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A process perspective on trust in buyer-supplier relationships. “Calculus”: An intrinsic component of trust evolution

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Abstract

Purpose – The purpose of this article is to show that, within a process perspective, calculus is not only compliant with trust but also that trust forms are integral to its dynamics. Having demonstrated the theoretical bases of compatibility between reputation, economic interest and trust, and the necessary inclusion of a social context in business-to-business (B2B) exchange, this paper proposes a conceptual framework that will enable us to understand a multi-form concept of trust.

Design/methodology/approach – The approach to the topic is one of theoretical analysis and conceptual development.

Findings – This proposal indicates that the presence of calculus in the earliest stages of exchange relationships gives way to other forms of trust that are more cognitive and affective in nature. The elucidation of the evolutionary nature of trust shows that calculus and trust theory are complementary and provide, respectively, insight for the whole process.

Research limitations/implications – The presented research by incorporating forms and time dimension adds theoretical insights and produces an incremental step toward better understanding of trust dynamics in industrial and business markets. The main challenge to the proposed model will be the empirical test.

Practical implications – This conceptualization should help managers understand trust creation better, and provide them with valuable information for understanding the evolution of relationships with suppliers. Segmentation based on relational phases requires tailoring each form of trust strategy, and, hence, accurate identification of a relationship phase could help categorize and subcategorize customers regarding calculative, cognitive or emotional dominant forms of trust.

Originality/value – The paper contributes to the discussion on how integrative approaches (calculative and non-calculative) improve our understanding of buyer–supplier relationships and promotes the emergence of a coherent vision of trust evolution.

Keywords Dynamics, Affective trust, Calculative trust, Calculus, Cognitive trust, Relationship phases

Paper type Conceptual paper

1. Introduction

A recent study shows that good customer – supplier relationships enable firms to increase productivity by 3-5 per cent (Purchasing Decisions, 2011). It is frequently noted

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that in business-to-business (B2B), year t's sales are based on 90 per cent of the clients in year t-1. Within this perspective, trust in a partner plays a role in maintaining the relationship, and consequently profitability; trust is a major construct in sound partnership building (Das and Teng, 2001). For the past 30 years, trust has been the subject of a vast body of literature that is rich, constantly developing and sometimes mixed. The concept has its roots in various disciplines, including social psychology (Deutsch, 1960); Lewicki and Bunker, 1995), sociology (Lewis and Weigert, 1985; Granovetter, 1985; Zucker, 1986) and economics (Dasgupta, 1988; Kreps, 1990; Williamson, 1993). With few exceptions, "trust has usually been studied as a static, rather than dynamic variable" (Lewis and Weigert, 2012, p. 27). In B2B marketing, trust has become one of several relational constructs tested using structural equation modeling, conceptually restricted to scales based on a small number of item measures or combined into higher-order constructs such as relationship quality. However, as in other disciplines, a process perspective of trust in B2B marketing remains understudied. Notwithstanding the growing corpus of research into relational and trust dynamics (Svensson, 2005; Andersen and Kumar, 2006; Ekici, 2013; Huang and Wilkinson, 2013), we lack full understanding – in a B2B marketing setting – of the transition from lower-degree to higher-degree forms of trust over time. A question that arises when addressing trust dynamics is why B2B marketing researchers exclude calculus and economic variables from conceptualizations of trust.

Trust has been variously defined, drawing largely from Rotter's (1967) definition of the term as a generalized expectancy held by an individual that the word of another can be relied on. Trust is, thus, either an expectation (Dwyer *et al.*, 1987; Sako, 1992; Zaheer *et al.*, 1998) as a belief in relation to a partner (Schurr and Ozanne, 1985; Anderson and Narus, 1990; Kumar *et al.*, 1995), or a trusting behavioral action (Currall and Judge, 1995). Other approaches have also been proposed by Moorman *et al.* (1993) and Smith and Barclay (1997), who view trust both as a belief and/or expectation and/or feeling and as a behavioral intention: "trust as a cognitive expectation or affective sentiment and trust as risk-taking behavior or a willingness to engage in such behavior" (Smith and Barclay, 1997). Trust is often featured as more substantial in long-term relationships, though empirical studies also reveal its importance early in relationships too (Grayson and Ambler, 1999). Consequently, calculative trust has, otherwise, been neglected, or at least associated with cognitive dimensions, as Young (2006), Ekici (2013) and Huang and Wilkinson (2013) suggest. Similarly, and notwithstanding their valuable contributions to research on trust in an organizational context, many scholars (Mayer *et al.*, 1995; McKnight *et al.*, 1998) focus exclusively on the cognitive component of trust while adopting a dynamic approach (McEvily, 2011; Rousseau *et al.*, 1998). In a meta-analysis of the literature, Colquitt *et al.* (2007) confirm that "trustworthiness beliefs" are the most frequently operationalized component of trust.

Following Lewicki and Bunker's (1995) argument, we consider that not all buyer–supplier relationships develop cognitive trust on top of calculative trust; some relationships stabilize at the calculus level, though many relationships achieve cognitive trust. Seppänen *et al.* (2007, p. 261) note the paucity of studies related to the temporal element of trust in inter-organizational exchange: "It may well be that different elements of trust impact at the very beginning of the relationship". It has been argued theoretically and empirically that trust is an important factor early in a relationship, and is an essential precondition for a relationship to move to more committed stages of development (Dwyer *et al.*, 1987; Grayson and Ambler, 1999). Accordingly, and within a process perspective, it is necessary to deconstruct trust into its component parts. Specifically, a substantive investigation of the calculus level of trust and its separability from other forms is overdue, and would contribute to the emergence of an integrative conceptualization of the evolution of trust. As part of continuing work on trust dynamics in B2B marketing, this study sheds light on these gaps in the literature by addressing conceptually the implications of moving beyond calculus in B2B marketing relationships. We discuss calculativeness and trust in light of Williamson's (1993) stance to reconcile the conditions for its demonstration and premises, and the entanglement of economic and social exchanges. The subsequent discussion deals with the evolutionary and multi-form character of trust against the theoretical background. A conceptual model is developed with research propositions that delineate the relationships among the constructs. We conclude with a discussion, implications and future research directions.

2. What stands beyond calculus?

The status of trust among economists has taken a different direction from that of other disciplines, as trusting relationships are not accepted in neo-institutionalist thinking and are even considered contradictory and irrelevant. This is particularly the case with the theory of transaction costs, the leading proponent of which suggests that use of the term trust is superfluous and should be prohibited because it is confusing (Williamson, 1993). For Williamson, situations in which economists have resorted to using the concept of trust are only special cases of risk-bound transactions; the traditional tools that economic theory has constructed for analysis are easily applied.

In his article "Calculativeness, Trust, and Economic Organization", Williamson is careful to delineate the economy and the relationships that this discipline must maintain with other social sciences. The economic approach is closely associated with the notion of calculativeness: "Calculativeness is the general condition that I associate with the economic approach and with the progressive extension of economics into the related social sciences" (Williamson, 1993, p. 456). In emphasizing the role of the social dimension in the genesis and development of trust, social network theory (including the two approaches of conventional economics and new economic sociology) enables us to fill gaps in traditional economic theories, and, therefore, provides a significant contribution to the study of trust, including reputation and interest particularly. This is the concept we develop in this paper.

2.1 Reputation

According to transaction cost theory, rational calculation substitutes for trust in all circumstances, but empirical observations of businesses allow us to assert that contractual clauses and their associated penalties are not the only reason parties renounce opportunistic behaviors. By acting honestly, parties seek primarily to preserve their reputations in the market and increase participation in new business opportunities. Reputation helps explain how partners who have no previous exchange relationship can trust and start collaborating thanks to criteria built on past events (Dasgupta, 1988; Kreps, 1990). On closer examination, the reputation mechanism transcends the economic sphere and implicitly involves non-economic resources, which are characteristic of some social networks (IMP group: Ford *et al.*, 2003). Social ties become a cumulative part of the exchange (Orléan, 2000). The trusting relationship is not established between A and B alone, but between A and its peers. Trust is not bilateral, but is based instead on reputation, building a chain of trust. By facilitating movement of information in the behavior of actors and making effective use of consultation mechanisms and sanctions against opportunism, networks not only reduce the suspicion that rational action requires but also decrease the likelihood of cheating by creating larger penalties for doing so (Granovetter, 2002). According to Gulati (1995), collocation in a dense network of alliances increases mutual confidence as companies realize the possible negative reputational consequences of their own and other's opportunistic behaviors. Wuyts and Geyskens (2005) found that due to the reputation effect, network embeddedness enhances the effectiveness of detailed contracts in reducing supplier opportunism in a sample of manufacturers in two Dutch industries.

The emergence of trust rests on the ability of partners to disseminate information that they are willing to provide, with all parties wishing to maintain a good reputation. Even if everyone does not necessarily wish to maintain a good reputation, there are strong benefits to doing so, making the trust assumption more likely to be opportune. As Bromiley and Harris (2006) emphasize, Williamson's discussion of reputation deviates from his previously defended transaction cost economics (hereafter, TCE) assumption that all actors should treat others with equal suspicion as a safeguard against possible opportunists (Williamson, 1996). In his response to Ghoshal and Moran (1996), for example, Williamson (1996) relates the metaphor of a hiker who, when journeying through a dangerous wilderness, chooses traveling companions with a reputation for cooperative behaviors over those with bad or unknown reputations.

2.2 Interest

With reference to game theory, parties in an exchange must behave accordingly if they wish to ensure opportunities for future trade. In the case of serial games – matching continuous exchange – if A behaves badly, B can respond to the bad behavior of A. In this case, trust and cooperation are in the interests of both parties in the building of reputation for future opportunities. Contrary to transaction cost theory, trust exists even if it is largely the result of calculativeness. This approach is of interest in that it does not separate calculation and trust, but considers that they coexist in an economic relationship. According to game theory, the value that A places on cooperative behavior is the result of three factors:

(1) maintaining a reputation for honesty;
(2) continued relationship with a partner; and
(3) monetary gain.

By respecting a commitment to another party, A benefits from three types of economic gain. It can monetize an investment in the relationship (which can be important, especially in areas such as training and production that require specific investment vehicles) and will find it easier to maintain, continue and multiply dealings with the other party. Honoring the trust grants A the ability to build a new reputation and/or preserve and defend its existing reputation with all stakeholders (Kreps, 1990). Observation of business relationships in Southeast Asia, even between subcontractors and suppliers, shows that the economic agent does not always seek its own interests (Granovetter, 1985). Trust plays a central role in structuring relationships and generates considerable benefits for economic actors. This notion offers an intangible asset to the community, provided that its members comply with the rules and standards of conduct established in the community.

Two types of sanctions are possible in response to non-respect of trust:

(1) the usual financial penalties found in most contracts (e.g. fines, penalties and criminal convictions); or

(2) more sanctions, including interruption of any form of collaboration with A on the part of all members in the network, causing economic and social loss.

It is appropriate to integrate rational elements (i.e. reputation and interest) in a context in which agents are looking at least partially to maximize economic gain. The contribution of game theory is pertinent in this regard, as it allows us to provide the elements of a response to explain the emergence of trust in economic exchanges.

2.3 Porosity of the economic to other approaches

Social conventions (Eymard-Duvernay, 2006) regulate the behavior of actors and, thus, establish the notion of trust in relational exchanges. Economic behavior passes through the analysis of conventions. If we follow the definition of Salais (1994, p. 377) – "A convention is a set of elements that at any time, for those bound by the convention, go together and by which, therefore, they share a mutual agreement" – then the relationship between actors rests on a history that establishes common rules and personal ties based on the notion of trust. Economic transactions are not simply the product of the maximization of interest; they assume the existence of rules and social norms governing economic exchanges (Granovetter, 1985). Social relationships, as well as institutions or morality (Williamson, 1993), generate and nurture trust in economic transactions. Relationships with family and friends, and group memberships of an ethnic group or network, are the crucible of economic transactions based on mutual trust between individuals. Williamson (1993, p. 486) defines institutional trust as:

> […] the social and organizational context within which contracts are embedded. In the degree to which the relevant institutional features are exogenous, institutional trust has the appearance of being non-calculative. In fact, however, transactions are always organized, governed with reference to the institutional context (environment) of which they are a part. Calculativeness thus always reappears.

Concurrently and apart from economic and social exchanges, trust is rehabilitated to describe the protection mechanisms of a contract. This position raises two questions. First, why would the context be exogenous of the people involved? Second, why would institutions try (in principle) to escape by resorting to opportunism and calculativeness intended to govern economic and social forms of exchange? We agree with Granovetter (1995) that the embeddedness of economic and social aspects forces analysts to consider both the links and the relationships people have with each other, and that the structures of such relationships foster trust and deter opportunism. Economic institutions do not emerge automatically in a form determined by external circumstances; they are socially constructed. For example, services in recent years have been dedicated to mediation between companies, involving protagonists and professional associations and aiming to establish rational standards and promote balanced and sustainable relationships between large firms and subcontractors (Purchasing Decisions, 2011). Having demonstrated the theoretical bases of compatibility among reputation, economic interest and trust, and the necessary inclusion of a social context in B2B exchanges, we move to a theoretical framework to understand a multi-form concept of trust that focuses on the processes by which trust mutates regarding relationship evolution.

3. Evolution of trust: a multi-form conceptualization

3.1 Temporal perspective

Trust was studied for many years as a static phenomenon. Research in social psychology emphasized a dichotomy: trust vs distrust. This approach was rooted in the preponderance of experimental tests in early research that used matrix games (Deutsch, 1960; Zand, 1972). Most scholars today consider trust to be a dynamic process. For example, Mayer *et al.* (1995) argue that a better understanding of trust comes from considering its evolution within a relationship. The introduction and integration of the dynamic aspect in the study of trust came from three areas of research. The first addressed time by using variables such as long relationships and experience with a partner when modeling the history of trust (Anderson and Weitz, 1989; Doney and Cannon, 1997). The second was concerned with identifying the stages of trust development. There is consensus that this notion develops gradually (Gabarro, 1978; Rempel *et al.*, 1985), starting from a lower level and increasing as the relationship is reinforced and consolidated. The final area of research pays particular attention to the interactive process of trust, a process that integrates all components of trust (i.e. antecedents and consequences). Zand (1972) suggests that trust takes shape through interactions between parties. He proposes a cyclical pattern of trust in which the beginning of the cycle is triggered by the willingness of both parties to trust. From that point onward, interactions influence perceptions, judgments and trusting behavior. Sociological studies (Rempel *et al.*, 1985; Shapiro *et al.*, 1992; Lewicki and Bunker, 1995) allowed this development to be defined more clearly. Despite their theoretical orientations, such studies have the merit of underlining the transformation of trust according to stages in a relationship. Lewicki and Bunker (1995) propose a typology of the development of trust in business relationships, considering the development of trust to be a process that integrates multiple determinants at the beginning, middle and final stages of a relationship. As with the development of a relationship, they propose three stages of situational trust:

(1) trust based on calculatus, backed by sanctions;

(2) trust founded on knowledge of and the capacity to predict the behaviors of others; and

(3) trust based on identification, dependent on empathy with the desires and needs of others.

These stages connect in that the completion of one stage is necessary for the next to emerge. Insofar as B2B buyer – seller relationships take place over time and do not only test organizational factors, but also and especially human factors (i.e. contact personnel), we argue that these authors' findings can be transposed profitably to B2B marketing.

3.2 Trust levels

Regarding levels of trust, the marketing literature reveals both interpersonal and inter-organizational trust. Interpersonal trust concerns relationships between two individuals representing their respective companies (e.g. Buyer/seller, buyer/retailer and retailer/seller relationships), and inter-organizational trust refers to relationships between two organizations. Research suggests that the effect of interpersonal relationships on customer behaviors and financial performance is stronger than that of inter-firm relationships (Palmatier *et al.*, 2006).

3.3 Preeminent forms of trust over time in B2B exchanges

Drawing from previous developments and to encompass all forms, we define trust broadly as one's calculative or non-calculative beliefs, sentiments or actions comprising the intention to accept vulnerability based on positive expectations of another's intentions or behaviors.

Analogous with trust development in professional relationships (Lewicki and Bunker, 1995), we expect that three forms of trust are emphasized as a business relationship evolves:

(1) trust based on calculation, accompanied by sanctions;

(2) trust based on cognition, maintained by the ability to predict the behaviors of another person; and

(3) trust based on affect, fueled by empathy with another person's wishes and needs, sentiments of security and emotional bonds.

3.4 Calculative trust: not an oxymoron

Trust based on calculation is the first step in the emergence of trust that remains at the inter-organizational level. Given the strong information asymmetries that characterize the earliest transactions, parties' behaviors are markedly more prudent. The calculation dimension, which depends on a comparison between the expected gains in cases of successful collaborations and the costs of maintaining relationships, is certainly pervasive, and the primacy of calculation does not exclude trust entirely. In the initiation phase of a relationship, a form of trust (among others) called forfeiture establishes a sanction. Borrowing the legal viewpoint, the latter designates a requirement of diligence or integrity imposed to retain the benefit of law in which a single act of non-compliance is nevertheless legally sanctioned. A business that looks to legal sanctions regarding every case of non-compliance would be suing people incessantly, but we believe that at the beginning of a relationship, calculative trust contributes to selecting the best partner.

Rather than wishful thinking (Huang and Wilkinson, 2013) or allocated trust (Halliday, 2003), trust and its disrespect are also based on potential penalties that dissuade parties from behaving opportunistically to avoid sudden unilateral terminations of the relationship, which is a sanction *per se*. Deterrence and trust are not mutually exclusive, as Axelrod's (1984) comment highlights: "Deterrence is an essential element of trust". Although calculative trust comes with safeguards, this does not invalidate its existence. It is more credible to talk about calculative trust when a loss is potentially greater than a gain. Otherwise, it becomes a simple matter of economic rationale. When choosing whether to trust the supplier, a rational buyer will weigh the potential gains (i.e. if a partner is trustworthy) against the potential losses (i.e. if a partner is untrustworthy), and consider the utilities under the respective risks.

3.5 Cognitive trust

Cognitive trust corresponds to a combination of transactional and relational elements, expressed by personal expectations and/or beliefs. Unlike calculative trust, cognitive trust arises from accumulated knowledge that allows one to make predictions with a certain level of confidence about the likelihood that the partner will live up to his/her obligations (Johnson and Grayson, 2005). This trust occurs at the interpersonal level, based largely on internal and external information that enhances the predictability of another party.

3.6 Affective trust

The concept of affective trust is close to trust based on identification, occurring during the advanced stages of a relationship. According to Andersen and Kumar (2006), affective trust – with its base of positive emotions – creates reciprocal attachment between a buyer and seller, favoring the formation of strong durable personal links. We define affective trust as a psychological state akin to a sense of security and lasting attachment, with the intention of acceptance based on mutual socio-emotional benefits between parties in the context of vulnerability in long-term social exchanges. It is characterized by the primacy of interpersonal or emotional links, and by long-term orientation. Trust can move beyond calculative and cognitive behaviors without being unconditional. These three phases and forms are interdependent, and the emergence of a phase/form is made possible by the completion of the preceding phase (Figure 1).

3.7 Calculus and trust: complementary rather than substitutable

Based on the previous discussion, we believe not only that dichotomous thinking between calculus and trust is unjustified but that it also hinders the emergence of a

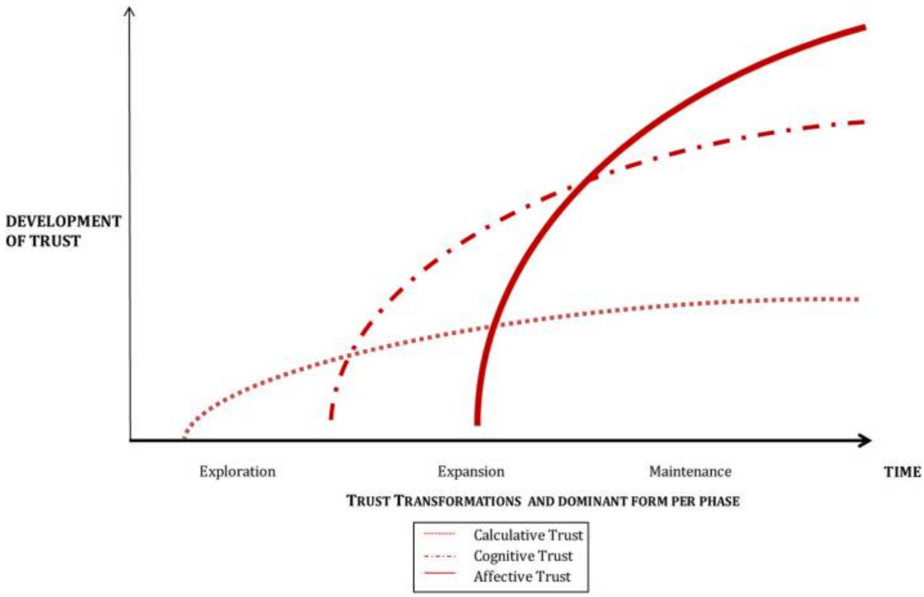

Figure 1.
Trust transformations and dominant form per phase

coherent vision of trust evolution. Trust evolution is contingent on both calculus and psycho-sociological causes.

By integrating a time dimension, trust becomes a more complex issue, and a broader theoretical framework is required to capture its multi-faceted forms. We argue that within a process perspective, these approaches can be combined using the analytical framework of the relational cycle from Dwyer *et al.* (1987). The model, which was confirmed by recent empirical testing by Jap and Anderson (2007), enables us to reconcile calculus and trust perfectly with its multiple forms (Figure 1). According to Dwyer *et al.*'s (1987) model, the B2B exchange relationship consists of five phases: awareness, exploration, expansion, maintenance and termination.

The phases of awareness and termination are steps for which there are no real relationships between exchange partners, and they therefore do not involve trust. The other three phases do, however, offer fertile grounds for trust development. The exploration phase allows partners to discover and test each other, mutually assessing each other's capabilities and the benefits they would derive from a relationship. In the short term, committed parties simply give and take to find a middle-ground method of working together (Morgan and Hunt, 1994). The following phase, expansion, is characterized by the development of both interdependence and acceptable satisfaction between partners. The advanced phase is only possible if both partners are convinced of both the benefits of collaboration and the correct behaviors of the other party.

The primacy of economic logic that characterizes the early stages of the exchange, during which information asymmetries and uncertainty are at their peak, partially echoes Williamson's approach. We consider economic calculativeness for the purposes of TCE as an analytical process that assumes opportunism (i.e. self-interest) on the part of other actors. The two examples employed by Williamson (i.e. a farmer and a young girl) incontestably involve phases in which the relationship is still in its infancy (i.e. a farmer, having bought a farm, is harvesting his first crop when his machine breaks, and the young man barely knows the girl).

There has been widespread criticism of TCE (Ghoshal and Moran, 1996), but given that most studies have been conducted with cross-sectional data, transaction cost logic, so far as we are aware, has not been challenged in terms of the time dimension, encompassing calculativeness in a process stage. Recognizing the temporal dimension of trust and studying the conditions of its emergence and implications for governance choice would refine and extend TCE. In a developed stage of a relationship, behavior adjustments in relation to each other are based on interactions. Cummings and Bromiley (1996, p. 303) state, "Optimal expenditures on control, monitoring and other kinds of transactions costs are a function of opportunism. Opportunism, in turn, depends on and influences the level of trustworthy behavior in an organization." During the expansion phase when trust is built through repeated transactions, partners are more willing to engage in open communication and show greater behavioral transparency. The maintenance phase, during which an individual occupies a central place, enables exchange partners to strengthen bonds that maintain and develop affective trust because, as Ness and Haugland (2005) indicate, the development of trust and feelings of shared destiny and the openness of the interaction require both time and patience.

With a process perspective on a relationship (Figure 2), calculus becomes irrelevant insofar as cognitive and subsequently affective trust strengthen. This does not mean

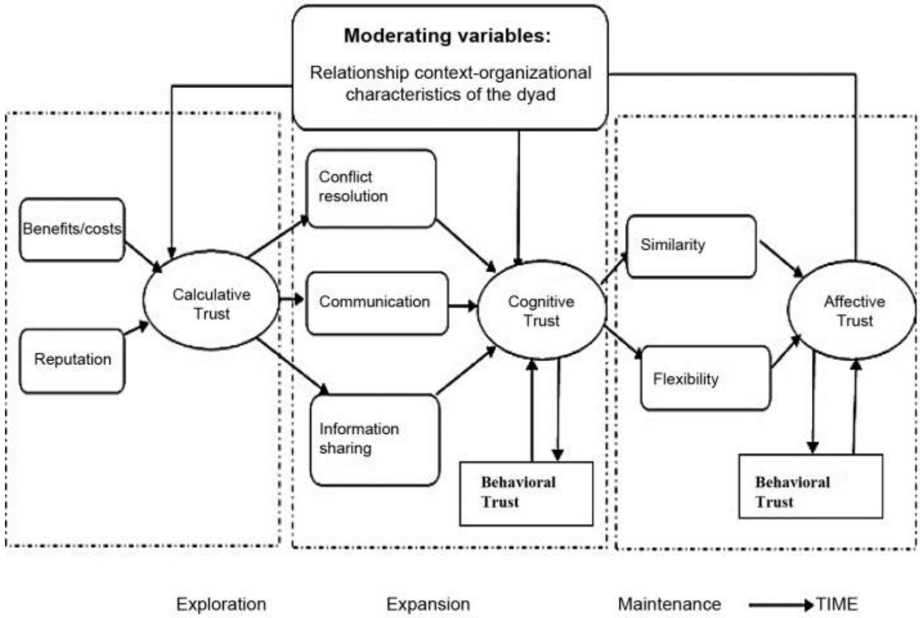

Figure 2.
Theoretical framework

that calculative trust is replaced; during Phases 2 and 3, calculative trust continues in the background. During the maintenance phase, the most prominent form is affective trust, but the other two forms – cognitive and calculative trust – remain at the lower layers.

3.8 Conceptual framework and propositions

Drawing on previous work, we construct a framework (Figure 2) to expand the current theory on trust in B2B marketing and gain a better understanding of the development of relationships between suppliers and customers. This reasoning can lead to a clearer understanding of the dimensions, antecedents and consequences of trust. We argue that calculative trust corresponds to a type of risk evaluation relative to expected gains, appearing in the first phase of the relationship (i.e. the exploration phase) and implying monitoring. Second, cognitive trust manifests in terms of personal expectations and/or beliefs, and emerges in the expansion phase, which occurs just after the exploration phase. Finally, emotional trust refers to emotional investments characterized by the primacy of personal relationships that intervene during the advanced stages of a relationship (i.e. the maintenance phase). Trustworthy behaviors can be both consequences of affective trust and their reinforcing elements. Likewise, the antecedents of trust also need to be identified according to the phase of a relationship. Utilitarian variables derived from game theory and used to predict the behaviors of another party (e.g. reputation and anticipation of future earnings) are more likely to determine the first form of trust. Buyers are strongly attracted to well-known and existing suppliers, as they are perceived to be less risky. Trust during the expansion phase is predominantly cognitive evaluation, reflecting the formation of cognitive assets. During this phase, the cognitive dimension fosters accurate exchanges of information across the interface, diminishing the probability of opportunism and reducing the need for costly monitoring. Interactions during the expansion phase contribute to sense-making, which Huang and Wilkinson (2013, p. 461) indicate:

> […] involves the managers and firms involved building and adapting their cognitions and mental maps over time to integrate, adjust and reintegrate their knowledge, memories and experiences in the face of a changing environment into some understanding of their partners and their relationships.

Communication, information sharing and conflict resolution relate more to cognitive trust. During the maintenance phase, emotional aspects are predominant. The long-term orientation of a relationship is sustained by the emergence of goals and projects, with shared stakes for customers and suppliers. Flexibility, adaptation and similarity are representative of trust antecedents. Because trusting behaviors are indicators of the risk of trusting someone and are therefore the result of the attitudes of a truster and not an intrinsic component of trust, they might be, from a process perspective, factors that reinforce affective or cognitive trust that arises during the expansion and maintenance phases.

P1. During the exploration phase, the predominant form of trust is calculative. Utilitarian variables such as interest and reputation drive the emergence of trust located at an inter-organizational level.

P2. During the expansion phase, the predominant form of trust is cognitive. Sense-making mechanisms allowed by communication, information sharing, and conflict resolution drive trust, which occurs increasingly at an interpersonal level.

P3. During the maintenance phase, the predominant form of trust is affective, determined by identification variables (i.e. similarity/shared values and flexibility/adaptation). Recurrent, positive emotions felt by partners in the exchange over time produce a sense of security (i.e. interpersonal trust) and lead to strong personal ties and reciprocal positive socio-emotional benefits.

P4. Trusting behaviors correlate positively with cognitive trust (or affective trust) that arises, respectively, during the expansion and maintenance phases.

P5. The relationship context (i.e. the content of the exchange, the level under study and the type of relationship) and the individual and organizational characteristics of the two participants (i.e. customer/supplier) moderate these forms of trust.

4. Discussion and implications

Most scholars agree that trust is fundamental during exchanges, enabling collaborative actions in the dynamics of inter-firm relationships, but B2B marketing research on trust dynamics remains scant. This is a critical gap in the buyer – supplier relationship literature, given the trend toward cooperative inter-organizational relationships (Jap and Anderson, 2007). Addressing this void, this article differentiates and then integrates calculative trust in a framework of trust evolution in buyer – supplier relationships. Our reasoning includes three ideas:

(1) calculus and trust are not incompatible;
(2) reputation and interest are antecedents of calculative trust; and
(3) elucidation is necessary of the evolutionary nature of trust, termed the serial characteristics of trust by Svensson (2005).

4.1 Theoretical implications

The question of how trust is generated and sustained has been insufficiently studied, and as Hadjikhani and LaPlaca (2013) point out, the time dimension deserves more depth and requires new conceptual and analytical frameworks. Möllering (2006, p. 89) emphasizes the need for more research to elucidate the initial conditions for trust's emergence:

> When adopting a process view of trust, we need to examine closely, the transformations in the meaning of trust in the course of a relationship's history and, of course, the question of how the process gets started.

McEvily (2011) appeals for the examination of conditions that give rise to, sustain, and erode calculative trust, and the study of various forms of trust in disparate contexts.

This study responds to these calls and contributes to the extant literature on trust in business relationships by providing a theoretical framework that is derived consistently from a literature review and by considering phase-specific forms of trust. Three theoretical contributions are made. First, we examine what stands beyond calculus in trust, and the entanglement of economics with social exchanges. Although most studies use psycho-sociological variables when modeling trust and while economic explanations remain marginal, a primary contribution of this study is highlighting how the economic and social facets of trust are part of a gradual process. Because we demonstrate that trust and calculation are not contradictory, contractual safeguards and calculative trust are similarly not antithetical. Considering calculative trust, a contracting process (i.e. producing cumulative effects) refines and extends TCE. Insofar as TCE-based approaches (Williamson, 1996) do not raise the question of contract interpretations (occurring particularly during the infancy of relationships) and since it is impossible and costly for dyadic members to anticipate all uncertainties in a contract (Poppo and Zenger, 2002), calculative trust – during the exploration phase – might complement soft contractual safeguards and reduce the necessity of using extensive formal control. Recent studies, including Grewal *et al.* (2010), find no effects of formal control on buyer – seller cooperative performance. A combination of contracting and calculative trust, particularly during the exploration phase, offers better theoretical specification, allowing us to go beyond the debates on contracts and relational norms that continue to feed controversy in the literature.

Second, our multi-form conceptualization adds insights to the extant research. Dwyer *et al.* (1987) recognize the importance of the historical development of successive stages; the current study improves the understanding of this history by detailing how trust transforms during each phase. The model suggests that the first moves in the trust-building process, guided by calculative trust, might not only be functional during the exploration phase but also replaced gradually by committed moves as the forms of trust evolve with relationships. Most researchers (Seppanen *et al.*, 2007) recognize the evolutionary aspect of trust, though without incorporating it into their work. This study suggests that relational processes with customers are not homogenous, and that heterogeneity stems from the pervasiveness of forms of trust (i.e.

calculative, cognitive and affective) during the relationship phases. Our model further suggests that the relationship between the time dimension and trust is more meaningful when investigating trust regarding relationship phases. This study demonstrates that the development of trust is inextricably tied to its forms. Accordingly, the study yields novel insights that integrate various forms of trust and overcome the shortcomings of extant studies that treat trust from a static viewpoint. Jap and Anderson (2007) aptly call for a theory of relationship development that is congenial to theories of relationship elements (e.g. trust). Our specifications of forms of trust and their associations with relationship phases fit into this perspective.

Third, by constructing a theoretical framework that integrates various forms of trust with their antecedents and consequences, it will be easier to disentangle the causality issues commonly encountered in cross-sectional studies. As Seppänen *et al.* (2007) emphasize, the question of causality is a reason for the ambiguity and confusion observed in the study of trust. The discussion concerning the categorization of determinants and the consequences of trust is inconsequential if conducted from a dynamic viewpoint, referring to the mutation of trust to other forms.

4.2 Managerial implications

Our conceptualization should help managers understand trust creation better, and provide them with valuable information for understanding the evolution of relationships with suppliers. During the early phases, suppliers can create foundations of good relationships with buyers by strengthening reputation and marketing mix excellence. Calculative trust depends on whether suppliers enjoy a good reputation and are able to meet customers' transactional and functional needs; that is, their interests. Mudambi (2002) argues that to a buyer facing an unfamiliar or newly important purchase, company brand signals expected brand performance. By elucidating the antecedents of calculative trust, this study encourages industrial marketers to follow the example of business-to-consumer (B2C) brands by investing in a brand image that is strong and positive to strengthen extrinsic cues. We suggest that by providing fertile ground that encourages mutual interest-seeking, needs and expectations management is paramount to pave a way for the emergence of trust. It is important for a supplier to determine a form of trust before investing in targeting customers. Our model can be very useful for companies in assessing the state of a relationship on a timely basis, and, therefore, anticipating relational orientations. Segmentation based on relational phases requires tailoring each form of trust strategy, and hence accurate identification of a relationship phase could help categorize and subcategorize customers regarding calculative, cognitive or emotional dominant forms of trust.

5. Conclusion, limitations and future research studies

The process perspective on trust according to the phases of a relationship that this study follows allows better conceptualization and management of buyer – supplier relationships. The highlighting of calculative trust, its determinants and various forms of trust improves understanding of the relationship process between buyers and suppliers. We believe that by integrating various forms of trust within relationship phases with a contextualization of the study of trust, theorizing becomes both accurate and relevant. For example, a replication of Visentin and Scarpi's (2012) study of a firm's intention to upgrade its contract with a supplier by using a less undifferentiated concept of trust such as the multi-form conceptualization proposed in this article would be valuable. Because the issues faced during the early phases are different from those in a long-established relationship, it is paramount to understand the frames in which the exchange parties consider trust regarding each relationship phase before broadening the scope of a contract.

One challenge of the model is empirical testing. Longitudinal research is clearly the most suitable method. Given the difficulty of collecting longitudinal data, we suggest that the alternative method Anderson (1995) recommends and Eggert *et al.* (2006) test in a study of value creation in B2B customer – supplier relationships applies. Doing so requires a rigorous protocol for selecting dyadic sub-samples. To process data, multi-group analyses (such as three groups of homogenous dyads corresponding to the three stages of the relationship) using structural equation modeling (with disparate variables at each stage) might be useful. We hope future research will find fertile ground to generate further insights into the process perspective of trust within the theoretical framework we have constructed.

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Further reading

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