Editorial

Interaction in space – the role of proximity, communities and cross-boundary movements

This issue consists of papers presented and discussed at the *IMP Journal* seminar in Prato in 2017 and focuses on a specific theme: interaction in space. When dealing with interaction in space a topic that is commonly addressed is geographical proximity, which has always been considered as one of the main enabling factors for establishing and developing relationships among companies and individuals. The role of proximity and space has been stressed in several streams of research such as those dealing with local clusters and industrial districts.

During the last few decades, changes in the business landscape have challenged proximity as a value in managing in the network, thus pointing to the relevance of being part of global rather than local networks. However, new tensions are arousing a growing interest on the role of proximity and communities in local and global networks. More specifically, recurrent factors of change include, among the others, new perspectives on globalization and its effect on business networks, the emergence of a multi-ethnic society and ethnic entrepreneurship as a consequence of cross-boundary movements, new approaches to the management of the value chain (i.e. offshoring vs reshoring and local production). Thus, interaction in space is the topic to be investigated in this issue, considering the huge changes that affect the role of proximity, communities of companies and individuals, cross-boundary movements and the overall role of interaction processes in space, in understanding the dynamics of an interactive business landscape.

Proximity is a key factor for the sharing of a context and, therefore, for the achievement of positive externalities, in economic research on industrial districts (Marshall, 1919; Becattini, 1990). Geographical research proposes proximity also for understanding the implications of the variety of industries in which the actors come to operate (Boschma, 2017). The role of space and therefore of proximity has been considered in the IMP tradition as an element to be treated among processes that characterize interaction and business networks (Håkansson and Snehota, 2017; Huemer *et al.*, 2009; Törnroos *et al.*, 2017; Håkansson *et al.*, 2002). A special issue of *IMP Journal* of a few years ago examined the local dimension with respect to the business network, highlighting critical aspects and changes (Furlan *et al.*, 2009). Proximity that characterizes the space of actors in a local system does not necessarily guarantee those conditions favorable to the development of relationships. Physical proximity could be accompanied by other conditions, as evidenced by recent research on the dynamics of industrial districts, in consequence of the effects of globalization of supply chains (Guercini and Runfola, 2015) and the presence of different business communities in the same local context (Milanesi *et al.*, 2016). Moreover, specific liabilities may emerge at the local level (Guercini, 2017). The papers presented in this issue propose further empirical evidence and implications adopting a vision of relational dynamics, interaction and business networks that lies at the center of interest of the IMP approach.

Proximity can be challenged through physical or conceptual objects that mark boundaries and cross them. In fact, the border position can give a simultaneous vision to different contiguous contexts. In other words, there are objects (physical or abstract) placed on the borders that can simultaneously be insider in a plurality of contexts. Proximity produces effects and assumes importance if and when it determines the sharing of the context. The context is shared by actors, but it is also made of objects as physical artifacts that become boundary objects when they are at the same time internal to more than one context.

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The first paper, "Crossing the boundaries between digital and physical: the role of boundary objects" by Corsaro, deals with the theme of boundary objects, defined as objects that take on different identities in different social contexts. Boundary objects can have multiple proximities precisely because of their properties, as belonging to different contexts. The development of digitization has created new spaces for interaction between actors in the business network. In cross-bound interactions, cross-boundary objects can become essential elements for coordination. The paper discusses the case of the knowledge of the actors and of what is possible to share by the single actor with other actors in the business network. The network pictures are examined and can be formulated by network actors. Corsaro's paper examines two cases of companies (a cloud computing company and a 3D printing business) that are leaders in their fields. In these cases, the role of boundary objects emerges as particularly evident. Boundary objects facilitate interactions and, more generally, the paper suggests that boundary objects are a part of the context of the business network actors due to the potential for integration and coordination that they can express. The relationship between innovation systems and regional policy proposes specific reflections about proximity, cross-borders issues and their role.

The topic is also dealt in the second paper presented in this issue of *IMP Journal*, "Innovation in a globalized world – the policy idea of proximity and the firm reality of border-crossing" by Ecklinder-Frick, Perna and Waluszewski. The paper proposes an analysis developed on various levels, including: EU-level policy and national innovation; the regional policy mediators; a business actor that has benefited from the funding policies of these actors. The theoretical background of the paper is the IMP approach, based on which the exchange creates imprints on social and material resources involved. The innovation process is influenced and in turn influences a certain number of interfaces between social and material resources. These interfaces are produced in at least three types of settings: the using settings; the producing settings; and the developing settings. The paper then presents the case study of a national policy actor, the Swedish Innovation Agency Vinnova, and its role as a national contact agency for the EU framework program for R&D, presenting the results of a research conducted through over 40 interviews between December 2015 and February 2017. The case presents how the national innovation agency invests in regional systems of innovation or innovation milieus, supporting the interaction between state, industry and academia. The research also shows how globalization challenges the functioning of regional innovation milieus when from developing settings, in which proximity factors are important and supported by public policies, we move on to production and using settings, where activities are carried out on a global level. The resources invested in research by European, national and regional actors can generate global production and consumption activities, fueling discussions on the opportunity to use public resources to support the developing settings.

The third paper, "Heaviness, space and journey – innovation opportunities and restrictions" by Håkansson and Waluszewski, starts out with the assumption that any innovation attempt is affected by the already existent resource configurations in the using, producing and developing settings. The authors refer to three specific dimensions identified from the results of previous IMP research in innovation – economic heaviness, space and innovation journey – as theoretical starting point in order to propose a discussion regarding how the three elements link with each other and how they generate opportunities but also restrictions for the innovation. Heaviness and its spatial characteristics constitute the relevant study object since innovation embedding is massively affected, on the one hand, by the heaviness of the resources but, on the other hand, innovation embedding is also influenced by the space between the places where resources are placed. Therefore, the authors focus on the process of estimating both heaviness and its spatial characteristics in order to shed more light on the "tricky" and complex process of innovation embedding. Two case experiences reported nicely illustrate how the spatial aspects of heaviness influence the innovation embedding in

the using, producing and developing settings. The case of a medical technology named TAVI shows how innovation struggles to find a space in the producing and using settings although users setting is defined at an early stage: the innovation journey is conditioned by a number of movements across the different resource constellations up to a point where the technology find a space in the heavy resource constellations.

The case of Biosensor/Biacore, in contradiction with the case of TAVI, illustrates that neglecting the importance of coping with heaviness of resources – although they are present from the early phases – may have severe consequences for the innovation embedding and cause high risks of failures. The authors conclude that the innovation journey allows the search for "heavy resource constellations" to relate with but at the same time innovation space depends on the places where innovation is established. Moreover, important policy implications are offered by the authors who suggest modifying the current policy analytical frameworks in order to include dimensions such as heaviness and space.

The fourth paper, "Discovering the collective entrepreneurial opportunities through spatial relationships" by Cantú, explores the discovery and exploitation of the collective entrepreneurial opportunities considering the role of proximity. The author aims at solving an intriguing problem that is what "kind" of proximity can influence the collective entrepreneurial opportunities. The theoretical setting is built around both the role of geographical proximity in social networks and the role of relational proximity in business networks. The author then offers an interpretation of how collective opportunities are interpreted within IMP with reference to a case of starting up in business network. The empirical section of the paper illustrates how the discovery of entrepreneurial opportunities goes beyond the capabilities of an entrepreneur, and is instead positively influenced by the interconnected business relationships between the generating firm Milan Fablab – an innovative laboratory of digital fabrication – and the generated company ShapeMode – a startup company which has been formed within the context of Milan Fablab. The discussion revolves around a set of propositions offered in order to catch the interactive process which characterize the discovery and the exploitation of entrepreneurial opportunities. The importance of co-creation, actors' role changes and relational proximity is underlined and brought to the attention.

The fifth paper, "The dynamics of proximity in multiple-party innovation processes" by Öberg, deals with the topic of multiple-party innovation and the effects of proximity in the dynamic of the innovation process. The paper considers the role of proximity by first linking it to the innovation process and then discussing the specificity of proximity in multiple-party innovations. In this context, where more parties participate to innovation, the consideration of the proximity concept goes beyond the geographical proximity to also include knowledge and cognitive proximities. One of the main topics addressed is how proximity impacts the innovation process in a dynamic perspective in terms of outcomes, interpreted in the paper as the amount of ideas generated, the incremental/radical nature of the ideas and the variety of ideas. Methodologically, the paper presents the case study of an innovation community that has been studied deeply by the author by means of various sources of information, including observation techniques, meetings and secondary data. The community that was first founded as an online community to develop new ideas for the reuse of packaging then evolves offline. Considering both the literature and the case presented, the main contribution of the paper is related to the consideration of the dynamic nature of proximity and how the different conceptualizations of it may impact the innovation process over time.

The sixth paper, "Network approach to public–private organizing of destinations" by Elbe, Gebert Persson, Sjöstrand and Ågren, discusses the concept of proximity by addressing it in the case of destination marketing/management organizations (DMOs). The paper is conceptual in nature and tries to offer a different perspective on DMOs and

their functioning by applying the lens of the IMP approach. The paper starts from some key assumptions regarding previous literature on DMO that mainly an interpretation that is coherent with the possibility for a place (namely a destination) is to be confined. The authors pointing out how DMOs are more and more the result of public and private actors' cooperation propose an original view by adopting the market as network approach. The DMO is primarily interpreted as an organization that creates and manages internal and external networks. Then, applying the ARA model, a well-established model within the IMP community, the authors formalize nine research propositions on DMO and destinations in terms of actors, activities and resources involved. The main contribution of the paper lies in its original view of the DMO concept and its attempt to discuss proximity and networks in the tourism destination setting by applying conceptualizations from the IMP theory. The role of actors and innovation in local systems proposes a new perspective on interaction in space by considering innovation ecosystems.

This topic is dealt in the seventh paper, "The role of actors in interactions between 'innovation ecosystems': drivers and implications" by Pucci, Runfola, Guercini and Zanni. The originality of the paper, conceptual in nature, lies in its attempt to consider potential areas of integration between the ecosystems literature on innovation and the IMP research. The authors discuss that the use of the IMP approach, which focuses on the role of interactions between actors, may contribute to a deeper understanding of how innovation ecosystems evolve. More specifically, the paper aims at extending the theories of knowledge transfer in local systems, by analyzing the role that various actors who populate an innovative ecosystem play in the creation, learning, use and dissemination of knowledge. The perspective adopted in the paper is that the "focal firm" can act as knowledge "gatekeeper" by establishing relationships with actors internal or external to its innovation ecosystem. The study focuses on the reasons and drivers that push a focal firm to choose a partner of an innovation ecosystem (not necessarily their own). It is argued that the knowledge transfer practice that is established between the two actors depends on the spatial, organizational, technological, cultural and political/social fit (or misfit) that are generated at the inter-organizational level and that are influenced by the belonging to a certain ecosystem. At a micro level, the authors discuss the factors influencing how a firm may play this role in interaction. At a macro level, the paper considers the aggregate level of all focal firms belonging to innovation ecosystems and their role to explain innovation.

This issue of *IMP Journal* contains not only seven papers regarding interaction in space, but also three other papers that deal with the innovation processes in SMEs and in the healthcare sector and with creating corporate identity through interaction.

The first of these papers, "The role of European R&D projects for SMEs' resource development: an IMP perspective" by Ciarmatori, Bocconcelli and Pagano, contributes to the understanding of the effects of participation in European R&D projects (ERDPs) on SMEs' innovation effort in terms of upgrading of resources, by answering to the research question: what is the role of ERDPs in SMEs' resource development? The paper adopts an IMP perspective and provides a contribution on the managerial dimension of SMEs' participation in ERDPs on two distinct grounds: networking processes and resource development processes. The main topic addressed is SMEs innovation and R&D projects, and how innovation and R&D projects are tackled in IMP studies. Methodologically, the paper adopts a longitudinal single case study approach to highlight processes related to the development and combination of resources. Such approach is consistent with other IMP studies on the subject, as well as in the project management literature. The paper then presents the case of Gamma, a research spin-off company of the Italian National Research Council, active in the nanotechnology sector, with four projects in seven Framework Programs and four projects under Horizon 2020.

The discussion revolves around the role of ERDPs for resource development in the various phases of the evolution of Gamma (startup and initial development, reorientation and stabilization). The "4R model" on resource development is adopted as a framework for the analysis of the role of ERDPs on Gamma's resources. The paper highlights the need to fully understand the interplay of ERDP networks and business networks. In terms of resource development processes, the empirical analysis underscores the relevance of ERDPs for developing both technological and organizational resources, highlighting the relevance of project-management-related knowledge. The paper concludes with managerial and policy implications.

In the paper entitled "Adoption and implementation of new technologies in hospitals: a network perspective," Mikhailova investigates the challenges that smaller hospitals with limited resources joining globally emerging market niches may encounter, and how such challenges may be overcome. More specifically, the paper contributes to the research on healthcare innovation and discusses the challenges of adoption and implementation of a new technology in a small hospital with limited resources. It starts with the assumption that medical device innovations develop within networks and examines how the relationships in the broader network may influence the adoption and implementation of the new technology. The author answers to the following research questions: what are the challenges of smaller regional hospitals with limited capacity to adopt and implement an advanced medical technology in a globally emerging market niche? What do they do to overcome those challenges? The analytical framework adopted is the ARA model. Empirically, the paper draws on a case study of an advanced medical technology adoption and implementation in a Danish hospital. After its commercialization in the European market in late 2007-early 2008, such new technology was immediately adopted by the main university hospitals in Scandinavia. Since then, joining this user–producer network also became appealing to smaller hospitals. After presenting the case, the paper discusses that the adoption of technology innovation requires significant investments from local hospitals, which is relatively more burdensome for a smaller hospital. Constrained by limited resources, smaller hospitals have to develop creative combinations of resources through negotiation and embrace collaborative approaches to join and sustain in the user–producer network. The main contribution of the paper lies in an original view of the way in which practitioners at smaller hospitals have to align to with the strategy of the technology provider and to position their hospital in relation to the activities in extended user–producer networks.

Finally, in a conceptual paper "Interactive network branding: creating corporate identity and reputation through interpersonal interaction," Korporic and Halinen discuss the process of corporate identity formation in business networks and propose a process model of interactive network branding. The authors start from a review of the literature on corporate branding and relate it to the IMP research. Using short illustrative cases of SMEs, they argue that the two research streams tend to converge and can be integrated when approaching the issue of corporate brands in business networks. The paper is one of the few attempts to link the IMP business network approach to the corporate branding literature. In particular, the attention is turned to the role of personal interactions in the formation of brands of SMEs in business networks. The authors develop and present their "process model of the interactive network branding" that identifies three interaction processes: internal interpersonal interaction, external interpersonal interaction and boundary spanning interpersonal interaction and relate these to the processes of creating identity and reputation – argued to be the two main facets of corporate brands in business networks. Focus on the interpersonal interaction processes yields interesting conclusions on implications for management. It leads to emphasize the centrality of interpersonal interactions for building corporate brands of SMEs that are at the base of their status and

position in the relevant business network but also highlighting the difficulties to manage, monitor and influence the interpersonal interactions. Call is made for further research to answer the question to what extent and how the interactive network branding processes can be managed, in particular, in SMEs.

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