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Coworking Spaces in Milan: Location Patterns and Urban Effects

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The present paper investigates the location patterns and the effects coworking spaces generate on the urban context, issues that have been neglected by the existing literature. The focus is on Milan, the core of the Italian knowledge-based, creative, digital, and sharing economy, and the city hosting the largest number of coworking spaces in Italy. The paper addresses three main questions: (1) Where are the main locations of coworking spaces in Milan? (2) Are there any transformative effects of coworking spaces, respectively at the urban scale and at the very local scale?(3) What are their impacts in terms of spatial transformation and in terms of innovation in practices (for instance, work, leisure, or culture)? Desk research showed that location patterns of coworking spaces resemble those of service industries in urban areas, with a propinquity to the so-called "creative clusters." Field research shed light on urban effects, such as the participation of workers in coworking spaces in local community initiatives, their contribution to urban revitalization trends, and micro-scale physical transformations. The paper, therefore, helps to fill the gap in the literature about the location patterns of these new working spaces and their urban effects at different scales, both in terms of urban spaces and practices.

Keywords: Coworking spaces; location patterns; urban spaces and practices; urban effects; Milan

Introduction

Digital economies have fostered both dispersion and concentration of economic activities. Thanks to telecomputing technologies, and the ubiquitous access to dematerialized information and data provided by wireless, mobile telecommunications, and cloud computing, there has been a decoupling of workers and fixed job locations (Bizzarri, 2010), even though knowledge-based, digital, and creative jobs still tend to concentrate within large urban areas (Florida, 2005).

As is well recognized, the development of information and communication technologies has massively reduced the transaction costs (McCann, 2008) associated with overcoming spaces and multi-locality, while the effects of the digital industrial revolution on the possible ubiquitousness and democratization of work, society, and urban space are highly disputed (Anderson, 2012; Isin and Ruppert, 2015). Moreover, while ICTs favor a high flexibility and hybridization of workplaces—including unusual places like libraries,

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cafes, restaurants, hotels, and airport lounges—self-employed and freelance workers still need social and professional interaction in order to reduce the risks of isolation (particularly high in home working) and to increase meeting opportunities (Johns and Gratton, 2013; Moriset, 2014).

Within this context the late 2000s witnessed a wide diffusion of innovative workplaces named coworking spaces (hereinafter CSs).[1] The first one, labeled "Hat Factory," was founded in 2005 in San Francisco by the computer engineer Brad Neuberg, and since then the growth of CSs has been exponential across the world, in parallel to the spread of the global crisis (as will be explained in the next section). CSs are regarded as potential "serendipity accelerators" designed to host creative people and entrepreneurs, who endeavor to break isolation and to find a convivial environment that may favor meetings and collaboration (Moriset, 2014). One diffused hypothesis is that sharing the same space may provide a collaborative community to those kinds of workers—such as self-employed professionals and freelancers—who otherwise would not enjoy the relational component associated with a traditional corporate office. Another is that relational and geographic proximity within these new working spaces may foster information exchange and business opportunities (Spinuzzi, 2012; Parrino, 2015). Although there has been an overenthusiastic interpretation of the growth of the creative class (Florida, 2002), the related highly individualized jobs are characterized by frequent nonstandard employment patterns (Cappelli and Keller, 2013), which offer a nomadic and precarious worklife (Gandini, 2015) in search of new forms of identification. Besides, even though there are risks related to a coworking "bubble" (Moriset, 2014), concerning their prevalent exploitation for branding, marketing, and business purposes, there are immaterial benefits of CS microclusters for freelancers and independent workers such as knowledge transfer, informal exchange, cooperation and forms of horizontal interaction with others, and business opportunities. These benefits might occur because of geographical, social, organizational, institutional, or cognitive proximity (Boschma, 2005). Accordingly, additional effects might concern the urban context: from community building and the improvement of surrounding public space, to a wider urban revitalization (from both the economic and spatial points of view).

While there has been much media attention to CSs, there has not been much attention to this phenomenon in the scientific literature, especially in the fields related to urban studies. This paper has two aims. On the one hand, the investigation of CSs location patterns allows us to understand where they locate and why; on the other, the analysis of the effects they generate on the urban context might highlight spatial effects and changes in practices (i.e., work, leisure, or culture). The focus is on Milan, that is the Italian financial and economic hub (OECD, 2006), and represents the core of the Italian knowledge-based, creative, digital, and sharing economy (Camera di Commercio di Milano, 2016),[2] thus being the city hosting the largest number of coworking spaces in Italy (MyCowo, 2014).[3] Specifically, the research questions guiding the analysis of the Milan CSs, are the following: (1) What are the main location patterns of CSs in Milan? (2) Are there any transformative effects of CSs respectively at the urban scale and at the very local? (3) What are their impacts in terms of spatial transformation and in terms of innovation in practices (for instance, work, leisure, or culture)?

The empirical analysis consists of two research activities. Desk research, carried out from Spring 2014 to Summer 2015, that investigated the location factors of all 68 Milan CSs (identified in July 2015), and field research on a selection of 20 of these CSs, which began

in Spring 2015 and ended in Summer 2016. This research explored whether and how specific urban effects were revealed. The results of the desk research showed that CSs location patterns resemble those of service industries in urban areas (i.e., urbanization and localization economies; market size and potential; skilled labor force availability and business opportunities; transportation accessibility), and the so-called "creative clusters" represent a preferential location for these new working spaces. In addition, the low costs of premises as well as some "soft" factors (i.e., personal preferences of the CSs founders) play a role. The results of the field research shed light on the urban effects, such as the participation of "co-workers"[4] in local community initiatives, the contribution of these spaces to urban revitalization trends, and the micro-scale physical transformations of these spaces.

This paper is organized by following this introduction with a literature review that discusses the emergence and diffusion of CSs in relation to a broader context, including the development of ICTs, the growing of knowledge-based, creative, digital, and sharing economy, the economic downturn, and the novel role played by the several proximity measures in fostering interactive learning and innovation. The analysis of the CSs located in Milan is then presented. One section is devoted to the adopted methodology, and to the research questions that the empirical analysis aims to answer. The data used in this analysis came from two different sources: desk research (carried out in 2014–2015) and field research (carried out in 2015–2016). Mapping and descriptive statistics allow us to present the location patterns of Milan's CSs. The research outcomes regarding the urban effects of Milan's CSs, both in terms of spaces and practices, are presented in a discussion section. While these results seem different at macro and micro scales, we conclude with policy suggestions.

The Emergence and Diffusion of the CSs Phenomenon

The growth of ICTs—such as Web 2.0, personal mobile devices, open source data, new generation printers—has been contributing to the development of knowledge-based, creative, and digital economies; that is, to the growth of the information society and the emergence of the "sharing economy." This has led to changes in the way work is done and in the places where it occurs. The related growth of knowledge of the number of creative and digital workers, as well as the consequent spread of coworking spaces and makerspaces[5] (Anderson, 2012), have produced various effects including changes to space (triggering urban regeneration), to the economy, and to society (favoring knowledge transfer, informal exchange, interaction, and collaboration). ICTs can be seen as significant drivers of spatial, economic, and social changes, and can contribute to shifting place-based mass production to global, flexible, and knowledge-based organizations (Fernández Maldonado, 2012). The challenge of the twenty-first century is the resumption of productivity (Gualart, 2012), albeit in new and more specialized forms mixing manufacturing and services, now difficult to distinguish. The recent advances in ICTs have, indeed, fostered not only transmissions of information, but also new interactions among users, with a consequent boom in shared production and consumption (Ratti and Claudel, 2015) of goods, services, ideas, skills, and time. This represents the above mentioned shift from centralized models of resource management in industrial societies (from large-scale production centers to small-scale individual consumers) to distributed models in information society (connecting people with people, objects with objects, buildings with buildings, or communities with

communities) (Guallart, 2012). In Western countries, in particular, the crisis of traditional manufacturing in the 1970s, on the one hand, and the recent and ongoing effects of the world financial crisis and global economic downturn, on the other, have stimulated the growth of innovative economies, for which ICTs are fundamental requirements (Rifkin, 2011).

Within this context, makerspaces like fabrication laboratories (Fab-Labs) transform digital data into physical objects (and *vice versa*) through their digital fabrication machines, favoring both the development of specialized productions (locally oriented) and the empowerment of users (Gershenfeld, 2012; Guallart, 2012). Besides, coworking spaces integrate knowledge, creative, and digital workers (Moriset, 2014), and their geographical proximity and non-hierarchical relationships, which are typical of collaborative communities, may generate socialization and, consequently, business opportunities (Spinuzzi, 2012). The exchange of tacit knowledge still requires face-to-face contacts, which may be frequent in the case of co-location (as it happens in CSs), or episodic by bringing people together through travel now and then (McCann, 2008). While codified knowledge can be exchanged at a distance, tacit knowledge (that includes social and cultural components) requires an intimate trust between participants, achievable only through close and direct contact among individuals (Moriset, 2014). Besides, "face-to-face contacts support serendipitous knowledge, and most importantly, stimulate and strengthen other forms of proximity pivotal in enabling knowledge exchange within organizations" (Parrino, 2015: 3). The Evolutionary Economic Geography framework (Boschma, 2005) has highlighted, indeed, that the impact of geographical proximity on interactive learning and innovation should always be examined in relation to other dimensions of proximity itself (i.e., organizational and cognitive). "The need for geographical proximity is rather weak when there is a clear division of precise tasks that are coordinated by a strong central authority (organizational proximity), and the partners share the same cognitive experience (cognitive proximity)" (Boschma, 2005: 69). Nevertheless, "geographical proximity may play a complementary role in building and strengthening social, organizational, institutional, and cognitive proximity" (Boschma, 2005: 70).

While telecenters, business centers, and incubators often provide coworking spaces, and although there is increasing flexibility and hybridization of workplaces and work practices, real CSs should be totally dedicated to coworking activities by offering openness, collaboration, accessibility, and community (Moriset, 2014). It means that coworking should be first "an atmosphere, a spirit, and even a lifestyle" (Moriset, 2014: 7), and that coworkers should not be just (often precarious) professionals, but professionals aiming at increasing their business through the nurturing of social relations, as well as the establishment of temporary partnerships and collaborations (Spinuzzi, 2012). CSs should not only be characterized by an open-source approach to working (Lange, 2011), but by a new type of employment and organization, based on the value production's socialization (Gandini, 2015). A CS should, therefore, be considered as a "relational milieu" (Gandini, 2015: 200), which may be able to provide the necessary physical and relational intermediation to networking activities (Capdevila, 2013) required by (self-employed and freelance) knowledge, creative, and digital workers. On the one hand, this may allow the increase of their personal reputations, which differ from the old ways of job access, such as family ties (Colleoni and Ardvisson, 2014); on the other hand, this may allow the improvement of their social interactions and market positions (Gandini, 2015).

The growth of CSs in the last few years has been exponential across the world. Their annual increase was nearly 100 percent between 2007 and 2012, while Deskwanted[6]—a global network of coworking spaces and shared offices—reported nearly 2,500 CSs worldwide in 2013 and 7,800 CSs worldwide in 2015 (Foertsch, 2015), the outlook being a figure around 10,000 CSs worldwide by the end of 2016 (Foertsch, 2016). The development of coworking spaces has been particularly intense during and after the breaking out of the global crisis in 2008, beginning in dynamic cities such as Boston, San Francisco, and New York City in the United States, as well as Amsterdam, Barcelona, Berlin, London, and Paris in the European Union.[7] Therefore, CSs are located all over the world, with a prevalence for creative cities of advanced economies, characterized by high urban liveliness, vibrancy, and cosmopolitan milieu, attractive for knowledge, creative, and digital workers (Moriset, 2014). Cities are the focal points of innovation, the place where co-locating firms enjoy the presence of other creative companies, specialized in different industries and cross-fertilizing ideas through formal and informal exchange of information (Caragliu et al., 2016; Van Winden and Carvalho, 2016).

That growth was especially noticeable in South European countries, in which the property value collapse created a strong economic downturn. In this context, the growth of CSs seems related, on the one hand, to the need to reduce unemployment and, on the other, to the post-crisis availability of cheap office spaces (Moriset, 2014). However, most CSs (nearly 60 percent) are still not profitable. Generally, the most profitable are the largest ones, but the rescaling of existing coworking spaces is not always possible, and they often survive thanks to additional resources (such as public subsidies, service sales, or large firm sponsorships) (Foertsch, 2011; Coiffard, 2012).

Both as far as workers' welfare is concerned, and in terms of positive externalities on the urban environment, it is not possible to consider the effects of CSs as obvious and risk-free. Looking beyond the rhetoric of openness and cooperation, there are several issues concerning workers that are worthy of further investigation. First, there is the risk that such spaces become only a remedy to the precariousness and low profitability inherent in knowledge, creative, and digital production (Moriset, 2014), rather than places of real innovation and elaboration of new models of shared production. Precariousness and low profitability are very high for knowledge, creative, and digital workers (Gill and Pratt, 2008; Pratt, 2008; Grugulis and Stoyanova, 2011), and they question overenthusiasm about the creative class development (Florida, 2002). Consequently, observers have recently labeled these professionals as "lone eagles" (Moriset, 2014) because they are still not represented politically. Second, CSs risk becoming closed enclaves for an elite of high-skilled workers, rather than open opportunities for urban development, able to socialize the effects of these new models of production. Moreover, CSs intercept a loose work modality that is located between collaboration and cooperation on the one hand (in order to survive in a difficult working environment), and competition on the other (between small businesses which operate in similar specialization fields) (Gandini, 2015). As far as the urban environment is concerned, several doubts challenge the research activities. CSs risk being spaces that are insulated and cut off from the social and spatial contexts in which they are located instead of becoming spaces that could spark urban regeneration and community rebuilding. It becomes interesting, particularly from a policy perspective, to understand under which conditions this may happen.

Although CSs are well covered by media, scientific literature is rather scant, and up to now no evidence has been provided (at least to our knowledge) about the location patterns of CSs, nor about their effects on the urban context at different scales (i.e., urban revitalization, improvement of surrounding public space, community building at the neighborhood and the city levels). This gap in literature may be associated with the general rhetoric in favor of the CSs, originating from the assumption that these new working places are innovative and have a transformative potential *per se*, without any consideration about the direction of such transformations, and about their ultimate effects on the urban realm and on local communities.

Scholars who have studied CSs mainly belong to sociology, anthropology, geography, business and management, and economics. Specifically, sociologists and anthropologists investigate the impact of these collective working spaces on the coworkers' careers and work life, the innovative role these spaces have within labor policies, as well as the role of proximity in knowledge exchange (Jones et al., 2009; Colleoni and Ardwisson, 2014; Gandini, 2015; Parrino, 2015). Geographers analyze the phenomenon looking at its patterns, and at the role of public policies subsidizing them (Moriset, 2014). Scholars in business and management investigate the knowledge dynamics that take place in localized emerging communities in CSs; that is, on individual and inter-person environmental experience, as well as on job characteristics (Capdevila, 2013). Finally, scholars in economics focus on the coworkers' economic performance by comparing them to single self-employed professionals and freelancers, or to small firms (Deijl, 2014). However, until now investigating this phenomenon from the perspective of urban planning and design has been done infrequently.

Coworking Spaces in Milan: Methodology and Research Questions

The present paper analyzes 68 CSs located in Milan as of July 2015 that were identified by the authors on the basis of the following definition: "Coworking spaces are shared workspaces utilized by different sorts of knowledge professionals, mostly freelancers, working in various degrees of specialization in the vast domain of the knowledge industry" (Gandini, 2015: 194). We identified Milan's 68 CSs from a list of coworking spaces generated by the Milan City Council in 2013, supplemented by press reviews and websites.

From a methodological point of view, two parallel research activities—that shared sources, contacts, data, and information—were carried out. The first mainly aimed at understanding the characteristics and location determinants of CSs, while the second was mainly oriented to identifying their effects on the urban context. The first consisted of desk research, carried out from spring 2014 to summer 2015, based on the collection of primary and secondary data[8] about (1) CSs characteristics (i.e., location, sector, size) and (2) the CSs urban context at the neighborhood scale, to better understand their location factors. The main location patterns of these new working spaces were investigated through mapping and descriptive statistics. This analysis allowed us to speculate on the urban effects of CSs, which were investigated in the second analysis.

Information about the Milan neighborhoods was taken from the database about the 88 NIL (that is, the *Nuclei di Identità Locale* or Local Identity Units), in which the Milan municipal area is articulated.[9] This database provides interesting information on the NIL characteristics such as: size, density, employment, number of research centers and universities, population composition (i.e., age, classes, and nationality). Additional

information on accessibility to public transport, provided by the local public transport company (ATM),[10] was also added (Mariotti et al., 2015a).

The second analysis was based on field research that began in spring 2015 and ended in summer 2016. In this part of our research, we collected and analyzed press releases websites and made on-site visits to a selection of 20 representative CSs located in different parts of the city. During these visits, we conducted in-depth, semi-structured interviews with the managers of the facilities. The visits included an analysis of the urban environment surrounding these CSs, the typology and the original function of the buildings in which they are located, an appraisal of the internal structure (i.e., open spaces, office-rooms, facilities for leisure time), an evaluation of the degree of physical openness or closure of each CS (visibility from the street), combined with an investigation about the career path, motivation, and actual engagement of CSs managers.

The analysis concentrated on managers because the aim was to understand the original intentions and motivations leading them to open up a coworking space (i.e., the downsizing of their previous activity, a change in career path, the discovery of this new model of workspace during visits in other cities), their choices in terms of selection (if any) of coworkers by sector or other criteria, the reasons behind localization choices (matching the results of the desk research). The focus on CSs managers allowed us to get information about their personal experiences and goals, considerations about the relationships they have with the local contexts, and their perception on the effects of the CS they manage on the urban area. The analysis of the urban effects of these CSs was based on the investigation of (1) their transformative effects, respectively at the very local scale and at the urban one, and (2) their impacts in terms of spatial effects and practices.

Therefore, the entire empirical analysis—made by these two research activities—had the aim of answering the following research questions: (1) What are the main location patterns of CSs in Milan? (2) Are there any transformative effects of CSs, respectively at the urban scale and at the very local one? (3) What are their impacts in terms of spatial effects and in terms of innovations in practices (for instance, work, leisure, or culture)?

Location Patterns

In Italy, CSs are mainly concentrated in regions with large urban areas (i.e., Lombardy, Veneto, Emilia Romagna, Lazio, Tuscany, and Piedmont), and specifically in the largest cities, even though notable exceptions exist in rural and less dense areas. In this context, Milan attracted CSs (Pais, 2012) because it is an urban area characterized by the most dynamic socioeconomic and spatial systems of the country (Pasqui, 2015), particularly within the sector of creative industries (Bruzzese and Tamini, 2014).

Three of the city's main characteristics that favor the proliferation of CSs are:

(1) Milan has a long tradition as a "self-governing city," a city in which the role of private actors (both profit and non-profit), as well as of higher education and cultural institutions has always been as important as that of Local Authorities in setting the urban agenda and in implementing urban projects (Balducci, 2003; Balducci et al., 2011; Galimberti, 2013)
(2) Milan shows, at the same time, an increasing trend in the demand and supply of economic and social innovation (Comune di Milano, Fondazione Brodolini, 2016)

(3) Milan has strongly reacted to the current economic downturn by exploiting its traditional economic and social strengths (such as its high levels of entrepreneurial activity and its social cooperation), and by integrating them with both ICT innovations and the related growth of the sharing economy and society (Centro Studi PIM, 2016). This has been accomplished through the (mainly spontaneous) rise of collective organizational alternatives to traditional workplaces (Colleoni and Arvidsson, 2014) where new activities are promoted by sharing spaces, exchanging expertise and, consequently, reducing costs.

For the first point, this context has also strongly influenced the private sector, in particular as far as bottom-up initiatives are concerned: in many cases, there is a blurred boundary between profit and non-profit activities, in particular in social and cultural sectors, and CSs seems to be a good example of this. The second and third characteristics are strictly linked to the innovation culture of the city. That culture promotes knowledge exchange with local universities; cooperation among local firms investing in innovation; and support for specific local policies promoted by the City Council.[11] Specifically, beginning with the 2011–2016 Municipal Administration, the City Council assigned public abandoned spaces to private initiatives aimed at developing innovative working places, and it provided economic subsidies for both coworking spaces and makerspaces.[12] Since 2013 economic incentives have been made available to support the activities of coworkers and to improve the spatial quality of coworking spaces registered in a list defined in relation to specifically established requirements (Morandi and Di Vita, 2015).

The rise of coworking spaces in Milan is recent. The first one was opened in 2006, with their "boom years" occurring in 2012, 2013, and 2014 (See Figure 1); in July 2015, 68 CSs were identified in Milan. As mapping showed, they are mainly agglomerated in the northern part of the city (Viale Monza, Isola-Sarpi, and Lambrate-Città Studi, which host about 67 percent of CSs), followed by central districts (Brera-Centrale-Porta Venezia, with 20 percent), and by south-western neighborhoods (Tortona-Navigli, with the remaining 13 percent) (See Figures 2 and 3). According to the articulation of the Milan municipal area into 88 NIL, the desk research allowed us to recognize that the main agglomerations in the north concern the Local Identity Units characterized by good local public transport accessibility, high urban density (in terms of inhabitants and firms) and functional mix, and proximity to universities and research centers (Mariotti et al., 2015a).

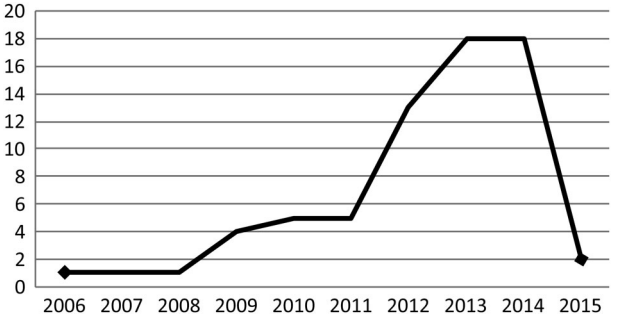

Figure 1. The number of new coworking spaces opened in Milan each year Source: elaboration by the authors.

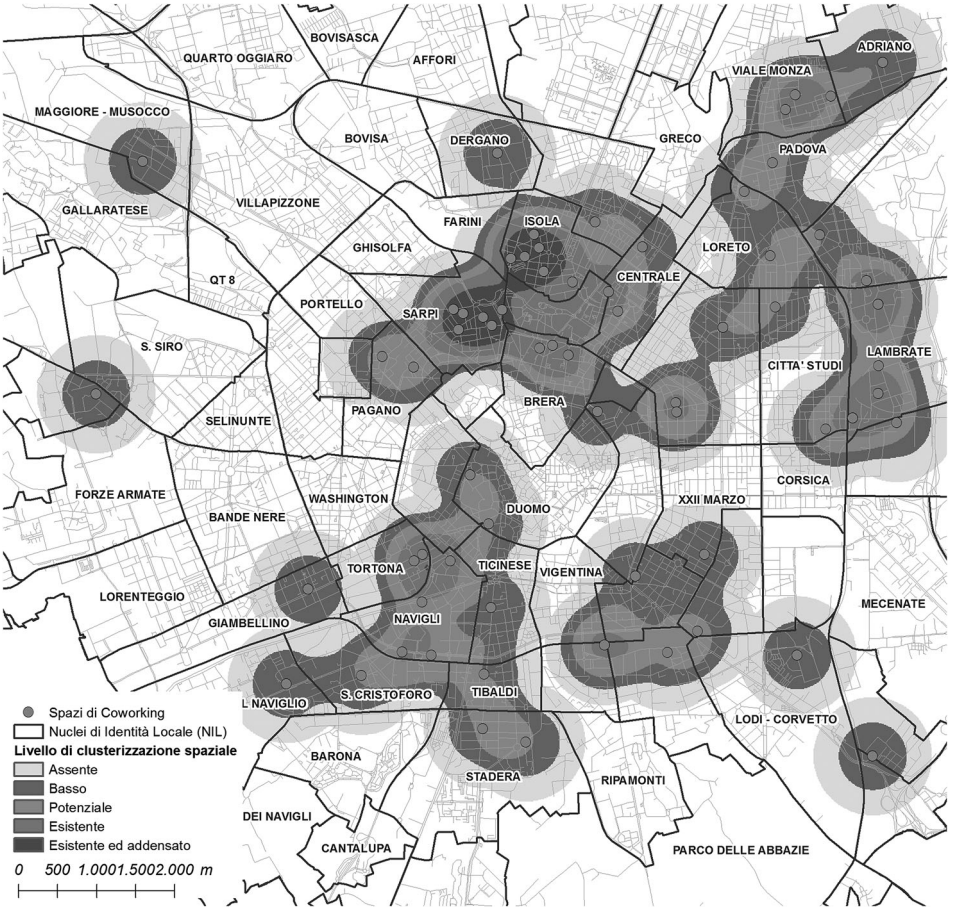

Figure 2. The density of coworking spaces in Milan (at July 2015) Source: Mariotti et al (2015a), p. 46.

Specifically, the first research activity compared the NIL hosting at least one CS with those not hosting any (See Table 1). This observation demonstrated that the location patterns of Milan CSs can be assimilated to the main location determinants of service industries in urban areas:

(1) the high density of business activities, that is a proxy of urbanization and localization economies, as well as market size and potential
(2) the proximity to universities and research centers, that is a proxy for a skilled labor force's availability and business opportunities
(3) the presence of a good local public transport network, that is a proxy of the degree of accessibility (Mariotti et al., 2015a, 2015b).

The comparison showed by Table 1 highlights that, on average, CSs choose areas at a larger distance from the center of the city, as it is proxied by the location of the Milan Cathedral,[13] to gain from lower costs of premises and higher availability rate of office spaces. Accordingly, they are located in neighborhoods where the number of immigrants is, on average, higher. Specifically, since high is the correlation between the availability of

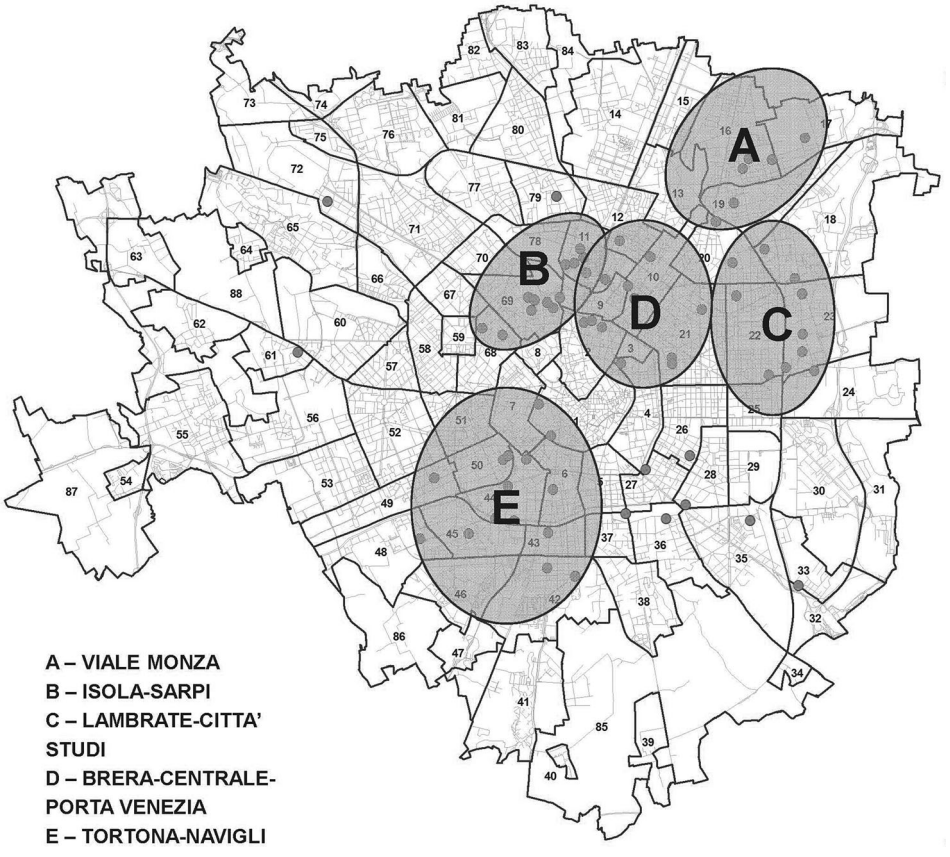

Figure 3. The main urban agglomerations of coworking spaces in Milan (in July 2015) Source: elaboration by the authors.

Table 1. NIL characteristics and their attractiveness towards CSs

		NIL not hosting CSs			
Variable	Obs	Mean	Std. Dev.	Min	Max
CS	52	0	0	0	0
Urban density	52	6,491.363	5,983.118	6.377086	26,745.17
Jobs_2010	52	4,534.558	5,594.971	50	29,661
Uni_Research	52	0.403846	0.495455	0	1
Undergr_stops	52	0.711539	1.303638	0	5
LTP Accessibility	52	15.40385	16.98126	0	70
Distance from the Cathedral	52	3,832.361	1,784.915	520.0705	7,101.86
Foreign Population	52	2,206.038	2,617.346	0	12,721
Design week	52	0	0	0	0
NIL hosting CSs					
	Obs	Mean	Std. Dev.	Min	Max
CS	36	1.888889	1.389302	1	6
Urban density	36	11,786.98	5,743.859	337.6837	25,340.97
Jobs_2010	36	14,735.75	15,699.58	3,308	8,8291
Uni_Research	36	0.555556	0.503953	0	1
Undergr_stops	36	1.555556	1.747561	0	6
LTP Accessibility	36	29.52778	23.86089	0	100
Distance from the Cathedral	36	6,231.726	2,075.058	2,474.611	10,417.64
Foreign Population	36	4,153.444	3,395.069	309	15,708
Design week	36	0.222222	0.421637	0	1

Source: Elaboration by the authors on Mariotti et al. (2015a). Description of the variables is presented in the Appendix, Table A1.

vacant buildings, low real estate prices, and distance to the center, large-sized CSs (i.e., Avanzi-BarraA, Login, Monkey Business, Otto Film, or Talent Garden) are housed in former industrial and/or commercial buildings in peripheral areas (i.e., Viale Monza and Lambrate-Città Studi agglomerations). In contrast, the majority of CSs located in Milan-central districts (Brera-Centrale-Porta Venezia) are small sized and result from the "reconversion" of already existing professional spaces into shared workplaces (Parrino, 2015). Besides, all the NILs participating in the well known Milan Design Week[14] host at least one CS, thus highlighting a correlation between these new working spaces and the main creative urban districts (Bruzzese, 2015; Van Winden and Carvalho, 2016).

The location factors presented by these descriptive statistics have also been confirmed by the majority of the coworking managers who were interviewed during field research. "We wanted to buy a loft in order to enjoy more freedom in our organization, and this area was relatively cheap in 2011" (CS Manager 2). "The only consideration attached to the choice of the area was the accessibility to public transit" (CS Manager 1). Or "we first looked for a location near Bocconi University, which we thought could be a good source of people looking for a shared space, but we encountered some difficulties" (CS Manager 6). Nevertheless, it cannot be denied that the location of CSs within the Milan urban fabric may also be related to "softer" location factors: for instance, the personal preferences of the CSs founders, as well as of the coworkers, for that specific neighborhood, as underlined by the interviews of managers of coworking spaces.

In addition, this in-depth analysis of the 68 Milan CSs showed that about half of them are specialized in a specific sector, or branch of sectors, which may imply or not a selection of coworkers. The main sectors are: architecture and design (18 percent), digital professions[15] (10 percent), communication and information technology (8 percent, respectively), social innovation (5 percent) and other sectors (3 percent). Specifically, the CSs located in "creative neighborhoods" (such as the ones hosting exhibitions during Milan Design Week) (Bruzzese, 2015), focus on a specific activity. For instance, the CSs located in the Isola-Sarpi area are mainly specialized in the media sector, while the CSs located in the Tortona-Navigli area—that is, one of the most important Design Week districts—are mainly oriented to architects and designers. As stressed by the literature, the activities relying on symbolic knowledge (artistic and aesthetic) tend to prefer lively urban atmospheres (Asheim and Hansen, 2009; Van Winden and Carvalho, 2016) and, specifically, environments with a distinct and urban identity (Florida, 2008), like the Tortona-Navigli and Isola-Sarpi areas.

Urban Effects

As was mentioned earlier, one of the least investigated aspects of the diffusion of coworking spaces in contemporary cities is their urban effect, that is, the ability they may or may not have to positively affect the actual contexts in which they are located, in terms of community building (not just within the workspaces), improvement of surrounding public space, and ultimately urban revitalization. As the success of CSs cannot be taken for granted—there are high risks in the knowledge-based, creative, and digital economy (Gandini, 2015)—their growth potentials remain unknown (Moriset, 2014). The benefits of proximity in enhancing the diffusion of tacit knowledge within CSs cannot be

automatically transposed at the neighborhood nor at the urban scale, but specific urban effects should be investigated.

It is quite difficult to derive specific criteria for this analysis from the literature on digital economies and the city, or on the relationships between the cultural economy and urban spaces (Pratt, 2011; Scott, 2014), because both literatures adopt a much wider perspective. However, we can certainly focus attention on the different scales at which phenomena manifest themselves, and to the core connection between spatial contexts and evolving practices (i.e., work, leisure, or culture). Moreover, from a methodological point of view, it is not easy to isolate the specific effects of CSs from the complex effects and externalities of other different uses and functions, especially in very dense areas as in the Milan CSs agglomerations, which have already been characterized by urban regeneration processes. Some emerging effects, however, have been identified, starting from those more frequently mentioned by the 20 interviewed coworking managers.

In order to critically interpret the role played by Milan CSs in the city (today and looking towards the future), and their transformative potentials, we used two interpretative axes: (1) one that moves from the very local to the urban scale; (2) the other one that distinguishes spaces and practices. From the on-site visits and the interviews, three typologies of CSs emerge as characteristic of the Milan case: (1) large, complex and (in some cases) hybrid spaces, hosting many seats as well as other facilities open to the internal and/or external community; (2) small, "office-like" CSs, offering just a few seats, often as a result of the downsizing of previous tertiary activities in professional fields (i.e., architecture, graphic design, accounting); (3) more mixed spaces in terms of both original intentions and dimensions.

While traditionally workspaces used to be closed, exclusive, detached from the urban environment, and in some cases utterly invisible, CSs (and, more in general, working spaces in the knowledge-based, creative, and digital economy) usually aim at being visible, transparent, showing what happens inside (Pacchi, 2015). Moreover, in the Milan case, an inherent tension remains: some CSs, notably the smaller and more "office-like" ones, are closed, secluded from other spaces, because they are devoted to a specific activity, and are sometimes invisible. However, larger CSs are more innovative, and they are more open to interactions with the urban context, both physically and in terms of uses, thus becoming more visible. While in the first case, the benefits of proximity tend, therefore, to remain limited to what happens inside the workspace, in the second case proximity dynamics can have spillover effects. Indeed, larger CSs—mainly settled in the north of the city in former productive or commercial buildings—are usually able to offer several facilities both to their coworkers (from meeting rooms to places of aggregation, such as kitchens, spaces to relax, or gardens) and to external users (e.g., cafés and restaurants), and they often organize events (e.g., meetings, exhibitions, seminars, or training courses) open to the outside community.[16]

Using the analysis of Milan CSs as an example, we identified four different quadrants for the inquiry (See Table 2). The first two quadrants concern spatial transformations and changes in practices of use at the urban scale; the remaining two refer to the same transformations and changes at the local scale. Even though the division between spaces and practices tends to be blurred at the phenomenological level (as empirical reality is complex and nuanced), it does, however, have an analytical value. On the basis of this field research, and thanks to the contribution provided by the desk research, the

Table 2. Synthesis of urban and local effects produced by CSs on urban spaces and practices

Scale/ Domain	Spaces	Practices
Urban	- Confirmation of central district attractiveness - Development of spontaneous aggregation in districts already devoted to creative and cultural industries, or previously characterized by workshops and handcrafts	- Contribution to the development of innovative services, mainly devoted to urban communities of freelancers and knowledge/ creative/digital workers
Local	- Episodic transformations in the public space (temporary/installations or permanent/new equipment)	- Extension of daily and weekly cycles of use (i.e., evening and night activities, weekend activities) - Episodic participation in the strengthening of community ties (i.e., Social Streets) - Revitalization of existing retail and commercial activities - Strengthening mini-clusters of creative and cultural productions

Source: elaboration by the authors.

interpretation of the Milan CSs effects according to these quadrants is presented in the remaining part of this Section. On the one hand, one part of the interviews of the CSs managers was aimed at understanding which are the relationships between their CSs and the surrounding area, if there had been on their part explicit actions to strengthen these relationships and to root their space into the neighborhood, or if they detected any positive externality; the focus here being specifically on the importance of physical and social relations at the very local level. On the other hand, the effects at the urban scale are more derived from the interpretation of mapping and the location analysis, together with press releases and secondary materials on the evolution of CSs in Milan in general.

As far as the urban scale is concerned, the CSs main spatial effects are recognized in:

- the confirmation of the attractiveness of traditional and central commercial, business, and gentrified districts, such as in the case of the Brera-Centrale-Porta Venezia CSs agglomeration
- the development of spontaneous agglomerations formed by CSs and other innovative workplaces (such as makerspaces) in neighborhoods already devoted to creative and cultural industries; this is the case of the Isola-Sarpi, Lambrate-Città Studi, and Tortona-Navigli areas, which have been characterized by the diffusion and infill of these new uses during the last 10 to 15 years (Bruzzese and Tamini, 2014; Bruzzese, 2015)
- the development of spontaneous agglomerations of CSs and other innovative workplaces in areas of the city previously characterized by abandon and the presence of empty buildings formerly hosting workshops and handcrafts, as in Viale Monza area.

At the same urban scale, the main practices' effects of the Milan CSs are identified in their contribution to the development of innovative city services (such as the organization of dedicated events, or the growth of local, national, and international CS networks), which are mainly devoted to urban communities of—self-employed and freelance—

knowledge, creative, and digital workers. Events and services contribute to the increase of the traditional Milan attractiveness for local and international new workers. Periodic events such as the Italian and European Coworking Conferences (both held in Milan in 2015) or the Sharitaly Conference on the sharing economy (yearly held in Milan since 2013) show this trend.

While at the urban scale the Milan CSs effects are clearer, at the local level they are still partially uncertain, or difficult to be specifically identified within the complexity of other spatial and socioeconomic dynamics.

From the spatial point of view, they can be read in the episodic transformation of the public space, caused in individual cases: for instance, new urban equipment, space to rest or for leisure, art and cultural installations. This type of micro-urban transformation can be linked to the presence of new urban populations in the involved areas, triggered in turn by a new type of cultural and creative offer (such as readings, workshop, concerts, art performances, and exhibitions) hosted in the larger CSs, which are more articulated in terms of functions and services. This is the case of Login, and Talent Garden in the Lambrate-Città Studi and Viale Monza areas, and of Impact Hub in the Isola-Sarpi area. Such physical change can be permanent, but more frequently it is temporary, linked to the hosting of specific events: for instance, exhibitions connected to the already mentioned Milan Design Week. By the way, this may be an evolving situation, which may lead to projects designed to be temporary and becoming permanent, if the conditions for their use persist over time: "Since we frequently host events targeted at urban bikers, we asked the Municipality to have bicycle stands installed in front of our CS, but we did not succeed yet" (CS Manager 12).

Milan CSs can also modify the daily and weekly cycles of use within the districts they are located: for instance, sponsoring evening and night activities or weekend events in neighborhoods traditionally deprived of such occasions, such as the Viale Monza area, but in which temporary installations (like movable trolleys carrying "micro public spaces") are proposed. In the same area, the CS called *Unità di Produzione* temporarily offers a room to host visitors (which is also available on Airbnb). A different effect is then connected to the opportunity CSs may seize to contribute and participate in the strengthening of community ties at the neighborhood level. Finally, other local effects range from traditional services (such as forms of revitalization of existing retail and commercial activities, bars, and cafés), to more innovative ones, catering to the different populations who start using the area. On the one hand, the largest CSs (such as Login or Talent Garden in the Viale Monza area) have business discount schemes for coworkers in neighborhood shops and services. As one CS manager puts it, "this space contributes to the economic regeneration of the neighborhood, as far as cafes and restaurants are concerned" (CS Manager 4). On the other hand, as anticipated, larger and (in some cases) hybrid CSs—hosting, at the same time, coworking spaces, conference rooms, facilities for sports and leisure—are characterized by both more organized community-building activities inside, and networking with similar spaces in their neighborhood, thus strengthening mini-clusters of creative and cultural production. "Since we are here, the neighborhood is fast-changing: new CSs, makerspaces and a new type of retail are emerging, and this is creating a more interesting environment" (CS Manager 2).

Conclusions and Policy Implications

From the literature review and the empirical analysis, it is possible to come back to the research questions and to use them for further discussion.

In order to reflect upon the Milan case, we need to put it in perspective, reading the local and specific features of CSs diffusion in the city against a wider background. The Milan coworking spaces—which are mainly based on bottom-up initiatives (profit and non-profit), excluding (at least until 2016) direct investments of large corporate actors or public authorities—have rapidly become a recognizable system of places within the specific cultural and socioeconomic dynamics of the city. However, it is too early to assess whether this grassroots and small-scale dimension will be the characterizing element of the Milan CSs in the future, or if this trend will change as the phenomenon grows and becomes mainstream. Anyway, this current dynamic seems to be context-specific, since in other cities and countries large multinational companies (mainly high-tech such as Google and Microsoft), real estate developers, and national ICT companies have already been investing in CSs to improve their public profile and to experiment with open innovation, by infiltrating local entrepreneurial ecosystems in order to better feel market needs and monitor bottom up innovations (Moriset, 2014).

However, also in Milan larger CSs, promoted by more structured firms, have recently opened. One, CS *Copernico 38*, located in a big private building (near the CBD), that in the past was rented by the headquarters of regional public companies, was recently transformed to host 1,200 coworkers. Another space, *Talent Garden Calabiana*, located in the southeast urban regeneration area of Porta Romana has been recently transformed into an innovative and hybrid workspace, including not only a CS, but also a fab-lab. An operation promoted in cooperation with *The FabLab* by *Talent Garden*, an Italian CS company that is growing (more than others) throughout and outside the country, by opening up innovative workplaces in different cities.[17]

Also, the public incentives, which in Milan are relevant in comparison with other Italian cities, are still weak in comparison with other European countries. For instance, the Municipality funds to sustain coworkers and coworking spaces amount to €500,000 (Morandi and DiVita, 2015), while in Paris the only incubator, NUMA (which includes a CS) is supported by larger (both private and public) funds: €1 million from Google, €1 million from Orange, and €1.6 million from Région Ile de France (Moriset, 2014).

The empirical analysis allowed us to identify the multiple factors of CSs' localization and different types and scales of urban effects. Since Milan CSs specialize in services, their location determinants are: urbanization and localization economies, market size and potential, skilled labor force availability and business opportunities, and transportation accessibility. Moreover, additional factors play a role such as low real estate prices, former industrial buildings' availability, and "personal" considerations. Besides, CSs prefer to locate in "creative clusters" probably due to their lively atmosphere, and urban identity.

The face-to-face interviews of 20 CSs managers, together with the collection and analysis of press releases and websites, allowed us to detect different effects in terms of the ability to actually generate transformations at the urban and local scale. Specifically, the effects produced by CSs in their urban context are clearer at the urban scale than at the

local scale. The ability of these innovative spaces to influence their neighborhoods and the city rests on their attracting new urban populations to those areas and then having socio-economic and micro-regeneration effects. It is still too early to analyze the spatial effects of these workspaces. Among the reasons why this is so is the longer time frame needed for spatial transformation and the tendency of CSs to recreate forms of public or common space inside their premises, rather than outside. The frequent cultural events that they host, their openness towards different users (not only self-employers and freelancers, but also students), their mix of working and leisure activities all call for the development of hybrid, innovative, but rather self-contained spaces. Therefore, this Milan CSs analysis shows that ICTs have been really affecting people's lives and jobs, but the actual relations between innovative technologies and new urban forms are still weak. That is, it seems to prove that, if the Internet has changed our lives, it has not yet changed our cities (Guallart, 2012).

The results of the present paper lead us to a final reflection about the possible role of local policies in strengthening the current trend towards more inclusive and shared workspaces, but also in socializing and diffusing their potentially positive effects at both the urban and the neighborhood levels. Even in the face of criticism about public policies supporting self-employment and freelance work—because of their high risks of low paying, short-tenured jobs, low value-added per worker, and little innovation capability (Moriset, 2014)—it is not possible to neglect their post-crisis potentialities. Without ignoring the risks of this phenomenon—such as the precariousness of knowledge, creative, and digital workers, the CSs low profitability, or the real estate speculation on this new brand—planners and policymakers of the new Milan Municipal Administration (2016–2021) should take strongly into account the general and specific features of the local CSs system. After the cycle of public policies promoted by the previous City Administration (2011–2016), different, but potentially integrated, strategies should be developed in order to promote a stronger and more resilient innovation environment:

- by emphasizing the bottom-up approach in the growth of Milan CSs
- by increasing public support through more coordinated, systematic, and strategically oriented public policies, for instance targeting innovative business models and the integration of a business and a local cooperation dimension, not only at the urban level, but also at the metropolitan one
- by involving funds provided by national-based big firms in order to obtain mutual benefits: for the support and development of local CSs and for the consolidation of market appeal and innovation capability of local-based big companies.

As far as the urban aspects are concerned, local policies should also facilitate stronger forms of interaction and hybridization between CSs and other initiatives in the field of culture and creativity on the one hand, and of social innovation on the other. These interventions should not be based on incentives, but rather on the strengthening of existing networks and on the creation of exchange platforms, aimed both at diffusing the possible cross-sectoral effects of the new forms of production and at lowering their risks of isolation and further social segregation. Opening up opportunities for temporary uses of new typologies of workspaces and putting them in contact with different urban populations may

effectively result in a stronger and more resilient environment of innovation. For these reasons, the analysis of the effects of new working places on the urban context needs to be further explored.

Notes

1. Coworking spaces are innovative workplaces where independent (and frequently precarious) knowledge-based, creative, and digital workers––mainly freelancers or self-employed professionals––share their work spaces. They rent a desk (for months, days, or even just hours) in return for different kinds of services: both traditional (such as, for instance, administrative offices, meeting rooms, or spaces of aggregation) and digital (such as, for instance, wifi connections, or printers).
2. As an example, from January 2015 to February 2016, innovative start ups––characterized by high levels of technology and mainly operating in the fields of advanced services (information and communication; professional, scientific and technical activities; services for firms) grew by +61.5 percent in Italy and by +65.7 percent in Milan. This is an impressive phenomenon, even though the numbers are still small. Furthermore, within the Italian national context, Milan is the city with the highest concentration of innovative start ups (779), above Rome (450), and Turin (260) (Camera di Commercio di Milano, 2016).
3. Of the 285 coworking spaces in Italy in 2014, 190 are located in the Northern part of the country, 55 in the Central region, and 40 in the South. Within the Italian national context, Milan is the city with the highest concentration of these innovative workplaces (59), followed by Rome (23), and Turin (16) (MyCowo, 2014).
4. For our purposes, we define a "co-worker" as a person (one-person company or employee) working in a coworking space.
5. While coworking spaces are places where freelance workers share their working spaces and benefit from a collaborative working environment, makerspaces are dedicated to sharing the material production of objects. Therefore, they can be defined as places in which people meet to produce things in different domains. Among makerspaces, in the last few years there has been a growing diffusion of FabLabs, which follow the model of the MIT Fabrication Laboratory: they are places devoted to digital fabrication and experimentation. The relevance of making, as a new attitude towards fabrication, has been the object of extensive investigation (Anderson, 2012).
6. Website: www.deskwanted.wordpress.com.
7. Source: Deskwanted (www.deskwanted.wordpress.com).
8. Specific information about the CSs was also collected through telephone calls to CSs managers.
9. The 2012 Milan Urban Plan introduced an articulation of the municipal area into 88 NIL (that is, *Nuclei di Identità Locale* or *Local Identity Units*), which try to correspond to city neighborhoods.
10. ATM stands for *Azienda Trasporti Milanesi*.
11. The Sector *Economic Innovation, Smart City and University* of the City Council approved the *Milan Smart City Guidelines* and the *Milan Sharing City Guidelines*, which highlight the importance of ICTs as engines of urban change, and the meaning of cooperation and sharing economy for future urban development. On the one hand, by mixing and modifying traditional habits of producers and consumers of goods and services; on the other, by producing innovations in terms of economic growth, social inclusion, education and training, technological development, and spatial regeneration (Morandi and Di Vita, 2015).
12. At the same time, the Milan City Council has directly invested in incubators such as, in chronological order, *PoliHub, Alimenta, SpeedMiUp, FabriQ, Base, MHUMA*, and the future *Smart City Lab*.
13. As the Milan urban fabric is strongly radiocentric, with the Cathedral in its geographical center, this monument represents the very spatial heart of the city and, accordingly to the

urban functions located in its surroundings; its district also represents the main centrality of local cultural, economic, and social activities.

14. Design Week is a temporary fringe event taking place every year since the early 1990s within several Milan neighborhoods during the Design Exhibition hosted by the Milan Trade Fair.
15. This sector comprises community managers, social media content producers, and branding consultants (Gandini, 2015).
16. This information comes from both our desk research and field research.
17. Up to now, in Bergamo, Brescia, Cosenza, Genoa, Milan (via Calabiana and via Merano), Padua, Pisa, Pordenone, Rome, Sarzana, and Turin, as well as in Barcelona (Spain), Bucharest (Romania), Kaunas (Lithuania), and Tirana (Albania) (www.talentgarden.org).

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No potential conflict of interest was reported by the authors.

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Appendix

Table A1. Descriptions of variables

Variable	Description	Source
CSs	Number of coworking spaces located in Milan at July 2015	Authors' elaboration on various sources and field research
Urban density	Population per square km	2012 Milan Urban Plan
Jobs_2010	Number of employees in 2010	2012 Milan Urban Plan
Uni_Research	Number of universities and research centres	2012 Milan Urban Plan
Undergr_stops	Number of stops of the Milan underground lines	Local Public transport company (ATM)
Local Public Transport (LPT) accessibility	The number of the main public transport lines, excluding the underground	Local Public transport company (ATM)
Distance from the Cathedral	Distance from the Milan Cathedral in metres	Authors' elaboration
Foreign Population	Number of foreigners residing in the NIL	2012 Milan Urban Plan
Design week	Number of NIL hosting events during the Design Week	Authors' elaboration on various sources