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James C. Anderson, Håkan Håkansson, & Jan Johanson

Dyadic Business Relationships Within a Business Network Context

In business-to-business settings, dyadic relationships between firms are of paramount interest. Recent developments in business practice strongly suggest that to understand these business relationships, greater attention must be directed to the embedded context within which dyadic business relationships take place. The authors provide a means for understanding the connectedness of these relationships. They then conduct a substantive validity assessment to furnish some empirical support that the constructs they propose are sufficiently well delineated and to generate some suggested measures for them. They conclude with a prospectus for research on business relationships within business networks.

In recent years, several models and frameworks have contributed significantly to our understanding of working relationships between firms in business markets (e.g., Anderson and Narus 1990; Anderson and Weitz 1989; Dwyer, Schurr, and Oh 1987; Frazier 1983; Hallén, Johanson, and Seyed-Mohamed 1991). Each approach focuses on the dyadic relation between two firms. Some recent developments in business practice, however, strongly suggest that the connections between a firm's dyadic relations are of growing interest.

"Deconstructed" firms are emerging, in which firms focus on a subset of the value-adding functions traditionally performed within a firm (e.g., research and development, design, manufacturing) and rely on coordinated relationships with other firms to provide the remainder of the value-chain activities needed for a market offering (Verity 1992). Another development is the "value-adding partnership" (Johnston and Lawrence 1988, p. 94), which is "a set of independent companies that work closely together to manage the flow of goods and services along the value-added chain," enabling groupings of smaller firms to compete favorably against larger, integrated firms. A final development to note is the "virtual corporation," a transitory network of firms organized around a specific market opportunity, lasting only for the length of that opportunity (Byrne, Brandt, and Port 1993).

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A crucial question is how these developments in business practice should be regarded conceptually as well as managerially. A ready answer, drawing on recent work by organizational theorists (e.g., Miles and Snow 1992; Snow, Miles, and Coleman 1992) and European marketing scholars largely associated with the International Marketing and Purchasing group (e.g., Ford 1990; Håkansson 1987; Mattsson 1987), is to move from dyadic business relationships to business networks. Yet this answer is deceptively simple—no particular conceptualization is implied. For example, business networks can be regarded as sets of connected firms (e.g., Astley and Fombrun 1983; Miles and Snow 1992) or alternatively, as sets of connected relationships between firms (e.g., Cook and Emerson 1978; Håkansson and Johanson 1993). And, even when this latter view is held, consideration of the individual relationships and what occurs within them often is scant, with the relationships themselves rapidly diminished to links within a network that is of focal interest. This is surprising because if business networks are to possess advantages beyond the sum of the involved dyadic relations, this must be due to considerations that take place within dyadic business relationships about their connectedness with other relationships. Therefore, we intend to provide further conceptual development of dyadic business relationships that captures the embedded context within which those relationships occur. As an integral part of this, we formulate business network constructs from the perspective of a focal firm and its partner in a focal relation that is connected with other relationships. In doing so, we also advance the conceptualization of business networks as sets of connected relationships.[1]

[1]Let us further clarify our intent by stating what we are *not* pursuing. Our interest is not in explicating networks and their structural properties (e.g., cliques, actor equivalence), as, for example, has been done recently by Iacobucci and Hopkins (1992) in their presentation of a set of related statistical models for network analysis. Rather, our interest is in managers' perceptions and imputed meanings of the connectedness of a focal relationship to other relationships, as they act as key informants on its effects on their firms' decisions and activities.

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We first examine the environment of the firm. We then discuss dyadic business relationships and networks and follow this with two recent case studies of business networks that, taken together with business network concepts, provide inductive grist for further conceptual development. We next conceptualize some network constructs that can be incorporated within dyadic business relationship models. Our intent is to provide a means of representing the connectedness of dyadic business relationships within these kinds of models. To furnish some empirical support that these proposed constructs are sufficiently well delineated and generate some suggested measures for them, we conduct a substantive validity assessment. We conclude with a prospectus for research on business relationships within business networks.

The Environment of the Firm

One critical specification in all approaches developed to analyze managerial problems involves the interface between the firm and its environment. Classically, there has been an assumption of a clear boundary between the two, in which *environment* has been defined as "anything not part of the organization itself" (Miles 1980, p. 195). Firms have been viewed as "solitary units confronted by faceless environments" (Astley 1984, p. 526). A firm's relationship with its environment is one of adapting to constraints imposed by an intractable externality (Astley and Fombrun 1983).

This conceptualization of the environment of the firm has been questioned in both economics and organizational theory.[2] Resource dependence theory and related perspectives (Astley 1984; Pfeffer 1987; Pfeffer and Salancik 1978) have argued that because firms' environments "are primarily socially constructed environments... the boundary between organizations and their environments begins to dissolve" (Astley 1984, p. 533). Thus, the perspective changes to one of a firm interacting with its perceived environment (Pfeffer 1987; Pfeffer and Salancik 1978).

Drawing on this and related work (e.g., Thibaut and Kelley 1959), a stream of research in marketing has stressed the importance of dyadic business relationships (e.g., Anderson and Narus 1990; Anderson and Weitz 1989; Dwyer, Schurr, and Oh 1987; Frazier 1983; Hallén, Johanson, and Seyed-Mohamed 1991). Yet the existence of relationships themselves questions the very meaning of the boundary between a firm and its environment. A relationship gives each firm a certain influence over the other (Anderson and Narus 1990), which means that each firm is gaining control of at least one part of its environment while giving away some of its internal control. Relationships also indicate that firms do not treat the environment in a generalized or standardized way but interact with specific "faces" (Håkansson and Snehota 1989; Thorelli 1986).

The existence of relationships gives some specific faces to the environment of a firm, but this raises another question: How should the environment of these relationships be regarded? Should this environment be looked on as some faceless forces, or should it instead be regarded as having some specific, organized character? Although past work in marketing has largely and implicitly regarded the studied relationships as existing within some faceless environment, we argue for the latter. In the next section, we elucidate the perspective of a firm within a focal relationship that is itself connected to other relationships and the nature of the environment as it relates to this.

Business Networks and Dyadic Business Relationships

Business networks recently have been of interest to a group of marketing academics in Europe (e.g., Ford 1990; Gaddé and Mattsson 1987; Håkansson and Johanson 1993). Seeking a compatible framework, these researchers generalized the social exchange perspective on dyadic relations and social exchange networks (e.g., Cook and Emerson 1978; Emerson 1972) to dyadic business relationships and networks. Here, we examine the nature of business networks and firms within business networks and, in doing so, present the principal concepts for each.

Business Networks

The developments in business practice mentioned at the outset are examples of what can be called *business networks*. A business network can be defined as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors (Emerson 1981). Connected means the extent to which "exchange in one relation is contingent upon exchange (or non-exchange) in the other relation" (Cook and Emerson 1978, p. 725). Moreover, two connected relationships of interest themselves can be both directly and indirectly connected with other relationships that have some bearing on them, as part of a larger business network. As illustrated in Figure 1, a focal relationship is connected to several different relationships that either the supplier or the customer has, some of which are with the same third parties.[3]

What functions do the relationships fulfill if we look on them from a network point of view? To answer this question, we can take as a starting point the concept of the firm as an actor performing activities and employing resources (cf. Demsetz 1992; Henderson and Quandt 1971). According to this view, the function of business relationships can be char-

[2]In recent development of transaction cost economics, Williamson (1991a, 1991b) discusses the existence of hybrid forms of economic organizations between (faceless) markets and hierarchies, in which cooperative adaptation is required between two organizations. Nonetheless, questions remain about the applicability of transaction cost economics to embedded contexts (cf. Granovetter 1985) and contexts of recurrent and relational contracts, in which reliance on trust among the organizations is high (cf. Ring and Van de Ven 1992). Thus, for our purposes, approaches based in social exchange theory (Homans 1958; Thibaut and Kelley 1959), such as resource dependence theory (Pfeffer and Salancik 1978), appear to be more useful.

[3]Our perspective can be usefully compared and contrasted with Aldrich and Whetten's (1981, p. 386) concept of an *organization-set*, which they define as "those organizations with which a focal organization has direct links." Although our perspective might be viewed as the sum total of the organization-sets for each of the two firms engaged in the focal dyadic relationship, we believe that this misses our emphasis on the *dyadic relationship* as the unit of primary interest within business networks, rather than the individual firms themselves.

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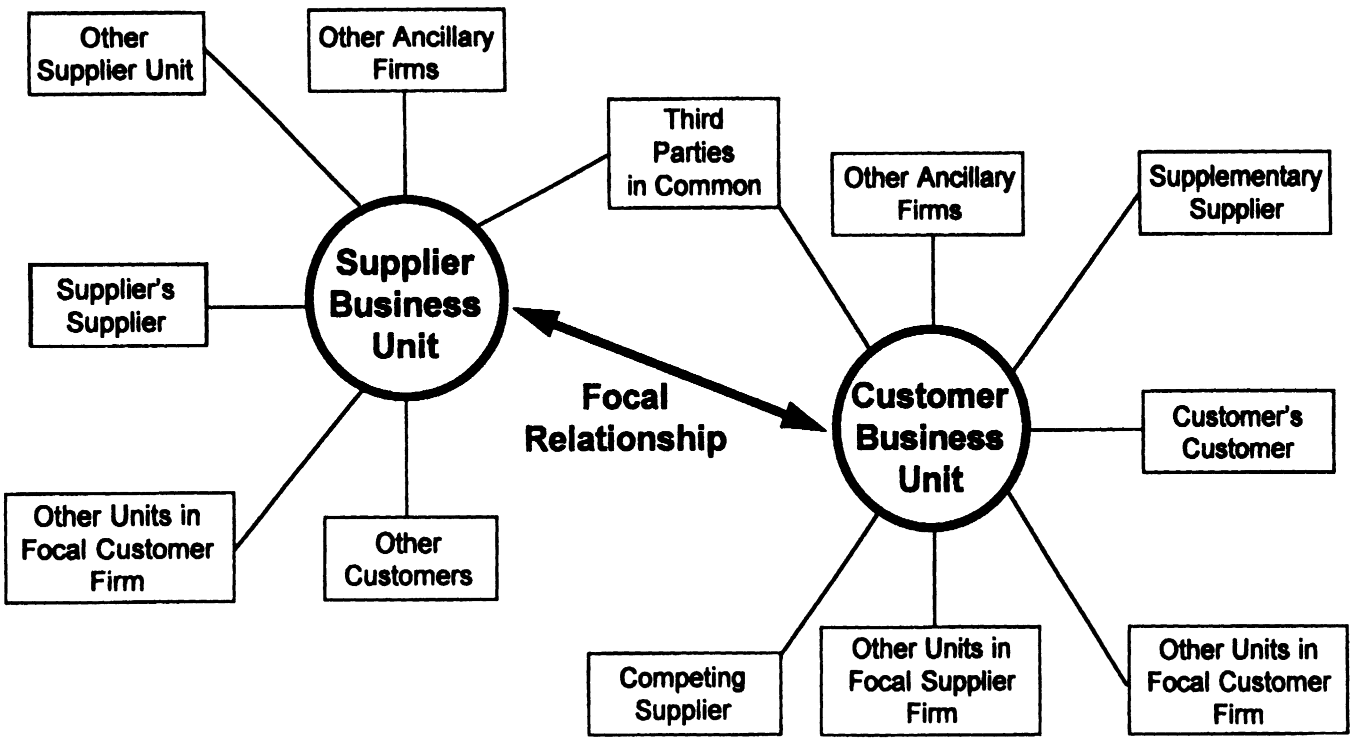
FIGURE 1
Connected Relations for Firms in a Dyadic Relationship



acterized with respect to three essential components: *activities*, *actors*, and *resources*. We can also draw a distinction between primary and secondary functions. By *primary functions*, we mean the positive and negative effects on the two partner firms of their interaction in a focal dyadic relationship. The *secondary functions*, also called *network functions*, capture the indirect positive and negative effects of a relationship because it is directly or indirectly connected to other relationships. However, in a given relationship, secondary functions can be as important as the primary ones, or even more so.

The primary functions of the relationships corresponding to activities, resources, and actors are efficiency through interlinking of activities, creative leveraging of resource heterogeneity, and mutuality based on self-interest of actors. Activities performed by two actors, through their relationship, can be adapted to each other so that their combined efficiency is improved, such as in just-in-time exchange (Frazier, Spekman, and O'Neal 1988). The two parties also can learn about each other's resources and find new and better ways to combine them; that is, the relationship can have an innovative effect (Lundvall 1985). Finally, in working together, two actors can learn that by cooperating, they can raise the benefits that each receives (Axelrod 1984; Kelley and Thibaut 1978).

Secondary or network functions are caused by the existence of connections between relationships. With regard to the three components, the secondary functions concern *chains of activities* involving more than two firms, *constellations of resources* controlled by more than two firms, and *shared network perceptions* by more than two firms. By adapting activities in several relationships to each other, thus raising the complementarity of sequences or other interdependent activities, activity chains stretching over several firms are created. Similarly, resources developed in a relationship not only are important to those engaged in that relationship, but also may have implications for resources of parties engaged in connected relationships. Thus, innovations developed as a result of interaction in several relationships may support each other. Finally, by getting close to its partners, a focal firm may have its views shaped by, and shape the views of, its partners' partners.

Relationships are dyads, but the existence of the secondary functions means that they also are parts of networks. A business network is built up by business relationships, but the latter are also caused by the secondary functions, reflecting the business network. However, a critical point is that there is no simple one-to-one relation between the relationship and the network, which can be seen by considering their dynamic features (cf. Aldrich and Whetten 1981; Van de Ven 1976). Developing relationships can have stabilizing and/or destabilizing consequences. If the development builds further on the earlier principles of the network, it will strengthen it. If, on the other hand, the development is a contradiction to the earlier structure, then it can be a first step toward network extension or consolidation (Cook 1982; Emerson 1972)—that is, a new network.

Firms Within Business Networks

Network context and strategic network identity. Evidently, actors have bounded knowledge about the networks in

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which they are engaged (Emerson 1981; Håkansson and Johanson 1993). This is due to not only the network extending farther and farther away from the actor but also the basic invisibility of network relationships and connections. The network setting extends without limits through connected relationships, making any business network boundary arbitrary. For the purpose of analysis, however, it is possible to define *network horizons*, which denote how extended an actor's view of the network is. The network horizon can be expected to be dependent on the experience of the actor as well as on structural network features. This implies that the network horizon of an actor changes over time as a consequence of doing business. At the same time, it clearly demonstrates that any business network boundary is arbitrary and depends on perspective.[4]

The part of the network within the horizon that the actor considers relevant is the actor's *network context* (Håkansson and Snehota 1989). The network context of an actor is structured, we posit, in the three dimensions identified in the discussion of primary and secondary functions of relationships: the *actors*, who they are and how they are related to each other; the *activities* performed in the network and the ways in which they are linked to each other; and the *resources* used in the network and the patterns of adaptation between them. The contexts are partially shared by the network actors, at least by actors that are close to each other.

In this ambiguous, complex, and fluid configuration of firms that constitute a network, in which the relations between firms have such importance, the firms develop *network identities* (Håkansson and Johanson 1988). Network identity is meant to capture the perceived attractiveness (or repulsiveness) of a firm as an exchange partner due to its unique set of connected relations with other firms, links to their activities, and ties with their resources. It refers to how firms see themselves in the network and how they are seen by other network actors.

Because network identity is represented as a perception, it is crucial to specify the vantage point of the perceiver. A firm's network context provides the vantage point for its perceptions of the network identities of other firms within the network. And, significantly, even though network contexts of different firms may be partially shared, they are always unique in at least some respects. Thus, because network identity depends at least partly on the network context of the viewer, a focal firm has a distinct, though perhaps congruent, identity to each other firm in the network.[5] Similarly, a firm's perception of its own network identity is based on its own network context. We call this the firm's *strategic network identity*. This captures the overall perception of its own attractiveness (or repulsiveness) as an exchange partner to other firms within its network context. It is a reference point against which the firm perceives and judges its own and other firms' actions (Ring and Van de Ven 1994).

Because identities are context related, they are described in the same dimensions. Each identity communicates a certain orientation toward other actors; it conveys a certain competence, because it is based on each actor's perceived capability to perform certain activities (Albert and Whetten 1985); and it has a certain power content, because it is based on the particular resources each actor possesses (Cook et al. 1983; Yamagishi, Gillmore, and Cook 1988).

These actor orientations, activity competencies, and resources possessed are largely actualized and made apparent through exchange interaction in a firm's set of connected relations (cf. Goffman 1959). At the same time, these connected relations impart additional meaning about a focal firm's actor orientations, activity competencies, and resources. For example, a firm will be viewed as strong in resource terms if it is seen as being able to mobilize and leverage the substantial resources of a connected partner. In summary, an actor is seen as "belonging" together with some others, having a certain competence in relation to those others, and being more or less strong in resource terms. This network identity, which can be more or less clear, conscious, and uniform, is itself a reference point against which all of a focal firm's acts are perceived and judged (Ring and Van de Ven 1994).

Network context and environment. In what ways can we usefully distinguish between the concept of a network context and the previous, related concept of environment? Recently, for example, in presenting alternative forms of the marketing organization that are responsive to turbulent environments, Achrol (1991) appears to use the terms *environment* and *network* interchangeably. In contrast, our view is that the firm is embedded within a business network context that is itself enveloped by an environment.[6] Under this view, at least two useful distinctions between environment and network emerge: the different ways in which boundaries of the firm are regarded and different conceptual clarities in characterizing disparate impacts on a focal firm (or focal business relation).

In contrast with the classical specification, a network perspective better captures the notion that the boundary between the firm and its environment is much more diffuse. The environment is not completely given by external forces but can be influenced and manipulated by the firm, and there will also exist external, known actors that are influencing some of the firm's internal functions. Importantly, the network approach does not suggest merely that it is not meaningful to draw a clear boundary between the firm and its environment, but that much of the uniqueness of a firm lies in

[4]Because of this, the social network concept of *centrality* (Cook et al. 1983; Emerson 1981), whose definition depends on some objective delimiting of a network, appears problematic for a business network setting (cf. Aldrich and Whetten 1981).

[5]Although network identiti es are distinct, two firms must establish a congruent understanding of each other's network identity for a relation between them to prosper (Ring and Van de Ven 1994).

[6]Shortell and Zajac (1990, p. 168) recently have observed, "We prefer to demystify the discussion of organizational environments by viewing the environment of a health care organization as simply the collection of other specific organizations that are interconnected to or interdependent with it.... In other words, when a health care organization 'looks out' with concern at its turbulent environment, what it sees are other organizations 'looking out' at it!" Consistent with our own position, they then recognize the existence of environmental forces that are nonorganizational in nature, which are viewed as less germane to the focal organization.

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how and with whom it is connected (Håkansson and Snehota 1989).

A difficulty in understanding what is meant by environment, let alone how it differs from a network, is that it has been discussed in numerous ways (cf. Miles 1980). Moreover, in a given discussion, to capture *disparate impacts* on the firm, *levels* of environment are often assumed or posited (Miles 1980). As a particularly germane example, in their analysis of the marketing environment of channel dyads, Achrol, Reve, and Stern (1983) distinguish between primary task environment, secondary task environment, and macro environment. The primary task environment is composed of a focal dyad's immediate suppliers and customers, in which any impact can be traced back to specific firms—to the "direct exchange network," as it is referred to at one point (Achrol, Reve, and Stern 1983, p. 59). The primary task environment, in turn, is assumed to be affected by the secondary task environment, which comprises actors that are indirectly connected to the focal dyad (through exchange relations with actors in the primary task environment). Achrol, Reve, and Stern (1983) contend that the secondary task environment falls beyond the scope of their political economy framework and that its impact on the dyad can be best characterized in terms of abstract qualitative dimensions. The relatively amorphous effects of the macro environment are manifested only through their impact on the qualitative dimensions of the secondary task environment.

We conjecture, as Achrol, Reve, and Stern (1983) seem to do, that the primary task environment is structured as a network. We differ, however, in the way we deal analytically with the parts of the environment that are outside this "direct exchange network." Given our basic social exchange framework, it is logical to consider those parts or aspects of the environment that the actor perceives as relevant (Håkansson and Snehota 1989). Thus, the concept of network context, which may encompass indirectly connected exchange relations in addition to the direct exchange network, appears to offer a natural delimiter of network from environment. Finally, similar in spirit to Achrol, Reve, and Stern (1983), we posit that the impacts of the relatively amorphous or imperceptible parts of the secondary task and macro environments, which we refer to simply as the environment, are mediated through the network context.[7]

Two Business Network Cases

A basic conclusion from the previous discussion is that every relationship should be viewed as being part of a network. The identity of the firm is embedded in the network through its relationships, which are connected to each other. This naturally leads to consideration of how network embeddedness contributes to the understanding of dyadic business relationships. As grist for inductive theory development (Deshpandé 1983; Leonard-Barton 1990), we present two European case studies of business networks.

Development of new saw equipment. A network—labeled the *wood saw network*—was studied in Håkansson (1987). The focal relationship was between a saw equipment producer and a sawmill but, as depicted in Figure 2, several other relationships were connected. Cooperation was required to develop band saw equipment that could be used for cutting frozen timber, a necessity for the equipment to be used in Sweden. By working together with its components supplier, the equipment supplier managed to provide an initial solution technically.

In the next phase, this solution was tried out together with two customer firms—one small sawmill located nearby with which the supplier had worked on other projects and a large sawmill that was viewed as an opinion leader. The latter was interested because it had several large investment projects coming up. The first prototype, a small band saw, was developed successfully and tested with the small customer. But when this solution was transferred to the larger customer, cracks developed in a bigger prototype, and there were even some serious breakdowns in which the whole band saw broke off. Weaknesses in the steel and especially in the welding seams in the band saws were regarded as the problems. So the large sawmill initiated technical cooperation with a saw blade producer in the belief that it would be possible to eliminate these problems by making changes in the saw blade producer's production process. However, it was found that it was necessary for the saw blade producer to get adaptations in the steel it bought from a saw steel company as well as acquiring new equipment for the welding operation. These efforts were not wholly successful, so the saw equipment producer had to make further adaptations to its equipment. The total process took several years to accomplish but was, in the end, very successful.

Danprint. Danprint is a small Danish printer that has supplied labels to a big Danish soft drink producer, Softdrink, for many years (Sjöberg 1991). The labels were printed on a simple paper produced by one of the mills of a Danish paper maker, which also supplied other papers from its other mills to Danprint. Although simple, the paper was quite special in that it had a certain yellow shade that was strongly associated with Softdrink's image among its distributors and customers. Due to its wood content, the paper also was well-adapted to Softdrink's equipment for cleaning and filling return bottles. These relations appear in Figure 3.

Danprint, however, was only a marginal buyer of this product in comparison with journal printers. When they changed to another, more "elegant" paper, the paper maker had to close the mill where Danprint's paper was made. Worse still, the paper maker could not produce a paper with Softdrink's specifications in any of its other mills. After some search, Danprint found a foreign paper mill that, after some cooperation, could produce a paper with almost the same yellow color as the original paper. This new paper was

[7]Although Emerson (1972) and Cook (1982) discuss network extension and network consolidation as mechanisms for balancing network dependence, these concepts also can be employed to capture the dynamic character of the network and its environment. Network extension occurs when relatively amorphous forces (which alternatively might be viewed as latent actors) become manifest actors with which the firm has a direct or connected relation, either because of their impact on the network or because of proactive search by network actors for the resources and activities these new actors can contribute within the network. Conversely, network contraction occurs when relations with actors whose resources and activities no longer contribute to the network are ended, with the terminated actor receding to a relatively imperceptible force in the environment.

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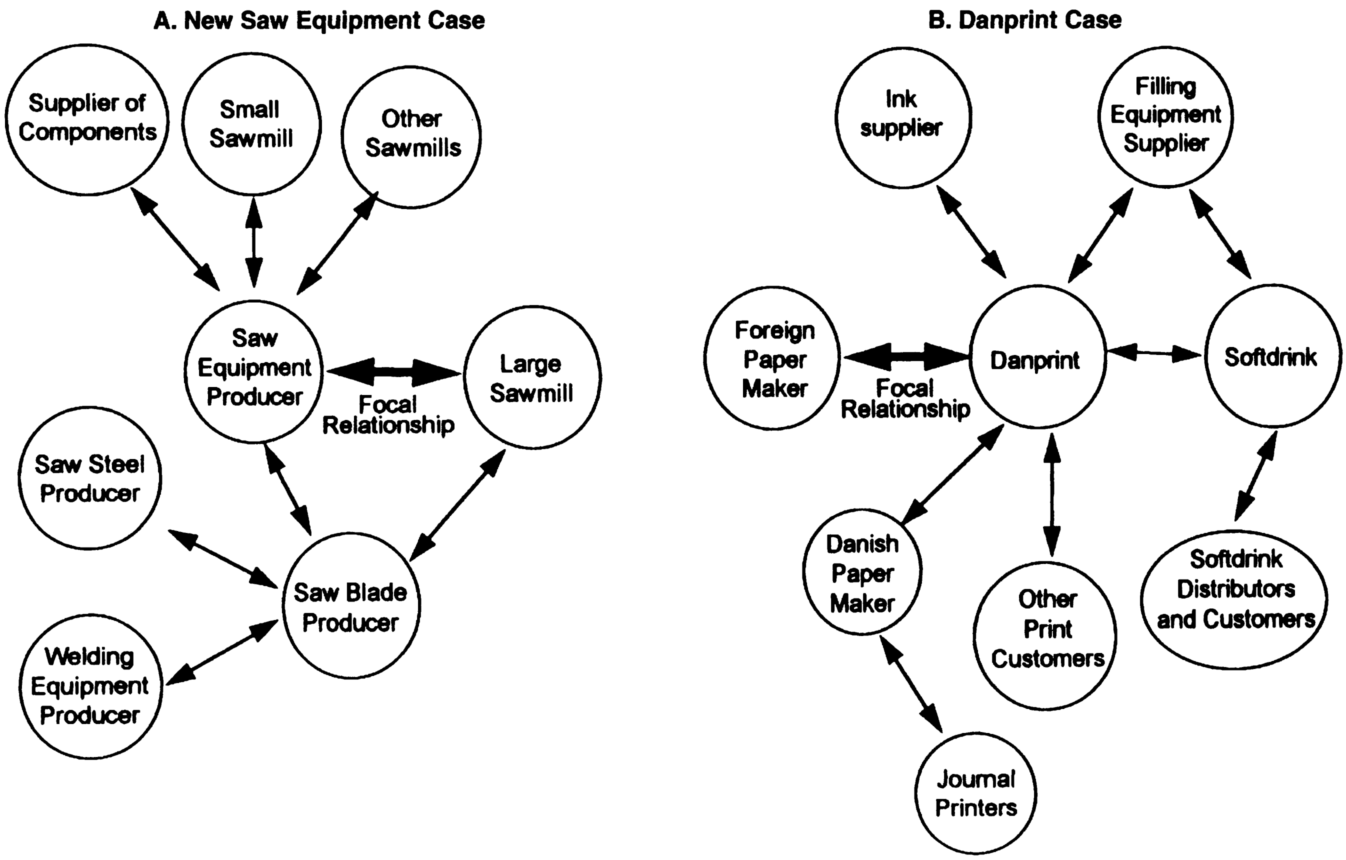
FIGURE 2
Two Business Network Cases

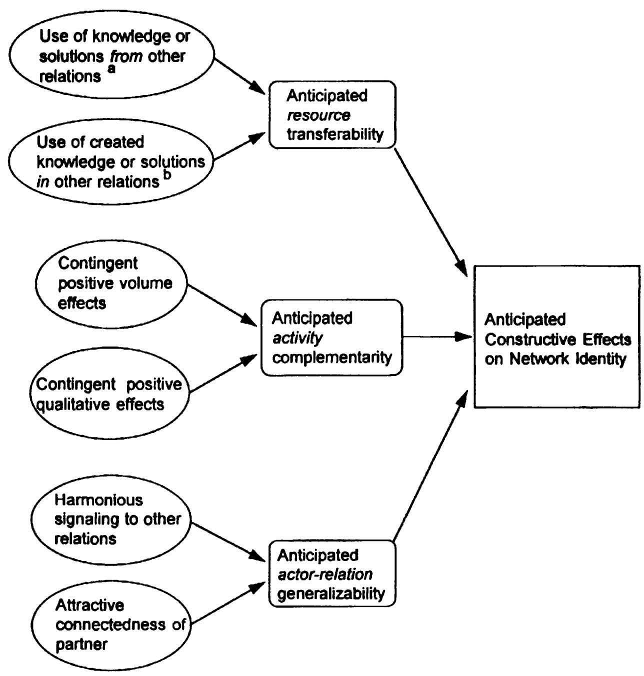


more expensive than the old, but rather than taking the risk of relaunching the drink with a new label, Softdrink accepted the higher price.

But the guarantee of Softdrink's filling equipment supplier concerning the speed and functioning of its equipment was not valid unless they, too, found the paper acceptable. Consequently, some cooperative activities between Danprint and the equipment supplier were required to gain this acceptance. In parallel, Danprint also engaged in cooperation with its ink supplier to be able to print on the new paper to the satisfaction of Softdrink and its connected distributors and customers. Moreover, Danprint learned from the cooperation with the foreign mill the exact prescription of and procedure for testing this yellow paper. On the basis of this new know-how, Danprint returned to their old Danish paper maker in a stronger position and induced this supplier to produce and supply the new paper in competition with the foreign mill.

Consider now Danprint's situation when it engaged in cooperation with the foreign paper maker (this is the focal relationship in Figure 3). Several network effects can be discerned. First, Danprint had to take their relationship with Softdrink into consideration. The primary anticipated effect was development of a paper that could be used in Softdrink's filling equipment to the satisfaction of Softdrink and its connected equipment supplier, distributors, and customers. Second, Danprint wanted to demonstrate to Soft-

FIGURE 3
The Constituent Facets of the Construct:
Anticipated Constructive Effects on Network Identity



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drink that it was dependable even when considerable efforts were required. The relationship with Softdrink was important not only because of the sales volume involved; Softdrink was prestigious, and the relationship with it showed other Danprint customers that it was a capable print supplier.

Danprint also had to consider their relationship with the Danish paper maker, which still was its main supplier of other papers. Switching to the foreign supplier might harm other activities in their relationship. Yet cooperation with the foreign supplier could lead to a new product solution that could be transferred to the Danish relation, thus strengthening their long-run relationship.

Moreover, when engaging in cooperation with the foreign paper maker, Danprint had reason to consider the possibilities to coordinate these activities with those in relationships with the filling equipment and ink suppliers and to develop complementary solutions.

Some observations. Taken together, these cases provide a worthwhile, practical basis for considering and developing constructs that capture the embedded context within which dyadic business relationships occur. They also show some points of departure from the social network literature. Before developing some network constructs, we note some aspects of these cases.

The cases show both interesting similarities and differences. In both, the focal relationship is affected by the broader context of connected relationships. Activities or resources of other actors in this way are partly determining what is achieved in the focal relationships. Because of this, consideration of secondary or network functions will be especially critical in developing constructs. One important difference between the cases is that in the new saw equipment case, the connected relations provide positive, complementary development sources. In the Danprint case, several of the connected relations function as restricting connections.

The cases also show that these connections cannot be seen simply as positive or negative, as suggested in Cook and Emerson's (1978) analysis of social exchange networks. Rather, a relationship, in different ways, can be both positively and negatively connected with another relationship at the same time. Danprint's relationship with the foreign paper mill was, to some extent, negatively and positively connected to its relation with the Danish paper maker. And, apart from this, though some connections are rather easy to estimate quantitatively, others are entirely a matter of perceptual judgment or interpretations. Finally, the cases also stress the importance of time dependence in the analysis of business networks and the connections between dyadic relationships. Two firms might be positively connected in one time period but negatively connected in another. The dyadic relationships develop over time within a network context, which is also evolving as time goes by.

Constructs That Capture the Embedded Context of Dyadic Business Relationships

An essential commonality of a dyadic business relationship perspective and a business network perspective is a consideration of the interdependencies that exist between firms doing business with one another and the resultant need for cooperation. Unquestionably, cooperation emerges as the pivotal construct from the two cases. Our intent here is to conceptualize, in a fundamental way, some network constructs that contribute to or have an effect on cooperation in dyadic business relations. Then, to illustrate how these constructs might be incorporated in dyadic relationship models, we sketch out some construct relationships with cooperation and what we view as its critical consequence: commitment. We conclude this section with a substantive validity assessment of our proposed constructs.

In positing constructs that capture network properties, a critical difference between perspectives that must be resolved is the focus on relationship *states* (e.g., the state of cooperation in the relationship) in the dyadic relationship perspective versus the focus on *activities* in the network perspective. How are activities and resources translated into perceptions of relationship states? Our reconciliation of this difference in perspectives is that activities requiring resources are undertaken in pursuit of outcomes, which, when evaluated by actors, provide judgments of relationship states. Viewed in this way, network properties underlie the network constructs that we conceptualize.

Constructs That Capture the Focal Relationship's Connectedness

Most often, models of dyadic business relationships have the implicit assumption of ceteris paribus in all other relations. The cases reveal that this is likely not a realistic assumption. As one instance of connectedness, the guarantee of Softdrink's filling equipment supplier was invalidated without its acceptance of label changes. Thus, antecedent constructs in dyadic perspective models can provide only a partial understanding of consequent constructs of interest (e.g., cooperation, relationship commitment) in that no constructs have been put forth that reflect the influence of this connectedness on the decisions and activities of a focal firm in a dyadic relationship of interest.

We offer two constructs that capture the connectedness of the focal relationship, as perceived by each partner firm. The first is *anticipated constructive effects on network identity*, which can be defined as the extent to which a focal firm perceives that engaging in an exchange relation episode with its partner firm has, in addition to effects on outcomes within the relation, a strengthening, supportive, or otherwise advantageous effect on its network identity. Given the conceptualization of network effects and network identity, three constituent facets can distinguished: anticipated resource transferability, anticipated activity complementarity, and anticipated actor-relationship generalizability. These constituent facets, along with their principal aspects, appear in Figure 3.

Anticipated resource transferability refers to the extent to which knowledge or solutions are transportable. As its principal aspect use of knowledge or solutions from other relations indicates, resources needed for developing the focal relationship may exist already in some other relationship. A solution, or at least its basic principles (Hallén, Jo-

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hanson, and Seyed-Mohamed 1991), can be taken from this other relationship and employed in the focal relationship. Furthermore, cooperation in the focal relationship may develop resources that can be combined with resources from other relationships. Alternatively, the other principal aspect, use of created knowledge or solutions in other relationships, indicates that resources developed through exchange in a focal relationship can strengthen network identity when they can be utilized in one or more other relationships. The relationship between the saw equipment producer and the small mill can be seen as an instance of anticipated resource transferability.

Anticipated activity complementarity captures the notion that the value of the outcomes from activities undertaken in connected exchange relationships may be contingent on activities performed in the focal relationship; thus, these focal relationship activities have a strengthening effect on the firm's network identity. As its principal aspects indicate, these positive effects can be volume based or qualitative in nature. An increase in volume may have positive scale effects in other relationships, such that the costs of performing the same types of activities in all other relationships are lowered. In a similar way, qualitative changes in activities performed in a focal relationship may have qualitative effects in other relationships. The cooperative activities between Danprint and the equipment supplier to uphold the fill-rate guarantee for Softdrink illustrate activity complementarity of contingent positive volume effects, whereas Danprint and the ink supplier working together on printing quality can be seen as an example of contingent positive qualitative effects.

Anticipated actor-relationship generalizability refers to the possibility that cooperation with a certain actor may have broader implications for other actors. As its principal aspect harmonious signaling to other relations indicates, when a focal firm cooperates with another firm in such a way that it is visible to other actors, it sends a message that it is willing and capable of having cooperative relations (Hill 1990). Therefore, this harmonious signaling can alter or reinforce other firms' network perceptions of the focal firm in an advantageous way. Consider, for example, the signals from Danprint to its other print customers that it is prepared to make strong cooperative efforts to solve technical problems. Its other principal aspect, attractive connectedness of partner, captures the notion that by getting closer to a certain partner firm, the focal firm also gets closer to its partner's other partners. Thus, the relationship with the well-known and prestigious Softdrink was a central element in Danprint's network identity.

In summary, anticipated constructive effects on network identity, with its constituent facets, aims at capturing the effects of positive connections between the focal relationship and all other relationships from the focal firm's point of view. These connections are not of marginal import. On the contrary, a firm's uniqueness can be found in its way of interrelating its set of relationships.

Participation in the focal relationship also can be expected to have harmful consequences on the focal firm's relations with other firms. Accordingly, our second construct is *anticipated deleterious effects on network identity*, which can be defined as the extent to which a firm perceives that engaging in an exchange interaction episode with the partner firm has, in some way, negative, damaging, or otherwise harmful effects on its network identity. Given the conceptualization of network effects and network identity, three constituent facets of this construct can be distinguished: anticipated resource particularity, anticipated activity irreconcilability, and anticipated actor-relationship incompatibility. These constituent facets, along with their principal aspects, appear in Figure 4.

Anticipated resource particularity, with its principal aspects of tying up resources from use in other relationships and adaptations detrimental to other relationships, captures the potentially problematic nature of using resources in more than one relation (cf. the related but more narrow concept of asset specificity [Williamson 1985]). A focal firm simply may have limited resources for exchange.[8] Thus, the involvement of those scarce managerial resources may require reallocating resources from other relationships, which get less attention, with a subsequent harmful effect on the focal firm's network identity. Other customers of the saw equipment producer—sawmills having other production problems—may have seen the whole project as a waste of time and efforts.

Anticipated activity irreconcilability refers to the difficulty or impossibility of integrating activities in different relations with each other. As its principal aspects indicate, these negative effects can be volume based or qualitative in nature. Activity patterns often must be tailored to the requirements of the focal relationship (Hallén, Johanson, and Seyed-Mohamed 1991), yet these activity patterns may be harmful and disturbing to other relationships. For example, Danprint could not change to a new paper if this was not accepted by Softdrink's filling equipment supplier.

Finally, *anticipated actor-relationship incompatibility* represents the unwanted "baggage" that may come from engaging in a focal relationship, in which relations with specific actors can be perceived as a threat by other actors or regarded by them as noxious in some way. Other affected firms may even take sanctions against the focal firm. Its principal aspect, adverse signaling to other relations, refers to the possibility that cooperation with a certain actor may convey to other firms that the focal firm is moving in a strategic direction that is inimical to their own best interests. Danprint's working together with the foreign supplier may have been construed as an adverse signal by the Danish paper maker. Its other principal aspect, repulsive connected-

[8]Support for negative effects due to limited resources for exchange can be found in the recent experimental studies of Molm (1991). Subjects in negatively connected exchange relations, in which exchange with one partner meant nonexchange with another, had a tendency to follow nonexchange by a partner with punishment for that partner in the next exchange opportunity. Great caution must be taken, though, in generalizing the findings from experimental studies of social exchange networks to business networks because several of the conditions and assumptions in such studies (e.g., that resources have fixed values, are constant across longitudinal exchange sequences, have the same value to each actor) make them less relevant, or even problematic, for business networks (cf. Aldrich and Whetten 1981). For a noteworthy exception, in which the value of resources was not held constant for actors in a network, see Yamagishi, Gillmore, and Cook (1988).

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ness of partner, represents the potential problems for the firm with negative connectedness of its partner. For example, it has recently been reported that Mitsubishi has been reluctant to engage in cooperative relations with Daimler-Benz because Mitsubishi has a strong supplier relationship with Boeing whereas Daimler-Benz is part of the Airbus consortium, an ardent competitor of Boeing (Brull and Mitchener 1993).

In summary, a focal business relationship, in addition to desired effects on outcomes within that relationship, inevitably may have some downsides as well with respect to a focal firm's network identity. Moreover, anticipated constructive effects on network identity and anticipated deleterious effects on network identity likely each will be present to a varying extent in each business relationship. The saw equipment producer working together with the two saw mills and Danprint working together with the foreign paper maker each had, to some extent, both constructive and deleterious effects. Much like influence over and influence by the partner firm (Anderson and Narus 1990), they represent separate constructs, not opposite ends of a single continuum.

Outcomes Given Comparison Level and Comparison Level for Alternatives as Network Constructs

How do firms evaluate the outcomes they obtain from working together? Under a dyadic relationship perspective, Anderson and Narus (1984) suggest that the outcomes (economic and social) that each firm obtains within an exchange relation are judged relative to the firm's own *comparison level* (CL) and *comparison level for alternatives* (CL_{alt}), which are standards that represent, respectively, expectations of benefits from a given kind of relationship based on experience with similar relations, and the benefits available in the best alternative exchange relation (Thibaut and Kelley 1959). How would the meaning of these change in moving to a network perspective?

We can reconceptualize CL as a standard representing the synthesis of all perceived *connected* relationships for a firm in its network context. In contrast, CL_{alt} can be reconceptualized as a standard representing the synthesis of all directly or nearly substitutable relations for a firm in its network context. In most business-to-business settings, relations are only nearly substitutable in that some adaptation will be needed, even though it may be rather minor (Hallén, Johanson, and Seyed-Mohamed 1991). Thus, the concept of network context defines the pertinent network structure, which, significantly, provides the firm's judgment frame (Tversky and Kahneman 1981) for evaluating its outcomes from each dyadic relationship and making decisions about allocating resources in the next period.[9] Put simply, network context provides the evoked set for judgments about a firm's dyadic relationships, and CL and CL_{alt} capture this in their respective, integrative ways.

The constructs of interest, though, are *outcomes* given CL and *outcomes* given CL_{alt}. Even as we move to a network context for the focal relationship, outcomes still refer to the economic and social rewards obtained minus costs incurred by each firm in what it does in the focal relationship and thus are akin to the primary functions of relationships discussed previously (and the potentially enhanced results produced by them). That is, outcomes that occur within the focal relationship are judged against CL and CL_{alt}. Although what a firm does in a focal relationship also may affect outcomes in other connected relationships, as in the Danprint case, these outcomes are *not* reflected in outcomes given CL and CL_{alt}. Instead, these connectedness effects on outcomes that occur in a firm's other relations are captured by the constructs of anticipated constructive and deleterious effects on network identity and thus are akin to the secondary functions of relationships discussed previously.[10]

This link of social exchange concepts to network concepts provides an underpinning for them that has been, by and large, implicit in social exchange theory writings (cf. Thibaut and Kelley 1959, chapters 6 and 7). And although the concepts of outcomes given CL and CL_{alt} have not been discussed in marketing as business network concepts, clearly their meaning is dependent on the presence of other business relationships that are in some way connected with the focal business relationship. Network context thus provides an explicit conceptual mechanism for a more complete understanding of what other relations constitute the defining sets for CL and CL_{alt}.

[9]Because time dependence is an important feature of relationships and network context and the analysis focuses on ongoing exchange processes, CL, and to a lesser extent CL_{alt}, are based on the firms' past, present, and perhaps even expected future outcomes from the relevant relationships.

[10]Some readers may wonder why we have not simply defined overall outcomes given CL and CL_{alt} for a focal firm at a network context level; that is, omnibus constructs that capture both the outcomes in the focal relationship *and* the outcomes in all other relations in its network context. This, in some ways, would subsume the constructs of anticipated constructive and deleterious effects on network identity and appear to be in keeping with Thibaut and Kelley's (1959; Kelley and Thibaut 1978) consideration of larger groups, such as triads. Our conceptualization for a business context departs from Thibaut and Kelley's (1959) social context for at least two reasons. First, Thibaut and Kelley consider only groups, so that, by definition, the actors are completely interconnected. By contrast, within a business network context, some actors germane to each member of a focal dyad will not be directly connected to the other member. Thus, CL and CL_{alt} for the group have more cohesive meanings than for a business network context. Second, in the Thibaut and Kelley analysis, which largely focuses on triads of friends, an actor simply changes groups when exercising CL_{alt} for the group. It would be much more difficult, if not impossible, for a focal firm to move to a new network context, which has a completely different set of connected business relationships.

Apart from these conceptualization differences, omnibus constructs would blur a critical conceptual and managerial distinction between outcomes that occurred in a focal relationship and those related outcomes that occurred outside it in the connected relationships. Thibaut and Kelley (1959, chapter 4; Kelley and Thibaut 1978, chapter 11) appear to support this distinction in their discussion of facilitation and interference in interaction in the focal dyad due to other relationships. Finally, even when considering triads, Thibaut and Kelley (1959, chapter 11) recognize the existence of CL and CL_{alt} for each of the three constituent dyads of the triad and, interestingly, discuss outcomes given CL_{alt} for the individual's best dyad as the limiting condition for that individual remaining in the triad (CL_{alt} triad), much as being alone might be the best alternative to being in a given dyad.

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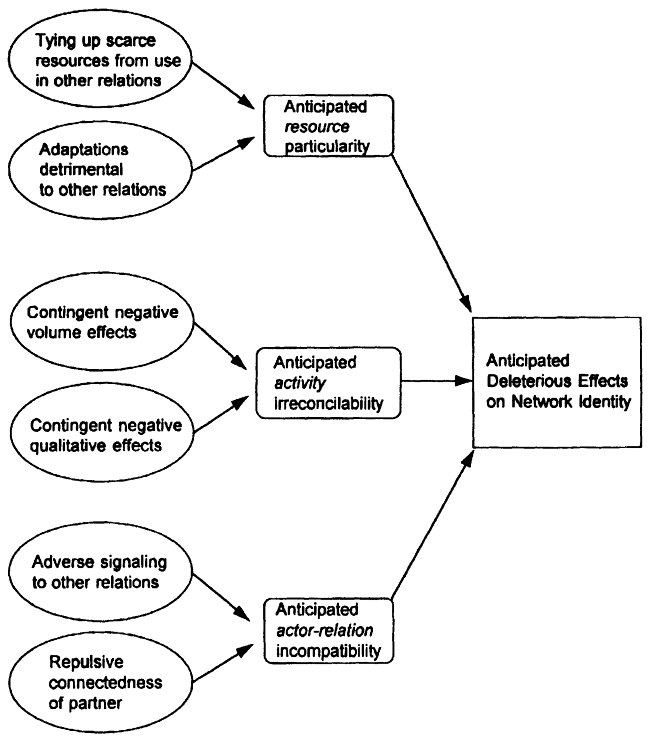
FIGURE 4
The Constituent Facets of the Construct:
Anticipated Deleterious Effects on Network Identity



Posited Construct Relationships with Cooperation and Commitment

Although a comprehensive model of dyadic business relationships is beyond our scope here, we present some posited construct relations simply to illustrate how the constructs we have proposed might be incorporated in such models. To understand them better, we first provide brief conceptualizations of the constructs of cooperation and commitment.

Cooperation can be defined as similar or complementary coordinated activities performed by firms in a business relationship to produce superior mutual outcomes or singular outcomes with expected reciprocity over time (Anderson and Narus 1990). Surprisingly, cooperation seldom has been studied explicitly as a construct (see Anderson and Narus 1990 for a recent exception). Yet in recent work in interorganizational theory and marketing, several processes and studied constructs can be construed as compatible with our conception of cooperation. In their interorganizational process model for transactional value analysis, which is offered as a preferred alternative to transaction cost analysis, Zajac and Olsen (1993) discuss a "processing" stage in which value-creating exchanges occur. Ring and Van de Ven (1994) view cooperation more broadly as characterizing a particular kind of interorganizational relationship. However, the "execution" stage in their process framework, in which the actors engage in mutually preagreed activities requiring resources, appears to capture what we mean as cooperation.

In marketing, several recently studied constructs can be viewed as cooperation. Heide and John (1990) studied the construct of joint action, in which two firms in a close relationship carry out "focal activities in a cooperative or coordinated way" (p. 25). Cooperation can be viewed broadly as occurring within the relationship maintenance process outlined by Heide (1994) and is more specifically reflected in the flexible adjustment process construct studied. In the relationship development framework of Dwyer, Schurr, and Oh (1987), cooperation is a part of the initiation and expansion phases. Finally, in work that embraces a transaction cost perspective, the constructs of specific investments (Heide and John 1990) and idiosyncratic investments (Anderson and Weitz 1992) can be interpreted as dedicated activities and resources employed in cooperation between firms.

Relationship commitment captures the perceived continuity or growth in the relationship between two firms (Achrol 1991; Anderson and Weitz 1992). A closely related construct is relationship continuity (Anderson and Weitz 1989; Heide and John 1990), which reflects each firm's "perception of the likelihood that the relationship will continue" (Anderson and Weitz 1989, p. 311). Growth in the relationship refers to a broadening and deepening of the exchange relation. The relationship can broaden through the extent of joint value created between firms (Zajac and Olsen 1993). It deepens through having established role behavior be increasingly supplemented with "qua persona behavior ... as personal relationships build and psychological contracts deepen" (Ring and Van de Ven 1994, p. 103). Ring and Van de Ven (1994) and Dwyer, Schurr, and Oh (1987) each argue that relationship commitment, through its increasingly unique economic and social psychological benefits to each partner, forecloses comparable exchange alternatives for each firm.

Considering construct relationships, we posit positive causal paths from anticipated constructive effects on network identity to cooperation and relationship commitment. The cases provide ample support for these hypothesized effects. Of course, whether the constructive effects on relationship commitment are direct and indirect or are solely mediated through cooperation remains an empirical question.

Contemplating the construct of anticipated deleterious effects on network identity, a negative, causal path is hypothesized from it to cooperation. By its nature, this construct would appear to hamper cooperation in the focal relationship. But, on further thought, this negative effect might not be as predictable as the positive effect of anticipated constructive effects on network identity on cooperation. This is because adverse effects on network identity might be compensated by the focal firm changing cooperation in other relations. Instead of decreased cooperation in the focal relationship, deleterious effects might be compensated by increased cooperation in those other relationships. Danprint's cooperating with the filling equipment supplier is an instance of such cooperation.

A negative causal path also is hypothesized from anticipated deleterious effects on network identity to relationship commitment. In support of this, Kogut, Shan, and Walker (1992) found that new biotechnology firms become increas-

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ingly unwilling to make commitments to relations that are counter to their established set of relations. Similar to our previous prediction, whether the deleterious effects are direct and indirect or are solely mediated through cooperation remains an empirical question. A final consideration in our posited relationships for anticipated constructive and deleterious effects on network identity is that changes in significant relationships will have both strong positive and negative network effects. This coexistence of strong reasons both for and against cooperation suggests the need to have separate constructs that capture anticipated constructive effects and anticipated deleterious effects on network identity.

Considering outcomes given CL and CL_{alt}, we hypothesize positive, causal paths from them to cooperation. To the extent that past outcomes exceed expectations and/or alternatives, the focal firm is motivated to sustain the relationship with its partner. Cooperative activities represent a primary means for each firm to maintain, or improve on, its outcomes (Zajac and Olsen 1993).

Finally, as implied, we posit a positive causal path from cooperation to relationship commitment. Interestingly, however, although process frameworks typically have cooperation and commitment leading to one another over time, specification of their causal ordering in a given exchange episode has varied (cf. Anderson and Weitz 1992; Heide and John 1990). The work of Axelrod (1984) supports the position that for a given exchange episode, cooperation causes commitment. In studying trench warfare in World War I, Axelrod (1984, p. 85) concludes, "The cooperative exchanges of mutual restraint actually changed the nature of the interaction. They tended to make the two sides care about each other's welfare."

Substantive Validity Assessment

To provide some initial empirical support that the constructs that we have proposed are sufficiently well delineated and to generate some suggested measures for them, we conducted a substantive validity assessment (cf. Anderson and Gerbing 1991). As Anderson and Gerbing (1991) discuss, their pretest method for substantive validity assessment provides not only predictions on the performance of measures in a subsequent confirmatory factor analysis, but also feedback "*on the adequacy of the construct definitions as well*" (p. 739, emphasis in original). So, our primary intent in employing this substantive validity pretest method was to gain this feedback.

The seven constructs studied were network identity, anticipated constructive effects on network identity, anticipated deleterious effects on network identity, outcomes given comparison level, outcomes given comparison level for alternatives, cooperation, and relationship commitment. We followed the Anderson and Gerbing (1991) methodology precisely. Single-sentence definitions were written for each construct that captured their theoretical meaning using everyday language (Angleitner, John, and Lohr 1986). As an example, consider network identity[11]:

> *Network identity* captures the perceived attractiveness (or repulsiveness) of a firm as an exchange partner due to its unique set of connected relations with other firms, its links to their activities, and its ties with their resources.

Because our primary interest was in anticipated constructive and deleterious effects on network identity, 16 measures were written for each of them, and 4 measures were written for each of the other 5 constructs for a total of 52 measures. Twenty-four Swedish managers participating in a management development program served as research participants and assigned each item to the concept that they decided it best indicated. Substantive validity coefficients (c_{sv}) were calculated for each item and tests of their statistical significance were conducted.

In our context, statistically significant values of c_{sv} would indicate that a construct was sufficiently well defined; research participants were able to assign intended measures of a construct to it meaningfully. Overall, 36 of the 52 items (.692) have significant ($p < .05$) c_{sv} values. Of greater interest, 7 of 16 items for anticipated constructive effects and 15 of 16 items for deleterious effects on network identity have significant c_{sv} values. The difference in number of significant items suggests either that writing negative or harmful effects measures is easier to do or that research participants are more sensitive to these effects in relationship practice (perhaps because of painful past experience) and thus are able to make item assignments more accurately. Moreover, these results provide strong initial support for our proposed constructs and their definitions.

Considering the remaining constructs, the number of items having significant c_{sv} values were as follows: network identity, 3 of 4; outcomes given comparison level, 3 of 4; outcomes given comparison level for alternatives, 1 of 4; cooperation, 4 of 4; and relationship commitment, 3 of 4. In Table 1, we provide some suggested measures for our proposed constructs generated from this assessment. Because of our discussion of them within a business network context, we also include suggested measures for network identity, outcomes given CL, and outcomes given CL_{alt}.

A Prospectus for Research

We provide some conceptual development of dyadic business relationships embedded within business networks. The perspective we have taken differs from others. We are interested in managers' perceptions and imputed meanings of the connectedness of a focal relationship to other relationships and its effects on their firm's decisions and activities. To further study what we discuss, we propose a prospectus for research that encompasses both theory development and testing and management practice.

Theory Development and Testing Research

Two complementary research approaches are outlined to provide empirical support for the proposed constructs and their posited effects: directed case studies to guide and refine theory development, and survey research using key informants and structural equation modeling.

[11]The complete set of construct definitions employed are available from the first author.

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TABLE 1
Suggested Measures for Proposed Business Network Constructs

Anticipated Constructive Effects on Network Identity
What we gain from working with this customer will be useful in other relations. (c_{sv} = .70, $p < .001$)[a]
By working closely with this customer, our firm becomes more attractive to our suppliers. (c_{sv} = .67, $p < .001$)
Our way of doing business with this customer has positive consequences on our activities with other customers. (c_{sv} = .50, $p < .05$)
Because this customer is a demanding one, competence developed in working with it can be used to enhance the productivity in all our firm's relations. (c_{sv} = .50, $p < .05$)

Anticipated Deleterious Effects on Network Identity
Institutionalizing quality programs with this one customer may make it difficult to work together with other firms. (c_{sv} = .92, $p < .001$)
Too close a relationship with this particular customer may destroy the balance among our firm's exchange partners. (c_{sv} = .79, $p < .001$)
Collaborating with this specific customer may be rewarding in some ways, but harmful to our reputation with certain other firms. (c_{sv} = .75, $p < .001$)
Although working close together with this customer will likely provide some benefits, important other customers and suppliers may not be happy about this. (c_{sv} = .71, $p < .001$)

Network Identity
Our firm can attract the most competent suppliers. (c_{sv} = .71, $p < .001$)
Due to our supplier relations, our firm is regarded as one of the most attractive suppliers to our present and potential customers. (c_{sv} = .54, $p < .05$)
Our firm has the capability to influence the development in our field. (c_{sv} = .42, $p < .05$)

Outcomes Given Comparison Level
What we have achieved in our relationship with this customer has been beyond our predictions. (c_{sv} = .63, $p < .01$)
The financial returns our firm obtains from this customer are greatly above what we envisioned. (c_{sv} = .50, $p < .05$)
The results of our firm's working relationship with this customer have greatly exceeded our expectations. (c_{sv} = .46, $p < .05$)

Outcomes Given Comparison Level for Alternatives
Working together with this particular customer puts less strain on our organization than does working with other potential partners. (c_{sv} = .50, $p < .05$)

[a]The measure's substantive validity coefficient value and its associated probability level are given in parentheses.

Directed case studies. Qualitative field research such as field-depth interviews and case studies play an essential part in refining the construct definitions we have given and elaborating the content domains of each construct. Directed case-study research may suggest the need for additional constructs or alteration in the structures of the constructs we have proposed.

To develop our knowledge, detailed case studies of development processes within different types of networks are needed. These case studies should cover substantial time periods and be based on material from several of the firms as well as from different functions within the firms. Leonard-Barton (1990) recently has described a dual methodology for field case study of these kinds of complex phenomena. With her approach, a single real-time longitudinal case study is combined synergistically with multiple retrospective case studies to enhance the internal and external validity of the research findings.

Key informant and structural equation modeling research. Field survey research employing key informant reports and structural equation modeling is well accepted by marketing academics in the channels and business marketing areas. The issue of single versus multiple informants (Phillips 1981) is especially critical in studying networks, given that individual actors appear to have bounded knowledge about their firms' networks (Emerson 1981). Thus, a multiple informant approach would appear to be necessary—but this has been problematic in practice (cf. Anderson and Narus 1990). However, the firm hybrid-consensual methodology recently described by Kumar, Stern, and Anderson (1993) appears to offer a means of gaining perceptual agreement among the multiple informants for each firm with respect to phenomena of interest.

Another issue to consider is the inherent trade-off between the breadth of structural equation model that a researcher might desire to capture the complexity of network phenomena and practicality (cf. Bentler and Chou 1987). Being mindful of this, our conceptualization has focused on four constructs, and for two of these—outcomes given CL and outcomes given CL_{alt}—we simply have provided business network underpinnings to constructs that have already appeared in models of business relationships (Anderson and Narus 1984, 1990). Thus, researchers wanting to understand the effects of connectedness would need to add only two new constructs to their models: anticipated constructive effects on network identity and anticipated deleterious effects on network identity. Although we have articulated the constituent facets and principal aspects for each of these constructs, only the constructs themselves and their indicators (e.g., the generated measures appearing in Table 1) should be incorporated in structural equation models of dyadic business relationships.[12]

Management Practice Research

The inherently ambiguous, complex, and fluid nature of business networks place unfamiliar and often perplexing demands on managers. In our experience, two areas greatly in need of management practice research are analyzing and building business networks.

Analyzing business networks. To understand what business networks mean for their firms, managers first must be able to define germane networks and then analyze them in some consistent way. Networks can be defined meaningful-

[12]Note that we have given a formative specification in Figures 3 and 4 for the relationships of the constituent facets and principal aspects to the constructs, such that these facets and aspects might be viewed as causal indicators (cf. MacCallum and Browne 1993). So, in empirical research on these structures, we concur with MacCallum and Browne's (1993) recommendation to incorporate effects indicators for each construct, which overcomes identification problems. Importantly, from our perspective, they then are represented as endogenous constructs rather than composites.

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ly at different levels of granularity, depending on the analytic purpose. The concepts of network horizon, network context, and network identity can be applied at each level with correspondingly different substantive meanings. Whatever network context is selected, definition of the network should focus on the set of significant relationships. For example, Håkansson (1989) has found that the ten largest suppliers and the ten largest customers account for an average of 72% and 70% of the total volume bought and sold, respectively, by a business unit. Finally, because we regard business networks as sets of connected business relationships rather than as sets of connected firms, secondary functions of relationships should be of predominant interest for analysis and study by managers.

Building business networks. Managers who understand the potential of business networks for their firms naturally would like to know how to build one in practice. Snow, Miles, and Coleman (1992) argue that, in constructing business networks, certain managers operate as brokers, creatively marshaling resources controlled by other actors. They sketch out three broker roles that significantly contribute to the success of business networks: the *architect*, who facilitates the building of specific networks yet seldom has a complete grasp or understanding of the network that ultimately emerges; the *lead operator*, who formally connects specific firms together into an ongoing network; and the *caretaker*, who focuses on activities that enhance network performance and needs to have a broader network horizon. Research is needed to understand how performance of these roles and what other factors (e.g., resources and activities) contribute to successful business networks.

Conclusion

In business-to-business settings, dyadic relationships between firms are of paramount interest. Emerging practice strongly suggests that to understand these business relationships, greater attention must be directed to the business network context within which dyadic business relationships take place. Drawing on business network research and social exchange theory, we have provided a fundamental conceptualization to capture network properties and relationship connectedness within dyadic business relationship models. Granovetter (1992) cautions that it is easy to slip into "dyadic atomization," a type of reductionism in which an analyzed pair of firms is abstracted out of their embedded context. By building out from focal dyadic relationships to consider effects of their embedded network contexts, we attempt to enrich the study of exchange relationships in marketing, which largely has had a dyadic atomization character.

Because of the extraordinarily complex nature of network phenomena, without doubt, refinement and elaboration are needed. As means for accomplishing this, we have proposed some directions for research that embrace the complementary strengths of two methodological approaches. Although research on business networks is challenging, it has the potential to make significant contributions to not only business marketing theory, but evolving business practice as well.

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