

Interaction: a time perspective

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ABSTRACT

Interaction is central to a relationship and network framework, yet the concept is quite amorphous. One reason for imprecision is the lack of theory with regard to the way interaction works in time. Clarification of this nexus further develops the interaction concept and provides theoretical support for the dynamic view of business relationships and networks being developed by the IMP Group.

The role of time as a background for interaction is elaborated, in conjunction with the cognitive ability of humans, to arrive at explanations of inter-firm interaction. This elaboration of time extends the concept of horizontal relationship time (ie past present, future). In addition, the constraints upon inter-firm interaction are elaborated and the importance of the human actor is highlighted, within resource and activity networks spread through time. Furthermore, elaboration of time provides clear distinctions between interactions as exchange versus adaptation and offers theoretical grounds supporting a relationship and network perspective for business markets, while dismissing business relationship life cycle theories.

INTRODUCTION

Interaction is the essential analytical concept at the heart of a relationship and network perspective of business markets (cf Ford 1990; Håkansson 1982; Håkansson and Snehota 1995) with interaction linking firms, relationships and networks (cf Håkansson and Snehota 1995).

However, interaction is rarely defined in specific terms. This is so for at least three reasons. First, business markets are highly complex with actors able to be defined in many ways (eg individual, group, business unit, firm, relationship and networks), so that the specific meaning of interaction changes according to context. Second, the embeddedness of networks means that it is difficult to separate the specific elements of one interaction from any other. Third, the essential framework of 'time', within which all interaction occurs (Halinen 1998; Halinen and Törnroos 1995), has not been fully elaborated. Yet, all business interaction necessarily occurs within time. In addition, perceptions of interaction are unavoidably shaped by human perspectives of time. Thus, an examination of interaction from a time perspective should inform

on the potential forms and dynamics of business relations and so on the nature of networks and firms.

This paper begins an explanation of interaction from a time perspective. However, to do so, it is necessary to propose a solution for the first two issues highlighted above. One answer, in business markets, is to consider the pre-eminence of the actor - actor bond interaction over all others in shaping relationships (Medlin and Quester 1999). That is, while it is firms that conduct relationship activities, it is the human actors who synchronize all. While one may argue resource ties, activity links and their associated firm and network constructs pre-determine coordination of relationships in the short, or medium, term; over the long-term it is humans that perceive, understand and shape the business world. For example, the pre-eminence of the actor is evident in the way resources and activities are applied, for it is the human agent that defines and uses these tools.

If the human actor takes precedence in shaping business relationships, then interaction should be seen in human terms first and foremost. Thus, in business management, an elaboration of time may be best undertaken in human terms. Such an approach might then allow a new consideration of interaction, at the nexus between subject and other subject with regard to object.

The remainder of this paper is structured in the following manner. First, a model of time is elaborated from a human perspective, so that a framework is provided for understanding interaction. Second, inter-firm interaction is elaborated against this background. Finally, theoretical and methodological implications are considered.

TIME AND INTERACTION

For humans, time measures the separateness of events (Ackoff and Emery 1972), so that two exactly similar events can be differentiated by their timing. While one can measure time from many points (eg 0 AD, Greenwich), the human mind must relate time to the present and so events are positioned in the past, present or future. Halinen (1998) suggested a similar approach for business markets, with a division between horizontal (ie past, present and future of a relationship) and vertical (ie variations in social, organizational and cultural perspectives) time. In this approach Halinen (1998) suggests that the present of any relationship is

conditioned by past and future (cf Axelrod 1984); and that different cultural boundaries will determine the human perspectives of the past, present and future depending on the nature of the management problem/s. By elaborating time and interaction together this paper substantially extends Halinen's (1998) conceptualisation.

A consideration of time as past, present and future immediately raises a problem: how long is the present, or what are the boundaries of the present, when does it begin and when does it end? This problem arises because in reality the 'present' is continuously moving and in one sense cannot be grasped as anything more than the "everlasting present" (Luhmann 1979). However, humans truly facing a cognitively continuing present would be immediately overwhelmed by continuous complexity (Luhmann 1979) and so must rely upon a past and a future to define an acceptable period as their 'present'.

The solution to these problems is found in the nature of human cognition and the interaction required to create a social world, for each requires a different number of 'moments'. Thus, if a moment is defined as the time taken for a thought to emerge and be acted upon, then interaction takes at least two moments. This is clear when a single moment is considered: for in a moment people have the ability to perceive, think and arrive at the same thought, to act and to even act in concert when following a plan, but not to think in concert; rather thinking in concert is serial and relies upon interaction through at least two moments of time. Thus, to take the social creation of reality through interaction as a basis for quantifying time, it is clear that the minimum period of the 'present' is *at least* two moments.

However, defining the outer boundaries of the 'present' is more difficult, for a way must be found to distinguish between past and 'present' as well as future and 'present'. Again the solution is based upon human cognition and interaction, for while the human mind is placed in a cognitively continuous present, the present must start at the completion of the past and be completed at the beginning of the future. These questions amount to deciding upon 'events' (cf Hedaa and Törnroos 2001) that mark time boundaries. While many incidents and happenings occur as actors interact, not all are perceived as important events (Hedaa and Törnroos 2001); rather most incidents comprise the matter of interaction. In contrast, certain incidents change the nature of interaction from the participants' perspective and it is these that mark transitions in time. These events may arise from either inside or outside the interaction context,

but importantly they change human perspectives of the nature of the present interaction. Luhmann (1979) defined such events as those where an actor notes a change in 'state'.

This means the 'present' can be defined as the period between two events that change the 'state' of reality for at least one actor and this period consists of more than two moments. This definition provides for a 'present' that is relative to the nature of the problem under study, with the 'present' *moving on* when a significant event marks a change of state. That is, certain interactions lead to long periods of 'present' (eg geological), while others suggest a short 'present' (eg internet businesses). In addition, the definition allows for different perspectives of time for each actor, so that forms of dissonance in interaction may be explained.

Further comments on the length of the 'present' are made in the final section of the paper. It is enough here to indicate that the nature of the present is determined by the time horizon of the actors' social, organizational and cultural perspectives (ie Halinen's 1998 vertical time) and that in business markets the present can generally be constrained to periods such as one hour, a week or months. So that interaction in time may be elaborated, this paper takes the view that the present is constrained to some moments or hours. Such a perspective makes for easy distinctions between past, present and future.

The remainder of this section considers the entrenchment of humans in the present by examining how past, future and present time act as reference frames for each other.

Past Time

Past time holds the memories and interpretations of selected events, for to remember everything is not possible. Thus, Nietzsche comments that one must forget to be able to live, for otherwise contradictions will stall activity (in Kaufmann 1959). However, it is selective interpretations of past events that shape all understanding of present activity and future possibilities. This has an important implication, for different people will hold varying interpretations of past events, depending upon many factors, not the least of which is their different viewpoint of any interaction. Thus, there are many subjective pasts.

Future Time

Conversely, future time is full of many possible alternatives made up of innumerable potential events, from which only one alternative can become a present (Luhmann 1979). Or to say it in another way, alternate futures are discarded to make the present and then each present makes new alternate futures (Luhmann 1979). Thus, future time is composed of many possibilities, each of which shapes the present to some degree and in turn the new possible futures. That is, future time is unbounded and forever changing as present time streams past.

Present Time

However, these views of past and future time as continuously changing contexts or states can only be given meaning in the present, where the human mind is held in the constantly passing present (Luhmann 1979). Thus, interpretation of possible futures and subjective pasts must occur from the present. Yet, the present is a structure of full complexity, which relies upon the existence of an interpreted past (ie learning) and future (ie intentions and expectations) for its composition (Luhmann 1979). This interwoven view of human reality is evident in the perceived halting of time as one waits for the clock to strike the hour (Yarrow et al. 2001): while the mind is trapped in the present, past learning about a clock and present perception allow foresight and expectation of future event and the hour appears to take longer to arrive.

There are two additional points that must be made about the present. First, interaction can only occur in the moments that make up the present (Buber in Friedman 1960). While the past holds interpretations of interaction and the future holds potential interactions, it is only the present where perception and interaction can occur. This amounts to an extraordinary restraint upon interaction and provides enormous scope for complexity as well as patterning of interaction in time.

Second, it is only in the present that memory of the past or expected futures can be cognitively deliberated or re-ordered. Thus, the present is composed of instantaneous and continuous switching between interaction and perception/cognition, with each being essential to the other (Buber translated by Smith 1958). That is, perception/cognition is required to make sense of events and provide interpretations of past and futures with regard to the present so interaction can proceed. Consequently, for the individual, the quality of interaction depends upon the effort and time required to perceive and re-order the cognitive world and the mechanisms

available to aid these processes and the interaction process; and in addition upon the qualities of the other subject. That is, interaction is constrained by individual human powers and empowered by socially derived mechanisms, such as interaction contexts and social norms (Medlin Forthcoming), schema (Welch and Wilkinson 2002), language and technologies.

The next section examines the ways business interaction is composed in time.

BUSINESS INTERACTION IN TIME

For business markets the entrenchment of interaction in the present can be examined in at least two ways. First, there are the ways in which time contains business interaction, and secondly, one must deal with the reliance upon the past and future as reference for the meaning of business interaction. Each is discussed in turn below.

Time as Container

While a human actor, or firm, can plan inter-firm coordination activities and resource links for a future time, it is only possible to conduct such coordination in the present. This is a direct result of the entrenchment of cognition and reality in the present. However, while interaction is constrained to the present, the objects of cognition and interaction may be positioned anywhere in time. That is, resources, activities and actors, as well as the associated relationship and network constructs have varying degrees of permanency through time; and so constrain and also enable interaction possibilities in the present and future.

Thus, an actor can deliberate with an aspect of expected future time in this passing present to plan an intended activity (ie cognition), or interact with another actor in this present to plan an intended activity, but one cannot interact in a future time. Likewise, one can deliberate with an aspect of remembered past time (ie cognition), or one can interact with another actor in this present time concerning a past activity, but one cannot interact in a past time.

These distinctions about the location of objects in time can be used to further elaborate Johanson and Mattsson's (1987) categories of business interaction (ie exchange and adaptation). Since the objects of interaction can exist in the past, present and future; but interaction can only occur in the present, the dynamics of exchange and adaptation are necessarily different in time.

Exchange can only occur in the present, although histories of exchange are available and future exchanges can be planned. Whereas adaptations are planned in the present, but exist as changes to resource ties and activity links in the future (Medlin 2002). Thus, present exchange follows the 'logic' of adaptations planned in the past and enacted in the present, as well as the logic of the present network and relationships.

Thus, in business markets, exchange interaction is embedded in the present and follows the coordination 'logic' of the resource ties, activity links and actor bonds that have emerged incrementally according to past adaptation (Håkansson and Snehota 1995). That is, the exchange interaction is coordinated in the present, but with reference to the resources, activities and actors spread through time. Even in spot markets, where interaction is limited to a discrete exchange with a short time dimension (cf Dwyer et al. 1987), coordination is by loose resource ties and activity links according to past adaptations and with reference to the way resources, activities and actors are spread through time.

Since adaptations are planned through present interaction, with the intention that they come into effect at a future time, firms must have the capability to command resources through time. Thus, business relationships presuppose the structuring of resources and activities over time with the reward for cooperation being economic benefits from a continuing stream of 'exchange' (Medlin et al. Forthcoming). However, underlying the resource and activity decisions are the cognitive and interaction possibilities through time, with cognition and interaction being essential in providing for some degree of shared intentions and expectations. Furthermore, the cognitive and social development of trust and distrust (cf Luhmann 1979) is required for commitments to proceed through the inherent time dimension of business relationships (Medlin 2002).

Thus, while interaction is limited to the present its nature is clearly dependent upon the different pasts and potential futures of either the firm or other firms. These issues are now elaborated further, with reference to inter-firm interaction.

Future as Context

Interaction in the present can only continue when the presumption of a future is made, for without a future there is no need for continuing interaction between firms. Thus, in business relationships, the future remains available for completing interactions, so as to achieve the

intentions of the parties. In addition, the futures of each party to a business relationship exist as expectations that throw a shadow on present thought and behaviour (Axelrod 1984).

There are at least three implications for interaction in business relationships, given the earlier discussion on the unbounded and continually unfolding and changing nature of the future.

First, as each 'present' creates a new future, there is no certainty of any potential future becoming a present. That is, emergence remains continual (Håkansson and Snehota 1998) and causality is indeterminate. Thus, inter-firm interaction requires continual commitment to some form of shared intention for causality to be achieved. Clearly any disparity on intentions, and so commitment, must lead a business relationship to unintended results. Thus, the evidence that 'closeness' leads to successful business relationships (Nielson 1998) is theoretically supported by the concept of horizontal time.

Second, given variation in network context each actor must bring a different perspective of the future to any interaction. Furthermore, the future perspectives of any two firms can never move into exact harmony, for each new present provides a different future vista. Thus, business relationships remain forever dynamic and theories of relationship life cycles are evidently misplaced (cf Halinen 1998). In fact, the notion of time elaborated here provides theoretical support for the idea that business relationships follow indeterminate paths (cf Ford and Rosson 1982).

Third, continual renewal of futures places a huge task upon human cognitive ability, for each new present provides new futures that must be accommodated in choosing the next present. To overcome the complexity of interaction with the world in the present and minimize the time required for re-ordering the cognitive world; firms resort to intention (Ford et al. 1986; Medlin et al. Forthcoming), expectations (cf Hadjikhani and Johanson 2002), norms and exchange contexts (Alajoutsijärvi et al. 1999, Medlin Forthcoming) and networks (Håkansson and Snehota 1995); as well as schema (Welch and Wilkinson 2002) composed of habit, systems (physical, social, scientific), language and culture as tools (cf Luhmann 1979) for ordering interaction. Furthermore, these tools and the events they explain are arrayed in time and often linked through systems of *implied* causality.

While these tools are largely socially constructed, the cause of their acceptance as foundations of interaction is driven by the bounded cognitive ability (not 'bounded rationality') of human

life (Luhmann 1979) and they remain within the mind, from where they are used to manage interaction with the world. Thus, in the relationship and network model, actor bonds are socially defined constructs generated by reliance upon accepted interpretations of past/future events, which are *individually held* and then relied upon to explain inter-firm coordination. For example, trust is a psychological construct, socially generated on the basis of past and expected events (Luhmann 1979); but held individually by firm decision-makers so as to be able to withstand uncertain relationship outcomes (Medlin and Quester 2002).

Past as Context

In contrast to the future, the past is no longer available for interaction; rather interaction is likely to be both constrained and enabled by past actor bonds, historical precedent, norms, social systems, language and culture: all of which are relied upon to shape present interaction. In fact, even foreclosed coordination activities and resource ties are available through inactive actor bonds to assist present interaction (cf Havila and Wilkinson 2002).

As with the future, the variations in interpretation of past time also has important implications; for there will be continuing differences between parties and competing memories and perspectives. Even in close business relationships variations of past perspectives will continue to arise from other network connections (Håkansson and Snehota 1995, Medlin Forthcoming). Thus, it is evident that a variation of viewpoint is naturally brought to any interaction and in combination with variation of future perspectives it is clear that the moment of interaction is two-sided (Buber 1923). That is, two necessarily different perspectives of reality interact in a 'relationship dynamic' (Medlin Forthcoming). This means the variance in capability and power of the actors will inform the interaction moment. Furthermore, this variation in view, or source of heterogeneity, amounts to the source of emergence and in-determinance that is the essence of interaction.

Emergence presents a continual problem for the human actor and firm, as the many possibilities in the present for the individual, firm, or relationship can only be separated from each other by the testing of intentions and expectations. Furthermore, intention can only be determined over time, as planned future interaction comes to pass and becomes a history available for interpretation. That is, time is required to analytically separate intention from the

complexity of the past, future and present (Luhmann 1979) and matters of commitment and trust are inherent in explaining interaction (Medlin 2002).

FUTURE RESEARCH

Necessarily this paper presents only the beginning of an elaboration of time and interaction, but it seems clear from the ways that interaction is bound in time that relationship and network analysis can be improved by accounting for a human perspective of time. Already the distinctions made, in this paper, between exchange and adaptation suggest that more attention must be taken of time to understand interaction processes. In addition, definitions and distinctions between constructs may be enhanced by further research and theory building based upon time (cf Medlin and Quester 2002) so that management of interaction processes may be more explicitly normative. However, inclusion of time in other aspects of a relationship and network approach can also strengthen theory building about interaction in a number of ways.

First, consideration of interaction in time, along with the pre-eminence of the human actor, places a greater role on coordination contexts in understanding relationships in business markets (cf Medlin Forthcoming). As a result, a number of implications for future research are evident, with the variation in actor perspective, power and capability now taking on greater importance.

However, rather than only the controlling element of power, research must extend to the role of power and capability in structuring interaction, given future intentions and expectations of resources, activities and actors spread through time. That is, the emphasis shifts to collaborative use of power to achieve self and collective interest outcomes (cf Medlin et al. Forthcoming). Thus, studies of business relationships examining variation in perspectives would enhance understanding of inter-firm interaction. In particular, studies of perceived future scenarios, examining intentions and expectations, would inform theory development; especially where there are clear differences in capability and power, as displayed by the ability to control structures of resources and activities into the future.

Second, the role of time as a container for interaction indicates the importance of critical events, irrevocable decisions, decision timing and pathways of events and processes over time

(cf Araujo and Harrison 2002; Dosai 1982). It is clear that lifecycle theories of business relationships must be replaced by less determinant approaches that do not insist on strict causality; but approach relationship building as choice making, where immediate potential futures are removed so that there is a structuring of expected futures. Within this framework of time, interaction and business relationships, it is apparent that considerable research is required of the different classes of interaction (ie exchange and adaptation) and how they chain together to influence the shape of business relationships and networks (cf Medlin 2002). Involved in this research are further examinations of the role of time as a container for interaction.

Third, the role of events in defining the present requires considerable research. It is likely that variations in cultural boundaries (ie vertical time) will define existence of events for actors. This means research must be undertaken with specific categories of interaction, for the nature of the present is bound in the characteristics of the problem defined by the actors. Thus, variations in social organization and culture must be examined under different interaction situations to find the ways past, present and future are separated and interpreted. Given the problem of attempting to 'manage' interaction processes between firms and the way management issues are embedded in each other, it is likely that managers will have different and 'overlapping views of the present' with each defined by subtle re-interpretations of the problem.

This suggests a new methodology for examining interaction, for the concept of 'over-lapping presents, pasts and future' opens up a means of considering interaction in parts or sections: with process inside process, or process following process. Furthermore, there will necessarily be different views on what constitutes an event (cf Medlin Forthcoming), so that interaction results from two different interpretations of past, present and future. Clearly, further elaboration of the 'event' construct becomes a requirement for continuing research of interaction from a time perspective.

Finally, it is clear from the nature of time, as unbounded future and container of interaction, along with the corresponding variations in perspectives; that business relationships do not follow strict life cycles. Rather, each relationship is somewhat unique, making quantitative analysis of relationship types according to life-cycle stage theoretically suspect. Thus, for future quantitative research to be meaningful, relationships from theoretically equivalent interactions must be examined.

MANAGEMENT IMPLICATIONS

‘Managing’ business relationships to create ‘value’ for both parties is inherently difficult, given the natural variations in perspective resulting from network identity (Anderson et al. 1994) and the double embeddedness of business relationships in networks (Medlin Forthcoming). However, for managers, theoretical consideration of time in conjunction with the relationship and network perspective means that it may be possible to make normative statements about ‘managing’ business relationships.

All ready a number of implications for managers are evident in this paper. The different perspectives of time, and the dynamics of interaction that result, mean that managers will always be faced with continually changing business relationships. This means ‘managing’ a relationship is a continual balancing act between different perspectives of past, present and future. Furthermore, use of a life-cycle metaphor for giving advice on managing business relationships should be viewed critically. Rather than attempting to manage changes in relationship life-cycle states to create value; managers should continually focus on the intentions and expectations of each party and the processes and outcomes of interaction, regardless of the length and apparent stability of the relationship. Thus, to create value in a relationship, management process should continuously bring the futures of each firm into complementary strategic alignment.

Second, since it is known that ‘closeness’ explains part of the ability of a relationship to achieve value creation (Nielson 1998), it is clear that understanding and foreseeing sources of dissonance between parties is important to relationship survival. Therefore, the quality of ‘adaptive’ interaction is paramount to relationship success. This has two aspects, for the adaptation process is spread through time. Thus, the quality of staff responsible for changes to resource ties and activity links is important, for these people must be capable of managing each passing moment of ‘adaptive’ interaction, while continuously adjusting their understanding and planning for every foreseeable contingency. In addition, these staff must have the authority to oversee the changes to resource ties and activity links within the time frames promised. That is, staff must possess historically based personal credentials, as well as ability and position, and

be able to access other actors and resources through relationships so that they can jointly structure resources and activities through time with a partner firm.

Third, a time perspective of interactions indicates the importance of 'state' changing events in managing business relationships. While many such events can be foreseen, allowing managers to prepare various contingency plans, a time and network perspective suggests that managers should be aware of a range of different event sources and the inherent heterogeneity of events. That is, events that change the perspective of the past, present or future, and so the nature of interaction for a focal firm, must arise from changes in perception by another actor and the transmission of that change in perception through connected relationships. Again, therefore, the quality of the individuals responsible for 'adaptive' interaction and the closeness of their relationships will be key determinants of the rate at which change flows through business networks.

Finally, consideration of time and interaction reinforces the importance of humans in business networks, for while the structuring of resources and activities must often follow technological and economic network logics to achieve value-creating exchange, it remains the ability of humans to foresee and jointly act to deal with change. That is, human actors are essential to 'adaptive' interaction and so synchronization of all.

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