Information Exchange: an Actor, Activity and Resource Perspective

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Abstract

Despite the importance of information exchange in interfirm relationships, scholars have seldom focused on this construct. Little empirical work is available that explores the theorised relationships between information exchange and other relational measures. Moreover, existing conceptualisations are not sufficiently rich to describe the phenomena. To address these problems, a model of information exchange is developed. The model makes explicit the activity, resource and actor dimensions of information exchange and provides a framework for understanding the complex and interpenetrating impacts of information exchange on interfirm relationships.

INTRODUCTION

Information exchange is important in interfirm relationships. It involves the expectation for, and disclosure of information between two actors. It is a proactive, mutual and reciprocated process that may involve changes in the behaviours and/or beliefs of one or both actors. Information exchange is necessary for knowledge creation and the coordination of interfirm relationships. It appears to provide a mechanism for the control and management of interfirm relationships and plays a crucial role in the development of the relationship.

Despite its significance in interfirm relationships, information exchange is not a richly developed research construct. Although studies of interfirm relationships have included information exchange, it has not been central to the research. Instead, other constructs such as commitment and trust have been viewed as pivotal in interfirm relations (Morgan and Hunt 1994). The IMP group emphasises cooperation (Håkansson 1982). Others have focused on relational norms (Heide and John 1992), commitment (Gundlach et al. 1995) and opportunism (John 1984).

An examination of the literature reveals information exchange has been conceptualised in at least three different ways. Most research portrays information exchange as a transfer activity (Anderson and Narus 1990), but it has also been presented as a behaviour concerned with changing or influencing the actions of others (Frazier and Summers 1984). A third approach casts information exchange as a relationship norm (Cannon and Perreault 1999; Heide and John 1992). The conceptual underpinnings for each of the three definitional stances are fundamentally different and suggest different roles for information exchange in interfirm relationships. A richer more complete conceptualisation of information exchange requires the integration of these different perspectives.

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This is accomplished by providing a theoretical conceptualisation of information exchange that captures the underlying dimensions of the phenomenon. The "Actors, Activities, Resources" (AAR) network model (Håkansson and Johanson 1992) is used to clarify the associations between the dimensions that make up information exchange and other related constructs in interfirm relationships and the role performed by information exchange in interfirm relationships. The proposed model makes explicit the activity, resource and actor dimensions of information exchange and incorporates each of the three definitional stances that are employed in the existing literature. It provides a framework for understanding the complex and interpenetrating impacts of information exchange in interfirm relationships. Before considering this conceptualisation of information exchange, a brief description of the extant literature and conceptualisation is provided.

EXISTING VIEWS OF INFORMATION EXCHANGE

There are at least three alternative conceptualisations of information exchange in the literature. First, it is presented as behaviour involving the transfer of information (Anderson and Narus 1990). Information exchange is also conceptualised as behaviour concerned with changing or influencing the actions of others (Frazier and Summers 1984). A third approach casts information exchange as a relationship norm (Cannon and Perreault 1999; Heide and John 1992). Various definitions of information exchange are provided in Table 1 which illustrates these different definitional stances.

The most common conceptualisation of information exchange is as behaviour concerned with the transfer of information between actors. This conceptualisation presents an interesting dialectic. Some definitions emphasise the responsibility to anticipate the needs of the other (Doucette 1997), the obligation to reciprocate (Roloff 1981), and the requirement to provide value in the exchange activity (Anderson and Narus 1990; Heide and Miner 1992). Others reflect more the concern for the instrumental consequences of information exchange (for example, with the extent or volume of information that is transferred and the efficiency with which this occurs) (Anderson and Narus 1990; Fontenot and Wilson 1997; Nielsen 1998) and apparently individualistic assumptions about the nature of the actors. Despite the differing conceptual domains from which the transfer activity-based definitions of information exchange have been drawn, there are a number of elements that many of the definitions share. These elements include a focus on the extent of the activity and the value of the information, as well as the anticipatory nature of the behaviour and the obligation to reciprocate.

Communication has also been conceptualised as a means of influencing others (Frazier and Rody 1991; Frazier and Summers 1984; Mohr et al. 1996; Mohr and Nevin 1990). Such behaviours have been called influence tactics. They are part of the "constellation of communication behaviours" (Mohr et al. 1996) that can be used to moderate or control the behaviour of a relational partner. The view of communication as a transformational behaviour is strongly influenced by the interfirm power literature (El-Ansary and Robicheaux 1974; Frazier 1983; Gaski 1984; Gaski and Nevin 1985; Hunt and Nevin 1974; Nevin and Michie 1979; Pfeffer 1981; Wilkinson and Kipnis 1978) and the social exchange theorists Homans (1967; 1950; 1958; 1961; 1964) and Blau (1964; 1968a; 1968b).
Table 1. Definitions of information exchange, information-sharing and communication from the interfirm relationship and marketing channel literature

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<th>Definition</th>
<th>Basis of conceptualisation</th>
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<td>Information exchange ...[is the] degree to which each party discloses information that may facilitate the other party’s activities, as opposed to keeping all information proprietary (Heide and Miner 1992, p. 275).</td>
<td>Behavioural Transfer</td>
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<td>Information exchange refers to the degree to which trading partners proactively provide information useful to each other (by Doucette 1997, p. 184; attributed to Heide and Miner 1992).</td>
<td>Behavioural Transfer</td>
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<td>Communication is] the degree to which the relationship was characterized by open communications and sharing of information (Anderson and Weitz 1992, p. 23). Communication “can be broadly defined as the formal as well as informal sharing of meaningful and timely information between firms” (Anderson and Narus 1990, p. 44; Bello et al. 2003, p. 3; Crotts and Turner 1999, p. 120; Gassenheimer et al. 1996, p. 70; Lewin and Johnston 1997, p. 29; MacKenzie and Hardy 1996, p. 26; Morgan and Hunt 1994, p. 25). Communication is a symbolic process by which two people, bonded together in a relationship, provide each other with resources, or negotiate the exchange of resources (Roloff 1981, p. 32). Information sharing refers to the extent to which critical, often proprietary, information is communicated to the firm’s partner (Nielson 1998, p. 452). Information sharing refers to the extent to which critical, often proprietary, information is communicated to one’s partner (Mohr and Spekman 1994, p. 139). Communication behaviour – flows and communication quality (Mohr and Sohi 1995). Communication is the exchange of information between buyer and seller (Selnes 1998, p. 310). Communication includes the ways in which information is exchanged and shared between partners and the openness between partners in their exchanges of information (Fontenot and Wilson 1997, p. 7). Communication is a simultaneous and contextual phenomena in which people feel a change occurring and share in the same sense of change, and are moved to take action (Nonaka 1994, p. 24). As a means of exercising power (Frazier and Summers 1984). Information exchange defines a bilateral expectation that parties will proactively provide information useful to the partner (Heide and John 1992, p. 35; Mohr and Sohi 1995, p. 398). Information exchange [is the] expectation that particular pieces of information that might help the other party will be provided (Berthon et al. 2003, p. 703). Information exchange [is the] expectation of open sharing of information that may be useful to both parties (Cannon and Perreault 1999, p. 441).</td>
<td>Behavioural Transfer</td>
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<td>This literature tends to emphasise the calculative and individualistic characteristics of actors in their dealings with each other. The idea that one actor can control or constrain the behaviour of another is important here.</td>
<td>Norm</td>
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Finally, information exchange has been described as a norm. As Heide and John (1992) point out "norms are expectations about behavior that are at least partially shared by a group of decision makers" (p. 34). In interfirm relationships, norms emerge from the patterns of behavior that have been established between exchange partners. These behaviors enable actors to anticipate future actions and to develop expectations about likely behaviors. These are norms. Following Macneil (1980) and Noordewier et al. (1990), Heide and John (1992) identified three norms that together constitute the higher-order relational norms. These norms include flexibility, information exchange and solidarity. The norm of information exchange has been shown to be an important factor influencing subsequent communication behavior (Mohr and Sohi 1995). For Heide and John (1992), information exchange "...defines a bilateral expectation that parties will proactively provide information useful to the partner" (p. 35). Similar to the behavior described by Heide and Miner (1992), the norm information exchange is reciprocal, anticipatory and pertains to information that is useful. This norm deals with mutual expectations for behavior rather than the behavior itself.

There are a number of problems with much of the existing work describing the nature of information exchange in interfirm relationships. There is a lack of conceptual distinctness between information exchange and other related constructs. Existing definitions neglect the emergent and actor related properties of the construct and the connections between them. This disconnected view of information exchange, where transfer processes are considered in isolation of the resources being transferred, the associated transformational activities and the actors involved in the process, is impoverished, providing an inadequate framework for understanding the role of information exchange in interfirm relationships.

To address this problem, the AAR network perspective of the IMP Group is used as a theoretical framework for developing a conceptual model of information exchange which draws together each of these theoretical perspectives of information exchange.

**INFORMATION EXCHANGE: AN AAR PERSPECTIVE**

The AAR model presents relationships as consisting of "three layers of substance" (Håkansson and Snehota 1995); actors, activities and resources. Actors (those who perform activities); activities (the act of transforming and transferring resources); and resources (an asset, benefit or means), are interdependent constructs that can be used to describe sets of relationships between actors (Håkansson and Johanson 1992). This model of relationships provides a useful framework for understanding the information exchange construct.

At its core, information exchange comprises transfer activities and exchange resources. These resources are described by the type of information that is exchanged, the exchange medium and properties of the resource and corresponding properties of the transfer activity. These dimensions are central to the conceptualisation of the phenomenon and represent the core activity, resource coupling. It is argued that it is possible to distinguish alternative forms of information exchange by incorporating "actor" dimensions within the information exchange construct. These dimensions include the type of actors/relationship involved as well as expectations about information exchange (norms) and the motivation...
of each actor in the relationship with respect to information exchange. Transformational activities are also considered. Communication behaviours (or influence tactics) can alter the behaviours of actors (and probably the nature of the actor bonds). These are transformational activities that are often associated with information transfer and constitute the activity links that connect actors. The following diagram shows how these dimensions fit within the broader construct, information exchange.

Figure 1. Actor, Activity and Resource dimensions of information exchange

The properties of the transfer activity and the information resource are central to this conceptualisation of information exchange. Network theory suggests that particular associations can be anticipated between specific transfer activity and resource connections (Axelsson and Easton 1992). For example, where information resources are novel (exhibiting high levels of variability), it is likely that peculiar transfer activities will have evolved to accommodate the exigencies of handling these unique characteristics of the information resource. There is considerable evidence in both the network and knowledge literature to support this view (Håkansson and Snehota 1995; Hansen 1999).

Information exchange resources can also be characterised by the specific types of information that is exchanged and the media that is used to transfer it from one actor to another. As resource theorists (Foa and Foa 1976; Foa 1971; Freiden et al. 1998) point out, information is unlike many other transfer resources. Its intangible characteristics mean that the medium for exchange contributes significantly to its character. Information
exchange must also capture the specific content of the information to be exchanged. Together these activity-resource dimensions constitute the core of what is information exchange. They reflect the traditional transfer perspectives of the information exchange literature but go beyond them because they make explicit the significance of the properties of the transfer resource and the specific connections between resources and activities.

The model of information exchange presented here goes considerably beyond the activity-resource couplings. Actor dimensions are viewed as important parts of the information exchange construct. The significance of these dimensions in exchange processes is based on social exchange theory and in particular from collectivist theorists, who emphasise the emergent properties of social exchange and the significance of the actor in understanding exchange processes (Davis 1992; Lévi-Strauss 1969; Mauss 1954). For these theorists, the motivations and expectations of actors and the nature of the relationships between them constitute important parts of the exchange itself. They argue that exchange events are fundamentally different when actor dimensions vary, even if the activity-resource attributes of the exchange are identical.

Although existing work recognises the relevance of information norms (expectations and jointly shared beliefs about information exchange), a dominant perspective in interfirm relationship literature, is that this is a separate characteristic of the exchange relationship rather than a dimension of information exchange itself (Heide and John 1992; Mohr and Sohi 1995). The AAR model of information exchange presented in Figure one corrects this misapprehension. The conceptualisation of information exchange that incorporates actor motivations, the characteristics of the relationship (i.e. the nature of relational ties) and the jointly held expectations about the activity (norms), will enable researchers to develop a much greater appreciation of how information exchange impacts interfirm relationships.

Finally, the transformation activities associated with information exchange are viewed as crucial dimensions of the process. Network literature links transfer and transformational activities (Håkansson and Snehota 1995), and many theorists take the position that communication (and possibly information exchange) has not occurred unless there is an associated change in the affective state or behaviour of the actors involved in the exchange process (Motley 1990). This perspective of information exchange is poorly addressed within the literature pertaining to interfirm relationships. For example, although a central tenant of agency theory presumes that information exchange has potential to transform others' behaviours and thus ameliorate the impacts of opportunistic behaviours (Bergen et al. 1992), the details of these processes remain largely untapped within the interfirm relationship literature. Notable exceptions can be found in the work of Mohr et al. (1996) who consider collaborative transformation information exchange activities and the role of communication in relational governance, as well as Watne and Heide (2000) and Gierl and Bambauer (2002), who deal more specifically with opportunism. The model of information exchange presented in Figure 1 specifically incorporates transformational activities and seeks to identify how they are connected to transfer processes in information exchange.
DISTINGUISHING INFORMATION EXCHANGE
FROM OTHER PHENOMENA

One of the main problems with much of the literature has been distinguishing information exchange from other related phenomena, including communication and social interaction. Information exchange, communication and social interaction are all forms of exchange (Berelson and Steiner 1964). Indeed, they are all transfer activities involving the exchange of information resources, yet there are differences between them. The boundaries between information and other related phenomena require clarification.

Communication is a form of exchange; it is related to, but different from, information exchange. One approach distinguishing these constructs is to consider communication in the absence of information exchange. According to some theorists, there is no possibility of not communicating – even when there is no information flow, there is communication. The act of not communicating is informative and affects the actions of the other party (Watzlawick et al. 1981). Communication, therefore, comprises both intentional and unintentional exchanges. On the other hand, information exchange is always intentional – a deliberate process.

It is also possible to distinguish communication and information exchange by virtue of the behaviour of the actors involved in the transfer activities. Some communication researchers take the position that communication involves any transfer of information whether or not it has been noticed by the receiver (Berelson and Steiner 1964). Most argue that the receiver must at least have noticed the information (Motley 1990). In contrast, exchange theory suggests information exchange must involve a more significant behavioural response from the recipient actor. An exchange event requires reciprocity. Theorists sometimes disagree on the form that it takes, but it is a necessity (Gouldner 1960). So a second important approach to distinguishing communication and information exchange is the extent to which the information transfer is reciprocated.

Information exchange is a more restricted phenomenon than communication. It is both intentional and reciprocated. It follows that information exchange is a sub-set of the range of behaviours that are communication. This insight goes some way to explaining why the terms information exchange and communication have been used interchangeably within the literature dealing with interfirm relationships. It also suggests that concerns about the irregularities in the use of these terms are probably not very significant.

One possible approach to distinguish between social exchange and information exchange is to consider the type of linkages characteristic of these activities. Eisenberg et al. (1985) present a typology of interfirm linkages, in which information (and material) flows are classified by the organisational level at which they occur.

An institutional linkage occurs when information or materials are exchanged between organizations without the involvement of specific organizational roles or personalities (e.g., routine data transfers between banks). A representative linkage occurs when a role occupant who officially represents an organization within the system has contact with a representative of another organization (e.g., an interagency committee to formulate policies). The emphasis here is on the official nature of the transaction and the
representative capacities of the individuals. Finally, a personal linkage occurs when an individual from one organization exchanges information or materials with an individual in another organization, but in a non-representative or private capacity (i.e., via friendship or "old school" ties) (Eisenberg et al. 1985, p. 237).

In this framework, social exchange occurs at the personal level while information exchange usually occurs at institutional and representative levels. The personal, non-representative flow of information often provides the most important source of new knowledge for organizations (Augier and Vendelo 1999; Constant et al. 1996; Granovetter 1973; Hansen 1999). Clearly, this typology is not sufficient to distinguish all types of information exchange from social exchange and information content is also important. Social exchange typically involves information flows of personal relevance, whereas information exchange is characterised by flows where content is of broader organisational concern. At times, the distinction is very blurred. One of the best means of distinguishing these constructs might be the intention regarding the use of information. Social information is likely to have less organisational or relational application. The definition of information exchange used here incorporates the motivations for information exchange and thus makes it possible to distinguish information exchange from social interaction.

DISCUSSION, IMPLICATIONS AND CONCLUSIONS

This model of information exchange departs from traditional one-dimensional conceptualisations of information exchange and communication and makes explicit its actor-activity-resource properties and the interpenetrating connections between them. As such, this framework provides a more comprehensive and possibly exhaustive description of information exchange. However, much of the usefulness of the approach will be determined by the richness with which each of the elements that make up information exchange is operationalised. For example, it is not the information exchange media (i.e. email, fax, telephone) per se, but the properties of that media that will interact with the information resource to fundamentally change its character. To illustrate, the medium for the exchange of information may be regarded as more or less intangible, more or less personalised, more or less formal and it is these properties of the medium that will ultimately impact the character of the information resource rather than the objective form of the media. Similarly, arguments can be made regarding the nature of the relationship, the role of actors and the type of information. The collectivists social exchange literature (Davis 1992; Lévi-Strauss 1969; Mauss 1954) offers a perspective which will be useful in directing the operationalisation of these dimensions. This work suggests the significance of understanding the impacts or qualities of the phenomenon rather than its objective characteristics. So EDI is significant not because it is digital but because it is intangible, depersonalised and formal in character.

Once fully operationalised, the conceptualisation of information exchange provided here offers the academic a much more finely grained tool for examining the impacts of information exchange on interfirm relationships. In particular, it will enable researchers to understand the complex ways that information exchange may affect business relationships. It is entirely possible within the relationship that the pattern of information exchange might simultaneously increase relational commitment while at the same time
increase the possibilities of opportunistic behaviour. For example, the exchange of novel, strategically unique information may create a position of power in the network which negatively effects trust and openness and increases the likelihood of opportunistic outcomes. Despite this, the significance of the resource and its value may strengthen the tie between actors. Existing one dimensional (and probably reductionist) views of information exchange cannot hope to reflect this complexity.

In particular, this model of information exchange has the potential to reveal the connections between transfer and transformational activities. The power literature (Gaski 1984; Kipnis et al. 1980; Nevin and Michie 1979; Wilkinson and Kipnis 1978) offers an insight regarding the types of transformation activities and their likely impact on the relationship but fail to make explicit the connections to the transfer behaviours (that network theory predicts are inevitably associated). Understanding the links between these activities will enable the astute manager with a greater capacity to effect changes in the network in which they are embedded.

Indeed, empirical work has suggested that information exchange may offer an alternative governance mechanism (Berthon et al. 2003; Brown et al. 2000; Gundlach 1994; Heide 1994), while at the same time, the interfirm relationship literature is less optimistic about the capacity of an individual actor to "control" relationships (Håkansson 1982; Håkansson et al. 1990). The integrated perspective of information exchange provided here may go part way to describing how information exchange might be used to influence the pattern of interaction in the interfirm relationship, despite its emergent and co-created nature.

The model also draws into relief the connections between activities and resources. One might speculate that fairly utilitarian information exchanges (associated with facilitating the business transactions) are likely to be associated with routine transfer behaviours. Strategic and novel information might be conveyed using highly personalised media on a fairly irregular and ad hoc basis. The multi-dimensional conceptualisation presented here will enable such beliefs to be further investigated.

A particularly fertile application of this tool will be to the problem of new product design. Information exchange is crucial to new product development, yet very little is known about how information exchange should be structured for optimal outcomes in these processes (Perks 2000). Information flow in networks and the mechanisms by which organisations access new/novel information, may also have a bearing on effective new product development (and strategic position) (Burt 1992; Granovetter 1973; Hansen 1999). A better understanding of the nature of information exchange and the flow of information in networks might prove useful in improving the outcomes of new product development processes. Moreover, the strategic significance of increased access to information resources and the processes that support this requires further explication.

Information exchange is important in interfirm relationships and networks – this has long been understood. Despite this, relatively little is known about it. This paper provides the reader with a substantially richer and more complex view of information exchange. Implicit in this conceptualisation is the belief that we will only fully appreciate relationships and networks by embracing their complexity. The AAR perspective of information exchange does this.
References


Gaski, John F and John R Nevin (1985), "The differential effects of exercised power and unexercised power sources in a marketing channel," Journal of Marketing Research, 22 (May), 130-42.


Håkansson, Håkan Ed. (1982), International marketing and purchasing of industrial goods. Chichester, United Kingdom: John Wiley & Sons Ltd.


Heide, Jan B and George John (1992), "Do norms matter in marketing relationships? " Journal of Marketing, 56 (April), 32-44


Motley, Micheal T (1990), "On whether one can (not) not communicate: an examination via traditional communication postulates." Western Journal of Speech Communication, 54, 1-20.

Nevin, John R and Donald A Michie (1979), "Channel member satisfaction and sources of power." Graduate School of Business, University of Wisconsin at Madison.


