

Boundary zones in business networks

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Abstract

We contribute to the industrial network literature by conceptualizing boundary zones, the spaces and times where differences are created, maintained and changed. The boundary zones, between firms and between parts of the network, are malleable when a dynamic and longitudinal perspective is adopted. Boundary zones are managed by an actor through control of critical resources and/or activities, but also in conjunction with other actors who undertake supporting activities for either collaborative or different purposes and interests. Thus, boundary zones are managed in and through business relationships. How boundary zones are created and maintained by managers within business relationships has implications for competitive and collaborative activity and for network change and form. In this paper we present a literature review and a schematic tool for future research concerning network boundary zones.

Keywords: Border, Interaction, Temporal research, Networking

INTRODUCTION

A border, or boundary, is a physical and/or conceptual zone where things become different. The concept of a border/boundary is an ideal, and that of the border line is a simple representation, for example on a map. In our business reality and in the social world, a boundary is always a zone in space and time. A boundary concept may appear as an ideal, as an absolute or complete category: but the passing of time shows that it is not. Conceptual and physical boundaries are always in transition. There is change/movement within and across the zone so that the form of a boundary is mutable. Thus, a boundary, physical and/or conceptual, is always a zone. Our contribution is an elaboration of these concepts so as to provide research tools for understanding how business networks are future configured.

Often boundary zones are created by multiple boundaries. There is no duplication here, except if time is forgotten. In business, boundaries proliferate. The firm has and understands many different boundaries (Huemer et al., 2004). Managing in a business network is necessarily relative and so is contingent on different boundary understandings (Snehota, 2003). Strategic nets or firms collaborating explicitly (Moller and Rajala, 2007) are formed by different sets of boundaries within a business network. While the business network extends without limit (Alajoutsijärvi et al., 1999), managers have limited knowledge and so they have network horizons (Holmen and Pedersen, 2003). Further, managers network theories (Mattsson and Johanson, 1992) imply boundaries. Accordingly, managers create boundaries within the business network to strategize and manage (Huemer et al., 2004). Thus, one can also envisage that there are time frontiers that form network boundary zones.

The relational perspective of the firm notes that critical resources span firm boundaries (Dyer and Singh, 1998). Adopting a relational ontology places the activation of resource constellations in the business relationships that span firm boundaries (Håkansson and Snehota, 1995). But also the relationships are managed according to the interests of firms (Håkansson and Snehota, 1995). These ideas about resources and the boundaries of firms, relationships and strategic nets point to a critical role of boundary zones in understanding the business network concept.

The boundary concept has been essential to the developing understanding of business networks and the theoretical progress of the Industrial Marketing and Purchasing (IMP) Group (Munksgaard et al., 2017). In an interacted business network the setting and moving of boundaries is a matter of strategic importance for firms (Munksgaard et al., 2017).

When boundaries are created by natural features (e.g. a river) or the state (e.g. borders or fortifications), managers use and apply them in their strategies. But managers can also create boundaries with resource ownership or by contracts (Grandori and Soda, 1995). Contracts “are powerful vehicles for regulating market relationships. ... They place firms at the center of a network of relationships, rather than as owners of a clearly defined set of capital assets.” (Holmstrom and Roberts, 1998) However, there are other jointly acted boundary zones between multiple actors. These jointly acted boundaries are created from outside as much as from within (Huemer et al., 2004). Moving conceptualization to boundary zones provides deeper insights into their outside creation. All boundary zones in a business network have a special character as they are open to change even when appearing absolute. Shifting boundary zones to arrange a future is thus an important research question for the IMP approach.

The purpose of this paper is to advance the business network literature by elaborating a vision of boundary zones as techniques/devices/tools that are created and used by networking actors.

Our understanding of how boundary zones are created by managers depends on the researchers' ontological assumptions. Static conceptualizations will not allow comprehension of changing zones or how other actors are implicated in boundary change. Thus, we approach our study from the ontology of business relationships within dynamic firm networks (see, Medlin and Törnroos, 2015). That is, given the role of substantive interaction in industrial networks, we adopt a moderate constructivist ontology (Järvensivu and Törnroos, 2010). Our research questions regarding boundary zones are: (i) how are they conceived, and (ii) how are they known. The paper is thus an exploration of spatial and temporal boundary zones in business networks.

The paper is conceptual and is based on an analysis of what emerges from the literature, for this reason there are two parts: (1) a literature review articulated on several parts and accompanied by critical reflections the development of a conceptual scheme; and (2) a reading of the emerging theoretical and managerial implications based on the results of the literature review. Finally we suggest some managerial and research implications. There are many avenues yet to pursue.

LITERATURE REVIEW

A boundary, as a physical and/or conceptual zone, where things become different, is one of the most rudimentary elements of human cognition. Boundaries are intimately linked to social structures and to processes of change (Abbott, 1995). Boundaries *buffer* and *bridge* (Araujo et al., 2003). Araujo et al. (2003) pointed to the importance of bridges. By contrast we want to note more equally the spatial and temporal buffering by a boundary zone and gates. The boundary zone notes a gate, and a gate or gates note a boundary zone.

This section is structured in the following way. First, we consider boundary zones as forms of control. Second, we elaborate a way to consider changing boundary zones as temporal frontiers. Third, we provide a conceptual scheme of precepts for undertaking research or managerial thinking about boundary zones. We remain at a general level so that business relationships and networks are in the picture.

The castle: boundary zones as forms of control

One approach to a boundary is that a region for colonization is found, and that contractual or resource ownership provides control. For example, the boundary of a firm. In this approach "saying that a set of closed boundaries exists is logically equivalent to saying that a social thing exists" (Abbott, 1995: 860). The resource based view of the firm follows this approach (Barney, 1991, Barney, 1999), as does the dynamic capability literature (Teece, 2007, Teece, 2018). In this approach actors establish boundaries in terms of control. Entity and boundary are conceptually and often physically interrelated. Abbott (1995: 862) notes "boundaries are a logical correlate of thingness and vice versa". Therefore Abbott (1995) declares that the entity approach cannot provide a perspective of change.

However, in a constructivist approach a boundary zone is a mutable concept, most often layered in nature. Physical features only form a boundary zone when there is a social understanding, either imposed by the legitimate power of a state or enacted socially by many actors. But boundary zones do not require a physical feature. Boundary zones are mercurial and can be created from nothing if they are enacted by enough people or even from a resource provided for free (e.g. software). As social constructions the relational and temporal nature of boundary zones needs attention in all that follows.

Consider the boundary of a firm. The firm boundary is formed depending on the approach taken. Araujo et al. (2003) discuss the many firm boundaries, so indicating its zone nature. Also Araujo et al. (2003) discuss how boundaries are created from inside and outside: for example they draw on Penrose (1959) with the firm and the other firms of an industry, and in the case of Richardson (1972) the firms are in a wider system of firms. Evident is the social and institutional (i.e. temporal) character of a firm.

But how are boundary zones formed? Needed is a concept of the outside, a concept of the inside, and the two must be differentiated at the boundary zone. There are two ways forward according to Abbott (1995), one can look for boundaries between already existing social entities or one should look for changing entities and their differing boundaries. The first approach follows a positivist ontology of entities, the second is a constructivist perspective. Abbott (1995: 857), promotes the second approach and writes we “should not look for boundaries of things but things of boundaries.”

The things of boundaries include: (i) the zone, which may not be equivalent in all of its space/time, (ii) boundary concepts likely having different meanings according to actor, (iii) an inside, (iv), an outside, and (v) interaction so that the zone is known. One might consider the interaction as ascendant and so focus on the bridging (see, Araujo et al., 2003). But buffering and bridging are co-ascending. Turning to the buffering concept, and altering the metaphor to grasp better the zone of change, we see that gates are integral to boundaries and boundaries are essential for gates. The form of a boundary zone is thus created by substantive interaction via a boundary gate. One can say that without substantive interaction (past, present or intended) there is an absence of boundary zones. The metaphor of a castle describes the associations, with gates between nested walls providing different zones. The boundary zones created by gates and walls give control of space and movement: specific substantive interactions are allowed. The metaphor of walls and gates is quite static, but the possibility of movement and interaction tells us there is a temporal component to the zone.

The frontier: boundary zones as temporal constructions

In earlier institutional and business economics literature, boundary zones are primarily at the edge of organizations and the space between is conceptualized as a public space or existing as a market. But markets are shaped and re-formed (Kjellberg et al., 2012). Continuing change is the prime supposition of a process approach (MacKay and Chia, 2013). In a network setting, where collective activity is managed within long-standing business relationships, the firms follow strategies and seeks network positions to make more certain their future. Understanding the networks created by these different temporal processes needs an alternate means of parsing concepts. The possibility of different futures, and the pathways – the gates and the boundary zones – come into focus.

The metaphor of the frontier, which captures space and time, gives a starting point. But we would go further and include the concepts of: (i) transcendence (Schütz, 1967), (ii) the moving present (Luhmann, 1979) and (iii) asymmetric time flow (Adam, 2000, Halinen et al., 2012). Transcendence notes that “... action takes place in time, or more precisely in the internal time-consciousness, in the *durie*. It is duration-immanent enactment. Act, on the other hand, is duration-transcendent enactedness.” (Schütz, 1967: 40) In social settings transcendence leads to time frontiers. The people with more years on our planet can elaborate concepts from further back in time, and can imagine different future frontiers than those who are younger (Schütz and Luckmann, 1983). Each age, with its different social understandings and technologies, grasps different frontiers (Schütz and Luckmann, 1983). Given asymmetric

flowing time the insight is that there are historical and future positioned boundary zones, according to different frontiers of social memory and experience and different inferences concerning conceptualizations of futures. The frontier metaphor is strongly temporally dynamic, in contrast to that of the castle.

Shifting boundaries, difference and conceptual tools

Understanding how boundary zones are intentionally shifted in business networks is a complex subject that includes several aspects. How the actor, their understanding and the boundary zones are drawn together in a context needs careful consideration. The intentions of the actor are linked to their understanding, and the boundary zones are already presupposed and needed for conceiving the theory of network change. This co-conception apparent prior to the thought to change boundary zones is already constraining the openings of new bridges and zones in the network. We next elaborate conceptual tools for enquiries concerning changing border zones and gates.

First, boundary zones are specific to at least two actors, although control maybe by one or more actors. Second, boundary zones are not a limit or an element of closure for an organization, rather shifting boundaries/zone change is a functional tool for changing the nature and form of interaction within contexts. Thus, boundaries and signs of boundaries are like signposts and their moments of change mark network development according to many interests. This idea is not new to IMP. Huemer et al. (2004: 62) consider that “a network evolves through moving boundaries”. But our paper begins to show how considering boundaries as zones opens new research tools for study and managing in interaction and in networks. In Table 1 we present conceptual precepts for a boundary zone approach.

Table 1: Precepts for a boundary zone approach

<i>Construct</i>	<i>Definition</i>	<i>Connection *</i>
Border	A border is a line with a position in a surface; a border between two actors provides the idea of a separation, a difference, between their areas of influence.	Border is conceptual, an ideal, and Zone is experience in space. A zone is comprized through substantive interaction. Zone is a concept of time and space .
Boundary Zone	A boundary zone performs a buffer function and is recognizable by the existence of gates. The zone is where the influence is played by two actors in the same time, each affecting the other. The boundary zone plays a security function helping to manage control in space.	
Castle	The castle metaphor provides for the existence of multiple stratified/nested boundary zones, with selected access. The vision is of static zones in space.	Castle and frontier give space and time metaphors. Metaphors giving space and time representations, but always incomplete. Words make abstract, extensive and non-specific what is always specific and unique.
Frontier	The frontier metaphor provides a dynamic vision of zones, into futures and into pasts. Dynamic because we live inside our created times. Thus, a frontier is not static, but is continually differentiating in the process of its temporal becoming.	
Gate	A gate plays a bridging function. In the absence of a gate there is no experience of the other actor. Possible is mediated experience via other gates. Without a gate the boundary zone is only an abstract and asymmetric category. Boundary zone needs a gate for converging meanings.	Boundary zones and gates access ever distant zones, until a boundary without gate (i.e. horizon) indicates something beyond.
Horizon	The space and time beyond the outermost boundary. Difficult to perceive and represent because there is no gate. Felt and intuited by a sensorial perception that something else is beyond that boundary.	
Sensoriality	Sensoriality of a boundary is only in the immediate present. Sensoriality pertains to what is perceptible by the senses in time and space. The conceptualization of sensoriality is by social categories. The sensoriality of a boundary zone concerns the possibility of perception by the actor, as defined by elements/marks that are physical (a wall, a river, etc.), or representative (an idea, a contract).	The individual senses are reliant on enacted times and social categories. Social enactment of pasts and futures needs convergent meaning.
Transcendence	Transcendence of a boundary is a social and conceptual movement beyond physical experience and includes: (i) representations and what is beyond them; and as well (ii) futures, and (iii) pasts. Transcendence pertains to how one lives socially in time and space.	
Source: Authors' elaboration		

IMPLICATIONS FOR MANAGEMENT AND FUTURE RESEARCH

Managerial implications

Entrepreneurs and business managers have an intuitive understanding of boundary zones. However, for managers schooled in competitive market theory the concept of collaboration in business networks is rather strange. Approaching a call to collaboration is thus difficult, but boundary and gates and indirect interaction offer a *conceptual bridge*. Bridging is applied in this way by Araujo et al. (2003), but in addition we envisage also collaboratively constituted boundary zones. Our approach is grounded on the belief that institutionalized market theory is leading managers towards sub-optimal adaptations that are more focused on pasts, rather than futures. In an increasingly interdependent business world, deeper and more complex theories are needed for sustainable economic enactment.

Future research on boundary zones in networks

The role of competitive relations in firm and network boundary zone formation opens at least three areas of research. The first is the part played by competitive and collaborative interactions in boundary zone formation. The co-competition between firms in networks (Bengtsson and Kock, 2014) and the early work of Easton (1988, 1992) and Easton and Araujo (1992, 1994) are places to begin. The research on strategic nets that study collaboration, business relationships and bridging of boundaries (Möller et al., 2005) and that seeking to understand development and change by actors within regional clusters (Guercini and Runfola, 2015) is open to considerations of the boundary zone in competitive and collaborative relations.

The second research area is the inclusion in the industrial network approach of competitive concepts qualified for constructivist research. In networks there is not only a need to consider competition between firms (Ford and Håkansson, 2013), there is also a need to understand indirect interaction as competitive temporal processes between many firms (Medlin and Ellegaard, 2015). The combined roles of competitive relations and business relationships in boundary zone formation opens new vistas of macro-processes with long temporal footprints. Here we point to studies of long cycles of institutional change and internationalization.

The third research idea is to apply frontiers, boundary zones and gates to consider the nature of multi-actor agency. The temporal nature of acting and network formation has led to conceptualization of structuration (Giddens, 2013), Actor Network Theory (Latour, 1999, Latour, 2005) and process thinking (Emirbayer and Mische, 1998, Langley and Tsoukas, 2016). Boundary zones and gates speak directly to the multi-agency concept, while the addition of frontiers offers a way to consider their temporal aspect.

Finally, we note that research based on an elaborated understanding of boundary zones should deal with: (i) interaction, direct and/or indirect, (ii) bridging and buffering, in either direction across boundary zones and in a temporally cognizant manner, (iii) an inside and an outside, or multiple of each including strange junctures and nesting. The research task looks exceedingly interesting. However, research of boundary zones, the things of boundaries, requires a constructivist approach in which the temporal dimension is explicit.

References

- Abbott, A. (1995) "Things of Boundaries", *Social Research*, Vol. 62, No. 4, pp. 857-882.
- Adam, B. (2000) "The temporal gaze: The challenge for social theory in the context of GM food", *The British Journal of Sociology*, Vol. 51, No. 1, pp. 125-142.
- Alajoutsijärvi, K., Möller, K. and Rosenbröjjer, C.-J. (1999) "Relevance of Focal Nets in Understanding the Dynamics of Business Relationships", *Journal of Business-to-Business Marketing*, Vol. 6, No. 3, pp. 3-35.
- Araujo, L., Dubois, A. and Gadde, L. E. (2003) "The Multiple Boundaries of the Firm", *Journal of Management Studies*, Vol. 40, No. 5, pp. 1255-1277.
- Barney, J. B. (1991) "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol. 17, No. 1,
- Barney, J. B. (1999) "How a Firm's Capabilities Affect Boundary Decisions", *Sloan Management Review*, Vol., No. Spring, pp. 137-145.
- Bengtsson, M. and Kock, S. (2014) "Coopetition—Quo vadis? Past accomplishments and future challenges", *Industrial Marketing Management*, Vol. 43, No. 2, pp. 180-188.
- Dyer, J. H. and Singh, H. (1998) "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage", *Academy of Management Review*, Vol. 23, No. 4, pp. 660-679.
- Easton, G. (1988) "Competition and Marketing Strategy", *European Journal of Marketing*, Vol. 22, No. 2, pp. 31-49.
- Easton, G. (1992) Industrial Networks: A Review, in: *Industrial Networks: A New View of Reality*(Eds, Axelsson, B. and Easton, G.) Routledge, London and New York, pp. 3-27.
- Easton, G. and Araujo, L. (1992) Non-economic exchange in industrial network, in: *Industrial Networks: A New View of Reality*(Eds, Axelsson, B. and Easton, G.) Routledge, London and New York
- Easton, G. and Araujo, L. (1994) "Market Exchange, Social Structures and Time", *European Journal of Marketing*, Vol. 28, No. 3, pp. 72-84.
- Emirbayer, M. and Mische, A. (1998) "What is Agency?", *The American Journal of Sociology*, Vol. 103, No. 4, pp. 962-1010.
- Ford, D. and Håkansson, H. (2013) "Competition in business networks", *Industrial Marketing Management*, Vol. 42, No. 7, pp. 1017-1024.
- Giddens, A. (2013), *The consequences of modernity*, John Wiley & Sons
- Grandori, A. and Soda, G. (1995) "Inter-firm Networks: Antecedents, Mechanisms and Forms", *Organization Studies*, Vol. 16, No. 2, pp. 183-214.
- Guercini, S., M. and Runfolà, A. (2015) "Actors' roles in interaction and innovation in local systems: A conceptual taxonomy", *Journal of Business & Industrial Marketing*, Vol. 30, No. 3/4, pp. 269-278.
- Håkansson, H. and Snehota, I. (Eds.) (1995) *Developing Relationships in Business Networks*, International Thomson Business Press, London.
- Halinen, A., Medlin, C. J. and Törnroos, J.-Å. (2012) "Time and process in business network research", *Industrial Marketing Management*, Vol. 41, No. 2, pp. 215-223.
- Holmen, E. and Pedersen, A.-C. (2003) "Strategizing Through Analyzing and Influencing the Network Horizon", *Industrial Marketing Management*, Vol. 32, No. 5, pp. 409-418.
- Holmstrom, B. and Roberts, J. (1998) "The boundaries of the firm revisited", *Journal of Economic perspectives*, Vol. 12, No. 4, pp. 73-94.
- Huemer, L., Becerra, M. and Lunnan, R. (2004) "Organizational identity and network identification: Relating within and beyond imaginary boundaries", *Scandinavian Journal of Management*, Vol. 20, No. 1, pp. 53-73.

- Järvensivu, T. and Törnroos, J.-Å. (2010) "Case study research with moderate constructionism: Conceptualization and practical illustration", *Industrial Marketing Management*, Vol. 39, No. 1, pp. 100-108.
- Kjellberg, H., Storbacka, K., Akaka, M., Chandler, J., Finch, J., Lindeman, S. and Nenonen, S. (2012) "Market futures/future markets: Research directions in the study of markets", *Marketing Theory*, Vol. 12, No. 2, pp. 219-223.
- Langley, A. and Tsoukas, H. (2016), *The Sage handbook of process organization studies*, SAGE, London.
- Latour, B. (1999) On Recalling ANT, in: *Actor Network Theory and After*, Vol. Ch.2 (Eds, Law, J. and Hassard, J.) Blackwell and Sociological Review, Oxford, pp. 15-25.
- Latour, B. (2005), *Reassembling the social: An Introduction to Actor-Network-Theory*, Oxford University Press, Oxford.
- Luhmann, N. (1979), *Trust and Power*, John Wiley, New York.
- MacKay, R. B. and Chia, R. (2013) "Choice, Chance, and Unintended Consequences in Strategic Change: A Process Understanding of the Rise and Fall of NorthCo Automotive", *Academy of Management Journal*, Vol. 56, No. 1, pp. 208-230.
- Mattsson, L.-G. and Johanson, J. (1992) Network positions and strategic action: An analytical framework, in: *Industrial Networks: A new view of reality*(Eds, Axelsson, B. and Easton, G.) Routledge, London, pp. 205-217.
- Medlin, C. J. and Ellegaard, C. (2015) "Conceptualizing competition and rivalry in a networking business market", *Industrial Marketing Management*, Vol. 51, No. November, pp. 131–140.
- Medlin, C. J. and Törnroos, J.-Å. (2015) "Exploring and exploiting network relationships to commercialize technology: A biofuel case", *Industrial Marketing Management*, Vol. 49, No. August, pp. 42-52.
- Moller, K. and Rajala, A. (2007) "Rise of Strategic Nets: New Modes of Value Creation", *Industrial Marketing Management*, Vol. 36, No. 7, pp. 895-908.
- Möller, K., Rajala, A. and Svahn, S. (2005) "Strategic Business Nets - Their Type and Management", *Journal of Business Research*, Vol. 58, No. 9, pp. 1274-1284.
- Munksgaard, K. B., Olsen, P. I. and Prenkert, F. (2017) Boundaries of Business Actors and Networks: Theoretical and Methodological Reflections, in: *No Business is an Island: Making Sense of the Interactive Business World*(Eds, Håkansson, H. and Snehota, I.) Emerald Publishing Limited, pp. 213-233.
- Penrose, E. T. (1959), *Theory of the Growth of the Firm*, John Wiley & Sons, New York.
- Richardson, G. B. (1972) "The Organisation of Industry", *Economic Journal*, Vol. 82, No. 327, pp. 883-896.
- Schütz, A. (1967), *The phenomenology of the social world*, Northwestern University Press, Evanston, Illinois.
- Schütz, A. and Luckmann, T. (1983), *The structures of the life-world, Vol II*, Northwestern University Press, Evanston, Illinois.
- Snehota, I. (2003) In *The 19th Industrial Marketing and Purchasing Conference* Lugano, Switzerland.
- Teece, D. J. (2007) "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28, No. 13, pp. 1319-1350.
- Teece, D. J. (2018) "Business models and dynamic capabilities", *Long Range Planning*, Vol. 51, No. 1, pp. 40-49.