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VALUE CREATION AND CAPTURE IN BUYER-SUPPLIER RELATIONSHIPS: A NEW PERSPECTIVE

Criação e captura de valor em relacionamentos comprador-fornecedor: Uma nova perspectiva

Creación y captura de valor en las relaciones comprador-proveedor: Una nueva perspectiva

ABSTRACT

This research paper develops and tests a new model for value creation and capture in buyer-supplier relationships. In addition to including both value creation and capture in the same model, value creation is unraveled by the identification of its sources, both intrinsic and relational. Intrinsic value is the set of benefits derived from resources belonging to one party that can be captured by another party if there is a relationship between them, even if this relationship is non-collaborative. Relational value encompasses the mutual benefits that are generated as the collaboration between buyer and supplier increases. The model was tested using a survey of 127 dyads (buyer and supplier). The results indicated that both sides benefit from the total value created by the relationship, but the degree of value capture varies. The value perceived by the supplier is greater than that perceived by the buyer, which consequently encourages the former to boost its efforts even further to ensure that the relationship continues.

KEYWORDS | Value creation, value capture, buyer-supplier relationships, relationship value, value-based strategy.

RESUMO

Este artigo desenvolve e testa um novo modelo de criação e captura de valor em relacionamentos entre compradores e fornecedores. Além de incluir tanto criação quanto captura de valor no mesmo modelo, a criação de valor é esmiuçada, identificando-se suas fontes – intrínseca e relacional. O valor intrínseco é o conjunto de benefícios oriundos dos recursos que uma parte detém e que podem ser capturados pela outra devido ao relacionamento entre elas, mesmo que este relacionamento não seja colaborativo. O valor relacional abrange os benefícios mútuos que são criados à medida que a colaboração entre o comprador e o fornecedor aumenta. O modelo foi testado por meio de uma survey com 127 díades (comprador e fornecedor). Os resultados indicaram que ambas as empresas beneficiam-se do valor total criado pelo relacionamento, mas o grau de captura de valor varia. O valor percebido pelo fornecedor é maior do que o percebido pelo comprador, o que, consequentemente, leva o fornecedor a impulsionar ainda mais seus esforços para assegurar a continuidade do relacionamento.

***PALAVRAS-CHAVE** | Criação de valor, captura de valor, relacionamentos comprador-fornecedor, valor do relacionamento, estratégia baseada em valor.*

RESUMEN

El presente artículo de investigación desarrolla y pone a prueba un nuevo modelo para creación y captura de valor en las relaciones comprador-proveedor. Además de incluir tanto creación como captura de valor en el mismo modelo, la creación de valor es explicada por la identificación de sus recursos, tanto intrínsecos como relacionales. El valor intrínseco es el conjunto de beneficios derivados de recursos pertenecientes a una parte que puede ser capturada por otra parte si existe una relación entre ellas aunque esta relación no sea colaborativa. El valor relacional comprende los beneficios mutuos que se generan a medida que aumenta la colaboración entre el comprador y el proveedor. El modelo fue probado usando un estudio de 127 díadas (comprador y proveedor). Los resultados indicaron que ambas partes se benefician del valor total creado por la relación, pero el grado de captura de valor varía. El valor percibido por el proveedor es más grande que el percibido por el comprador, que en consecuencia estimula al primero a impulsar sus esfuerzos aún más lejos para asegurar que la relación continúe.

***PALABRAS CLAVE |** Creación de valor, captura de valor, relaciones comprador-proveedor, valor de las relaciones, estrategia basada en valor.*

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INTRODUCTION

Despite the increasing importance of buyer-supplier relationships to the competitiveness of firms, the study of value creation and capture in these relationships presents a number of challenges and offers a multitude of approaches. Firstly, there are very few studies available that integrate the analysis of value creation with that of value capture (Pitelis, 2009). Since most studies focus on either the buyer or the supplier, they intrinsically conflate value creation with value captured by the party under study. For example, Geiger et al. (2012) look at buyers' and sellers' behavioral intentions in their relationships, but they only focus on the capture of operational and relational benefits. James, Leiblein, and Lu (2013) study value capture in the context of innovation, without, however, discussing the role of its value creation. Winkelbach and Walter (2015) describe the value created by science-to-industry technology transfer projects, whereas such transfer could be better understood from the perspective of value capture. Secondly, the focus tends to be on collaboration and integration as the prime sources of value, disregarding the potential of non-collaborative, transactional type relationships to contribute to value creation as well. The majority of studies in this area focus on how or when collaboration can bring benefits to the enrolled firms (Castro, Bronzo, Resende, & Oliveira, 2015; Ramanathan & Gunasekaran, 2014). A complementary approach, as in Molina-Morales and Martínez-Fernández (2009) and Villena, Revilla, and Choi (2011), involves exploring whether collaborative relationships can present an inverted U-shaped generation of benefits, that is, where the performance and the generation of innovations decrease in scenarios with high levels of social capital (trust, friendship, intensity of contacts, etc.). Thirdly, the concept of value is approached in several ways that limit the generalization and integration of the findings (Lindgreen, 2012; Lindgreen & Wynstra, 2005). For example, Pardo, Henneberg, Mouzas, and Naudè (2006) classify value into three categories: one consumed by the customer (exchange value), another by the supplier (proprietary value) and the third consumed by both firms involved in the relationship (relational value). Pinnington and Scalon (2009) include dimensions like expectations, competence, power and influence. Makkonen and Vuori (2014) highlight the importance of inter- and intra-organizational perspectives in the process of relationship value creation. Moreover, value extraction from interfirm relationships is scarcely investigated due to the complexity of the interactions between the different parties (Terpend, Tyler, Krause, & Handfield, 2008).

In this study, we develop and test a new relationship value model that contributes to addressing these gaps. Our model clearly separates value creation from value capture by the buyer and by the supplier. The empirical test was performed on dyads, with the paired responses from the respective buyers and suppliers allowing for a clear identification of the value captured by each party. The value creation part of our model identifies two types of value sources. One of these value sources refers to the value that is jointly created by both parties, which we call relational value, and this is often created through the very collaboration and interaction that have been the focus of much of the literature on the subject (Cao & Zhang, 2011; Dyer & Singh, 1998). The other type of source is one we refer to as intrinsic value. This is a value that derives from the resources and capabilities of each party, and which they bring to the relationship, but that is independent from collaborative activities and can even exist in transactional relationships. We also explore how this intrinsic value can contribute to enhancing the creation of relational value. Finally, our conceptualization of value is inspired by recent strategic management literature that has defined competitive advantage as superior economic value creation (Peteraf & Barney, 2003), the so called VPC model (Hoopes, Madsen, & Walker, 2003). By using a value concept connected to competitive advantage we provide a link between buyer-supplier relationships and the competitiveness of firms.

The model was tested on a sample of firms in the Brazilian chemical industry. Our unit of analysis was the dyad, so for each observation we had two paired responses, one from the buyer and one from the supplier. In total, we analyzed 127 dyads with 254 respondents. Constructs were measured using multi-item scales, while path analysis was used to test the relationships within the model. The development of new scales for intrinsic value was an additional contribution of this work.

Our results suggest that both buyers and suppliers capture value from their relationships. This suggests that such relationships do indeed contribute to the total value creation of each of the parties, thereby playing an important role in their overall competitiveness. The relational value, jointly created by both buyer and supplier, increases the value captured by both parties, implying that this value is shared by both of them. However, the supplier appears to obtain a higher share of this total value. Finally, intrinsic value seems to contribute to relational value creation and the buyer's intrinsic value directly affects the value captured by the supplier.

THEORETICAL BACKGROUND

Value creation and its spillover to the partners in a relationship have been acknowledged as primary objectives in any such buyer-supplier relationship. They are also considered important

sources of business retention and competitive advantage (Haksever, Chaganti, & Cook, 2004; Sánchez, Vijande, & Gutiérrez, 2010). From the perspective of a relationship between a supplier and its customer, value reflects the perception of that customer in relation to the benefits that the supplier offers, which underpins the definition of how much the customer is willing to pay for the product or service on offer. Thus, the wedge between the customer's willingness to pay and the price charged by the supplier represents the portion of value created by the relationship between the supplier and its customer and captured by the customer (buyer). Increasing the willingness to pay or reducing the price charged, or both, increases the value captured by the buyer, sometimes at the expense of the supplier. This portion of value can also be reduced if the opposite movements occur. This integrated discussion on value creation and capture in interorganizational relationships is based on the VPC (Value-Price-Cost) economic model (Hoopes et al., 2003).

At the other extreme, suppliers are also able to perceive the benefits they can reap by supplying specific customers, as compared to their second best alternative. This represents suppliers' opportunity costs. Thus, the difference between the opportunity cost and the price charged by a supplier is a portion of value, created by the relationship between the supplier and its customer, and captured by the supplier. If the opportunity cost falls, where, for example supplying to this specific customer becomes more attractive than to the second best alternative, or if the supplier is able to increase the price it charges, then the supplier captures more value. The opposite can also occur when price and opportunity cost move in different directions.

The sum of the portions of value captured by the buyer (the wedge between the buyer's willingness to pay and the price) and the supplier (the wedge between the supplier's opportunity cost and the price) represents the total value created by the relationship, and we refer to this as relationship value in this paper.

Therefore, a firm's relationship with its customers and suppliers can potentially create value for all the parties involved, since the firm captures the value resulting from the difference between the price charged and the cost incurred. From a broader perspective, Hoopes et al. (2003) highlight the possibilities that a network of relationships can open up to a firm, which are related to the different forms of using the resources that leverage its competitive advantage.

Chatain (2011) states that value creation is dyad-specific, thus limiting the extent of effective competition and of performance heterogeneity. As a consequence, the firm itself develops certain practices in order to maximize the benefits captured from this relationship and from others, as well as to reap the benefits of interaction with a particular customer (Storbacka & Nenonen, 2009). Researchers also pay attention to determining the value that comes from solutions that the different parties create during their relationship, which are less likely to occur when contact between the parties is more transactional (Lindgreen & Wynstra, 2005).

Haksever et al. (2004) define value as the ability of a firm to meet a need or provide benefits to another party. These authors classify the sources of value creation for buyers and suppliers into three dimensions: financial, non-financial and time. The financial dimension refers to benefits with a short-term impact on the parties involved. The non-financial dimension reflects the benefits that do not have this immediate impact, even though they may have the potential to generate benefits in the future. Finally, the time dimension is composed of three sub-dimensions: speed of access to the benefits obtained, time savings, and continuity of the generation of benefits over time. By providing examples of sources of value creation for buyers and suppliers, Haksever et al. (2004) show that price and product features are not sufficient to create differentiation, which increases the efforts of firms to seek alternatives in this direction. The development of relational and intellectual capital, supply chain and customer relationship management, trust and commitment are among the different forms of expanding value creation (Sánchez et al., 2010).

There are multiple types of benefits, but some protection mechanisms may avoid the capture and the sharing of these benefits by the parties involved or other stakeholders (Lepak, Smith, & Taylor, 2007). In other words, relationships can be based on behavior that is not necessarily collaborative, resulting in an imbalance between the amounts of value captured by each party, as shown by Touboulic, Chicksand, and Walker (2014) regarding the influence of power. Similarly, Bowman and Ambrosini (2000) state that value capture is influenced by factors such as bargaining power, magnitude of the investments and reputation. However, involved firms can implement actions aimed at leveraging their value capture, by increasing their customers' willingness to pay or by reducing their suppliers' opportunity costs, which can contribute to increasing the total value created in the relationship.

The perception of each party regarding the benefits that the relationship can bring acquires a relevant position in the decision-making process for business continuity. There is, therefore, a need to continuously provide mutual benefits or evidence to the other party, thereby fostering the continuity of the relationship (Kleinaltenkamp & Ehret, 2006). The capture of the value created can occur immediately after a motivating

fact (e.g. a higher standard of quality offered to the market, or recognition of the prestige of supplying a recognized company), or be derived from the development of the relationship through improvements in delivery and access to new technological opportunities.

In general, the intention to and the potential of replacing a partner are higher on the buyer's side, since the effect of the benefits received is less direct than in the case of the supplier, who can simply identify the generation of profits due to sales (Geiger et al., 2012). The buyer's awareness of its attractiveness to the other party is also more evident than the supplier's, which indicates a potential power imbalance in interorganizational relationships, favoring the buyer's side (Tanskanen, 2015). On the other hand, a good quality partnership reduces the likelihood of replacement and contributes to the buyers and suppliers' willingness to intensify their relationships in order to capture more value (Athanasopoulou, 2009).

If there is no reciprocity between the parties to invest in their relationship, the probability of obtaining benefits and gains decreases. Thus, the interdependence and the magnitude of switching costs offer an integrative perspective of value capture. Considering a collaborative relationship that creates value, the perception of the buyer as to its willingness to pay should consider how problematic it would be to switch suppliers, in terms of supply availability and existing synergies. Similarly, the supplier would have to analyze the consequences of the loss of a particular buyer, considering the perspective of opportunity cost. Additionally, the value created in non-collaborative relationships is important in motivating the parties involved to maintain their relationship.

The relationship value, or the sum of the values captured by the buyer and the supplier in a relationship, can have different sources or origins. Looking now at value creation instead of value capture, this value can derive from resources and capabilities owned by either the supplier or the buyer that benefit the other. We refer to this value origin as intrinsic value. But value can also be created by joint action on the part of both parties, normally through collaboration. We refer to this value origin as relational value. The next two sections discuss these two sources of value and their capture.

Creation and capture of intrinsic value

Before establishing a relationship, firms tend to analyze the characteristics of their potential partners as a way of identifying which alternative supply could provide a broader set of relevant resources. Once the relationship begins, such characteristics are still perceived by the parties and can act as sources of interest in terms of the continuity of the relationship. We define intrinsic value as the set of benefits derived from all the resources belonging to a firm that can be captured by the other when a relationship exists between them.

This perception of intrinsic value leads to the choice and maintenance of certain alternative suppliers on the part of the buyer firm, as well as the selection and continuity of a particular buyer as a target of the supplier. There is a consistent perceptual characteristic in intrinsic value, since it considers all the analysis of benefits and sacrifices involved in the relationship, which reflect in the buyer's willingness to pay and the supplier's opportunity cost.

Intrinsic value is essentially unidirectional, since one of the parties perceives the resources owned by the other and evaluates how these resources can generate benefits once the relationship goes ahead. The capture of intrinsic value does not require the establishment of a collaborative relationship. Some resources previously owned by a party can spill over to the other, and sometimes, the owner of these resources does not even realize that this transfer is taking place. Such benefits may belong genuinely to the firm or may have been developed in a relationship with other business partners (Jap, 1999).

Supplier's intrinsic value

The attributes that are taken into account in the decision-making involved in procurement processes can be useful indicators of a supplier's intrinsic value. These tangible and intangible attributes are perceived by the buyer as differentiators which that specific supplier has compared to his peers in the market. Thus, these attributes tend to influence the buyer's choice. Zaichkowsky, Parlee, and Hill (2010) have identified four intangible attributes: (i) reliability and technological characteristics, in the product dimension; (ii) reliability, in the dimension of distribution; (iii) expertise in the dimension of support services; and (iv) image and reputation in the supplier's perspective.

In different contexts, other studies have provided complementary approaches. Lindgreen and Wynstra (2005) point to the physical location of the supplier and its innovation capacity. The latter, which may not even have been tested yet, may be useful in the future, as the buyer might require new product development. Wilson and Jantrania (1994) quote responsiveness, social bonding, and identifiable post-purchase costs as examples of sources of intrinsic value. Tanskanen and Aminoff (2015) differentiate four groups of benefits: economic (e.g., cost and delivery), behavior (e.g., communication, trust and common history), resources (e.g.,

product portfolio and innovation capability) and the potential for the relationship with the supplier to lead to a larger value network – bridging (e.g., geographical presence and position in the value network).

In summary, the potential of a supplier's value creation derives from three dimensions (functions): efficiency, which refers to most effective use of existing resources in the form of cost reduction; effectiveness, which refers to the capacity of the supplier to develop and to deploy solutions that offer additional benefits to the buyer; and network, where the supplier has extended access to resources within the supply chain in order to deliver improvements in its offer to the buyer (Möller & Törrönen, 2003).

Buyer's intrinsic value

The expectation of achieving business profitability, as well as of maintaining a long-term relationship that guarantees its financial safety, are among the main benefits that a supplier perceives in a relationship with a buyer. However, other non-financial aspects are also relevant to value creation for the supplier, such as access to knowledge and technology that can improve the quality of its operations and its prestige, which allow the expansion of its customer base through its reputation in the market (Haksever et al., 2004). This non-financial perspective offers some aspects that have the potential to generate future benefits for the supplier and this does not necessarily require the establishment of a collaborative relationship between the parties. These sources of a buyer's intrinsic value are discussed below in two dimensions: learning and reference.

Learning enables suppliers to develop capabilities that can contribute to the improvement of their performance (Kale, Singh, & Perlmutter, 2010). These can come from relationships that support the development of research, which in turn lead to the generation of patents and consequently protect their intellectual capital, as well as from opportunities for launching new products in the market. Such capabilities may stem from the relationship with the buyer itself, through knowledge transfers, or may have been leveraged through the buyer's demands for innovation (Alcacer & Oxley, 2014). Thus, appropriate governance mechanisms should be used in such relationships so as to enable learning to effectively enhance the performance of the parties involved (Hernández-Espallardo, Rodríguez-Orejuela, & Sánchez-Pérez, 2010).

In turn, the use of references can also influence the organizational buyer's decision by generating certain market assets for its suppliers, such as reputation and brand positioning (Jalkala & Salminen, 2010). Initiatives such as visits to leading customers, lists of active customers and cases of success are practices used by suppliers to enhance their credibility or to reduce the risk perception of a potential buyer (Helm & Salminen, 2010). A supplier makes use of such references in a strategic way in order to reach existing or potential target buyers. To do so, it must seek out a buyer who is perceived by the market as a source of such a reference value (Kumar, Petersen, & Leone, 2013). Increasingly, interfirm relationships are seen as sources of reputation, since they have certain characteristics that can lead to different forms of positive behavior on the part of different stakeholders, such as loyalty and advocacy (Money, Hillenbrand, Day, & Magnan, 2010).

Creation and capture of relational value

Relationships provide their members with certain specific resources. These resources originate beyond the boundaries of firms, and they are unique in that they do not come from the isolated characteristics of the parties involved (Dyer & Singh, 1998). The length of the relationship can contribute to the development of these specific characteristics, but this requires the establishment of trust between the parties, which reduces the probability of any opportunistic behavior occurring (Kale et al., 2000). Furthermore, transactional integrity, evidenced by honesty and the absence of speculation, strengthens the bonds between the parties and leads to an increase in the creation of value within the relationship (Obloj & Zemsky, 2015).

We define relational value as the mutual benefits that are generated as the collaboration between buyer and supplier increases. Some examples of these benefits include: joint development of products, improvements in logistics, information and customer service systems, and efficiency gains for both parties (Möller, 2006). Relational value thus has a bidirectional nature and necessarily presupposes the presence of a collaborative relationship. From this perspective, collaborative relationships with key customers and suppliers are transformed into assets for firms, since they assume a joint value creation that guides how best to invest time and economic and social capital in certain specific relationships (Hogan & Armstrong, 2001).

Firms engage collaboratively in relationships because relational orientation provides more competitive advantage than transactional orientation. It is not only financial elements that generate benefits for firms. For example, some engine manufacturers make profit sacrifices in order to supply Formula One racing teams, which in turn helps leverage their reputation (Castellucci & Ertug, 2010). Business representativeness, in

terms of size and concentration, available alternatives and the size of investments made in the relationship are all aspects that influence the behavior of the parties involved (Gulati & Sytch, 2007). Even asymmetrical power relations can be beneficial, as the more powerful party in a relationship may encourage the use of synergistic interaction with the weaker party to develop more relational value (Pinnington & Scanlon, 2009).

Hypotheses

The initiatives taken by the supplier aimed at increasing the buyer's willingness to pay, i.e., in order to increase the total value created and captured in the relationship, lead to a corresponding movement by the buyer to better capture this value generated by the supplier. Indeed, the nature of the specific resources owned by suppliers contributes to transforming programs of strategic supplier selection into a source of competitive advantage for the buyers (Koufteros, Vickery, & Dröge, 2012). Thus, the buyer chooses the supplier based on the differential that it offers, which can be expressed as the additional amount of value generated by the increase in the buyer's willingness to pay. Once the buyer increases its willingness to pay, it has more value to capture from the relationship, which is the basis of the formulation of the first hypothesis in this study:

> H1: The supplier's intrinsic value positively influences the value capture by the buyer.

Suppliers must look after their relationship portfolio in order to identify the group of customers (buyers) that offer the best return on investment, considering all their efforts to compete in the market (Johnson & Selnes, 2004). However, suppliers tend to be more conservative when identifying the factors that can be considered as their differentiators in the market (Tanskanen, 2015). They also tend to take their relationship bonds more seriously than buyers do, mainly because they have a greater need to adapt in order to maintain the relationship with their customers because of competition (Ambrose, Marshall, & Lynch, 2010). Therefore, suppliers are usually perceived as the weaker link in the relationship. On the other hand, dealing with a stronger party may increase the bargaining power of the weaker party in other relationships, by capturing the intrinsic value generated by the stronger party, in the form of reference value (Kumar et al., 2013). In this context, the buyer's intrinsic value plays an important role in the perception of the supplier as to opportunity cost, thereby focusing its efforts on capturing this value. This fact suggests the following hypothesis:

> H2: The buyer's intrinsic value positively influences the value capture by the supplier.

The efficiency of unilateral actions taken by both buyer and supplier, as in, for example, cost reduction and mitigation of opportunistic behavior, increases the value creation in the relationship. As the relationship progresses, the parties increasingly realize the generated benefits, which entail the increase in the buyer's willingness to pay and the reduction in the supplier's opportunity cost. Indeed, once a firm realizes the potential benefits of the relationship, it defines certain measures aimed at maintaining this relationship. Such measures or initiatives should reflect the search for mutual gains, which have the potential of strengthening the ties between the parties. The engagement between these parties occurs through the expenditure of time and resources that prove necessary on different occasions. Thus, the individual perceptions of the potential of the other party's value creation enable the relational value creation to be leveraged. The following twin hypotheses reflect this aspect:

> H3a: The supplier's intrinsic value positively influences the relational value creation.

> H3b: The buyer's intrinsic value positively influences the relational value creation.

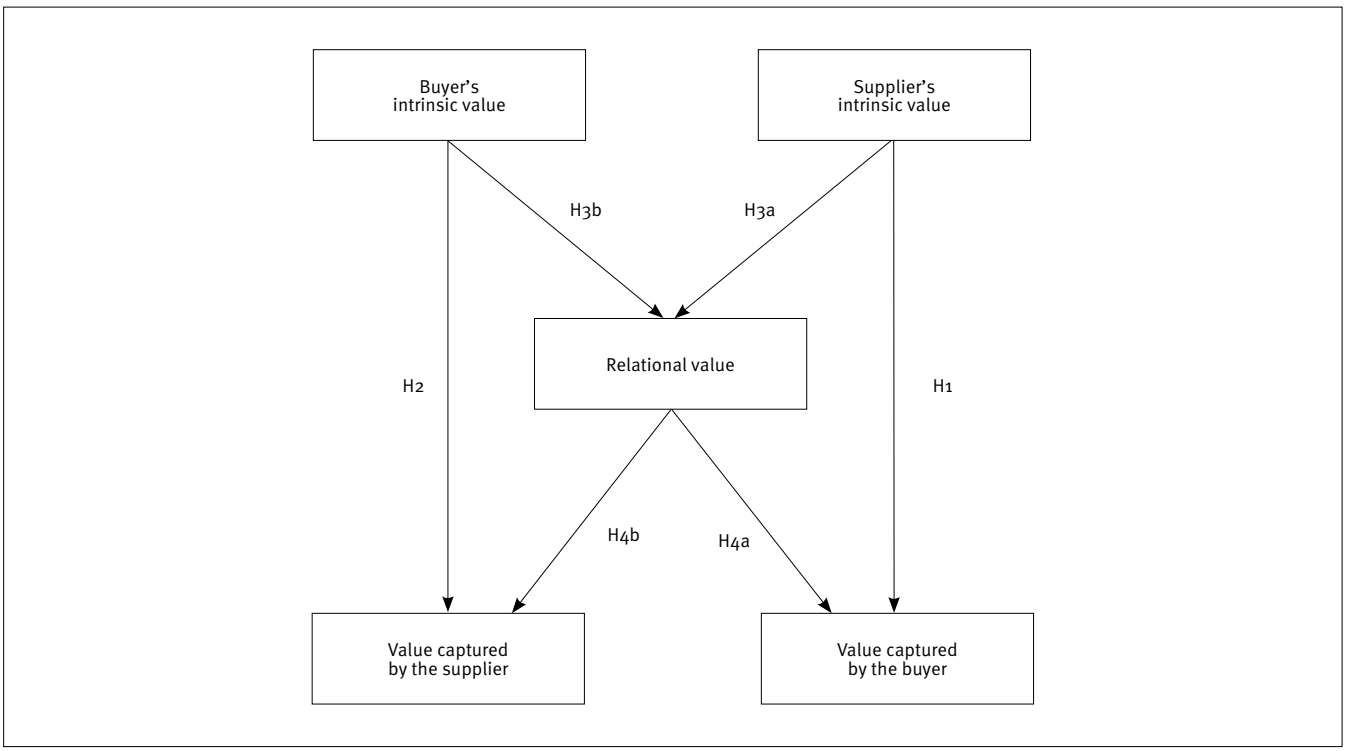
Relationships provide their members with specific resources. These resources originate beyond the boundaries of the firms, making them rare and valuable and they therefore represent sources of competitive advantage (Dyer & Singh, 1998). Since value creation is sequential, it is expected that by entering into a relationship, the benefits obtained by the parties increase over time, thereby leveraging the representativeness of the relationship within each other's business, which consequently results in greater value capture (Chatain, 2011). We thus have the fourth twin hypotheses, as follows:

> H4a: The greater the relational value creation, the greater the value capture by the buyer.

> H4b: The greater the relational value creation, the greater the value capture by the supplier.

Figure 1 summarizes the model tested and the different aforementioned research hypotheses.

Figure 1. Research model and hypotheses



METHOD

A cross-sectional survey of chemical companies operating in Brazil was applied. In the chemical sector, the constant search for innovation to meet market requirements forces firms to engage in building relationships. Thus, the need for differentiation and the consequent complex product portfolio provide a positive environment for value creation initiatives (Brito, Brito, & Morganti, 2009). The unit of analysis used was the relationship, and the data collection included both perspectives (buyer and supplier) of each dyad in the purchase of chemicals. The study of the dyad allows for an effective capture of the specificities of interorganizational relationships. It also contributes to literature, since this approach has only been used in a very limited number of studies (Kaufmann & Saw, 2014).

Sample

A database of 743 Brazilian chemical manufacturers was provided by the Brazilian Chemical Industry Association. Prior to sending out our questionnaires, phone contact was first made with each company on the list in order to identify the most appropriate respondent and thus avoid receiving replies from persons not appropriate to the survey's requirements (Forza, 2002). The original list was reduced through the elimination of some firms that presented incorrect contact information, resulting in a final list of 706 companies.

The questionnaire was applied via the Google Forms platform or by phone, depending on the preference of each respondent. Procurement professionals were asked to talk about a relationship their firm had with a freely chosen supplier they knew well. A more established relationship has an important role in value creation and it is desirable to avoid response biases derived from occasional transactions (Choi, Wu, Ellram, & Koka, 2002). It was also requested that at least one of the products purchased from the supplier in question might have multiple supply alternatives, since a limited availability could result in some degree of bias in terms of buyers' response. At the end of the questionnaire, respondents were asked to provide contact details of the person responsible for sales at their chosen supplier. Thus, the second stage involved suppliers being asked to participate. In both cases, an executive summary containing the main research results was offered to the respondents as a way of thanking them for participating.

All the 706 firms were contacted and 235 responses from buyers (return rate of 33%) were received. Each buyer indicated a supplier and these were contacted, resulting in 127 responses (return rate of 54%). The final sample was thus composed of

254 matched questionnaires: 127 from buyers and 127 from the suppliers to these buyers. Since the unit of analysis was the relationship, our analysis looked at a total of 127 dyadic relationships in all.

Only one answer per purchasing firm was permitted, but there were cases of more than one respondent from the supplying firms. This procedure helped reduce the common method variance due to the bias of a single respondent per firm (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, this was controlled to avoid the same person participating more than once. Table 1 shows the demographic profile of the sample.

Table 1. **Demographic profile of the sample**

Average annual revenue	**Buyers**	**Suppliers**
Less than R$2.4 million	26	10
From R$2.4 million to R$16 million	33	13
From R$16 million to R$90 million	27	14
From R$90 million to R$300 million	11	22
More than R$300 million	9	38
Do not know / Cannot say	21	30
Respondent department	**Buyers**	**Suppliers**
General Management	19	24
Sales / Marketing	1	95
Procurement	94	-
Finance	4	2
Manufacturing	3	3
R&D	5	3
Respondent position	**Buyers**	**Suppliers**
President or vice-president	2	2
Director	14	10
Manager	24	29
Coordinator	15	19
Supervisor	7	21
Buyer / Salesperson	65	46

Data collection instrument and measurements

The development of the measurement scales included three phases (Netemeyer, Bearden, & Sharma, 2003). Firstly, items were generated from a broad literature review. Secondly, these items were analyzed by four potential respondents as to their constitutive definition, their wording and their order of importance, as well as to obtain any suggestions for the inclusion of new items. This phase considered both buyer and supplier perspectives in order to detect any potential differences related to each function (Kaufmann & Saw, 2014). Executives from different industries were included in order to provide the questionnaire with a more generalized view. Thirdly, there were two rounds of Q-Sort, aimed at assessing the reliability and validity of the scales, corresponding to the stage of the pre-test questionnaire. The objective here was to define a more parsimonious scale with five items per construct.

Each stage of the Q-sort consisted of an analysis by three judges, selected from a group of professors and doctoral students. Three analytical methods were used in order to increase the reliability of the scales' development. Firstly, the convergence rates of inter-judge agreement were found satisfactory (minimum of 70% in the first round and 87% in the second) showing no biases. Secondly, the reliability of the indicators measured by the convergence rate of the items per construct reached 93% in the second stage. Thirdly, the minimum rate of correct allocation of the items by construct was 87% in the second stage, which was also higher than the minimum acceptable percentage (Nahm, Rao, Solis-Galvan, & Ragu-Nathan, 2002).

Finally, in order to prevent the threat to validity resulting from common method variance, some procedures were adopted as recommended by Podsakoff et al. (2003): (i) items and questions without socially desirable answers were not included; (ii) different scales and sections to evaluate the independent and dependent variables were used; and (iii) the confidentiality of the individual responses was guaranteed. Applying the Harman's one-factor test (Podsakoff & Organ, 1986) did not suggest common method variance: 64% of the variance was explained by six factors with Eigenvalues greater than 1, wherein the first factor only explained 24% of the total variance.

Measurement was made using a seven-point Likert scale for each item. Missing data did not show a pattern and was rare, which allowed for different types of corrective action (Hair, Black, Babin, Anderson, & Tatham, 2009). Thus, missing data was estimated according to the average of the responses for the respective item (McDonald & Ho, 2002). Once the data was obtained from two sources in the dyad, the data used in the analysis reflected the most knowledgeable source (Kaufmann & Saw, 2014). Thus, the responses from the buyer were used to evaluate the supplier's intrinsic value and the value captured by the buyer. In turn, the perceptions of the supplier comprised the constructs of the buyer's intrinsic value and value captured by

the supplier, and the construct relational value was represented by the average between the responses given by the buyer and the supplier in each dyad.

To analyze reliability, unidimensionality, and convergent and discriminant validity, we performed a Confirmatory Factor Analysis (CFA). Due to the limitations of the sample size, two separate nested models were used, relating to value creation and value capture. The results of the CFA are presented in Table 2, and indicate an acceptable goodness-of-fit (Bentler & Bonnett, 1980; Kline, 2005). Three items were dropped from three different constructs due to low weights or high modification indices.

Table 2. **Fit indexes**

Index	Value creation model	Value capture model	Recommended value
CMIN/DF	1.18	1.22	‹ 2.00
x^2 p-value	0.16	0.21	› 0.05
GFI	0.92	0.95	› 0.90
NFI	0.90	0.91	› 0.90
CFI	0.98	0.98	› 0.90
RMSEA	0.04	0.04	‹ 0.05

We also performed a bootstrap analysis, in order to cope with any eventual multivariate non-normality which could mislead the interpretation of the outputs. The bootstrapping carried out on 1,000 samples resulted in adequate parameters, as all the bootstrap samples were perfectly usable (Blunch, 2013).

Table 3 presents all the items that were used after the purification process. The questionnaires were originally administered in Portuguese, and were adapted to English for the purposes of this paper. The composite reliability index (CR) of all the constructs reached generally acceptable levels exceeding 0.7 in all cases. We examined the convergent validity based on the average variance extracted (AVE). Three constructs presented an AVE higher than or equal to 0.5, which indicates convergent validity (Kline, 2005). Convergent validity of the remaining constructs (supplier's intrinsic value and value captured by the buyer) were close to this limit, but were considered satisfactory, since the model had a good fit and they presented positive and significant loadings. Finally, the discriminant validity was tested by checking the difference between the statistic x^2 from a nested model (when the correlation between the constructs is equal to 1) and a model where the correlation between the constructs is free, among the constructs analyzed in pairs (Bagozzi, Yi, & Phillips, 1991). The results presented in Table 4 confirmed that the constructs are different as the x^2 difference for all pairs is significant at $p ‹ 0.01$.

Table 3. **Items and basic statistics of the constructs**

Construct	Items	Loadings
Buyer's intrinsic value AVE = 0.52 CR = 0.81 (Helm & Salminen, 2010; Jalkala & Salminen, 2010; Walter et al., 2001)	The reputation of the supplier increases by having the buyer as a customer	0.80
	The supplier builds stories of success with the buyer	0.69
	Having the buyer as a customer allows the supplier to develop innovative products and processes	0.79
	The buyer provides useful learning to increase the supplier's ability to compete	0.59
Supplier's intrinsic value AVE = 0.40 CR = 0.72 (Möller & Törrönen, 2003; Walter et al., 2001)	The supplier assures the compliance of supplying contracts	0.49
	The supplier contributes to the buyer's profitability	0.84
	The volume required is supplied in the short and long terms	0.44
	The supplier shares information about the market	0.69
Relational value AVE = 0.61 CR = 0.89 (Chatain, 2011; Jap, 1999; Wagner et al., 2010)	The reliability in demand and delivery forecasts has increased	0.75
	There have been more savings and mutual gains due to the interaction between the parties	0.77
	The relationship facilitates the expansion of the business between both firms and between them and their suppliers and customers	0.78
	The flexibility to develop mutual solutions for the business has increased	0.80
	The level of learning brought from the relationship has increased	0.81
Value captured by the buyer AVE = 0.44 CR = 0.76 (Crook & Combs, 2007; Krause et al., 2007; Walter et al., 2001).	The supplier is an important source of competitiveness	0.64
	Relevant time and effort are needed to develop an equivalent supplier	0.63
	It is difficult to buy the volume with the same acquisition cost from a different supplier	0.73
	The supplier is an important source of joint development	0.64
Value captured by the supplier AVE = 0.50 CR = 0.83 (Crook & Combs, 2007; Krause et al., 2007; Walter et al., 2001).	Relevant time and effort are needed to develop an equivalent customer	0.71
	Losing the buyer will bring a negative impact in the market due to its relevance	0.66
	It is difficult to restore the volume with the same profitability from a different customer	0.67
	Losing the buyer will lead to process adaptations in order to try to recover previous gains	0.67
	The buyer is an important source of joint development	0.81

Table 4. **Discriminant validity between construct pairs**

Construct pair	Free model		Nested model		x² difference
	x²	d.f.	x²	d.f.	
Buyer's intrinsic value					
Supplier's intrinsic value	48.0	26	144.4	27	96.4*
Relational value	46.6	34	160.4	35	113.9*
Value captured by the buyer	48.4	34	199.8	35	151.4*
Value captured by the supplier	54.7	34	184.1	35	129.4*
Supplier's intrinsic value					
Relational value	27.0	26	116.1	27	89.2*
Value captured by the buyer	19.8	26	116.2	27	96.4*
Value captured by the supplier	42.7	26	136.0	27	93.3*
Relational value					
Value captured by the buyer	41.0	34	184.9	35	143.9*
Value captured by the supplier	65.1	34	217.0	35	151.9*
Value captured by the buyer					
Value captured by the supplier	45.7	34	205.7	35	160.0*

*Significant at p ‹ 0.01

Analysis

Due to sample limitations a fully latent structural regression model could not be used. Following the CFA analysis, we estimated the value of each construct using the average of items and tested the hypotheses using a path model as indicated in Figure 1. The correlation matrix for the final variables and their descriptive statistics are presented in Table 5.

Table 5. **Correlation matrix and descriptive statistics**

Constructs	1	2	3	4	5	Mean	SD
1. Supplier's intrinsic value	1.00					5.08	0.81
2. Buyer's intrinsic value	0.074	1.00				4.73	0.98
3. Relational value	0.206	0.504	1.00			4.72	0.66
4. Value captured by the buyer	0.046	0.144	0.180	1.00		4.12	1.43
5. Value captured by the supplier	-0.118	0.392	0.366	-0.021	1.00	3.74	1.51

RESULTS

The research model presented in Figure 1 was tested with a path analysis technique using the Amos software. The final model with the results of the standardized regression weightings is presented in Figure 2. Regarding the overall model fit, the statistical tests indicated acceptable indexes ($x^2 = 8.030$, df = 4, p = 0.09; RMSEA = 0.089; NFI = 0.902; IFI = 0.948; CFI = 0.944; TLI = 0.860).

Figure 2. **Path analysis coefficients**

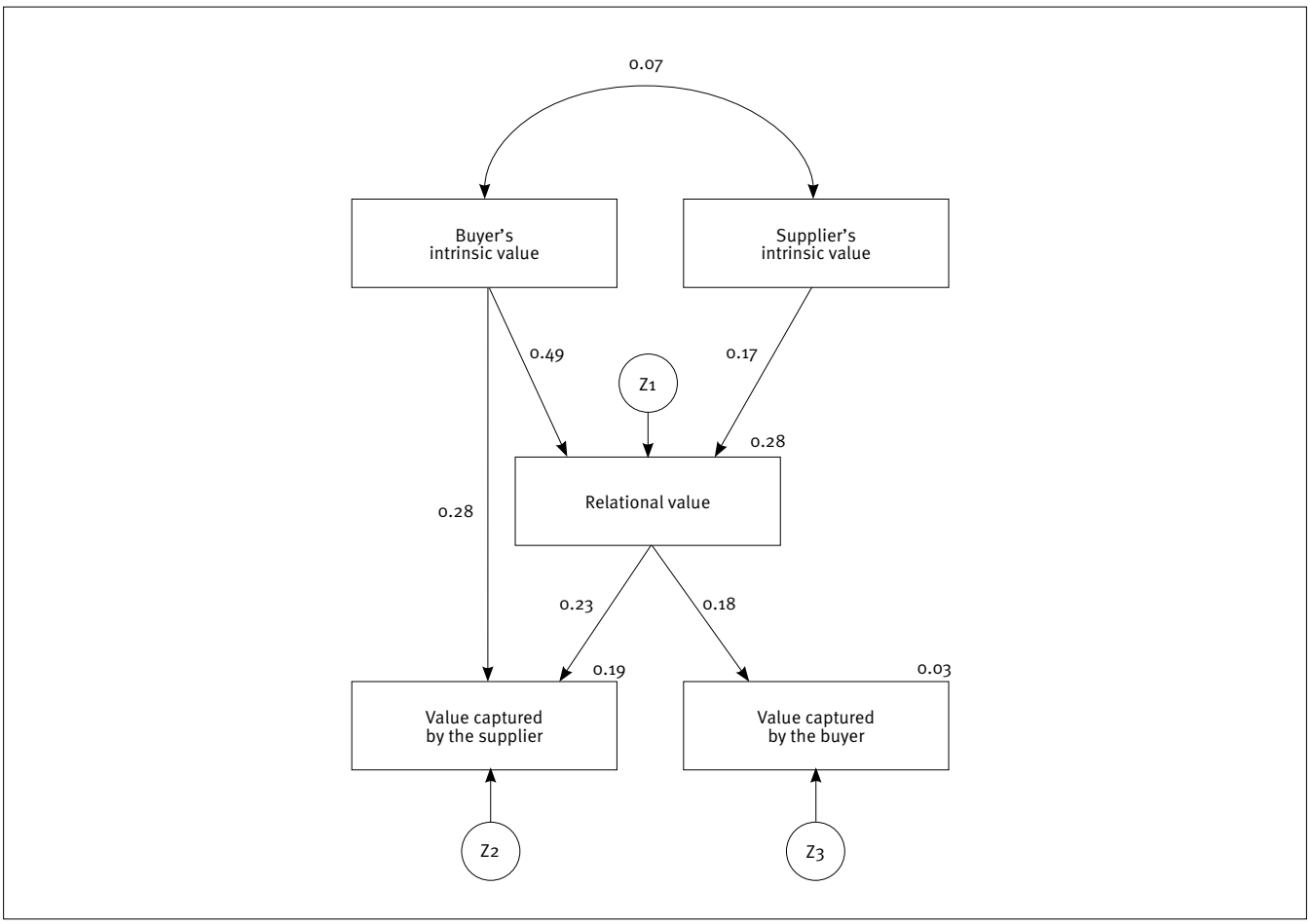


Figure 2 shows the standardized regression weightings for all relationships that presented a level of statistical significance ($p < 0.05$). This therefore signifies that the relationship between the supplier's intrinsic value and the value captured by the buyer is non-significant, which does not support the first hypothesis. One possible explanation for this might be that on average, in this specific industry, there is a high representativeness of the volume purchased by the buyers in the total sales of the suppliers. Thus, an increasing generation of mutual benefits has more impact on the supplier's side, by providing conditions to accelerate the return on investments made in the relationship.

Hypothesis 2 is supported, as the path coefficient is 0.28 ($p < 0.01$), confirming that the value capture by the supplier is positively influenced by the buyer's intrinsic value. The results also support the positive influence of intrinsic value on relational value. The higher influence comes from the buyer's intrinsic value (H3b; 0.49, $p < 0.001$), but the influence of the supplier's intrinsic value is also positive (H3a; 0.17, $p < 0.05$). Hypothesis 4 states that the relational value is positively related to value capture. Both path coefficients confirm this hypothesis, showing the influence of relational value on the value captured by the buyer (H4a; 0.18, $p < 0.05$) and by the supplier (H4b; 0.23, $p < 0.05$).

DISCUSSION

Overall, the results confirmed that relationship value creation can be split into two according to its different sources: intrinsic value and relational value. These portions also influence the capture of value by each party. In this relationship, both parties see specific benefits in each other – intrinsic value – and this fact motivates them to engage in actions that lead to the creation of mutual benefits which then translate into relational value. The greater the relational value creation, the greater its capture by the parties involved. After all, the relational value promotes relationship quality, leading to the achievement of successive benefits which strengthen the relationship as a whole, not only from the standpoint of each party individually. It makes the perception of relational value more specific, leading to a better assessment of its capture potential (Ulaga & Eggert, 2006).

The buyer's intrinsic value has a stronger influence on relational value creation and capture. The buyer's intrinsic value is also directly captured by the suppliers, and this fact triggers their initiatives in terms of searching for buyers that can provide more value, thus enabling them to gain competitive advantage. Buyers also benefit from the value generated through the relationship, but to a lesser extent than the suppliers do. Indeed, buyers do perceive the value that is created by the relationship itself, but they fail to identify the supplier's intrinsic value that could be directly captured. Potentially, a well-structured program of supplier selection could help buyers increase their perception of the benefits available from suppliers, regardless of the relationship (Kannan & Tan, 2006).

The greater impact of relationship value creation on the value captured by suppliers helps us understand how dependent suppliers behave when faced with different buyers. Given that relationships provide value to be captured, several studies address the need for suppliers to adapt more quickly and make certain sacrifices in order to maintain their relationship with their customers (Möller & Törrönen, 2003; Ritter & Walter, 2012). These sacrifices, or even efforts, may jeopardize these suppliers' image in the market, by positioning them as partners that do not offer any additional benefits to the merely financial ones.

As suppliers capture intrinsic value from buyers, so they are led to believe that it is no longer necessary to make much effort to strengthen these relationships further, since firms can benefit from the resources owned by other parties without necessarily having to collaborate with them. This aspect counteracts a consolidated view in literature concerning the effects of collaboration in value creation in buyer-supplier relationships. For instance, Leuschner, Rogers, and Charvet (2013) point to the requirement for there to be some kind of strategic connection based on certain attitudes, such as trust, commitment and long-term orientation. However, the performance of both firms in the relationship does not necessarily come from this connection, as it can come directly from the parties' intrinsic value. Thus, one firm must evaluate the potential of value creation in each dyad, since each relationship has an optimal configuration that allows the firm to maximize the value captured. There is no single strategy for collaboration. Since performance relates to value capture, buyers and suppliers can trace performance improvement goals depending on how much value they aim to get from the relationship.

The results also show that if the parties engage in creating more relational value, they increase the feasibility of the relationship, as the additional value created is captured by both firms. If both firms perceive that the relationship is creating value, they can make additional efforts and investments to maintain the relationship within a virtuous cycle (Ambrose et al., 2010). For instance, the higher the buyer's intrinsic value, the higher the probability is that the supplier will make every effort to capture and use these benefits, which can avoid the use that its competitors might make.

This study therefore corroborates the arguments advocated by Lavie (2006), who proposed an extension of the Resource-Based View, stating that the value created by a firm comes not only from its own resources, but also from the resources belonging to its partners and from resources derived from its alliance networks. We hereby extend this statement further by adding the resources obtained from non-collaborative, or purely transactional relationships to the group of sources of value creation.

CONCLUSIONS

The objective of this paper was to investigate the issue of value creation and capture through an empirical test of a model that separates the concept of relationship value according to its sources: the individual parties (intrinsic value) and the relationship itself (relational value). Briefly, this objective summarizes the main theoretical contributions of this paper. Firstly, it separates value creation from value capture, contrary to the general approach that tends to bunch them together, for which scales were developed. Secondly, it divides the relationship value into two types that can, in turn, be split into three components according to the sources of value creation (both the buyer's and the supplier's intrinsic value, and relational value). Thirdly, the study identifies the relations between these components, as well as the spectrum of the capture of this value within the dyad. The study approaches the data collection by looking at dyads, which is in itself a relevant contribution since most literature on the subject tends to prioritize just the one side of the relationship.

The results show that both the buyer's and the supplier's intrinsic value are directly related to relational value creation, and that the greater the relational value creation, the greater is the value captured by each party. The test also demonstrates that the buyer's intrinsic value is captured by the supplier, who benefits from this capture in other relationships along the value chain. Some managerial contributions also emerge. Firstly, purchasing professionals must be aware of their organization's intrinsic value, and better communicate these attributes. By doing so, suppliers are expected to engage in actions aimed at capturing this value, and these actions can then lead to a superior relational value creation, which in turn benefits the buyer as well. Secondly, sales professionals must identify opportunities for their own development, considering the additional benefits derived from each relationship in which the supplier company is engaged.

In theory, one firm could benefit exclusively from the portfolio of its relationships, as all the value it generates could

be derived from relationship value spillovers, regardless of the degree of collaboration. However, if both firms engage in more collaborative relationships, this fact stimulates the sharing of resources and knowledge between them in order to increase mutual value creation and capture. If each party succeeds in capturing more intrinsic and relational value from its relationships, it then benefits from better performance and competitiveness.

With regard to the limitations of this study, one should highlight the profile of the sample. On average, respondents at buying firms are less strategically driven than those working for suppliers. This operational perspective tends to focus more on expenditure rather than on value earnings, whereas a more strategic view leads to a greater perception of attributes and benefits. Other limitations can, however, be seen as opportunities for further research. Firstly, since the study shows a more prominent value capture by suppliers, it would be useful to have a better understanding of which intrinsic characteristics associated with buyers might help enhance value creation, and which mechanisms are used by suppliers to improve their competitive advantage in relation to other customers. Such research could also contribute to the examination of value creation in networks of relationships, expanding the dyadic view. Secondly, the data collection was based on the Brazilian chemical industry, which means that the results were specific to this sector. Extending the survey to other industries and other countries could be beneficial to the validity and reliability of the model. Industries like cosmetics, foodstuffs and telecommunications have certain demand specificities and a high diversity of buyers and suppliers that would help to test the framework in different scenarios, so as to generalize the conclusions. In terms of surveying other countries, one could check the sensibility of the results by testing different cultural and geographic/logistical environments.

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