

Clauss, Thomas; Tangpong, Chanchai

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PERCEPTION-BASED SUPPLIER ATTRIBUTES AND PERFORMANCE IMPLICATIONS: A MULTIMETHOD EXPLORATORY STUDY

THOMAS CLAUSS 

University of Southern Denmark, and Philipps-University of Marburg

CHANCHAI TANGPONG

North Dakota State University

Attributes of suppliers such as capabilities are considered important aspects of successful buyer–supplier relationships. Previous research relates supplier attributes largely to intraorganizational supply chain practices, such as supplier selection and evaluation, and assumes that supplier attributes can be objectively assessed independently of the relationships with suppliers. This study expands on this literature by (1) exploring supplier attributes as perceived by purchasing managers in ongoing buyer–supplier relationships and (2) examining how these perception-based supplier attributes are associated with performance-influencing practices, which can in turn shape relational outcomes of the relationships. In doing so, we combine two exploratory qualitative studies. We conduct 60 repertory grid interviews with purchasing managers in Study 1 and 25 semi-structured interviews with another set of purchasing managers in Study 2. The findings of this study are finally theorized through the supply chain practice view and are summarized into an integrative theoretical model. This study thus provides a more nuanced understanding of perception-based supplier attributes and their implications on performance-influencing practices and relational outcomes in buyer–supplier relationships.

Keywords: buyer; supplier relationships; supplier evaluation; buyer perceptions; supplier attributes; relational performance; dark side of buyer; supplier relationships; supply chain practice view; repertory grid technique; semi-structured interviews

INTRODUCTION

Over the past decades, numerous industries have been restructured toward vertical disintegration (Jacobides, 2005), and firms have increasingly relied on suppliers at higher levels of their operations, ranging from technologies, modules, and even systems (Helander & Möller, 2008). The role of suppliers in many industries has even expanded from primary

contributions to cost efficiency to a greater engagement in new product development and innovation (Azadegan, Dooley, Carter, & Carter, 2008; Clauss & Spieth, 2016; Terpend, Tyler, Krause, & Handfield, 2008). Today, suppliers account for more than 60% of the gross value-added in the manufacturing sector in industrial countries (U.S. Census Bureau, 2017). This number even increases to over 80% in certain industry sectors such as the automotive industry (Statista, 2017). Consequently, the management of buyer–supplier relationships and supply chains has become pivotal for focal firms (i.e., buyers thereafter) in attaining long-term viability in today's marketplace (Clauss & Tangpong, 2018; Koufteros, Vickery, & Dröge, 2012; Terpend, Krause, & Dooley, 2011).

To address this managerial challenge, research has long investigated supply chain management practices

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and related performance outcomes (Terpend et al., 2008; Zimmermann & Foerstl, 2014). The focus of this research stream has evolved from operational performance outcomes (e.g., cost and quality) to capability-based values (e.g., continuous improvement and new product development) (Terpend et al., 2008), and from individual firm performance to relational performance or outcomes generated from buyer–supplier relationships (Carter, Kosmol, & Kaufmann, 2017). With this evolution of the research field, supplier attributes have become a key consideration in supplier selection and evaluation (e.g., Koufteros et al., 2012). However, supplier attributes in the literature are conceptually derived to assist buyer firms in conducting supplier evaluations and audits as part of intraorganizational supply chain management practice (Carter et al., 2017). This research assumed that supplier attributes could be objectively assessed, independent of the context of a particular buyer–supplier relationship. Therefore, supplier attributes have largely been decoupled from the contexts of buyer–supplier relationships. With such a narrow domain of application, the supplier attribute as a theoretical concept has not been fully harnessed to advance our understanding of supply chain management practices and relational outcomes generated from buyer–supplier relationships in supply chains.

In this study, we maintain that the meaning and the effects of supplier attributes are contingent on the relational context of buyer–supplier relationships. This is because (1) several supplier attributes emerge in the course of repeated interactions (e.g., Ta, Esper, Ford, & Garcia-Dastuge, 2018; Wagner, Coley, & Lindemann, 2011), (2) varying and negative (dark-side) effects of supplier attributes could only be explained in the relational context of buyer–supplier relationships (e.g., Anderson & Jap, 2005; Narayanan & Narasimhan, 2014), and (3) supplier attributes are not always fully objective but can result from the perception of the individuals (i.e., purchasing managers) who are carrying out supply chain management practices (Kaufmann, Meschnig, & Reimann, 2014). With that backdrop, this study has two main objectives:

- 1 To revisit the concept of the supplier attribute. Specifically, we aim to expand it into the *perception-based supplier attribute*, which refers to the attributes of suppliers that are embedded in buyer–supplier relationships and are inherent in the perceptions of purchasing managers who manage buyer–supplier relationships. To attain this objective, we use the repertory grid technique (Kelly, 1955) in Study 1 to uncover the perception-based supplier attributes in the relational context of buyer–supplier relationships.
- 2 To explore the performance-influencing practices linking the perception-based supplier attributes to relational outcomes. This objective is motivated by the supply chain practice view (Carter et al., 2017), suggesting that imitable interorganizational supply chain management practices can explain differences in relational outcomes (i.e., performance, either efficiency or effectiveness, generated from relationships in the supply chains). We define performance-influencing practices in this study as the supply chain management practices that are associated with perception-based supplier attributes (identified in Study 1) and have implications on relational outcomes. These practices could reinforce or inhibit relational outcomes in the supply chains. To accomplish this objective, we conduct semi-structured interviews with purchasing managers in Study 2 to garner perceptions that buyers have formed not during selection but instead over the course of relationships with suppliers. Based on such interview data, we then derive a theoretical model regarding perception-based supplier attributes, their performance-influencing practices, and relational outcomes.

Our study makes two important theoretical contributions. First, we investigate perception-based supplier attributes, which are embedded in the context of the relationship and emerge from the perceptions of purchasing managers, along with their implications on performance-influencing practices and relational outcomes. This study thus elaborates and extends the initial supply chain practice view (Carter et al., 2017) in relation to supplier attributes. Our findings provide a nuanced understanding of the practices that are associated with perception-based supplier attributes and that can influence relational outcomes in buyer–supplier relationships. As certain practices are involved with behavioral mechanisms potentially intertwined with perception-based supplier attributes, this study also reveals that some supply chain management practices, when associated with perception-based supplier attributes, might be more idiosyncratic and less imitable than it has been theoretically assumed. Second, by analyzing several performance-inhibiting practices leading to negative effects on the relational outcomes, this study also contributes to the emerging literature on the dark side of buyer–supplier relationships (e.g., Villena, Revilla, & Choi, 2011).

In addition, being limited to the empirical data from the buyer side, this study expands our understanding of how buyers recognize supplier attributes that may matter to certain supply chain management practices and relational outcomes in the relationships. This study does not capture suppliers'

perceptions to develop a truly complete picture of buyer–supplier relationships. Thus, it can only serve as a first step toward the ultimate goal of understanding the interorganizational dynamics in buyer–supplier relationships.

LITERATURE REVIEW

Supply Chain Management Practices, Supplier Attributes, and Operational Performance

An extensive body of empirical research has investigated the performance effects of supply chain management practices in buyer–supplier relationships (Terpend et al., 2008). In a recent meta-analysis, Zimmermann and Foerstl (2014) have revealed that supply chain management practices have positive effects on various performance dimensions, such as operational performance, market performance, and financial performance. However, the types of outcomes that can be derived from buyer–supplier relationships have changed considerably over the years. Suppliers are increasingly associated with capability-based outcomes, such as joint new product development (Azadegan et al., 2008; Terpend et al., 2008). They have become more integrated into the buyers' operations and need to possess relevant attributes beyond competitive prices and the ability to deliver on time (Koufteros et al., 2012). As such, supply chain management practices must ensure that suppliers possess the attributes needed for facilitating effective buyer–supplier relationships and enhancing the operational performance of the relationship (Eggers, Hofman, Schiele, & Holschbach, 2017; Katsikeas, Paparoidamis, & Katsikea, 2004).

Supply chain management practices lean on supplier attributes as a means of evaluating/selecting suppliers and managing buyer–supplier relationships. Specifically, research studies in the domain of supplier evaluation and selection provide a considerable number of supplier attributes or different characteristics of suppliers, such as performance indicators, organizational factors, relational behaviors, and competences (e.g., Anderson, Coltman, Devinney, & Keating, 2011; Eggers et al., 2017; Katsikeas et al., 2004; Sarkis & Talluri, 2002). Empirical research has also linked supplier attributes with the performance of buyer firms (Eggers et al., 2017; Kannan & Tan, 2002; Katsikeas et al., 2004; Koufteros et al., 2012). This research stream has shown that, if suppliers with the desirable attributes are selected, better performance outcomes may be realized. Table 1 provides a summary of the attributes that have been identified and tested in these previous studies.

While this line of research has greatly advanced supply chain management practices, most of the above-mentioned supplier attributes are decoupled from the

relational context of buyer–supplier relationships. Classifications of supply chain management practices typically consider activities such as supplier selection and supplier evaluation as intraorganizational supply chain management practices, which only require internal resources from the buyer and are independent of the relationship between the buyer and the supplier (Carter et al., 2017; Terpend et al., 2008; Zimmermann & Foerstl, 2014). However, Carter et al. (2017) recently argued that the distinction between intraorganizational and interorganizational supply chain management practices might not be as clear-cut but rather gradually varying in degrees of suppliers' involvement, ranging from purely one-sided to highly intertwined practices. Thus, to effectively carry out certain intraorganizational supply chain management practices (e.g., supplier evaluation), it might still call for the mutual relationship between the buyer and the supplier and the consideration of relational context.

Perception-Based Supplier Attributes in the Relational Context of Buyer–Supplier Relationships

The established buyer–supplier relationship literature also provides several reasons for analyzing supplier attributes within the relational context of buyer–supplier relationships. First, several empirical findings indicate that the performance effects of supplier attributes are contingent on the relational context of the buyer–supplier relationship. Anderson et al. (2011) found that buyers' preferences for supplier attributes varied greatly between different classes of buyers, indicating that the individual perceptions of supplier attributes might not be consistent across different buyer–supplier relationships. Narayanan and Narasimhan (2014) also found that positive effects of supplier flexibility on performance only emerged if the buyer–supplier relationships were partnership-like.

Second, certain supplier attributes are inherently intertwined with buyer–supplier relationships and could not be evaluated in a purely intraorganizational context. Spekman, Kamauff, and Myhr (1998) showed that buyers highly valued supplier attributes, such as integrity, familiarity, and fairness, which are inherently bound to mutual interactions. Wagner et al. (2011) further showed that suppliers' reputations for honesty, fairness, and concern for buyers fostered relationship continuity and future collaboration intent from the buyer's perspective. The supplier attribute of trustworthiness, which reflects the buyer's belief that the supplier is reliable and will adhere to their obligations in the relationship (Inkpen, 2000), is not static but varies along the relationship life cycle in buyer–supplier relationships (Ta et al., 2018). Since buyer–supplier relationships are often characterized by interpersonal interactions of individual agents, scholars

TABLE 1
Supplier Attributes in the Existing Supply Chain Management Literature

Study	Sarkis and Talluri (2002)	Anderson et al. (2011)	Eggers et al. (2017)	Katsikeas et al. (2004)	Kannan and Tan (2002)	Koufteros et al. (2012)
Focus	Supplier selection	Supplier selection	Supplier evaluation and selection	Supplier evaluation and selection	Supplier selection and assessment	Strategic supplier selection
Supplier attributes	<p><i>Strategic Performance Metrics</i></p> <ul style="list-style-type: none"> • Cost <ul style="list-style-type: none"> ◦ Low initial price ◦ Compliance with cost analysis system ◦ Cost reduction activities ◦ Price behavior • Quality <ul style="list-style-type: none"> ◦ Conformance quality ◦ Consistent delivery ◦ Quality philosophy ◦ Prompt response • Time <ul style="list-style-type: none"> ◦ Delivery speed ◦ Development time ◦ Partnership formation time • Flexibility <ul style="list-style-type: none"> ◦ Product volume changes ◦ Short setup time ◦ Conflict resolution 	<ul style="list-style-type: none"> • Reliable performance • Delivery speed • Customer service • Track and trace • Customer service recovery • Supply chain flexibility • Professionalism • Proactive innovation • Supply chain capacity • Relationship orientation 	<ul style="list-style-type: none"> • <i>Technical factors</i> <ul style="list-style-type: none"> ◦ Technical knowledge ◦ Architectural knowledge • <i>Organizational factors</i> <ul style="list-style-type: none"> ◦ Financial stability ◦ Geographic proximity ◦ Engineering capabilities ◦ Mature processes (e.g., quality management and new product development) • <i>Relationship factors</i> <ul style="list-style-type: none"> ◦ Trust ◦ Proactivity ◦ Willingness to adapt to customer needs 	<ul style="list-style-type: none"> • Reliability • Competitive pricing • Service support • Technological capability 	<ul style="list-style-type: none"> • <i>Supplier selection</i> <ul style="list-style-type: none"> ◦ Strategic commitment of supplier to buyer ◦ Ability to meet buyer needs ◦ Capability ◦ Buyer-supplier fit ◦ Honesty and integrity • <i>Supplier assessment</i> <ul style="list-style-type: none"> ◦ Delivery and service quality ◦ Responsiveness ◦ Information sharing 	<ul style="list-style-type: none"> • Supplier new product development capability • Supplier quality capability • Supplier cost capability

(continued)

TABLE 1 (continued)

Study	Sarkis and Talluri (2002)	Anderson et al. (2011)	Eggers et al. (2017)	Katsikeas et al. (2004)	Kannan and Tan (2002)	Koufteros et al. (2012)
	<ul style="list-style-type: none"> o Service capability o Organizational Factors • Culture <ul style="list-style-type: none"> o Feeling of trust o Management attitude o Strategic fit o Top management compatibility o Compatibility among levels and functions o Organizational structure • Technology <ul style="list-style-type: none"> o Technological compatibility o Current and future manufacturing capabilities o Development speed o Design capability o Technical capability • Relationship <ul style="list-style-type: none"> o Long-term relationship o Closeness o Communication openness o Integrity 					

(continued)

TABLE 1 (continued)

Study	Sarkis and Talluri (2002)	Anderson et al. (2011)	Eggers et al. (2017)	Katsikeas et al. (2004)	Kannan and Tan (2002)	Koufteros et al. (2012)
Dependent variable	Preferences for supplier attributes	Choice of a supplier	Suitability of the supplier for module development	Distributor performance	Buying firms' business performance	Buyer competitive capabilities
Conclusion	A supplier-selection model based on desirability indices for each supplier attribute is proposed.	The preferences for logistics service providers' attributes—such as price and delivery performance—vary greatly among buyer groups.	Technical, organizational, and relationship factors are identified as critical supplier attributes.	Differences between highly and poorly performing distributors are related to their suppliers' performance regarding four main attributes: reliability, competitive pricing, service support, and technological capability.	Nonquantifiable criteria, such as a supplier's strategic commitment to a buyer, have a greater impact on performance than harder, more quantifiable criteria such as supplier capability, yet are considered less important.	Strategic supplier selection leads to improved buyer capabilities. This relationship is not mediated through supplier partnerships or supplier development.

have highlighted that supplier attributes might also involve amicable attitudes toward suppliers based on positive emotions and social benefits to purchasing managers (Gligor & Autry, 2012). According to Heide and Wathne (2006), friendships between professionals in buyer–supplier relationships are formed either through the selection of a supplier that possesses likable attributes or through development in a social process. As friendships usually create social value, mutual friendliness accompanies greater relationship performance (Heide & Wathne, 2006).

Third, focusing solely on supplier attributes from an intraorganizational perspective fails to explain why generally positive characteristics of buyer–supplier relationships might also have negative effects. Recent research has emphasized that a dark side of long-term and close buyer–supplier relationships exists (Oliveira & Lumineau, 2019). Studies have shown that close buyer–supplier relationships with excessive social capital can hurt the operational performance of those parties involved in the relationships (e.g., Anderson & Jap, 2005; Villena et al., 2011). Cognitive processes such as collective blindness or carelessness might create situations in which generally positive supplier attributes, despite strengthening the relationships, might even harm the operational performance of buyer–supplier relationships (Anderson & Jap, 2005; Villena et al., 2011).

Finally, as supplier attributes are embedded in relationships between buyers and suppliers (e.g., trustworthiness, fairness, or friendliness), they often are not objectively measurable but rather dependent on the perception of individual agents (i.e., purchasing managers in this study) (Adobor, 2005; Riedl, Kaufmann, Zimmermann, & Perols, 2013). Purchasing managers or other individual agents thus possess opinions, beliefs, and attitudes when interpreting supplier attributes in the relationships (Kaufmann et al., 2014). We maintain that this individual perception significantly influences the behavioral dynamics linking supplier attributes and relational outcomes (Hald, Cordón, & Vollmann, 2009). Scholars have also called for research to open the black box of behavioral dynamics in supply chain management practices (Guercini, La Rocca, Runfola, & Snehotka, 2014). Thus, we aim to explore perception-based supplier attributes in the context of buyer–supplier relationships based on the perceptions of purchasing managers who perform related supply chain management practices. We maintain that, by examining on the perception level of purchasing managers, we can gain a more nuanced understanding about how supplier attributes influence supply chain management practices and in turn the performance outcomes of the buyer–supplier relationship. We thus position our exploratory investigation of perception-based supplier attributes in the supply

chain practice view recently introduced by Carter et al. (2017).

The supply chain practice view extends the practice-based view (Bromiley & Rau, 2014), which argues that performance variations among firms can be explained by imitable and transferable intraorganizational practices, across the boundaries of the firm. The central argument of the supply chain practice view is that imitable interorganizational supply chain management practices can explain differences in relational outcomes of buyer–supplier relationships (Carter et al., 2017). According to the supply chain practice view, relational outcomes are defined as performance benefits that are mutually generated in the relationships and could not be attained by one firm alone. These outcomes encompass the dimensions of efficiency (e.g., cost reductions) and effectiveness (e.g., joint product development; Carter et al., 2017). Following the supply chain practice view, in this study, we explore perception-based supplier attributes, their related interorganizational performance-influencing practices, and relational outcomes generated in buyer–supplier relationships.

OVERVIEW OF THE EXPLORATORY MULTIMETHOD RESEARCH DESIGN

As the purpose of this study was to identify perception-based supplier attributes and explore their relational outcome implications, we leverage the strengths of two methodologies: the repertory grid technique and semi-structured interviews. The repertory grid technique, used to identify the perception-based supplier attributes in Study 1, is a cognitive mapping tool used in a structured interview to elicit and evaluate mental models of individuals concerning personal constructs (Wright, 2004). The “approach captures cognitive content within the person’s specific meaning of his/her knowledge while also integrating cognition, affect, and behavior within the act of ‘construing’...” (Carrillat, Riggall, Locander, Gebhardt, & Lee, 2009, p. 484). The repertory grid technique can be applied to obtain information about the underlying perception-based attributes that operate in purchasing managers’ minds in characterizing suppliers (Flint et al., 2012). The repertory grid technique rests upon the assumption that individual perception-based attributes regarding a subject are built by assessing the similarities and differences in this subject compared with others (Fransella & Bannister, 1977). Hence, in the context of our research, the identification of perception-based supplier attributes requires that each interviewee (i.e., purchasing managers) compare different suppliers to become aware of nonobvious differences.

As the repertory grid technique is primarily focused on the identification of relevant constructs for characterizing certain objects (i.e., suppliers), its methodological scope is rather limited regarding the analysis of underlying processes and performance implications. We thus combine the repertory grid technique with a traditional semi-structured interview approach in Study 2, which is more appropriate for in-depth reflections on incidents from managers' experiences (Eisenhardt, 1989). We specifically use the perception-based supplier attributes from Study 1 to direct the analysis in Study 2 and to design the initial interview guide. The semi-structured interviews with purchasing managers then help us to unveil the performance-influencing practices in buyer-supplier relationships that are potentially associated with these attributes. Taken together, the results from the two studies are used to

guide the development of our theoretical model regarding perception-based supplier attributes, their performance-influencing practices, and relational outcomes perceived by buyers. The multimethodological steps used in this study are illustrated in Figure 1.

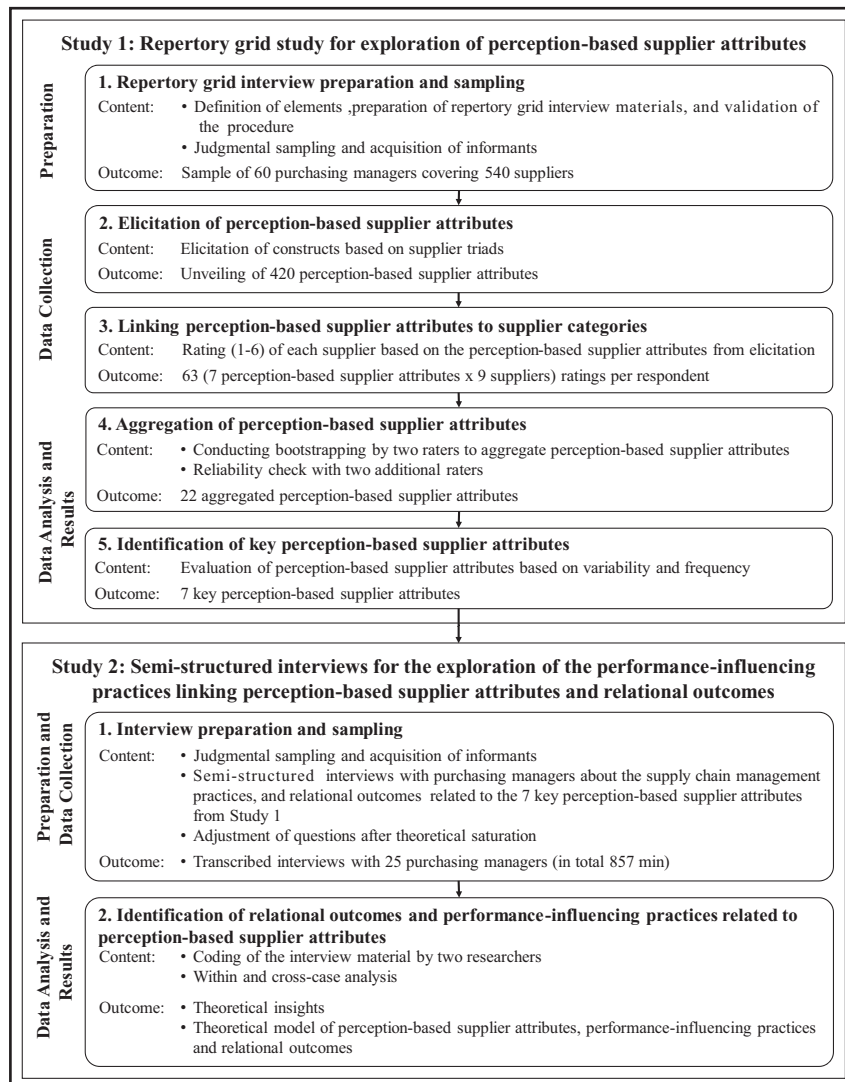
STUDY 1: REPERTORY GRID STUDY

Methodology

Advantages of the Repertory Grid Technique for the Identification of Perception-based Supplier Attributes.

As the topic is complex and operates on the perceptual level, traditional direct interviews can be more prone to biases in the interviewees' understanding as well as their responses. The repertory grid technique provides a highly structured approach for the data collection and analysis that directs attention to

FIGURE 1
Methodological Procedure



subconscious differences and similarities related to the subject under investigation. Therefore, the repertory grid technique can mitigate the potential biases of traditional interviews in identifying supplier attributes while allowing researchers to collect comparable interview data across all interviewees (Flint et al., 2012). In addition, since the interviewees elicit their personal constructs independently, the potential risks of observer bias can be reduced (Stewart & Stewart, 1981).

The repertory grid technique has been used to unveil the perceptions of individuals in various domains of management research, such as perception of organizational members regarding the learning outcomes from postproject reviews (Goffin & Koners, 2011), executives' implicit understanding of the relationships between corporate control types and decision speed (Kownatzki, Walter, Floyd, & Lechner, 2013), as well as the characteristics of long-term buyer–supplier relationships (Clauss & Tangpong, 2018). Although the repertory grid technique has not been widely used in supply chain management and buyer–supplier relationship research, it is considered to be particularly suitable for increasing the rigor in qualitative research in operations management regarding validity and reliability (Flint et al., 2012). As our study focuses on the perceptions of purchasing managers, the repertory grid technique is considered a suitable research method that fits the aim of this study in identifying perception-based supplier attributes.

Synopsis of the Methodological Approach. In this study, we followed a detailed successive process as illustrated in Figure 1 in conducting the repertory grid analysis. We provide a synopsis of the main methodological considerations for this study as follows, and the detailed description of the interview preparation and execution can be found in the Appendix S1.

The basis of the repertory grid technique in our study was the comparisons of nine supplier categories that were provided to each of the respondents. These supplier categories were adapted from Clauss and Tangpong (2018) who used a repertory grid technique to identify supplier characteristics that form strong buyer–supplier relationships. These supplier categories capture a range of typical, yet different types of suppliers, such as “a supplier with whom you work together frequently,” “a supplier with whom you work together infrequently,” or “a supplier that could not be substituted by another due to unique products or competences.” The complete set of nine supplier categories is shown in the repertory grid matrix shown in Table 2. Before the interview, for each of these nine supplier categories each respondent specified a name of a particular supplier that he or she knew well.

During the interview procedure, we utilized an approach called “triading” (Jankovicz, 2004), in which each respondent was provided with three of

the nine prespecified suppliers. Each of the respondents was then asked the question, “What perception-based attribute do two of these three suppliers have in common that differs from the third one?” The resulting word or phrase was written on the left-hand side of the repertory grid matrix (i.e., construct pole in Table 2). For a more precise characterization, the respondent was subsequently asked to provide a contrasting word or phrase that was put on the right-hand side of the repertory grid matrix (i.e., contrast pole) (Kelly, 1955; Wright, 2004). In total, each informant was provided with seven predefined triads of suppliers, resulting in seven perception-based attributes after each interview. After the informant elicited seven perception-based supplier attributes, they rated each of their nine suppliers using these perception-based supplier attributes on a six-point scale ranging from 1 (contrast pole fully applicable) to 6 (construct pole fully applicable). Each repertory grid interview resulted in a completed grid structure similar to the example in Table 2. To ensure that the procedure effectively elicits perception-based attributes of suppliers from the interviewees, we conducted five pretest repertory grid interviews with experienced purchasing managers before commencing the full-scale repertory grid study. The results of the pretests affirmed the adequacy of the procedure, and then, we advanced the repertory grid study to its full scale.

Sample

We used a judgmental sampling approach (Babbie, 1998) to identify informants for our study. In line with previous studies on buyer–supplier relationships (Goffin, Lemke, & Szejczewski, 2006), we used the German manufacturing sector as a sampling frame. This sector is one of the most important contributors to Germany's economy and accounts for approximately 22.3% of its gross domestic product (Statista, 2017). These manufacturing companies integrate suppliers' parts, modules, and/or technologies into their own operations; thus, they are relevant to the value creation in buyer–supplier relationships and considered an appropriate context for the purpose of this study. Our sample captured different industries within this sector. We screened and selected suitable informants via XING, the leading professional social network in German-speaking countries with more than 11 million registered users in Germany (XING, 2018), based on (a) their professional background and experience and (b) their involvement with at least nine suppliers representing each of the nine supplier categories in our repertory grid technique design. The professional background and experience required that each interviewee be a senior purchasing professional and had at least five years of purchasing experience. We collected a list of approximately 15,000 registered

TABLE 2

Extract of a Repertory Grid of One Operational Purchasing Manager from Raw Materials

Triad ^a	Construct pole ^b	SPOER ^c (supplier category 1: A supplier with whom you work together frequently)	EBH (supplier category 2: A supplier with whom you work together infrequently)	GUCKE (supplier category 3: A supplier that primarily offers creative solutions)	KEDIG (supplier category 4: A supplier that primarily provides you with high-quality products)	AVENT (supplier category 5: A supplier with whom you like to work together)	MOXI (supplier category 6: A supplier with whom you don't like to work together)	DWL (supplier category 7: A supplier that could not be substituted due to unique products or competences)	RAS (supplier category 8: A supplier that could easily be substituted by another)	FUTUR (supplier category 9: A supplier with whom you share a joint history)	Contrast pole
359	Communicative, proactive,	4	2	6	5	6	1	5	4	3	React only when asked
789	Proactive	4	3	5	5	6	1	6	4	3	Friendly but defensive
234	Kind	3	2	6	5	6	1	5	4	3	Arrogant, overbearing
579	Committed to the task	2	3	5	5	5	2	5	4	2	Needs to be pushed; kicked in the ass
239	Spontaneous	1	3	5	4	6	1	3	3	3	Nonspontaneous
379	Flexible	1	3	5	4	6	2	5	4	4	Slow, process-oriented
457	Friendly	3	2	6	4	6	1	5	4	4	Distant, Professional

^aThe numbers represent the supplier categories that were used in a triad. Underlined numbers are those supplier categories that were perceived to be similar in comparison with the remaining one.

^bA six-point scale ranging from 1 (contrast pole fully applicable) to 6 (construct pole fully applicable) was applied for quantifying the perception-based supplier attributes.

^cReal supplier names were modified for reasons of anonymity.

XING users who were working in purchasing in manufacturing firms. We then randomly selected potential interviewees from that list, prescreened their résumés for their current position and experience, and sent them an invitation to participate in our study if these criteria were in line with our requirements.¹ In this invitation letter, potential participants received a description of our study intent and were asked whether or not they were in close contact with at least nine suppliers and whether they would be willing to participate. If they answered yes, we sent the selected informants the detailed instructions a few days prior to the interviews to ensure that they were familiar with the repertory grid interview procedure and had adequate time to choose nine specific suppliers consistent with the repertory grid technique design (cf. Wright, 2004).

We conducted face-to-face repertory grid interviews with 60 key informants. This number is considered appropriate, given that we exceed the number of repertory grid interviews used in most recent management research (e.g., Clauss & Döppe, 2016; Goffin & Koners, 2011; Goffin et al., 2006; Kownatzki et al., 2013; Malmström, Johansson, & Wincent, 2014; Wright, 2004). Although the number of interviews was predetermined (for details, see Appendix S1), repertory grid researchers still advise to test whether or not data saturation is achieved, so that the results adequately reflect the phenomenon under investigation (Flint et al., 2012). The results of a Pareto analysis showed that after 16 repertory grid interviews, no new constructs emerged; thus, data saturation was reached.

Our 60 informants came from different companies in 12 manufacturing industries. Their managerial positions ranged from CEOs to operational purchasing managers with a median tenure of eight years in their current companies. The median size of these 60 companies was 550 employees. Depending on company size, the functional level of the informants changed, as each of them had to be in direct contact with the suppliers. In larger companies, the most knowledgeable people were therefore identified mainly at an operational purchasing level. Table 3 shows the details of the informants' characteristics.

Results

Aggregated Perception-Based Supplier Attributes. During the repertory grid interviews, 420 perception-based supplier attributes were elicited (for details, see Phase 2 in Appendix S1 and the list of elicited attributes in Appendix S2). To evaluate the relative importance of perception-based supplier attributes for purchasing

managers, the attributes must be aggregated. We did so by bootstrapping (Jankovicz, 2004), a procedure in which all attributes are sorted iteratively into subgroups until homogeneous groups of attributes with similar meanings are retrieved. Two coders performed this procedure independently. After completion, the coders compared their results and discussed different groupings until consensus was reached. Finally, the 420 initial attributes were categorized into 22 higher-order attributes (see in Appendix S2 for details). To ensure that the 22 attributes were sufficiently reliable when used by other researchers, a reliability check was performed by two additional coders. Each coder was provided with a randomly selected subset of 21 (5%) of the initial 420 attributes and was asked to assign each of them to one of the 22 attributes. We calculated conservative Krippendorff's alpha values (Krippendorff, 1970). With Krippendorff's alphas of 0.893 and 0.846, the intercoder reliability of our aggregation was considered reasonable. These 22 perception-based supplier attributes were then used in our subsequent analyses. Table 4 summarizes the results of our aggregation and provides descriptions of each perception-based supplier attribute.

Identifying the Key Perception-Based Supplier Attributes. To focus only on those perception-based supplier attributes with a high relative importance in buyer-supplier relationships, we identify these key attributes among the 22 perception-based supplier attributes with a high relative importance for purchasing managers. Therefore, we use the methodology of Goffin et al. (2006), which utilizes frequency and variability measures. They suggest that an attribute can be important if at least 25% of the interviews (i.e., 15 of 60 interviews) elicit it. However, the frequency measure alone is not sufficient to affirm the importance of an attribute, as an attribute that is more apparent or more easily articulated would be mentioned more frequently by informants. Variability has thus been used as an additional indicator of key attributes. Variability is a mathematical measure of the spread of ratings for a particular attribute in an individual grid. If an attribute has high variability, the informant perceives greater differences between the suppliers (Smith, 1986). Since the spread per interview can differ, the variability of each attribute in an individual grid was calculated and normalized across the 60 grids. If this measure for an attribute is greater than the average variability of all attributes (14.29%, see Table 5), this attribute would adequately distinguish one supplier from another (Goffin et al., 2006). Taken together, the adequate levels of both frequency and variability measures determine the key supplier attributes. The key attribute analysis with frequency and variability measures is reported in Table 5. The results show that seven perception-based supplier attributes meet the

¹Although this approach was designed to recruit a sample of respondents that represents the German manufacturing sector in general, we have no evidence to back up this assumption.

TABLE 3
Composition of the Repertory Grid Technique Informants

Industry													
Position of Informant	Automotive	Aviation	Building	Chemistry	Electronics	Energy	Food/ Agriculture	Machine Constr.	Medical	Packaging	Paper/ Printing	Plastics Technology	Raw Materials
Technical, Operational Purchasing	5	3			1	1	2	5					7
Strategic Purchasing Manager	1						1	3	1			2	
Supply Chain Manager/Logistics	5			4				1					1
Chief Purchasing Manager					1			2	1		1		
CEO/General Management			1					2		3			
Total	1	10	4	10	2	1	3	13	1	1	4	2	8
No. of employees													
Position of Informant	Years in current company				Number of associated suppliers				Median: 47.5 suppliers				
	Median: 550 employees	Median: 8 years			Median: 47.5 suppliers	Median: 47.5 suppliers				Total			
Technical, Operational Purchasing	≤50	51-250	250-1000	>1000	≤2	3-5	6-10	>10	9-10	11-25	26-50	51-100	>100
Strategic Purchasing Manager	1	6	9	14	2	7	6	15	11		3	7	9
Supply Chain Manager/Logistics	2	2	1	3	2	2	1	3	3		2	2	1
Chief Purchasing Manager	3	2	2	6		4	5	2	1	3	6	1	11
CEO/General Management	6	1	2	2		2	1	2	1				5
Total	9	12	14	25	4	15	14	27	1	20	14	11	60

TABLE 4

Description of the 22 Perception-Based Supplier Attributes

No.	Perception-based supplier attribute	Example of initial bipolar supplier attribute	Description as perceived by purchasing managers
1	Agility	agile ↔ unwilling, dynamic ↔ sedate, spontaneous ↔ rigid	The supplier is dynamic and spontaneous in relation to changes.
2	Being fast	fast ↔ slow, fast ↔ unhasty	The supplier is fast and efficient in carrying out tasks.
3	Being organized	structured ↔ chaotic, structured ↔ unstructured	The supplier organization and behavior is structured and well-organized.
4	Commitment to tasks	committed to the task ↔ reluctant, hard-working ↔ lazy, motivated ↔ unmotivated	The supplier shows significant commitment and persistence that manifests in the willingness to work hard and to go the extra mile for the task at hand.
5	Communicativeness	communicative ↔ noncommunicative, open ↔ closed, talkative – offish	The supplier is willing to openly communicate.
6	Competence	competent ↔ incompetent, experienced ↔ inexperienced, professional ↔ unprofessional	The supplier has professional experiences and capabilities of fulfilling even complex tasks.
7	Conscientiousness	Accurate ↔ careless, conscientious ↔ sloppy, precise ↔ imprecise	The supplier is accurate and shows high precision in its operations as well as a clear focus on joint goals and solutions.
8	Cooperativeness	acting in concert ↔ competitive, cooperative ↔ selfish, ready to compromise ↔ stubborn	The supplier is fair and cooperative and focuses on mutual interaction instead of opportunism.
9	Ease to work with	easy to work with ↔ complicated, easygoing ↔ serious, uncomplicated ↔ cumbersome	The supplier is uncomplicated and unproblematic in the interaction.
10	Flexibility	flexible ↔ inflexible, flexible ↔ static, versatile ↔ limited	The supplier is adaptable and flexible regarding buyer demands.
11	Friendliness	close ↔ distant, family-like ↔ anonymous, friendly ↔ distant, professional, personal ↔ impersonal	The supplier is familiar and close to the buyer, which also manifests itself in personal and informal interaction.
12	Helpfulness	attentive ↔ inattentive, helpful ↔ not helpful, supportive ↔ not supportive	The supplier is attentive and inclined to help and to support the buyer.

(continued)

TABLE 4 (continued)

No.	Perception-based supplier attribute	Example of initial bipolar supplier attribute	Description as perceived by purchasing managers
13	Humor	Funny, humorous ↔ conservative, funny ↔ serious	The supplier has a happy attitude and shows humorous behavior.
14	Innovativeness	creative ↔ not creative, innovative ↔ not innovative, lateral thinking – stuck	The supplier is creative and innovative.
15	Patience	patient ↔ impatient, patient ↔ demanding, understanding ↔ impatient	The supplier is patient and understands the buyer's requirements.
16	Proactiveness	active ↔ passive, autonomous ↔ dependent, proactive ↔ reactive	The supplier is proactive and eager to take initiatives regarding joint activities instead of waiting for requests of the buyer.
17	Problem-solving	solution-oriented ↔ not solution-oriented, problem-solving ↔ not problem-solving	The supplier shows a behavior which is directed to finding solutions to problems.
18	Reliability	on schedule ↔ unpunctual, reliable ↔ unreliable	The supplier is reliable and carries out tasks on schedule.
19	Risk-taking	adventurous ↔ conservative, open-minded ↔ cautious, risk-taking, venturesome ↔ careful, conservative	The supplier is open to new and uncertain projects and willing to take risks in pursuing these projects.
20	Self-confidence	extroverted ↔ introverted, self-confident ↔ insecure, poised – doubtful	The supplier is strong, charismatic, and has a self-confident attitude.
21	Sympathy	courteous ↔ discourteous, kind ↔ unkind, sympathetic ↔ awkward	The supplier is kind and polite in the interaction, which makes them sympathetic.
22	Trustworthiness	honest ↔ dishonest, trusted ↔ distrusted, trustworthy ↔ not trustworthy	The supplier is honest and demonstrates a high trustworthiness in the interaction.

frequency and variability requirements. These include (a) trustworthiness, (b) friendliness, (c) helpfulness, (d) reliability, (e) innovativeness, (f) proactiveness, and (g) commitment to the task. Thereafter, we only focused the subsequent analyses on these seven key perception-based supplier attributes.

STUDY 2: SEMI-STRUCTURED INTERVIEWS

Methodology

Data and Informants. We conducted 25 semi-structured interviews with purchasing managers to explore

the supply chain management practices that may link the seven key perception-based supplier attributes identified above with the relational outcomes of buyer-supplier relationships as perceived by buyers. Semi-structured interviews allow researchers to reflect in-depth on incidents from managers' experiences, thus providing opportunities to garner insights into the inquiry of interest (Eisenhardt, 1989). This methodological choice is based on the complex nature of the phenomenon, the detailed understanding we aspire to achieve, and the relevance of the contextual settings (Creswell, 2013). The interview questions addressed the

TABLE 5

Identification of Key Perception-based Supplier Attributes

Perception-based supplier attribute ^a	Frequency (Percent)	Normalized Variability	Mean	Standard Deviation
Sympathy ^b	62 (103.33%)	13.91	3.94	1.48
Communicativeness	31 (51.67%)	13.64	3.83	1.48
Proactiveness*	29 (48.33%)	14.50	3.97	1.44
Flexibility	27 (45.00%)	13.53	3.84	1.54
Friendliness*	24 (40.00%)	15.43	3.69	1.58
Helpfulness*	23 (38.33%)	14.49	3.86	1.58
Ease to work with	22 (36.67%)	14.15	3.88	1.38
Conscientiousness	21 (35.00%)	13.99	3.86	1.35
Reliability*	20 (33.33%)	14.92	4.06	1.61
Cooperativeness	20 (33.33%)	14.03	3.89	1.50
Commitment to the task*	19 (31.67%)	14.67	4.00	1.45
Innovativeness*	16 (26.67%)	16.10	3.62	1.68
Trustworthiness*	15 (25.00%)	15.41	3.95	1.55
Being fast	14 (23.33%)	12.48	4.05	1.50
Problem-solving	13 (21.67%)	13.31	3.76	1.55
Agility	13 (21.67%)	14.70	3.85	1.49
Competence	11 (18.33%)	13.97	4.00	1.50
Self-confidence	11 (18.33%)	15.50	3.99	1.55
Patience	9 (15.00%)	13.81	3.73	1.52
Risk-taking	9 (15.00%)	14.00	3.57	1.34
Being organized	7 (11.67%)	13.57	4.08	1.48
Humor	4 (6.67%)	16.27	3.75	1.52
	19	14.29	3.87	1.50

^aThe perception-based supplier attributes marked with a * were identified to be key perception-based supplier attributes according to the method of Goffin et al. (2006).

^bAs on average more than one perception-based supplier attribute per interviewee was assigned to the higher-order perception-based supplier attribute of sympathy, the frequency count exceeds the number of interviews.

relevance of perception-based supplier attributes on performance-influencing practices and their relational outcome implications (see Appendix A for the interview protocol). We analyzed the results of the interviews episodically and adjusted the interview questions accordingly to follow up on emerging insights (Glaser & Strauss, 1967). This process led to three phases of our interview study. The first phase focused on the seven perception-based attributes, the performance-influencing practices associated with those attributes, and the relational outcome implications of these practices. As the data in the first phase also presented an emerging insight into the dark side of buyer-supplier relationships (i.e., the negative effects of relational perception-based supplier attributes), we introduced additional questions to further explore this phenomenon in the second phase, in addition to the original questions in the first phase. Then, as the data showed adequate recurring themes on perception-based supplier attributes, practices, and relational outcome implications, we reprioritized the interview efforts to focus primarily on exploring the dark-side buyer-supplier relationship

phenomenon in the final phase of the interview study and removed some of questions used in the first two phases from the interview protocol. The interview questions used in the three phases of the interviews are provided in Appendix A.

In each interview phase, we interviewed different informants, and their characteristics are summarized in Table 6. Our informants for this study were purchasing professionals with relevant managerial positions from German manufacturing industries. These informants were not those in our repertory grid study and were not involved in the identification of the perception-based supplier attributes; thus, our study was less subject to systematic biases than it might otherwise have been. These informants were also randomly selected following the same selection approach used for Study 1. For these semi-structured interviews, we did not predefine the number of interviews but continued until data saturation was reached (Eisenhardt, 1989; Glaser & Strauss, 1967). After 25 interviews, no new information was retrieved, and we concluded the interview process. The duration of the interviews

TABLE 6

Informant Description of the Semi-structured Interviews

Phase	Interviewee No. (I#)	Position	Industry	No. of employees	Duration (in min.)
1	1	Head of Purchasing	Machine Construction	1,600	51
1	2	Technical and Strategic Purchaser	Automotive	170	37
1	3	Acting Head of Purchasing	Machine Construction	750	27
1	4	Head of Purchasing	Building Services Engineering	1,100	22
1	5	Strategic Purchaser	Agricultural Machinery	11,000	28
1	6	Strategic Purchasing Manager	Electronic Components	4,500	45
1	7	Head of Procurement and Logistics	Metal Processing	250	35
1	8	Strategic Purchaser	Industrial Electronics	3,300	46
1	9	Head of Purchasing	Machine Construction	350	27
1	10	Strategic Purchasing Manager	Energy	430	27
1	11	Strategic Purchaser and Project Buyer	Sensor Technology	5,700	38
1	12	Strategic Purchaser	Forklift Trucks and Logistics Systems	14,000	60
2	13	Strategic Purchaser	Pharmaceuticals	400	22
2	14	Steel Purchasing Manager and Material Group Manager	Fitting Technology	5,900	34
2	15	Strategic Purchaser	Industrial Remote Controllers	200	40
2	16	Strategic Purchasing Manager	Medical Equipment	3,000	40
2	17	Strategic Purchaser	Automotive	1,400	32
2	18	Strategic Purchasing Manager	Metal Processing	6,800	40
3	19	Direct Procurement Manager	Chemistry	33,500	29
3	20	Technical and Operational Purchaser	Packaging	10	40
3	21	Strategic Purchasing Senior Buyer	Plastics Technology	2,400	33
3	22	Purchasing Project Leader	Food/Agriculture	160	25
3	23	Head of Purchasing	Machine Construction	100	24
3	24	Head of Manufacturing	Paper/Printing	380	27
3	25	Buyer Plant Purchasing	Machine Construction	6,700	28
				Average	34.28
				Total	857

ranged from 22 to 60 min with an average of 34 min. The interviews were transcribed into interview notes, enabling us to recursively analyze the data and repeat the data interrogation process, which enhances the

reliability and validity of the eventual findings (Miles, Huberman, & Saldana, 2014).

Within-Case and Cross-Case Analytic Approach. We structured our case data analytic approach using both

within-case and cross-case observations for inductive theory-building (Glaser & Strauss, 1967; Miles, Huberman, & Saldana, 2014; Yin, 2004). Within-case observations enable us to “describe, understand, and explain what has happened in a single, bounded context” (p. 100), while cross-case observations from multiple cases reassure us that “the events and processes in one well-described setting are not wholly idiosyncratic” (p. 101), thus increasing generalizability (Miles et al., 2014). We worked recursively between the multiple cases (i.e., interviews with individual managers were treated as distinct cases) and the theoretical insights we extracted from them (Eisenhardt, 1989; Yin, 2004). We analyzed the interview notes at two levels. First, we focused on identifying key practices that could be associated with perception-based supplier attributes and have implications on the relational outcomes, and then, we built their descriptions. Second, we conducted cross-case examinations while developing matrices in which we coded the cases according to the performance-influencing practices and relational outcome implications that emerged during this process. In other words, our cross-case examinations in this study are variable-oriented, whereby conceptual building blocks (i.e., constructs or variables) and patterns of their interrelations can emerge from observations over several cases (Miles et al., 2014). The data analysis was conducted by the same two researchers who analyzed the repertory grid data. To ensure the reliability of the results, the identified practices and their implications on relational outcomes were compared and discussed to conclude on their meaning.

The interviews in Phases I and II with the interviewee number (I#) 1–18 in Table 6 were focused primarily on exploring the performance-influencing practices associated with perception-based supplier attributes and their implications on relational outcomes as perceived by the buyers. The interviews in Phase II with I# 13–18 and especially in Phase III with I# 19–25 in Table 6 were then used to further explore the potential dark side of buyer–supplier relationships (i.e., the negative effects on relational outcomes)². As patterns emerged from the interview data, we formed tentative theoretical explanations, and then continued to use our data from different cases to cross-examine them, which helped challenge and extend our theoretical explanations (Strauss & Corbin, 1998). During the recursive process of interrogating the data, revising our theoretical understanding, and

returning to the data (Miles et al., 2014), the themes regarding performance-influencing practices associated with perception-based supplier attributes emerged. This detailed comparison across cases helped to cross-validate our findings in different relational contexts.

We present the descriptions of all central themes from our semi-structured interviews in Table 7. We then present the cross-case coding matrix of performance-influencing practices associated with perception-based supplier attributes in Table 8. An “X” in Table 8 indicates that the interview notes illustrated vivid evidence for the presence of performance-influencing practices in relation to the perception-based supplier attributes. In Table 9, we present the cross-case coding matrix of performance-influencing practices in association with relational outcomes in terms of cost efficiency and innovation generation in the relationships as perceived by buyers. An “X” in Table 9 indicates that the interview notes provided the evidence for specific practices (i.e., performance-reinforcing and performance-inhibiting) in association with the cost efficiency or innovation generation dimensions of relational outcomes as perceived by buyers. A summary of our findings with illustrative quotes from the interview data is presented in Appendix B. Finally, from the cross-case data coded in Tables 8 and 9, we drew inferences and eventually built a model of perception-based supplier attributes, performance-influencing practices, and relational outcomes perceived by buyers, graphically presented in Figure 2. A detailed discussion of the findings is in the next section³.

Results

In all the 25 cases of our interviews, the purchasing managers indicated that perception-based supplier attributes matter to their supply chain management practice. These attributes often enter into the purchasing managers’ decision processes regarding managing their buyer–supplier relationships. However, not all seven key perception-based supplier attributes from Study 1 (see Table 5) clearly emerged from our semi-structured interviews. Among the seven attributes, innovativeness and reliability did not emerge from the interviews as the supplier attributes that occupied the purchasing managers’ perceptions regarding supply chain management practices and relational outcomes⁴.

²Although the interviews in Phase III were guided by specific interview questions to explore the dark side of buyer–supplier relationships, some interviewees also provided information about perception-based supplier attributes, performance-influencing practices, and relational outcomes, which were the foci of Phases I and II. Similarly, some interviewees in Phase I provided information about the dark side of the relationships, which was the focus of Phases II and III. In those cases, we still recorded those observations in the coding matrices and factored them in our cross-case analyses.

³Quotations in the Results section denote that sentences, phrases, or words are excerpts from the interview notes.

⁴The panel of informants often viewed innovativeness as an *ex post* attribute of suppliers who have demonstrated successful innovations for them over a period of time. As such, innovativeness is a perception-based supplier attribute less indicative of relational outcomes *ex ante*. Similarly, reliability did not seem to adequately occupy purchasing managers’ conscious perceptual space, given that our semi-structured interviews did not bring out reliability as an attribute commonly referred to by purchasing managers.

TABLE 7

Description of Performance-influencing Practices and Relational Outcomes

Theme	Description
Performance-reinforcing Practices:	
Friction reduction and smooth collaboration	Reduce tensions/resolve obstacles in collaboration; soften negotiations; reduce hassle/haggling; give benefits of the doubt; reduce governance efforts; move things to agreement more quickly
Relationship enhancement	Strengthen relationships; build long-term relationships; continue good/positive relationships; bring relationships to a different level
Information/idea exchange	Exchange, share, and receive information, ideas, and knowledge; give feedback/input; ask questions; make suggestions/recommendations; actively communicate ideas and follow up; act on recommendations; go with the ideas/put ideas to action; carry out solutions;
Performance-inhibiting Practices	
Take-it-for-granted	Assume as it should be; believe things continue as in the past; become blind; become too convenient
Objectivity reduction	Become less objective/less critical; not on factual level; less focus on rational criteria; ignore obvious issues
Compensating-for-non-economics	Compensate/make up for deficiencies; place additional values on noneconomic features; overlook economics for relational features in return; offset economic losses/deficiencies with relational gains/preferences
Relational outcomes:	
Cost efficiency	Reduce costs; improve processes; increase speed/efficiency; faster completion
Innovation generation	Achieve innovations; develop new techniques/solutions; do things differently; come up with something new; develop new modules/new products

These two attributes were then dropped from further analyses. Commitment to tasks also co-emerged with proactiveness from the interviews and was subsumed into proactiveness for analytical purposes. As such, reliability, innovativeness, and commitment to tasks were not included in the coding matrix (Table 8) and the subsequent analyses. Only proactiveness, trustworthiness, friendliness, and helpfulness were the remaining perception-based supplier attributes in the remaining analyses of this study.

Perception-based Supplier Attributes and Performance-Reinforcing Practices. The interviews coded in Table 8, particularly in Phases I and II, provide insights into performance-reinforcing practices associated with proactiveness, trustworthiness, friendliness, and helpfulness. First, an observation from the interviews highlights that a supplier's proactiveness is highly valued by purchasing managers. As noted by a purchasing manager in the interviews (I#6), "[T]here are very few that approach you... I perceive this as happening very, very seldom...if a supplier shows

self-initiative, they get a big plus." The interviews further suggest that proactiveness is largely associated with performance-influencing practices in buyer-supplier relationships, specifically information/idea exchange. Proactive suppliers often take initiatives in approaching buyers, disseminating new ideas to them, and encouraging them to adopt ideas leading to their implementation.

Second, the interviews also highlight the performance-reinforcing practices associated with trustworthiness, including (1) friction reduction/smooth collaboration, (2) relationship enhancement, and (3) information/idea exchange. It was noted that trustworthiness reduced frictions in buyer-supplier relationships and aided the exchange parties to conclude matters in their collaborations more quickly, as it helped "put things aside and talk about the reality" (I#1), reduce the need for "lawyers and written contracts" (I#2), and get the parties to "act quickly" (I#9). Trustworthiness "harmonizes" the relationships and influences one party to "give another chance" if

TABLE 8

Cross-case Coding Matrix for Perception-based Supplier Attributes and Supply Chain Management Practices													
Theme	Phase I: Initial Exploration												
	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	
Proactiveness													
Performance-reinforcing Practices													
Information/idea exchange			X	X	X	X		X	X	X	X	X	
(E = exchange both ways; D = diffusions; A = Adoption; T = tension)			X(D,A)	X(D)	X(D,A)			X(D,A)			X(D,A,T)		
Trustworthiness													
Performance-reinforcing Practices	X	X			X				X			X	
Friction reduction/smooth collaboration	X	X							X			X	
Relationship enhancement		X			X							X	
Information/idea exchange	X(S)				X(S)				X(E)			X(E,S)	
(E = exchange both ways; S = sharing from one to another)													
Performance-inhibiting Practices													
Take-it-for-granted													
Friendliness													
Performance-reinforcing Practices	X	X	X	X	X		X	X	X	X		X	
Friction reduction/smooth collaboration	X	X	X	X	X		X	X	X	X		X	
Relationship enhancement				X	X			X				X	
Information/idea exchange					X(E)				X(R)			X(E)	
(E = exchange bothways; R = receiving from another)													
Performance-inhibiting Practices		X				X						X	
Take-it-for-granted													
Objectivity reduction						X						X	
Compensating-for-non-economics		X											
Helpfulness													
Performance-reinforcing Practices	X	X	X			X			X	X	X	X	
Friction reduction/smooth collaboration			X						X		X		
Relationship enhancement	X	X	X			X			X	X		X	
Performance-inhibiting Practices								X				X	

(continued)

TABLE 8 (continued)

Phase I: Initial Exploration													
Theme	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	
Take-it-for-granted													
Compensating-for-non-economics								X					X

Phase II: Initial Exploration with Additional Question on the Dark Side of the Relationship														Phase III: Extended Exploration on Dark Side of the Relationship										
Theme	I13	I14	I15	I16	I17	I18	I19	I20	I21	I22	I23	I24	I25											
Proactiveness																								
Performance-reinforcing Practices																								
Information/idea exchange		X		X*	X	X				X														
(E = exchange both ways; D = diffusions; A = Adoption; T = tension)		X(E,A)		X(D,A)	X(D,A)	X(E)				X(D,A)														
Trustworthiness																								
Performance-reinforcing Practices	X		X		X	X			X	X			X											
Friction reduction/smooth collaboration			X		X	X			X	X			X											
Relationship enhancement	X					X																		
Information/idea exchange			X(E)			X(S)																		
(E = exchange both ways; S = sharing from one to another)																								
Performance-inhibiting Practices																								
Take-it-for-granted								X																
Friendliness								X																
Performance-reinforcing Practices	X	X		X	X	X		X	X		X		X											
Friction reduction/smooth collaboration	X				X	X		X	X		X		X											
Relationship enhancement		X						X	X															
Information/idea exchange		X(E)	X(E)	X(E)		X(R)	X(E)																	
(E = exchange bothways; R = receiving from another)																								
Performance-inhibiting Practices												X	X											
Take-it-for-granted			X		X	X		X	X															
Objectivity reduction									X				X											
Compensating-for-non-economics					X	X						X												

(continued)

(continued)

TABLE 8 (continued)

Theme	Phase II: Initial Exploration with Additional Question on the Dark Side of the Relationship							Phase III: Extended Exploration on Dark Side of the Relationship						
	I13	I14	I15	I16	I17	I18	I19	I20	I21	I22	I23	I24	I25	
Helpfulness														
Performance-reinforcing Practices	X			X	X			X	X	X		X	X	
Friction reduction/smooth collaboration					X			X						
Relationship enhancement	X			X					X	X		X	X	
Performance-inhibiting Practices			X		X				X	X			X	
Take-it-for-granted					X								X	
Compensating-for-non-economics			X						X	X				

*In conjunction with commitment to task.

the other party is at fault (I#18). Trustworthiness was reported to have a broader role in promoting “the flow of information” between partners; thus, “a certain degree of trust” is needed to establish information/idea exchanges (I#12).

Third, the interviews suggest that friction reduction/smooth collaboration, relationship enhancement, and information/idea exchange are also the performance-reinforcing practices associated with friendliness. The interview elaborates that friendliness makes business relationships more personal as the partners get along well and informally interact with each other. Friendliness also enhances relationships by making the relationships “fun” (I#4), “close” (I#8), and “personal” (I#12), which can enable the exchange parties “to do business in the mid- and long-term” (I#12). In addition, friendliness was reported as a contributor to information/idea exchange as it can bring down “the inhibition threshold,” or the barrier that hinders the reception of even “small ideas” and facilitate “brainstorming” (I#9).

Finally, the interviews highlight that both friction reduction/smooth collaboration and particularly relationship enhancement are the performance-reinforcing practices associated with helpfulness. Helpfulness was vividly reported to play a vital role in enhancing the relationships. Helpfulness can “solidif[y]” and “legitimiz[e]” the relationship (I#3), give “positive experiences” (I#24), and “create a continuing relationship” (I#6). The relationship enhancement practice strengthens the exchange relationships, makes it harder for the exchange parties to break or dissolve the relationships, and moves the relationships toward long-term.

Perception-based Supplier Attributes and Performance-inhibiting Practices. The interviews coded in Table 8, particularly in Phases II and III, also provide insights into performance-inhibiting practices associated with trustworthiness, friendliness, and helpfulness. This revelation is in line with the “dark side of the relationships” phenomenon where relationship-oriented properties in business exchanges (e.g., trust and close/long-term relationships) can potentially compromise operational outcomes of exchange relationships (e.g., Anderson & Jap, 2005; Grandinetti, 2017). First, the interviews suggest that the performance-inhibiting practice associated with trustworthiness is take-it-for-granted. Our interviews indicated that buyers, over time, could become “blind” (I#20) or “trust [suppliers] pretty much completely” (I#17) as they assume things to be as they were in the past or as they should be without checking, and the performance of the relationships can slide downward.

Second, the interviews highlight that the performance-inhibiting practices associated with friendliness are (1) take-it-for-granted, (2) objectivity reduction, and (3) compensating-for-non-economics. Besides take-it-for-

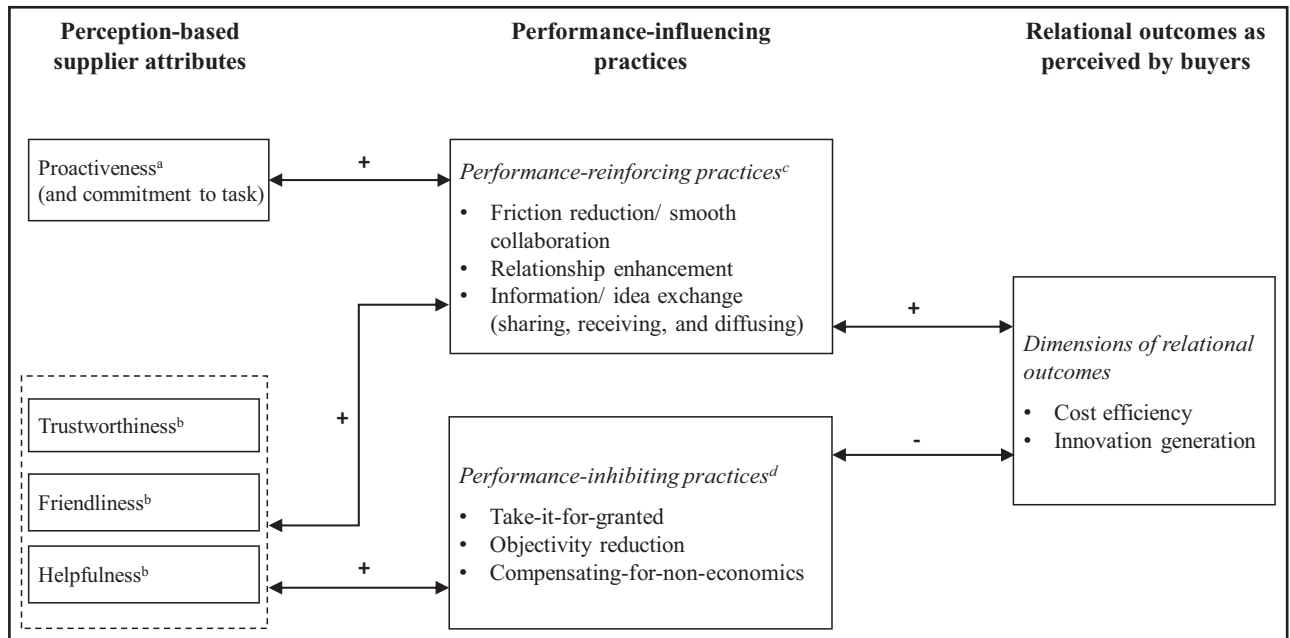
TABLE 9

Cross-case Coding Matrix for Supply Chain Management Practices and Relational Outcomes

	Phase I: Initial Exploration												
Theme	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	
Performance-reinforcing Practices													
Information/idea exchange													
Cost efficiency	X		X	X	X				X		X		
Innovation generation			X	X	X			X	X		X	X	
Relationship enhancement													
Cost efficiency		X	X		X	X		X	X				
Innovation generation		X			X							X	
Friction reduction/smooth collaboration													
Cost efficiency	X	X	X		X			X	X				
Innovation generation		X	X		X				X			X	
Performance-inhibiting Practices													
Take-it-for-granted													
Cost efficiency													
Innovation generation													
Objectivity Reduction													
Cost efficiency													
Innovation generation												X	
Compensating-for-non-economics													
Cost efficiency		X										X	
Innovation generation													
	Phase II: Initial Exploration with Additional Question on the Dark						Phase III: Extended Exploration on Dark Side of the Relationship						
Theme	I13	I14	I15	I16	I17	I18	I19	I20	I21	I22	I23	I24	I25
Performance-reinforcing Practices													
Information/idea exchange													
Cost efficiency				X	X	X	X						
Innovation generation					X	X	X						
Relationship enhancement													
Cost efficiency	X					X	X						
Innovation generation						X	X						
Friction reduction/smooth collaboration													
Cost efficiency	X				X	X	X						
Innovation generation						X	X						
Performance-inhibiting Practices													
Take-it-for-granted													
Cost efficiency		X			X	X	X	X	X	X	X		X
Innovation generation						X	X	X	X	X		X	
Objectivity Reduction													
Cost efficiency					X		X		X		X	X	X
Innovation generation							X				X		X
Compensating-for-non-economics													
Cost efficiency			X							X	X	X	
Innovation generation						X				X			

FIGURE 2

An Integrative Model of Perception-based Supplier Attributes, Performance-influencing Practices, and Relational Outcomes. Notes: (a) Proactiveness was the only supplier attribute with a clear established link with the buyer's diffusion/adoption of new ideas and solutions in the interviews. (b) Attributes with high relationship-oriented properties. (c) For performance-reinforcing practices, proactiveness is associated only with information/idea exchange, while helpfulness is associated only with friction reduction/smooth collaboration and relationship enhancement in the interviews. (d) For performance-inhibiting practices, trustworthiness is associated only with take-it-for-granted, while helpfulness is associated only with take-it-for-granted and compensating-for-non-economics in the interviews



granted from becoming “too convenient” (I#19) and “a bit blind” (I#21), objectivity reduction can occur when relationships become personal or too close as characterized by friendliness. As reported in the interviews, one party can become “less critical” (I#25) to even glaring issues from the other party. In addition, compensating-for-non-economics, whereby one party in an exchange relationship places values on certain relational features and uses them to offset economic shortcomings in the exchange, co-occurred with friendliness in the interviews. As noted in the interviews, the presence of friendliness coincided with a compromise in “economic prices” (I#15), a reduction in the work “for money” mindset (I#2), and an increase in the feeling that “getting along with each other is on the line” if pressing for economic outcomes in the relationships (I#18).

Finally, the interviews also suggest that the performance-inhibiting practices associated with helpfulness are both take-it-for-granted and particularly compensating-for-non-economics. The interviews indicated that when suppliers were “always helpful,” the buyers could “take it for granted” (I#25) during negotiations. Suppliers also at times “try to compensate” by being

excessively helpful because “they are not well-positioned in different areas” (I#8). Likewise, buyers can “put value” on the “helpfulness” from suppliers and are willing to accept “a bit more expensive” offers (I#21) or “slightly higher prices” (I#22) from them.

Performance-influencing Practices and Relational Outcomes Perceived by Buyers. As depicted in Table 9, our interviews indicated that the performance-reinforcing practices (i.e., friction reduction/smooth collaboration, relationship enhancement, and information/idea exchange) were positively associated with relational outcomes perceived by buyers in terms of cost efficiency and innovation generation in the relationships. Noted in the interviews, these practices can make it “easier and faster to do things” between buyers and suppliers (I#3) and can give them “a certain leeway” to operate (I#5) and make them more open to share and adopt “new ideas” (I#12), thus potentially influencing both cost efficiency and innovation generation in the relationships positively. On the other hand, the performance-inhibiting practices (i.e., take-it-for-granted, objectivity reduction, and compensating-for-non-economics) co-occurred with

the decline in relational outcomes as perceived by buyers in several cases of the interviews. As suggested in the interviews, these practices can interfere with the sound judgments and decisions of both buyers and suppliers regarding how they should operate together in the relationships, thus potentially undermining both cost efficiency and innovation generation in the relationships.

Toward a Model of Perception-based Supplier Attributes, Performance-influencing Practices, and Relational Outcomes Perceived by Buyers

Figure 2 presents a model developed by synthesizing the key findings of the semi-structured interviews in this study. The model begins with the perception-based supplier attributes being associated with the performance-reinforcing and performance-inhibiting practices in buyer-supplier relationships. In turn, these reinforcing and inhibiting practices are positively and negatively associated with the relational outcomes perceived by buyers, respectively. The perceived relational outcomes in this model have two dimensions: cost efficiency and innovation generation, which are in line with the supply chain practice view initially developed by Carter et al. (2017). Given that the interview data have suggested the plausible associations among those constructs rather than their causal relationships, the links between those constructs in our model are presented by double-headed arrows, suggesting that those relationships could also be recursive.

In enhancing cost efficiency, the perception-based supplier attributes first to facilitate the performance-reinforcing practices. Specifically, proactiveness, often occurring in concert with commitment to tasks, is positively related to information/idea exchange, which is critical to knowledge/idea diffusion, adoption, and implementation, potentially leading to a modification and improvement of the operational processes. Trustworthiness, friendliness, and helpfulness, on the other hand, are associated with reducing friction, smoothing collaborations, and enhancing/stabilizing relationships, which can streamline existing processes. Such process improvements can yield an increase in cost efficiency overall.

In supporting innovation generation, buyer-supplier relationships exhibit performance-reinforcing practices that involve information/idea exchange to which the perception-based supplier attributes can contribute. Specifically, trustworthiness can increase the openness to share innovative or sensitive ideas. However, one party sharing the ideas does not guarantee that the other party is open to receiving, let alone implementing, them. Friendliness can play a part in reducing the barriers to the reception of new ideas. In other words, when the buyer perceives friendliness in the supplier,

the buyer is likely to be more permeable and receptive to shared ideas from the supplier. However, even if the receiving party intakes the new ideas, they remain simply ideas until they are organizationally adopted and implemented. Proactiveness can then potentially facilitate active idea diffusions and stimulate the other party to adopt and implement new ideas. In short, trustworthiness, friendliness, and proactiveness may play somewhat different roles needed in three respective stages of the knowledge transfer process: knowledge sharing, absorption, and implementation (Grant & Baden-Fuller, 2004). Such knowledge transfer can then enhance innovation generation in buyer-supplier relationships. Regarding the role of helpfulness in innovation generation, while it was not specific in the interview data, it is possible that helpfulness' positive association with relationship enhancement can contribute to a supportive operating environment conducive to innovation generation.

Finally, potentially leading up to the dark-side-of-the-relationship phenomenon or a decline in relational outcomes, three of the perception-based supplier attributes, that is, trustworthiness, friendliness, and helpfulness, are associated with certain performance-inhibiting practices in forms of (1) take-it-for-granted, (2) objectivity reduction, and (3) compensating-for-non-economics in buyer-supplier relationships. Specifically, while friendliness is associated with all three forms of performance-inhibiting practices, trustworthiness seems more susceptible to take-it-for-granted, and helpfulness is associated with take-it-for-granted as well as compensating-for-non-economics. These three performance-inhibiting practices can cause both buyers and suppliers to function less productively over time, thus undermining the relational outcomes as perceived by buyers in both cost efficiency and innovation generation dimensions.

DISCUSSION AND CONCLUSION

Our attempt in this study was to identify perception-based supplier attributes and to explore their implications on performance-influencing practices and relational outcomes in buyer-supplier relationships. We applied the repertory grid technique as a structured, iterative process and combined it with semi-structured interviews of purchasing managers. As a result, we revealed four perception-based supplier attributes: (1) proactiveness, (2) trustworthiness, (3) friendliness, and (4) helpfulness, the performance-influencing practices associated with these four attributes and with the relational outcomes in terms of cost efficiency and innovation generation as perceived by buyers. We then synthesized the key findings and theoretical insights into an integrative model of perception-based supplier attributes, performance-

influencing practices, and relational outcomes perceived by buyers.

Theoretical implications

On the Supply Chain Practice View. The findings in our study extend the literature regarding supply chain management practices and the supply chain practice view in two meaningful ways. The first and overarching contribution is that the model summarizing our findings, illustrated in Figure 2, extends and elaborates the supply chain practice view (Carter et al., 2017). That is, the model represents a concrete manifestation of this new view by identifying certain perception-based supplier attributes and revealing their related performance-reinforcing practices, which can be considered imitable and still can shape relational outcomes (i.e., cost reduction and innovation generation) as perceived by buyers.

As perception-based supplier attributes are embedded in the contexts of relationships and stem from the subjective perceptions of individual agents (i.e., purchasing managers in this study) rather than their objective assessments (Adobor, 2005; Riedl et al., 2013), varying degrees of idiosyncrasy are inherent in perception-based supplier attributes. With the associations among the perception-based supplier attributes, performance-reinforcing practices, and relational outcomes, these attributes can potentially introduce some degrees of idiosyncrasy into the relationship between such practices and relational outcomes. This line of reasoning may provide a partial answer to the inquiry that inspires the supply chain practice view, proposed by Carter et al. (2017, p. 119), which is why are there “the myriad practices that are imitable and transferable, yet still might offer varying performance benefits to supply chains”? Specifically, our findings suggest that the performance-reinforcing practices, when associated with perception-based supplier attributes that operate on the perceptual level of purchasing managers, can result in relational outcome benefits. In extrapolating our findings through the supply chain practice view lens, it is possible that these practices can also take place in buyer–supplier relationships without such perception-based supplier attributes. In the absence of the perception-based supplier attributes as their antecedents, those practices may potentially be institutionally driven, possibly through isomorphism in search for legitimacy or to cope with institutional constraints as maintained in the institutional theory literature (DiMaggio & Powell, 2000; Scott, 1995). Similar types of practices may thus yield varying performance benefits when they are organically formed based on perception-based supplier attributes in the relationships, as compared to when they stem from institutional forces. By synthesizing this theoretical reasoning with our empirical findings within the

supply chain practice view framework, the practices and their performance benefits can be coupled or potentially decoupled, depending respectively on perception-based supplier attributes inside buyer–supplier relationships or external institutional forces as their antecedents.

Our study has provided empirical support for the perceived benefits or relational outcomes garnered from the performance-reinforcing practices that are associated with perception-based supplier attributes. However, the data in our study were not adequate for empirically claiming the decoupling nature of relational outcomes and those practices that are institutionally driven. We resort to the line of logic from the institutional theory in making such connection with our findings within the supply chain practice view framework. Future empirical studies may further expand on our study by focusing on the performance implications of institutionally driven practices in buyer–supplier relationships and contrast the findings with ours. That would be an interesting line of research that advances the supply chain practice view development as a theoretical perspective in the supply chain management research.

Second, contrary to existing conceptualizations of supply chain management practices (Terpend et al., 2008; Zimmermann & Foerstl, 2014) and to previous studies regarding supplier attributes in supplier selection (Eggers et al., 2017; Katsikeas et al., 2004; Koufteros et al., 2012; Sarkis & Talluri, 2002), the integrative model of our findings does not contain supplier capabilities. This revelation may suggest that at the perceptual level of the relationships, capability-related supplier attributes are less important to purchasing managers. A possible explanation is that supplier attributes might be considered differently at different stages of the relationship life cycle (e.g., Claycomb & Frankwick, 2004; Ta et al., 2018). Meanwhile, basic requirements, such as having the right capabilities, on-time delivery, or competitive pricing, need to be possessed for suppliers to be initially selected. Then, perception-based supplier attributes (i.e., proactiveness, trustworthiness, friendliness, and helpfulness) play a more distinct role in supplier evaluations during the ongoing interactions in buyer–supplier relationships, thereby distinguishing suppliers with such attributes from others in the supplier portfolio. This finding is in line with that of Clauss and Tangpong (2018), who found that some “hard” attributes need to be fulfilled by a supplier to meet the formal organizational requirements of a buyer firm. However, the attributes of suppliers, with which relationships continue on a long-term basis, are supplemented with “soft” attributes. As such, by capturing perception-based supplier attributes in the context of

ongoing relationships, our model complements the established research stream in supplier-selection models that guide buyers' practices before a relationship is formed (e.g., Kannan & Tan, 2002; Katsikeas et al., 2004; Sarkis & Talluri, 2002). Taken together, the model of our findings on perception-based supplier attributes and the established supplier-selection models on capability-based supplier attributes suggest the importance of considering different stages of the buyer-supplier relationship life cycle in the analyses of supply chain management practices and performance. This is another direction in which the supply chain practice view research may advance further.

On the Dark Side of Relationships. We also found substantial trace evidence of the potential dark-side effects of perception-based supplier attributes, that is, trustworthiness, friendliness, and helpfulness, in ongoing buyer-supplier relationships. The findings on the performance-inhibiting practices associated with these attributes in our model are particularly relevant to the further elaboration of the supply chain practice view in relation to the literature on the dark side of relationships. To explain relational outcomes based on imitable supply chain management practices, focusing on the performance-reinforcing aspect alone may not provide a comprehensive picture. Particularly, if the same perception-based supplier attributes (e.g., trustworthiness or friendliness) are associated with both reinforcing and inhibiting practices simultaneously, supply chain management practices need to address the trade-offs in order to optimize relational outcomes attained from ongoing relationships.

The current literature on the dark side of buyer-supplier relationships highlights that long-term, close buyer-supplier relationships with excessive social capital can hurt the relational outcomes of the relationships (e.g., Anderson & Jap, 2005; Grayson & Ambler, 1999; Villena et al., 2011). Previous studies have identified several practices that cause this dark-side buyer-supplier relationship phenomenon, including (1) harming behaviors that can occur in close buyer-supplier relationships such as conflicts, tensions, or opportunism (Abosag, Yen, & Barnes, 2016; Grandinetti, 2017); (2) structural conditions such as dependence and lock-in created by a lack of alternatives (Anderson & Jap, 2005; Schmitz, Schweiger, & Daft, 2016); and (3) cognitive processes such as collective blindness, carelessness, a tendency to take things for granted, or information overload (Anderson & Jap, 2005; Villena et al., 2011). Our study particularly contributes to the domain of cognitive processes.

The findings from our interviews not only endorse previous findings on the cognitive processes, such as taking things for granted (Anderson & Jap, 2005; Villena et al., 2011), but also elaborate two additional processes: objectivity reduction and compensating-

for-non-economics. Differing from take-it-for-granted, whereby purchasing managers assume that things are as they should be without question, objectivity reduction is a more conscious process whereby purchasing managers selectively become less critical of suppliers with perception-based attributes that are high in relationship-oriented properties (e.g., friendliness), despite observed evidence indicating a deviation. Likewise, compensating-for-non-economics is a conscious process through which purchasing managers compensate for suppliers' noneconomics or shortcomings with their salient relationship-oriented attributes (e.g., friendliness or helpfulness). Their supply chain management practices might be influenced by the multifaceted considerations whereby they consider not only the economic but also the social and emotional values they derive from buyer-supplier relationships. Social and emotional values of purchasing managers are quite subjective and are based largely on their perceptions and feelings, potentially driven by certain perception-based supplier attributes and the positive relationships with their suppliers. When purchasing managers consider all economic, social, and emotional values in making decisions and carrying out supply chain management practices, overwhelmingly high social and emotional values in buyer-supplier relationships can potentially compensate for relatively low economic values in the relationships. In other words, purchasing managers can be considered "socially and emotionally rational." As such, they can satisfactorily maintain buyer-supplier relationships that are high on social/emotional values but low on economic values, leading to a compromise in the economic outcome of buyer-supplier relationships.

Practical Implications

This study also provides two managerial implications. First, our findings regarding the practices that are associated with perception-based supplier attributes and relational outcomes as perceived by buyers may provide helpful practical suggestions for purchasing managers during supplier evaluations and audits of ongoing buyer-supplier relationships. Purchasing managers should be aware of their own perceptions, which can lead to different characterizations of supplier attributes. Because perception-based supplier attributes are associated with different performance-influencing practices, the attributes that enter into their managerial considerations should be those relevant to the practices and outcomes expected from the exchange relationships. This situation may require the development of new measures to be used for supplier evaluations and audits in ongoing buyer-supplier relationships.

Another implication of our findings is that purchasing managers should be aware of the potential pitfalls of relying on perception-based supplier attributes. To ensure unbiased decisions about and a consistent performance from their buyer–supplier relationships, the potential pitfalls described by the dark-side buyer–supplier relationship phenomenon should be mitigated. To safeguard against this issue, purchasing managers may pay attention to its early signs, which could be seen within or outside the relationships. Our study points out that excessive compensating efforts from suppliers and the preference to preserve harmony in the relationships from purchasing managers may be signs that the relationships are evolving toward the dark side. To combat that problem, purchasing managers may need to establish procedures helping them to become aware of potential biases in their practices. For example, they may bring new information from outside of their relationships into their evaluation processes, which can help increase the objectivity of their eventual judgment. Periodic assessments of market benchmarks and regular meetings with uninvolved people from management or technical departments outside purchasing can be useful sources of new information outside the ongoing buyer–supplier relationships.

Limitations and Directions for Future Research

Despite the contributions to the literature and to managerial practice, this study also has some limitations that can guide future research directions. First, the scope of the study was confined to supplier attributes perceived by purchasing managers. Future research can therefore extend beyond this scope by examining the buyer attributes perceived by suppliers. This extension will address whether the theoretical insights developed in this study are symmetrical or bilateral in nature relating to the sides of buyer–supplier relationships. It is possible that certain performance effects or performance-influencing practices unveiled in this study may only be one-directional (i.e., from the supplier to the buyer or vice versa), while others may work both ways. Second, this study is of an exploratory nature. Future studies can test the specific relationships captured in our theoretical model derived from the interviews with a large-sample confirmatory research design. Such research would help us ascertain the external validity of the findings in this study.

Finally, while we aimed for generalizable results and followed a rigorous sampling approach for both sets of interviews, we only focused on German manufacturing firms. We believe that by addressing this sampling frame, results can be generated that are more or less generalizable for manufacturing firms in developed countries. However, the German manufacturing sector is characterized by, for example, comparatively high productivity, quality, and research and

development expenditures as compared to the United States or other countries in Europe (Folkinshteyn, Uygur, & Meric, 2014; German Trade & Invest, 2018), and cultural differences between countries could potentially influence the perception of suppliers' characteristics. Therefore, future studies should assess the generalizability of our model in other sectors, countries, and cultural contexts.

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Thomas Clauss (PhD, University of Hamburg, Germany) is Associate Professor in the Section of Innovation and Design Engineering, Department of Technology and Innovation at University of Southern Denmark. Additionally, he is affiliated researcher with the Group for Innovative Value Creation and Entrepreneurship, School of Business and Economics at Philipps-University of Marburg. His research interests include business model innovation, innovation generation in alliances and buyer–supplier relationships, the role of human agents in interorganizational collaboration as well as the implications of digitalization for these topics. Dr. Clauss's research has appeared in leading international journals, such as *Long Range Planning*, *Industrial Marketing Management*, *IEEE Transactions on Engineering Management*, *R&D Management*, and *Transportation Research Part A*.

Chanchai Tangpong (PhD, Southern Illinois University Carbondale) is a Professor of Management with North Dakota State University where he teaches strategy and organization management courses and serves as the Chair of the Management and Marketing Department. His current research interests include strategic implications of buyer–supplier relationships, role of human agents in supply chains, innovations across firm boundaries, top management team dynamics, corporate turnaround, and research methods in management and organization studies. Dr. Tangpong's work also appears in scholarly journals, such as the *Journal of Business Research*, *Corporate Governance: An International Review*, *Group & Organization Management*, *Decision Sciences*, *Journal of Operations Management*, and *Journal of Management Studies*.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

Appendix S1. Detailed repertory grid procedure.

Appendix S2. Aggregation of initial perception-based supplier attributes.

APPENDIX A

QUESTIONS FOR SEMI-STRUCTURED INTERVIEWS IN STUDY 2

Phase I and II Interviews

We previously investigated perception-based attributes of suppliers in the minds of purchasing managers, and identified two categories of attributes: (1) task-oriented attributes (i.e., proactiveness, reliability, commitment to tasks, and innovativeness) and (2) relational attributes (i.e., friendliness, helpfulness, and trustworthiness)⁵¹. We want to further explore their roles in your purchasing practices and their potential implications on operational performance outcomes, as well as the importance of individual perceptions on suppliers in your purchasing practice in general.

Question 1: Do you think that individual perceptions regarding suppliers are important in your day-to-day business?

Follow-up 1A: If so, can you elaborate more on this?

Follow-up 1B: Can you provide an example or a specific situation in which your behavior or decision was influenced by how you perceived the supplier or your perceptions of the supplier?

Question 2: How do task-oriented supplier attributes, proactiveness, reliability, commitment to tasks, and innovativeness, play a role in your purchasing practice and in the relationships with your suppliers?

Follow-up 2A: Can you give a specific example?

Follow-up 2B: From your experience, do you see these attributes having impacts on your operations and performance outcomes such as cost efficiency and innovation?

Follow-up 2C: If so, how? Can you give a specific example?

Question 3: How do relational supplier attributes, friendliness, helpfulness, and trustworthiness, play a role in your purchasing practice and in the relationships with your suppliers?

Follow-up 3A: Can you give a specific example?

Follow-up 3B: From your experience, do you see these attributes having impacts on your operations and performance outcomes such as cost efficiency and innovation?

Follow-up 3C: If so, how? Can you give a specific example?

Question 4 [not included in Phase I but added for the interviews in Phase II]: Have you experienced the situations in which your suppliers in ongoing relationships with you, once productive, have declined in their performance over time?

Follow-up 4A: Can you give a specific example or incident?

Follow-up 4B: Do you know what might be behind this? What might cause it?

Follow-up 4C: Can you give a specific example?

Phase III Interviews

We previously investigated perception-based attributes of suppliers in the minds of purchasing managers, and identified two categories of attributes: (1) task-oriented attributes (i.e., proactiveness, reliability, commitment to tasks, and innovativeness) and (2) relational attributes (i.e., friendliness, helpfulness, and trustworthiness). We have explored their roles in purchasing practices and learned about their positive and negative implications on operational performance outcomes. We want to learn more on their negative side, as well as the importance of individual perceptions on suppliers in your purchasing practice in general.

Question 1: [same as Questions 1, 1A, and 1B in Phases I and II]

Question 2: [same as Questions 4, 4A, 4B, and 4C in Phase II]

APPENDIX B

SUMMARY FINDINGS AND ILLUSTRATIVE EXAMPLES

Key findings and insights	Illustrative Examples
<p><i>Performance-reinforcing Practices associated with Proactiveness:</i></p> <ul style="list-style-type: none"> • Supplier proactiveness was reported to have a key role in the diffusion of new ideas/solutions and the adoption and implementation of the ideas/solutions by the buyers, which can result in either cost efficiency or innovation generation or both. • Proactiveness often occurs in concert with commitment to tasks in buyer–supplier relationships. 	<p><i>On Cost Efficiency:</i> “...sometimes even to our displeasure, they engage more proactively, telling us that they have this new product, this new service, and so on. It’s a mixed bag. Sometimes, it’s nice and exciting...there was this one partner who said, what you thought of is great, functional and okay, but if we do this solution, and combine it with this software we have for you, then you have a fully aggregate solution that everybody can work with. And initially, clearly, it’ll cost you more, but look to the long-term... And then we found that, actually by Year 2, it was considerably cheaper than the other solution, which we had already nearly decided upon.” (I#11)</p> <p><i>On Innovation Generation:</i> “...the suppliers approach us and say, at the moment we supply hydraulic hoses, but we can also do cylinders. And they drop by. We call it ‘Tech-Days’, so the supplier examines the machine with our purchasers, and tells them ‘this and this, I can do it as well’. And together we think about, how we can extend the business... it’s not only about Tech-Days. But in most cases, the suppliers approach us, and tell us they can produce so and so, or they have filed a new patent, or developed a new technique, and ask us whether they can apply it for us too, and to test it together, to validate it.” (I#5)</p> <p><i>In Concert with Commitment to Tasks:</i> “I see those two [proactiveness and commitment to tasks] as one. Self-initiative is only possible if you are committed.” (I#8)</p>
<p><i>Performance-reinforcing Practices associated with Trustworthiness:</i></p> <ul style="list-style-type: none"> • Supplier trustworthiness was reported to have a key role in friction reduction/smooth collaboration and relationship enhancement, which can result in cost efficiency. • Trustworthiness was perceived as a contributor to the openness to share new ideas/information, which can be critical to innovation generation in buyer–supplier relationships. 	<p><i>On Cost Efficiency:</i> “...there are some that you trust. And there are others... so, I’m the type of buyer, when I have a supplier, in my last company, I had suppliers for over 20 years. With the next topic, the next project, you talk about it quickly, both sides design a solution. The solution progresses. I’ve got the experience, that if I have worked together with someone for a long time, and at the beginning I do more work, but then I buy a system for 30-40% less...” (I#2)</p> <p><i>On Innovation Generation:</i> “Innovative solutions are usually given to those business partners with whom you also have a positive relationship level...to give a concrete example, a supplier has developed something new. New ideas, new research results, from some research or development project. They</p>

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APPENDIX B (continued)

Key findings and insights	Illustrative Examples
<p><i>Performance-reinforcing Practices associated with Friendliness:</i></p> <ul style="list-style-type: none"> Supplier friendliness was reported to have a key role in friction reduction/ smooth collaboration and relationship enhancement, resulting in cost efficiency. Friendliness can reduce barriers to new ideas, thus facilitating new idea reception, critical to innovation generation in buyer-supplier relationships. <p><i>Performance-reinforcing Practices associated with Helpfulness:</i></p> <ul style="list-style-type: none"> Supplier helpfulness relates to relationship enhancement, making buyer-supplier relationships more difficult to break and contributing to long-term buyer-supplier relationships. <p><i>Performance-inhibiting Practices:</i></p> <ul style="list-style-type: none"> Perception-based supplier attributes with high relationship-oriented properties (i.e., trustworthiness, friendliness, and helpfulness) were associated with performance-inhibiting practices including (1) take-it-for-granted, (2) objectivity reduction, and (3) compensating-for-non-economics, which can contribute to negative outcomes in buyer-supplier relationships over time (i.e., the decline of perceived relational outcomes or the dark-side-of-the-relationship phenomenon). 	<p>will always share it first, or try to develop it first, with whom they have a trustworthy middle- to long-term relationship. . . Innovative information exchange is a very trust-based thing, you need a lot of trust, and that is something that develops across many years. . . only innovative projects like these can be realized, because the information exchange is very pronounced, because there is a certain degree of trust." (I#12)</p> <p><i>On Cost Efficiency:</i></p> <p>"When you have a good relationship with a supplier, I will more easily achieve the cost goal with this supplier than those with whom I have a negative relationship. . .there are suppliers with which you know, I do not want to sit at one table with them, because it'll end up emotional. You are already pre-molded to a certain degree, when I need to achieve a cost goal with such a supplier, phew, difficult task. . .nobody can replace those personal relationships. It's like in your private life, if two people get along, ones can perform great things. Same thing, customer and supplier. If two people do not get along, it'll be really, really difficult." (I#1)</p> <p><i>On Innovation Generation:</i></p> <p>". . .you are much more accessible if the chemistry is right. If you get along with somebody, you are more approachable. You are more likely to get together, more likely to just present something interesting. . . if you built upon that [positive relationship]. If you notice that the base is strong, then you are open to innovations." (I#18)</p> <p><i>On Relationship Enhancement:</i></p> <p>"It[being helpful] solidifies the relationships. . . It's very good, in this case, that the supplier is very helpful, is interested in cooperating, in the partnership, and so on, because it legitimizes all of this. . . I will have less organization problems in-house, so you can tell Production about it. . ." (I#3)</p> <p><i>Take-it-for-granted:</i></p> <p>"We worked with a single leasing company, an independent one. And we just trusted them pretty much completely. So, we just accepted their price hikes, because the purchasing processes ran very smoothly. And then, we just asked for some other offers. After years, we realized that we paid too much for the car leasing. . ." (I#17)</p> <p><i>Objectivity Reduction:</i></p> <p>"My colleague got along well with one supplier. [He/she] requested an offer from the supplier and took it. [He/she] knew that this one was more expensive, but argued for the supplier that they would bring things to us here, and they were always so nice. . . In this case, people got along very well with their sales reps, and attended their company's parties. They quite often just closed their eyes and became</p>

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APPENDIX B (continued)

Key findings and insights	Illustrative Examples
	<p>less critical." (I#25)</p> <p><i>Compensating-for-non-economics:</i></p> <p>"If I think of our costs, sometimes we do not reach the lowest costs possible from suppliers with whom we have positive relationships. . . It is quite pleasant, and you have good feelings and are quite happy to work with them. There, you don't want to exhaust the other. You simply want to continue the relationship. . ." (I#23)</p>