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Que Sera, sera? Conceptualizing business network foresighting

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Published in:
The IMP Journal

DOI (link to publication from Publisher):
[10.1108/IMP-03-2017-0009](https://doi.org/10.1108/IMP-03-2017-0009)

Publication date:
2018

Document Version
Accepted author manuscript, peer reviewed version

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Andersen, P. H., Holmen, E., & Pedersen, A-C. (2018). Que Sera, sera? Conceptualizing business network foresighting. *The IMP Journal*, 12(1), 56-74. <https://doi.org/10.1108/IMP-03-2017-0009>

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|------------------|--|
| Journal: | <i>IMP Journal</i> |
| Manuscript ID | IMP-03-2017-0009.R1 |
| Manuscript Type: | Original Research Paper |
| Keywords: | business network foresight, network horizon, Business network strategizing, Network pictures, Foresight events |
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Que sera, sera? Conceptualizing business network foresight

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ABSTRACT

Networks and relationships are not stable. Rather, they change and are transformed by the actors who take part in them. Change and transformation result from the actions and reactions of these actors. However, it is unclear why the actors choose some actions and reactions while refraining from others. We posit that the actors' expectations regarding the future of the network are formative for their actions and reactions and, furthermore, that the actors' expectations of the future are formed by the interactions among the actors that take part in the networks. Therefore, in this paper, we introduce the concept of business network foresight both as a distinct concept that enables us to understand change and transformation in networks and as a procedure for supporting actors' strategizing efforts in business networks. We depart from the existing foresight literature but align its ideas to fit with the core tenets of the IMP approach. Thus, our purpose is to explore and conceptualise network foresight phenomena as well as to contribute to the practice of collective foresight in business networks.

Keywords: Strategic foresight, strategizing, network pictures, strategic network foresight

INTRODUCTION

This paper is concerned with the formation and development of foresight among actors in business networks. With this explicit focus, we seek to develop a research agenda from an IMP perspective. Following the IMP tradition of analysing networks in terms of actor bonds, resource ties and activity links, the present approach is actor-centric (Snehota & Håkansson, 1995). Our focus is understanding the cognitive aspects of interaction, concentrating specifically on the individual and the shared formations of expectations about the future among business network actors. In this sense, we ascribe to and extend on the notion of actors' network theories (Mattson & Johansson, 1992), network horizons (Holmen & Pedersen, 2003) and the research stream concerned with network pictures (Mouzas et al, 2008). Before stating what we exactly mean by foresight and actors in business networks and our reasons for studying them in more formal terms, we start off with a couple of examples from different business network settings that may help contextualize the phenomenon of business network foresighting.

Example 1: It is quite common among business actors involved in the offshore wind industry to meet and discuss a specific issue pertaining to the further development of offshore wind. Such issues can be technical such as calculating fatigue in steel structures or the interpretation of legal advancements but are often inseparable from commercial aspects and involve some form of considering the expected future and how to deal with it. These kinds of seminars abound among actors in the offshore industry; they may be called by an industry association, by business actors or by a third-party consultancy firm. Typically, these seminars are quite informal and by word-of-mouth invitation. The discussions in these seminars seldom lead to any conclusions, and it is not uncommon to hear managers say that "nothing new came out" or that "company x said exactly what they always say about this issue". Still, the same group of business actors repeatedly and frequently attend these seminars.

Example 2: Nordic Semiconductor is a fabless semiconductor company that specializes in ultra-low power wireless technology. Nordic Semiconductor outsources the capital-intensive processing of silicon wafers as well as packaging and testing to highly specialized subcontractors that are mainly located in South-East Asia. Nordic Semiconductor forges long-term relationships with a compact, strategic set of such subcontractors. It is a future-oriented company with 80% of its employees working in R&D. New products and technologies are developed on a constant basis, and Nordic Semiconductor management must ensure that suppliers' future plans and roadmaps for technologies, products and product improvements fit

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3 those of Nordic Semiconductor. Consequently, Nordic Semiconductor includes discussions on
4 roadmap alignment on the agenda in the dialogue with their suppliers.
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6 In these examples, business network foresight — here initially understood as the interaction
7 processes leading to the formation of individual and shared expectations about the future — is
8 at the heart of interacting and making strategic commitments in business networks. Future
9 expectations shape choices, and forming guesses about the future is essential for developing
10 and preparing for that future (Heger & Rohrbeck, 2012). Business researchers have a
11 foundational interest in understanding how expectations and choices are interlinked, as this is
12 at the very core of understanding organizational processes within and across organizational
13 boundaries. Foresight events, such as the ones described here, may be seen as an intervention
14 that aims to improve the elaboration of strategic insights among business actors (Treyer,
15 2009). IMP research on business networks has only recently begun to discuss strategic
16 practice, and, so far, few have discussed the formation of expectations and how it relates to
17 the strategizing efforts of business network actors. In their discussion of the fallacy of
18 managerial linearity in technological development, Håkansson & Waluszewski (2002) touch
19 upon the relationship between interaction and futures, suggesting that while managers may be
20 subjected to fallacies of linear thinking, they are unable to predict emerging reality in any
21 form, as this depends upon the managers own actions and those interacting with them.
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32 In this conceptual paper, we seek to address the formation of managers' expectations
33 regarding business network futures. We ask the following question: How do business actors
34 form expectations about the future in business networks? A business actor is a nebulous
35 concept in the present context, as there is both an individual and a group side to interaction
36 and the formation of expectations. When a business actor (or an individual actor) tries to form
37 expectations regarding the future states of business networks, the business (or individual
38 actor) seeks to make sense of what can expected from an exchange party. In this way, the
39 formation of expectations involves individual and collective interactions where actors
40 complement each other.
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47 Expectations about the future behaviour of other actors may be conceived and developed on
48 an individual level but become internalized and part of the belief structure among the actors
49 that belong to a group, which may comprise a second type of actor. A group of actors in the
50 form of managers in the same firm can be conceived as a business actor, which can be
51 ascribed intentions, behaviours and possible actions by others. Likewise, within groups of
52 individual actors, ideas about other actors and their likely intentions and behaviours are
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3 processed, and intersubjective meanings are formed. This, we suggest, also influences the
4 dynamics of business network foresight.
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6 As we see it, business actors' expectations are generative in the sense that they both guide
7 attention and activities as well as shape intentionality and the nature of commitments in
8 interactions with other business actors (Borup et al., 2006). Furthermore, as business actors
9 are uniquely positioned in business networks, expectations are generated from a
10 heterogeneous vantage point. This suggests that differences in business network horizons and
11 how those differences affect the strategizers' understandings of interconnectivity and its
12 consequences for strategic actors' future behaviour are important (Thorelli, 1986).
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18 Our paper serves several purposes. In more narrow terms, we believe that addressing the
19 formation of expectations in business networks will help us to develop the IMP research
20 agenda. Thus, we want to consider business network foresight to explore how expectations in
21 business networks inform the strategic discourse in business networks. Although it involves
22 data collection from an immediate network of firms, corporate foresight is typically discussed
23 as an internal competence (Major & Cordey-Hayes, 2000). It is rooted in the notion that the
24 firm must take stock of the evolving environment, seek to identify opportunities and threats in
25 their fruition and plan for the long term. Successful foresight is linked to the ability to change
26 covert data into insights and take action on that basis. Adequate foresight becomes a question
27 of developing the right corporate sensors for detecting weak signals that are forming future
28 trends (Rohrbeck & Gemünden, 2011). Introducing interaction to the foresight process
29 suggests an alternative view, where the formation of issues becomes a process of collective
30 sense making. We see this discussion between a linear and an interactive perspective on
31 forecasting as relevant for managers, as the discussion provides ideas for how managers can
32 engage in strategic foresight processes. Furthermore, taking a practice perspective, we seek to
33 outline how business network foresight — not only as an analytical but also as a co-creative
34 act — may be carried out among actors in business networks. Thus, the twofold aim of our
35 research is to develop and re-conceptualize foresight phenomena in a business network
36 perspective and to contribute to the ongoing discussions on how we may move the IMP
37 tradition from its descriptive stance into engaging more strongly and prescriptively with
38 managerial reality.
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52 The paper proceeds as follows. First, we review the existing literature on foresight, and we
53 link this to the IMP literature on strategizing. We contrast the underlying assumptions
54 regarding business actors and their surroundings with the assumptions regarding firms'
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3 strategic behaviour and business networks in the IMP approach and draw implications with
4 respect to the nature of strategic foresight in a business network setting. In the final section of
5 the paper, we develop conceptual building blocks and a research agenda for further exploring
6 the role of expectations and foresight when strategizing in business networks. We use
7 illustrative case examples (i.e., case vignettes) to warrant our claims and as a means of
8 conveying and reflecting upon our key ideas (Miles, 1990). However, the paper is meant to be
9 a conceptual rather than an empirical contribution, and, for this reason, we have not detailed
10 the case research methodology.
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18 **STRATEGIC FORESIGHT FROM AN IMP PERSPECTIVE**

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20 A thematic review of the strategic foresight literature must start with its precursor:
21 forecasting, which dominated business literature and practice several decades ago.
22 Forecasting has been defined as “the task of making a probabilistic statement on a relatively
23 high confidence level about the future” (Wills, 1972). This notion was part of the strategy
24 perspective offered by Igor Ansoff (1965; 1975), who was at the forefront of introducing
25 long-range planning systems based on environmental forecasts¹. In essence, the failure of
26 predicting the 1973 oil shock led to considerable scepticism with respect to the validity of
27 forecasting as an exercise in producing accurate predictions, casting the business actor in the
28 role of a passive observer (Martin, 2010). Therefore, research focus has gradually shifted to
29 anticipation or foresight, which involves an explicit recognition that the choices actors make
30 today are actively shaping the future. The foresight perspective holds that futures are not
31 singular but multiple, and we derive one future rather than another from the interactions
32 among various actors (Godet & Roubelat, 1996).
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42 According to Slaughter (1995, p. 1), foresight “is not the ability to predict the future...it is a
43 human attribute that allow us to weigh the pros and cons, to evaluate different courses of
44 action and to invent possible futures on every level with enough reality and meaning to use
45 them as decision-making aids”. Contrasting forecasting with foresight also helps in
46 delineating the characteristics of the latter. First, foresight emphasizes the processes of
47 expectation building in the meeting of different actors with different expectation and intended
48 futures rather than the instrumental aspects of making deterministic predictions of the future
49 task environment. Relatedly, foresight also emphasizes understanding what forces are likely
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56 ¹ Long range planning and forecasting lives on in parts of the strategic management literature with specific journals devoted to furthering
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3 to shape *possible and probable* future scenarios, rather than predicting a uniform future state
4 or identifying one particular contingency (such as a technological advancement) as creating a
5 particular future outcome. Underlying these differences are different ontological and
6 epistemological assumptions about the future and how it can be understood. In a forecasting
7 approach based on a linear understanding of reality and how it unfolds, epistemological
8 choices concern the degree of accuracy and sophistication of predictions. The foresight
9 approach, suggests that the future depends on actors' choices and mental framing of
10 opportunities. In this perspective, the epistemological aim is to acquire as systematically as
11 possible chances of development and options for action and portray alternative future
12 outcomes. However, the foresight literature and the IMP perspective's understanding of
13 strategizing and business contexts differ with respect to their understanding of their task
14 environment and how business actors relate to it.

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16 Most IMP scholars would agree with Håkansson & Snehota (1989) that business actors are
17 interdependent rather than independent actors. It is difficult to point out exactly where the
18 influence of one company ends and another begins, thus challenging the notion of a definable
19 boundary between the firm and its environment (DeBoer & Andersen, 2016). As a
20 consequence, firms act and interact in order to influence each other and seek to serve their
21 own business interests in that respect. Interaction unfolds both in relation to those
22 immediately connected to the strategizing actor, but interaction also influences and is
23 influenced by the wider network stretching beyond the actor's business net. As pointed out by
24 Baraldi et al. (2007, p. 881), "if one accepts that business networks are ineluctably enmeshed
25 in relationships and networks then the elusive concept of a network view of strategy is clearly
26 important". A similar notion is presented in a paper on innovation forecasts in interdependent
27 business landscapes, suggesting that forecasts are context-dependent (Waluszewski,
28 Ingemansson & Håkansson, 2014).

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30 Central to strategic decision-making in business relationships and networks is the activity of
31 *strategizing*, which concerns choices about the future regarding how to interact with and
32 mobilize as well as influence other actors through business relationships (Gadde et al., 2003;
33 Holmen and Pedersen, 2003). There are other approaches to strategic conduct in business
34 networks, but the strategizing agenda reflects the role of actors as actively influencing
35 strategic directions and reflects that such actors are embedded in an ongoing process of
36 shaping network horizons (Cosaro & Snehota, 2011). This and other definitions underscores
37 two aspects that shapes strategizing research in the IMP tradition: human cognition and
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3 interaction. First, it is important to understand that although organizations are engaged as
4 economic actors in strategizing processes, strategizing is carried out by managers (Ritter et
5 al., 2004). Cognitive framing and representations of reality come to the fore. Some
6 contributions have looked closer at how managers use their understanding of the network to
7 analyse and make strategic decisions and have introduced the concept of network pictures (see
8 e.g., Henneberg et al., 2010; Mouzas & Naudé, 2007; Mouzas et al., 2008; Öberg, Henneberg,
9 & Mouzas, 2007; Ramos & Ford, 2011). Network pictures are defined as “the views of the
10 network held by participants in that network” (Ford et al., 2002, p. 176). The participating
11 actors act as representatives of an organization’s interests and beliefs. According to Holmen et
12 al., (2013, p. 141) “network pictures reveal companies' perceptions of what is happening in
13 the network around them, and provide guidance for assessing the usefulness of various actions
14 and reactions that they may undertake in the network”. Abrahamsen et al. (2016) explain that
15 network pictures are managers' theories-in-use about their business network, meaning how
16 managers make sense of their networks of connected relationships, how managers perceive
17 strategizing options and how managers evaluate these collectively.

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19 In the last few years, some contributions have discussed the process of strategizing as an
20 integral part of formulating network pictures. Colville & Pye (2010) refer to this sense
21 making effort as *network picturing*. Colville & Pye (2010, p. 372) claim “... sensemaking is a
22 dynamic process and if we translate this to network pictures we should be thinking not so
23 much of snapshot/static network pictures as of dynamic network picturing”. Furthermore,
24 Abrahamsen et al. (2016) link network picturing to the process of strategizing, as the
25 researchers are concerned with network picturing as the interplay between cognition and
26 action, specifically relating to what managers perceive (their network picture) and what they
27 do (their strategizing activities). Both understanding the network and strategizing the network
28 are part of network picturing and are linked together through an evaluation of available
29 strategic options.

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31 The interactive element of strategizing and strategic behaviour is addressed early on by
32 Håkansson & Snehota (1989, p. 197), as strategy is seen as developed through interactions
33 maintained with other parties: “Interactions take place between actors who are pursuing their
34 own goals and acting purposefully (and) in such a setting, reacting to other actors’ actions can
35 be more important than acting itself”. Interaction links to both learning and ex post
36 rationalizations as part of the strategizing activities in business networks (Araujo & Easton,
37 1996). Firms are embedded in networks of economic exchange that create restraints as well as
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3 opportunities. Resource ties, actor bonds and activity links all contribute to the formation of
4 commitments, which can be transformed into new opportunities as actors seize opportunities
5 (Andersen & Medlin, 2016).
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8 Following this understanding, building on interaction as a core aspect of strategizing, a
9 business network approach stresses specific relationships as the vehicle through which
10 networks change and unfold. The impact of change is channelled and dealt with through
11 relationships, and the interlinkages between actors and relationships are critical for
12 understanding how the impact of external forces disseminates and becomes influential for
13 single actors (Dahlin et al., 2005).
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18 This axiomatic belief in the importance of relationships and interactions as actively shaping
19 the future differs fundamentally from the conventional view of foresight. At the core of the
20 foresight literature is a faceless environment that organizations must react and adapt to. The
21 foresight literature sees the ideas of the future as multiple and as essentially created from the
22 meeting (if not confrontation) among various actors in the environment, belonging to an
23 industry, a region or a set of stakeholders gathering around a technology, a solution to a
24 problem or another issue of importance. For example, in order to channel their funding of
25 research, a research council may develop foresight related to different industries such as
26 energy, biotechnology, ICT or material technology. From a business network perspective in
27 contrast, the future is seen as multiple and created among actors that engage strategically in
28 networks and seek to influence each other through interactions. This is in alignment with
29 more recent approaches to strategy and technology foresight, which seek to take a more
30 processual perspective by suggesting that foresight events are more akin to future-oriented
31 debates that may commit networks of actors to future collective action rather than roadmaps
32 detailing strategic actions of companies (Treyer, 2009; Jørgensen et al, 2009). From a
33 business network perspective, which sees interaction among business network actors as a core
34 characteristic, network processes and formation of expectations are viable routes for further
35 theoretical development. However, an IMP approach may outline specific assumptions about
36 the business network which are likely to influence this stream of research on foresight. These
37 insights can be summarized into four main points.
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51 First, while all types of actors may be considered and play a role in IMP research, the main
52 actors of interest are companies and organizations with whom companies do business. At
53 different levels — from individuals to groups of companies — actors aim to increase their
54 control (Håkansson 1987). Hence, the actors that a business actor involves in network
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3 foresight might be more limited and less diverse than suggested in some of the more recent
4 literatures on organizing foresight.
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7 Second, relationships affect what the companies think and do. Many business actors have a
8 limited number of counterparts with whom they interact in long-term relationships
9 (Håkansson & Snehota, 1989). Over time, the actors have made mutual adaptations in various
10 dimensions, and these adaptations can be seen as investments which have a bearing on future
11 interactions in the relationship. In line with these adaptations, the actors in a relationship hold
12 particular micro positions in relation to one another (Mattsson & Johanson, 1992). As a
13 relationship proceeds, the involved actors develop expectations for how the parties will
14 behave towards one another and expectations regarding for what and to what extent the
15 parties can rely on each other.
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22 Third, connections among relationships create business networks which are interlocking
23 systems of exchange relationships. A single relationship may be positively or negatively
24 connected to other relationships in which the involved actors are engaged, and a single
25 relationship may be positively or negatively connected to the wider network. Depending on
26 how a single relationship is connected to the other relationships of the involved actors, the
27 actors hold particular macro positions towards one another (Mattsson & Johanson, 1992).
28 Positions in business networks link to concepts such as access and control to insights from
29 other actors as well as the ability to influence other business actors (Rowley, 1997).
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36 Fourth, the business options which emerge to and are pursued by the actors depends on the
37 interaction in their relationships and the past, present and envisioned future connections to
38 other relationships. Thereby, all strategizing processes start from an understanding of the
39 faculty and potential of the business network actors that are situated in and a part of the
40 network — in short, the network horizon (Holmen & Pedersen, 2003). From the perspective
41 of the focal actor, the future will derive from the interaction between the company, the actors
42 to which it is directly or indirectly connected and the interactions in the connected
43 relationships in the wider network of business actors.
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50 **Interaction and expectation-building in business networks**

51 In the interactive approach, the focus is on the (inter)actions as reactions in a network. From
52 an interactive perspective, strategizing in business networks is more than everyday learning
53 and interaction combined with private speculations and network pictures. First, the concept of
54 network insight and the amalgamation that leads to network pictures being shared enable us to
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3 overcome this limitation of individual pictures. As stated by Holmen et al. (2013), network
4 pictures plus amalgamation equals network insight. Such amalgamation may take place
5 among managers inside a company or among managers across organizational boundaries.
6 Aimed at bringing about a collective and shared picture, this amalgamation takes away part of
7 the network picture heterogeneity in a network and may resemble groupthink. Furthermore,
8 network insight can consist of backward-looking, contemporary or forward-looking shared
9 understanding, explanation and prediction of future states of actors in the business network.
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11 However, the concept of network insight does not capture the entire picture.
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18 As shown in our examples in the introduction of this paper, business network actors also
19 publicly, actively and intentionally seek to develop and influence expectations of others. They
20 externalize ideas and seek support for their ideas, and, in this way, business network actors
21 seek to influence the expectations of other actors or at least make them aware of their own
22 expectations. In a business network setting, expectations are not only adaptive but are also
23 future-generating, as they coordinate and guide activities, foster investments and attract
24 attention and interest towards other actors. An expectation is fundamentally a belief that
25 something will happen. From an individual business actor's perspective, expectations are
26 typically directive in nature, meaning that they evoke not only an interpretation of the future
27 but also a rationality of why this future is to emerge and a theory of possible actions that may
28 or may not influence the realization of that future reality (Brunsson, 1982). According to
29 Weick (1995), expectations are at the same time both rather weak definitions of reality and
30 definitions with directive qualities with a tendency to anchor search for and filter out cues that
31 do not fit with initial definitions. As Bruner (1986) puts it, "we store expectations in the form
32 of models, that spins a little faster than the world goes" (cf. Weick, 1995, p. 145). They allow
33 us to relax our attention to detail as long as we can convince ourselves that reality continues
34 to conform to expectations. Expectations direct us as individuals and are linked to our
35 behaviours. In this sense, expectations become shared with other network actors through
36 interactions. As we interact we exchange and share beliefs. This process is also described as
37 the dialectical interplay between externalizations and objectifications (Berger & Luckman,
38 1967). Externalizations may thus have self-fulfilling qualities, as they become experienced by
39 others as established anchors for predictive activities. Particularly, in business networks,
40 where relationships are built on mutual trust and commitment, externalizations are warranted
41 by existing confidence in the merits of other actors.
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3 The notion of future time as impacting on present-day interaction is not alien to IMP research
4 (Medlin, 2004). We seek to extend the ideas of a future as a context for strategic interaction,
5 by explicitly addressing the ongoing formation of and relation to inter-subjectively *shared*
6 *expectations* as a strategic and intended endeavour. The formation of expectations among
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8 business actors is fundamentally a process of social construction. Shared expectations
9 represent a form of objectification, where actors start treating social facts as objective. In this
10 sense, shared expectations are interrelated and interactive and may socially construct
11 disruptions, rhythms of stability and changes in a business network. For instance, Porac
12 (1995) showed the creation of shared categorizations regarding market opportunities and
13 business actors among Scottish Knitwear manufacturers. Similarly, Barnett et. al (2003)
14 discussed the social constructivist underpinnings of Moore's law among producers of
15 microprocessors, thus synchronizing the innovation efforts of industry actors.
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19 Business actors' expectations do not necessarily provide a clear roadmap for the future. They
20 may be weak and opaque but are starting points for interactions, and the issues raised by these
21 expectations help to centre discussions and interactions among sets of actors. They result in
22 some forms of shared noticing and interactive prodding, as pointed out by Weick (1995).
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26 The behaviours of business actors signal certain intent and theories about possible actions. As
27 others reflect upon and echo these actions, they may strengthen the conviction that the theory
28 of reality held by the actor is correct or at least holds some core of truth to it. In this sense,
29 expectations are starting points for the interactive behaviour that ultimately guides the
30 formation of shared expectations in contexts such as business networks.
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34 Through interactions in relationships, a partly shared understanding and imagination of the
35 future (and the past) can come about, including the forming of common mental frames and
36 shared expectations. Such processes may result in what has been coined network insight,
37 suggesting a process of collective mind-building emerging through continuous and iterative
38 interplay (Mouzas, Henneberg & Naude, 2008). Such interactions among actors in a network
39 entail mutual attention drawing and processes of creating and aligning actor expectations,
40 which actively perform in constructing the future (Kjellberg & Helgesson, 2006). Take as an
41 example the emergence of the silver market crisis, which, rather than being seen as produced
42 by the disorganized behaviour of an atomized mass of speculators subjected to some force of
43 change, is rather the outcome of interaction and rivalry among competing coalitions seeking
44 to promote their own interests (Abolafia & Kilduff, 1988). This and other studies of the
45 unfolding of market events suggests that market actors together create the context that
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3 impinges on their future activities. Hence, shared network insight may result in coordinated,
4 matched or joint plans as well as actions aimed at creating an imagined future. In other words,
5 more interaction leads to more similar joint thinking and joint action. However, this need not
6 be the case. First, more interaction may reveal differences or incompatibilities among the
7 involved parties due to the actors themselves or to their relationships. Furthermore, interaction
8 in one relationship competes with interaction in other relationships, and the business options
9 generated in some relationships may be evaluated against and prioritized above options
10 generated in other relationships. In addition, network insights are multiple and differ across
11 actors, as each actor engages in different relationships and networks. Therefore, actors may
12 choose among, combine, question and even act contrary to the network insight in some of the
13 networks in which they are involved, specifically when networks are being disrupted.

20
21 Network foresight also concerns the *structure* and *content* of the relationships in the networks
22 that surround a company. While some relationships last for extended periods of time, this
23 does not necessarily mean that they are static. In a relationship, there are infinite opportunities
24 for joint value creation that can be discovered and pursued by the involved parties. If different
25 opportunities are pursued over time in a relationship, we should not confuse longevity and
26 durability with stability but realise that continuity can result from the pursuit of a series of
27 temporary opportunities for joint value creation, as shown in the case study by Loohuis, von
28 Raesfeld, & Groen (2010). Not all relationships endure, however, and some hibernate or end
29 (Ford, 1980; Batonda & Perry, 2003). Furthermore, new relationships are initiated (Holmen et
30 al., 2005; Aaboen et al., 2017). In addition, and consequently, *connections* among relationship
31 evolve over time due to positive and negative connections which emerge, are discovered or
32 exacerbate. Thereby, the micro and macro positions (Mattsson & Johanson, 1992) actors hold
33 in relationships and networks they engage in may change over time, thus influencing which
34 changes the actors may and may not be able to bring about in their relationships and networks
35 and which stabilities the actors may or may not be able to preserve.

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46 To summarize, the multiple futures in a network pertain to the variety of imagined and
47 discovered possibilities which the actors in the networks are able to imagine and discover
48 through their interactions in connected, evolving relationships. The single realized future
49 represents those network possibilities that are eventually pursued and the interdependent
50 actions taken and choices made by the actors as to which ideas, plans and adaptations are to
51 be made together and towards one another. However, the sharing of subjective expectations
52 may not necessarily lead to collective expectations. One may be aware of what others are
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3 expecting without necessarily expecting the same. Hence, we need to consider the possibility
4 of interaction that does not lead to amalgamation but preserves a kind of enlightened
5 heterogeneity among minds. This entails acknowledging others' expectations without
6 adopting them.
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10 To enable particular attention to the future and how networks may change and be transformed
11 and to focus on the interactions related to expectations while taking into account the related
12 concepts discussed above, we define network foresight as “the process of interacting on, and
13 possibly amalgamating, managers' pictures of and expectations to future networks of
14 relevance to the networks in which they are presently engaged”, where the interaction
15 between and among managers from different organizations is at the centre of attention from a
16 business network perspective.
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23 **EXPLORING AND DEVELOPING PRACTICES OF BUSINESS NETWORK** 24 **FORESIGHT: SOME BUILDING BLOCKS** 25

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29 How should we proceed in order to promote processes that will help to generate business
30 network foresight? As mentioned earlier, in this paper we mainly attend to the creation of
31 business network foresight as a part of intentional strategizing. However, we are aware that
32 the formation of expectations in business networks is a continuous and integral process of
33 business interactions, which permeates continuous trust-building and re-assures adaptations
34 etc. Our interest here, is however in the deliberate and committed attempts by the focal firm
35 and/or its exchange partners to temporally “freeze” the flow of events in reality in order to
36 create what Weick and Quinn (1999) refers to as making sequences visible for all relevant
37 participants and showing patterns through maps, schemas and stories, thus convincing the
38 participants about specific issues of concern. This is what we typically experience when
39 powerful business actors, industry associations or others seek to externalize expectations of
40 the future among other business network actors.
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49 Deliberate attempts may also involve sets of organizations which are not necessarily engaged
50 in substantial, collaborative buyer-supplier relationships but which may become so in the
51 future. For example, a variety of organizations in a region may organize gatherings where the
52 desired futures of the region are on the agenda and where the mutual exchange of plans and
53 ideas may come about.
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3 We are particularly interested in exploring the interactive shaping of expectations, which
4 takes place when two or more parties meet with the deliberate intent to influence perspectives
5 and form expectations about the future of the network or the relationships therein. We believe
6 that such interventions are rather common and may unfold in meetings, such as the ones
7 discussed in the introduction as well as in a range of other types of foras and events that are
8 relevant to this particular kind of activity.
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13 The expectation-shaping activities of any business actor is interpreted and understood by its
14 exchange party. In this sense, (inter)actions in a set of exchange relationships influences the
15 formation of expectations in at least two ways. They are unintended and intended acts of
16 communication for other actors to decipher and understand based on their network horizon.
17 We refer to these actions as *signalling*. Acts spark responses in the form of interacts, which
18 may affirm, contrast or be interpreted in other ways by those initiating the communication
19 process and trigger responses. We refer to this as *echoing*.
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25 From the perspective of an individual actor, signalling and echoing have an individual and a
26 group aspect. Individual actors such as managers signal their focus, interests and intentions in
27 various ways that can help them create an idea of what future actions can be expected from
28 this actor. Individual managers belong to a larger constituency of decision makers and may be
29 seen as representative of the collective view, but the signals they convey are viewed as
30 different and less formal than those conveyed by the actors in the group they are a part of.
31 Furthermore, communication with these actors may echo responses that can influence
32 collective sensemaking both in the receiving and sending company. Hence, the signals from
33 individuals complement or nuance the signals provided more formally by business actors,
34 thus adding to the complexity of the formation of expectations.
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42 For the party seeking to build a consistent network foresight, sense making calls for complex
43 processes. It stretches beyond the signals of an individual actor into forming an idea about the
44 context in which this business actor operates and contrasting that idea with the signals of
45 other actors. Deciphering signals and how they might affect future behaviour stretches beyond
46 the dyadic understanding. Dyadic relationships do not unfold in a vacuum, and actors
47 connected to any focal actor are likely to be connected to each other. These connections may
48 influence not only the actor's signals but also the patterns of expected behaviour from that
49 particular actor. Forming business network foresight also calls for a potential understanding
50 of how business actors directly connected to the focal actor also might be directly
51 interconnected (or connected through other intermediaries) and how their actions are
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3 interdependent. In the same sense, how the echoes created from responses of any focal actor
4 may be understood must take the relational properties of that actor into account. Hence,
5 understanding signals and echoes calls for an examination of how patterns of relationships are
6 interconnected. This is what Nohria (1992) refers to as the interaction of interactions.
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10 From comparing and collectively interpreting cues, a collective conversation of another
11 actor's intentions emerges among managers belonging to a specific constituent. A constituent
12 is often defined by an organizational boundary, but constituents may also be a group of
13 organizations seeking to exchange information and understand signals from a powerful
14 customer. In accordance with the social construction perspective, we describe this process as a
15 typification process, which serves as a common reference point for individually and
16 collectively interpreting the future activities of this actor.
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20 The bringing together of different parties to communicate and interact with one another in
21 order to create business network foresight may take on many forms. However, we assume that
22 some exchanges of signals and echoes have more impact than others with respect to actors'
23 expectation-building. We assume that actors' attention and expectation building is shaped by
24 some form of intentionality. By intentionality we mean that business actors focus on specific
25 issues that capture their interest (and thus their interest in the signals of others) more than
26 others and that they combine the means and ends of network theories to produce specific
27 solutions to these issues.
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31 We assume that this typification is vested both in the focal actor's current resources and
32 activities as well as in the network horizon. For instance, in providing a scope for the
33 investigation of expectation-forming activities, our interest might revolve around the actors,
34 activities and resources involved in the development of a particular product or service, such as
35 the construction of an offshore wind park or the provision of public bus transportation
36 services in a municipality. In this case, our scope is the expectation-building efforts actors
37 may be part of with respect to the future of this particular activity rather than the global range
38 of activities they are involved in. Research on the formation and role of collective
39 expectations around issues has developed in a number of research areas outside the business
40 and strategy literature, which might be helpful to further our understanding of expectation
41 building and foresight interventions in business networks. Research programmes concerned
42 with the social construction of technology (SCOT) and actor-networks have both been
43 occupied with understanding the progresses of technologies and how these have been jointly
44 developed with actors' concerns. These programmes also focus on certain issues and solutions
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3 deemed relevant by specific societal groups (Pinch & Bijker, 1987). In their research,
4 problems experienced by social groups shape attention and mould collective expectations
5 concerning what issues matter for the future development of a technology. Likewise, the
6 literature on strategic foresight has focused on the role of expectation-building and offers a
7 substantial discussion with possibilities for cross-pollination with the IMP approach with
8 respect to both scrutinizing the role of expectations for strategizing efforts in networks but
9 also for developing procedures towards understanding how collective expectations shape the
10 unfolding of business networks.
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16 In the remaining part of the paper, we will discuss this approach in more detail and outline
17 how insights from this literature potentially may inspire the understanding of expectation
18 formation processes in business networks. Taking inspiration from social construction
19 approaches to understanding the social construction of technologies, we proceed by seeking to
20 establish insights into the particular business network issues and solutions that capture
21 individual actor's attention and are salient for the development of expectations regarding the
22 future.
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28 A business network issue is an important problem recognized and debated among several
29 actors related to the business network in question. It represents an objectified social
30 enactment, which is an issue worthy of attention for the future development of research and
31 for strategizing efforts. In the context of an offshore wind turbine network, an example of
32 such an issue might be the problem of insuring specialized vessels for the erection of towers
33 and submarine structures, or it may be the cost differential of offshore-based wind power as
34 compared to other power sources. In any case, naming the issues gives rise to another pivotal
35 social enactment, namely, the belief in specific solutions that may help render or transform
36 the issue at hand. By an *issue*, we refer to those particular social constructs that capture the
37 attention of business actors within a certain activity structure.
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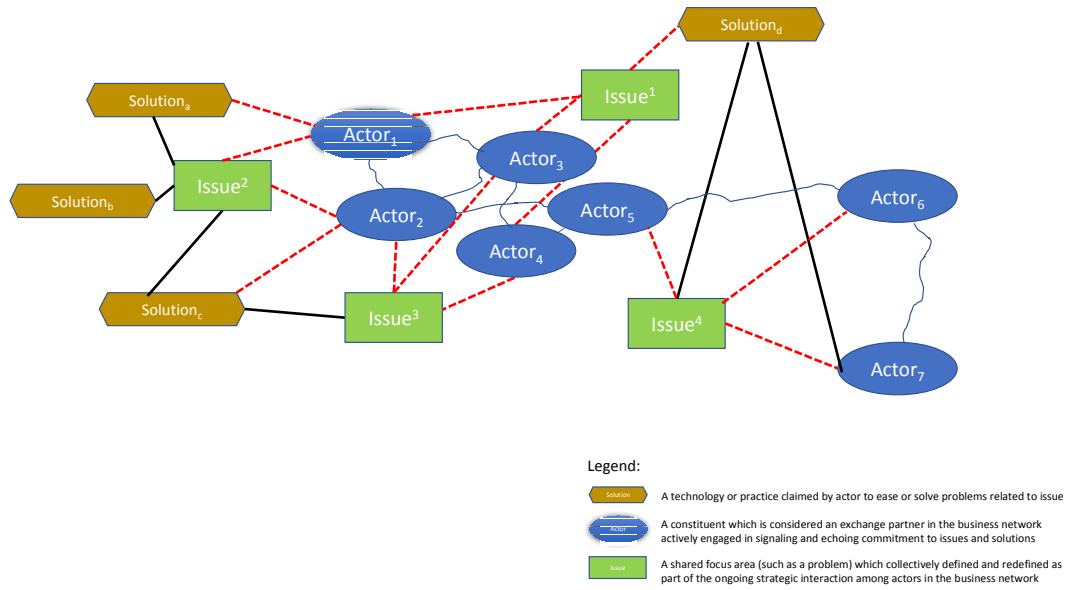


FIGURE 1 : A NETWORK PICTURE OF ACTORS, SOLUTIONS AND ISSUES

The enactment of issues can be set in motion or influenced by actors' strategic actions, which involve the mobilization of other actors to shape or redefine the existing definition of issues or create a novel one. It is both a collaborative and a competitive process, as actors who occupy different positions in the business network may have complementary but also different or opposing interests. We have illustrated the procedure in Figure 1.

In the example given in Figure 1, there are four different issues pertaining to the business network activity at hand, and each of these issues draws attention from different actors. Hence, issues are not simply there as part of a general, faceless context, but are co-created by actors as they engage in dialogue with other actors. This dialogue revolves around issues. The development and framing of issues related to the carrying out of (future) activities is an ongoing endeavour, but it is also clear that not all attempts to create an issue are successful. On the other hand, once established and acknowledged, issues may be constructed and reconstructed on an ongoing basis. From the outlook of any particular actor, the network horizon may look quite different. Furthermore, there are also several different *solutions* recognized by some or all actors with a particular interest in one of these issues. Not all actors are involved in dialogues around all issues. Moreover, some actors are engaged in multiple issues and seek to shape conversations by signalling and issuing specific issues and solutions.

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3 Furthermore, solutions and issues may be connected in various ways. A solution may play a
4 role in solving multiple issues, and several solutions may be offered for the same solution.
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6 Hence, researchers as well as practitioners seeking to understand how expectations in
7 business networks unfold may seek to build a similar overview and use this in order to better
8 understand how expectations and strategizing interact with echoes and signals and perhaps
9 also make actors better understand how processes of issue-building evolve and how these
10 influence strategizing efforts.
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14 A few illustrative examples from events with the purpose of framing issues and solutions may
15 help ground the use of these potential building blocks. For instance, when Unilever summons
16 critical *suppliers* for a two-day workshop in order to present Unilever's next strategic vision
17 and mission, this company is making a deliberate attempt to influence expectation shaping
18 and "talk the future into becoming realized". *Supplier days* have also become a quite common
19 practice, where a buying firm presents the future path it intends to pursue and provides several
20 issues in this respect. A major issue suggested by Unilever could be "how to end hunger," and
21 solutions might be sought after in the area of prolonging food shelf life in order to reduce
22 food waste. This elicits responses from a large group of invited suppliers as to whether they
23 would like to contribute with solutions to this issue (Laursen & Andersen, 2016).
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31 While supplier days and other similar assemblies involve a larger set of suppliers, the
32 communication at such gatherings may be bilateral as well as multilateral and is characterized
33 by different degrees of monologue or dialogue in aligning expectations and possible road
34 maps. Communication may also involve two parties in a dyadic setting such as when a buyer
35 and a supplier have *annual relationship reviews* where they present their respective
36 technology roadmaps, future investment plans and prioritized product and service
37 development portfolios as well as the plans the two parties have in relation to one another.
38 Furthermore, the parties may not only discuss matters concerning their relationship per se but
39 also discuss third parties such as their respective suppliers and customers. At such meetings,
40 the parties may engage in the exchange of plans as well as interactions regarding mutual
41 adaptations and plan matching, where the latter types of events are more akin to creating
42 relationship and network foresight. A few other examples may help to illustrate this further:
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51 Q-Free is a Norwegian intelligent transportation systems (ITS) company. It is actively
52 engaged in bringing about foresight in its business network in several different ways. First,
53 each year it organises "The Q-Free Day". In 2016, the theme was "the environment", and Q-
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3 Free's intention was to show how ITS, smart technology and efficient services can be used for
4 solving environmental transportation challenges in Norway. One external speaker was Trond
5 Haukås from the Norwegian Road Authorities. He spoke on a "Future system solution for toll
6 collection". Another external speaker was Trond Hovland, from ITS Norway, an association
7 of organizations within transportation focusing on intelligent transportation solutions. Mr.
8 Hovland's speech was called "ITS and the road ahead", and the session was announced in the
9 following way: "We peek into the future ITS together with Trond Hovland, and run a plenary
10 debate". In the invitation for the event, Q-Free stated that "We intend to have time between
11 speeches for conversation and discussion between participants and speakers. In this way, we
12 believe that Q-Free Day this year will be something everyone appreciates" (<https://www.q-free.com/q-free-dagen>, 23.05.16).

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21 Second, Q-Free works within the field of "Cooperative ITS (C-ITS)", which the company
22 sees as the foundation that all future ITS deployments will build on and which current ITS
23 deployments will have to evolve into. Therefore, Q-Free have involved themselves in research
24 projects, standardization work and pilot product designs focusing on C-ITS. Through such
25 engagements, the intention is not only to embrace but also to influence and be at the centre of
26 the future of C-ITS. Furthermore, to influence early applications, Q-Free offers C-ITS
27 competence and products to emerging national pilot projects and trans-national corridors.
28 (www.q-free.com) Third, in order to be aware but also actively influence the future direction
29 of ITS in Europe, Q-Free takes part in national and international standardization bodies.

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36 Previously, we mentioned Nordic Semiconductor. Similar to Q-Free, Nordic Semiconductor
37 has been an active contributor to standardization bodies for many years. Nordic
38 Semiconductor's business is mainly built on Bluetooth technology. Therefore, they have been
39 particularly active in the development of Bluetooth core technology and have participated in,
40 or been the chairman of, Bluetooth Special Interest Group's (SIG) working group and
41 committees. Similarly, Nordic Semiconductor also involve themselves in other
42 standardization part work such as the Rezence wireless charging standard developed by
43 A4WP, NFC Forum and 3GPP. By combining their insights into ultra-low power wireless
44 technology and customer needs, Nordic Semiconductor aims to develop and influence the
45 standards as well as the specifications for products that will fit and observe the standards.

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53 NCE-Maritime is a cluster initiative focused on the offshore maritime industry on the south-
54 west coast of Norway. The research institute Møreforskning conducts an annual "Cluster
55 analysis". This analysis captures both the present situation and recent developments among
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3 the hundreds of companies that have joined the cluster initiative. However, the cluster
4 analysis also contains a “Future outlook” section, stressing the coming trends, threats and
5 opportunities which may affect the companies in the cluster initiative. The “Cluster analysis”
6 is presented at the annual “Cluster Conference – Present Status and the Road Ahead”, where
7 time is set aside for discussing future issues and how they may be approached by the
8 organization behind the cluster initiative and by the companies therein
9 (<http://www.aakp.no/?menu=4&id=1678>).
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14 In these illustrative cases, the elements of issues, solutions and interactions all come to the
15 fore. What the framework seems to offer is a procedure for carto-graphing processes of issue
16 building and how this connects to actors. By viewing these processes over time, it also
17 becomes possible to view how issues, solutions and actors link to new events, mobilize new
18 actors or attract new solutions. Importantly but less clear from these overviews is that each
19 event is characterized by acts and interacts of signalling, echoing or gestating a series of
20 moves or a discourse which eventually influences the realization of a certain version of the
21 future for the actors directly and indirectly involved. A more systematic way of analysing the
22 connections between actors, issues and solutions is provided in the three-dimensional diagram
23 in Figure 2. This diagram builds on the previous example of connections between actors’
24 issues and solutions shown in Figure 1.
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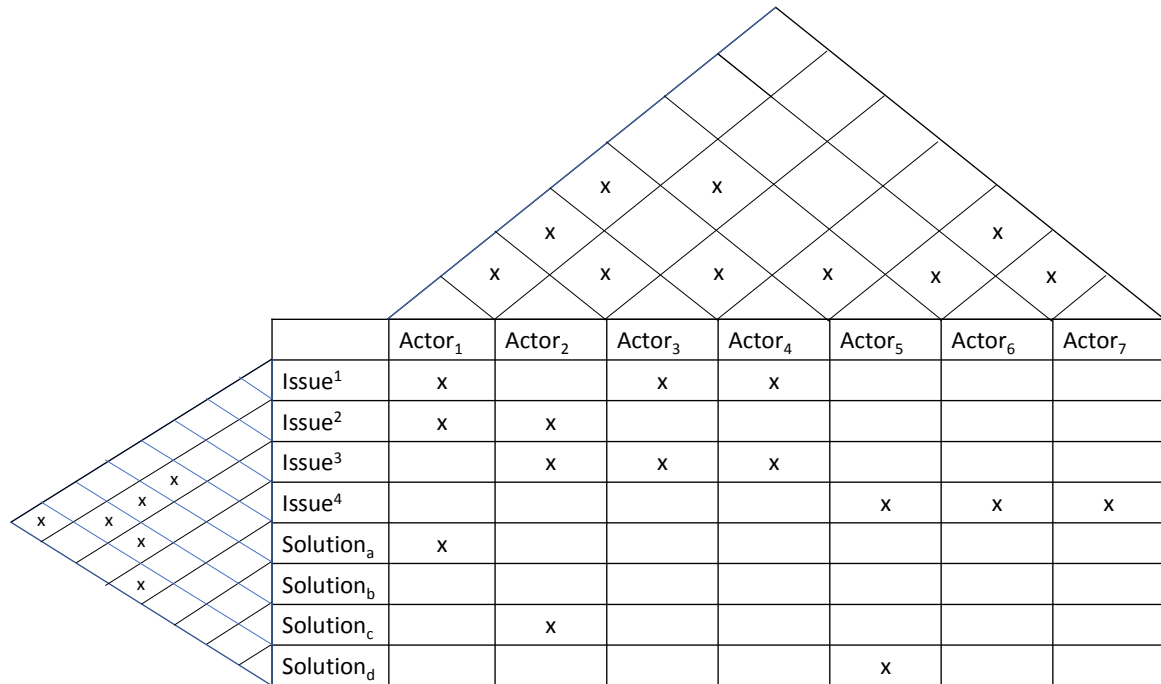


FIGURE 2: A DIAGRAM OF CONNECTIONS AMONG BUSINESS NETWORK ACTORS, SOLUTIONS AND ISSUES

For managers, a systematic analysis of the interlinkages between actors, solutions and issues may provide insights into the signalling and echoing efforts and the interconnectedness of interconnections, which shape the future-oriented dialogues of business actors. As shown in Figure 2, there is a clustering of actors both with respect to existing relationships and to issues. Actors 1, 3 and 4 comprise a closed triad, which is suggested to have a strong impact on shared signalling and consensus-building with respect to expectations about the future. However, at the same time, the same triad of actors are connected to different issues and connect these issues with different solutions. This indicates that the actors have partial solutions and that issues overlap with other actors; this draws actors' focus towards other activities and resources. Furthermore, the diagram suggests that there are no real actor blocks and that solution b, although linked to a solution, does not have any constituents supporting it in the portrayed business network.

DISCUSSION AND IMPLICATIONS FOR RESEARCH

In this contribution, we primarily focus on furthering the development of a research agenda. For this reason, we have downplayed managerial implications. However, a few managerial implications must be mentioned, as they may inspire others to think about these issues and how they might affect managerial practice. First, we need more research on how an actor (or individual manager) who would like to take an interactive approach to foresight can gather information about other relevant actors within the network horizon. To develop ways of doing systematic inquiry into other actors' views of the network horizon, their thoughts on potential developments and their strategizing processes are important but complex activities. Secondly, we need to develop methods and tools to assist managers in performing such systematic inquiries to be able to strategic network foresight. We posit that managers may benefit from considering a multitude of different dimensions before arranging episodes of foresight in networks.

In the following, we signal three issues, which we hope will influence the future empirical and conceptual research on business network foresight in the IMP community and beyond. We frame these as i) categorizing foresight episodes, ii) formation of expectations in business networks and iii) positional and structural impact on the creation of issues and solutions. These issues are further expanded below.

Categorizing foresight episodes

In order to categorize and discern among different types of foresight episodes, we need to identify dimensions on which categories can be build. We suggest a number of dimensions that aim to capture the variety among intentionally-planned foresight episodes and the considerations involved in forming the episodes.

Different types of foresight episodes may address different *types of issues* and *solutions*, which can be technological, business and/or social. There may also be differences in terms of *scope* in the sense of *how many* issues are being addressed from one or a few too many. Which issues to address may be wholly *pre-planned*, or some degree of *emergence* and attempt at issue *generation* may underlie the foresight episode. As such, the *agenda* may be rather closed or very open. In a similar vein, the foresight episode may comprise different mixes of monologues and dialogues and plenary and parallel sessions and may build on, encourage and foster logical reasoning and/or emotional resonance and gut feelings. There

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3 may be variation as to the *degree of openness*, as the foresight episode may be publicly
4 announced and open for everyone or reserved for a closed set of actors who receive an
5 invitation.
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8 Those who are invited may have *different roles* and entertain *different types of relationships*
9 with the actor(s) hosting the foresight episode, as these may be existing business partners or
10 new or potential business partners such as suppliers, customers and/or other types of partners,
11 competitors, indirect suppliers or customers, policy actors, private or public actors and legal
12 actors. The foresight episode may comprise only one type of actor, a small set of actors or a
13 multitude of different actors. There may be an exclusively or primarily cooperative
14 relationship among the participants, or there may be more or less pronounced elements of
15 competition among (some of) the actors involved.
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18 Episodes of foresight may also differ in terms of *scale*, from comprising only two actors to
19 comprising hundreds of actors. The foresight episode may be a *one-off, single event*, or there
20 may be some sort of *seriality* involved so that a single foresight event may be more or less
21 frequently repeated or even be an institutionalized, periodically organized event.
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24 While episodes of foresight always focus on the future, there may be differences as to the *time*
25 *horizon* considered. The horizon may embrace the short-term future, comprising only a few
26 years, or it may look farther ahead into the long-term. There may primarily be actors from *one*
27 *industrial setting* who must deal with issues pertaining to avoiding collusion and lobbying, or
28 the episode of foresight may cut across several or many different industrial settings, thus
29 being more multidisciplinary. The episode of foresight may *aim at different outcomes*, such as
30 developing understanding (cognition) or developing social ties or may aim at creating a
31 commitment to joint action or making a concrete action plan.
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34 Future empirical research that captures a multitude of intentionally-organized foresight
35 episodes can enable us to identify subsets of episodes that bear resemblance to each other
36 within each subset but differ across subsets and, hence, allow us to form categories which can
37 be used for managerial as well as for research purposes. Such categorization would also
38 enable us to identify mixes of foresight episodes used by different organizations in order to
39 sense, shape and seize future opportunities in the networks in which they are engaged.
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54 *Formation of expectations in business networks*
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3 How do actors gain insight into the possible futures of a network and the main factors at play
4 in the network? This would involve insight into factors shaping the other actors, the
5 relationships in which they are involved, the interactions taking place within them, the
6 emerging and evolving opportunities, and the directions in which the relationships of the
7 involved actor are developing and new relationships are being initiated, the stability or change
8 in the micro and macro positions, the connections across the relationships and if and how
9 these relationships are changing.
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14 For this reason, the dynamics of ideas and expectations must be empirically investigated: how
15 ideas and expectations are formed and influenced through interactions is a key element for
16 business network foresight, i.e., for understanding both stability and future transitions at the
17 business network level. In the traditional forecasting literature, diverging observations can be
18 found with respect to three underlining epistemologies: objectivist, subjectivist and pragmatic.
19 Each has different consequences for the formation of what can be known by foresights —
20 from predicting the future (assuming its deterministic nature) to creating realities with others
21 (Pirainen & Gonzalez, 2015). It follows from the previous issue that from an IMP
22 perspective, understanding how knowledgeable actors interact in creating the future of the
23 network and influence other network actors in this respect is at the core of business network
24 foresight. From a business actor's point of view, knowledge is contextually bound.
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35 *Positional and structural impact on the creation of issues and solutions*

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37 The most obvious starting point of a business network foresight research endeavour within the
38 IMP approach is to scrutinize the network positions and horizons of their immediate
39 counterparts, including whom they see as most influential co-creators of the future.
40 Identifying and investigating these actors and their wider connections provides an emergent
41 view of possible futures that may evolve as a consequence of the actors' pursuit of their own
42 interests and their theories on how to serve these interests. Creating expectations about the
43 future is an ongoing activity. Business actors interpret and act within the business network —
44 where it currently is and along which trajectories it is moving (Holmen & Pedersen, 2003).
45 While a single actor may rely on its direct counterparts performing various mediating
46 functions, it can neither be rest assured that the counterpart will always understand how it
47 may best play a mediating function nor that the counterpart will in effect play a mediating
48 function in line with the interests of the single actor due to the counterpart's unwillingness or
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3 inability to mediate, which can be caused by a lack of time, changed priorities, confidentiality,
4 oversight and concealment. There may be secrets and lies in networks which distort the
5 network horizons and pictures. Furthermore, interaction is non-linear, which may lead to
6 network surprises, which disrupts the present network dynamics.
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10 Finally, network horizons and pictures are only cognitive aspects of foresight. According to
11 Abrahamsen et al. (2016), there is a need to move from network pictures to network picturing;
12 we must focus on the interplay between cognition and action specifically relating to what
13 managers perceive (their network picture) and what they do (their strategizing activities). The
14 two aspects of network picturing, understanding the network and strategizing the network, are
15 linked together through an evaluation of available strategic options likely to be pursued by
16 other actors and those likely to be pursued by the single actor.
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20 A second and continuing area of research concerns the dynamics and changes in the network
21 horizon. Moving from mapping the network picture to doing network picturing is a large step
22 which has implications for how we do research in the field of business network foresight.
23 According to Medlin and Törnroos (2014), we need to pay more attention to dynamic network
24 emergence and development, which includes understanding activities, processes and
25 adaptations to establish constructs relative to different forms of time so as to capture
26 dynamics. The time perspective is essential for conducting network foresight practices.
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