

Theoretical Framework of the Location of Coworking Spaces



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Abstract Location theory focuses on the optimal location choice determined by the attractiveness of sites for firm location. This chapter reviews the location theories (neoclassical, behavioral, institutional, and evolutionary), which offer insights into the location factors of coworking spaces that can be assimilated to those of the service sectors. It discusses the role of proximity measures a la Boschma and presents a literature review of the studies exploring coworking spaces' location factors. Conclusions and future research lines conclude the chapter.

1 Introduction

A growing number of papers are currently being written regarding the spatial development of coworking spaces (CSs) and factors related to their location (e.g., [20]; [37]). However, previous studies on firm location often fail to properly set empirical research within location theories [7].

In this chapter, first we apply theories and paradigms constructed in economic geography, urban, and regional economics to explain the location factors of CSs. Specifically, we evaluate the applicability of location theories to analyze and explain the location of CSs. While discussing location theories, we treat CSs as economic agents for which location is shaped by various factors. We classify selected existing literature based on used location theories, although most papers often use location theories without mentioning them explicitly.

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2 Location Theories—An Overview

2.1 *From Neoclassical to Behavioral, Institutional, and Evolutionary Location Theories*

Economists developed the industrial location theory in the early twentieth century, focusing on individual firms and the variables that influence the selection of new sites. These ‘neoclassical’ spatial-economic theories view entrepreneurs as rational decision makers—‘homo economicus’—who possess perfect knowledge and abilities in a rational selection process leading to the best results in terms of cost, revenue, and profits (see, among the others, [40]).

Prior to the 1960s, analytical work consisted in interpreting the location of individual plants or industries with reference to the conceptual framework provided by the neoclassical theory. The goal was to search for the ideal location at a particular time, and the most suitable approach was to analyze the location of essential heavy industries such as iron and steel ones, “which were in the vanguard of the contemporary industrial progress” [8].

The rapid economic growth of the 1960s resulted in an exceptional and perhaps unique amount of investment in new manufacturing establishments in Western Europe, North America, and Japan, leading to increasing academic and policy interests in location decision-making [22]. This period saw the beginning of the behavioral location theory, which focuses on the geography, growth, and behavior of firms, which are not considered rational economic decision-making units but are seen as units governed by conflicting goals, limited knowledge and environmental control, irrational perceptions and behavior, etc. [12, 16]. As stated by Brouwer et al. [7], the behavioral location theory explores ‘internal’ factors (e.g., age and size) that are important in the decision-making process and that leads a firm to choose a particular location. According to the behavioral theory, an entrepreneur who has to move his/her firm is most likely to choose a near places as this is more familiar or easier to imagine than a distant place (‘mental maps’) [7, 31].

In the 1970s and 1980s, interest grew in cultural institutions, value systems, and innovations in society. These new patterns were embraced in institutional approaches wherein location behavior was the result of negotiations between the firm and various local and national entities. In the institutional approach, non-material factors such as ‘trust’ and social capital are key elements on all economic levels (see also the ‘industrial district literature’ [2, 25]). A firm’s location behavior results from its interaction with suppliers, government, labor unions, and other institutions [22].

The most recent approach, developed since the early 1990s, is a decision-making theory underlying evolutionary economics. This ‘evolutionary’ approach is based on routine behavior rather than rational choice. According to the evolutionary theory, firms are unwilling to change their location because their competitiveness is determined by the knowledge, routines, and expertise they have acquired (within a particular local environment), which are hard for competitors to imitate [4].

In the neoclassical approach, firms are seen as black boxes that respond to their environment rationally. In the behavioral approach, firms make decisions involving conflict, uncertainty, and problems which stimulate research, learning, and adaptation over time. In institutional and evolutionary approaches, firms are defined by their interactions with the environment [22]. Specifically, the entrepreneur's personal characteristics, network of personal and business relationships, and cultural influences on the spatial economic system are given a primary focus [6].

The shift from neoclassical to behavioral, institutional, and evolutionary approaches represents a shift from the 'hard' factors typical of the neoclassical location theory to the 'soft' factors of the behavioral, institutional, and evolutionary approaches [13]. This shift is related to the 'cultural turn' [1] or 'institutional turn' [26] in economic geography, which is a reorientation process that is observed in all social sciences [6], (p. 18).

A review of location theories shows overlaps between the behavioral, institutional, and evolutionary approaches, which tend to complement rather than exclude each other [6]. This leads to a tendency to combine different approaches to explain a phenomenon. Martin [26] proposed a multidimensional, multi-voiced economic geography with use of different approaches. Hassink and Gong [11] argued that economic geographers studying economic activities in space and their drivers should follow an integrative paradigm that attempts to combine different paradigms. Besides, some authors do not consider geographical proximity as a key factor for some types of industries (mainly high-tech) (see, among others, [5, 32]).

2.2 The Proximity Theory and Its Use to Explain Location of Coworking Spaces

Proximity economics addresses the significant role played by various spatial and non-spatial proximities in boosting knowledge flows, innovation, and entrepreneurship within the workspaces. Inter-organizational proximity [3] includes five dimensions: geographical, social, organizational, institutional, and cognitive proximity. Bidirectional relations between two inventors or businesses and their impact upon knowledge flows, collaboration or co-patenting [38] are usually researched in proximity studies. The main idea within proximity economics is that non-spatial proximities may compensate for the poor geographical proximity [3, 17] or even substitute it. One of the crucial underlying mechanisms is the following: exchange of knowledge is easier in the era of the digital revolution. Hence, we may even identify a virtual (electronic) proximity [15, 17] that helps to establish collaborations.

In the context of coworking spaces, these interdependencies are usually understood as relations between coworkers [19]. However, in coworking spaces, proximity may also be proxied by a distance between the home and the workplace. This trend is called 'proximity coworking' which is driven by remote workers. Smaller distance

between the home and the workplace helps reduce commuting, traffic, and pollution, and improve work-life balance [23].

Based on conducted literature review of definitions of CSs and various proximities, Micek [27] attempted to identify how the specificities of CSs are linked to the proximity dimensions. For instance, working with colleagues and companies in a flexible setting [30, 33] generates collaboration, knowledge interactions and social proximity. In her studies of proximity-driven social networks in two coworking spaces, Parrino [30] argued that organizational and social proximity matter for stimulating collaboration among coworkers and in enhancing knowledge flows. In their study on Italian coworkers, Mariotti and Akhavan [19] tested this dimension of proximity detecting relationships based on trust and established friendships. Institutional proximity, proxied by the use of the service and facilities offered by the CS, including training courses, social proximity, is one of the most frequent proximities in CSs. It goes along with institutional proximity proxied by similar lifestyles, rules and values. Cognitive proximity (understood as similar level of knowledge or rarely as similar professional experience) between coworkers also occurs in CSs. Institutional proximity in the form of similar political attitudes is the least common in CSs [19]. Finally, it might be even argued that due to significant fluctuations of users, the proximity between them may also be temporary and not permanent. Besides, during the Covid-19 pandemic, CSs massively experienced digital proximity, which allowed them to feed and keep alive their community [24].

3 Literature Review on the Location of Coworking Spaces

The literature on the location of CSs is scant. Most studies about the location factors of CSs were written in the last decade and refer to urban and peripheral areas.

At the beginning of 2000, Brouwer et al. [7] explored the factors behind the firm relocation behavior in twenty-one countries in 1997–1999, distinguishing among neoclassical, behavioral, and institutional factors. According to the literature [31], while the Neoclassical theory mainly refers to the “hard” factors (accessibility, infrastructures endowments, market size, etc.) the Behavioral, Institutional, and Evolutionary theories concern the “soft” factors (e.g., trust, innovation, “image” of the place).

Similarly, this chapter classifies few selected studies explaining the location of CSs, according to the location approaches. The reviewed papers are then grouped according to their level of analysis (geographical vs. individual-at space level) and their methodology (quantitative vs. qualitative and mixed methods).

Most studies about the location factors of CSs were written in the last decade, refer to urban and peripheral areas and adopt quantitative analysis. The vast majority of papers analyzed location patterns and factors in large cities.

In 2023, a special issue in European Planning studies collected three papers exploring the location of new working spaces, including coworking [20, 18, 9]. These papers used quantitative approaches and thus, mainly investigated the role

of neoclassical factors in explaining NeWsp location. Mariotti et al. [20] explored the location factors of the 549 CSs existing in 2018 in Italy. The empirical analysis concerned: (i) descriptive statistics and exploratory spatial analysis to investigate the geographical distribution of CSs and (ii) econometric analysis (zero-inflated negative binomial regression). The results confirmed that CSs privileged urban areas, which are knowledge-intensive places for creative people. CSs were more frequently located in NUTS4 municipalities with higher urbanization economies, innovation, a higher share of skilled labor, and entrepreneurial vivacity (e.g., capital cities of metropolitan areas). In addition, the analysis revealed that even suburban areas close to major cities attracted CSs, as did peripheral and inner areas, albeit to a lesser extent.

Coll-Martínez and Méndez-Ortega [9] investigated the location factors of CSs in Barcelona. A quantitative analysis was carried out using geographical information systems (GIS) and Kd functions of agglomeration and co-agglomeration. The main location factors found for CSs were: (i) proximity to the center, where there are greater chances of meeting customers and suppliers, (ii) proximity to urban amenities, and (iii) the image of the location. Moreover, CSs used to co-agglomerate with firms mostly related to creative industries.

Di Marino et al. [18] focused on new working spaces (NeWSpS) in the Helsinki metropolitan area to understand location factors and implications for planning. Through descriptive and GIS analysis they analyzed 86 NeWSpS in Helsinki in 2019 and found that they tended to be located in neighborhoods with good access to public transport, proximity to university campuses, and a concentration of knowledge-intensive jobs. In addition, they were mainly located in multifunctional centers in the core and sub-center pedestrian zones.

Wang et al. [39] analyzed the location patterns and factors in the city of Hangzhou. They argued that the location of CSs was determined by regional innovation environment measured by the density of innovative enterprises and innovation parks within a specific distance range. The second important factor was the quality of life represented by catering facilities, recreational facilities, and medical facilities. Surprisingly, Wang et al. [39] found out that the average housing prices within 1 km of CSs had no influence.

Sutriadi and Fachryza [34] attempted to explain the location of CSs in Bandung (Indonesia). They found out that proximity to coffee shops, bar & pubs, presence of higher education area and sport & park facilities was important for the location patterns of CSs.

A recent paper by Tiwari [35] analyzed the location patterns of CSs in Delhi, India. Secondary data for 117 coworking locations in 280 municipal wards were analyzed through Ordinary Least Squares (OLS) and Geographically Weighted Regression (GWR) models. The analysis led to conclusions similar to those of [34], i.e., that the density of bars, median house rent, fitness centers, metro train stations, restaurants, cinema, and café drove the geographical distribution of CSs.

Another group of studies focus on rural and peripheral areas. Vogl and Micek [36] explored the bidirectional causation between the real estate market characteristics (residential property prices/rents, office rents) and the rise of CSs in the peripheral areas of Germany. The authors constructed their own database of 1,201 CSs based

on the desk research. Most CSs in the German peripheral areas had been established only recently, and specifically in tourism-oriented regions in the south and north of Germany, and they were mainly hybrid spaces.

Studies using qualitative analysis or mixed methods are lower in number. Fiorentino [10] explored the taxonomy and location of CSs in Rome, through desk research and interviews with CS managers and stakeholders. The interviews with stakeholders highlighted that, in addition to neoclassical factors (e.g., proximity with suppliers and customers, public transport accessibility), behavioral and institutional factors played a crucial role in CSs location. Some socially-oriented CSs in Rome were located in economically deprived areas and helped to address social segregation and inequality issues. These aspects were related to behavioural location factors.

Mourad et al. [28] discussed the dynamics of the location of CSs in Cairo (Egypt). Using space–time mapping, field study, and interviews, they revealed that during the first development phase, CSs were established in spatially integrated transit-oriented areas located close to universities. In the second phase, CSs expanded to new, more spatially segregated satellite cities, not necessarily close to universities (Table 1).

It is rather clear that the studies developing explanatory models and carrying out analyses at the geographical level use objective data (e.g., accessibility, proximity to amenities, agglomeration) also called “hard factors”, which can be classified as neoclassical ones. On the other hand, studies using interviews or surveys and detailed empirical work (qualitative analyses and mixed methods) mainly refer to soft factors. These studies underline that, although to a different extent, the behavioral, institutional, and evolutionary factors play a role in coworking spaces location decisions.

4 Conclusions

Existing empirical research on location factors fails to establish a proper link with location theories. Moreover, scholars tend to use single methods to explain location patterns. This chapter distinguished three strands of literature that attempt to identify (both directly and indirectly) location factors of CSs:

- quantitative studies that directly identify location factors (see, for instance, Mariotti et al. [20]; [18],
- studies on the co-agglomeration of CSs with other industries such as creative industries [9, 14] or broader knowledge-intensive services [29],
- studies that aim to identify location factors based on qualitative insights (mainly from interviews; [10]).

Quantitative and qualitative research should be combined to better understand the location of firms, in general, and of CSs. Besides, mixed-methods approach should be able to explore the causality of firm location. Qualitative research, based on questionnaires and interviews with the actors involved in the location process, should be applied to find additional information on the hard factors (e.g., more specific

Table 1 Location factors and location theories in selected papers

Selected papers	Level of analysis	Methodology	Location theories
Quantitative analysis/geographical scale			
Mariotti et al. [20]	NUTS4 level (municipalities in Italy)	Quantitative (zero-inflated negative binomial regression)	Neoclassical approach
Méndez-Ortega et al. [29]	Neighborhood level (Barcelona, ES; Utrecht, NL, Warsaw, PL)	GIS and Kd functions of agglomeration and co-agglomeration	Neoclassical approach
Di Marino et al. [18]	Neighborhood level (Helsinki, FIN)	Descriptive and GIS analysis	Neoclassical approach
Vogl and Micek [36]	NUTS3 level (districts) (Germany, DE)	Desk research, descriptive statistical analysis	Neoclassical approach
Wang et al. [39]	Neighborhood level (Hangzhou, CN)	Kernel density analysis, entropy weight method	Neoclassical approach
Sutriadi and Fachryza [34]	Neighborhood level (Bandung, IND)	Kernel density analysis, Sommer's d association analysis	Neoclassical approach
Tiwari [35]	Municipal wards (Delhi metropolitan area, IN)	Ordinary least squares (OLS) and geographically weighted regression (GWR) models	Neoclassical approach
Qualitative analysis and mixed methods/workplace (manager and users) scale			
Fiorentino [10]	Neighborhoods in Rome (Italy)	Interviews with CS managers and stakeholders	Neoclassical approach, behavioral and institutional approaches
Mourad et al. [28]	Neighborhood level (Cairo, EG)	Space-time mapping; semi-structured interviews with managers, stakeholders and coworkers	Behavioral and evolutionary approaches

geographical data and characteristics of the premises), and the soft factors (e.g., place of residence of CSs' founders, government policies). All this could help identify the role played by the 'neoclassical', 'behavioral', 'institutional', and 'evolutionary' factors in setting up CSs.

There is certainly a need to avoid isolated views and perspectives in studies of location patterns and factors of CSs. Following [11], we call for implementing a more integrative paradigm in studying location patterns of CSs. Hence, different

perspectives (e.g., neo-classical, behavioral, and institutional) should be used to grasp the real impact of various factors on the location of CSs.

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