness, e.g. innovativeness. The point of departure for our research was to develop and empirically test a theoretical model for explaining the impact of relationship ending capabilities of a focal firm on its innovativeness, and ultimately on its firm performance. We therefore contribute to the literature on alliance and relationship management and more specifically on relationship ending, by developing a multi-dimensional model of relationship ending capabilities. Thereby our study addresses an important capability related to managing alliances according to their life cycle stages (Heimeriks et al., 2009; Hoffmann and Schlosser, 2001; Swoboda et al., 2011). As such our study also contributes to the alliance and relationship portfolio management literature by demonstrating a hitherto neglected dynamic capability necessary to actively shape and reconfigure alliance portfolios in an effort to align resources within fast paced competitive environments (e.g. Dixon et al., 2013; Heimeriks et al., 2009; Hoffmann, 2005; Padula, 2008; Wilden et al., 2013). Most of the existing literature on this topic is solely focusing on either the process of ending (Payan et al., 2010; Tähtinen and Halinen, 2002), or on identifying relationship ending types (Halinen and Tähtinen, 2002; Michalski, 2004). Our study is the first to focus on a capability perspective that is based on the resource-based view of the firm. Furthermore, we show that both aspects of ending capabilities, namely ending preparation as well as ending process capabilities, are important in this context. In addition, we also contribute to the innovation literature by showing the potential impact of relational ending capability on product innovation success. We also extended these findings by showing that the benefits of relationship ending capabilities are amplified in cases of firms having

capabilities orientated towards systematically expanding their supplier network in order to effectively use the freed resources of terminated relationships. Therefore our study also informs the relational view of building competitive advantage (Dyer and Hatch, 2006; Dyer and Singh, 1998) by suggesting that companies may re-allocate some resources away from less successful alliances to new collaborations (e.g. in collaborative R&D projects). This is in line with the study by Mesquita and colleagues (2008) who found that some companies are able to learn from alliances, including minimizing the level of relationship-specific investments, in order to be able to re-utilize resources within new future collaborations.

Our findings have direct implications for the suppliers, specifically within the context of the automotive industry. Theory as well as practice often focuses strongly on the benefits of business relationships as well as networked innovation activities, which are argued to be very important for innovation and firm success (Perks and Jeffery, 2006). Thus, potentially there exists a tendency to overemphasize on maintaining and keeping business relationships going even if reasons exist that would suggest terminating them (Gassmann et al., 2010; Kauppila, 2013; Padula, 2008; Rahman and Korn, 2012). Our study challenges this rationale and suggests to managers the need to consider the possible benefits of developing and possessing capabilities to effectively end business relationships. Managers often agree that ending a relationship is not an easy task. Some managers hesitate to address this issue; they may even shy away from ending non-beneficial relationships (Lippmann, 1999). However, our findings indicate that ending unfavorable relationship in an appropriate way enables managers to free up resources that can be re-invested in other relationships, and thus foster innovation and firm success.

Our research shows that managers need to master simultaneously two key aspects: a *preparation capability*, i.e. to understand and correctly identify which relationships are not beneficial and therefore need to be ended, and a *process capability*, i.e. activities by the focal firm to disengage from a relationship with a supplier. The use of advanced CRM/SRM systems can help managers in the preparation process (i.e. evaluating and selecting undesirable relationships), however, the preparation capability is useful only if it is accompanied by a process capability which is to achieve a ‘beautiful exit’ (Alajoutsijärvi et al., 2000). To build this capability, managers can define and establish responsibilities for such an activity, and introduce (internal as well as external) communication templates that help alleviate the process. The exit process itself can be sudden and abrupt or can be in several phases; clear process maps or checklists can help guide such processes. Our study also suggests that the positive effects associated with ending capabilities are amplified when they are complemented with well-developed processes and routines that allow for the effective re-allocation of freed resources to either new or existing supplier businesses relationships. Our findings also point to the fact that managers need to foster certain attitudes towards business relationships as part of managing the cultural make-up of the company, as such attitudes (in our case termination acceptance) amplify the beneficial impact of relationship ending capabilities.

6.3. Limitations, and Further Research

Our study is characterized by several limitations, which are to some extent related to decisions about a parsimonious research design. We focus for example on capabilities aimed at ending business relationships and do not include additional relational capabilities (such as relationship initiation or development capabilities) or other

organizational capabilities in our model (Mitrega et al., 2012). While this focus on one specific capability limits the explanatory power of our research, we are still able to explain 29% of the variance of our main dependent construct (product innovation success) as well as 35% of the variance of overall firm performance. Thereby, our study informs future research, which should include other aspects to also understand the interplay between different (relational) capabilities. Also, the role of time-lag effects and relationship specific investments for effective resource re-allocation needs to be more closely examined as a result of this study. Furthermore, our data is drawn from the Iranian automotive supply industry in order to better understand the Middle Eastern Market. This is of importance as many MNCs are endeavoring to trade and invest in this region (Henry and Springborg, 2010). However, in Middle Eastern countries, culture plays an important role, and business relationships take on a specific character within this culture (House et al., 2004). Therefore, generalizations of our findings beyond the research setting can only be made tentatively.

In addition, in the context of our research our central dependent construct relating to innovation success is defined as what has been called ‘continuous innovation improvements’, which are the most commonly occurring innovation activities. Relationship ending capabilities may relate differently to ‘discontinuous’ innovation activities, which have a more radical impact on the focal firm as well as the embedding business network (Phillips et al., 2006). Similarly, some innovations are exploratory in nature, while others are more exploitative (Bauer and Leker, 2013). Future research is necessary to understand whether REC differently affects these kinds of innovation activities. Due to data restrictions we could also not measure whether or not higher REC

actually means that firms end more business relationships, i.e. the relationship portfolio volatility would be an important construct to be included in further studies.

Finally, our model is based on a logic, which assumes that relational ending capabilities are an antecedent to innovation activities. However, one could also model the relationship between these constructs in the opposite way, i.e. innovation capabilities and the resulting success can affect how likely it is that a company restructures its business partner portfolio and exits relationships (Cefis and Marsili, 2012). For example, low innovative success rates could increase the likelihood of a focal firm to search for new beneficial business relationships as well as terminate old ones, and could instigate the development of relationship ending capabilities as well as result in an increase in termination acceptance.

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FIGURE 1
Nomological Model

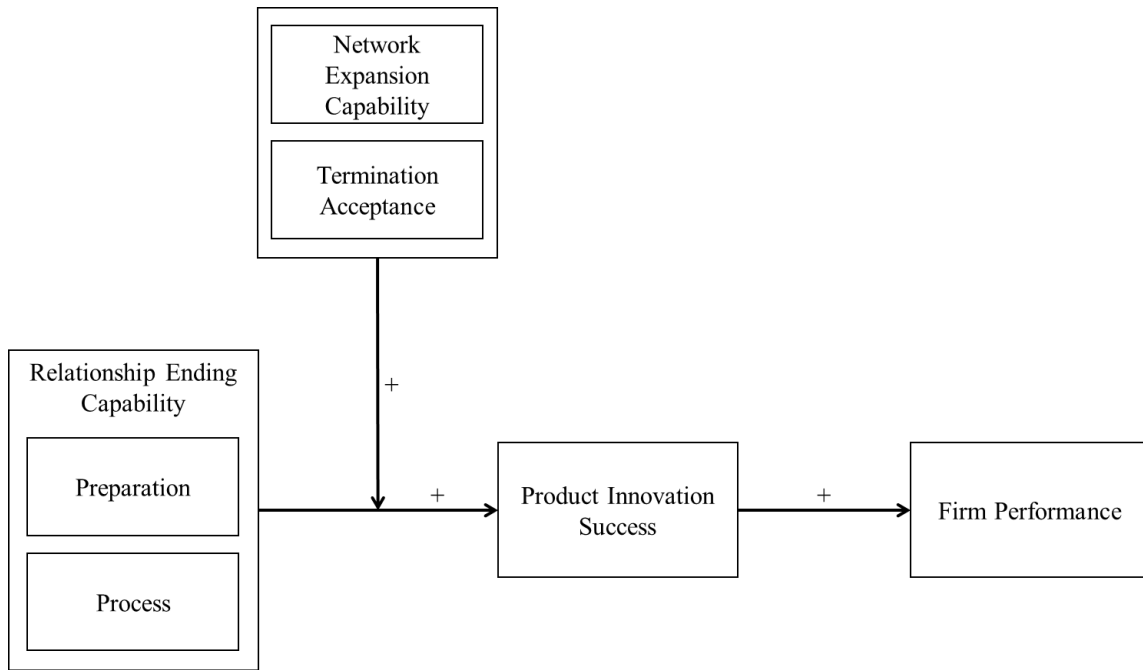


TABLE 1
Overview of Sample Characteristics

	Share
Firm Characteristics	
<i>Number of Employees</i>	
10 or less	2.7%
11-25	10.2%
26-50	19.7%
51-250	38.1%
251-750	22.5%
751-5000	6.1%
5001 or above	0.7%
 <i>Company Age</i>	
0 - <2	2.7%
2 - <5	7.4%
5 - <10	15.4%
10 - <20	34.2%
20 - <50	38.9%
50 or more	1.4%
 <i>Business Type</i>	
Service Company	6.0%
Manufacturing Company	92.6%
Reselling Company	1.4%
 Respondent Characteristics	
<i>Years with the Company</i>	
0 - <2	4.7%
2 - <5	18.3%
5 - <10	41.9%
10 - <20	28.7%
20 or more	6.4%
 <i>Position within the Company</i>	
CEO	10.8%
Owner or Co-owner	5.2%
Managing Director	1.6%
Other top-level Director	30.9%
Middle-level manager	51.5%
 <i>Years of Employment in Current Position</i>	
0 - <1	9.4%
2 - <5	41.3%
5 - <10	33.9%
10 or more	15.4%

TABLE 2
Exploratory Factor Analysis (OBLIMIN)

	1	2	3	4	5	6
1 Relationship Ending Capability (REC Preparation)						
RECPrep1	.79					
RECPrep2	.73					
RECPrep3	.70					
RECPrep4	.80					
2 Relationship Ending Capability (REC Process)						
RECProc1		.81				
RECProc2		.67				
RECProc3		.84				
3 Product Innovation Success						
ProdInnov1			.87			
ProdInnov2			.83			
ProdInnov3			.84			
ProdInnov4			.87			
4 Network Expansion Capability						
NEC1				.65		
NEC2				.81		
NEC3				.83		
5 Termination Acceptance						
TermAccept1					.72	
TermAccept2					.90	
TermAccept3					.94	
6 Firm Performance						
FPerf1						.85
FPerf2						.93
FPerf3						.78
FPerf4						.68

Note: Factor loadings below 0.3 are not shown

TABLE 3
Confirmatory Factor Analysis

	1	2	3	4	5	6
1 Relationship Ending Capability (REC Preparation)						
RECPrep1	.64					
RECPrep2	.78					
RECPrep3	.80					
RECPrep4	.75					
2 Relationship Ending Capability (REC Process)						
RECProc1		.83				
RECProc2		.75				
RECProc3		.85				
3 Product Innovation Success						
ProdInnov1			.87			
ProdInnov2			.87			
ProdInnov3			.85			
ProdInnov4			.79			
4 Network Expansion Capability						
NEC1				.57		
NEC2				.81		
NEC3				.81		
5 Termination Acceptance						
TermAccept1					.72	
TermAccept2					.83	
TermAccept3					.89	
6 Firm Performance						
FPerf1						.84
FPerf2						.75
FPerf3						.88
FPerf4						.73

Note: CFA Fit Statistics: $\chi^2_{df=174} = 319.85$; $\chi^2 / DF = 1.84$; RMSEA= .07; NFI= .92; CFI= .96

TABLE 4
AVE, SCR, and Correlations

Construct	Mean	SD	AVE	SCR	1	2	3	4	5	6
1 REC Preparation	5.01	1.10	.56	.83	.75					
2 REC Process	5.37	1.18	.66	.85	.69	.81				
3 Product Innovation Success	5.16	1.13	.72	.91	.38	.39	.85			
4 Network Expansion Capability	5.11	1.20	.55	.78	.59	.54	.34	.74		
5 Termination Acceptance	5.40	1.19	.67	.86	.31	.37	.28	.18	.82	
6 Firm Performance	5.29	1.11	.64	.88	.48	.38	.61	.31	.16	.80

Note: SD: Standard deviation; AVE: Average variance extracted; SCR: Scale composite reliability; Square root of the AVE along the diagonal

TABLE 5
PLS Estimation of Structural Model

<i>Main Effects</i>	
REC → Product Innovation Success	0.22** (2.15)
Product Innovation Success → Firm Performance	0.41*** (4.54)
REC → Firm Performance	0.19** (2.33)
NEC → Product Innovation Success	0.05 (0.64)
Termination Acceptance → Product Innovation Success	0.09 (1.09)
<i>Interaction Effects</i>	
NEC × REC → Prod. Innovation Success	0.09** (2.10)
Termination Acceptance × REC → Prod. Innovation Success	0.14** (2.55)
<i>Control Variables</i>	
Availability of Alternative Supply Partners → Prod. Innovation Success	0.16* (1.94)
Availability of Alternative Supply Partners → Firm Performance	0.19*** (2.84)
Firm Size → Prod. Innovation Success	0.10* (1.82)
Firm Size → Firm Performance	0.01 (0.19)
Firm Age → Prod. Innovation Success	0.14** (2.00)
Firm Age → Firm Performance	0.05 (1.03)
R^2 (Product Innovation Success)	0.29
R^2 (Performance)	0.35
Q^2 (Product Innovation Success)	0.16
Q^2 (Performance)	0.23

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

APPENDIX

Measurement Models of Latent Constructs: Item Wordings

Construct	Items
<p>Relationship Ending Capability (REC) – Preparation</p> <p><i>Mitrega et al. 2012 (adapted)</i></p>	<p>To what degree do you agree with the following statements (Strongly Disagree (1) – Strongly Agree (7)):</p> <p>Our company has established a formal system to identify Supply Partners where key performance indicators or agreed milestones are not met.</p> <p>Our company has a formal system in place to assess the profit and cost associated with existing Supply Partners relationships.</p> <p>We systematically rank our Supply Partners according to their performance.</p> <p>We analyze the direct and indirect costs involved in terminating a business relationship with our Supply Partners (e.g. searching for new Supply Partners, new investments, penalties, etc.).</p>
<p>Relationship Ending Capability (REC) – Process</p> <p><i>Mitrega et al. 2012 (adapted)</i></p>	<p>To what degree do you agree with the following statements (Strongly Disagree (1) – Strongly Agree (7)):</p> <p>Our company formalizes termination conditions within the contracts between us and our Supply Partners.</p> <p>If we have to terminate a relationship with a Supply Partner, we first try to achieve a mutual understanding of the situation and reasons leading to the partnership’s discontinuation.</p> <p>Our company has established procedures for how to phase out business relationships with Supply Partners that are not desirable any more.</p>
<p>Product Innovation Success</p> <p><i>Gemünden et al. 1996 (adapted)</i></p>	<p>To what degree do you agree with the following statements (Strongly Disagree (1) – Strongly Agree (7)):</p> <p>Our product/service improvements over the last 5 years were economically successful.</p> <p>New products/services developed by us over the last 5 years were economically successful.</p> <p>The new products/services developed by us over the last 5 years succeeded on the market.</p> <p>Our product/service improvements over the last 5 years were not appreciated by customers. (R)</p>
<p>Network Expansion Capability</p> <p><i>Mitrega et al. 2012 (adapted)</i></p>	<p>To what degree do you agree with the following statements (Strongly Disagree (1) – Strongly Agree (7)):</p> <p>We systematically gather and review publicly available information to identify potential Supply Chain partners.</p> <p>We systematically inform potential Supply Chain partners about our company’s offering.</p> <p>We systematically use recommendations from our existing Supply Chain</p>

partners to attract new ones.

Termination Acceptance

*Ritter and Geersbro 2011
(adapted)*

To what degree do you agree with the following statements (Strongly Disagree (1) – Strongly Agree (7)):

We are completely prepared to dissolve relationships with Supply Partners if necessary.

We stay in relationships with Supply Partners even though they do not create any value for us. (R)

We believe that a bad Supply Partner is better than no Supply Partner. (R)

Firm Performance

*Reinartz et al. 2004
(adapted)*

Evaluate how your company performs concerning the following statements relative to your firm's competitors (Much worse (1) – Much better (7)):

Achieving overall performance

Attaining market share

Attaining growth

Current profitability

Note 1: R = Reversed item

Note 2: Termination acceptance is intended to reflect the orientation of the focal firm with respect to ending supplier relationships. As a consequence, we did not adopt the following item from the original construct by Ritter and Geersbro (2011): "I really want to get rid of my bad customers but I do not have permission to do so. [reverse item]". This item could not be properly adapted to the firm orientation perspective as it reflects the authority over termination decisions within the organization rather than an attitude.