**The agglomeration of cultural and creative industries: are coworking spaces co-locating?**

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*Extended abstract*

Currently, cultural and creative industries (hereinafter, CCI) are considered as driver for socioeconomic growth, with an employment of 7.7 million people and revenues roughly 540 billion EUR (EY, 2015). The notion of (CCI) was firstly developed by the Department of Culture, Media and Sport (DCMS, 1998) as a novelty concept based on individual creativity, skills and talent. Furthermore, the concept is considered a driver for job creation, mainly due to the exploitation of intellectual capital (Florida, 2014). Development of digital media raised awareness of the CCI as they are being linked with wider processes and sectors outside creative. Therefore, they occur in traditional sectors with the use of the ICT.

Support for CCI is a part of the Europe 2020 strategy and other policies that are focused on small and medium enterprises. Besides, these industries extended their role in national economies within the rise of digital age. Indeed, most workers in new working spaces like coworking spaces (hereinafter, CS) belong to the CCI. A recent study on CS in Italy has underlined that about 75% of the coworkers (those working in a CS) are specialised in the creative sectors (Akhavan et al., 2019). Similarly, Impact Hub Global reports stress the predominance of the CCI.

Several scholars have specifically studied the factors fostering the creative industry's geographical concentration (e.g., Boix et al., 2015, for the case of Europe; Cruz and Teixeira, 2014, for the case of Portugal and Lazzeretti et al., 2012, for the cases of Spain and Italy; Catungal et al., 2009, for Toronto; and Inkinen and Kaakinen, 2016, for Helsinki Metropolitan Area). They found that it is mostly clustered in metropolitan areas, around medium-sized and large cities, and cross-border areas. Lazzeretti et al. (2012) in their analysis about Italy and Spain find that creative industries and creative employment tend to concentrate around medium and large cities, forming creative local systems. It results that the following factors fostered a concentration of creative firms and creative employment in both countries: (i) the historical and cultural endowments, (ii) the average size of creative industries, (iii) the size of the place, (iv) the productive diversity, and (v) the concentration of human capital and creative class.

Besides, several studies highlight that creative industries, with a knowledge base, tend to locate in areas with high amenity environments (Sivitanidou, 1999; Van Oort et al., 2003), which can be summarized in two main categories of:

- *productive amenities:* good access to clients, specialized labour, specialized firms, universities, transportation nodes and networks (airports, freeways, train stations);
- *non-productive amenities:* good access to urban amenities such as restaurants, cafes, shops; cultural and entertainment services (theatres, museums, cinemas, music and sport clubs); good environmental quality.

Apart from the importance of such amenities in attracting creative industries, the presence of the creative class[1], a source of entrepreneurship and economic growth, may attract similar kinds of knowledge-based activities (Clifton and Cooke, 2007). This can be explained by Florida's 3Ts theory of economic development, which specifies the role of the concentration of: (i) *technology*, high tech activities and R&D innovations; (ii) *talent*, talented working forces; (iii) tolerance, the level of inclusiveness, diversity and opportunity to work.

[1] The difference between human capital and the creative class theory is that in the former case people need to have high education levels in order to provide added value to their activity, while in the latter people do not necessary need to have high education level but just certain abilities acquired over their professional working life.

Most studies have focussed on the metropolitan and large cities; nevertheless, recent studies have placed the attention to the location of activities beyond the inner city. Felton et al. (2010), in the paper about Australia, argued that although networks operate across geographical boundaries, particularly using communication technologies, there is increasing creative industries activity in outer-suburban and exurban areas. The study identifies characteristics of creative industries networks in outer-suburban locations in Melbourne and Brisbane, and underlines that while technology facilitates communication and business practices in many productive ways, it does not enable the same opportunities that face-to-face interaction provides. Besides, the study stresses the need to develop different strategies for supporting and sustaining creative industries networks in these locations than those applied to inner-city networks.

Only four recent studies, at least to our knowledge, have explored the location patterns of CS, the first three focusing on the largest cities, and the last one on peripheral areas.

Moriset (2014), using data on CS collected by "Deskmag" (2.498 CS all over the world in 2014), stated that the CS phenomenon is diffused in the so called “creative cities” of advanced economies (i.e. San Francisco, London, Paris, Berlin, Amsterdam, Barcelona and New York but also in cities in Japan, Brazil, Australia and Russia).

The recent paper on the location pattern and the urban effects of the 68 CS in the city of Milan by Mariotti et al. (2017) underlined that the location patterns of Milan CS can be assimilated to the main location determinants of service industries in urban areas: (1) the high density of business activities, that is a proxy of urbanization and localization economies, as well as market size and potential; (2) the proximity to universities and research centres, that is a proxy for a skilled labour force’s availability and business opportunities; (3) the presence of a good local public transport network, that is a proxy of the degree of accessibility.

Stam and van de Vrande (2017) in the study about CS in the Netherlands underline that most of them are located in large cities and it is not common for CS to be located in (temporarily) abandoned areas. Many CS are located in city centres with good accessibility. Besides, it results that 55% of the coworkers live in the city where they use coworking spaces, indeed most of them travel by bike (73%) or walk (12%) to coworking locations. The authors, therefore, underline the positive role of CS in reducing the pressure of inner-city traffic.

Finally, Krauss et al. (2018) analysed the location of CS in small and medium-sized cities in France and Germany in 2016-2017, underlying that in the peripheral territories, the extensive use of ICT by the CS’ actors enables an “electronic proximity” that act as a substitute for the geographical proximity, thus overcoming distances.

Within this context, the present paper aims to explore whether CS in three global cities – London, Milan, and Prague privilege to co-locate in CCI agglomerations and whether similarities and differences arise. Secondary data are collected from the national statistical offices, are processed at micro-level as point data to avoid the Modifiable Areal Unit Problem (MAUP), and biased results of the analysis. The final database for the CS in the three cities has been developed by the authors within the CA18214 project “The Geography of New Working Spaces and the Impact on the Periphery”. Exploratory spatial data analysis applying colocation techniques is developed to investigate the phenomenon.

When analysing location patterns of CCI, although the results highlight the predominant role of urban cores of the three cities, also indicate important specificities in terms of core-periphery distribution of CCI.

The paper is structured into six main sections. The Introduction is followed by a literature review on the definition and location patterns of CCI and CS. Data and methodology are presented in section three. The

subsequent section is dedicated firstly to descriptive statistics. Secondly, colocation analysis between CCI and CS using both global (CLQ, Leslie and Kronenfeld, 2011), and local version of colocation quotient (LCLQ, Cromley et al., 2014, and Wang et al. 2017) is implemented. This allows detecting statistically significant patterns of colocations and their spatial variations across specific locations applying Euclidean distance measures with adaptive bandwidth for 10 nearest neighbours. Conclusions and further research questions follow.

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