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New Workplaces—Location Patterns, Urban Effects and Development Trajectories

A Worldwide Investigation

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Foreword

The research on new shared workplaces has progressed since its beginnings. About a decade ago, the first research studies focused on defining these new workplaces, to determine what was new about them compared to traditional offices and classic ways of spatially organizing work. This initial trend helped to define the characteristics of those new spaces, by creating typologies and classifications derived from the different denominations (coworking spaces, makerspaces, hackerspaces, fab labs, living labs, etc.) and the collaborative activities. Another research trend consisted in the study of the internal dynamics within the spaces, by considering important aspects like the effects of social interaction, colocation and shared trust in the development of innovation, collective learning, or the emergence of a sense of community. Many of these works considered the level of analysis of the space and its community of members.

This book, edited by Ilaria Mariotti, Stefano Di Vita, and Mina Akhavan, represents an important advancement in our understanding of shared workplaces for several reasons.

The study of shared workplaces has attracted the interest of researchers from multiple disciplines—organization studies, sociology, innovation and creativity, economic geography, among others—but, unfortunately, these efforts have often been isolated in their own discipline and disconnected from one another. To fully understand a new phenomenon like the global emergence of shared workplaces, it is necessary to take a multifocal and cross-level perspective. This book has the value of bringing together a collection of works that constitute a plural and complementary view on shared workplaces, across a range of different academic disciplines.

The chapters included in this book also help to understand the relationship between these spaces and their environment better, by analyzing their mutual impact at different levels. On the one hand, this spatial perspective allows to go beyond the context of the physical space by enlarging its analysis to its geographical and socio-economical context. This also allows to extract valuable insights and implications for urban and regional policymaking. On the other hand, considering different geographical contexts allows one to enrich the research with an international perspective. This is an excellent compilation of studies about spaces and their realities in different

countries, showing the variety of social, work, and innovation dynamics that take place in shared workplaces in different settings.

This book constitutes a new step in the study of the geographies of new ways of working. It summarizes the current knowledge about shared workplaces and, at the same time, opens new paths for research, updating the research agenda in times of change. The future evolution of workplaces will for sure be influenced by the COVID-19 crisis. In the current context of uncertainty, this book certainly throws some light on how shared workplaces will adapt to the changes the crisis has introduced. At the same time, it provides clues about how new shared workplaces will continue to change how and where we work.

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Contents

About the Editors

Ilaria Mariotti is an Associate Professor of Urban and Regional Economics in the Department of Architecture and Urban Studies, Politecnico di Milano. She holds an M.Sc. in Regional Science and two Ph.D.s in Spatial Sciences and Transportation Economics. Her research interests include new working spaces, firm location, industrial districts, and clusters. She is chair of the COST Action CA18214 'The geography of New Working Spaces and the impact on the periphery' (2019–2023), which is funded by the Horizon 2020 Framework programme of the European Union. She has been the coordinator of a number of research projects and has published widely.

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Mina Akhavan is an Adjunct Professor and Postdoctoral Research Fellow in the Department of Architecture and Urban Studies, Politecnico di Milano. She holds a Master's degree in Urban Planning and Policy Design and a Ph.D. in Spatial Planning and Urban Development. She has previously collaborated in various research groups (LaBELT, FARB, etc.), and her research interests include the sharing economy and new workspaces, urban policy mobilities and transnational studies, and mobility studies. She is a member of the management committee (MC for Italy) and Group Leader of the Cost Action CA18214 "The Geography of New Working Spaces and the Impact on the Periphery" (2019–2023), which is funded by the Horizon 2020 Framework programme of the European Union.

Introducing the Worldwide Phenomenon of Flexible Workplaces

Mina Akhavan, Stefano Di Vita, and Ilaria Mariotti

Abstract This introduction chapter briefly discusses the main focus of the book on the phenomenon of new workplaces (also known as "third places," "flexible spaces," and "collaborative spaces"), with a focus on coworking spaces and maker spaces, which is defined as permanent or temporary spaces for working. At the same time, they enable collaboration, mutual learning, knowledge sharing, as well as social and spatial relationships among users. It then highlights the importance of the book in sharing the findings of several international and multidisciplinary research projects concerning coworking spaces and maker spaces as paradigmatic of a shift in the new geography of working and making. Furthermore, this chapter outlines the structure of this edited book in four main parts: (i) Phenomena; (ii) Actors; (iii) Places; and (iv) Agenda. It then underlines that this book is designed for an international audience; it is useful not only for the academic world (in Urban Planning, Urban and Regional Economics, Geography, Sociology, Anthropology, Architectural and Urban Design) but also for policymakers, civil and entrepreneurial associations, and business operators.

In the third wave of virtual works, characterized by a renewed importance of community and shared spaces (Johns and Gratton 2013), new workplaces—and more specifically, coworking spaces (hereinafter CSs) and maker spaces (hereinafter MSs)—show the recent advances in ICTs, which have fostered not only the transmission of information but also the interactions among users. The Internet has significantly changed people's lives, ways of working and workspaces, even though it has not yet changed the urban space so much (Guallart 2012). Besides, ICT has favoured high

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flexibility, multifunctionality and hybridization of several new spaces for work such as CSs, public libraries, cafes, restaurants, hotel and airport lounges (Brown 2017; Bilandzic and Foth 2013) but also MSs—including Fab Lab—open workshops/open creative labs, Living Labs, etc., which facilitate the 'making of things' (Merkel, 2018).

However, these emerging workplaces (also known as "third places", "flexible spaces" and "collaborative spaces") present different socio-spatial and functional characteristics. On the one hand, public libraries, cafes, restaurants, hotel and airport lounges were not originally conceived to host work functions but are increasingly used as informal places for work. On the other hand, CSs and MSs are specifically designed as working locations for self-employed and freelance workers, who rent these new workplaces, and recently, more established companies, including affiliates of multinational companies. Here, it is also worth underlining the importance of the 'sense of community' created inside these workplaces and also within the neighbourhood (Garrett et al. 2017; Mariotti et al. 2017; Akhavan and Mariotti 2018; Spinuzzi et al. 2019).

In the era of increasing virtual collaboration, localized collaborative spaces (Capdevila and Moilanen 2013; Capdevila 2017) still require attention. New workplaces include real physical permanent or temporary micro-clusters (Capdevila 2015), which enable collaboration, mutual learning (Butcher 2018) and knowledge sharing (Moriset 2014). These knowledge-related interactions are organized in a work-friendly environment. Hence, the overall rationale behind new workplaces is to generate social interactions, support knowledge creation and, consequently, increase business opportunities (Capdevila 2015; Gandini 2015; Parrino 2015; Bouncken and Reuschl 2018).

In this book, the phenomenon of new workplaces is defined as permanent or temporary spaces for working, which enable collaboration, mutual learning, knowledge sharing, as well as social and spatial relationships among users. These knowledge-oriented interactions are organized in a work-friendly environment; moreover, it may facilitate working alongside colleagues (Spinuzzi 2012; Fuzi 2015; Gandini 2015; Gerdenitsch et al. 2016; Merkel 2015; Parrino 2015; Ivaldi et al. 2018), in flexible settings (Merkel 2015; Fuzi 2015; Orel and Kubátová 2019), and collaborations between individuals can be promoted through both physical and organizational features of CSs and MSs.

A specific design (usually an open plan—Kojo and Nenonen 2017) and comfortable spaces are considered the main factors to optimize knowledge interactions among users (Orel and Almeida 2019) and encourage collaboration, creativity, idea sharing, networking and socializing (Fuzi 2015; Akhavan et al. 2019). The ambience that is tailored to space enhances the possibility of collaboration between two or more users of new workplaces (Orel and Almeida 2019). This means that the access to office infrastructures such as computers, WiFi, office machines are not *sine qua non* condition of defining such spaces (Mariotti et al. 2017). Moreover, organizational features of the new spaces for work, which facilitate collaboration include temporary characters of work (renting a desk on a monthly, weekly, daily or even hourly basis; see Merkel 2015; Mariotti et al. 2017); CSs and MSs are membership-based offices

(Howell and Bingham 2019; Orel and Kubátová 2019). However, membership in a social or professional community is not a distinctive feature of all new spaces for work (Micek 2020).

The number of CSs and MSs have grown worldwide since the late 2000s, in parallel to the bust of the property bubble in Western countries, in 2007–2008, and the spread of the global crisis. Such alternative spaces for work have, therefore, become examples of innovation in production, and flexibility in work and workspaces. However, although CSs and MSs represent new working and lifestyle models, they are still niche phenomena in terms of their contribution to the economy but also their effects on productive ecosystems and urban environment. Whilst the growth of CSs and MSs can be also considered as a consequence of the 2008 financial and economic crisis (Moriset 2014), the effects of the Covid-19 pandemic and the new economic downturn that is following, are difficult to predict. They are mining the pillars of sharing economy as well as the further development of digital working and making. Therefore, further research is necessary.

CSs and MSs are indeed different from traditional office spaces, as they aim to exploit multiple potentials offered by digital technologies in order to enable collaboration, mutual learning, knowledge sharing and/or social and cultural relationships among users. Technological innovation has fostered, simultaneously, the dispersion and (re-)concentration of both economic activities and the urban environment: digital technologies have enabled, at the same time, the death of distance—due to online connections to conduct business and social functions in any place and at any time—and the new agglomeration of human activities and spaces—such as knowledge-intensive firms, operational headquarters of multinational companies and other advanced services—in a pattern of 'concentrated de-concentration' (Fernández Maldonado 2012).

CSs and MSs are therefore practical examples that demonstrate the potential of knowledge transfer, informal exchange, interaction and collaboration and (some levels of) urban regeneration. On the one hand, CSs, which foster multifaceted forms of proximity (Mariotti and Akhavan 2020) (geographical, social, organizational, institutional, cognitive—Boschma 2005) and non-hierarchical relationships between coworkers (Spinuzzi 2012), may generate socialization and, consequently, business opportunities through the exchange of tacit knowledge (Parrino 2015). CSs target professionals who aim to increase their business through the establishment of temporary partnerships and collaborations, and the nurturing of social relations (Spinuzzi 2012). Therefore, scholars consider such spaces as 'relational milieus' (see Gandini 2015) by applying the open-source approach to working (Lange 2011), and providing the physical and relational intermediation to networking activities required by (self-employed and freelance) knowledge, creative and digital workers (Capdevila 2013). On the other hand, MSs and Fab Labs transform digital data into physical objects through their digital fabrication machines and training, by applying the open-source principles to fabricate material things (Gershenfeld 2012). They favour the development of specialized peer productions outside big firms (Doussard et al. 2018), and the empowerment of users within the cultural framework of the maker movement (Cavalcanti 2013), by opening to the public and exploiting the

potentialities provided by ICTs at various stages: the creative process, the project financing, the product design, the prototype and small series' construction and the sales (Manzo and Ramella 2015).

Both the CSs and MSs have socio-economic and spatial regeneration potentials within their surrounding contexts, which the edited book aims to investigate and verify. Whilst these regeneration potentials are often implicit, we consider both CSs and MSs as representative places of contemporary urban society and spaces. The chapters explore and discuss the location of these workplaces, usually situated in urban cores, where there is a concentration of urban amenities. However, the location in rural and peripheral areas of a limited number of CSs and MSs confirms and updates the long-term debate around the interpretation of the overall forms, trends and development trajectories of contemporary cities (Balducci et al. 2017) and, accordingly, demands for the advancement of analyses and agendas, both in the current pandemic and the post-pandemic era.

Within the above set context, the edited book *New workplaces: Location patterns, urban effects and development trajectories. A worldwide investigation* aims to share the findings of several international and multidisciplinary research projects concerning CSs and MSs as paradigmatic of a shift in the new geography of working and making. Whilst globalization, digital innovations and the rising knowledge economy and society, have contributed in reducing the borders between different kinds of production of goods and services, the rich collection of contributions presented in this book tackles the different aspects of such flexible and collaborative workplaces centred around their typologies, location patterns and spatial effects, urban and regional policy and planning and new research methodologies. The edited book is therefore structured in four main parts.

The First Part, "*Phenomena*", which contains two chapters, will set a theoretical and methodological foundation crucial to the focus of the volume. Furthermore, this part aims to depict dimensions and trends CSs' and MSs' growth and the support of new research methodologies.

In Chap. "Third Places for Work: A Multidisciplinary Review of the Literature on Coworking Spaces and Makerspaces", Mina Akhavan (DAStU-Politecnico di Milano) depicts the growing importance and worldwide diffusion of new workplaces through an up-to-date literature review on emerging workplaces. Focusing on several aspects of CSs and MSs (spatial characteristics, socio-economics patterns, effects on the urban context in cities of different sizes—small versus medium and large—and types—hub versus periphery), the review concludes by building a theoretical foundation, whilst highlighting the gap in the literature and proposing future research lines.

In Chap. "Exploring New Workplaces with Social Network Analysis", Fabio Manfredini and Stefano Saloriani (DAStU-Politecnico di Milano) present an analytical experimentation aimed at evaluating if and how the social and digital connections can be put in relationship with physical spaces. Specifically, social media data (Twitter), related to CSs and MSs, have been analysed and mapped in order to understand their link with spatial issues like the location or the spatial distribution of the followers connected to the accounts of selected physical spaces.

The Second Part of the book "*Actors*" encompasses Chaps. ("Coworkers and Coworking Spaces as Urban Transformation Actors: An Italian Perspective" and "(Social) Innovations in Makerspaces: The Re-embeddedness of Physical Production" and aims to analyse these multifaceted communities of coworkers and makers by exploring (i) the effects on labour market and urban transformations in the case of CSs; (ii) the social innovation process in the (co)-production of open innovation and the valorization of traditional craftsmen know-how in the case of makers and makerspaces.

In Chap. "Coworkers and Coworking Spaces as Urban Transformation Actors: An Italian Perspective", Ilaria Mariotti and Carolina Pacchi (DAStU-Politecnico di Milano) critically discuss the role of CSs in the career of freelancers and creative professionals, in terms of the possibility to build ties with their coworkers, to form and strengthen communities of practice but also to meet people with diverse skills and competences.

In Chap. "(Social) Innovations in Makerspaces: The Re-embeddedness of Physical Production", Marianna D'Ovidio (Università degli Studi di Milano Bicocca) focuses on MSs and digital fabrication (FabLab) by tracing a brief history about the meaning of innovation: from Schumpeter's idea of innovation as driver for the improvement of society to Florida's vision of innovation as tool for the development of the market and the individual economic success.

The Third Part of the book, "*Places*", analyses the spatial side of CSs and MSs from different geographical location worldwide: Chaps. "(Social) Innovations in Makerspaces: The Re-embeddedness of Physical Production" and "Situating the New Sharing Economy: 'Regional Geographies' of Greater Seattle's Coworking Facilities" are about the cases in the USA, Chap. "After the Rustbelt: Sustainability and Economic Regeneration in Detroit" focuses on France, Chap. "The Urban Integration of Coworking Spaces in France: The Case of the Loire Valley Region" regards the contexts of the UK and Italy, Chaps. "Contemporary Coworking in Capital Cities: Evolving Geographies of Workspace Innovation in London and Rome", "The Geography of Coworking Spaces and the Effects on the Italian Urban Context: Are Pole Areas Gaining?", "The Emergence and Spread of Collaborative Makerspaces in Italy" concern Italy and Chap. "New Workplaces in 'In-Between' Territories: Productive, Educational and Urban Dimensions of Emilian Experiences" explores the workplaces in Canada. Each chapter has a specific focus on exploring varied typologies, locations and effects on the urban environment.

In Chap. "Situating the New Sharing Economy: 'Regional Geographies' of Greater Seattle's Coworking Facilities", Yonn Dierwechter (University of Washington) analyses the growth and spread of CSs in the Greater Seattle high-tech city-region in the USA, and explores similarities and differences in their forms, local functional synergies/mutual relations with surrounding neighbourhoods and places, land use patterns/mutual relations with spatial planning regimes and implications for local and city-regional development policies.

In Chap. "After the Rustbelt: Sustainability and Economic Regeneration in Detroit", Mark Wilson and Eva Kassens-Noor (Michigan State University) investigate the role of digital technologies and economy in driving the post-Fordist transition

of Detroit city-region and focus on the role of advanced manufacturing technology in supporting the ongoing contradictory process of urban renaissance. Specific attention is dedicated to new geographies of makerspaces in the frame of the local urban agenda.

Moving from the American context to the European one, in Chap. "The Urban Integration of Coworking Spaces in France: The Case of the Loire Valley Region", Divya Leducq and Christophe Demazière (University of Tours) question the role of CSs in the socio-economic context, the evolution of urban fabrics and public policies. The focus is on the Loire Valley Region in France, and the authors describe the results of the qualitative survey with managers and coworkers.

Moving from polycentric medium-sized region to large cities, in Chap. "Contemporary Coworking in Capital Cities: Evolving Geographies of Workspace Innovation in London and Rome", Stefania Fiorentino and Nicola Livingstone (University College London) explore the characteristics of different types of CSs from the interconnected perspectives of real estate trends and local market dynamics in Rome (Italy, in South Europe and inside the European Union), and London (the UK, in North Europe and outside the European Union).

Shifting from cities and regions to an entire country, in Chap. "The Geography of Coworking Spaces and the Effects on the Italian Urban Context: Are Pole Areas Gaining?", Ilaria Mariotti, Mina Akhavan and Dante Di Matteo (DAStU-Politecnico di Milano) explore, by means of descriptive statistics and counterfactual analysis, the 'indirect' effects of the diffusion of CSs on the Italian urban context—differentiating between pole and non-pole areas—in terms of community building, improvement of surrounding public spaces and urban regeneration.

Once again, in the case of Italy, in Chap. "The Emergence and Spread of Collaborative Makerspaces in Italy", Cecilia Manzo (Università Cattolica del Sacro Cuore) focuses on MSs and specifically FabLabs. She describes how they have emerged in Italy and how they have been spreading in recent years discussing how the loci of digital fabrication are changing.

Remaining in the Italian context, in Chap. "New Workplaces in 'In-Between' Territories: Productive, Educational and Urban Dimensions of Emilian Experiences", Cristiana Mattioli (DAStU-Politecnico di Milano) analyses the case study of the Emilia Romagna region's central area in Italy to understand the relationships between MSs and the dynamics of local ecosystems (e.g. industrial, education/research and welfare), as well as the transformation of physical spaces.

Different from previous chapters, in Chap. "Where Are the Knowledge Workers? The Case of the Silicon Valley North in Ontario, Canada", Filipa Pajević and Richard Shearmur (McGill University, Montréal) contribute to the discourse on changing workplaces in the knowledge economy by going beyond CSs and MSs. The chapter focuses on the rise of mobile and multi-locational knowledge work, which affect not only the use of different spaces for work but also how spaces—and work—are defined.

The Fourth Part of the book, "*Agenda*", deals with urban and regional policy and planning tools, mechanisms and implications before the Covid-19 pandemic, and it describes the effects during the lockdown period on CSs by showing the results of

an international survey addressed to coworking managers worldwide. It is discussed whether and how the "nature" of these working spaces has been undermined and which measures have been undertaken by the CSs' managers to face the pandemic.

In Chap. "The Metamorphosis of Production Between Urban Core and Region: Which Demands for Policy and Planning?", Simonetta Armondi and Stefano Di Vita (DAStU-Politecnico di Milano) propose a reflection about strategies and solutions of urban and regional policy and planning in the Milan urban region in order to support the development and hybridization of digital production of goods (MSs) and services (CSs) as an occasion of urban and regional regeneration and rebalancing.

In Chap. "The Effects of Covid19 on Coworking Spaces: Patterns and Future Trends", Irene Manzini (University College London) and Ilaria Mariotti (DAStU-Politecnico di Milano) focus on the COVID-19 pandemic and its effects on the economic sectors and specifically on new workplaces. Besides, future trends for the coworking business model as well as its location dynamics are put forward together with policy implications.

The final concluding chapter "*Conclusion and further research*", by the book editors (Ilaria Mariotti, Mina Akhavan and Stefano Di Vita, DAStU-Politecnico di Milano), highlights the critical aspects of CSs and MSs illustrated in the different chapters of the book. It also proposes future lines of research and the necessity for further empirical studies to understand the impacts of the current pandemic on new workplaces.

The rationale of the edited book is to bring together original contributions from several disciplines (urban and regional economics, geography, planning, economic sociology, etc.) regarding different forms of digital innovations in the production of goods and services, in order to provide one of the first international publications able to relate the worldwide growing phenomena of coworking, open-source making and their respective workplaces, from both theoretical and empirical points of view.

The edited book will provide the opportunity for readers to gain knowledge that will help them to confront the complexities of the nexus between workplaces and urban and regional change, qualifying the new geography granted by digital innovation and new small-scale manufacturing, exploring the institutions that organize and channel it, and investigating the actors (private and public), who still change and cope with its consequences.

Furthermore, this book is designed for an international audience; it is useful not only for the academic world (in Urban Planning, Urban and Regional Economics, Geography, Sociology, Anthropology, Architectural and Urban Design) but also for policymakers, civil and entrepreneurial associations and business operators.

The editors are academic experts in the topic of new working spaces, at the Department of Architecture and Urban Studies (DAStU)-Politecnico di Milano, where a multidisciplinary set of research projects in the field have been undertaken for years: from local and international research activity promoted by the research hub New urban Economies, Workplaces and Spaces (NEWS) to the COST Action CA18214 "The Geography of New Working Spaces and the Impact on the Periphery" coordinated by Ilaria Mariotti.

References

Akhavan M, Mariotti I, Astolfi L, Canevari A (2019) Coworking spaces and new social relations: a focus on the social streets in Italy. Urban Sci 3(2). https://doi.org/10.3390/urbansci3010002

Akhavan M, Mariotti I (2018) The Effects of coworking spaces on local communities in the Italian context. Territorio 87(2018):85–92. https://doi.org/10.3280/TR2018-087014

Balducci A, Fedeli V, Curci F (eds) (2017) Post-metropolitan territories. Looking for a new urbanity. Routledge, London, New York

Bilandzic M, Foth M (2013) Libraries as coworking spaces: understanding user motivations and perceived barriers to social learning. Lib Hi Tech 31(2):254–273, https://doi.org/10.1108/07378831311329040

Boschma R (2005) Proximity and innovation: a critical assessment. Reg Stud 39(1):41–45. https://doi.org/10.1080/0034340052000320887

Bouncken RB, Reuschl AJ (2018) Coworking-spaces: how a phenomenon of the sharing economy builds a novel trend for the workplace and for entrepreneurship. Rev Manage Sci 21(1):317–334. https://doi.org/10.1007/s11846-016-0215-y

Brown J (2017) Curating the "Third Place"? Coworking and the mediation of creativity. Geoforum 82:112–126. https://doi.org/10.1016/j.geoforum.2017.04.006

Butcher T (2018) Learning everyday entrepreneurial practices through coworking. Manage Learn 49(3):327–345. https://doi.org/10.1177/1350507618757088

Capdevila I (2013) Knowledge dynamics in localized communities: coworking spaces as micro-clusters. SSRN Electron J. https://doi.org/10.2139/ssrn.2414121

Capdevila I (2015) Co-working spaces and the localised dynamics of innovation in Barcelona. Int J Innovation Manage 19(03):1540004. https://doi.org/10.1142/S1363919615400046

Capdevila I (2017) A typology of localized spaces of collaborative innovation. In: van Ham M, Reuschke D, Kleinhans R, Syrett S, Mason C (eds) Entrepreneurial neighbourhoods–towards an understanding of the economies of neighbourhoods and communities. Edward Elgar Publishers, Cheltenham, pp 80–97

Capdevila I, Moilanen J (2013) Typologies of localized spaces of collaboration. In: Smeds R, Irrmann O (eds) Co-Create 2013. The boundary-crossing conference on Co-design in innovation. Conference proceedings. Aalto University Publication Series. Science and Technology. 15:15–26

Cavalcanti G (2013) Is it a Hackerspace, Makerspace, TechShop, or Fab-Lab?. Makezine. https://makezine.com/2013/05/22/the-differencebetween-hackerspaces-makerspaces-techshops-and-fablabs/. Accessed 22 April 2020

Doussard M, Schrock G, Wolf-Powers L, Eisenburger M, Marotta S (2018) Manufacturing without the firm: challenges for the maker movement in three US cities. Environ Plan Econ Space 50(3):651–670. https://doi.org/10.1177/0308518X17749709

Fernández-Maldonado AM (2012) ICT and Spatial Planning in European Cities: Reviewing the New Charter of Athens. Built Environ 38(4):469–483

Fuzi A (2015) Co-working spaces for promoting entrepreneurship in sparse regions: the case of South Wales. Reg Stud Reg Sci 2(1):462–469. https://doi.org/10.1080/21681376.2015.1072053

Gandini A (2015) The reputation economy: understanding knowledge work in digital society. Palgrave Macmillan, Basingstoke

Garrett LE, Spreitzer GM, Bacevice PA (2017) Co-constructing a sense of community at work: the emergence of community in coworking spaces. Organ Stud 38(6):821–842. https://doi.org/10.1177/0170840616685354

Gershenfeld N (2012) How to make almost anything. Foreign Aff 91(6):43–57

Gerdenitsch C, Scheel TE, Andorfer J, Kornunka Ch (2016) Coworking spaces: a sources of social support for independent professional. Front Psychol 7:581. https://doi.org/10.3389/fpsyg.2016.00581

Guallart V (2012) The self-sufficient city. Actar, New York

Howell T, Bingham C (2019) Coworking Spaces: Working Alone, Together (March), 1–38

Ivaldi S, Pais I, Scaratti G (2018) Coworking(s) in the plural: coworking spaces and new ways of managing. In: Taylor S, Luckman S (eds) The new normal of working lives. Springer International Publishing, pp 219–241. https://doi.org/10.1007/978-3-319-66038-7_11

Johns T, Gratton L (2013) The third wave of virtual work. Harvard Bus Rev 91:66–73

Kojo I, Nenonen S (2017) Evolution of co-working places: drivers and possibilities. Intell Buildings Int 9(3):164–175. https://doi.org/10.1080/17508975.2014.987640

Lange B (2011) Re-scaling governance in Berlin's creative economy. Cult Unbound J Curr Cult Res 3:187–208. https://doi.org/10.3384/cu.2000.1525.113187

Manzo C, Ramella M (2015) Fab labs in Italy: collective goods in the sharing economy. Stato E Mercato 3:379–418

Mariotti I, Akhavan M (2020) Exploring proximities in coworking spaces: evidence from Italy. Eur Spatial Res Policy 27(1). https://doi.org/10.18778/1231-1952.27.1.02

Mariotti I, Pacchi C, Di Vita S (2017) Coworking spaces in Milan: ICTs, proximity, and urban effects. J Urban Technol 24(3):47–66. https://doi.org/10.1080/10630732.2017.1311556

Merkel J (2015) Coworking in the city. Ephemera 15(2):121–139

Merkel J (2018) Freelance isn't free. Co-working as a critical urban practice to cope with informality in creative labour markets. Urban Stud 56(3):526–547. https://doi.org/10.1177/0042098018782374

Micek G (2020) Studies of proximity in co-working spaces: basic conceptual challenges. Eur Spatial Res Policy 27(1): 9–35. https://doi.org/10.18778/1231-1952.27.1.01

Moriset B (2014) Building new places of the creative economy. The rise of coworking spaces. Paper presented at the 2nd geography of innovation international conference, Utrecht, January 2014

Orel M, Kubátová J (2019) Coworking as a model for conscious business. J Glob Responsib. https://doi.org/10.1108/JGR-11-2018-0068

Orel M, Almeida MA (2019) The ambience of collaboration in coworking environments. J Corp Real Estate 21(4):273–289. https://doi.org/10.1108/JCRE-12-2018-0050h

Parrino L (2015) Coworking: assessing the role of proximity in knowledge exchange. Knowl Manage Res. Pract 13(3):261–271. https://doi.org/10.1057/kmrp.2013.47

Spinuzzi C, Bodrožić Z, Scaratti G, Ivaldi S (2019) "Coworking Is About Community": but what is "Community" in Coworking? J Bus Techn Commun 33(2):112–140. https://doi.org/10.1177/1050651918816357

Spinuzzi C (2012) Working alone, together: coworking as emergent collaborative activity. J Bus Techn Commun 26(4):399–441. https://doi.org/10.1177/1050651912444070

Phenomena

Third Places for Work: A Multidisciplinary Review of the Literature on Coworking Spaces and Maker Spaces

Mina Akhavan

Abstract Given the growing importance and worldwide diffusion of new workplaces, this chapter presents an interdisciplinary overview on the core topic of this book through an up-to-date literature review of the phenomenon of emerging workplaces, more specifically coworking spaces and makers spaces. In other words, the aim is to provide a comprehensive review of research on coworking spaces and maker spaces as 'third places' for work, which are becoming alternative solutions within the context of the digital revolution and the rise of sharing economy. Here, such workplaces are considered at crossroads with different disciplines of business/management, economics, geography, sociology, planning, and other sciences. The review, therefore, covers studies conducted by scholars in varied fields, which are published in journals or presented in conferences, as well as unpublished thesis and working papers within the period 2001–2019. These studies have focused on several aspects of coworking spaces and maker spaces, which can be grouped in the following categories: (i) spatial characteristics (typologies and location factors); (ii) coworkers and socio-economics patterns (proximity features; social interaction and community making; economic performance; well-being); (iii) effects on the urban context in cities of different sizes. Considering the still very young topic of emerging workplaces, this review concludes by building a theoretical foundation, while highlighting the gap in the literature and proposing future research lines.

1 Introduction: The Rise of Coworking in the Age of the Creative Economy

Forces of globalization, technological advancement and the rising knowledge economy have brought about a certain degree of integration of working and personal/living spaces, thereby restructuring the organization of work. Themes that

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characterise such transformation—e.g. electronic work, self-management, the individualization of risks, and the inversion of gender at work and home—have already been discussed since the beginning of the 21st century (see the special issue: Brave New Workplace: Organizational Behaviour in the Electronic Age, Vol. 23, No. 4, Jun., 2002, Journal of Organizational Behavior). Although the topic of new workplaces is quite young, in recent years, more and more scholars are showing interest in studying and understanding the dynamics of these spaces from various perspectives. Within the general topic, this study focuses on the two prominent typologies of coworking spaces (hereinafter CSs) and makerspaces (hereinafter MSs).

Though their economic significance yet remains uncertain, the importance of emerging new workplaces, as an alternative to traditional rigid office hours and home-offices, in the era of digital economy and gig economy—with a growth in entrepreneurship, freelancing and teleworking—is seen in their dramatic global spread, from the official opening of the first CS in 2006 in the US. This statement is proved by the numbers reported by *Deskmag*[1] in their *2019 Global Coworking Survey*: the coworking movement has roughly doubled in size each year since the mid-2000s and by the end of 2019, almost 2.2 million people are expected to have worked in over 22,000 CSs worldwide.

Emerging new workplaces, also known as collaborative spaces and flexible working models, attract users from varied backgrounds and professions: the so-called "coworking-users" or "coworkers" can vary from freelancers, self-employed individuals and entrepreneurs to dependant contractors, consultants and small and micro enterprises (Garrett et al. 2017). Based on their study on CSs in small and medium size cities in France and Germany, Krauss et al. (2018) categorized coworkers as: (i) freelancers; (ii) microbusinesses; (iii) employees or self-employed workers. New workplaces may attract diverse professional profiles and competencies, ranging from the creative industry—such as architects, designers, journalists, etc.—to engineering and digital sectors—namely IT, software developers, consultants, etc. (Akhavan and Mariotti 2018; Gandini 2015; Spinuzzi 2012). Coworkers can, therefore, learn from each other through sharing spaces and interaction. Despite the heterogeneity among coworkers regarding their organisational status (Parrino 2015), one common aspect certainly unites all coworkers: they all seek a workplace to "work-alone-together" (Spinuzzi 2012).

The review of the literature in this chapter is based on the Scopus database on peer reviewed journal articles and some important conference proceedings, for the years between 2001 and 2020. Scopus claims to be the «largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings».[2] A preliminary scan was then applied to eliminate the unrelated articles. By reviewing more than 200 papers discussing CSs and MSs, this chapter critically investigates the trends and changing tides of research on such shared workplaces. Considering the growing fame and importance of these emerging shared workplace, and also taking into account the core aim of this book, this chapter makes

[1] See: www.deskmag.com.

[2] https://www.scopus.com/.

an attempt to provide a multidisciplinary literature study over the historical origins, development trajectories, and current features of CSs, MSs and Fab Labs, while exploring their global spatial spreading in both the developing and developed world. The remainder of the chapter is therefore structured as follows: Sect. 2 provides an overview of the typology of space, in order to position different forms of flexible workplaces within the wider sphere of third places for work; Sect. 3 explores the phenomenon of CSs, using the perspectives from varied disciplines; and studies on MSs are accordingly reviewed in Sect. 4. The concluding section highlights once again the rapid-growing trend of the research on this topic, while highlighting the gap in the current abundant literature; future research lines for more interdisciplinary studies bring the chapter to an end.

2 Typology of Space and Proliferation of Flexible Third Workplaces

Here it is worthwhile to provide a "typology of space" that will help us better understand the term new workplaces in the electronic age that is proliferating in varied forms in our societies. Back in the early 1980s, Oldenburg and Brissett (1982) introduced the concept of third place in addition to the traditional dichotomy of first place (home) and second place (work), as social arenas where people gather for active participation and may therefore provide «a larger measure of their sense of wholeness and distinctiveness» (p. 267). The third place, being community centres, meeting venues, cafes, bars, malls, libraries, and parks (Bilandzic and Foth 2013; Oldenburg 1989) is therefore a public space as well as an informal social meeting place that becomes an anchor for the community and that may facilitate and foster broader, and more creative interaction, creating the sense of place (Akhavan and Mariotti 2018). In this regard, Martins (2015: 142) also adds that «*The coffee shop, the pub or the park are more than spaces for pursuing creative lifestyles; they are part of a complex network of spaces that are used, and essential, for digital production*». Recently, Morisson (2019) has applied this classification to study the emerging social environment in Paris, and then discusses the rise of a new typology of space in the knowledge economy: the "fourth place" appears from the overlanding of first place, second place, third place, as well as the coworking, comingling, and coliving spaces. This trend underlines the significance of social interaction, collaboration, networks, knowledge transfer and the spatial dimension of innovations in modern society. Brown (2017) also underlines the rise of coworking and CSs as the new form of "third space" and analyses the motivation for coworking and benefits (or dos-benefits) of co-location, which according to her is basically associated with peer-interaction and support rather than formal collaboration.

With respect to the aspects of coopetition and entrepreneurship in the entrepreneurial environments, Bouncken et al. (2018) have made an attempt to classify coworking spaces and through their empirical study in Germany, they identified

four distinct archetypes: (i) the corporate, (ii) the open corporate, (iii) the consultancy, and (iv) the independent CS. They discuss that openness, in different forms, effects the form and level of coopetitive tensions. In Italy, and more specifically in the case of Rome, three main CS typologies have been recognised with respect to their local embeddedness—in terms of their role in the process of local economic renovation and urban regeneration: (i) *social incubator*, promotes social innovation with the aim to confront issues of social inclusion and unemployment; (ii) *start-up incubator*, more concerned about the city development, considering the corporate-oriented organizations (iii) *real estate incubator*, located mainly in central areas, not intervening much in the city's socio-economic issues, yet more interested in the real estate market with relations to the new entrepreneurial ecosystem (Fiorentino 2019).

Consequently some scholars situate sets of emerging new working spaces—CSs and MSs—within the wider collection of '*third spaces for work, learning and play*', which may facilitate formal productive activities within informal social interactions, often accompanied with direct/indirect learning programmes and the use of new technologies (Waters-Lynch et al. 2016). Figure 1 demonstrates this idea through a chronological outline of different types of these working spaces. Moreover, the three main spaces to be reviewed in this report are highlighted and situated within the wider collection of third spaces for work, learning and discovery/play.

Some scholars have defined localized open spaces of collective innovation, namely coworking spaces (CS), Fab Labs, maker/hackerspaces, Living Labs and corporate labs, as spaces that offer open access to resources (e.g. machinery and prototyping *tools)* (Capdevila 2017, 2019), which then share the following settings: (i) characterised by openness and collaboration; (ii) triggered by knowledge and skill sharing

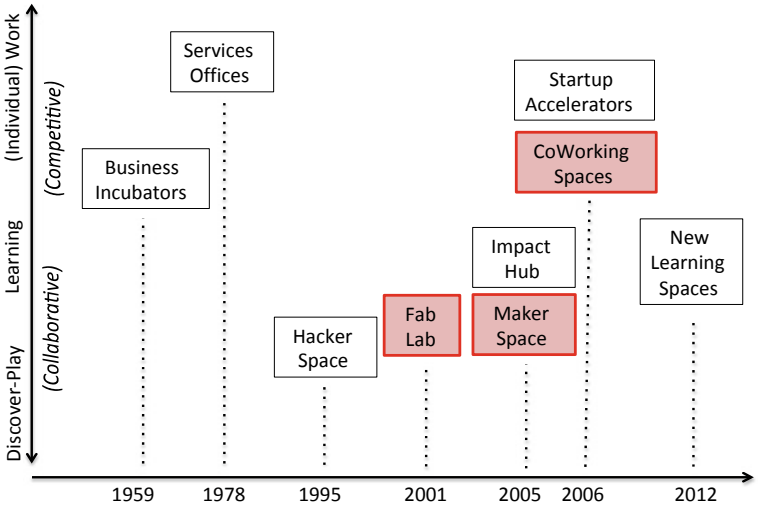

Fig. 1 Different types of third spaces for work, learning and discovery/play throughout time. *Source* Adapted from the Waters-Lynch et al. (2016, p. 4)

Table 1 Typology of collaborative spaces based on governance and approaches towards innovation

	Innovation approach: exploration	Innovation approach: exploitation
Top-down approach	Fab Labs	Living Labs; Labs enterprise
Bottom-up approach	Hackerspace	Coworking spaces

Source Capdevila (2017: 83)

while using common tools and platforms; (iii) self-organized environments; (iv) invention and technology places a key role. Based on his study on a number of collaborative spaces in Barcelona and Paris, Capdevila (2017) discusses the typologies of such spaces based on two elements: (i) the governance structure, i.e. hierarchical character of organizations, which is either top-down (related to large firms) or bottom-up strategies (community movements or grassroots initiatives), with respect to the actors level of integration within the system; (ii) approaches towards innovation, in terms of exploration (certainty, productivity and efficiency) and exploitation (creativity, uncertainty, experimentation and acceptance of failure). Demonstrated in Table 1, four types of spaces are therefore identified.

As noted previously, such collaborative workplaces attract various profiles of users. Some scholars have categorised coworkers based on what they may earn from CSs: (i) *Utilizers*, are those who seek office space and crucial infrastructures offered by CSs; (ii) *Learners*, are more interested in the knowledge exchange environment of the CS, and attend courses, events, etc.; (iii) *Socializers*, seek recognition and acknowledgment in CSs (Morisson 2019). Research studies on the global south also confirm the above-mentioned profile of the users (mainly based on the western world). On this matter, a study on CSs in Manila, Philippines shows that coworkers are mainly among «digital entrepreneurs of start-up companies; highly skilled knowledge workers for instance freelance lawyers, consultants, and architects; and foreign digital nomads who often form a community among themselves, which are occupations and work cultures that contrast starkly with the roles that online Filipino freelancers often assume» (Tintiangko and Soriano 2020: 78).

Considering the type of users attracted to these collaborative spaces, Capdevila (2017) discusses the following two typologies of space: (i) spaces that are appealing for entrepreneurs and freelancers that simply seek a "third place" for work in a shared and relaxed environment not far from their home: location plays a key role; social interaction leads mainly to personal ties rather than professional networks and encourages community-making at the neighbourhood level; (ii) spaces with certain specializations—on specific professional sectors, women entrepreneurs, etc.—in order to attract local actors that are highly interested in cognitive proximity (knowledge sharing, learning, etc.); location and proximity to home become less important; neighbourhood is nevertheless encouraged to engage in activities provided by the space.

Table 2 Typologies of CS in Finland

Level of access to users	Business model	
	Non-profit making	Profit making
Public	Public office	Third places
Semi-public	Collaboration hubs	Co-working hotels
Private	Incubators	Shared studios

Source Adapted from Kojo and Nenonen (2016: 39)

A study on CSs in the capital area of Finland makes an attempt to provide a classification based on two axes of a business model (in terms of profit or non-profit making strategies) and the level of user access to the places (i.e. public, semi-public or private) (Kojo and Nenonen 2016); as seen in Table 2, six typologies can be identified: (i) public/non-profit spaces (public offices, free of charge); (ii) semi-public/non-profit (free of charge for specific targets; e.g., students or researchers); (iii) private/non-profit (incubators with a strong focus on the development of new business ideas); (iv) public/profit (coworking established in a public space, like a cafeteria, that is available for the purchase price of the cafeteria goods); (v) semi-public/profit (coworking inside private spaces like hotels that require a preregistration and the payment is established according to use); (vi) private/profit (where the minimum lease period is often from a month upward).

With respect to the profile of the manager, their role and motivation in opening and managing the workplace, a study on Italy introduces four typologies of CS: (i) *infrastructure CSs*, relatively small spaces owned and managed by small to medium-sized enterprises—part of their office space is allocated to coworking; (ii) *relational CS*s, similar to the infrastructure CS, where the entrepreneur acts a "community manager", promoting knowledge exchange and facilitating social relations; (iii) *network CSs*, are mainly large spaces with a more complex organizational structure—a group of managers with specific roles (essentially the events/project manager, community manager, and marketing manager, etc.); (iv) *welfare CSs*, with a managing structure similar to the network CS, are often small to medium-size spaces and associated with non-profit organizations or social enterprises (Ivaldi et al. 2018).

Findings of the study by Capdevila (2017), on the cases of Barcelona and Paris, show that CSs are primarily owned and managed by small private local start-ups; open innovation intermediaries mainly belong to private international companies; Living Labs have mostly a public or public-private structure, as they are heavily dependent on public funding; Fab Labs are mainly part of public institutions (i.e. universities). As in the case of Milan (Italy), explored by Mariotti et al. (2017), the Municipality has played a key role in promoting and investing in the development of shared-innovative workplaces (CSs and MSs) by means of assigning publicly owned abandoned space to private investors and also providing subsidies. The local government has also invested in incubators such as PoliHub, Alimenta, SpeedMiUp, FabriQ, Base, MHUMA, and Smart City Lab.

Di Marino et al. (2018) have investigated the new forms of multi-local working in the Helsinki region and discuss the development of both private and public organizations' strategies. The Helsinki Vision 2050 has guaranteed the provision of spaces for new creative thinking and new technologies: «*We need more spaces in which people meet, enjoy themselves and engage in recreational activities, and in which there are incentives to work and be an entrepreneur*» (City of Helsinki 2013: 6).

Furthermore, in Australia the State Government promotes policies to encourage both public and private flexible work organizations (Houghton et al. 2018), and Australian regional governments also play an active role in supporting the creation of coworking spaces so as to foster regional economic development (Ross and Ressia 2015). Here, coworking spaces specialized in the ICT sectors—for instance ICT incubators—are associated with entrepreneurship and "born global firms" (Ross and Blumenstein 2013).

3 The Notion of Coworking Spaces: The Rise of Coworking Studies in Varied Disciplines

This chapter's journey in scanning and examining the literature on CSs starts with the article "*Working Alone Together: Coworking as Emergent Collaborative Activity*" published in 2012 by Clay Spinuzzi, Professor of Rhetoric and Writing; and by far it has been the most influential publication on this topic, being cited more than 500 times. This 34-page publication in the *Journal of Business and Technical Communications* is the outcome of his pioneering 2-year study on CSs in Austin, through conducting interviews and reviewing online profile pages (such as Linkedin). He provides an extensive understanding of *what is coworking? Who coworks? And why do people cowork?* Seeing coworking as emergent collaborative activity, Spinuzzi (2012: 424) states that beyond the provided space, «*coworkers sought certain benefits from other coworkers- such as interaction, feedback, trust, learning, partnerships, encouragement, and referrals*». He is among the first scholars to give a definition for CSs as «open-plan office environments in which they work alongside other unaffiliated professionals for a fee (…)» (Spinuzzi 2012: 399).

For this study, the systematic search was made in Scopus databases, with three keywords "coworking", "coworking + space" and "co-working + space", on December 2019: after merging and cleaning the results, a total number of 137 articles were identified to have done direct research on coworking spaces. Figure 2 shows the number of publications in the 7-year period since 2012, by year and country of publication. From this very simple graph, the stark growth of studies in the recent years is apparent. Moreover, the geographic distribution of the origin of publications is quite interesting: though the first CS was born in the US, European scholars have shown far more interest in this topic (Italy records the highest number, followed by Germany, France and UK).

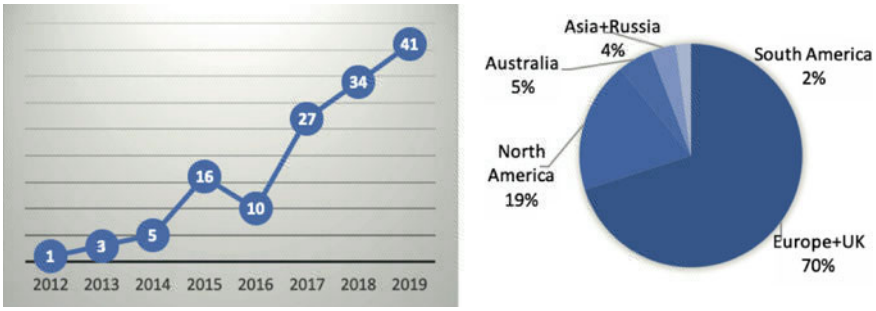

Fig. 2 The number of publications on coworking spaces based on the Scopus database—by year and country of publication (end of December 2019). *Source* Author

In this comprehensive review of the rapid-growing academic literature on CSs, the management and business sectors have primarily shown more interest in the topic. Also depicted in the previous section, Ignasi Capdevila, from business and management studies, is an important figure in this topic. His pioneering research, from a collective innovation perspective, on dynamic innovation regarding coworkers, makers and fablabers in localized spaces shed light on studies on new workplaces (Capdevila 2013, 2014). The findings of his qualitative study on the emerging communities in CSs in Barcelona shows how different dynamics of innovation including community insiders and local actors (firms, citizens and governmental bodies) are interconnected through the articulation of places, spaces, projects and events. Moreover, contributing to the literature on inter-organizational collaboration and dynamics of innovation, three types of collaboration practices are identified in the studied area: (i) cost-related: agents are to reduce their costs; (ii) resource-based collaboration: agents integrate external resources and knowledge; (iii) relational collaboration: actors engage in intense collaborative practices. In the management research, Bouncken and Reuschl (2018, 330–331) provide a definition of CSs as spatial, technological, and social structures offered to facilitate independent self-employment, freelancing, entrepreneurship, and micro-business without losing access to professional networks, as well as communication and learning opportunities. Accordingly, they introduce a model to a conceptual model based on key factors on performance affected by trust, community, learning, self-efficacy.

Scholars in the fields of economic geography and regional studies are also among the active producers of publications on CSs. Anita Fuzi has conducted extensive studies on coworking spaces: based on a company called IndyCube, that provides CSs throughout Wales in the UK, Fuzi et al. (2014) analysed the spaces in terms of office layout and design, community, collaboration and use of virtual platforms, in order to gain deeper understanding of the advantages and disadvantages of coworking spaces. As a result, it is proposed that such companies need to consider the issues of workspace design in relation to creativity and innovation. Besides, it is necessary to tackle the core values of coworking: openness, communication, collaboration, accessibility and sustainability. In conclusion, for them, «*co-working is a*

club-type environment that can be a flexible workspace where individuals or teams can choose which setting they want to work in for a given task at any given time» (ibid: 7). Once again in the case of South Wales, Fuzi (2015) applies an empirical study to explore whether CSs can trigger entrepreneurship in regions with scant entrepreneurial settings through creating hard infrastructures. Semi structured interviews and 46 completed questionnaires, on two different kind of CSs, were used to understand the members' motivations for joining, their gained benefits, the areas that could be developed further, and the tools used by operators to enhance their activities. The findings of this study underline that the simple co-location itself may not necessarily lead to networking, interaction and collaboration. Yet, community facilitators may play an important role in enabling more synergies to stimulate encounters and collaborations inside the trust-based community-oriented environments.

Recent studies from economic geographers emphasise the rise of remote working because of the growing knowledge economy, arguing that a sense of community within CSs is a crucial element that may facilitate cooperation as well as collaboration and knowledge sharing among coworkers (Clifton et al. 2019). Other scholars, in business studies, have also discussed the sense of community, as a solution offered by CSs to overcome the issue of social isolation as a consequence of the growing number of independent workers (Garrett et al. 2017). Therefore, individuals can satisfy their needs for social interactions, yet still maintain their desired autonomy and independence at work. The important topic of community making has been the subject of some interdisciplinary studies: in the case of Italy, Akhavan and Mariotti (2018) also confirm that CSs are characterised by the sense of community, not only inside the workplace but also when it is inserted into the neighbourhood to create local communities. Furthermore, more empirical studies affirm that community is important to the managers of CSs, as well as collaboration, knowledge and idea sharing, while emphasising different types of community supporting varied kinds of activities. To this regard, Spinuzzi et al. (2019) has applied a specific typology of communities to empirical investigation of coworking spaces based on three criteria: structure and division of labour, nature of coworker–manager relationships, and nature of coworker–coworker relationships.

Joint studies of economic geographers and urban planners on this subject are worth underlining here: Mariotti et al. (2017) conducted an empirical study about Milan, investigating the location patterns and effects of CSs on the urban context. Their research on 68 CSs located in Milan reveals that the location pattern of CSs resembles the service industries in urban areas, the so-called "creative clusters". This study has shed light on some of this phenomenon's urban effects, such as the participation of coworkers in local initiatives, the contribution to urban revitalization trends, and the micro-scale physical transformations. Akhavan et al. (2019) discuss the results of a more extensive data collection on Italy, by means of analysing an original database of all CSs in Italy (location, different characteristics, etc.) and also an online questionnaire sent out to coworkers. The findings show that three quarters of the coworkers declared to have perceived a positive impact of their CS on the local urban context, in terms of the agreements with local services, organizing charity events, participating in a Social Street, etc.