

Interactivity in Business Networks

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Abstract

Empirical studies of inter-organizational business relationships evidenced considerable variation in content of such relationships. Capturing the variation is not simple as interaction processes in business relationships have various facets. At present, we lack a systematic explanation for this variation in pattern and intensity of interactions in relationships over time and across relationships, companies. In this paper we are set to examine the reasons for the striking observed variation in interaction in business relationships and formulate the concept of interactivity as an overarching construct ‘underlying’ the observed interaction patterns. Starting from revisiting interaction processes in business relationships, we explore the social, material and economic faces of interaction and introduce the concept of interactivity as ‘properties of the context conducive of interaction’ in business relationships. Revisiting in prior research on factors of interaction we conceptualize interactivity as linkage of context to actual interaction processes that has three main factors: idea structure (‘air’); activity structure (‘ground’) and managers’ use of interaction. We conclude with a discussion of the role of interactivity in analysis of contemporary economic and business landscape.

Keywords: *business relationships, interaction, business networks, interactivity*

1. Background and the aim of the paper

From Business to Research and Back Again. This has been done again and again for “Interaction”. A lot of empirical research as well as analytical developments has been done on interaction developing into business relationships between organizations. The ambition with this paper is to do this once more – to use the extensive empirical observations of interaction in studies of businesses to try to reconceptualise interaction by bringing in “interactivity”.

A lot of empirical research has been done on business relationships between organizations. This body of research shows that businesses tend to engage with few suppliers / customers that are singularly important for the performance and development of the business (for a review cf Håkansson & Snehota, 2017). As they develop relationships with other businesses and organizations, companies stand out (can be seen) as nodes in business relationships between organizations as customers and suppliers, that companies activate for provision of goods and services (Johanson & Vahlne, 2011; Anderson et al . Networks of interorganizational business relationships are behind the provision of products and services we make use of.

Business relationships between companies and other organizations have substance that typically involves numerous individuals, products and activities. Prior research has suggested that the content and substance of the relationships can be described in terms of individual actors, resources and activities involved. Relationships between businesses are result of mutual orientation and adaptation and imply interdependences that have been described in terms of actor bonds, resource ties and activity links (Håkansson & Snehota, 1995). Bonds, ties and links are produced between the two companies as they interact; that makes interaction the key process in the development of interorganizational business relationships (Håkansson et al., 2009).

Several studies have documented how business relationships between two organizations, result of interaction and mutual adaptations, can be used to achieve rationalisation effects, (greater cost efficiency), development effects (innovative product development) and structuring of the relevant relational context and ecosystem (e.g. Gadde, Håkansson & Person, 2010; Gadde & Wynstra, 2017). These effects that have been observed, however, are not automatic; they are

result of managerial actions – how managers act and react in relation to other parties in business relationships.

Numerous empirical studies of business relationships and their role in business have evidenced large variation in the intensity and content of business relationship and in degree of involvement of the parties. Differences in this respect have been observed across relationships of a company and across companies (Cantillon & Håkansson 2009, Cantillon 2010). The variation is striking but capturing the variation is not simple as interaction processes in business relationships have several facets. One way to sort and classify the different contents of business relationships is to consider these in the dimensions of actors, resources and activities, which has been a way followed in much of the prior research on business networks (Håkansson & Snehota, 1995). The patterns and the intensity of interactions in these relationships is not stable; it has been shown to vary over time even in the short run (La Rocca, 2011). Empirical studies applying the actor-resources-activities framework have shown relationships vary not only in content (bonds, ties and links) but also in the intensity (or closeness) and involvement of the companies involved (Gadde & Snehota, 2000).

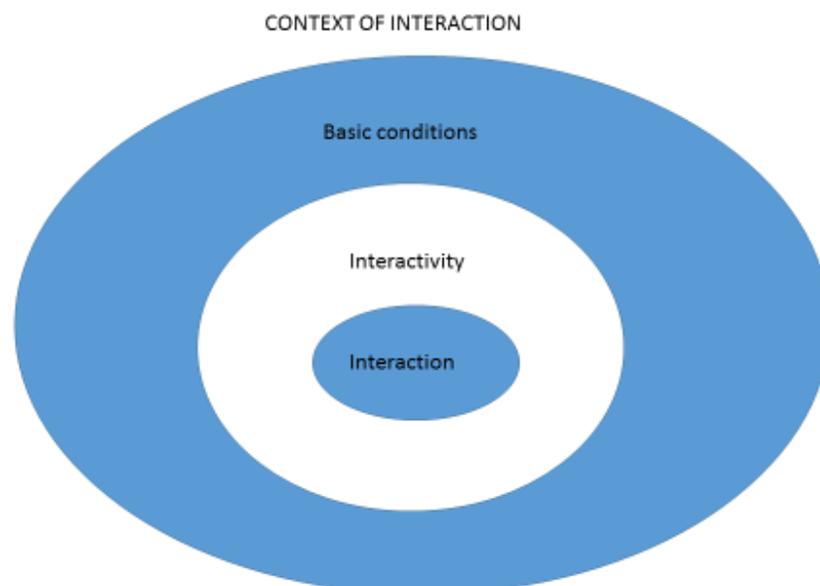


Figure 1. *Analytical approach*

At present, we have no systematic explanation for this variation in pattern and intensity of interactions in relationships over time and across relationships and companies. In this paper we are set to explore the reasons for the observed variation in the pattern of interactions in business relationships. Analytically we will approach the issue as illustrated in Figure 1.

- 1) We start out from examining the interaction process as this has been the focus of much of the prior research. We identify some general basic features of interaction in business relationships and assume that these portray the important dimensions creating the broader context of interaction.
- 2) In the next step we develop the concept of interactivity as a way to characterize the specific context of a given interaction. We define the concept of interactivity as ‘properties of the context in which the actual interaction takes place’ and identify three key factors that affect interaction. Interactivity is analytically positioned between interaction and the broader context and it is in this way translating the broader context and its basic structure to the specific local interaction.
- 3) In the last step we try connect the three factors of interactivity to the variation in the patterns of interaction (its scope and intensity) and discuss how the variation links to managers’ ‘making use of interaction’.

2. Interaction in business relationships – some basic features

Interaction in business relationships is not a mechanical process. Managers initiate interaction processes and the sequence of acts and reactions – this is how the interaction process unfolds. Interacting means interlocking behaviours and for the interacting parties it implies mutual conditioning. Interacting in a business relationship involves several individual actors and reflects the ‘local’ context conditions; interaction between two companies varies in the content (scope), intensity and width of the interface (Araujo, Dubois & Gadde 1999, 2003). Interaction can be more or less heavy in terms of how far it is conditioning the two parties and in terms of consequences for the parties in different dimensions.

The root cause of interaction between businesses is that no business is self-sufficient. Every business, builds on resources and activities of others, and is used by others. Relating two

business organizations involves interacting in order to connect the activities and resources of the two organizations. Interaction in business relationships is thus related to the ‘incompleteness’ and the need to relate to others. Businesses (as much as individuals) build on others knowledge, resources and operations for going on with their business. This relating to others tends to require more or less continuous adjustments and is never fully settled. When the two businesses are more than very small companies, relating the two parties is a complex matter. Solutions in relating two businesses are never accomplished also because both sides – the two companies, are continuously exposed to changes in their context which require some adjustments. Managers that enact the solutions do so with considerable margins of uncertainty and consequently they can never be sure about the future outcomes of what they do, they cannot anticipate the consequences in all possible dimensions and have only partial control of what their organization will be doing (Weick, 2017).

The need to interact stems from this uncertainty about directions of development and feasible solutions but at the same time from the necessity to find workable solutions. Developing solutions that work, is done experimenting these together with others because it concerns also others. Mutual commitments of the interacting actors (reciprocating) provide some structure and stability in this context of dependence and uncertainty.

Studies showing that no business is self-contained also confirm that this dependence of a business on other businesses and its various facets can be more or less clearly perceived and acknowledged by managers who create the linkages and connections and are involved in relating the two organizations (Ford, Mattsson & Snehota, 2017; Håkansson & Waluszewski 2002). The actual connections are then result of managers acting and reacting, based on perceptions which are always in some ways distorted, but at the same time focused and oriented to expectations to achieve certain aims. Managers’ perceptions and interpretations of the situations lead to more or less extensive interaction. When managers perceive the scope for interaction as limited (are less aware of the dependence on others and interdependences in general) and do not consider the uncertainty, they do not tend to engage in interacting; it is not seen as productive. When the awareness of interdependences and uncertainty is acute, engaging in interaction is seen as the way to cope with the situation.

Interaction is not a one-sided affair. Intensity of interaction in business relationships is not matter of one-sided efforts or propensity to interact and the perceived productive potential of interacting. Productive interaction in business relationships is conditional on reciprocating (Wilkinson, Young & Freytag, 2005). Unless there is a positive response of another one in a relationship between two businesses the interaction will be limited and so will the potential benefits of interaction.

Intense and productive interaction in business relationships involves mutual adaptations (conditioning of actions and reactions) and implies that specific interdependences arise between the interacting parties as they make specific mutual concessions. These interdependences are created, consciously or unconsciously, as the managers involved bring in and develop 'new more effective solutions' (Freytag, Gadde & Harrison, 2017; Snehota, 2015). The benefits of interaction come from this 'developmental effect' of uncovering and developing new solutions. The essence of benefits of interaction is the developmental effect that comes from confronting different logics and resources of the involved parties (Håkansson & Waluszewski 2007). The developmental effects are the unique effect of interactions in business relationships.

Interacting is costly, and the costs of interaction can be a reason for managers to abstain from interacting (Hoholm, 2016). Interaction requires attention and efforts of manager and some deployment of resources. Interaction involves mutual conditioning and engaging in interactions in different relationships means interfering not only with the counterpart but also with other relationships. Given the cost (and burden?) of interaction means that there are always limits to the number of interactive relationships that can be handled. At the individual actor's level possibility to engage in heavy interaction with numerous counterparts is limited but these limits to interaction are present also on the level of single business, even though the limits can be mitigated by different organizational solutions.

Summing up the numerous studies on interaction in business relationships: variation in patterns and intensity of interaction in business relationships is related to managers' perceptions of the actual context with its interdependences and their insight about the developmental effects that can be achieved interacting with and relating to others. Given this link of interaction to the context features we can examine the general facets that give the broader context to interaction.

3. Contexts and facets of interaction

Interaction between two companies (businesses) has a content mirroring the general context. Various reasons can lead to interacting and effects of interaction can be traced in different dimensions. For analytical purpose the various dimensions of this mirroring can be related to three basic facets: social, material (functional), and economic. While the three facets connecting interaction to the broader context can be isolated analytically, in practice and in the perceptions of actor that generate the interaction the three facets are interwoven and cannot be separated. The social aspects of interaction, for example learning and bonding, due to interaction are relating interaction to the social structure cannot be separated from developing and implementing material (technological) solutions related to the technical structure which has resource implications and is subject to structure of deals about appropriation of the monetary flows. Any of the three facets can trigger interaction between two companies and can be used to describe the broad context of interaction and to assess the consequences of interaction at the individual level, organizational level and business network level.

Let us now have a closer look at how the three identified dimensions relate to the broader context. In each case we start with the pictures of these dimensions that we have got in research of interaction before we discuss consequences.

3.1 Social facet – interaction and the forming of social structures

Pictures: In the pictures of business interaction that our studies have resulted in (Håkansson & Snehota 2017), we find at center the individuals. Individuals trigger interaction behaviors, react on actions of others in a sequence of interactions. Individual managers from the involved companies are acting in relation to each other and bring their experience and motivation into the interaction process. It can be single individuals, but usually it is groups (teams) of individuals that are involved interacting between the two organizations, as agents for various organizational function. We often find 5-10 persons involved on each side but the teams involved can vary from two single individuals to several hundred individuals on either side. The frequency with which they interact (act and react on others acts) can vary between one meeting per year to one every week, or daily. The individuals as actors – as interactors (La Rocca, 2013) bring social dimensions into the process. They bring different motivation and personality to interaction; they

have different competence and they learn from each other. Through interacting they develop their understanding, motivations, competences and roles.

Several studies of interaction processes have recorded number of persons involved and number of times they meet but also the time they spend on interaction with each other and what kind of conflicts that have appeared and how they have been handled. In all these aspects there can be a large variation between the different interaction processes. As in all social structures there is an important differentiation between the (actors) (involved persons) in terms of closeness and perceptions/attitudes. The interaction processes can be cooperative or conflictual which influences both the content, ways to interact and the outcomes of interactions.

Consequences: Actors both as individuals and agents for organizations develop bonds (i.e. mutual orientations and commitments) that result in ‘social structure’ in which the (individual and organizational) actors are related and embedded. Interaction is an important ingredient in the social structure and how it evolves where individuals are related and embedded in a web of actor relationships in the context. The involved individuals acquire personal knowledge about each other and there will be both commitment and friendship evolving. They identify each other as important counterparts. Interaction has in this way always social consequences and will result in social embeddedness and social structures (formal and informal). The individual actors set in motion the interaction processes that produce the social structures but at the same time the interaction processes reflect the social structures and form the identities of actors and their meaning for others.

3.2 *Material facet – interaction about system solutions*

Pictures: The pictures that emerge from our studies show that the interaction has an important substantial or physical content. The object of interaction among the individual actors in business relationships is mostly solutions (artefacts) to achieve certain aims and performance. Interaction processes between businesses (but also internally) are triggered and aimed at changes of organizational solutions, technical facilities or products and other solutions. Solutions, always involve accessing, mobilizing and using other solutions in related businesses, build on ‘solutions existing and available elsewhere’. These solutions are important because they confer interaction an important substance (material ingredient). The pictures design of and adaptations of physical

items have been of critical importance for the more important interaction processes between businesses; both enabling and limiting.

Developing solutions between two business organizations involves mutual adjustments in activities and resources of both companies – in a material dimension. Such adjustments can be more or less extensive and more or less easy to observe. It can be products that are developed or adjusted to the specific customer or it can be the customers adapting to the products of the seller. It can be production or transportation equipment on both sides that are developed or changed to better suit the counterpart. Interacting is the critical process in the construction of technological systems that include production, transport or physical handling including, administration and communication.

When the ‘material’ solutions required ‘to fix’ the problems or to improve performance are not ready and cannot be anticipated, intense interaction is needed to bring about a workable solution. When the solutions are not known in advance, they involve experimenting and are novel for the interacting parties interaction and mutual adjustments are required. Experimenting new solutions brings about innovation in the technical systems.

The material arrangements connecting resources and activities and relating companies i.e. technical systems are an important infrastructure and platform for all commercial and social interaction. There are both direct and indirect connections and the material content relating companies can be more or less tangible. It can be physical involving physical resources, but it can also be of other kind of resources, activities and institutions such as rules or laws that create a legal system. The material dimension is an important facet of the content of interaction in business relationships. It links several different pairs of companies to each other.

Consequence: Interaction between individuals and business companies, about solutions combining activities and resources, imbeds and integrates local solutions in the extended technical/ technological systems of different kinds. Interaction creates the technical and material systems but at the same time interactions in business relationships are constrained by technical and institutional systems (Håkansson & Waluszewski 2002, Van de Ven et al 1999). These systems and similar - more organizational or legal to character - bind the companies together and where each unit is adapted to its role within these systems. The material construction is a result of these interactions and it is designed in interactions. The final result is that the single company

is embedded into activity systems spanning across numerous different counterparts. The involved companies are jointly creating all these activity and resource structures that span across all company boundaries and provide the general context to the interaction.

3.3 Economic facet – interaction about resource creation and appropriation

Pictures: In the pictures of business interaction from our studies there is always an evident economic content. The economic content has two aspects, one is the development and control of resources and the other is appropriation of financial outcomes (money flows) between businesses (Baraldi & Lind, 2017). One feature of the flow of physical resources and monetary flows that emerged in several studies is their size and importance for the individual businesses. An observation made again and again is that businesses depend on resources owned /controlled /provided by other businesses and access to and use of resources are the facet of interaction that conditions both the social and material facets. This facet is relevant on both the input and output side of companies. The ten largest counterparts are often taking 60 to 80 % of the total volume bought or sold by a company. Interaction in relationships to these counterparts involves not only access to the counterparts and their resources and activities, but also their development.

The economic facet of interaction in business relationships regards both cost efficiencies and returns on innovation – in other words the economic values for the parties. The economic dimension is present in much of the interaction in business relationships and the ‘economic value’, however ambiguous in definition, is in business context a criterion that affects the material solutions and organizational ties. An important aspect of the resource layer is the monetary (money) flows it involves (Håkansson & Olsen, 2015). Monetary consequences of development, exchange and transfer of resources are object of ‘deals’ - formal agreements to regulate how money is moved across company borders.

Monetary flows (regulated in deals) are linked to the substantive resources but are not determined only by these (Perna, Baraldi & Waluszewski, 2015). Thus, there is a special process initiated as soon as there is a transfer of money. It is a process where financial features are combined with the main interaction process. If we denote these formal agreements as deals a picture of an interaction includes usually a number of such formal deals involving the movement of money between the involved business units (Håkansson & Olson, 2015). These deals control the financial streams which require formal decisions to cross organizational boundaries Often

they go in one direction – from buyers to sellers but they can also go in the other direction for example in specific projects. They can be very regular or it can be more one off payments. As a consequence, deals are the result of the interaction, but also one specific frame of interaction. There must be deals for every change in the money streams. In the pictures of business relationships we can identify the deals and we can measure the financial flows.

In all important business relationships there is usually a whole set of different deals. There are some deals that are short term and others that can be more long term. These formalized deals are complemented by more informal agreements. An interesting finding in the pictures of business relationships in our research is the absence of formal deals in a lot of situations (Håkansson ed 1982). It seems that formal deals are made in particular situations when the financial flow are involved. Especially the more long term activities are often based on informal and more trust based agreements. One important aspect of the formal deals as well as of the money streams is that the strategy and organising of the business units in how to handle interaction and deals becomes an important influencing factor. The business units as formal organizations with intentions and ambitions will influence and thereby create variation in the interaction processes with different counterparts, reflecting the structure of deals.

Consequence: An important effect is that interaction usually results in an economic embeddedness. The different business units relate their economic development to some specific others. In resource terms (with economic consequences) the business units become embedded into each other. As the volumes are large and long term the economic development is directly related to the performance of the counterpart. An important consequence is that money flows are not at all a perfect measure of what happens in interaction in business relationships. Monetary flows may reflect other aspects than economic logic, power dimension and institutional constraints. Changes in economic results of one business unit will have effects also on related ones. If the money payed to a main supplier disappear it will have a very large direct effect on that supplier but also large indirect effects on other counterparts of that supplier.

The flows of money and their structure and content is in this way an important context of the interactions.

In this section we have identified three important facets of the broader context to interaction. Interaction is more or less embedded into these three facets of the context. Interaction can

originate in any of the three but also produces effects in any of the three facets. However, the link of interaction to the general facets of the context is not generic. Interaction in a given relationship reflects the specific (local) context conditions of the interaction. It is these context conditions that we have named “interactivity”. Interactivity is about the particular embedding of interaction in the general context.

4. Interactivity

Analytically, when we put interaction in relation to properties of the context in which interaction takes place’ that we will denote as interactivity, we have to examine how the properties of the context affect the actual interaction. While this issue has not been explicitly addressed in prior research we can find some traces in prior research that are relevant for the purpose. We will therefore start in this section from how the interaction context has been interpreted and explained in earlier studies.

Relationship atmosphere. One concept that was used to capture the properties of the specific context of interaction in business relationships in the first IMP study (Håkansson, 1982) was that of “atmosphere”. Atmosphere was suggested to be a context variable affecting the interaction between two companies. Atmosphere was used as concept in the interaction model of relationship, to denote ‘the environment’ of interaction of two focal actors their mutual dependence and co-operation;

“Atmosphere can be described in terms of the power-dependence relationship which exists between the companies, the state of conflict or co-operation and overall closeness or distance of the relationship as well as by the companies’ mutual expectations.”
(Håkansson ed 1982:21)

Atmosphere was then argued to have consequences for the economic outcomes of a business relationship and for mutual commitment and control. It was also found to be related to managers’ intentions and behaviours and actually influenced by managers. Relationship atmosphere is both derived from and influences the interaction.

“One of the main aspects of the relationship which may be affected by conscious planning is the overall atmosphere of the relationship.” (ibid:21)

The intangible nature of ‘atmosphere’ poses problems in conceptualizing it and measuring it. Despite difficulties to assess, measure and qualify ‘atmosphere’ in business relationships it has been object of several studies and the dimension found to describe atmosphere were cooperation/conflict, power/dependence, trust/opportunism, closeness/distance and expectations and culture (Hallen & Sandstrom, 1991). It has been found that actors involved perceive the atmosphere differently and interpret and organize in different way their pictures of the relationship (Sutton-Brady & Cameron, 2002).

Duels and duets. Two metaphors have been used to characterize how the atmosphere in a relationship can vary in a very distinct way affecting the content of the interaction process – “duels” and “duets”.

“A duel is an antagonistic interaction with usually only one winner and where the consequences for the defeated can be extremely sever. A duet is cooperation or co-action where two actors (singers) try to do something together that none of them can do in isolation. It is obvious that these two metaphors give two quite different pictures of the interaction between the organizations and which then also will have an effect on the organizations themselves” (Håkansson, 2010, p 1)

The duet version is especially interesting as it has not been developed and discussed as much as the “duel” which is well covered by analysis taking its starting point in the classical market behavior. Duet implies that two actors are mutually oriented and “to become mutually committed amounts to giving and being given some priority” (Håkansson & Snehota 1995:32). This includes being aware of others, knowing each other and giving each other mutual identities. Knowing about each other affects the interaction behaviors and is a property of the context that can be assumed to affect (explain) different patterns and intensity of interactions. It is thus a factor of interactivity which includes to know about “each other’s ambitions and perceptions” (ibid page 32). However, bonds between actors are not formed in isolation. “Commitment, identity and trust are processes that constrain and at the same time enable the behaviour of the actors in relation to each other” (ibid page 33). Bonds that are formed between two actors reflect bonds in other relationships of the actor. It means that “bonds in a relationship are but a portion of a wider web of actors” (ibid page 33).

The Air. One way to conceive interactivity, building on the idea of atmosphere and duels and duets is then that interactivity is “in the air”. Vague as it may sound to some, it has been a factor that has some tradition in research. ‘Air’ has been used in explaining ‘industrial districts’ and their performance (Marshall, 1879:53; Beccatini, 1991; Belussi, 2008). ‘Air’ can be seen as the existence of ‘oxygen factors’ driving the interaction. This air in the context of interaction is an important input to the interaction – it gives interaction processes in a business relationship a certain direction and content. What does the air comprise? Some of the aspects have been discussed in earlier research. It has been suggested that there is an “image structure” that drives the interaction as (Håkansson & Waluszewski 2002). The managers bring their “images” of how technological and other functional systems look like, their perceptions and understanding of how products and facilities work together. These images of the context in which the manager interacts are result of how managers organize and interpret the information to create a meaningful image of the context on which to act. This image structure provides a frame for issues addressed as parties interact, in particular in how they react to problems and issues raised by others and thus for the solutions brought to the relationships with others that regard how two parties become linked, tied and mutually committed. The air, with its image structure is thus a factor shaping the patterns of activities, resource constellations and how actors and organizations are related to each other, i.e. the business networks in its different aspects and its social, material and economic facets (discussed earlier).

An important aspect of the “air” that shapes the image structure are social networks. Connections between individuals and the travelling (moving around) of individuals with their personal networks provide ideas and suggestions for changes. Social connections can be used to learn, teach and mobilize managers and their motivations and attitudes. Social network creates the will and opportunities for changes.

The Ground. Interaction in business relationships is not only driven by ‘the air’ in which it is performed. The idea structure reflects the ground; but it is based on ‘reading’ and interpretation of the ground and therefore never complete. It has a blurred boundary toward the ground. It drives the transformations, but it is only through the ground that the real transformation will come about. It has been noted that the managers’ image structure is picturing an “activity

structure” that consists of materialized facilities/machines and products (Håkansson & Waluszewski, 2002). Interaction takes place on a certain ground and is embedded into the involved resources, activities and actors. Context of the interaction and business relationships in general has been interpreted as ‘landscape’ in which the interaction takes place. However, interaction is not only reflecting the ground (and the relevant parts of the landscape) on which it takes place, interaction also produces and modifies the ground and the landscape (Håkansson et al., 2009:17). This idea comes from earlier studies of interaction process leading to innovation.

“A key issue seems to be how certain features of these single or combined resources are developed and embedded into each other through interaction” (Håkansson & Waluszewski 2002: 33).

Interaction shapes the ground as it leads to solutions that connect actors, resources and activities that are the ‘texture of the landscape’. The existing structure (and texture) of the ground that affects interaction is the result of all earlier interactions.

Earlier research, focusing on the resources has proposed categorizing resources in four types:- relationships, business units and products and facilities (Håkansson & Waluszewski 2002, p 33-34). These four types of resources are developed in interaction and therefore exist in a specific activity structure in the contemporary situation. Every time that a new solution is needed and is tried out a specific relevant slice of the activity structure is activated. Every new solution means that the ground is modified, it has to find a room in the existing structure. Modifying the existing structure is not simple because the structure has a mass, heaviness and inertia that affect the space for new solutions. The existing structure affect interaction processes in a business relationship in two ways: it provides opportunities (as it can be leveraged and mobilized) but at the same time represents a heavy restriction. The more there have been of earlier interactions the more possibilities there will be to add to this structure. The involved managers will also have more experience of interactions. But at the same time the more that is invested in the structure the heavier it will be to change in any substantial way. (This bidirectional effect activity structure on interaction and vice-versa makes the activity structure fluid, and perhaps better characterized as activity ‘flow’ than solid structure).

The above discussion leads us to conclude that properties of the context that affect interacting, are not just in the air – but are also in the ‘ground’. ‘Ground’, in terms of the actual activity

structure (flow), is thus the second major aspect of interactivity in the context that affects the content, direction and intensity of interaction in business relationships.

Managers. An important feature of the interaction context is the amount of interaction going on. The amount of interaction going on is a consequence of managers' engaging in interaction in business relationships. That makes managers and their propensity to interact and their 'using' interaction the third dimension of interactivity. Managers have a critical role in linking the context to actions to be put in place by companies in business relationships. It is managers who 'connect and mediate the air with the ground'. Managers have a special status as factor of interactivity as they are the driving force of interactions in business relationships.

Managers as factor of interactivity are not simple to handle analytically. On the one hand, as individual actors, managers selectively interpret the context and selectively act on it. At the same time, in business relationships, managers are agents for the businesses involved and represent 'organized entities'. The actual behaviors of managers in interaction are result of the interplay of the individual and the organized entity.

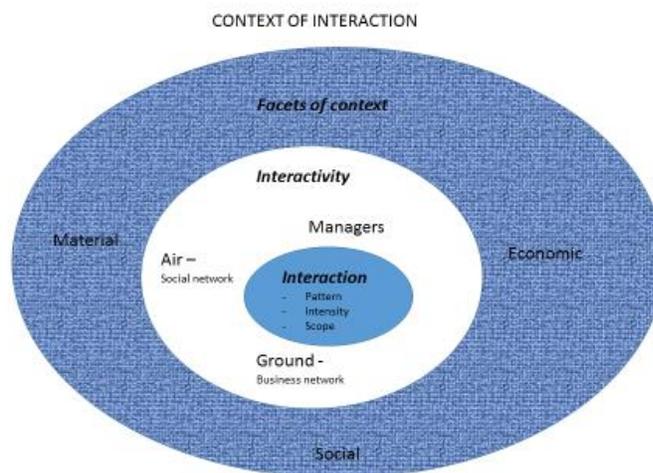
It is managers who bring in their motivations as agents for the businesses involved (expectations about what can be achieved in a certain situation) and come up with ideas about what and how to change. At the same time managers fight to keep and protect old solutions (that have worked) to preserve the contexts stable. There is an important tension between the air and the ground, which is mediated and executed by managers. The interaction is driven by the managers who have most of the experience and knowledge of the ground. In all interactions past experience and in this way history, is a central ingredient. But, through the air new ideas can travel and reach new places in the network.

In a particular relationship and a specific interaction, managers enter in different ways.: a) - Managers bringing with them personal attitudes, perceptions, experience and knowledge of earlier interacting, representing the organizations directly involved but also third parties; b) – Managers representing an organization bring with them policies and routines as well as a set of organizational activities and resources and their links and ties; c) Managers that represent third parties also bring with them their other relationships, their economic logic and interacted activities and resources.

The third factor of interactivity (as feature of the context related to the pattern, intensity and scope of interaction) is ‘managers’. It includes how managers (collectively) conceive of possibility to use interaction in business relationships to reach intended outcomes. Interaction is more than individual behaviors; it is about inter-acts between at least two particular actors. What has consequences for making use of interaction is the propensity of the directly involved to make use of the interaction (reciprocate). Whether interaction can be initiated and used for a certain purpose depends on the propensity (and understanding of the interaction mechanism) among other managers that can be accessed. Interactivity might be seen as a thick soup where involved managers bring with them different ingredients which certainly affect the taste as well as the smell. Manager factor influences the way problems are perceived and what kind of solutions that are tried out and the reactions to these solutions. It is to a large extent determining the way the interaction unfolds. But, the relationship specific local context of interaction is in itself embedded into a broader context where social, economic and technical artefacts are key ingredients. In this broader context interaction has a role as a mechanism that produces, and can produce, important changes.

We can identify air, ground and managers as three factors of interactivity illustrated in Fig. 2.

Figure 2: Different context dimensions and factors of interactivity



The scope of interaction

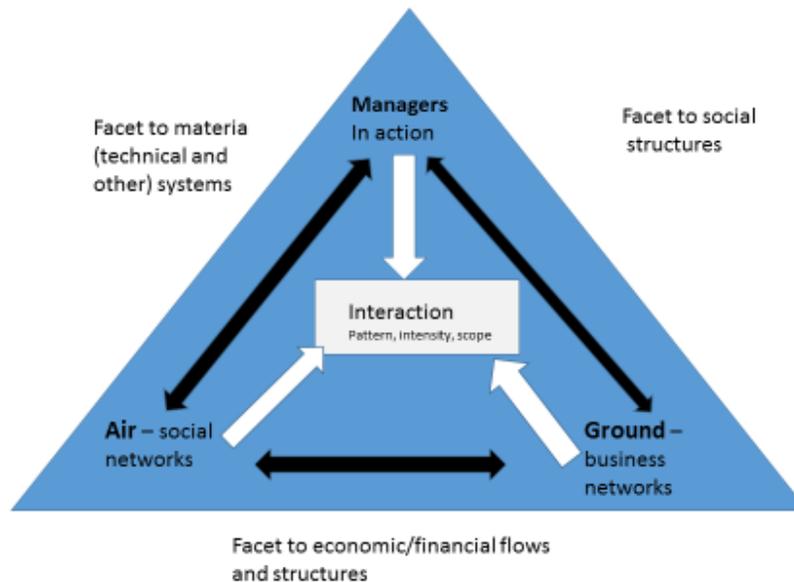
‘Managers’ as factor of interactivity have a special status. Managers, translate air and ground into interaction in business relationships. It is plausible to assume that when managers act and interact in business relationships it reflects how they frame and interpret the ‘air & ground’, but also their intentions and role as managers of a business. Interaction in business relationships can be quite different in the aims of the managers and in scope. Interaction in business relationships can be used for three basic business aims. It can be used to generate solutions that lead to cost efficiencies in the business involved, it can be used to achieve developmental effects and innovation and it can be used to intentionally modify the structure of the business network and relationships in which the business is embedded. This framework has been used to assess the aims and effects of interaction and its outcomes (Axelsson & Håkansson 1986, Gadde et al., 2010; Gadde & Wynstra, 2017). The scope for interaction in business relationships can be any combination of the three aims pursued and enacted by the managers relating the air and the ground.

What makes the manager factor of interaction analytically demanding is that interaction requires more than one actor, more than one manager. The scope and use of interaction for mobilizing others for certain aims depends on how “diffused and shared” is the meaning of interaction, its scope and possible effects (benefits). The actual use of interaction for achieving efficiencies, development or structuring, cannot be achieved unilaterally; it depends on how other managers (as interaction partners) frame the air, the ground and the scope for use of interaction. The actual interaction has life of its own (independent of the intention of the single party) as it depends on how the managers involved in a specific interaction process perceive and acknowledge potential benefits and costs associated with interaction. In this way, interactivity has a collective dimension; whether it will lead to limited or extensive interaction depends on how others involved in the context interpret the situation and act. In turn, it depends on their respective past experience. Interaction, in business relationships is bilateral (two-party), but the factors impinging on interaction in business relationships have broader roots and effects that can be illustrated by Figure 3.

What the Figure 3 suggests is that the actual interaction in a particular business relationship as well as the interactivity (context features) are relationship specific. The broader context in a certain interaction situation is characterized in terms of how the social, material and economic facets of the context are selectively perceived and selectively enacted by the interacting managers. The pattern, intensity and scope of interaction in a particular business relationship reflect how the interacting managers try to use each other. It creates a certain “mode” in terms of how the companies are using each other. The mode, is in the air and atmosphere that surround the actual relationship.

This line of reasoning leads to a picture of interactions as a life that can vary as it is, taking place both in the air and in the ground. It includes very light elements as well as some very heavy ones. Two parties can in the “air” easily agree about the design of an activity or the use of a resource. They only have to agree and believe that it will work. They can even sign a contract including the solution. However, as soon as this agreement is stipulated and put in work, the two parties will realize that this must take place in the ground with all the problems of fitting the new solution into the existing solutions that form the ground. But, on the other hand, changes taking place in the ground would be only very marginal if we did not have the light part. In turn, changes in the place of the ground, will result in need to adapt other parts of the ground.

Figure 3: Factors forming the mode of relating



Interactivity as properties of the specific local interaction contexts, that lead to, but also are result of interaction, can be likened to DNA, while the actual interaction is the genuine life, outcome of the interaction of the elements present. Relationship between the interactivity and interaction is one of dependency but not determinedness! We can therefore only isolate certain tendencies. Let us speculate around some of these that surfaced in earlier empirical research:

- (a) The more technical factors are focused the more important will be the interpretation of the “ground” and the more the technical managers are likely to be involved.
- (b) The more the focus of managers is on social factors, the more important will be the “air”.
- (c) The more the economic factors dominate the more easily the air will become “hostile”.
- (d) The more we have experienced managers the more stable will the interaction be.
- (e) The more we have new managers coming into the interactivity the more unstable will the interaction be especially when the air dominates.
- (f) The more ground the managers include the longer and deeper will the interaction be.
- (g) The more air the managers include the more intensive will the interaction be especially if the technical factors in the broader context are emphasized.
- (h) The more experience the managers have of the ground the more technical content in the interaction.

- (i) The more experience the managers have of earlier interaction the more intensive will the interaction be.

6. Conclusions

We started from the question how the observed variation in interaction in business relationships can be explained. Assuming that interacting in business relationships is dependent on some context features, we tried to identify and define which dimension of the context are related to the observable variations in pattern, intensity and scope of interactions between two businesses.

Drawing on ideas that emerged in earlier studies we came to identify three dimensions of the context that impinge on interaction, and advanced the concept of interactivity to embrace these.

We identified three dimensions of interactivity:

- the image structure – ‘air’ (that refers to managers’ perceptions and interpretations of the context in its various facets);
- the existing activity structure – the ‘ground’ (that can be defined as the business network with connections and interdependences in social, material and economic facets)
- managers’ scope for interaction (motivations and aims which includes the expected and intended effects in a business network with economic consequences).

To sum up our argument in this paper: We posit that the variation in interaction can be explained from variation in the actual conditions (interdependences), perceptions of the interdependences among the individual actors and ability to conceive space for action creating and modifying the interdependences. Such conditions are not uniform across businesses relationships and single actors; rather the factors enabling and hindering interaction in business relationships are always ‘local’. Interactivity is always local because the variation in interaction across relationships and businesses is related to the local specific perceptions, of the single individual actors and their capacity to enact links in some dimension, as well as to the actual dependences (outcome of prior interactions and interdependences developed). Interactivity, related to the impulse for interaction, as a condition to interact and reap the benefits of interaction.

We can thus formulate two conclusions regarding the link of interactivity to interaction. First, the effects of interactivity are always local since interaction always takes place in a particular

context that is part of image structure and of the activated structure of the parties; it regards a relationship within these structures. But, the local interactivity conditions depend on a broader context of interactivity in the 'eco-system of business'. As for the effects, the 'localized', relationships specific interactions, and the local interactivity have effects and consequences at several different levels. Interactivity at a given moment is outcome of past interactions. Interactivity has effects on the level of individual actors, on the level of the businesses involved, on the level of the network of interconnected businesses and relationships and in general on how the economic activities are organized and structured.

Second, a large body of research has evidenced that in business context (probably as in other contexts) interaction can produce unique effects. Interaction can thus be seen as the key business process (Håkansson et al., 2009) because of the 'transformational' (developmental) effects it can produce on businesses and the activated business structure. This transformational effect cannot be produced in any other way. That makes interactivity a fundamental feature of the 'economic and business landscape'. The interactivity as the properties of the context of interaction in business relationships that favour (fuel) or limit interaction is a very central dimension of any economic system (economic organizing). It deserves further research.

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