

Systematic Literature Review of Location Factors of Coworking Spaces in Non-urban Areas



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Abstract The global COVID-19 pandemic fostered the relocation of remote workers and freelancers from metropolitan to non-urban areas. During the first waves of the pandemic, regional migration flows affected the local demand for flexible working spaces in non-urban regions and attracted the interest of the local stakeholders. As a result, a growing number of coworking spaces (CSs) were established in non-urban areas. Yet the scientific discussion on what determines the location of non-urban CSs remains fragmented and has not been analyzed systematically. This chapter presents a systematic literature review (PRISMA) of recent evidence (2010–2022 publication period) on the topic of location factors of CSs in non-urban (rural) areas, and it outlines the main characteristics of CSs' locations. Analysis is performed on the macro, meso, and micro spatial scales and, in addition, the COVID-19 factor is taken into account. The results of our study indicate that since 2010, the most frequently and continuously analyzed location factors have been those at the regional (meso) level. Secondly, the micro and macro levels of analysis have increasingly gained scientific interest since 2020 but have remained under-researched. Finally, our results show a gradually increasing frequency of occurrences of the COVID-19 factor, which since 2021 has been the most discussed location factor.

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1 Introduction

Coworking practices are often seen as consequences and at the same time as accelerators of the increasing global trends of digitalization, economic restructuring, and globalization [7]. These global shifts determined a demand for more flexible working spaces, in a time when the place and time of work were not so relevant. However, the COVID-19 pandemic induced many potential and existing customers and users of CSs to move away from large cities because of safety reasons [15, 20]. The growth of regional migration flows of high-skilled professionals toward rural areas has partially revitalized peripheries and has boosted the demand for non-urban CSs.

The growing body of literature [2] and the establishment of CSs in rural areas reveal the importance of this new way of working for scholars and practitioners, and CS location factors have become a central research topic. It was already known (cf. [8, 11, 15, 16]) that many CSs are located in large metropolitan areas in proximity to their customers, usually high-skilled ICT professionals, freelancers, and creative class employees. However, non-urban CSs received considerably less attention than their metropolitan counterparts, especially in systemizing the explanations of location factors. The current study will address this issue by making a first attempt to complete a systematic literature review aimed at identifying the most discussed CS location factors in non-urban areas. To answer this research question, we perform a systematic literature analysis following the PRISMA approach [19].

The structure of the chapter is as follows. The next section introduced the applied PRISMA methodology and sets the empirical framework. A frequency analysis of macro-, meso-, and micro-scale factors follows. Finally, the concluding section summarizes the chapter key findings and discusses them by focusing on what we have learned on CS location mechanisms.

2 Methodology

To ensure compliance and increase the research value, this article follows the 27-items defined protocol developed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) to perform a qualitative literature review [19]. The aim was to systematically investigate the academic community's extensive research on CSs, explicitly focusing on the location factors of CSs in non-urban areas. In this systematic literature review, we initially explored two (close in meaning) terms, namely "location determinants" and "location factors". However, in the study, we generally decided to use "location factors".

Subsequently, different electronic databases were screened to classify relevant records for further analysis. Based on the results of a scoping search with the keywords "Coworking OR Co-working AND (location* OR factor* OR determinant*) AND (non-urban OR rural OR peripheral)", three appropriate databases were identified: Emerald, Scopus, and ScienceDirect.

At the beginning of the search process, the focus was on identifying relevant terms and synonyms related to the research question in English. Consequently, eight different expressions were identified and documented. Besides coworking (space) and co-working (space), the terms location(s), factor(s), determinant(s), as well as non-urban, rural, and peripheral were seen as related to the overarching research. Furthermore, wildcards (asterisks) were integrated to retrieve variations of the individual search terms, and Boolean operators (AND, OR, and NOT) were set to logically link the terms to a search string that can facilitate the objective.

The search was performed on October 1, 2022, and several criteria were defined: (1) the timeframe was restricted to 2010–2022; (2) the terms had to appear in the title or abstract or, in the case of Scopus and ScienceDirect databases, in the keywords; (3) the search was limited to research or review articles as well as EarlyCite publications. Eligible criteria were defined along with the research question. As most user preferences [24] are also location factors, we included articles that investigate both but excluded papers that exclusively discussed user preferences.

The master search string was applied to the databases, and the identified records were then exported to individual.ris files. Afterward, these.ris files were transferred to the reference manager Citavi and combined into one summary file, which was exported to an excel workbook. The final list of data included a total of 3,060 articles. Among these publications, the authors could identify 747 duplicates and 11 not retrieved article types, for a final total of 2,313 articles at the beginning of the screening process.

Three independent reviewers performed the screening of the titles and abstracts. Disagreements between the reviewers were resolved by consensus. In the first phase of the screening process, the titles of the identified articles were examined for thematic suitability. Thus, the number of articles was reduced to 46. The abstracts were screened and checked for eligibility in the second phase of the search process, which excluded 17 articles were excluded due to a missing thematic fit. In the third phase of the search process, the full texts of the remaining 29 articles were screened and checked for their thematic eligibility, the use of the English language throughout them, and their availability. As a result, 24 articles were excluded due to a lack of thematic fit or the unavailability of their full-text documents. Finally, five relevant articles were included in the final qualitative analysis. To increase the number of findings, backward and forward citation research was applied to the selected articles. Therefore, 12 additional papers could be identified as relevant from 381 references and were included in the final analysis. This led to 17 eligible records for this systematic literature review. The flowchart (Fig. 1) below summarizes the findings of each phase.

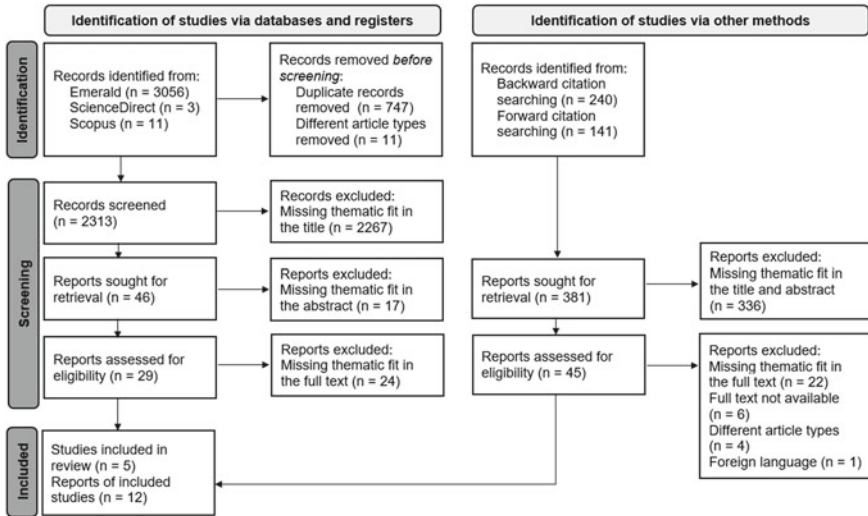


Fig. 1 PRISMA flow chart of the study selection process

3 Results

The results of the PRISMA analysis display an excellent research potential toward location factors of CSs in non-urban areas. These insights correspond with the findings of [22] on the limited availability of research on CSs in peripheral locations. This becomes especially clear when a frequency analysis of the publication years is performed (see Fig. 2).

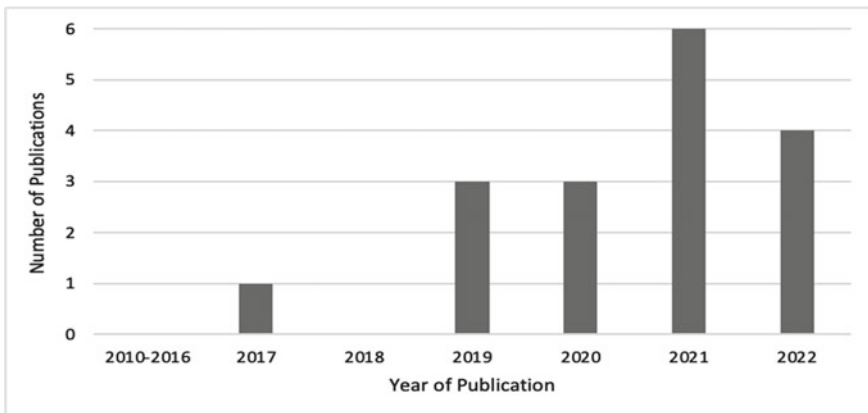


Fig. 2 Frequency analysis of years of publication

The graph clearly shows that research on location factors of CSs in non-urban areas remained unnoticed until 2017 and just came into motion in the last two years, in which more than half of the articles identified were published. The 17 studies were published in 12 different journals, particularly those concentrating on urban planning (53%) and management & economics studies (35%). The latter type can be further differentiated in journals focusing on real estate management (23%) and organizational culture (12%).

According to the neoclassical location theory, the location factors of CSs are: economic factors (market size, cost of labor, cost of premises, incentives, etc.), access to technical, digital and social infrastructures and transport accessibility, etc. [15]. In this study, we run a literature review exploring which main location factors are analyzed according to the geographical level. In the 17 studies reviewed in this paper, all published after 2010, the location factors of CSs in non-urban areas were applied to the three main groups identified by the authors and corresponding to the spatial scale analysis: macro (NUTS2/3 regions), meso (municipality or town level) and micro (neighborhood level; building and its surrounding area) location factors. Finally, 16 primary location factors were identified, complemented by COVID-19 related factors (see Fig. 3).

Figure 3 shows the frequency of the specific location factors addressed in the studies. The most common group of factors was at the meso scale (31 hits), next come micro factors (16 hits), while macro factors and COVID-19 related factors were mentioned eleven times. Most of the research articles (47%) focused on the role of potential and existing CS users. The following most frequent categories include the local community, existing social networks, real estate market (7 hits), the opportunity

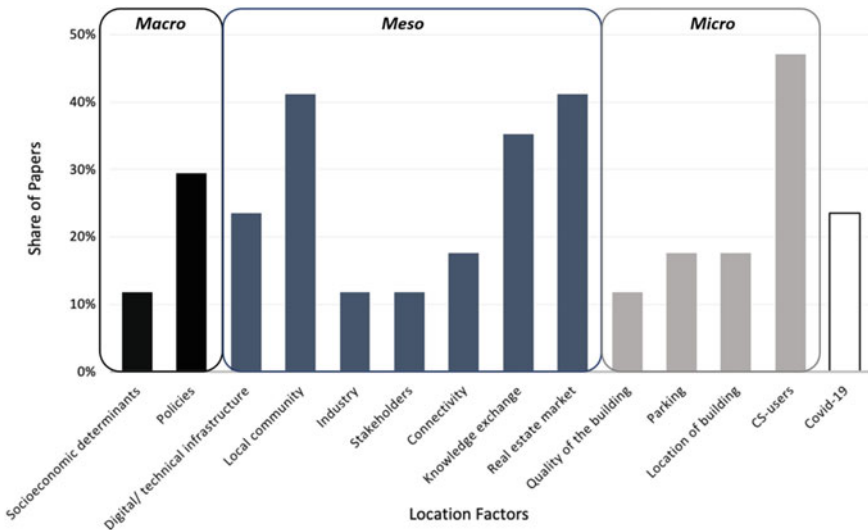


Fig. 3 Frequency of occurrence of location factors in the studied papers. *Source* authors' classification

for knowledge exchange related to the presence of high-level education (6 hits), regional and national policies (5 hints), and digital and technical infrastructure (4 hits).

3.1 Macro Factors

As shown in Fig. 3, the group “macro” is built upon two aggregate factors dealing with socioeconomic factors (e.g., population, GDP, employment rate) and national and regional policies. 12% of the papers address major socioeconomic factors such as *the population characteristics* and density, *competition in the central areas*, as location factors of CSs in non-urban areas. For example, the study by Hölzel et al. [12] assumed that, *inter alia*, the reason for CSs being established in prime residential areas is the population density. Another article found relations between the settlement of CSs and regional economic factors [23]. Vogl and Micek [23] concluded that the rise of CSs in non-urban areas was driven by the growing competition in the urban areas and by the favorable conditions and high return on investment in real estate markets for establishing CSs in peripheral areas.

Others (29%) found that CSs were attracted to peripheral regions by the typical values of the national and regional economy or *national and regional public policies*, e.g., support to or regulated entrepreneurship and rural revitalization [1, 4, 6, 15, 17]. The impact of regional public policies on the growth of CSs is discussed in three articles [1, 6, 15]. Clifton and Reuschke [6] mentioned the local municipalities’ increasing role in attracting and supporting the establishment of CSs. Mariotti et al. [15] reported that against the background of improving entrepreneurship, tailored policies could be adopted to attract CSs in peripheral regions. This assumption is confirmed by Akhavan et al. [1], who assumed that customized regulations combined with bottom-up initiatives on the promotion of entrepreneurship would accelerate the spread of CSs in non-urban regions. According to other scholars [4, 17] tourism-related policies and regional revitalization programs, in line with the rise of the deprived regions, also provided a favorable environment for the establishment of CSs.

3.2 Meso Factors

On the meso level, we identified the following eight groups of location factors (in descending frequency). Seven papers [4, 9, 10, 14, 15, 18, 21] associated the outcome of location with the various necessities of *the local community, network, and broader neighborhood* area. Two papers stated that CS establishment was driven by the growing demand of the local community [18] or of teleworkers unwilling or obliged to return to cities [15]. Two studies added that the emergence of CS was associated with the pre-existence of practice and the readiness of optimistic

entrepreneurs to utilize the new CS model in rural areas [10, 21]. In addition, Tremblay and Scaillerez [21] argued that personal attachment to the neighborhood of birth is a solid reason to establish a CS in this area. Other contributions considered the need of the local community for social collaboration [4], social proximity [9], and real interaction between its members [14], and therefore emphasized the need to organize physical places to exchange ideas and innovative practices and for being together.

Next seven studies [8, 9, 12, 15, 21–23] considered various factors that are typical characteristics of *the real estate market* such as yields, housing, and commercial rents or prices as well as capital or operating costs, to be the major factor of location.¹ Two publications [9, 22] argued that location was mainly driven by the high return on investments for CS in rural areas, while other researchers [8, 21] recognized the benefit of low rentals in rural real estate markets and associated the establishment of CS with the availability of affordable renting. Vogl and Micek [23] argued that a low competition level among CSs was another benefit of rural real estate. One publication [12] extended the growth perspectives of real estate markets by discussing the availability and importance of other commercial buildings (e.g., cafes, shops, shopping centers) in the surrounding area of CSs.

Furthermore, we found six papers that considered the central role of *knowledge exchange* in the non-urban area [5, 9, 10, 14, 15, 22]. Two studies [15, 22] argued that the establishment of CSs is more likely in neighborhoods of high-intensity educational institutions and transport accessibility of educational centers. Gandini and Cossu [10] considered CSs as potential centers of education and training, hence, they related the establishment of CS to the high demand for physical space to perform educational programs. Other studies [5, 14] claimed the need of creative workers and entrepreneurs for knowledge exchange and considered CSs as typical places for knowledge exchange.

Four articles pointed out the relationship between the rural region's digital and technical infrastructure and the establishment of CSs [1, 5, 15, 23]. Most of these scholars discussed the regional growth of the ICT sector, which provided opportunities to work remotely. Bürgin et al. [5] associated the establishment of CSs in non-urban areas with comprehensive and easy digital connections between regions.

The next group of location factors includes *accessibility* by various means of transportation. In the literature review we identified accessibility-related factors only on the meso level, although we acknowledge that they may also operate on the micro and macro level. In total, three papers [8, 13, 15] addressed the efficiency of the transportation system as a reason for establishing a CS. Mariotti et al. [15] and Di Marino et al. [8] emphasized that coworking spaces are more likely to be established in regions where high mobility flows are made possible by a highly developed transport system. Hölzel and de Vries [13] added that CSs in rural neighborhoods were often located close to residential clusters and there was a well-developed connection

¹ Factors related to the real estate market might be considered at the neighbourhood level, however in the 7 analysed studies they were investigated on the meso level.

system of roads and public transportation that shortened the commuting time and provided time-saving benefits to coworking members.

The last two strands of factors that are considered to impact the location of CSs are *the industry-related* factors such as local companies and industry sectors [1, 25] and *the presence of local stakeholders* that support, participate or even invest in CSs [10, 23]. Yang et al. [25] mentioned that establishing CSs is beneficial in areas where large commercial companies do not see a business potential. A similar conclusion was found in the study by Akhavan et al. [1], who found that small private companies, due to their legal form, were the most appropriate to establish a CS in rural areas as this did not require high establishment costs. Concerning the local stakeholders as location factor, Vogl and Micek [23] considered the presence of interested public institutions as motivation to establish a CS, while [10] mentioned that local businesses such as entrepreneurs and local companies were potentially interested in investing into coworking industry.

3.3 *Micro Factors*

The group of “micro” factors refers to the preferences of the target users’ group, the location and quality of the building, and the opportunity to have a free parking slot. Our results reveal that CSs *users* preferences are one of the most extensively researched. Overall, eight papers refer to various domains of the CS users, such as the location of residence, emergence of the target group and professionals, and surrounding services [1, 5, 6, 10, 12, 13, 18, 21]. Two studies [6, 12] stated the importance of spatial proximity of large residential districts and neighborhood areas. Other researchers [1, 5, 18] connected the growth of CSs with the type of the users such as creative people, remote workers, and multilocal knowledge workers. Two studies [10, 21] considered the user group’s interests as well. However, they focused on business people, researchers, and activists as potential customers of the CS. Another study [13] investigated user group preferences from the perspective of the services they required. The authors identified services such as bakeries, grocery stores, and cafes as complementary to CS.

Three papers [12, 13, 21] addressed *the location of the building* and, thus, the facilities and utilities of the closer vicinity as a driver for CSs. These studies concluded that establishing CSs in rural areas was associated with the variety of the infrastructure of the surrounding neighborhood [13, 21]. Thus, CSs would be more likely emerge in areas with a high density of cafes, bus stops, and shopping and cultural centers [12].

In addition, two papers [14, 25] considered *the building quality* and the physical space design as factors of the location of CSs. Yang et al. [25] discussed the role of the exterior design of the building on the decision to establish the CS and concluded that historic buildings might be of particular attraction due to their aesthetic and heritage value. In addition, Kovács and Zoltán [14] postulated the value and high attraction of modern interior design of the building where CS might rent the space.

Availability of *parking* slots was mentioned as a significant location factor on a micro-scale in three articles identified [6, 8, 13]. Clifton and Reuschke [6] stated the importance of parking, based on interview results, according to Di Marino et al. [8], the importance of parking facilities was due to the increased mobility of suburban workers who had to utilize their private cars [13] to access the CS.

3.4 Covid-19

The results of our study indicate four papers that considered the COVID-19 pandemic as a factor [1, 6, 22, 23]. Two papers [22, 23] mentioned the following chain reaction. The COVID-19 pandemic boosted the digitization of work and technological development of rural areas. In turn, the growth of ICT technologies created a favorable environment for remote work and removed the necessity to commute to urban areas to perform office work. Similar to previous studies, Akhavan et al. [1] mentioned the importance of technological advancements for relocating workers to non-urban areas. Another study [6] argued that in the short run, driven by safety requirements, people would move to non-urban areas and prefer to work from home. Yet, in a more extended period, the way of working will shift towards the hybrid mode, combining remote, home, and office working situations. This will create opportunities for establishing CSs in remote areas, as hybrid workers demand working space near their residences.

4 Conclusion and Limitations

There are only a few studies on location factors in non-urban areas, and research is primarily case-based. Our systematic literature review revealed that location factors are most frequently studied on a regional level, also taking into account the restricted availability of relevant studies. Due to the scarcity of broader approaches, we argue there is a research potential for macro-scale studies to explain differences between countries and regions in terms of CS density. Moreover, there is also a need to investigate further local factors of CSs distinguishing them from CSs users' preferences [3, 24]. Moreover, very few studies consider the whole country's meso scale (see the exception of Mariotti et al. [15]), not to mention the lack of comparative studies on different countries. We also observed the evolution of studies on the three analyzed groups of factors. Meso factors have been discussed equally across the whole time frame, whereas some micro factors have only gained importance in more recent publications.

Among macro factors, the growing role of public policy is the most frequently studied. There are two strands of research in this respect. First, Akhavan et al. [1] argued that regional policies are used to foster entrepreneurship in support of the establishment of CSs as centers for entrepreneurs. Second, tourism-related policies

and programs for regional rural and urban regeneration may form a good platform for the emergence of new working spaces in deprived regions [4, 17]. The most frequently researched meso factors include: the local community, existing social networks, the real estate market, opportunity for knowledge exchange related to the presence of high-level education, and access to ICT infrastructure. The first category includes the growing demand of the local community [18], the pre-existence of practice, and the readiness of optimistic entrepreneurs to utilize the new model of CS in rural areas [10, 21] or personal attachment to the neighborhood of birth. CSs' user preferences (including spatial proximity of large residential districts, the emergence of the target group and professionals such as creative people, remote workers, and multilocal knowledge workers, and availability of local consumer services) are the most frequently studied location factor in micro-scale. Surprisingly, building quality and design are not as commonly studied in research on location factors. Hence, we argue that applying CSs' location factor analysis in real estate management studies is necessary.

Limitations go along with the restricted availability of relevant studies on CS location factors in peripheral areas in general and on their differentiation from their effects in particular, which makes it hard to draw solid conclusions based on the studies reviewed. Consequently, the authors included location factors that can be interpreted as impact factors of CSs on specific areas and vice versa, such as national or regional policies [15]. To date, scientific studies on this topic are limited to the articles reviewed herein, which are all in English.

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