From One Place to Another – Place Attendance as Resources for Innovators

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Abstract

Despite a growing interest for places in management research, it remains unclear how the attendance of multiple places by innovators contributes to the innovation process. We propose a new perspective in which innovators attend distinct places that provide them plural resources, and that it is their combination that supports innovation. Based on this proposition, we study the case of projection mapping in Montreal (Canada) as an illustration for creative and cultural industries. We show that the number and types of places attended evolves in the different stages of the innovation process, and that actors are not homogeneous in their attendance. These evolutions are captured with the concept of preferential circulations we introduce to capture the patterns of attendance of places by innovators. Through this, we offer a new lens to the study and the management of innovation through places.

Keywords: Places; Innovation; Creative industries; Preferential circulations; Montreal

The innovation process is inherently place-based. It is often associated with generic places (e.g., a laboratory, a factory, and even a garage) and sometimes with more specific places that history has memorialized (e.g., Bell Labs, Homebrew Computer Club, Abbey Road). This is particularly true in the creative industries, where iconic places have influenced the emergence and diffusion of artistic movements. The Bateau-Lavoir, for example, spurred Cubism in Paris by providing innovative painters with a place to work and meet informally (Cohendet et al., 2014; Sgourev, 2013). But the Bateau-Lavoir is part of a larger neighborhood, Montmartre, which clusters many different places of varying nature and serves various functions, such as entertainment (e.g., Le Chat noir, Le Lapin agile), other artists’ studios (e.g., Toulouse-Lautrec, Delatre), or even squats (e.g., Château des Brouillards). Not only was the Bateau-Lavoir crucial to craft the conventions and technical foundations of Cubism (Sgourev, 2013), Montmartre as a whole and its variety of places has been a deep source of influence for these artists (Le Thomas, 2016). The Cubists attended a whole range of places that influenced their innovative practice.1 This dynamic between innovative projects and place-attendance has not been the subject of research to date.

To disambiguate from territory, we restrict places to buildings in which organizations are located (Beyes & Holt, 2020). They are characterized by a unique geographic location, positioned strictly in terms of coordinates and relative to each other; by a specific materiality associated with their physical assets; and by significations co-constructed by the organization that manages the place and the people who visit it (Gieryn, 2000). It is therefore a finer grain scale of microgeography, in which places are embedded in the territory (Hess, 2004).

1 As other illustrations, one can think of Andy Warhol who attended not only his famous Factory but also the club Studio 54, Elaine’s and Mr. Chow restaurants, the Loft Gallery or Stable Gallery, the Chelsea Hotel, the CBCG concert hall, etc. The same goes for Steve Jobs: if we focus only on his garage, we forget to look where it is located (Silicon Valley) and all the other places he attended (Homebrew Computer Club, Hewlett-Packard, Xerox PARC, …) which nourished his innovative pursuit.
To our knowledge, few studies are interested in the behavior of innovators attending multiple places. Some researches, following Florida’s work on the creative class (Florida, 2002), have emphasized the nature of the creative territory, defined as ‘a space where various pieces of knowledge (scientific, industrial and symbolic) are created, where ideas emerge from and for the actors in question, that is, organizations, communities and individuals, who benefit from the development of territorial activities’ (Dechamp & Szostak, 2016). What is clear from the literature is that a territory can be a decisive factor for innovation in the creative industries, especially when there is an agglomeration of actors that helps to build relationships and exchange ideas (Oberlin & Gieryn, 2015; Pedrini et al., 2021). From this perspective, the role of places has been identified as a way to connect innovators to formal organizations (Cohendet et al., 2010; Dechamp & Szostak, 2016; Muller et al., 2020), but the geographic scale is sometimes quite unclear; and the potential cumulative effects of attending multiple places in the innovation process are not explored. Other works have focused on specific types of places: FabLabs (Suire, 2019), makerspaces (Hussenot, 2021), coworking spaces (Fabbri, 2016; Le Nadant et al., 2018), so-called cultural third places (Besson, 2018), etc. However, research in this stream focuses mainly on relationships between attendees and a specific place, implicitly suggesting that innovators would find much of what they need in one place and do not consider other places. Consequently, the literature’s findings limit our understanding of the role of multiple places in supporting innovators.

In fact, it is quite unlikely, and even simplistic, that each innovator would visit only one place and derive his or her creativity only from that unique place. Instead, innovators would visit several places to experiment and share their work, to connect with members of their community, and to generate work opportunities (Curnid, 2007; Hauge & Hracs, 2010; Rantisi & Leslie, 2010). To better address this puzzle, we formulate the following research question: how does the attendance of multiple places within a territory contribute to fostering the innovation process in its different phases?

To explore this question, we studied the case of projection mapping in Montreal (Canada), a world-renowned city in this field. This creative and innovative practice consists of projecting animated visuals on volumes with projectors and dedicated software. These projections can be performed in a variety of places (e.g., music venues, art galleries, and public spaces). Our study was conducted from July 2021 to December 2021. It consists in analyzing the places attended by innovators practicing projection mapping, and in identifying the resources acquired in it. We name these as preferential circulations (PCs), which translate the patterns of attendance of resource-producing places. From then on, focusing on how the attendance of places supports innovation, we situate ourselves between the study of the territory as a whole (through the different places in the city attended by innovators) and the study of specific places (through the intrinsic features of each place and what they offer to innovators). The main results reveal that multiple places are attended, varying in type and number according to the phase of the innovation process. The different resources needed are aggregated by individuals to innovate but can be different from one actor to another. More precisely, the attendance of places differs from one individual to another, relating to distinct behaviors in the search for resources: some grow their innovation by staying proximate with their community, while others explore different fields to gather resources.

By focusing on preferential circulation, our research sheds new light on the study of innovation places in the creative industries and allows us to rethink innovation management from a new angle. While our contributions are directly related to the creative industries, they may also be of general interest to the literature on innovation and entrepreneurship. Preferential circulation may be useful for other contexts as it consists in following innovators, measuring their path across places in a territory to better understand how they benefit from it, and identifying patterns to better understand their ongoing innovation process. This relates to the challenge of innovation management seeking to resolve how to sustainably manage an innovative territory and promote innovation in the long term. This is an important issue insofar as territories support place-based innovation policies (Grillitsch & Asheim, 2018).

The remainder of the paper is structured as follows. First, we review the role of places in the innovation process and outline our theoretical argument. Then, we present our approach to data collection and analysis. The third section is dedicated to the empirical study of innovators’ place attendance. We conclude with a discussion and managerial implications.

**Theoretical background**

**Identifying places**

Places are defined here as buildings in which an organization operates, being both a result and a generator of social facts (Beyes & Holt, 2020). They are not fixed, immutable entities, but are constructed with multiple actors and evolve over time (Sergot & Saives, 2016). Places are embedded in a territory (Hess, 2004) and are therefore associated with its history, its cultural, and economic and social context (Cresswell, 2014; Hussenot, 2021). In other words, the place is not the territory, but it is part of it: a whole set of places compose a territory, such as factories, universities, restaurants, housing, etc.

Based on the literature, several defining elements can be distinguished (Gieryn, 2000; Guthey et al., 2014; Lawrence & Dover, 2015). These characteristics define each place in relation to other nearby places. First, a unique geographic
location within a territory. A place is localized both by its geographic coordinates and by the actors’ mental representation of the territory (Ferru et al., 2022). Second, a place has a specific material form that is generally associated with its activity, comprising size, facilities, decoration, etc. This materiality results, in particular, from the deliberate choices of the organization managing the place and affects the experience of places (Guthley et al., 2014; Leclair, 2023). Third, a set of meanings co-constructed by the organization that manages the place and the actors who attend it. These meanings are the result of discourse dynamics (Lawrence & Dover, 2015; Zilber, 2018). This is as much about its identity and reputation as it is about what actors can expect to find there. Finally, different activities can be carried out in places. In the creative industries, they are particularly oriented toward production (e.g., a studio and a workshop) or dissemination (e.g., a museum, a music venue, and a café). These activities can provide resources to innovators at one or another stage of the innovation process.

However, resources can refer to the supplies, equipment, and technologies that can be used to produce the innovation in its final form: the painter’s brush, the filmmaker’s camera, the musician’s guitar, etc. (Sapsed & Tschang, 2014). Finally, financial resources describe the money needed to fund or diffuse an innovation (e.g., purchase of materials, promotion, and scaling-up) (Ferrary & Granovetter, 2009). These different resources are combined idiosyncratically at different stages of the innovation process. Moreover, resources are interdependent: the use of one resource can affect the generation, use, or value of another resource (Bathelt & Glückler, 2005). Paris and Massé identify three structuring features of creative industries: differentiation by originality, abundance of goods, and subjectivity of the creator (Paris & Massé, 2021). Creative goods are characterized by a subjective value, and their originality is a factor of success (Hirsch, 1972; Lampel et al., 2000). To limit audience rejection, which would lead to failure, innovators continuously seek to position their innovations between familiarity and originality, between association and disassociation (Jones et al., 2016; Simmel, 1957). This leads to a high rate of novelty produced to stand out, and thus to an abundance of goods. Then, one of the challenges for creators is to persist over time and to find ways to maintain their market success (Berg, 2022). And to achieve this, innovators need to acquire different strategic resources to reveal their uniqueness.

In this context, we propose a typology of four distinct resources: social, cognitive, material, and financial. First, social resources reflect an innovator’s social capital, that is the relationships in his or her social network that he or she can leverage (Coleman, 1988; White, 1992). These relationships provide reputation, legitimacy, support, and trust that can be mobilized for innovation. In creative industries, the social network is a valuable resource not only for renewing, validating, and disseminating ideas, but also for accessing work opportunities (Currid, 2007; Montanari et al., 2016). Second, cognitive resources are ideas, knowledge, skills, and shared visions that are exchanged, shaped, and acquired by innovators (Capdevila et al., 2018; Koestler, 1964). The combination of conventional knowledge with new ideas is an important ingredient in the success of original productions. Third, material resources refer to the supplies, equipment, and technologies that can be used to experiment with and produce the innovation in its final form: the painter’s brush, the filmmaker’s camera, the musician’s guitar, etc. (Sapsed & Tschang, 2014). Finally, financial resources describe the money needed to fund or diffuse an innovation (e.g., purchase of materials, promotion, and scaling-up) (Ferrary & Granovetter, 2009). These different resources are combined idiosyncratically at different stages of the innovation process. Moreover, resources are interdependent: the use of one resource can affect the generation, use, or value of another resource (Bathelt & Glückler, 2005). Finally, we emphasize that the value of, and access to, resources is conditioned by the context, including the territory.

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2 For example, a painter will combine her inspiration, her knowledge of artistic movements, and her skills (cognitive resource) with the use of a brush and paint on a canvas (material resource), supplies purchased beforehand, thanks to a grant or previous sales (financial resource). During the process, she will collect opinions from her peers allowing her to improve her work or get in touch with a gallerist to help her sell her work (social resource).
Research has shown that the concentration of actors of creative industries in a territory can be an important factor for the development of creative activities (Chapain & Comunian, 2010; Oberlin & Gieryn, 2015; Pedrini et al., 2021). We can then postulate that it is because the territory offers resources to innovators, but how and what are they really? The contribution of territory to innovation has traditionally been limited to proximity dynamics (Boschma, 2005; Rallet & Torre, 2004; Suire & Vicente, 2008) or to the idea that ‘something in the air’ (Marshall, 1919) creates a fertile climate for innovation. We also know that each territory has specific characteristics, sometimes non-delocalizable and difficult to imitate (Pedrini et al., 2021), but what it covers can be fuzzy. Some works have shown that street design, combined with a specific agglomeration of activities at the neighborhood level, can stimulate interactions between actors (Rantisi & Leslie, 2010; Spencer, 2015), but without going into the details of the resources produced by places attended by innovators.

**Places as resources for innovation**

The question now is: how do places generate resources for innovators? Based on the theory of affordances (Gibson, 1977; Fayard & Weeks, 2007; Oberlin & Gieryn, 2015), we can consider that the environment in which the individual is present provides him or her with a specific capacity to act. Thus, when an innovator attends a place, he or she can acquire one or more resources that the place offers.

Indeed, a place can provide one or more of the types of resources we identified earlier: first, places can generate social resources when providing a favorable context for informal meetings. We think first of places with a strong social life (e.g., bars, cafés, and galleries during openings). This can be important for making connections, seeing regulars again, or even connecting with gatekeepers (Andrews, 2019; Currid, 2007; Hauge & Hracs, 2010). But places removed from the buzz like a workshop or studio are also important for strengthening existing connections (Capron et al., 2022; Murzyn-Kupisz & Dzialek, 2021; Sgourev, 2020). Second, cognitive resources can be generated in places. One can think of the knowledge exchanges when actors meet, allowing the formalization of creative principles through the confrontation of ideas (Müller et al., 2020; Sgourev, 2020). Moreover, attending a place can allow innovators to acquire new knowledge or skills (Capdevila et al., 2018; Hussenot, 2021). However, experiencing a place and being exposed to a work of art can also stimulate inspiration. Third, a place can also be a site where the innovator experiments, prototypes, or produces an innovation. He or she will then need material resources that are located in a place. For example, a musician needs to go to the studio to test and record new compositions (Müller et al., 2020) in the same way that the Cubists needed the Bateau-Lavoir to collectively create the foundational pieces of this movement (Le Thomas, 2016). Available technologies can be a motivation to attend a place (Hussenot, 2021; Suire, 2019). Finally, financial resources can be generated by a place. This is particularly the case when a work is produced, purchased, or exhibited.

How the place is managed and what objectives are assigned to it by the organization can affect access to resources. These include, for instance, membership, pricing, favored styles, and access policies in terms of age (Buchholz, 2019; Hussenot, 2021; Kloosterman, 2014). As a result of these features, places attract a specific audience with unique sociodemographic (age, gender, community membership, etc.) and cognitive (values, esthetic preferences, knowledge, and practices) characteristics.

This reasoning leads us to the following proposition: innovators in the creative industries would inevitably attend different, scattered places of an urban territory to aggregate resources.

It is therefore through the places attended by innovators that a territory supports innovation. Given the variety of resources needed at different stages of the innovation journey, it seems unlikely that all resources will be concentrated in one place and available to all innovators whenever they need them. If places can generate multiple resources, some would be limited to specific ones: for instance, a painting studio allows the artist to prototype and craft her innovation, but it is the confrontation with the public during an exhibition in a gallery that allows the work to be disseminated and its value to be defined. Moreover, innovators may have a partial knowledge of which resource is available in which place (Broekel & Binder, 2007), limiting their choice of attendance. The resources that a place can potentially offer are recognized by the innovator who is aware of the existence of other places with similar and/or distinct features (Sergot & Saives, 2016).

**Data and empirical strategy**

**Research design and case selection**

Given the limited body of research on the role of places in the innovation process, we opted for a single case study. Our aim is to better understand a phenomenon that is representative of many other observable situations (Siggelkow, 2007), namely, the acquisition of resources by innovators in creative industries through the attendance of multiple places. From there, we aim to introduce a new theoretical proposal for the study of places. This way of theorizing is useful for explaining social dynamics, beyond the mere description (Davis & Marquis, 2005). Moreover, the literature has shown that case studies are well suited for analyzing complex, understudied phenomena, especially when they involve multiple actors and entities (Eisenhardt & Graebner, 2007; Stake, 1995).
We focus on projection mapping, a creative practice that can be defined as the projection of moving images on volumes using projectors and dedicated software. This practice is a combination of digital technologies and creative content. The emergence of digital technologies specifically dedicated to the creation of images and their projection has allowed for a strong development of this practice since the mid-2000s. From an artistic perspective, projection mapping involves the creation of esthetic content, which can be figurative or abstract. Projection mapping is an autonomous practice, but one that is regularly used by artists working in the field of digital art and is also historically associated with electronic music by video jockeys (VJs). Innovators are understood here as individuals who master both the creation of the content, the technical dimension of the projection, and sometimes the development of specific tools (software and projection devices). According to their individual approach, the material and cognitive resources required vary: some use only a projector; while others use sensors, robots, etc.

**Studied case presentation**

We focus on a single territory and limit our analysis to the city of Montreal (Canada), acknowledging that innovators may acquire resources from other territories through mobilities between different cities (Hautala & Nordström, 2019). Montreal is interesting for several reasons. First, since the 1990s, the territory’s development policy has been focused on creative industries based on digital technologies, such as video games or VFX (Grandadam et al., 2013). The characteristics of these activities are very similar to projection mapping (i.e., combination of esthetic content and digital technologies), so we can expect a pool of innovators with similar or complementary interests and knowledge. Second, it is a territory that has an international reputation in several creative fields, including circus, cinema, or independent music. Some neighborhoods like MileEnd and MileEx (Figure 1) are concentrations of bars, studios, and concert halls, and form a creative breeding ground for various creative industries locally (Grandadam et al., 2013; Rantisi & Leslie, 2010).

More specifically, for projection mapping, it is an interesting context insofar as an industry exists, with studios of various sizes, some of which are among the most important in the world (Moment Factory and Thinkwell), specialized tech firms, trainings and academic research, and festivals dedicated to (Mapp_MTL and Luminothérapie) or regularly programming (Mutek and Elektra) projection mapping (Capron, 2022).

There are also places related to this practice. Following an international symposium on digital arts held in Montreal in 1995, a small group of actors created the Société des arts technologiques (SAT) and conceived a place promoting hybridization between art and tech. They received public support and funding to expand their activities. As interest in projection mapping grew, the SAT moved in a new site located in the Quartier des Spectacles (Figure 1) in 2003 and built an immersive dome in 2011 that allows 360° projections. It provides a unique facility allowing research activities with local Université de Montréal and Université Concordia. General audiences can therefore regularly discover innovative shows and learn through specialized workshops. The SAT is an important place for projection mapping. While its role in experimenting, codifying practice, and building community has been crucial, it now seems less focused on that. For several interviewees, this central position has evolved:

> It was really a meeting point for the community in Montreal, my career was very much determined by the SAT. It was really the most important locale. Now, the SAT has lost some of that role. The center has dispersed a bit, there are several hubs, a kind of diversification, which is also very good. (Interview with an event organizer; April 13, 2021)

Thus, other places play a major role, such as the Quartier des Spectacles, a cluster of buildings downtown. Inaugurated in 2007 on the ruins of the red-light district (Bélanger, 2015), it was aimed at enlivening the nearby shopping streets and the Place des Arts, where numerous cultural venues are located (e.g., Théâtre du Nouveau Monde, Club Soda). Throughout the year, projections are performed on the facades of buildings, and interactive art based on projection mapping is programmed by a dedicated organization, opening this practice to a wide audience. Recently, a place developing a commercial offer with immersive works, called OASIS immersion, has opened inside the Palais des congrès. More generally, it is a whole set of galleries and artist centers, clubs, and music venues, which are attended by the innovators producing projection mapping.

**Data collection**

Data were collected from July 2021 to December 2021, through semi-structured interviews, a questionnaire, and secondary data. First, we interviewed 21 actors involved in the projection mapping innovation process: innovators (14), event organizers and place managers (3), and creative technologists, individuals who have a thorough mastery of digital technologies and who generally collaborate with innovators and/or work for studios (4). We asked the respondents to cite the places they generally attend in Montreal and what resources they acquire there: where they meet peers or people with whom they collaborate (social resources); use facilities to work on a project (material resources); find inspiration by attending an exhibition or performance, or learn new techniques and

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3 All verbatims are translated by the authors.
skills (cognitive resources); and perform or exhibit their work (financial resources). This allowed us to identify 25 places, meaning that among all the existing places in Montreal, interviewees attend 25 distinct ones. Then, these data are supplemented by the questionnaire with the same questions and distributed to 15 additional innovators. We asked respondents to cite the places they attend in the list of 25 identified prior and give them the opportunity to add places to the list, resulting in a final sample of 39 places. We also ask for the frequency of attendance, which may reveal some variability in the involvement in the place, attachment to it, ranging from ‘no attendance’ to ‘plural attendances a week’ – this is what makes circulation preferential. As such, this declarative approach does not allow us to know exactly what people do in these places; for this, we would need observation, visual techniques, or ethnography to complement our data (Leclair, 2023). On the other hand, it allows us to capture what innovators perceive they get from their attendances and how it feeds their innovation process. Presumably, this is what motivates them to attend the place.

To triangulate and complement these data, we used secondhand data from various sources: program archives of places as well as websites and social media publications allowed us to reconstruct the places where the actors of the sample performed, exhibited, or had an artistic residence; articles from generalist and specialized media provided a better knowledge of the context and history of the different places. Finally, we conducted observations and benefited from informal

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**Figure 1.** Map of Montreal, showing the locations in the sample (blue dots). Note: five locations are not shown because their geographical position is out of frame; the boundaries of Mile-End are circled in red, Mile-Ex in yellow, and the Quartier des Spectacles in green. Source: Own elaboration.
discussions during visits to three places. We obtained additional data on the material resources available and the process of selecting the artists programmed or in residence by the managers.

**Data analysis**

To conduct the analysis, we proceeded in three steps. The first step consists of coding the data, starting by matching it with resources. Data are associated with acquisition processes, which are linked to resource types. This means that the same acquisition process can be associated with several types of resources, as is the case with a residence: it allows access to material resources but also to funding. We synthesize this coding in Figure 2.

These coded data are then associated with the places where innovators get resources. Thus, an actor acquiring a material resource in a location (e.g., an innovator working on a project in her studio) will be marked 1 and 0 otherwise. In a table, we enter a description of the resources obtained, and we repeated the operation for all the resource types and individuals in the sample. Because a place can be cited for the acquisition of multiple resources, there can be a multiconnectivity of actors to places. The coding of the data from the interviews and the questionnaires is easier since the questions are calibrated to correspond to the typology of resources designed beforehand. However, for the secondary data, the collection of resources is inferred and limited because the data are incomplete or unavailable. For instance, if an innovator performs in a place, she will acquire at least financial resources, but we cannot assess if she acquired social (interactions between actors and more legitimacy) and cognitive resources (inspiration and new ideas) unless innovators express it elsewhere.

Finally, based on our sample and similar characteristics of the places, we categorized them into 5 types: artist centers (8 places, including studios and workshop), cultural places (13 places, including multidisciplinary artistic places, music clubs, and venues), museums/galleries (11 places), schools and research centers (4 places), and others (3 places, including bars and a studio from the industry). Table 1 summarizes this categorization.

A first result is the over-representation of cultural places and museums/galleries — which is not surprising given the considered creative practice — and an underrepresentation of places with a high social intensity such as bars and cafés. This is consistent with a previous finding that the latter are not as prevalent in artists’ resource acquisition (Murzyn-Kupisz & Dzialek, 2021), but still surprising in light of other research in the creative industries (Currid, 2007) and particularly in Montreal (Rantisi & Leslie, 2010).

We also geolocated the places on a map of Montreal (Figure 1). We identified clusters in two specific neighborhoods: MileEnd and MileEx, where commercial, residential, and recreational functions are mixed, which is typical of neighborhoods where creative industries are concentrated (Spencer, 2015), and the Quartier des Spectacles, due to its high concentration of cultural venues, and because it is a venue in itself. The remaining places are scattered across other parts of the city.

The second step is the matching of the coded data with the stages of the innovation journey. Using interviews and secondary data, we studied in-depth the innovation process behind projection mapping. This allowed us to reconstruct the innovation journey and associate resources with each step of the process. Table 2 provides an overview of which resources are acquired most in each phase. For example, in the experimentation stage, material (projectors and sensors), cognitive (knowledge and new ideas), and social (advice and support) resources are combined to prototype and test new concepts. As we had already associated places with acquired resources, we obtain the list of places appearing at each stage of the innovation process. Thus, the innovation journey divided into four phases is analyzed through the prism of the resources in the places attended by innovators.

The final step is to use the attendance data to reconstruct the network of places attended by innovators, partitioned according to the stages of the innovation journey. Following our proposition that innovators attend multiple venues, studying the composition and structure of the network allows us to identify which places are attended by whom and to detect regularities: do all innovators go to the same places for the same phases of the innovation process? Which behaviors of resources browsing can be observed? We term these preferential circulations (PCs) (Capron, 2022; Capron et al., 2022). They reveal the patterns of innovators’ attendance of resource-producing places. As such, PCs can be similar or very different depending on the composition of the network and its associated structural properties.

Network analysis is sometimes used by management scholars, especially in the context of creative industries, to analyze creative teams (Tellier, 2021; Uzzi & Spiro, 2005). In our case, network analysis allows us to bridge the micro-level (i.e., what a single place provides) and macro-level (i.e., what the territory offers) perspectives through a meso-level approach, as we can account for the variety of places attended and the behavior of innovators. In order to analyze PCs, we followed the approach developed by Uzzi and Spiro (2005) to transform a bipartite network into a unipartite network (Figure 3). First, we created a bipartite network to identify who attends which place, considering that a relationship $i \rightarrow p$ exists between an innovator $i$ and a place $p$ if the innovator attends the place. These edges are directed and unweighted. The network is then transformed with the idea of transforming the attendance of innovators into a directed and unweighted network, considering the stages of the innovation journey.
that a link can be drawn between two places \((p_1, p_2)\) if an individual attends both: \(i \rightarrow p_1\) and \(i \rightarrow p_2\) become \(p_1 - p_2\). In this network, nodes represent places, and the edges are undirected.

Following this process, we obtain the PCs for all the actors for whom we have data (‘collective PC’ in Figure 3). The network describes edges between places but reflects patterns of attendance among the set of places previously identified by individuals. We then analyze the structure of the PCs in light of contextual information from other data sources. We used several metrics for the network analysis and compared each network using descriptive information, such as number and types of places, allowing us to find the average number of places of each type, for each innovator, and every innovation phase. An underlying assumption is that structural properties are not stable according to the

Figure 2. Data structure and coding
Source: Own elaboration.
needs of innovators. Indeed, it is expected that the behavior associated with the upstream phase of innovation is likely to be different from the behavior associated with the downstream phase of innovation, and thus, different structural properties may be observed (Coleman, 1988; Suire & Vicente, 2014).

First, we examine the cohesion of PCs. This would reflect the fact that individuals all attend the exact same places. Two measures are used. We calculate the density of the network, referring to the number of existing edges compared to the number of possible edges. This measure illustrates how places are connected to each other. It ranges from 1 if the network is fully connected (i.e., individuals all attend the same places) to 0 if it is not connected at all (i.e., individuals do not attend any common places). To further understand the cohesion of the network, we use the diameter, which accounts for the shortest distance between the farthest pair of nodes. A high diameter may indicate a low interconnection between places, thus heterogeneous attendances. Conversely, a low diameter would reveal strong interconnection, and thus similarities in attendances.

Second, we investigate how attendance is organized: are they clustered around a particular place or are they dispersed? To do this, we examine the assortativity of the network (Barabási & Albert, 1999; Crespo et al., 2014). It describes degree correlation, or whether highly attended places are connected to each other, and poorly attended places are tied together. This measure allows us to determine whether PCs are structured around many (or few) connected places or, conversely, whether they are distributed around both many and few attended locations (disassortative). In a sense, this measure makes it possible to reveal PCs that are core-oriented (i.e., innovators go to places attended by a large number of peers), periphery-oriented (i.e., innovators attend more confidential places), or if they mix core and peripheral locations in the case of a disassortative network.

We complement these structural properties with a measure of degree centrality. It indicates the number of edges for each node, giving a better description of the position of the place in the PCs. We also used centralization, which describes the extent to which a network is concentrated around a node or group of nodes with a large number of connections. This makes it easier to compare networks with each other when the number of nodes is not the same. It ranges from 1 if the network is centralized around one place to 0 if it is scattered between multiple places.

<table>
<thead>
<tr>
<th>Localization</th>
<th>Number</th>
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<tbody>
<tr>
<td>Mile-End/Mile-Ex</td>
<td>10</td>
</tr>
<tr>
<td>Quartier des Spectacles</td>
<td>10</td>
</tr>
<tr>
<td>Others</td>
<td>19</td>
</tr>
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<table>
<thead>
<tr>
<th>Types of places</th>
<th>Number</th>
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<tbody>
<tr>
<td>Artist centers (including studios and workshop)</td>
<td>8</td>
</tr>
<tr>
<td>Cultural venues (including multidisciplinary venues and music club)</td>
<td>13</td>
</tr>
<tr>
<td>Museums and galleries</td>
<td>11</td>
</tr>
<tr>
<td>Schools and research centers</td>
<td>4</td>
</tr>
<tr>
<td>Others (including bars and cafés)</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Own elaboration.

Table 2. Dominant resources acquired in places by innovators during each phase of the innovation process

<table>
<thead>
<tr>
<th></th>
<th>Generation</th>
<th>Experimentation</th>
<th>Promotion</th>
<th>Production/ diffusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social resources</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cognitive resources</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material resources</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Financial resources</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration.

Figure 3. Transformation of a bipartite network into a unipartite network.
Source: Own elaboration.
Results

Network dynamics and innovation process

As expected, our analysis (Table 3) reveals an evolving network of places throughout the innovation process, which echoes our proposition that innovators attend several places with different motivations to acquire resources. The average number of places attended ranges from 1 to 4 depending on the innovation phase considered. This variation suggests heterogeneous individual behaviors along the innovation process. To illustrate this, consider two innovators’ PC. One attends a variety of places: digital art centers, galleries, experimental music venues, and clubs, as well as more specialized venues such as the SAT. She sometimes benefits from residencies and performs her work in different contexts. Her PC is diverse, with a high number of venues (14), including some that are not much attended by peers. The other innovator attends a smaller number of venues (7), and these are only related to electronic music. His PC is more specialized but provides all the resources he needs to innovate.

While this demonstrates the importance of considering that places offer different resources, some (5 of 39 in our sample) appear to offer all types of resources innovators seek. This does not mean that innovators always acquire all the resources they need for each of their projects in these places, but rather that these places are attended at different stages of the innovation journey. These places (two artists’ groups’ studios, two cultural places, and one university) combine two functions: production, which refers to access to material resources (whether permanent or temporary during artist residencies), and diffusion, where innovators can perform or exhibit their creation and/or be exposed to sources of inspiration.

The analysis of the structural properties of PCs reveals not only a variation according to the phase of innovation but also recurring characteristics. First, we observe a constriction in the number of places attended in the experimentation phase compared to others. Our two explanations are the need to somewhat withdraw from social life at some point in the innovation process (Murzyn-Kupisz & Działek, 2021; Sgourev, 2020) and an unequal access to places with material resources. The latter relates to emerging careers and thus lack of legitimacy (Montanari et al., 2016), deviant or niche practices, and organizational policies limiting access through selection (residencies and competitions).

Second, we find that networks are disassortative throughout the innovation process. This suggests that the innovators attend both places that are highly attended by others, and places with low attendance. The SAT is the most visited place at every stage of the journey. It has become institutionalized over time, but it still specializes in projection mapping and provides different types of highly sought-after resources: ‘when you do projection mapping, performing in the dome is a kind of must, that once in your life you have performed in the dome at the SAT’ (interview with an artist, August 5, 2021). The other important places are artist centers and cultural venues offering multiple resources valued by the community. But, in the latter, we find a variety of places: a printing workshop, a shared studio, a music club, etc. Overall, this suggests a heterogeneous PC, but one that revolves around a few places.

Unpacking the innovation process

We now turn to the analysis of the resources acquired in places by innovators according to the phases of the innovation process. A description of the structural properties of the network at each stage of the innovation journey (Figure 4) is followed by an explanation in the context of the role of places. We provide the degree distribution for each phase (Figure 5) to compare, for each phase, if each network is core places oriented, peripheral places oriented, or more balanced. Even though there is a diversity of behaviors, we capture dominant patterns in the types of resources acquired in the different phases of the innovation process (Table 2). It is
During the experimentation phase that most innovators aggregate the four types of resources, while in the promotion and production/diffusion phases, places generally provide only social resources. It should be noted, however, that the resources acquired in previous stages are important for transitioning to the next. For example, an actor who has not done training for immersive dome at the SAT will not be able to diffuse works there. Since not all places offer the same...
resources, we observe a complementarity that supports innovation processes: some places are only attended in the experimentation phase or only offer social resources, some are specialized in projection mapping, and others are associated with distinct fields.

**Generation**

First, we observe that the generation phase is characterized by low centralization and high density. This suggests that innovators all attend multiple locations, and that the patterns of attendance are quite similar; even if some specific patterns are

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**Figure 5.** Degree distribution for each phase.

Note: (a) generation ($n = 29$); (b) experimentation ($n = 22$); (c) promotion ($n = 29$); and (d) production/diffusion ($n = 31$).

Source: Own elaboration
observed for each innovator. Figure 5a confirms that the distribution of degrees is rather flat, reflecting the absence of a core/periphery structure.

Attended places are associated with three distinct creative fields: electronic and experimental music, contemporary art, and projection mapping. Describing where she usually goes and which places are sources of new ideas, one artist explains:

> there is a venue in Montreal called the Casa Del Popolo, which is a very important venue for experimental or independent music. Also, at Eastern Bloc [artists center], there are a lot of independent festivals and parties that are held there […]. Otherwise, there is the Fonderie Darling [cultural venue] in Old Montreal, which is super important, and the Centre Phi [cultural venue] too. (Interview with an artist, July 20, 2021)

She also attests to attending the SAT. Attending multiple venues, whether associated with projection mapping or not, allows innovators to be exposed to different sources of inspiration (cognitive resources) and to be embedded in networks of relationships that lead to collaborations (social resources). This place-based sociality has been decisive for some actors, as one explains: ‘I met him at a party and he told me ‘They’re having a party on Saturday in a club in Montreal, you’re going to do it with me!’ So, I had less than a week to train and do a lot of visuals too. From there, there were many other projects’ (Interview with an artist, July 22, 2021). Therefore, places with an intense social life and/or which diffuse creations, such as galleries during openings, cultural venues, or music clubs, play an important role in the generation phase.

**Experimentation**

In contrast, during the experimentation phase, the network is less dense, suggesting greater heterogeneity, and more centralized around a few places where attendances converge. As depicted by Figure 5b, a core/periphery structure is associated with PCs. We found that attending places offering material resources is crucial in the experimentation phase. The main reason is that projection mapping is an in situ practice, and therefore, innovators need a physical site to prototype, test new concepts, and see results in real conditions. We identify several situations. First, innovators attend collective studios where members have access to rooms and technologies whenever they want to prototype: ‘we can make performances on the spot, we have a small lab, a room to make experiments’ (Interview with an artist, May 3, 2021). In these places, projectors, cameras, computers, welding machines, sensors, or other technologies are available. We also note the case of innovators who, for certain projects, go to FabLabs or places that create sets and electronics (e.g., Robocut), and that others may use the equipment of their workplace (the studio Moment Factory) to innovate with their artists’ collective outside of working hours. However, this type of situation is the exception rather than the rule due to high rents that make it difficult to have your own place to set up a studio.

The second situation is the temporary access to material resources during residencies. These are held in places affiliated with projection mapping, particularly at the SAT, where a dozen creative projects are selected each year. The innovators then benefit from the rooms, technologies, and skills of the teams to produce their work. Places dedicated to digital art also offer this type of format. But some innovators will also do residencies in places that are unusual for those who practice projection mapping. These places are in the periphery of PCs as they are not much attended, and the resources are divergent from what is commonly used to innovate. For example, one innovator recalls: ‘I’m starting a one-month residency at l’Atelier circulaire [artists center], to do experiments in print art where basically I’m going to print images on silk and do experiments with light projection, working on visibility…’ (Interview with an artist, June 17, 2021). These residencies are an opportunity to innovate in a more divergent way by combining knowledge, materials, or technologies that are not conventional. Finally, in some cases, innovators cannot benefit from places to experiment, and they work from home on 3D models.

We also found that all four types of resources can be acquired during this phase, although material and social resources dominate. The latter can be instrumental in exchanging tacit and experiential knowledge to frame the creation in a specific way. Some innovators acquire financial resources: residencies are funded creative moments, and the work produced is ultimately purchased and/or programmed by the venue. Cognitive resources are acquired by actors who learn new techniques. Some artist centers and cultural venues offer specific training for projection mapping, particularly the SAT as its iconic facility – the immersive dome – requires specific skills:

> It’s not standard, because your visuals have to be distorted if you want because it’s a screen that’s like a half-sphere. You have to create visuals on which you apply this deformation, which means that it takes special tools, and you have to know them. The SAT offers training for that very thing, how to create content to project it in a dome, because it’s quite unique. (Interview with an artist, July 20, 2021)

**Promotion**

The PCs in the promotion phase have structural properties relatively similar to those in the generation phase, except that
the diameter and the average number of attended places are smaller. In this respect, the shape of the degree distribution for this phase (Figure 5c) resembles Figure 5a. A possible explanation is that innovators need more social interactions with other actors, especially peers, to promote their innovations. In this phase, the project is more mature, and innovators are better able to identify their needs. While innovators attend a wide variety of venues to generate new ideas, they promote their creations close to their community, in core places. The SAT plays an important role here, as it is the meeting place for projection mapping enthusiasts and is the place where most of the works are shown. As an innovator explains, "It's not super underground or anything like that, but it's still an emblematic platform for broadcasting, it was created for that. [...] You meet friends every time you step in" (Interview with an innovator, April 16, 2021). However, apart from this place, no other venue densifies interactions. Overall, we found that only social resources are acquired in this phase.

Diffusion

Finally, in the production/diffusion phase, the PCs are both moderately centralized and quite sparse. Diffusion occurs in a variety of venues. This is due to the large number of contexts in which projection mapping is performed. However, the degree distribution shows a more pronounced core-periphery structure (Figure 5d). During this phase, financial resources and sometimes social resources are acquired:

At the end of the workshop, there was a party where there were several people and guests who presented some of their projects, so I presented mine. During the party, there was a Moment Factory employee who was there and saw me give my keynote. [...] And also (innovator) contacted me about a project. It kind of snowballed from there. (Interview with a creative technologist, July 13, 2021)

Most of the places attended here are artist centers associated with digital arts and cultural venues, mainly music clubs. We found that even if projection mapping is an autonomous practice, innovators are still dependent on the activities of other creative fields and the resources they produce. For example, several innovators have quite small PCs made up only of music clubs: this is where they get their financial and social resources. As one explains: "I’m resident at the Daomé [cultural venue] and the owner is friends with the owner of Stereo nightclub, and so..." (Interview with an innovator, June 30, 2021). And being affiliated with one of those places means she tends to perform in others of the same kind, some core, and some peripheral. All in all, these behaviors are much more associated with exploration strategies. The innovators know better how to evaluate, a priori, the value they can get from the attendance of a place. But some other innovators attend various places to disseminate the works. They are able to diversify because they have attended a variety of venues in the previous stages, which allows them to innovate in several contexts: within the mapping field and in others. For instance, one innovator explains: "lately I have done it less for parties. [...] I feel less realized than as an artist because I really have a practice of video art, installations. [...] I go as much to Perte de Signal, Eastern Bloc, Oboro, Ada X [artist centers], but also to the SAT for Vjing" (Interview with an innovator, June 17, 2021).

Discussion

Theoretical contributions

Innovators in the creative industries attend different places to nurture their creativity and generate novelty, where innovations are produced depends on the activity: a musician’s studio (Muller et al., 2020), a painter’s workshop (Sgourev, 2020), a chef’s kitchen (Capdevila et al., 2018), etc. And the same is true for their diffusion. In this paper, we inquire about the attendance of multiple places by innovators within a territory. This is a new angle compared to studies on clusters, knowledge networks, and innovation ecosystems (Chapain & Comunian, 2010; Suire & Vicente, 2008). It is also contrasting with studies that focus on specific types of places (Hussenot, 2021; Suire, 2019), their design (Fabbri, 2016), or even their internal features (de Vaujany & Aroles, 2019).

Our main contribution is to show that innovators do not attend a single place along the innovation journey, but multiple. The combination of resources (ideas, materials, and social relations) acquired in different venues makes innovation possible. These combinations are evaluated with an original indicator that we call preferential circulation. These attendances evolve and are distinct according to the phases of the innovation journey: the type and number of places attended are not the same, with more or less concentration around some places. As the behavior is not homogeneous from one innovator to another; the identification of patterns allows us to identify different profiles of innovators, to explain their ability to innovate, and to explain differentiation processes within a field. Thus, our contributions are twofold. There is a methodological contribution, since we introduce PCs to track the resource-seeking and acquisition behavior of innovators in different places, and a theoretical one, since we show how the structural properties of PCs reveal innovators’ path in the different phases of the innovation process. Moreover, our results also suggest that core-periphery or periphery-core trajectories in place attendance can be identified throughout the innovation journey. Some places allow for the accumulation of resources commonly used by the community (core places), while others allow for a ‘breath of fresh air’ and the acquisition of distinct resources (peripheral places) (Phillips, 2011; Sgourev, 2021).
A parallel can be drawn with the exploitation/exploration distinction (March, 1991), allowing us to delineate an emergent categorization of PCs. For some innovators, attendances are quite conformist, as they attend mostly core places during all the innovation process, limiting themselves to the resources produced by specialized places. Since the resources acquired are those commonly used in the field, the final output legitimizes them, but they produce more incremental variations. These innovators have exploitation-oriented PCs. As their portfolio of resources is smaller, there is a risk that a path-dependency will develop around the core places, leading to a lock-in to the dominant resources: the more innovators attend the same places, the more they will attend similar places in the future and then become associated with a niche.

But other innovators may pursue differentiation by deliberately acquiring new ideas or materials when attending places in which their peers do not go and then disseminate their innovation in core places (Sgourev, 2021). We name it exploration-oriented PCs. In our case, this behavior corresponds to a minority of innovators. Peripheral places are associated with distict fields, producing resources that are less usually used to innovate. The result is a more diverse PC, composed of core and peripheral places, and by combining common and uncommon resources, innovators produce outputs that deviate more profoundly from convention. Innovators with exploration-oriented PCs connect with other communities, triggering opportunities for collaboration, the exchange of ideas, access to unusual material resources, and so on. A tension between exploitation and exploration emerges from this type of PC and is dynamic along the innovation journey: the PC is initially more open and exploratory, and later closes in on a limited number of core places. In our case, we observe that the most innovative creators, in terms of the technologies or materials used, remain affiliated with the places that others attend and benefit from the best of both worlds: they gain legitimacy in the field of projection mapping and a source of originality beyond the field.

This categorization could be extended by considering the resources acquired in other regions where idiosyncratic resources exist (Hautala & Nordström, 2019), how this affects perceptions of originality (Phillips, 2011), and discussing how the core or peripheral position of innovators within a field (Patriotta & Hirsch, 2016) determines which places are attended.

While we insist on the need to consider multiple places to understand the innovation journey, some seem to exert a particularly important influence. In the empirical study, the SAT is the most attended place at each stage of the journey, and where innovators acquire the most different types of resources. A parallel can be drawn with field-configuring events (Lampel & Meyer, 2008), allowing us to understand the multidimensional effects of these places. Despite its potential importance, the role of places in creating, sustaining, and transforming institutions remains, with few exceptions, overlooked (Lawrence & Dover, 2015).

Management implications

Our work provides managerial contributions, especially for public actors in charge of ecosystem management, but place managers could also benefit from the results. By exhibiting that innovators attend multiple places rather than a single venue, this research supports the idea that maintaining a diversity of places in the territory would be beneficial to the innovation capacity of the creative industries. However, our research also questions strategies that focus on one-size-fits-all places that concentrate multiple resources. Our empirical analysis reveals a distribution of resources across different places, and innovators attend multiple to nurture their inspiration or disseminate their work. This process can be generalized to other creative industries, such as fashion (Currid, 2007) or painting (Cohendet et al., 2014) to name just two. Therefore, there may be a potential inappropriateness of these strategies. By replicating our approach, the territorial manager could benefit from a contextualized diagnosis prior to action: identify which place to support because it offers crucial resources for one activity, where to initiate new activities, and so on.

At the level of place managers, our research offers new insights. The way innovators perceive a place can be important to attract specific actors (Ferru et al., 2022). Therefore, managers can work on how to promote the activities organized in their place and, depending on the situation, follow strategies ranging from imitation in some dimensions to differentiation in others. This optimal distinction can be crucial in cases where the activity is mature, and the need for renewing is important. Bringing together actors from different fields is a challenge, and place managers can be important to achieve this.

Limits

We note several limitations of this study. First, the data we collected do not allow for a dynamic reading of the observed phenomenon. Since we are not conducting a longitudinal study, we cannot observe how the evolution of places over time affects innovation capacity. For instance, we do not capture the consequences of the closure or opening of places, whether permanent or temporary, on innovation processes and the reorganization of PCs. Moreover, the study of sequentiality, when innovators attend one place after another until the innovation is complete, or simultaneity of place attendance, when innovators attend multiple places during each innovation phase, would further inform our view. The second limitation is the rather small sample, which makes it easy to compare each actor and have a deep understanding of the context, but a
larger sample or a comparison with other innovators from other creative fields in Montreal or projection mapping communities in other territories would strengthen our conclusions. Finally, by focusing on the role of places, we leave aside the resources that innovators can obtain through digital platforms, such as community forums, tutorials, and sharing projects on social media. Thus, one would examine the complementarity of online-offline resource acquisition.

Conclusion

Innovation is invariably a spatialized process, and creative industries are not an exception. The question addressed in this paper suggests adding a ‘place turn’ to the ‘spatial turn’ in management science. We show that it is the combination of multiple places that fosters innovation, constituting a network that evolves with each phase of the innovation process. To analyze this, we introduce the concept of PCs, which opens up at least two avenues for future research. First, to investigate the motivation of innovators to attend places: the question of why innovators attend a specific place instead of another remains open. Although self-reinforcing and lock-in dynamics may appear for advanced career innovators (Berg, 2022; Montanari et al., 2016), the initial selection process by individuals and communities remains to be explored. The second is to ask what innovators do in place and how its features serve as levers for innovation. The idiosyncratic socio-materiality of a place creates an atmosphere that can attract actors who use different resources depending on their goals: an inspiring decoration, the right lighting to create a work of art, a tranquility that favors concentration, etc. (de Vaujany & Aróles, 2019; Leclair, 2023). The literature on the atmospheres of places could be used to address this and would allow us to better understand how innovators derive resources from place experiences.

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