

Interaction Possibility Space Model: Contextual Shifts, Actor Bonds and Dyadic Studies

by

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Abstract

Different forms of interaction between firms are at the heart of a relationship and network perspective of business-to-business markets. This paper demonstrates how the central concept of interaction, defined as coordination between two or more actors who understand their purposes and abilities to some degree, can be used to map out the various relationship forms of business-to-business markets.

The mode of interaction is necessarily a derivative of three high order coordination mechanisms: (1) market transactions, (2) authority in hierarchies, and (3) relational coordination based on trust. However, the existence of contextual shifts between these mechanisms focuses attention on the possibility of various forms of interaction within each context. The result is a multi-dimensional model that describes an “Interaction Possibility Space”, defined by the three high order coordination modes and the interaction possibilities between dyad parties within classes of organisational aggregation.

While, the “interaction possibility space” can be partially described by elaborating the coordination contexts provided by Alajoutsijärvi et al. (1999), the possibility of dyads where firms have different perspectives of their actor bonds opens two areas for future research. First, how does interaction proceed when both parties have similar views of coordination modes? Second, how does interaction proceed when parties have dissimilar views of their actor bond? Such research necessarily requires dyadic studies and furthermore, for quantitative research, requires the development of methodologies capable of examining dyadic data. These quantitative methods must be able to simultaneously analyse similarities and differences in preferred coordination modes across a dyad. While such analysis is amenable to qualitative techniques, there is no well-recognised quantitative method without significant weaknesses.

The remainder of the paper examines the implications for future research in each of these three areas: (1) interaction in pure coordination modes, (2) interaction where parties display dissonance, and (3) new quantitative methodologies.

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Introduction

Business firms working together have been described as dyads (Bonoma, Bagozzi, and Zaltman, 1978). A dyad is defined as a “group of two” (Wilkes and Krebs, 1985) and thus represents two levels of organisation: firms and relationship. A dynamic view of dyad formation must naturally encompass a number of phases, not necessarily in order, depending on the definition of group organisation. Accordingly, Ford and Rosson (1982) identified different relationship categories: ‘new’, ‘growing’, ‘static’, ‘inert’ and ‘troubled’.

To-date quantitative research of relationships has not accounted for these different types of group organisation. This is so for at least two reasons. First, it is not possible to define correctly the nature of group organisation without dyadic data, for one party cannot necessarily identify the other firm’s perspective, and collection of such data is notoriously difficult (cf Heide and John, 1992). Second, there has been a lack of conceptual models explaining the change in relationship quality as firms move from simple inter-firm exchange to dyad level organisation, where actor bonds condition interaction. Apparently this second problem has been the major obstacle, for quantitative dyadic data has been collected and incompletely reported on more than one occasion (cf Gundlach, Achrol, and Mentzer, 1995; Heide and John, 1992; John and Reve, 1982; Kim, 2000).

Thus, the purpose of this paper is to present a conceptual model of ‘interaction possibility space’ (IPS) that allows quantitative examination of different forms of relationship organisation. Within the IPS model the concept of actor bonds under different exchange situations is used to separate organisational modes. The decision to focus on actor bonds as the means to categorise relationship types rests upon Medlin and Quester’s (1999) argument that the interaction between actor intentions and actor bonds is pre-eminent in structuring relationships. In this vein, Alajoutsijärvi et al. (1999) described three possible coordination contexts for actor bonds: (i) markets, (ii) dominant/submissive relations, and (iii) cooperation. These mechanisms for structuring interaction are well recognised in the Social Science literature (Bonoma, 1976; Bradach and Eccles, 1989).

The remainder of this paper is organised in the following manner. First, past quantitative dyadic research is briefly examined to identify conceptual problems. This analysis suggests that the way forward is to focus on constructs that explain differences in actor bonds. Second, the causes of actor bond difference are discussed within the IMP framework. Third, a model of ‘interaction possibility space’ is presented. Finally, the implications of the model for future conceptual development and methodology are considered.

Past Dyadic Research

A number of studies have attempted to measure actor level and actor bond constructs from both sides of the dyad (cf Gundlach, Achrol, and Mentzer, 1995; Heide and John, 1992; John and Reve, 1982; Kim, 2000). John and Reeve (1982), using structural equation modelling, examined dyadic data and found that key informants provided reliable and valid data about functional aspects of their dyads. However, with regard to sentiment constructs dyad partners did not report equivalently, with neither convergent or discriminant validity achieved across the dyad. The study was conducted in such a way that John and Reeve (1982) were able to eliminate all reasons for lack of convergence except divergence in partners “real” perceptions. John and Reeve (1982) then concluded that the theory for aggregation of dyadic data was

inadequate. Ten years later, Heide and John (1992) faced the same problem and while reporting a dyadic survey only commented with regard to one side of the dyad.

Kumar et al. (1993) suggested averaging responses across a dyad as a means of dealing with difference in perspective. While these authors recognised that excessive difference of opinion would result in measurement imprecision, their response was to approach respondents a second time with a request to negotiate a joint response. However, this methodology seems inappropriate as it removes an important aspect of reality, specifically: members of a dyad can have different views of the relationship.

To date, three studies have successfully used averaged dyadic data (Gundlach, Achrol, and Mentzer, 1995; Gundlach and Cadotte, 1994; Kim, 2000). In these cases no attempt was made to settle differences of opinion, rather dyad level constructs were operationalised as either the magnitude (ie sum) or asymmetry (ie difference) of the parties' perceptions of a construct. Kim (2000) used an un-weighted average rather than a summation for magnitude, but these measures are empirically equivalent.

These three studies show that averaged and asymmetric dyad data can allow examination of relationship level constructs. However, it is arguable that reality is correctly measured with magnitude measures, for magnitude will not shape interaction. Rather, each party will behave within the constraints of their perspective of relationship level constructs. For example, where two parties strongly disagree on the level of trust, one party will proceed in a trustful manner while the other will move forward in a competitive manner regardless of the average magnitude of trust in the relationship.

Thus, a dyadic theory, and techniques for analysis, are required that accept differences in reported levels of actor bond constructs, for magnitude measures do not capture the reality of actor bond structure. Consequently, the next section examines the way the IMP interaction and network framework recognises differences of perspective between firms, while comments on possible analytic techniques are made in the final section.

Interaction to Form Actor Bonds

In the IMP view it is natural that two firms in a dyad should have different views of that relationship (Anderson, Håkansson, and Johanson, 1994). In fact, as will be shown below, the differences between parties are inherent and a valuable aspect of any relationship. In a network view of the business environment it is the differences as much as the common goals that maintain the relationship, for it is complementary differences that attract. Yet, similarity is equally important, for too great a difference regarding acceptable interaction modes is likely to be dysfunctional.

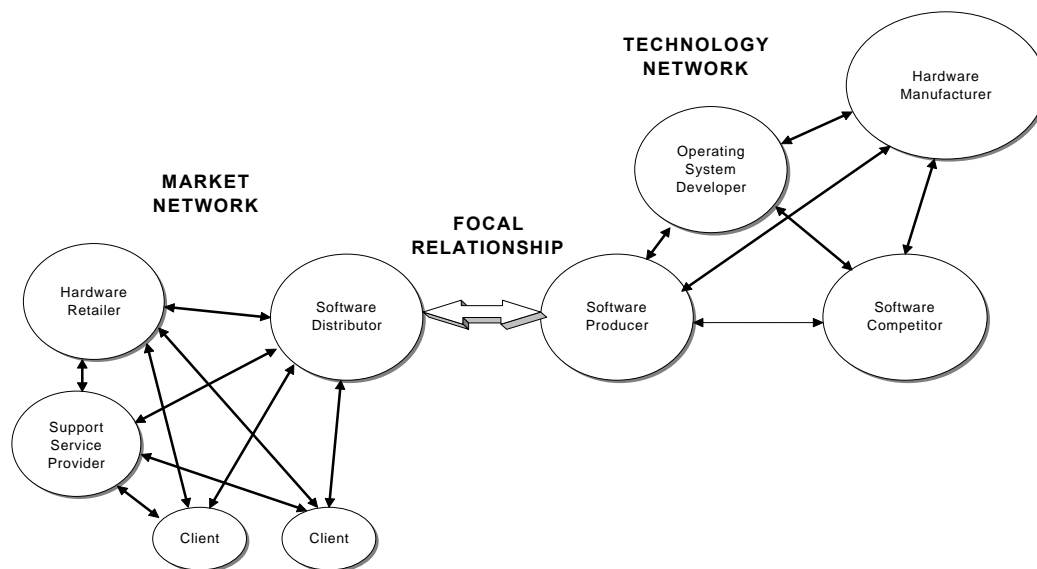
Therefore, both differences and commonality must be explained to understand a relationship. Differences arise from a firm level as well as from network contexts, while commonality arises from a firm level and from interaction to achieve the same goals (Anderson, Håkansson, and Johanson, 1994). However, apart from actual differences, it is known that variations in perceptions also create differences (John and Reeve 1982). These differences of perception may logically relate to the actor bond or to the other party.

The remainder of this section is divided according to the sources of commonality and difference; with sections on commonality, firm level difference, network level difference and perceptual differences.

Commonality

Commonality can be viewed to comprise at least two dimensions. The first is the level and importance of a common economic purpose. Without a common goal, a business relationship cannot exist (Heide and John, 1992; Wilson, 1995). The degree of common purpose can be seen as a result of network positioning. A relationship is composed of complementary differences in network identity, at the juxtaposition of two networks (see figure 1). This complementarity is the logic that creates the focus relationship, with a common purpose found at the network level.

Figure 1: Focal Relationship Joining Two Networks



For example in the software industry, when a producer and distributor settle on an exclusive distribution agreement, they work jointly to maximise sales. The producer continues to research and develop the software to meet new hardware configurations and customer needs, while the distributor builds market share in a geographic area by employing sales staff and setting up promotional events and activities. Both firms, however, work towards profit from sales to final customers. Thus, common economic purpose at the network level, where the dyad is a unit, allows each firm to balance their differences against their common interests.

The second aspect of required commonality is an acceptable degree of similarity in the actors' intentions regarding interaction and the formation of actor bonds. For example, if one firm interacts in self-interest and the other looks after collective interest, the relationship is likely to change dramatically or to end.

Firm Differences

When firms seek goals within a complex business environment by entering into dyadic relationships, they do so for pragmatic reasons. Each firm is necessarily different: with separate histories, dissimilar resources and capabilities and different work cultures

(Håkansson, 1982). In addition, there are differences in the success of past joint action (Wilson, 1995) and in the relative importance of the current strategy for joint action (Håkansson and Snehota, 1995; Wilson, 1995). Thus, there is bound to be some divergence in viewpoint between dyadic partners about how interaction should proceed.

Network Differences

From a network perspective, firms enter focus relationships to gain access to resources and/or to other relationships (Håkansson and Snehota, 1995). It is the juxtaposition of two distinct networks that creates the focus relationship (see figure 1), with each firm seeking some resource produced within the other network and/or access to relationships within the other network (eg customers). Thus, the software distributor's network in figure 1 is incomplete until additional technology networks are added, while the software producer's network incomplete until additional market networks are added.

It is evident from this example that the context of each firm, within its respective network, is necessarily different. This variation in network context was recognised as one aspect of network identity distinguished by Anderson et al. (1994). Given variation in context and network type, it is implausible for each firm to approach relationships in the same manner.

Perceptual Differences

One of the confounding issues in dyad interaction is the effect of differences in perceptions between dyad partners. Theoretically, disparity may arise from actual differences between attributes, as well as incorrect perceptions, of either the other party or the nature of the actor bonds. Actual differences are to be expected given the discussion above. However, perceptual differences are also to be expected given the limited ability of key informants to report on supra-person level phenomena.

There are logically three scenarios with regard to perceptual difference. First, when differences in perceptions of the other party exist, both parties will necessarily incorrectly perceive actor bonds. Thus, lack of closeness implies poorly defined actor bonds. Incorrect perceptions of this kind are likely to be acted upon, until some event makes the error apparent. Such a scenario would occur in the early stages of a relationship and in the mature phase where the partners have been moving apart. These situations may equate to Ford and Rosson's (1982) "new", "static" and "inert" relationships. They may also apply to "troubled" relationships, but these clearly can have other causes such as environmental change.

The second scenario is where both parties perceive actor bonds correctly and therefore have clear perceptions of the other party. In this case, different levels of closeness would be apparent as actor bonds move from market to relational coordination. Ford and Rosson (1982) would consider such relationships to be "growing".

A third scenario is where each party correctly perceives the functional aspects of the other firm, but one or the other has incorrect perceptions of the actor bonds. This may occur simply due to the problems of interpreting supra-level constructs from a human perspective (cf Luhmann, 1979).

Each of these scenarios highlights the importance of actual, as well as perceived, differences in describing the nature of relationships. These distinctions have not been made previously

within the actor bond construct. Yet, these differences would seem to explain the different forms of relationship identified qualitatively by Ford and Rosson (1982).

Summary

It is apparent that the IMP interaction and network framework allows for difference between dyadic parties with regard to relational level constructs. However, to categorise relationship requires an extension of actor bond attributes beyond trust and commitment. The next section introduces three ideal actor bonds and presents a dyadic model of actor bond types.

Interaction Possibility Space Model

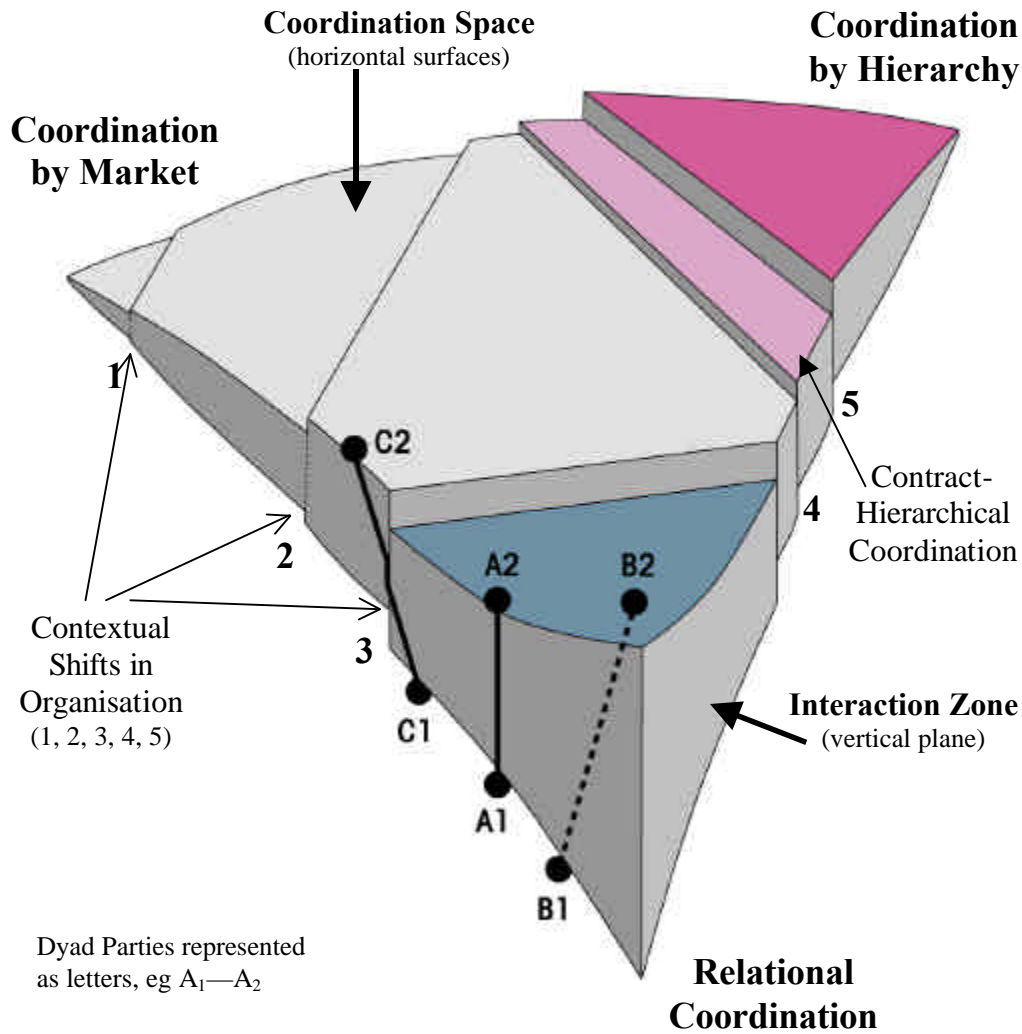
The model of 'Interaction Possibility Space' (IPS) presented here (see figure 2) is an elaboration of Alajoutsijärvi et al.'s (1999) coordination contexts based on three ideal actor bond types. These three ideals represent market, relational and hierarchical coordination and build on previous work by Campbell (1985) and Möller and Wilson (1995). While Alajoutsijärvi et al.'s (1999) coordination contexts are essentially dyadic the transition from one ideal to another is hypothesised to be gradual, yet in reality organisational forms change dramatically and so to does the operation of coordination mechanisms (Boyle et al., 1992).

To account for contextual shifts in organisation the IPS model portrays a horizontal "coordination space" that is fractured; while to account for dyadic interaction between firms, two coordination spaces are separated by an "interaction zone" (explained shortly). Each coordination space is defined by the three ideal coordination mechanisms, existing at various levels of organisation aggregation as defined in the top section of figure 3.

The result is that each ideal coordination point is anchored in a different dimension according to its level of aggregation and social/legal context, so that a three dimensional space is defined for each firm. Thus, these ideals provide three axes that allow plotting a firm's preferred mixture of mechanisms for coordinating a specific dyadic interaction, as well as the preferred coordination mode of the other firm in the exchange (eg A_1 — A_2). Each of the three axes begins at an apex (ie 100%) and then perpendicularly bisects the opposite side (ie 0%). Thus, firms A_1 and A_2 prefer similar coordination modes, given by plotting a vertical line to the coordinate axes defined by the three ideals. This means firm C_2 , which is above the direct line between relational and market coordination, prefers almost equal proportions of relational and market coordination while maintaining absolute zero on the hierarchy dimension in the way it interacts with C_1 . In addition, it is possible to say that while firms A_2 and B_2 prefer relational coordination, A_2 is more market oriented in its preferred dealings with the other firm than is firm B_2 , which is more hierarchical.

The "contextual shifts" shown in the coordination spaces have been identified in the literature. Thus, contextual shift "1" (see figure 2) represents a preference change from discrete to continuous market transactions (Dwyer, Schurr, and Oh, 1987), while shift "2" denotes a change from market to plural forms of coordination. Contextual shift "3" represents a significant change in coordination dimensions, with acceptance by the parties that they are involved in a relationship situation where actor bond structure is based upon trust and co-determined action.

Figure 2: Interaction Possibility Space Model



Contextual shift “4” and “5” represent the change from plural coordination modes to contract-hierarchy and then pure hierarchy respectively. Thus, between contextual shift “4” and “5” may be found firms whose preferred coordination mode is contract-hierarchy (following Stinchcombe, 1985), while between shift “5” and the ideal of hierarchy coordination are situations where firms are in either company-subsidary relations or there is complete internalisation of a business unit. This hierarchical region of the IPS is distinguished from the remainder by the strong influence of power, which apportions responsibilities and rights to constrain interaction.

However, the purpose of the model is only evident when dyadic parties are considered. In figure 2, the vertical “interaction zone” provides a view of the possible freedom of interaction that results from two firms’ preferred modes of coordination. There are three aspects to be contemplated with regard to the “interaction zone”.

First, the depth of the interaction zone portrays the varying possibilities inherent with interaction in each coordination mode. Thus, the interaction zone increases in depth, as one moves from one-off transactions to continuing transactions and onto plural coordination

Figure 3: Ideal Coordination Contexts and their Ideal Actor Bonds

Coordination Context	Market Coordination	Relational Coordination	Contract-Hierarchy Coordination
Level of organisation	Firm	Relationship	Supra-firm Master and slave
Context	Market within host society	Relationship in economic and social network	Contract within legal framework of host society
Time horizon	Short term	Long term	Long term
Control Locus	Within the firm	Relationship level, between the firms. Joint control	Within the dominant firm
Number of alternative partners	Several parties which are played against each other	Two firms with no competing provider	One or few partners depending on the functional benefits they can provide, with partner submissive
Dependence on other party	Both are independent of each other	Both are dependent on each other	Dependence varies
Particularity	Relationship is not particular for either party	Relationship is particular for both	Varies by dependence
Connectedness to partner	Weak positive	Strong positive	Strong positive
Connectedness to alternative partners	Strong or weak negative	Strong or weak negative	Varies by dependence
Ideal Actor Bonds	Competitive	Relational	Control/Power
Rules of the relationship	Based on general norms of trade and law in society	Created in relationship	Dominating party creates the rules followed by submissive party
Expectations of relationship	No mutual future-orientation, transactions in focus	Attempt to foresee common future problems and solve then together	Dominant firm attempts to foresee future problems and solve them in an egocentric fashion. Submissive firm unable to foresee future problems
Use of power	Negotiation power used during transactions until expectations are reached	Cautious and sensitive use of power based on equality	Dominant firm has potentially to use power in own interests. Submissive firm is in no position to use power directly.
Trust	Limited	Strong within relationship	Dominant partner has limited trust Strong and no choice by submissive partner
Commitment	Limited	Strong within relationship	Both parties committed
Elasticity of interaction	Limited	High	Degree of elasticity
Time Differentiation	Limited	High	Degree of differentiation
Dyad perspective inconsistency	None	None	None

modes, as a result of the increasing number of options provided by facets of relational and hierarchical coordination. Conversely, as dyads approach hierarchical coordination the number of interaction options is again constrained by the more powerful party seeking their own ends. However, as dyads move deeper into relationship mode the influence of societal norms and legal rules are removed and the agreement between parties allows wider parameters of interaction so that there is increasing scope for elasticity of interaction as well as differentiation in time (Luhmann 1979) between actor intent, activities, resource use and relationship outcomes.

Second, an interaction zone always separates both dyad parties, for dyadic interaction is necessarily two fold (Buber, 1923). That is, one party may not act without the simultaneous action of the other party, whose behaviour is also necessarily two-fold and complementary. Specifically, to act, each party relies upon knowledge of the possible action of the other (Giddens, 1979), as well as their own intentions. This two-fold interpretation results in an actor bond structure being created between them. Thus, even at the market and hierarchy ideals, when there is no distinction between the parties' preferred coordination modes and the possibilities for interaction are minimal, there remains an interaction zone (as represented by the small vertical lines of the interaction zone at these ideals).

Third, the interaction zone allows consideration of similarities and differences in preferred coordination mode between parties. Thus, the interaction zone between dyad parties provides a measure of actor bond structure. For example, in figure 2 similarities in coordination mode (eg A_1 --- A_2) would equate to close actor bonds of a relational form, while differences in coordination modes (eg C_1 --- C_2) would display dissonance between dyad parties. In each case the actor bond structure would lead to variations in the way the firms interact (Medlin, 2001). The potential for dissonance between parties raises the question of how large might be the difference in coordination modes before a dyad is dysfunctional?

The IPS model provides a number of clear advantages. First, the interaction possibility space is defined as likely forms of actor bonds resulting from interaction between two parties. Thus, the structure of actor bonds results from two aspects: (1) each firm's preferred mode of coordination of that relationship, and (2) the interaction between these preferred modes of coordination.

Second, levels of organisation aggregation are explicitly considered so that the context and nature of interaction are clear. Third, the different social nature of coordination mechanisms and mixes of these is evident from the ideals (see the bottom section of figure 3). Furthermore, the potentially large range of interaction possibility space between these ideals (figure 2) provides for the complexity envisaged by the thesis that there are plural forms of non-market governance (Bradach and Eccles, 1989; Cannon, Achrol, and Gundlach, 2000). That, is the central area of the space allows for various combinations of market, hierarchical and relational coordination.

Fourth, this analytic framework provides a clear understanding of how actor bonds are transformed under different coordination contexts. Finally, relationships with high degrees of dissonance are accounted in the "interaction possibility space" by the possibility of interaction occurring between firms with wholly different preferred coordination modes for that specific relationship. Thus, dyad parties C_1C_2 have an actor bond structure with high levels of dissonance as a result of C_1 preferring to use more relational coordination and C_2 preferring

more market coordination. The contextual shift between C_1 and C_2 accounts for the dissonance, even though the two firms are not so far apart on the market-relational coordination dimension.

Future Research

The IPS model suggests that many different types of actor bond structures can exist and this means there are also different forms of relational coordination. This has important research implications, for the existence of different forms of relational coordination means that much past research must be re-interpreted to account for the importance of 'difference' in creating structure at the inter-firm level of aggregation. Furthermore, dyadic research is required to measure differences.

The remainder of this section discusses three aspects of inter-related research. The first part involves elaboration of the IPS model, while the second part describes potential models of firm and relationship interaction and the third part briefly reviews the segmentation methodologies required to examine relationship models.

Elaboration of the Interaction Possibility Space

First, the structure of the interaction possibility space must continue to be refined. Thus, the issues of coordination space and interaction zone must be addressed. With regard to the coordination space a series of questions must be addressed. For example: Are three dimensions enough to incorporate all coordination modes? Must other contextual shifts be included? How do contextual shifts overlap to create even more complex forms of coordination? For example, what is the essence of a contractual-relational coordination mode?

With regard to the interaction zone much theoretical work remains to be completed. The present conceptualisation is based upon a possibility space, so as dyads preferred coordination mode becomes relational the zone inflates. However, dyads do not have to use all aspects of the possibilities that are open to them. Thus, it is likely that dyads will be attracted to specific modes of interaction within the possibility space. Considerable empirical work will be required to examine this matter. Potential methods for this work are considered in the final part of this section.

Second, what coordination constructs are at work in each dimension and how are they transformed across contextual shifts? It is known that trust and commitment are associated with the relational dimension (Håkansson and Snehota, 1995; Morgan and Hunt, 1994), but it is possible that other constructs may also characterise this dimension. There also remains the question of how trust and commitment are re-shaped under hierarchical influence. It seems unlikely that trust and commitment will not play a part in hierarchical coordination, but how they mutate under different coordination modes will require considerable research and theory development. The coordination space of the IPS model can provide a framework for this research. It should be possible to consider constructs on their dominant dimension and then compare this with the way the constructs mutate as the influence of the other two dimensions are increased.

Third, how do different mixtures of coordination constructs explain interaction between parties and how does interaction create coordination structures? The interaction zone between

firms remains the most difficult to comprehend, for interaction is forever indeterminate, based on process and subject to emergence. Thus, this area of research will remain the most elusive, yet the most intriguing. However, the IPS model should aid in the categorisation of interaction classes. It is likely that natural attractors will exist that constrain and shape interaction, but identification of these attractors will require further development of theory and techniques for modelling dyad organisation.

Models of Dyad Organisation

Underlying the concept of actor bonds and relationships is an assumption that two separate models of firm behaviour are interacting with a single dyad level model. Qualitative research by the IMP Group (Ford, 1990; Håkansson, 1982; Håkansson and Snehota, 1995) suggests that this is a reasonable assumption for relational coordination. However, this assumption should not be extended across the whole IPS. Furthermore, it may be that this assumption is not even justified for all types of relational coordination.

Thus, a number of configurations of organisation models potentially exist. For example, with relational coordination, it may be that some relationships never develop an actor bond structure so that the way to represent these dyads would be two self-interest models interacting. Another possibility is that two self-interest models may be interacting with two collective interest models, which are also interacting. This significantly contrasts with the current IMP view, where one collective model interacts with firm models.

When other coordination contexts are considered within the IPS, the nature of the collective model must logically change. Thus, with market coordination, each firm follows its self-interest model in interaction with the collective model as represented by the industry and society model. However, as each firm necessarily has different knowledge of the collective model and different ability to interact (following Giddens, 1979) a number of forms of interaction must result. By contrast, in the contract hierarchy situation, it seems likely that there would be two self-interest models interacting with a collective model controlled by the more powerful firm. However, in this situation, it is probable that variations in perceptions of the collective model and the ability of each firm to interact must lead to a number of forms of interaction.

There are three immediate suggestions from the above discussions. First, as suggested previously, it is necessary to determine the active and inactive coordination constructs in each context as well as how these constructs change across contextual shifts. Second, until this theoretical work is more complete, it is not advisable to treat relationship data, or more specifically dyad interaction data, in too aggregate a form. Thus, segmentation methods must be explored to disaggregate data. Third, it is also necessary to develop techniques that allow simultaneous analysis of the two components of dyadic data (ie asymmetry and actuality of partner views).

Segmentation Techniques

Segmentation offers means to disaggregate relationship and dyadic data. As the purpose is prediction, two groups of techniques are available. The first involves a priori and arbitrary segmentation based upon theoretical grounds. For example, segmentation might be conducted according to:

(1) coordination mode of the firms (market, hierarchy, contractual hierarchy, relational,

- relational-contract, etc),
(2) industry, or network purpose (ie network boundary),
(3) actor resource levels and culture.

However, segmentation on theoretical grounds informs on the factors distinguishing between the bases for segmentation, rather than leading to the discovery of organisation models of how firms are interacting. Thus, a priori segmentation leads to an improved understanding of the ideal coordination mechanisms and the factors affecting them, rather than to an elucidation of the reality of coordination mechanisms at work in relationships. That is to say, in another way, a priori segmentation provides information on the horizontal planes of the Interaction Possibility Space, while what is required is elaboration of all dimensions.

The second option is to rely upon post hoc predictive segmentation, where firm and collective models are determined after data collection. Thus, these methods provide models of firm and relationship behaviour that are positioned within all dimensions of the Interaction Possibility Space. There are essentially two groups of techniques that may provide the solutions required: clusterwise regression (Wedel and Kamakura, 1997) and genetic algorithms (Goldberg, 1991). In addition, these techniques have the ability to analyse multiple models of a dyad concurrently (Wedel, 1998), so that the actuality and difference of dyadic structure may be examined simultaneously.

However, both of these techniques are also fraught with weaknesses, which are beyond the scope of this paper. Thus, the search for new segmentation techniques must continue. However, in the matter of relationship models, it is likely that both a priori and post hoc segmentation techniques should be used, depending on the theoretical direction of the study. In fact, given contextual shifts, it may be that a priori and post hoc segmentation techniques will be used in the one study.

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