

UNIVERSIDADE DE SÃO PAULO  
ESCOLA POLITÉCNICA

ELY MOTA LIMA

**Insights on creative hubs management:**  
from working together to achieving impact

São Paulo  
2023

ELY MOTA LIMA

**Insights on creative hubs management:**  
from working together to achieving impact

**Original Version**

Thesis presented to the Production Engineering Graduate Program at the School of Engineering (Escola Politécnica) of the University of São Paulo for the attainment of the Master of Science degree.

Concentration area: Work, Technology, and Organizations.

Supervisor: Prof. Dr. Davi Noboru Nakano

São Paulo

2023

Autorizo a reprodução e divulgação total ou parcial deste trabalho, por qualquer meio convencional ou eletrônico, para fins de estudo e pesquisa, desde que citada a fonte.

#### Catálogo-na-publicação

Lima, Ely Mota

Insights on creative hubs management: From working together to achieving impact. / E. M. Lima -- São Paulo, 2023.

70 p.

Dissertação (Mestrado) - Escola Politécnica da Universidade de São Paulo. Departamento de Engenharia de Produção.

1. Inovação 2. Open innovation 3. Creative hubs 4. Shared workspaces  
I. Universidade de São Paulo. Escola Politécnica. Departamento de Engenharia de Produção II. t.

Name: LIMA, Ely Mota

Title: **Insights on creative hubs management:** from working together to achieving impact

Thesis presented to the Production Engineering Graduate Program at the School of Engineering (Escola Politécnica) of the University of São Paulo for the attainment of the Master of Science degree.

Approved in: / /

Examining board

Prof. Dr. \_\_\_\_\_  
Institution: \_\_\_\_\_  
Evaluation: \_\_\_\_\_

Prof. Dr. \_\_\_\_\_  
Institution: \_\_\_\_\_  
Evaluation: \_\_\_\_\_

Prof. Dr. \_\_\_\_\_  
Institution: \_\_\_\_\_  
Evaluation: \_\_\_\_\_

## DEDICATION

*To my father and mother, who have sown the seed of learning in me and my siblings. I am profoundly grateful for all the time and love invested in me. Thank you for constantly provoking me to dream and supporting me to achieve.*

*To my lovely wife, who has constantly been my strength and reason to seek improvement. You have been changing my life daily and for the better.*

*To my siblings, Fernanda, Rafael, and Renata, I am blessed to have friends and partners such as you three; you are an inspiration to everything I have been doing.*

*To my daughter, you are the joy of my life.*

## **ACKNOWLEDGMENTS**

To Dr. Davi Noboru Nakano, who patiently guided me into resuming my academic journey. He has been a valuable mentor, imparting invaluable knowledge and significantly contributing to my scientific and intellectual development.

To my master's colleagues at PPGE- USP, I am fortunate to have had the opportunity to work alongside such dedicated and talented individuals, and their impact on my academic journey is significant to me.

## ABSTRACT

Lima, E. M. (2023). **Insights on creative hubs management**: from working together to achieving impact. (Master's thesis). Escola Politécnica da Universidade de São Paulo, São Paulo.

This exploratory and qualitative project investigated different creative hubs in São Paulo. Data sources include semi-structured interviews with the managers of 13 spaces and secondary data (documents, online publications). The literature review was the basis for a broad understanding of the types and characteristics of creative spaces. Data analysis followed an inductive approach, allowing empirical confirmation of some concepts in the literature and revealing new views on the phenomenon. Contributions are both for theory and practice by providing a new perspective on the effects, structures, challenges, and realities of creative spaces in developing countries. In addition, a model has been proposed to facilitate comprehension and discussions regarding the dynamics of hubs. Four patterns stand out among the different hubs and contribute to a deeper understanding of the dynamics of creative hubs. From one of the patterns, which highlights the degree of influence of hub participants, a new 'taxonomy' was developed. The research highlights the main opportunities for future research and establishes the limitations of conducting the study and interpreting the results.

**Keywords:** Creative Hubs, COVID-19, Manager, Shared Workspaces, Hubs' Impacts, Creative Economy, Open Innovation.

## RESUMO

Lima, E. M. (2023). **Insights on creative hubs management**: from working together to achieving impact. (Master's thesis). Escola Politécnica da Universidade de São Paulo, São Paulo.

Nesta pesquisa exploratória e qualitativa, foram investigados diferentes *hubs* criativos na cidade de São Paulo. As fontes de dados incluem entrevistas semiestruturadas com os gestores de 13 espaços e dados secundários (documentos e publicações online). A revisão da literatura foi a base para uma ampla compreensão dos tipos e características dos espaços criativos. A análise de dados seguiu uma abordagem indutiva, permitindo a confirmação empírica de alguns conceitos na literatura e revelando novas visões sobre o fenômeno. As contribuições são tanto para a teoria como para a prática, fornecendo uma nova perspectiva sobre os efeitos, estruturas, desafios e realidades dos espaços criativos nos países em desenvolvimento. Além disso, foi proposto um modelo que visa facilitar a compreensão e as discussões sobre a dinâmica dos *Hubs*. Quatro padrões se destacam entre os diferentes *Hubs* e contribuem para uma compreensão mais profunda da dinâmica dos *Hubs* criativos. A partir de um dos padrões, que destaca o grau de influência dos participantes do hub, foi desenvolvida uma nova “taxonomia”. A pesquisa destaca as principais oportunidades para futuras pesquisas e estabelece as limitações de condução do estudo e interpretação dos resultados.

**Palavras-chave:** *Hubs* criativos, COVID-19 , Gestor, Espaços de trabalho compartilhados, Impacto dos *Hubs*, Economia Criativa, Inovação aberta.



## List of Figures

Figure 1 - Flowchart of the Research Process and Sample Composition.....	17
Figure 2 - Author Co-Citation Network.....	18
Figure 3 – Most Global Cited Articles.....	19
Figure 4 – Most Local Cited Articles.....	19
Figure 5 – Co-occurrence of Keywords.....	20
Figure 6 – Creative Hubs Locations.....	26
Figure 7 – Second-order Concepts Selected and Hubs Backing the Concepts.....	31
Figure 8 – Second-order Concepts Selected and Aggregation of Concepts.....	37
Figure 9 – Creative Hub Relationship Macro Model.....	44
Figure 10 – Insights on Relationship Macro Model.....	49
Figure 11 – Creative Hub Taxonomy According to Parties' influence.....	50

## Summary

<b>1. INTRODUCTION</b> .....	9
1.1. <b>Research Questions</b> .....	10
<b>2. LITERATURE REVIEW</b> .....	12
<b>3. SYSTEMATIC LITERATURE REVIEW</b> .....	16
3.1. <b>SLR Sampling Process</b> .....	16
3.2. <b>SLR Bibliometric Analysis</b> .....	17
3.3. <b>Supplemental Literature Review</b> .....	20
3.4. <b>Research Method Design</b> .....	24
3.5. <b>Location Selection</b> .....	24
3.6. <b>Sample Selection</b> .....	25
3.7. <b>Data Analysis</b> .....	30
<b>4. RESULTS</b> .....	31
4.1 <b>Community managers are essential for enhancing connections between participants</b> .....	32
4.2 <b>Sponsors demand results and direct impacts</b> .....	32
4.3 <b>The curatorship of the hub determines the diversity of industries, maturity, and engagement of the participants</b> .....	33
4.4 <b>Participants' needs can be captured to shape the events and services offered by the Hub</b> .....	33
4.5 <b>Collaboration occurs not only between startups and sponsors but also with other participants who do business and disseminate knowledge</b> .....	34
4.6 <b>Collaboration between members may happen organically without the managers' involvement, which may affect the measurement of hub impacts</b> .....	34
4.7 <b>The prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult</b> .....	35
4.8 <b>COVID-19 forced the events to be digital, increasing participation and engagement</b> .....	35
4.9 <b>People attend events to build networks, prospect for new customers, absorb and share knowledge</b> .....	35
<b>5. DISCUSSION</b> .....	39
5.1. <b>A Discussion of Results and the extant Literature</b> .....	39
5.1.1 <i>New public and hub's attractiveness</i> .....	39
5.1.2 <i>Creative cities and community engagement</i> .....	40
5.1.3 <i>Beyond the hub's walls and the community exclusion elements</i> .....	40
5.1.4 <i>Physical proximity ordinariness</i> .....	41

5.1.5 <i>Host relevance</i> .....	41
5.1.6 <i>Results and objectives problems</i> .....	41
5.1.7 <i>Covid-19 impacts and external factors</i> .....	42
<b>5.2. A New Framework: Hub’s Relationship Model</b> .....	43
<b>5.3. Macro Model Insights</b> .....	44
<b>5.4. Hubs’ Taxonomy Proposition</b> .....	49
<b>6. CONCLUSION AND LIMITATIONS</b> .....	52
<b>REFERENCES</b> .....	55
Appendix A - Additional Bibliometric Analysis.....	61
Appendix B - Interview Script.....	64
Appendix C - First and Second Order Concepts.....	66

## 1. INTRODUCTION

There is a growing number of shared workspaces, accelerators, incubators, coworking spaces, and creative hubs in large metropolitan areas such as São Paulo. According to Deskmag (2019), there were 18,700 coworking spaces worldwide in 2018, a sharp increase from the 160 locations in 2008 pointed out by Waters-Lynch *et al.* (2016).

The concept and practice of coworking have evolved dramatically; they have materialized mainly as corporate, large, for-profit, and institutionalized ventures in the main cities around the world (Brown, 2017). Also, the hype about creative cities and the political discourse about creative industries have contributed to bringing attention to those spaces and boosting their growth (Gill, Pratt, & Virani, 2019). The creative hub concept encompasses spaces for work, collaboration, and consumption destined for creative workers and companies.

Initiatives are spread across global cities, sponsored by corporations and governments, with public policies and investments promoting entrepreneurship, innovation, and economic development. Technology development, changes in working practices, globalization, and other phenomena have resulted in different forms of creative hubs. They may vary in size, target audience, strategy, industry focus, services offered, location, and community coordination. In this context, the actual impact of creative hubs is fuzzy and unclear. This happens due to aspects such as heterogeneity of purposes, the debate about economic development and work practices promoted by these spaces, arguments about labor precariousness, and ineffective innovation support (Nakano *et al.* 2020). The gap between the expected and the real impact can be reduced by assessing their structures and operations and making their impact clear according to their proposal.

Orel and Bennis (2021) highlight some aspects that explain the phenomenon's crescent relevance to researchers and practitioners, such as the coworking term becoming globally popular and different workspaces with different value propositions being labeled as such. Furthermore, the industry's growth necessitates that coworking spaces diversify their services and formats. Thus, current research is diverging while the coworking business is still evolving.

The relevance and essentiality of the hub's host have been increasingly noticed; some authors point out the linking, mediating, enabling, and community-building functions that happened almost exclusively via the host's coordination (Merkel, 2017; Cabral & Winden, 2016; Orel & Alonso, 2019). Brown (2017) comments that despite the increasing interest in the importance of hosts in promoting Hub's interactions and encounters (Surman, 2013; Capdevila, 2014; Merkel, 2015; Parrino, 2015; Fabbri and Charue-Duboc, 2016), more systematic analyses

are needed. Also, previous research has focused on countries and the context of the Global North, limiting the generalization of concepts and theories. Thus, the study selected São Paulo as the research locus, a crucial metropolitan area in the Global South. Many creative hubs are among the public and private initiatives deployed to develop the city's creative economy.

The present study seeks to develop new perspectives on the phenomenon by using concepts extracted from the experiences of thirteen Hubs' hosts and elaborating propositions and a theoretical model that contribute to expanding the current knowledge on the subject. From a practical perspective, Creative Hubs can review operations and assess their existing structures according to the research recommendations. Also, this study attempts to provide indications for future research, management and practice, and policy formulation on the topic.

### **1.1. Research Questions**

The research objective is to understand creative hubs from the managers' perspective, exploring Hubs from the inside out and formulating a more profound view that helps to explain, understand, assess, and develop creative hubs. Looking to advance the literature and fill the mentioned gaps. More specifically, the research questions are:

(RQ1) What are the main difficulties experienced by creative hub management in Global South?

(RQ2) How may managers assess and evaluate the Hub's performance?

(RQ3) What extent may internal and external elements, such as COVID-19, modify the Hubs dynamics?

Contributions reside on the deeper exploration of the Host role and its attributions than previous literature. Also, it provides the inner perspective of hubs' management, consolidating a standard set of impacts and structures. The existing literature fails to emphasize the range of diverse needs that shape curatorship. Therefore, the study delves deeper into the topic to better understand the various factors that impact curatorship. Moreover, the global south context and COVID-19 effects on the creative hub's management are observed, allowing the research to shed light on new variables that may influence the establishment and operation of creative hubs under similar conditions, such as political instability, social inequality, economic issues, and resource scarcity.

This document is organized into six sections, as follows. Section 2 provides the background on creative hubs and coworking; Section 3 presents the methodology and research design. The results are exhibited in Section 4, followed by the discussions in Section 5. Section

6 presents the partial research conclusions, limitations, and future research direction. Section 7 comprehends the research activities chronogram. At the end, Section 8 presents the thesis summary.

## 2. LITERATURE REVIEW

The advent of digital technologies, globalization, and advanced communication has changed work practices, and the last decade has determined radical changes in the employment and production relationship (Merkel, 2019). The coworking phenomenon is one of the effects of that transformation. The crescent interest in creative workers, early-stage businesses, autonomous professionals, and their place in the new economy has increased the appeal and relevance of coworking spaces and creative hubs (Brown, 2017; Waters-Lynch et al., 2016; Spinuzzi, 2012). The detailed distinction between the two terms will be explored later in this text. However, it is vital to set differences between coworking spaces and shared workspaces, such as cafes, libraries, hotel lobbies, and airport lounges, among several other examples. Even considering the effort to turn the latter into proper workplaces, Orel and Bennis (2021) assert that what sets apart coworking and shared workspaces is the intentionality to co-allocate different people for the sake of knowledge dissemination, community formation, mentorship, collaboration, partnership creation, business and technical support.

There is a dispute on the first documented coworking initiative: it was either the Spiral Muse in San Francisco in 2005 (Neuberg, 2014; Waters-Lynch et al., 2016) or Impact Hub in London. Coworking is seen as a "movement" (Gandini, 2015) underpinned by values like collaboration, community, accessibility, and sustainability (Coworking.com, n.d). Its fundamental attribute is to allow users to work together as equals, as suggested by Bernard de Koven, who coined the term even before the first official coworking was implemented (Brown, 2017).

According to Brown (2017), the centrality of social interaction and cooperation distinguishes coworking from other forms of shared workspaces, although some researchers have indicated that coworkers actually "work alone together" (Spinuzzi, 2012). However, the characteristics of shared workspaces can change over time. For instance, the rise of the coworking business as a real-estate opportunity is seen in the metropolises worldwide, and they fulfill the needs of some professionals.

There are different forms, proposals, orientations, and dynamics of coworkings (Merkel, 2019). In the literature, researchers try to cope with the diversity and broadness of the theme via different classifications and taxonomies (Orel & Bennis, 2021). Some studies describe coworking based on its benefits, vision, or operation structure (Brown, 2017), while others use the definition provided by the coworking.com community (Waters-Lynch et al., 2016; Capdevila, 2014). According to Brown (2017, p. 113), "Coworking is a nebulous term."

The continuous evolution of practices, focuses, and configurations makes defining a concept complex (Orel & Bennis, 2021; Brown, 2017). Also, adjacent models overlap the coworking concept, such as incubators, accelerators, fab labs, maker spaces, and others (Schmidt, Brinks, & Brinkhoff, 2014). They generally have objectives, proposals, and structures extraneous to the original coworking format. However, most implementations rely on the coworking practice and essential characteristics (Orel & Bennis, 2021). The coworking term popularity makes many initiatives to be labeled as such even when the reality is distinct from the original concept. Also, the diversity of industries and markets served, and goals culminate in diverse spaces. Although the changing nature of the phenomenon is recognized, and the presence of adjacent models is noted, there are efforts to create coworking taxonomies and definitions (Orel & Bennis, 2021; Brown, 2017; Waters-Lynch *et al.*, 2016; Spinuzzi, 2012; Merkel, 2019). Those miscellaneous models of communal working are still developing and expanding, but coworking is the most popular and well-known term to describe them (Waters-Lynch & Potts, 2017). Hence, some researchers comment the word will continue to serve as an umbrella concept in the future despite the concept's limitations (Orel & Bennis, 2021).

Merkel (2019) presents the different "waves" of managed shared spaces. From the early 1970s, working communities in England were formed by architects in old buildings that hosted workshops for artists, understood as the first wave. Significant economic changes brought the second wave. The British Steel Corporation set up "community workshops to stimulate job creation and new businesses." The initiative was successful, and by 1984, the public and the private sector invested in such actions. Community workspaces went from 200 to 500 places during the period. The New Labor's Creative Industries Initiative pushed the third wave when more workspaces were implemented with the government's help to support the growth of creative businesses and professionals. The last decade indicates the fourth wave has arrived (Merkel, 2019). The rise of coworking spaces, accelerators, and business incubators serving tech and digital businesses was impressive (Bouncken & Reuschl, 2018).

The coworking concept might be interpreted as the current and fourth wave of managed collaborative workspaces and should not be seen as the same model as the previous waves (Merkel, 2019). The evolution of coworking follows changes in society, businesses, and technology. The prevalence of knowledge-intensive work, new work practices and relations, and geographical distribution of the job have accentuated the rise of social isolation, knowledge-sharing challenges, and individualism, issues that coworking practices may help to combat (Brown, 2017). A broad definition for coworking is: a for-profit or non-profit space intentionally designed to provide flexible workspace for professionals. It commonly promotes



collaboration and community building among participants of distinct companies, industries, business maturity, and backgrounds. Using mechanisms such as events, workshops, meetups, mentorship, community managers facilitation, training sessions, building architecture, social network platforms, and facilities services, among others, to fulfill the coworkers' needs and reach the coworking sponsors' goals (Waters-Lynch & Potts, 2017; Orel & Bennis, 2021).

The rise of coworking brought two relevant tendencies. The first one comprehends the growth of the real estate providers that offer business offices for public or private actors to benefit from cost reduction and external contacts. The second tendency is the increasing presence of distributed and small spaces designed for entrepreneurs, independent professionals, and creative workers. Following the logic of the sharing economy, these spaces enable common access to resources, collective support, knowledge dissemination, and community. This coworking heterogeneity and diversification made spaces to create terms to define themselves, creating a vast range of nomenclatures (Merkel, 2019; Bouncken & Reuschl 2016; Schmidt et al. 2014). Coworking and creative hub are the most popular terms, naturally receiving more emphasis from academia, the community of practice, and policymakers. Some defend coworking as the primary umbrella term to name the current workspace configurations (Orel & Bennis, 2021), even recognizing its restricted definition, which many workspaces do not follow. The concept may be too small for existing variations (Brown, 2017).

Thus, Creative Hub may be more suitable to comprise the great diversity of spaces with a fundamental intermediation function (Merkel, 2019; Virani, 2015). A hub in social network theory is the core connector of multiple participants, enabling different social networks to be intentionally linked. Intentionality is one of the elements that can enhance concept clarity (Virani, 2015; Orel & Bennis, 2021). It can set creative hubs, from communal working and collaboration spaces, such as libraries, hotel lobbies, and cafés (Orel & Bennis, 2021).

According to the British Council (2015, pag.4), “a creative hub is a place, either physical or virtual, which brings creative people together. It is a convenor, providing space and support for networking, business development, and community engagement within the creative, cultural and tech sectors”. An additional definition is presented by the European Creative Hubs Forum (2015) as ‘an infra-structure or venue that uses a part of its leasable or available space for networking, organizational and business development within the cultural and creative industries sectors’.

The term originates within the creative economy context. The London Development Agency (LDA, 2003) issued a policy document containing guidelines and actions to support the creative sector. According to the definition of LDA (2003):

A 'hub' is a general term and the precise make up of hubs will differ from place to place, but there are some core elements that all have in common. In general, they provide a space for work, participation, and consumption. This includes the help to nurture emerging talent and to link it to broader networks, a first stop for business support and access to finance, and promotion of local talent and local businesses. (p. 33)

Sedini, Vignati, and Zurlo (2014, p. 109) establish seven hub types: service centers for companies; development agencies; clusters; virtual platforms; districts; development agencies; coworking centers, and incubators. Albeit the referred efforts, hubs' full range of models and services are still being determined. Virani (2015, p. 3) claims that "creative hubs can take on a number of different physical, spatial, organizational and operational manifestations."

The creative hub management, and particularly their hosts, are essential for the gathering of internal and external opportunities, enabling connections, business development, collaboration, knowledge dissemination, community building, trust establishment, and other benefits to the different parties involved in hubs (Merkel, 2015; Brown, 2017; Orel & Alonso, 2019; Ceinar, 2021). According to Cabral and Winden (2016):

Members have different needs requiring different types of connections. These needs can vary between short-term solutions or opportunities, such as needing a supplier or seeing a potential sales opportunity, and long-term opportunities, such as the need for help in strategic growth decisions. (p. 27)

Then, some of the Hosts' attributions and contributions are recognizing the community needs and modeling services accordingly. The advantages and impacts of hubs are facilitated and operationalized through their actions (Brown, 2017; Orel & Alonso, 2019; Ceinar, 2021; Bueno, Rodríguez-Baltanás, & Gallego, 2018).

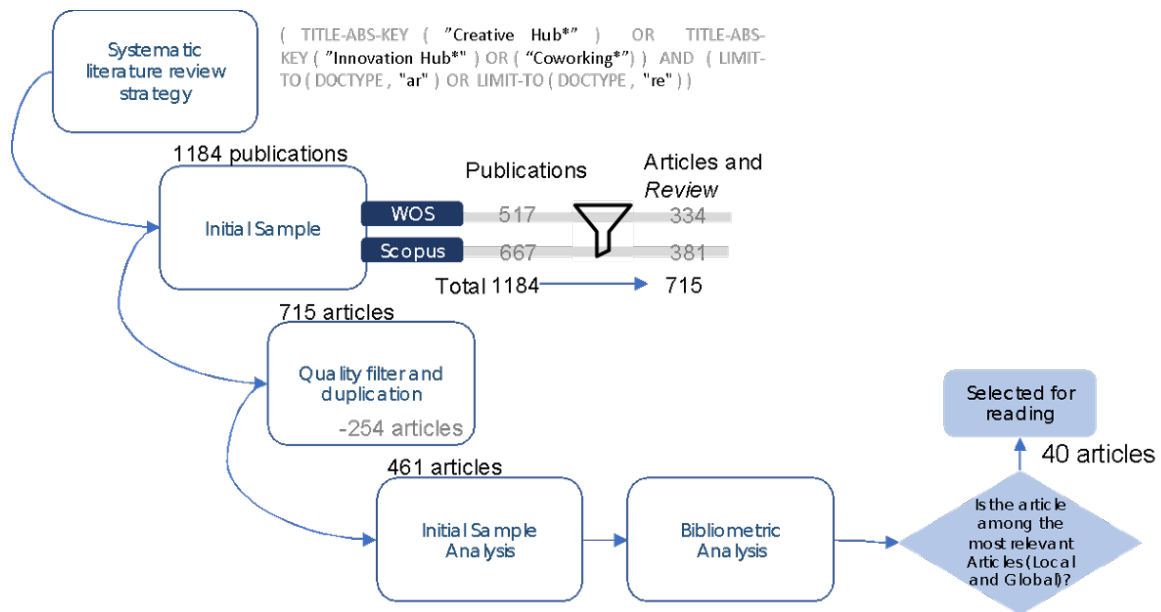
### 3. SYSTEMATIC LITERATURE REVIEW

A systematic literature review (SLR) was performed to map and critically assess relevant research (Zupic & Čater, 2015). Depth and rigor are essential attributes of an SLR, and the strategy for selecting the publications and the search process must be transparent and replicable. A bibliometric analysis helps to identify the most relevant publications on the topic and assess the pertinent literature for the study. It supports systematic mapping of the research field, mitigating the problem of researcher bias (Zupic & Čater, 2015). The analysis was performed using "Bibliometrix" software (Aria & Cuccurullo, 2017). It focused on the current knowledge and literature gaps of the coworking phenomenon, various forms, outcomes, and expectations, as perceived by the actors.

#### 3.1. SLR Sampling Process

Scopus, one of the largest sources of peer-reviewed literature (Aghaei *et al.* 2013), and ISI Web of Science, which contains the publications of the leading journals with impact factors (Carvalho, Fleury, & Lopes, 2013), were selected as sources. The search was performed on January 3, 2022, using the search parameters (“Creative Hub\*”) OR (“Innovation Hub\*”) OR (“Coworking\*”). The initial extraction presented 1184 publications. After limiting it to only articles and book chapters, the sample was reduced to 715 documents. Two hundred fifty-four duplicate records were identified and removed from the paper set, resulting in 461 articles. Forty of the most cited articles, both globally (all citations) and locally (noted within the paper set), were read and analyzed as a whole. The sampling process is depicted in Figure 1.

Figure 1- Flowchart of the research process and sample composition



Source: Adaptation of the framework presented in "The Circular Economy Umbrella: Trends and Gaps on Integrating Pathways" (Homrich, Galvao, Abadia, & Carvalho, 2018).

### 3.2. SLR Bibliometric Analysis

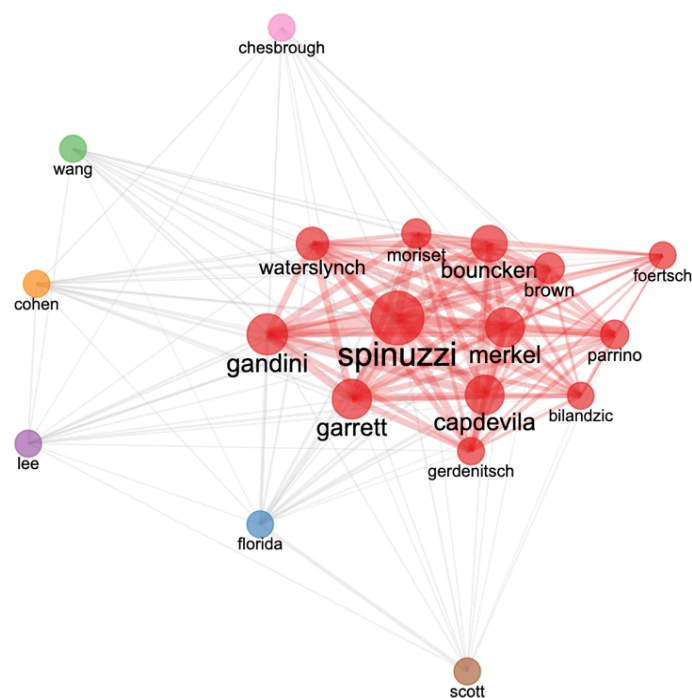
The 461 papers, which compounded the sample analysis, were used for the bibliometric study. From the sample, 40 articles were directly used for the literature review. Bibliometric data and techniques were applied, such as citation analysis, cocitation analysis, the most cited authors and articles, the most relevant journals, and the volume of publications over time (Zupic & Čater, 2015). They were used to find the main concepts, new questions, and investigation focus shifts during the period. For example, the authors' co-citation clusters indicate conceptual convergence, or authors share the same school of thought (Geissdoerfer *et al.* 2017). Bibliometric analysis was performed using Bibliometrix according to the structure proposed by Zupic and Čater (2015): research structure; compilation of bibliometric data; carrying out the analyses; presentation; and interpretation of results.

The social structure of authors can be identified by analyzing author co-citation; the co-citation network helps understand the flows of knowledge and the possible theoretical association between authors (Yan & Ding, 2012). Figure 2 shows the concentration of authors who published on coworking and creative industry themes. The red central cluster comprises Clay Spinuzzi, Janet Merkel, Lyndon E. Garret, Alessandro Gandini, Ignasi Capdevilla, Julian M Waters-Lynch, Julie Brown, and Ricarda B. Bouncken. Other authors are presented as satellites of the central cluster. Chesbrough is the creator of the "open innovation" concept (Chesbrough, 2003) and Cohen of absorptive capabilities (Cohen & Levinthal, 1990). The

concept and term are related to the ability of an organization to assimilate and apply exogenous knowledge and innovation for commercial purposes.

Florida was responsible for defining the creative class and the economic potential of this group (Florida, 2002). Much of his work has influenced public policies to promote the creative industry. However, it has brought significant disagreement and criticism regarding the unrealistic view of creative workers' economic and social problems. Scott also wrote about cities and cultural economies and the influence of the creative industry over society and production (Scott, 1997).

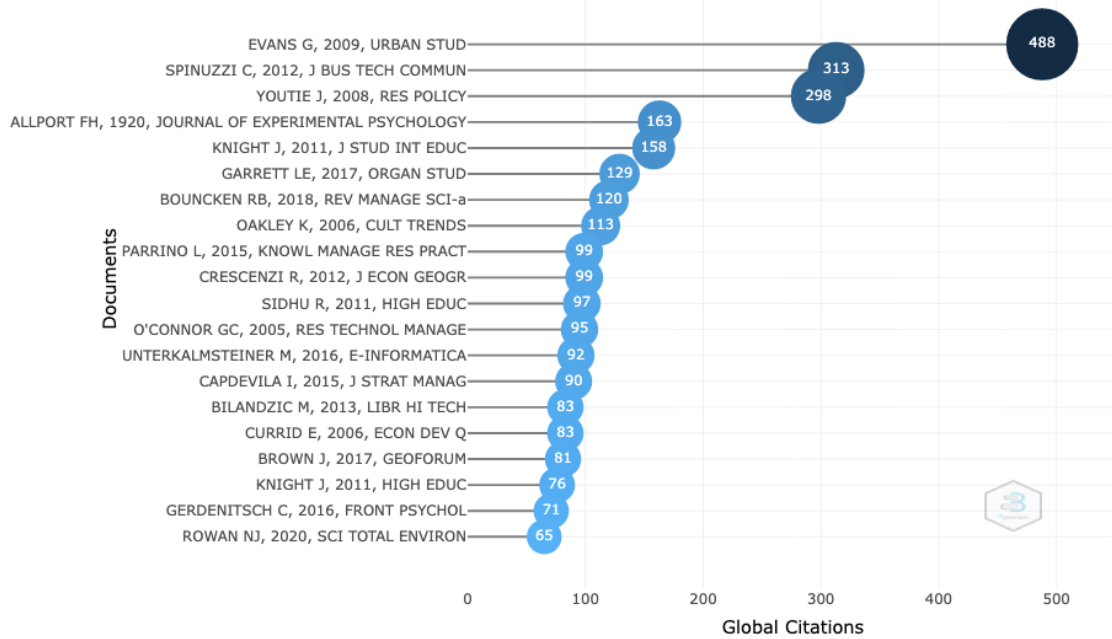
Figure 2 - Author Co-Citation Network



Source: Author.

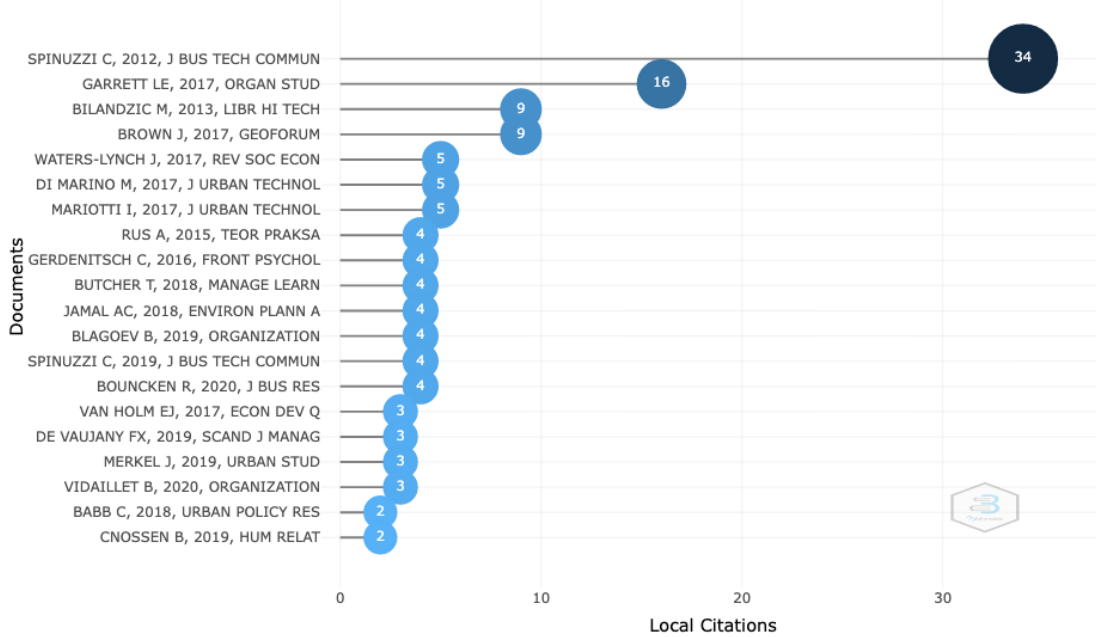
The articles with the highest citations are considered the most relevant (Zupic & Čater, 2015). However, it must be regarded that the age of the article influences its apparent relevance; newly published articles may not be considered relevant even if they present valuable contributions. There are two forms of analyzing these publications: the first is using the global citations; and the articles with higher citations in the Scopus and WoS databases. The other considers citations only by papers from the final SLR set. Figure 3 shows the most globally cited articles, and Figure 4 shows the most locally cited. All of them were selected to compose the Literature Review.

Figure 3 – Most Global Cited Articles



Source: Author.

Figure 4 – Most Local Cited Article



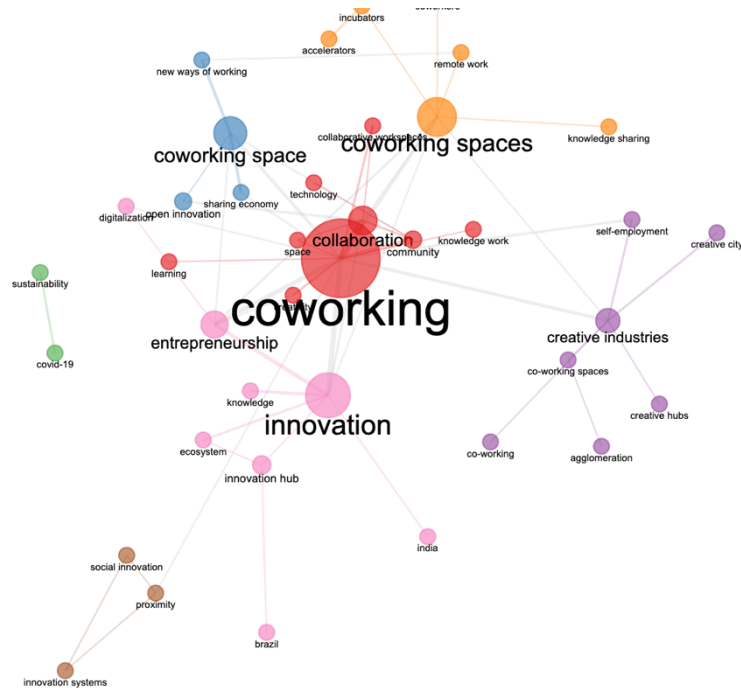
Source: Author.

Figure 5 presents the results of the keywords co-occurrence analysis performed in Bibliometrix. In total, 7 clusters were identified. The central one (in red) concentrates on coworking, collaboration, community, knowledge work, and technology. The second-largest cluster comprises words like innovation, entrepreneurship, innovation hub, and ecosystem. Two other groups, in blue and yellow, have variations of the term coworking. There are no significant differences between the clusters; they can be added to the central red group, adding terms such as open innovation, sharing economy, accelerators, incubators, knowledge sharing, and remote

work. Another marginal cluster (in purple) comprises words related to creative industries, such as creative hubs, creative city, and self-employment.

Two other small clusters present more recent terms in the literature. They indicate trends, such as sustainability and COVID-19, and social innovation, proximity, and innovation systems (in brown). The map confirms the essential terms, trends, and associated concepts in the literature (Yan & Ding, 2012).

Figure 5 – Co-occurrence of keywords



Source: Author.

Additional results of the bibliometric analysis, such as: Author Local Impact by H index; Most relevant authors by the number of articles; H-index for journals; and Most relevant sources, are displayed in Appendix A.

### 3.3. Supplemental Literature Review

To enrich the bibliography and to aid in expanding the understanding of the host role, a complementary literature review was conducted, using strings such as "Creative Hub", "Coworking", "Host" and "Manager". This step was essential to gain perspective on the role of managers in the literature and to establish a knowledge foundation for the interview's conduct and results interpretation. The most cited articles in the sample were selected, totaling 22 articles. 20 of these 22 articles are part of the 461 articles, and 2 represent actual complementation. The search was performed on November 16, 2022, using the same process

explained in Figure 1. The complementary literature review reveals the need for more publications on the host's roles, contributions, and practical relevance.

Among these articles, only six are directly or partially related to research objectives concerning the Host role. Merkel (2015) and Brown (2017) provide a well-accepted view of Hosts as mediators, connecting people, facilitating encounters, and helping communities to emerge through trust growth. Then, Tremblay and Scaillerez (2020) add some nuances to the previous view, as the host is seen as an agent of the user companies' interest. Orel and Alonso (2019) have written about the host as the community mediator leveraging trust and collaboration among the participants. In the same way, Capdevilla (2019) illustrates the stimulators of collaboration and participation functions of the Host.

Regarding definitions, some papers do not define the Host role, just mentioning activities they perform instead of what they are. One exception is Brown (2017), for whom hosts are curators; they select the participants and configure the hubs to effectively reach their goals, matching members' needs, skills, behaviors, and objectives. Other authors are descriptive (Tremblay & Scaillerez, 2020; Orel & Alonso, 2019) and define the host as the individual responsible for building trust among members by organizing events and meetings. They also act as mediators, establishing peer relationships to achieve mutually beneficial outcomes.

The specific literature indicates various functions performed by hosts. Brown (2017) focuses on collaboration tools, such as communication strategies, resources access; events. Cabral and Winden (2016) comment on the policies and examinations hosts may follow to guarantee the desired diversity and degree of appropriateness for the hub. However, some articles do not elaborate on the functions; Merkel (2017) provides one of the most encompassing overviews, indicating the following host functions: "Assembling and arranging (people, spaces, objects), creating and signifying new meanings (collaboration, community, sustainability, openness, and accessibility), reframing (work differently), caring (enabling community) and exhibiting (the workspace and its community)."

The presence of a host is commonly associated with benefits such as facilitated interactions, valuable collaboration, and mutual trust among participants (Merkel, 2017; Orel & Alonso, 2019). Also, it is via this function that cultural values and behaviors toward innovation and creativity can be stimulated (Brown, 2017). The host aids the community in forging the hub's identity (Tremblay & Scaillerez, 2020) and improves the hub's reputation (Cabral & Winden, 2016).

Their action prevents spaces from being just cafes or libraries where people work alone together. Without a host, community building and maintenance, business opportunity matching,



mutual support, and collaboration are compromised (Merkel, 2015). The literature has vastly commented on its relevance, contribution, facilitation, mediation, and connection (Tremblay & Scaillerez, 2020). Orel and Alonso (2019) indicate that hosts' effective facilitation, moderation, and human resource management functions are crucial for creating successful collaborations among members and achieving objectives. The host's relevance also includes its ability to manage the hard and soft services according to the needs and goals of participants, which is seen as a crucial element of the hub's competitive strategy (Cabral & Winden, 2016).

Regarding the barriers and challenges, most literature suggests the hard and soft services provided by hubs as something automatically created and maintained, ignoring the operational and strategic efforts needed to enable these services. According to Brown (2017), the host plays an underestimated role, sometimes with inadequate preparation. Some hosts have an additional job parallel to the hub management activities, as some hub business models are financially fragile. They must maintain themselves and keep the hub going (Merkel, 2017). Another challenge hosts face is trust building, as it takes time and demands participants' commitment, and initiatives headed by hosts help but need to guarantee the required confidence (Tremblay & Scaillerez, 2020).

Furthermore, hosts may have to cope with the complexities of managing stakeholders with diverse aims, interests, and needs. Trying to balance involvement and intervention during innovation (Capdevila, 2019). It is vital to note that this plurality has two sides. According to Orel and Alonso (2019), diversity is essential for the hub and, at the same time, makes management operations difficult. Table 1 presents the articles that discuss the hosts in the creative hubs' context. Despite the slight differences in description and interpretation, the publications agree on the host role's definitions, functions, benefits, and relevance.

Supplemental literature reinforces some of the gaps in the research field. For instance, the lack of awareness of the complexity imposed by the different expectations of the various actors involved (Brown, 2017). Also, there is a need to explore the role of the host in curating new work experiences. Despite literature stating hosts have a crucial role in facilitating communities and enabling collaboration and innovation activities (Tremblay & Scaillerez, 2020; Orel & Alonso, 2019), challenges are subtly discussed. Capdevilla (2019) is one of the few to describe some of the responsibilities of the host, highlighting the complexity of managing participants with distinct needs. Similarly, Cabral and Winden (2016) mention the difficulty of managing different people from a people management perspective. The complementary literature review helped confirm some of the results identified during the research and spot the main gaps and opportunities in the literature.

Table 1 – Supplemental literature review

Author	Host Driven?	Host View	Definition	Functions	Benefits	Relevance	Challenges
Brown (2017)	Partially	Understands the host as "Mediator", who plays a key connecting role.	hosts are hub's curator, "selecting their choice of coworkers and the composition of CWS membership (i.e., ensuring complementarity of skills and capabilities and compatibility of work attitudes or mindsets)"	Variety of "collaboration tools": - Communication strategies (web-boards, -Events, -host knowledge dissemination; -The ability to broker and recommend coworkers to outside clients; -Knowledge of how to access resources such as funding;	-Promotion and enactment of "values" (culture) and practices (behaviors); - Provision of particular (tailored) engagement activities, connection parties internal and externally	The host is relevant to the active engagement of coworkers and their motivation to exchange knowledge and/or to collaborate are fundamental.	The host plays an underestimated role; - The building and enhancement of fundamental host's skills, such as relationship-builder, mentor and knowledge provider, are not followed by proper training
Merkel(2015, 2017)	Yes	Present the concept of "curation" to the host role, describing their affective investment; "in facilitating encounters, interaction, collaboration and mutual trust among the coworkers" (Merkel, 2015: 128).7	Hub host is responsible for the curatorial practice aimed at creating a collaborative atmosphere and social relationships.	"Assembling and arranging (people, spaces, objects), creating and signifying new meanings (collaboration, community, sustainability, openness, and accessibility), reframing (work differently), caring (enabling community) and exhibiting (the workspace and its community)"	Facilitate encounters, interaction, collaboration and mutual trust amongst the members;	Hosts play a crucial role in enabling interaction amongst coworkers. Their presence formal or informally prevent spaces to be as cafes or libraries, where people work alone together.	"Coworking hosts are usually freelancers, too, who need to hold other jobs besides their hosting activities, because running a coworking space is rather fragile as a business model, with many hosts struggling to keep their spaces going."
Tremblay and Scailerez (2020)	Partially	The host as an agent of the user companies' interest, it is seen as the mediator between the parties involved.	Individual responsible for cultivating trust among the members through different mechanisms, such as events and meetings organization	Hosts must organize the contextual elements and infrastructure of Hubs, contributing to building relationships among companies and coworkers. Also, they can implement strategies for creating joint projects and business opportunities within these spaces, such as training sessions and social events.	Community host plays a crucial role in fostering collaboration among coworkers to enhance their activities and give the hub a unique identity.	The study emphasizes the host relevance and contribution detaching the facilitation, mediation and connection aspects performed by the role.	Creating a climate of trust is a major strategy to encourage collaboration. However, there are no guarantees and hosts can only create conditions that are conducive to cooperation and innovation.
Orel and Alonso (2019)	Partially	The host as the community mediator nurturing trust and collaboration among the Hub's members. Ensuring the desired conditions and ambiance for the Hub operation.	"Individual who overtakes the role of mediator and can establish a relationship between peers to achieve an optimal outcome beneficial to both sides"	Community hosts curate the hubs participants and induce interaction.	The host work to promote spatial and mediation mechanisms, aid the interaction development between members, privileging collaboration.	The effective facilitation, moderation, and human resource management performed by hosts, are crucial for creating successful collaborations among individuals in a Hub, leading to the achievement of work goals.	
Capdevila (2019)	Partially	Hosts as stimulators of collaboration and participation.	Hosts stimulate users' interest and availability to participate in the Hubs activities.	Hosts provide the tools and resources to members achieve their objectives.			The complexity of managing stakeholders with distinct goals, interests and needs. Also, the balance between stimulation and too much intervention during the innovation process.
Cabral et al. (2016)	Yes	Host performs an active role in promoting the collaboration and interaction.	Host leverages interactions to promote knowledge dissemination. They also must move and sit in different place to contact more people. "The bridging function works because the host is an integral part of the community, and aware of the skills, activities, developments and problems of the members."	"promotor" for network events. hosts may apply entry and exit policies related to different forms of diversity. Examine intentions of members, behavior, needs, objectives, skills and capabilities.	"Reduction of time needed to find appropriate connections and to an increase in the chance of the connections being valuable." This host also can improve the Hubs image/reputation.	Management can also play a key role in connecting internal users to key players outside the Hubs. The ability to strategically manage the space and assemble a package of basic product and services and tailor that package to the requirements of the workers is a key element of its competitive strategy.	The mix of members turns the management operations hard, although this diversity is essential for the hub.

Source: Author.

### 3.4. Research Method Design

An inductive and exploratory approach was selected for the study, paying attention to the academic rigor needed to legitimate the research contributions and results (Gulati, 2007; Gioia, 2013; Narasimhan, 2018). The research followed the recommendation of proximity to the phenomenon to moderate bias risk and transparent data collection processes. Field observations and interviews are effective sources for theory building (Eisenhardt and Graebner 2007). The data collection includes semi-structured interviews with coworking hosts and managers. The data collection and analysis used saturation as a principle, looking for plausibility, reliability, and legitimacy in the inductive research. Also, a survey among coworking users, documents, and digitally available content about the creative hubs in São Paulo constitute the data sources.

The data collection was part of a broader project on creative hubs and their impact on various stakeholders (Nakano *et al.*, 2023). The Methods section outlined the selection process for creative hubs, profiles of the hosts, and data collection procedures. Data analysis involved defining first-order terms by analyzing interview content and documents. The bibliometric analysis, derived from the literature review, guided the development of the study and the definition of second-order themes. The inductive approach, aligned with the literature review, facilitates the research by uncovering answers to the study's motivation while generating new questions and hypotheses to enhance the understanding of the phenomenon.

### 3.5. Location Selection

According to the UNCTAD Report on creative economies (UNCTAD, 2022), developing countries export more creative goods than developed ones. In 2020, China was by far the largest exporter of creative goods (\$169 billion), followed by the United States (\$32 billion), Italy (\$27 billion), Germany (\$26 billion) and Hong Kong (China) (\$24 billion). The creative economy is developing quickly in Latin America. Several initiatives leveraging this growth are guided by public policies, government programs, and private investment (Dinardi, 2019).

As a member of the BRICS, Brazil is Latin America's largest and wealthiest country. The UNCTAD (2018) Report has positioned Brazil as one of the most significant cultural markets globally. More recently, the United Nations reiterated the country's relevance regarding the creative economy, presenting that Brazil has:

The highest annual average growth rate (24.80 per cent) for exports of visual arts, the country has the world's eleventh largest global box-office, totaling US\$800 million in 2014. It is expected that by the end of 2020, Brazil will have the world's fifth largest audiovisual market (UNCTAD, 2022). Brazil's creative sector is an asset worth protecting. A total of 5.5 percent of Brazilians work in related fields (11 million people), accounting for 320,000 companies and millions of new jobs. Agriculture accounts for 5.6 percent of Brazil's GDP, while creative industries generate 2.6 per cent exhibiting a nearly 70 per cent increase in the last decade. UNCTAD (2022)

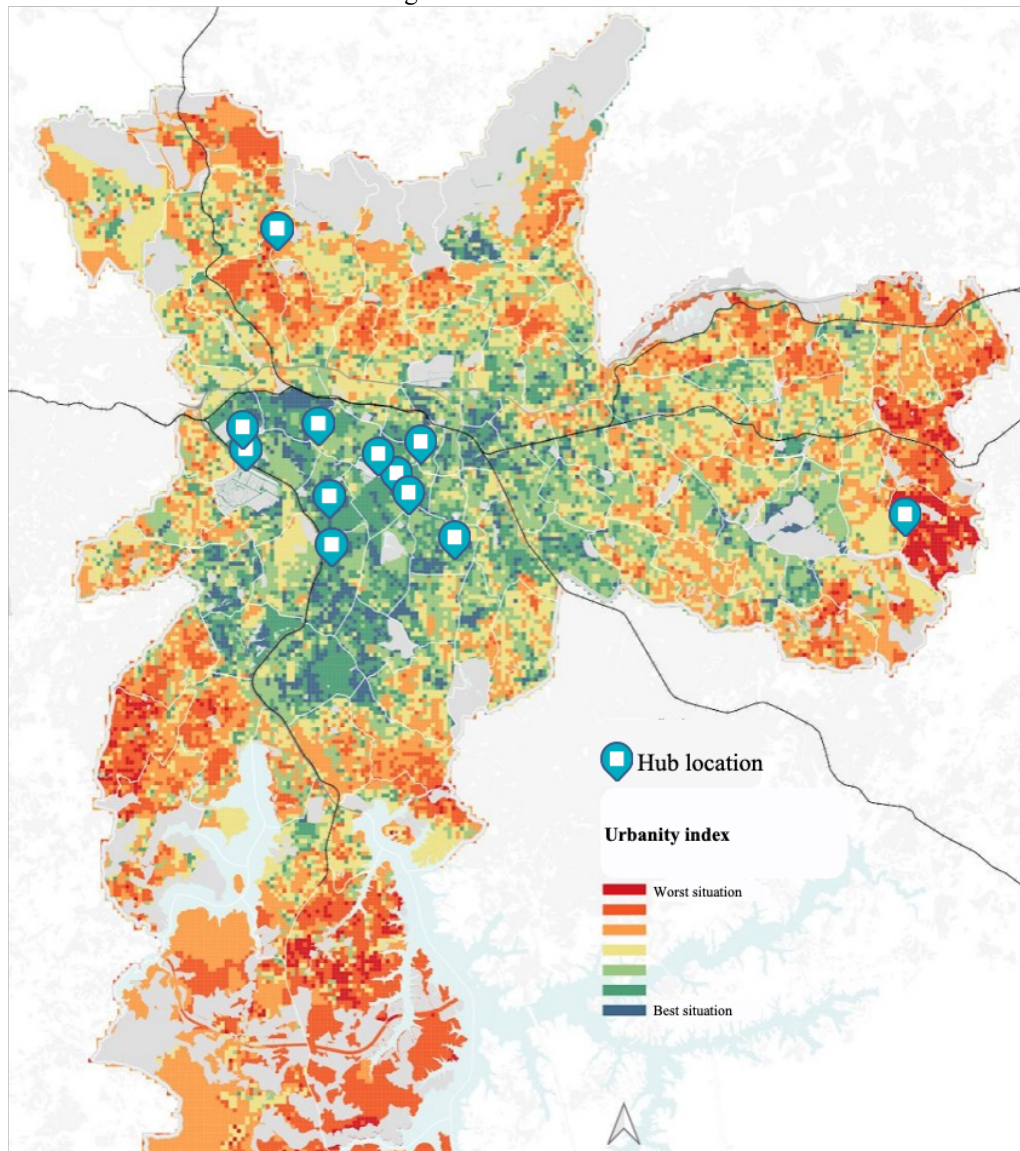
Brazil has more than 215 million people, with a significant and increasing number of people participating in the creative industry (Hill *et al.*, 2022).

São Paulo is the most populous city in Brazil and Latin America, with more than 12 million inhabitants (IBGE, 2021), ranking 5th in the world (United Nations, Department of Economic and Social Affairs, Population Division, 2021), considering its metropolitan area. The City's relevance and creative economy potential make it an appropriate research location. According to the Global Coworking Map (2023), there are 317 coworking spaces in São Paulo. During the search and selection of spaces, heterogeneity was the premise for reaching a broad panorama of creative hubs and structures.

### **3.6. Sample Selection**

The study comprised 13 creative hubs in central and peripheral areas of São Paulo. The diversity of structure, objectives, location, and target public were some criteria for the hub's selection. Figure 6 shows the city distribution of each Hub (blue mark) according to an urbanity index developed by Canova (2020), which illustrates the representativeness sought in the study. Despite the efforts for heterogeneity, most are in the city's central region. As the research was performed during COVID-19, it may have affected the participation and engagement of more hubs.

Figure 6 – Creative hubs locations



Source: Adaptation of Canova (2020).

The interviews were performed during the first year of the Covid-19 pandemic (2020-2021). Thus, most of them, and survey applications, were remote. Because of the sanitary conditions, rigorous protocols for business operations were implemented, resulting in a severe market scenario affecting all companies, tiny and middle enterprises, entrepreneurs, autonomous employees, startups, and early-stage businesses. Unfortunately, protocols were maintained for more than 18 months, which impacted the access to the creative hubs and coworking spaces, which made the survey application difficult—one of the interviewed spaces shut down its operation two months after the first data collection.

The hosts were contacted via email or telephone and briefly explained the research design and questions. Then, when they agreed to be part of the study, the interview meetings were scheduled. An interview guide (Appendix B) and clear instructions about the 40 to 60

minutes of conversation were provided before the meetings. They were instructed to be reassured about fully answering the questions during the interviews, as they were planned to work as a guide for the data gathering. Moreover, All the interviewees were asked to talk about the creative hubs freely, commenting on the origins of each one of the projects, their expectations for the hub's future, their career paths, and the problems they faced during the pandemic period. The researcher assumed during the conversations the role of "glorified reporters" (Gioia, Corley, & Hamilton., 2013), listening carefully to the hubs' hosts.

Thus, the study captured responses and the crucial information to conceive the host perspective throughout different hubs. Before scheduling the interviews, the scripts were tested with two other hub hosts to ensure the questions were pertinent and could be conducive to data gathering. The questionnaire approach was developed during the interviews, and research could focus on questions that intrigue the host better.

Due to the social distancing measures, interviews were remote for the first eight hubs. The remaining five interviews took place in person at each hub, following COVID-19 protocols. All interviews were recorded and transcribed. Interview data and researcher notes, hubs' official documents and website, and whitepapers provided by the hubs were also consulted. The general description and characteristics of each creative hub are presented in Table 2, following Matheson & Easson (2015), to understand and map Hubs' configurations, structure, sector, and service offering. The roles (Nakano *et al.*, 2020) that spaces seek to play were also assessed from the impact standpoint. Although the quality and facility characteristics may vary significantly, all hubs play the infrastructure role.

Table 2-Interviewed Creative Hubs characteristics

	Creative hubs/ Characteristics	Eureka	HubSP	Google for Startups	Habitat	Condô	Cubo
	Interviewee Code	H1	H2	H3	H4	H5	H6
	Position	CEO/Founder	CEO/Founder	Manager	Manager	Founder	Manager
	Interview length (min)	59	90	42	60	63	36
	Interview Date	23/02/2021	23/03/2021	11/03/2021		23/03/2021	26/01/2021
Unique Features - Creative HubKit (Matheson & Eason, 2015)	Structure	For-profit company	For-profit company, is now an institute	non-profit company	For-profit company (Private)	Social venture	Non-profit company (Private)
	Sector	Multi- Disciplinary	Sector Specific	Sector Specific	Sector Specific	Multi- Disciplinary	Sector Specific
	Hub Offers	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks - Retail Opportunities	- Hot Desking -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing	-Hot Desking -Studio Space -Training, Workshop, Events -Mobile Working -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing, -Retail Opportunities	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks - Retail Opportunities	-Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing, -Retail Opportunities
Basic characteristics	Origin	Started as a biketour project, then some community initiatives were taking place there, and the collaborative workspace was formed	Started with an entrepreneurial vision, and opportunity in the public sector	Big technology company initiative to foster entrepreneurship, support startups and disseminate google solutions	Private bank project (Bradesco) to incentivate innovation and work as an open innovation mechanism	Collective venture, by a group of artists	Private bank joint project, Itaú and RedPoint ventures, to develop the innovative business in the region and work as an open innovation mechanism
	Themes	Urban impact, urban mobility, community and workplace	Align the innovative individuals and startups with the government needs. Collaborative work space and specific mentoring to cooperation between public and private sector.	Google Campus physical space structure Google for Startups, business and technology acceleration and consulting for selected startups. Each program edition has a specific theme.	Connect large corporations to startups	Cooperation and collective projects among the artists. Cultural and creative workplace, labs and community engagement.	Connecting entrepreneurs with the ecosystem (startups, large companies, universities). Provides incubation and acceleration services.
	Sponsor	Self- Maintained	Resources from public notices (public) and partially self-maintained	Alphabet	Bradesco	Resources from public notices (public or private) Current resource: Goethe Foundation	25 large companies orchestrated by Itaú and Redpoint Ventures
	Anchor Company	CVC, Algar	Petrobrás	-	Technology partners and corporate customers	-	5 verticals: Itaú, DASA, BR Malls
Hubs Roles (Nakano et al., 2020)	Infrastructure provider	X	X	X	X	X	X
	Community host	X	X	X	X	X	X
	Knowledge disseminator	X	X	X	X	X	X
	Local coupling point	X	-	X	X	X	X
	Global pipeline connector	X	-	-	X	-	-

Continues

Creative hubs/ Characteristics		WeWork	IdeiaGov	State	Teia Taipas	Teia Centro	Teia Cidade Tiradentes	YouW
Unique Features - Creative HubKit (Matheson & Eason, 2015)	<b>Interviewee Code</b>	H7	H8	H9	H10	H11	H12	H13
	<b>Position</b>	Manager	Manager	CEO/Founder	Manager	Manager	Manager	Manager
	<b>Interview length (min)</b>	58	57	45	67	48	87	71
	<b>Interview Date</b>	3/2/2021	10/11/2021	24/11/2021	20/10/2021	13/10/2021	9/29/2021	9/10/2021
	<b>Structure</b>	For-profit company	Non-profit company (Public)	For-profit company	non-profit company (Public)	non-profit company (Public)	non-profit company (Public)	For-profit company
	<b>Sector</b>	Multi- Disciplinary	Sector Specific	Multi- Disciplinary	Sector Specific	Sector Specific	Sector Specific	Multi- Disciplinary
Basic characteristics	<b>Hub Offers</b>	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing	-Hot Desking -Studio Space -Training, Workshop, Events -Mobile Working -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing -Retail Opportunities	-Hot Desking -Studio Space -Training, Workshop, Events -Mobile Working -Access to equipment, Skills, Resoucers, Networks -Incubation, Business Support, Mentoring, Financing -Retail Opportunities -Research and development	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Retail Opportunities	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Retail Opportunities	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks -Retail Opportunities	- Hot Desking -Studio Space -Training, Workshop, Events -Access to equipment, Skills, Resoucers, Networks
	<b>Origin</b>	Global company expanding coworking operations	Government of São Paulo initiative to promote entrepreneurship and innovation to the public and private sector.	Proposal for urban revitalization and promotion of entrepreneurship and innovation	Initiative by the São Paulo Development Agency to support entrepreneurship in peripheries	Initiative by the São Paulo Development Agency to support entrepreneurship in peripheries	Initiative by the São Paulo Development Agency to support entrepreneurship in the city peripheries	Real estate investment, the family owned the building and chose to set up the coworking with a commercial objective
	<b>Themes</b>	Shared space solution for companies, self-employed and startups	Connect creative individuals and companies, support innovation for the public and private sector, disseminate knowlegde	Innovation Hub and Lab, it concentrates different hub proposals inside the same location. Deep tech and hard science initiative, Large corporation engagement with the city's innovation ecosystem. Hub as a Service,	Social and cultural engagement at the marginal regions of the city. Accessible and collaborative workspace for individuals and startups. The location has cultural and artistic focus.	Social and cultural engagement at the marginal regions of the city. Accessible and collaborative workspace for individuals and startups.The location has non especific focus.	Social and cultural engagement at the marginal regions of the city. Accessible and collaborative workspace for individuals and startups. The location has fashion and sewing focus.	Shared space solution for companies, self-employed and startups
	<b>Sponsor</b>	Global WeWork	Government of São Paulo State	Self- Maintained and partially the Votorantim group	São Paulo Municipal administration	São Paulo Municipal administration	São Paulo Municipal administration	Self- Maintained
Hubs Roles (Nakano et al., 2020)	<b>Anchor Company</b>	Each unit is autonomous and has anchor companies	Public Sector	Public Sector	Public Sector	Public Sector	Public Sector	-
	<b>Infrastructure provider</b>	X	X	X	X	X	X	X
	<b>Community host</b>	X	X	X	X	X	X	-
	<b>Knowledge disseminator</b>	-	X	X	X	X	X	-
	<b>Local coupling point</b>	-	X	X	X	X	X	-
<b>Global pipeline connector</b>	-	-	-	-	-	-	-	

Source: Author.

Conclusion.



### 3.7. Data Analysis

The data analysis followed an inductive approach (Cauchick et al., 2010) to describe the creative hub situation before and during the Covid-19 pandemic. It also considered the Hosts' perspectives on the creative hub phenomenon and its constraints. Open coding, following Gioia et al. (2013), was performed. First, statements were selected, categorized, and labeled (first-order statements). The large amount of empirical data makes it challenging to analyze and extract valuable insights, and the coding technique aids in synthesizing information and clarifying the phenomenon structure (Linneberg and Korsgaard, 2019).

The first-order coding expresses the fundamental concepts and ideas in the interviewees' words, terms, and expressions. It essentially captures the hosts' vast experience and relevant events. Understanding the interviewees' language is very important for the proper data analysis of inductive theory research. Continuous coding rounds are necessary to abstract and combine behaviors and associations relevant to further theoretical formulation (Patvardhan, Gioia, & Hamilton, 2015). The coding process aimed at extracting the Hub's host perception of objectives, results, impacts, challenges, and other relevant information concerning the Hub's reality.

The first-order codes were then interpreted according to the researcher's theoretical perspective, leading to more abstract (second-order) concepts. This phase contributes to aggregating data and events in a conceptual frame. The triangulation and verification of information from different data sources and the literature also aided the theoretical building. Constant comparison of previous information and coding to new observations and dimensions help conceive a comprehensive, practical, and novel theory (Gioia & Chittipeddi, 1991). Thus, throughout the results interpretation and model formulation, the raw sentences, first and second-order concepts, model, and insights were visited and compared to each other to stiffen their plausibility.

## 4. RESULTS

Findings from the 13 interviews indicate 121 first-order concepts extracted from 194 host quotes. During the analysis of the second-order concepts, five first-order concepts were removed because they were related to specific issues with hubs. The reduction process resulted in 47 second-order concepts. An additional filter was applied from those, setting apart only the concepts associated with the host. Twenty second-order concepts (Figure 7) were labeled host-associated and carried out to the following analysis level. The residual 27 second-order concepts may be used in studies not focused on the host role.

Then, nine second-order concepts from the 20 were selected, using as criteria the number of hubs where the concept was identified, with a threshold of three hubs. The propositions were developed from the nine second-order concepts according to four categories: what hubs should do; what hubs should not do; what hubs should have; and what hubs should avoid. In doing so, the research offers practical insights while contributing to theory building. Quotes and related first-order concepts are presented in Appendix C.

Figure 7 – Second-order concepts selected and hubs backing the concepts.

Categories	Second-order Concepts	First order concepts associated	Hubs backing concept
Collaboration	Community managers are important for enhancing connections between participants.	5	7
Results misalignment	Sponsors demand results and direct impacts. Disregarding the collaborations, new business, connections, innovations, and indirect impacts of hubs	8	6
Curatorship	The curation of the HUB determines the diversity of industries, maturity, and engagement of the participants.	5	5
Events and tools	Participants' needs can be captured to shape the events and services offered by the HUB.	5	4
Collaboration	Collaboration occurs not only between startups and sponsors but also with other participants who do business and disseminate knowledge.	3	4
Collaboration	Collaboration between members may happen organically without the managers' involvement, which may affect the measurement of hub impacts.	3	4
Covid impacts	The prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult.	2	3
Covid impacts	COVID-19 forced the events to be digital, increasing participation and engagement.	2	3
Events and tools	People attend events to build networks, prospect for new customers, and absorb and share knowledge.	1	3
Events and tools	The hub has different mechanisms (events, managers, architecture) to promote collaboration, community spirit, and the hub concept.	4	2
Events and tools	Through the managers, the events are catalysts for meetings, networking, the dissemination of knowledge, and the dissemination of the hub's objectives.	2	2
Third-world issues	The local community does not understand the HUB's purpose, affecting its occupation.	1	2
Curatorship	The Hub's curation considers the impact on reputation that selected startups can generate.	1	2
Third-world issues	Individuals from the local community do not perceive themselves as entrepreneurs and do not seek formalization or support.	1	2
Third-world issues	The hubs promoted by public initiative may face additional obstacles to carrying out their activities and achieving their goals.	2	1
Results misalignment	Hosts intermediate the conflicts between sponsors expectations and the realities of startups and professionals.	1	1
Covid impacts	During the pandemic, there was a reduction in demand for the program and dropouts. The period forced startups to review their business models and priorities.	1	1
Curatorship	Curation is an ongoing process that ensures the relevance of participants in the HUB.	1	1
Events and tools	The HUB hosts external events and supports knowledge sharing from non-participants."	1	1
Collaboration	The negative impact of coexistence in hubs between different companies is harassment by employees and narrow boundaries of intellectual property.	1	1

Source: Author.

The nine second-order concepts selected are: Community managers are essential for enhancing connections between participants; Sponsors demand results and direct impacts, disregarding the collaborations, new business, associations, innovations, and indirect effects of

hubs; The curation of the hub determines the diversity of industries, maturity, and engagement of the participants; Participants' needs can be captured to shape the events and services offered by hubs; Collaboration occurs not only between startups and sponsors but also with other participants who do business and disseminate knowledge; Collaboration between members may happen organically without the managers' involvement, which may affect the measurement of hub impacts; The prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult; COVID-19 forced the events to be digital, increasing participation and engagement; People attend events to build networks, prospect for new customers, and absorb and share knowledge.

#### **4.1. Community managers are essential for enhancing connections between participants**

The first concept is about how connections are elementary for most Hubs, the promotion of it internally and externally guarantees the dissemination of knowledge, business support, partnership, technical and managerial advice, and access to customers. During COVID-19, face-to-face connections ceased, increasing the need for formal mediation, which means an intentional set of activities to promote collaboration instead of serendipitous encounters. Community managers are essential in promoting different forms of connections and community building. Creative hubs may have community managers to build bridges among the participants and society, augmenting the number of nodes and connections that compose a Hub.

To promote connections internally and externally via skilled community managers is the proposition of what hubs should do, they should not rely exclusively on spontaneous encounters. Hubs should have a community manager, host, or related role, leveraging connections. Hubs should avoid the overloading of community managers, as they need available time to know and connect with members.

#### **4.2. Sponsors demand results and direct impacts**

Several hosts have commented on their frustration over the results demanded by sponsors, either private or public. The outcomes expected are narrow and strict, not considering the broader impacts the hubs can achieve, explaining the second concept. Some hosts commented that the results for participants and the community are expressive; they exemplify the partnerships formed, the new businesses and products created, the knowledge

dissemination, and the success of startups and entrepreneurs. However, the outcomes requested by sponsors are oriented toward financial return and fixed tasks, incurring the risk of creative hubs becoming offices-on-demand businesses. Even though spaces are positioned as hubs that promote innovation, collaboration, serendipitous connections, business development, and other related objectives, result assessment does not follow that and seems paradoxical. Some measurement methods do not fully capture the value and contribution generated by the hubs. Therefore, quantifying and reporting what can still be seen as secondary impacts when the primary objectives are financial or reputational may help expand the notion of results. In addition, hubs should not rely strictly on direct effects; the measurement of results may be linked to the hub's declared goals. The concept's last proposition recommends that Hubs prevent demands that attenuate the completeness and coherence of expected impacts.

#### **4.3. The curatorship of the hub determines the diversity of industries, maturity, and engagement of the participants**

Hub's curation determines the participants' diversity of industries, maturity, and engagement. A straightforward selection process is essential to ensure alignment with the hub's objectives and values; in the long term, it may represent high participant engagement and constancy. At the same time, Hubs need to seek heterogeneity among participants to promote creativity, problem, and solution matching and expand the possibilities of knowledge sharing, complementarianism, and collaboration instead of competition. A severe and narrow curatorship can restrict a hub's diversity. Then, hubs should realize the degree of diversity, engagement, and participant maturity level desired for the hub and execute the curation process accordingly. Spaces should not perform a curation process without determining the desired audience. Hubs should have a transparent and meticulous curation process and redo it periodically to ensure fit. Lastly, Hubs should avoid the absence of curatorship, and minimum criteria are essential to ensure participant engagement and diversity.

#### **4.4. Participants' needs can be captured to shape the events and services offered by the Hub**

As they are permeated by different professionals, companies, and other stakeholders, the common interests and particular demands of participants are inputs to modeling events and services. Some hubs use participant satisfaction with services and events as a performance

measurement. Hub's diversity can push the number of services and events, although relevancy for participants should prevail over quantity. Following the propositions, spaces should develop mechanisms for requirements and need collection to enhance the services provided. Hubs should not ignore frequent complaints and keep low-attended services and services available. Hubs should have an online tool or process to capture the users' needs and present challenges. They should avoid inferring what users need.

#### **4.5. Collaboration occurs not only between startups and sponsors but also with other participants who do business and disseminate knowledge**

Hub's structure has different stakeholders in the business generation between large companies and startups. Some have reported that interaction among startups generates new business and opportunities, not necessarily requiring large companies. These cross-collaborations can even happen between large companies inside the hubs, individuals, or service companies seeking clients in the hub's environment. Thus, spaces should encourage cross-collaboration and find ways to measure the impact. They should not interfere instead of facilitating. Hubs should have tools to integrate different members and assess related collaboration. Avoiding policies or behaviors that undermine cross-collaboration.

#### **4.6. Collaboration between members may happen organically without the managers' involvement, which may affect the measurement of hub impacts**

The sixth second-order concept is about how collaboration between members may happen organically without the managers' involvement. Serendipity is a widespread benefit of hubs—the unexpected and spontaneous encounters that guide participants to new business, partnerships, and knowledge dissemination. On the other hand, the impact measurement of these organic interactions and collective engagement is hard to follow. Then, hosts can provide an environment conducive to these kinds of connections. Hubs should incentivize spontaneous encounters and organic collaboration while acknowledging hub influence. Hubs should not make bureaucratic contacts between participants. Spaces should have clear instructions and best practices on being available and actively seeking organic collaboration. Hosts should avoid limited or sectorial architecture design, preventing serendipity.

#### **4.7. The prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult**

The seventh and eighth-second-order concepts are based on the pandemic period. As the entire world was fighting and adapting to COVID-19 and its effects, the creative hubs also experienced sudden and radical changes. The sanitary measures imposed by governments and authorities led to extensive contract renegotiation and business model adaptation. For instance, one hub could not bear the operational costs and revenue reduction and terminated operations before the study concluded. Others could resist, adapting to the online environment and promoting events digitally. The seventh second-order concept is how the prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult. As the interviews occurred over a year, hosts interviewed at the very beginning of the research provided a positive view of engagement and online interactions. The propositions for the concept are the host should balance on-site and online events, valuing conciseness and objectivity; hubs should not concentrate interactions only online; and they should have recommendations on when meetings should be held on-site or online. On the other hand, hubs interviewed at last reported the overload of online appointments.

#### **4.8. COVID-19 forced the events to be digital, increasing participation and engagement**

The eighth second-order concept is about how COVID-19 made the events digital. Digital platforms allow community building, events, knowledge dissemination, networking, and partnerships to complement the physical spaces and extend access and integration to the hub community. Thus, creative hubs should extend the structures to digital and hybrid participation by adopting digital platforms. Hosts should not restrict the services offered to on-site guests only. Spaces should have a digital platform strategy to grasp online engagement opportunities.

#### **4.9. People attend events to build networks, prospect for new customers, absorb and share knowledge**

Exploring the motivations driving participants to integrate with hubs reveals a recurring pattern. In this light, hubs should prioritize hosting events that resonate with the public's

interests and align with the Hub's objective. It's crucial not to cater to the hub's purposes solely. Additionally, avoiding overly stringent restrictions on public access is vital to maximize the potential for networking. To create vibrant and inclusive hub environments, it's imperative to provide a range of event types, including workshops, courses, happy hours, and fairs, catering to diverse interests, and fostering a sense of community.

To understand the propositions, it is crucial to notice the creative hubs' contexts are diverse and dynamic. Moreover, these propositions are grounded in the current and previous creative hubs' host experience. They may not be restricted to the present conditions observed in the space used as an information source.

Figure 8 displays the selected second-order concepts and the aggregated dimensions that seek to consolidate in a practical manner the propositions extracted from the First and Second-order Concepts, providing actionable insights on how to develop and assess the hubs. Researchers, Hosts, participants, and sponsors may use the propositions to evaluate the maturity of the creative hub towards the specific proposals, objectives, and structure. Possibly, all the propositions may not be suitable for some Hubs configurations. Thus, the Second-order Concepts serve as filters to help users identify which propositions may be more relevant to one's reality.

Figure 8 – Second-order Concepts Selected and Aggregation of Concepts.

Second-order Concepts	Hubs backing concept	Aggregated dimensions			
		Hubs Should Do	Hubs Should not do	Hubs should have	Hubs should avoid
Community managers are important for enhancing connections between participants.	7	Promote connections internally and externally via skilled community managers.	Rely exclusively on spontaneous encounters.	Community managers or related roles	Overloading the community manager, it should have available time to know and connect members
Sponsors demand results and direct impacts. Disregarding the collaborations, new business, connections, innovations, and indirect impacts of hubs	6	Measure and report indirect impacts and their benefits.	Assess their performance, considering only direct impacts from the supervisor standpoint.		Conflicting demands for results and impacts
The curation of the HUB determines the diversity of industries, maturity, and engagement of the participants.	5	Realize the degree of diversity, engagement, and participant maturity level desired for the hub and execute the curation process accordingly.	Perform a curation process without conceiving the desired public.	Clear and meticulous curation process and perform it periodically to assure the fit.	Free curation, minor criteria are important to assure participant engagement and diversity.
Participants' needs can be captured to shape the events and services offered by the HUB.	4	Develop mechanisms for requirements and needs collection to enhance the services provided.	Ignore frequent complaining and keep low-attended services and services available.	Online tool or process to capture the user's needs and present challenges.	Inferring what users need.
Collaboration occurs not only between startups and sponsors but also with other participants who do business and disseminate knowledge.	4	Encourage cross-collaboration and find ways to measure the impact.	Try to interfere instead of facilitate.	Tools to integrate different members and assess related collaboration	Policies or behaviors that undermine cross-collaboration
Collaboration between members may happen organically without the managers' involvement, which may affect the measurement of hub impacts.	4	Incentivize spontaneous encounters and organic collaboration while acknowledging hub influence.	Difficult contact between participants	Instructions and best practices on how to be available and actively seek organic collaboration	Limited or sectorial architecture, preventing serendipity
The prolonged duration of the quarantine in Brazil brought saturation to online events, making participation and engagement difficult.	3	Balance on-site and online events, valuing conciseness and objectivity.	Concentrate interactions online only.	Recommendations on when meetings should be held on-site or online	
COVID-19 forced the events to be digital, increasing participation and engagement.	3	adapt events to digital or hybrid participation.	Restrict the services offered on-site only.	A digital platform strategy to grasp the online engagement opportunities	
People attend events to build networks, prospect for new customers, and absorb and share knowledge.	3	Events focused on public interest and hub objectives	Arrange events based solely on the hub's objectives. Also, be too restrictive for public access, undermining networking potential.	Spaces to host different types of events, such as workshops, courses, happy hours, and fairs	

Source: Author.



According to the aggregated dimension of what Hubs "should do," "should not do," "should have," and "should avoid." The nine concepts selected conceive propositions about actions the creative hubs may take to solve or leverage the questions prevalent in the concepts.

The creative services commented on by Virani (2015) contemplate "hard" and "soft" services. Shortly, the "hard" services are physical infrastructure components, such as desks, wifi, meeting rooms, and cafeterias. Additionally, the "soft" services are intangible utilities provided formally or not by the hubs, for instance, spontaneous encounters, events, and collaborations. The following propositions assume the "hard" and "soft" services are part of hub foundations, so they are implied.

## 5. DISCUSSION

The research method and results have bridged the understanding of creative hubs from the managers' perspective, formulating a more profound view that helps to explain, understand, assess, and develop creative hubs. The study provides the main difficulties experienced by creative hub management in the Global South. By delving into hubs from an internal perspective, the study gained deeper insights into the challenges faced by creative hub management in the Global South, illuminating the reasons behind these difficulties and potential approaches to overcome them. The discussion provides models, insights, and thoughts on how hosts may assess and enhance Hub's performance. It also elaborates on how internal and external elements, such as COVID-19, have modified and can alter the hub dynamics-providing new insights for hubs to stiffen their structures to handle uncertainty conditions.

### 5.1. Discussion of Results and the Extant Literature

The results reunite empirical elements that reinforce previous concepts and open paths to new theoretical developments. The interviews confirm concepts and propositions in the literature lacking empirical evidence and denote novel observations worth further investigation. As discussion of results and theoretical reflection, the study reinforces hubs aspects and reveals emergent discoveries, such as new public and attractiveness of hubs; the creative cities and community engagement logic still pulsing; beyond the hubs wall, community exclusion elements; physical proximity ordinariness; host relevance; results and objectives problems; covid-19 impacts.

#### 5.1.1. *New public and hub's attractiveness*

Tremblay & Scaillerez (2020) suggest that hubs are becoming increasingly attractive to employees and companies as they can foster business opportunities through open innovation processes. This trend was observed in the interview statements and the literature (Orel & Alonso, 2019; Leclercq-Vandelannoitte & Isaac, 2016). Furthermore, Covid-19 has accelerated the remote work practice among different companies, turning the Hubs into strategic places for the post-pandemic period. Remote and hybrid work sometimes demands infrastructure and professional/personal interactions unavailable at home (Ceinar & Mariotti, 2021). Therefore, the Hubs are increasingly becoming popular and have augmented their potential to harbor

companies and employees. The flexible, physically decentralized way of work had drawn attention to the expenses and work efficiency at the traditional company buildings. Thus, the hubs are alternatives for the open innovation insertion and the shared economy once they provide the office facilities and the connection platform for companies at a shared cost.

### *5.1.2. Creative cities and community engagement*

Some hosts want to contribute to the economic development of a given region or city district (Tremblay & Scaillerez, 2020). The H1, H5, H9, H10, H11, and H12 hubs are examples of spaces concerned with their surrounding communities and willing to make a social impact. This supports the literature indicating that, for specific hosts, establishing a Creative Hub can help revitalize the district or city.

### *5.1.3. Beyond the hub's walls and the community exclusion elements*

The literature commented that some spaces “seem to favor only a limited demographic of digital workers, particularly those who have the financial capacity...” (Tintiangko & Soriano, 2020). In one of the few studies considering the Global South context, the authors remark that socioeconomic and geographic disparities can influence the way specific individuals or groups interpret and use the spaces, and in some cases, they may be entirely excluded from them (Gandini, 2015; Brown, 2017).

Similarly, this research has encountered challenges local communities face, particularly those on the periphery of the hubs. They do not understand the proposals and ways to consume the services offered. Hosts have reported that individuals living near the spaces know little about creative hubs' activities and purpose. Additionally, according to some host testimonies, entrepreneurs and freelancers may not recognize themselves as such because they are unfamiliar with the terms and concepts associated with these spaces. As Dinardi (2019) emphasized in the case study of a creative hub in Rio de Janeiro, the Brazilian context is full of uncertainty caused by political and social problems. Hubs are affected by those problems, according to both interviews and the literature, particularly for those publicly funded. Proposing that conflicting notions of goals, results, and impacts can be more critical to Hubs in the global south.

Therefore, it expands the previous understanding of socioeconomic and geographic disparities between Global North and South, and locally, at the City's boundaries.

#### 5.1.4. *Physical proximity ordinariness*

The study corroborates that physical proximity alone may not promote productive interactions (Advikos & Kalogeresis, 2017; Parrino, 2015). To enhance collaboration, other factors such as physical and digital events, space architecture, and tools like social media and notice boards, along with the facilitating presence of the Host, are crucial (Capdevila, 2014; Advikos & Kalogeresis, 2017; Brown, 2017; Waters-Lynch & Potts, 2017; Merkel, 2015). According to Tintiangko and Soriano (2020), these factors help create an "effective environment" that supports professional and the Hub's success.

#### 5.1.5. *Host relevance*

The growth of a Hub depends on coordinated and intentional connections, which is the primary attribution of community managers (Nakano et al., 2020; Brown, 2017; Capdevila, 2015). The literature and practice are gradually emphasizing the community manager role as essential to promote interactions, collaborations, partnerships, and business opportunities and to pave the way for a solid community (Orel & Bennis, 2021).

#### 5.1.6. *Results and objectives problems*

Creative hub performance measurement is challenging; investors and sponsors demand key performance indicators concerning financial sustainability and return on investment. According to Virani *et al.* (2016, p. 17), "The policy and investment community can frequently understand the energy, agility, and multidisciplinary of a hub environment but may have more difficulty understanding the precise nature of its productivity." In fact, the interviews revealed different Hubs impacts, in line with the results indicated by Virani *et al.* (2016, p.5) as "startup-companies; jobs; New products and services; Future investment (Public and Private); Talent development; Talent retention; Informal education and engagement; Training; Regeneration; Research and development; etc.". The results expected by sponsors and investors and performance measures are not consistent. This may cause equivocate impact assessment, inhibiting outcomes beyond the expected ones and misguiding investment.

### 5.1.7. Covid-19 impacts and external factors

Calders (2020) identified the pandemic impact in Europe, where approximately half of the spaces declared strongly affected, with contracts and events canceled. The covid-19 has presented financial and spatial challenges to the hubs. Most countries have adopted physical distancing policies, forcing professionals and companies to embrace home-office or remote work. Orel *et al.* (2022) stated, “Both traditional and flexible workplaces have been transformed, with the need for social distancing eclipsing the sort of openness and interaction between workplace users previously promoted.”

Some places could not stand the uncertainties and challenging financial prospects, terminating their operations. One of the Hubs interviewed (H2) had their closure declared a few months later because of the COVID-19 impact. The same is seen in the coworking spaces, Ceinar and Mariotti (2021) commented on the pandemic’s impacts based on the “How Coworking Spaces are Navigating Covid-19” survey (Konya, 2020). The outcomes realized by the authors are like the ones mentioned, supporting the findings.

Other spaces had to reinvent and alter their business model, promoting virtual encounters and setting digital platforms for remote connections, knowledge dissemination, networking, and business opportunities. The research has identified some negotiation cases over the current and previous contracts to maintain the participants' collaboration in the hub. Orel *et al.* (2022) comment on how digital presence may become a focus for these spaces, leading to the question of how virtual hubs can effectively attract individuals and connect them in supportive networks.

Additionally, remote work and open innovation initiatives by companies, another aspect that may increase the relevance of creative hubs, are caused by unemployment and economic crisis. Even before COVID-19, Capdevila and Zarlenga (2015) said some unemployed professionals may become freelancers, entrepreneurs, or autonomous workers and join hubs to cut costs and improve their networking opportunities. On the other hand, this attractiveness increases the association between hubs and labor precariousness, and ineffective innovation support (Nakano *et al.*, 2020).

## 5.2. A New Framework: Hub's Relationship Model

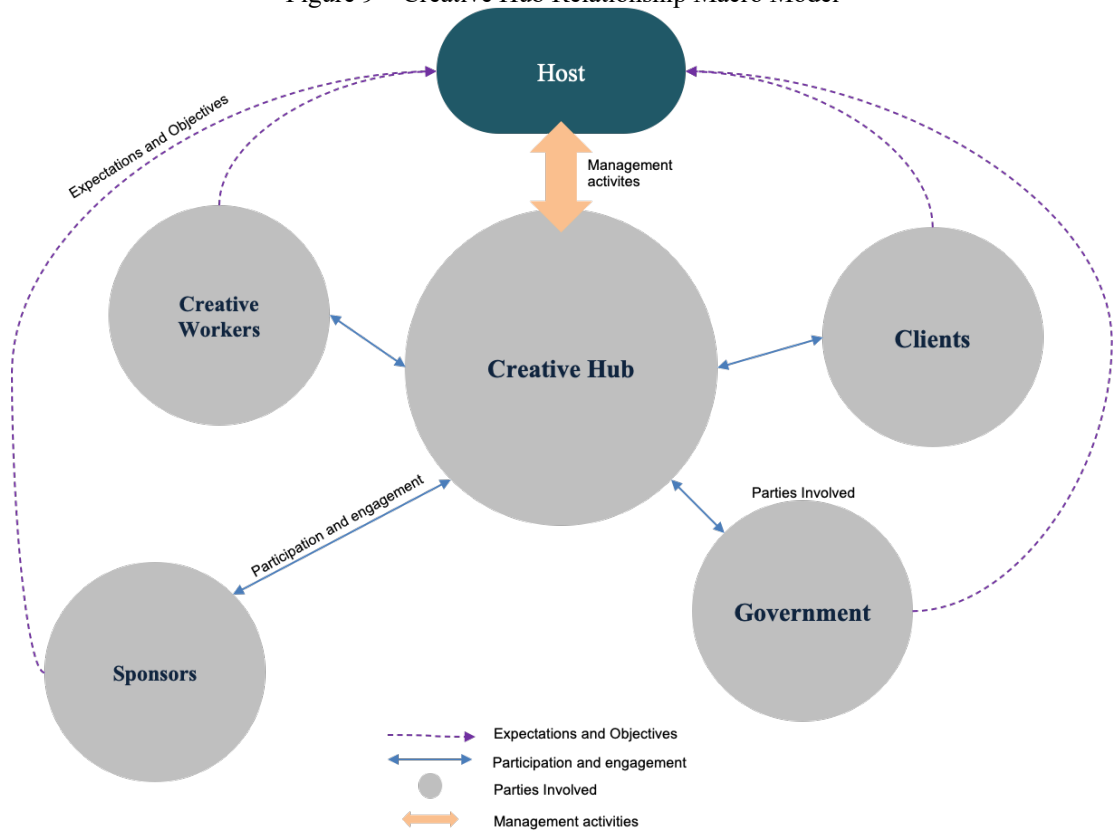
Consolidating the Second order concepts and Aggregated dimensions, a Relationship model was formulated to explain the dynamics of parties involved in hubs, which provides a new tool for understanding and assessing spaces. The parties are Creative Workers (freelancers, companies professionals, artists, startups, entrepreneurs, etc..), the Sponsors (Private companies, Public Programs, Venture capitals, Angel Investors), the Government (Federal, State, Local), and the Clients (Companies, individuals, governments). The Clients and Creative workers may be the same individuals, but what sets them apart is the fundamental motive to be part of the hub and the outcome expected from this participation: Clients want to consume hub activities and may establish solely commercial agreements without collaboration or physical presence at Hubs. Creative workers are interested in Hub's services, activities, and business opportunities, such as the chance to evolve and find new clients. Sponsors financially support the hub via space lending, direct investment, and ownership. The government creates, maintains, and manages public policies and creative hub development programs. The parties involved are represented as gray circles in the model.

The blue arrows represent the relationship between parties and their engagement. They emphasize the intermediation role of creative hubs, as commented on previous literature and observed during the interviews.

Brown (2017) comments on several needs of creative workers, not considering other participants. The few studies mentioning participants' goals consider it universal and consensual. This simplification may not help explore the Hub dynamics (Parrino, 2015; Yang, Bisson, & Sanborn, 2019; Tremblay and Scaillez, 2020). The interview content and some second-order concepts illustrate the importance of considering the goals' heterogeneity to comprehend the hub dynamics better. Then, the expectations and objectives of each actor are represented in the purple dashed line.

Additionally, the host is represented apart from the creative hub structure to illustrate its links with other parties involved. Also, the governance, operationalization, remodeling, and balance of the Hub dynamics mainly depend on their mediation and coordination (Brown, 2017; Merkel, 2017). The two-way salmon arrow between the host and creative hubs represented the host's activities, responsibilities, and feedback (see Figure 9). The model is based on previous literature and field research and describes the different types of hubs in an agnostic visual and theoretical representation.

Figure 9 – Creative Hub Relationship Macro Model



Source: Author.

The model facilitates the comprehension of the dynamics while consolidating previous literature and the new perspective retrieved from the interviews. Additionally, the research enabled the author to organize four significant insights regarding the hosts and hub characteristics, allowing discussion at the conceptual level and practical ground based on the host viewpoints. For instance, the first insight presents the importance of recognizing the diversity of parties' expectations and objectives. This may imply conflicts or competition, making expectations and goals alignment an exception, not a pattern. Previous literature approaches creative hub relations, disregarding such differences, ignoring the importance and challenge it may impose on the hub operation, except for a couple of articles, which briefly comment on the complexity of managing distinct actors (Capdevilla, 2019; Cabral & Winden, 2016).

### 5.3. Macro Model Insights

Taking iterative reasoning, it is possible to go back to the data and discuss the proposed macro model again, which led to four insights (Figure 10). The first is about goal misalignment between parties. During interviews, some Hosts commented that the participants' goals do not

influence the Hub results measurement, whether because their objectives are different, or the startup's success may be used only for reputation enhancement. Additionally, other hosts declare that results are mostly strictly financial. Then, their focus is on profit or solving specific issues, leaving aside any social impact. The following quote illustrates that despite the apparent success of startups and entrepreneurs, the Hub apparently could not reach its objective.

*" Unfortunately, we didn't achieve our goal (to collaborate with the specific sponsor), we managed to get the startups to be on Shark Tank, to be sold, to grow a team, to hire a team, we managed to do all that, to get investment." (H2)*

The disparities of objectives and expectations between creative Hubs and creative workers are mentioned in different interviews. Moreover, the study reveals discrepancies regarding sponsors and hubs, which should be the least expected gap. The H2 host has reported the lack of innovation metrics concern by the sponsors.

*"The innovation part they don't evaluate, our facilities part, our current evaluation is 4.96 out of 5 points, so it's a great evaluation, but I won't be lighthearted to tell you that there's the innovation part, that they do not evaluate. They don't have a metric for that yet." (H2)*

Additionally, some interviews have highlighted the gap in expectations and objectives that originated from the lack of characteristic awareness of the involved parties. This represents issues that lead to misalignments and consequently to host challenges. One example of this can be seen in the following quote, which highlights disparities between Hubs, Sponsors, and Creative workers.

*"We have all these deliverables, and they want to impact 30 people in person on a Wednesday from two in the afternoon until four o'clock, people are working, people are doing freelance, people are at work, doing their entrepreneurship, working hours at the streets and they want that, 30 people at that time, we say: "man, it's impossible." So, people (Sponsors) don't understand about the hood specifically, which are the people who are inside the hood" (H12).*

Some participants actively sought collaboration for innovation, reputation, or even for profit, but not everyone was motivated or benefited from it. Parties have various intentions, needs, and goals that affect their interactions and knowledge-exchange activities. It is essential to understand these factors better, especially the services needed to support them (Brown, 2017; Cabral & Winden, 2016).

The second insight is about the balance between parties involved in the hubs. Unbalanced relationships and asymmetrical influences may alter the space's characteristics. The hard and soft services are generally designed according to this balance. For instance, if the



sponsor has a more meaningful relationship with the Hub, other participants will be considered secondary users. Previous literature takes the influence of hubs' participants superficially, assuming everyone has the same dominance over hubs' services, engagement, and curatorship. Only some recognize the influence difference between hubs. According to Capdevila (2019), some spaces are driven by an organization (client), which replicates top-down governance in fostering innovation, while other hubs are guided by bottom-up reasoning, valuing the community, and sharing aspects. However, data shows that clients may have their own needs, which implies the re-arrangement of services and participants to overcome such necessities, as they are the most influential participants. Other participants must work around it in this case, using available services and coping with the hub's guidelines.

On the other hand, if the hub is more oriented toward creative workers, service design and client/sponsor presence will be compatible with the workers' needs. Thus, the study presents the influence and degree as a mediation factor to understand the Hubs dynamics. Each participant has its own influence degree, varying from hub to hub. The following interview quotes corroborate the insight formulation.

*“So we will always look at the demands that our members (clients) bring, in how we can adapt our community service for them” (H7).*

*“However, I have a reputation to maintain, just like everyone else does, so why don't I have early-stage startups? Because if I connect such a person with a large corporation (Client), and this startup cannot gain traction or implement the solution that they said they would, in the corporation's mind, it's not the startup that is bad, it's Habitat that doesn't have good startups” (H4)*

*“We raise the challenge that we are looking for; our sponsor now is Petrobras, for example. So, they say: “I have administrative problems,” and we set up a bet for current administrative problems with what they want” (H2).*

Then, the startups admitted to the hubs must be aligned with the sponsor's challenge. However, the distance between Sponsors and the reality of startups and creative workers results in services that are not aligned with the objectives of the Hub and participants' needs, as commented on the H12 interview.

Some space seeks to attenuate the influence of parties and set clear criteria for selecting participants, their continuity, and the services provided.

*“Every year-end, we conduct a mapping of startups. So, we carry out a complete digital survey of startups to understand numbers, progress, growth, etc. to make our annual follow-up, and then we renew our curation, the renewal of the seal every year-end. Therefore, every*

*year-end, there may be a startup that we understand is no longer relevant to stay in our network, either because it has now become a company, turned into a consultancy or a service company, or because it has been acquired by a large company. It no longer makes sense for it to be in our network.* “(H6).

Despite explaining how to keep up with the participants, the sponsor's influence is predominant, according to other interview passages. This second insight was used to formulate Hub’s taxonomy based on the power of participants, which will be discussed in the next section.

The third insight is about curatorship, which refers to the selection process of creative workers as commonly mentioned in the literature (Merkel, 2017). However, it extends the curatorship function to the setting of hard and soft services, the selection of other participants (sponsors, clients, and government), and the hub design factors. The curatorship reduces the misalignments and difficulties described at the first insight and establishes the degree of influence of each participant. Modeling the hub’s services to fulfill different needs, clarifying the prioritized goals and their owners. The curatorship helps Hubs involve the participants (creative workers, clients, sponsors, and government) best suited to their objectives.

*“So, we always look at the demands that our members bring, on how we can adapt our community service to them. So, within training, for example, I'm responsible for generating events, bringing content that makes sense for the demands and pains of these startups today”[...]* *“The community teams are prepared and trained to have a more qualified look to identify these companies. So, we always evaluate the level of engagement, if this company is already looking for connections and feels that it lacks some kind of content that it hasn't seen within “H7” in general, but would like to see in labs. We identify if they fit these profiles and we offer them entry into labs”* (H7).

Hubs have different objectives and structures, and members' selection varies accordingly. For instance, the H4 declares one of its objectives is to help large companies to become more innovative. Then, their selection process is focused on more established startups.

*“We have a startup curation, we have a queue of startups wanting to enter “H4”, so we have a series of criteria, they must already be tractioned, have relevant clients, and have a revenue above X million, that kind of thing”* (H4).

The curatorship needs to balance the focus of relevant participants and services and the diversification that drives new ideas, business, and oxygenation of the spaces.

*“So, in other words, more than four hundred startups were selected to be there because “H6” has a selection process for startups to enter. So, we have startups from all industries, from all sectors, startups from A to Z”* (H6).

The last and fourth insight from the model is the coordination role of the host; it builds on previous research, reinforcing the mediation and the leading activities undertaken by this role. The interviews highlight this, although encounters and connections between participants may happen by chance. When a dedicated professional plays out a coordinated process, linkages seem more efficient and effective.

Moreover, the mentioned insights are facilitated by the host function. According to Brown (2017), informal conversations with participants in social or workspace settings did not help generate "unexpected but important ideas or actions" or facilitate the development of new business or creative ideas, strengthening the idea that "coordinated serendipity" may be necessary to stimulate beneficial interactions (Spinuzzi, 2012; Surman, 2013; Merkel, 2015). Thus, the study suggests improved hub dynamics demand formal or informal host presence. The interview's quotes emphasize this known and yet slightly explored relevance of Hub's host.

*"If I know, for example, that you have a delivery company and another member came to our reception and asked "oh, I need someone who...", I'll call you right away, because it costs us nothing, it's a job we can do and it's a more direct form of referral. That's a very direct way. The others are, how can we visually show which companies are in the building, what kind of event can we promote with this client, so that they can present a service to the community. So, we have been creating mechanisms over time for people to get to know each other"* (H7).

Another example emphasizes the importance of host (individuals or teams) connection skills and function, principally in large spaces. When participants are numerous, finding the "right people" (problem holders and problem solvers) may depend primarily on host work.

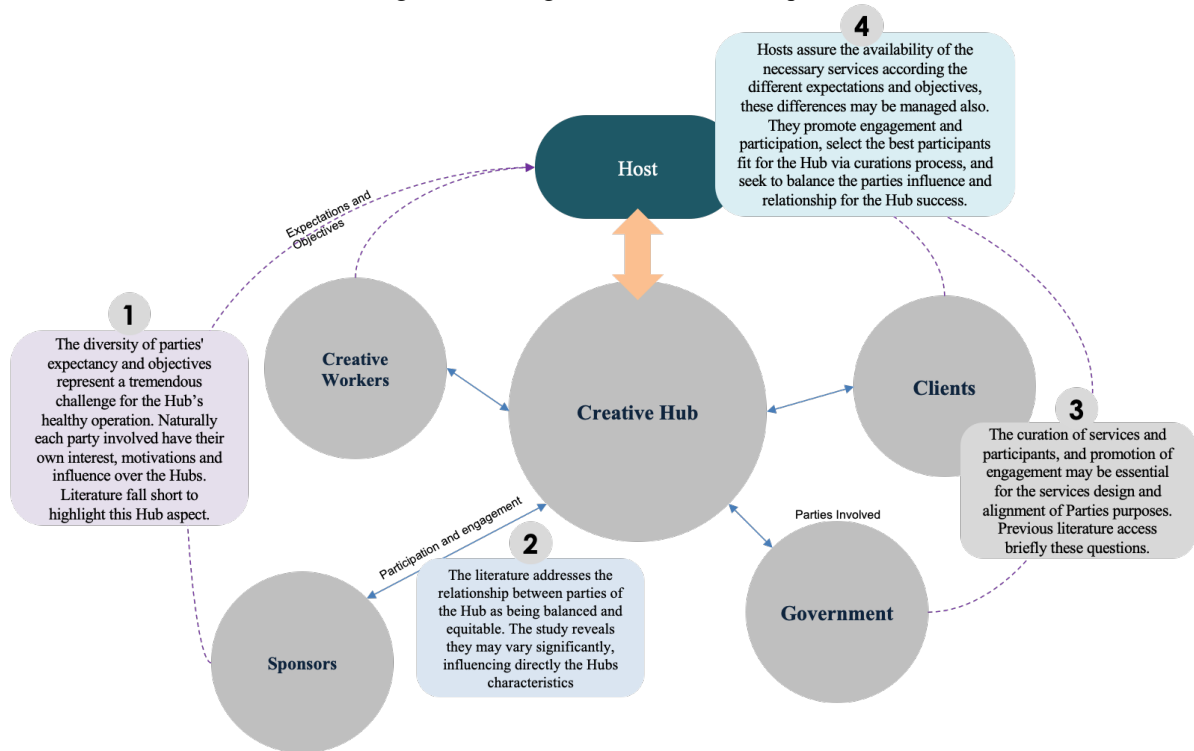
*"We do a lot of networking here at "H4", that's what we do most, walking around. If I see someone sitting there reading emails, it's wrong, they can read emails later. You have to connect people, talk, and understand what the startups do. Did a new startup join? Go there and understand what they do, because it's in a conversation with Davi that I'll be able to say, 'Davi, don't you work with XYZ? I just met a startup that could be useful for you, here's their contact information.'" (H4).*

Furthermore, specific Hosts may innovate in their approach to mediating participant connections, thereby increasing the efficiency and likelihood of meaningful collaborations, as the subsequent interview passage shows. Thus, the fourth insight not only emphasizes the importance of the Host but also highlights their crucial role in maintaining a harmonious Hub dynamic.

*"So instead of big companies going to the "H6" and talking to startups, we segmented all types of solutions that startups had, based on the challenges they solved. For example,*

startups that solve financial problems, startups that solve marketing problems. We made this segmentation, set up success cases, and created a mailing list to send to big companies so that we could facilitate these connections” (H6).

Figure 10 – Insights on the Relationship Macro Model



Source: Author.

## 5.4. Hubs' Taxonomy Proposition

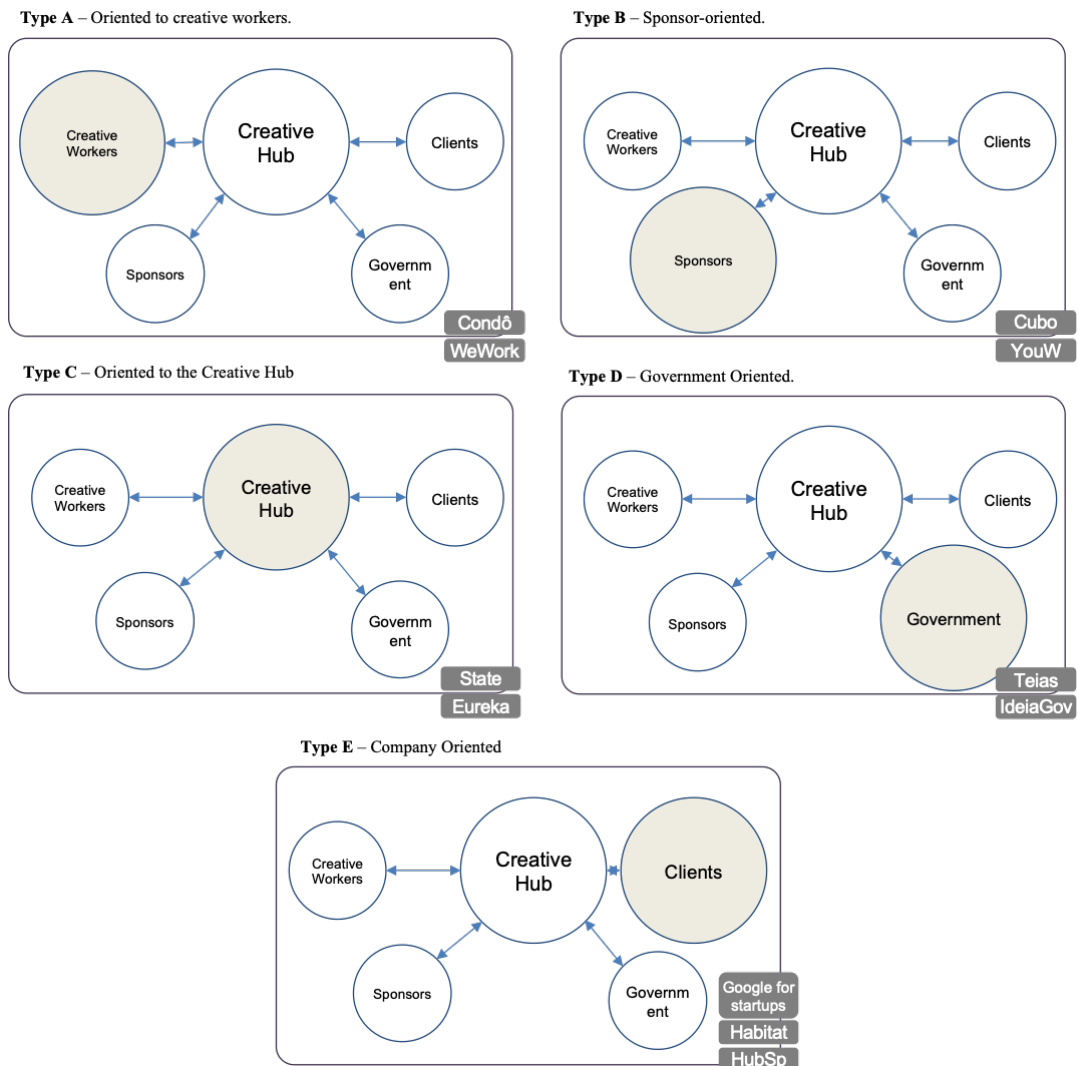
During the results organization, the researcher created a new taxonomy of Hubs based on the degree of participants' influence. The taxonomy aids in understanding the decision flow of provided services, curatorship, participants' interaction mechanics, and other Hub characteristics. Also, it helps to distinguish hubs according to the predominance of expectations and objectives of a particular member. The types are: Creative worker-oriented (type A); Sponsor-oriented (type B); Government-oriented (type C); Creative hub-oriented (type D); and Client-oriented (type E).

The taxonomy is presented in Figure 11. The gray boxes allocated the interviewed hubs according to the classification and demonstrated a distinct form to understand and differentiate spaces.

The Type A is oriented to creative workers. The workers' goals shape the Hub's services, the curation concerning all participants, and the HUB's culture of collaboration. Type B is

Sponsor-oriented, in which the financial sustainability of the hubs is most important; community and collaboration are means to ends. Usually, the sponsor dictates the results expected and the curatorship criteria. Type C is based on the Creative Hub influence predominance. Characterized by the Host's empowerment and autonomy, this type seeks to balance expectations and objectives among the different participants. Providing an environment of shared interests requires the host's constant and coordinated effort. Type D is the government-oriented one. Then, public demands and local community development take priority, and the hubs exist to fulfill government policies or programs. The proximity to the state institutions and politicians is fundamental. Type E is Company Oriented. It prioritizes generating new business through partnerships, hiring, and acquisitions. This model is guided by the objectives and expectations of companies with a commercial interest in the hub. The companies' Reputation and cultural transformation drive the hub's operations and objectives definition.

Figure 11 – Creative Hub Taxonomy According to Parties' influence



Source: Author.

Despite the types established, different combinations and derivations are possible, including varieties with two or more participants having the highest influence degree. The taxonomy highlights the relevance of influence degree dimension when comparing, analyzing, and developing creative hubs. Exploring more types and gathering information about the most common arrangements are encouraged for further research.

## 6. CONCLUSION AND LIMITATIONS

The study corroborates previous literature and provides insights into the creative hub phenomenon. The diversity of the assessed hubs, the host's perspectives, and the developing country context reinforce the research contribution. The consolidation of concepts and recommendations for creative hubs and the propositions on evaluating and improving hubs according to the different manager's objectives contribute to theory and practice.

A handful of authors and publications address hub management activities and their importance from an exploratory perspective. Part of the literature mentions the relevance and spots some hosts' attributions. Sometimes, it induces readers to interpret that activities and services provided by Hubs happen by chance. In this study, the Host role and attributions are consolidated, and the inner views of the hub's management are provided.

The second-order concepts might aid researchers in expanding the theory's understanding and exploring the Hubs' success factors. Also, this study indicates the effects and opportunities emerging from external factors such as COVID-19 and the new demands in the post-pandemic period, such as remote and hybrid work.

The study remarks that some authors comment that co-location is not enough (Parrino, 2015), although previous literature does not elaborate on its complete absence. The pandemic conditions have represented a new set of barriers for the harmonic creative hub operations. During this period, the hosts were responsible not only for guaranteeing the safety protocols but also for dealing with the impacts, being faced with reformulating the Hub offerings to ensure connections, collaboration, trust building, and business opportunities. Through actions such as interviewing hosts and accompanying their struggles, the research was able to map the creative hub relationship macro model and insights. It provides further information about how different parties in a hub relate to each other and how those ties probably have held spaces functioning during long quarantine periods, even with no co-location.

The creative hub relationship macro model provides a new form to understand and assess space dynamics, highlighting four insights regarding the parties and how they may relate to each other; those findings are grounded on the manager's experience. The literature superficially addresses the scope of curatorship and its importance. Even with the description of some curatorship activities, such as the fit between participants and the coordination of engagement, there is no emphasis on the diversity of needs that influence curatorship. Merkel (2017) emphasized the importance of exploration, reflected in this study where a more profound investigation was conducted.

The community manager's relevance is reinforced, giving inner layers of analysis of the role and its capabilities. The function is presented as an indispensable one for creative hubs regardless of their objectives and characteristics.

Additionally, by realizing the influence degree and the Hub dynamics according to the relationship model, the study presents a new taxonomy for creative hubs. This is guided by the most influential party on the Hub network and suggests that spaces' services, goals, and curatorship may be adjusted according to this leadership. The types are particular to hubs and may present other forms than the basic patterns developed, such as two parties with the same influential power. Thus, the taxonomy helps research and practice communities to savvy forces driving the hubs' decisions, curatorship process, services provided, development gaps, and goals.

The study confirmed the challenges arising from the misalignment of hub results and expectations and the institutional difficulties encountered in developing countries. These findings offer valuable insights into the challenges and opportunities faced by creative hubs, enabling stakeholders such as managers, policymakers, and sponsors to evaluate these spaces and take appropriate actions to foster their development.

Following the scarce literature on managing creative hubs, research in the global south is restrictive. This research validates consolidated understandings in developed countries, which are still pending validation in under-developing countries, which comprehend some of the country's most relevant to the world creative economy.

The study reveals novel elements and gives known aspects unprecedented degrees of relevance due to differences in creative hubs in developing and developed countries. The last is the focus of literature so far. For instance, themes such as political instability, social inequality, and economic issues are not expected to the existence of creative hubs in the Global North. At the same time, they are recurrent in the Global South.

Some limitations of this study include the methodology employed, potential bias from the authors in selecting and interpreting results from the hub, and the possibility that relevant non-academic publications were overlooked in the systematic literature review. As the creative and innovation community constantly evolves and shares knowledge through various means, such as reports and magazines, it is vital to consider exploring other sources in future studies.

Furthermore, the assessed hubs' diversity, the hosts' perspectives, and the context of developing countries also pose limitations. It is crucial to exercise caution when generalizing the results and discussions without considering the specific context and scope.



To address these limitations, recommendations for further research include increasing empirical and conceptual validation of the research propositions, examining the relationship meta-model, and refining the proposed taxonomy of hubs. Additionally, the study encourages research in regions of the Global South and from diverse or multiple participant perspectives.

## REFERENCES

- Avdikos, V., & Kalogeresis, A. (2017). Socio-economic profile and working conditions of freelancers in co-working spaces and work collectives: evidence from the design sector in Greece. *Area*, 49(1), 35-42.
- Aghaei, A.C., Salehi, H., Yunus, M., Farhadi, H., Fooladi, M., Farhadi, M., & Ale Ebrahim, N. (2013). A comparison between two main academic literature collections: Web of Science and Scopus databases. *Asian social science*, 9(5), 18- 26.
- Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis, *Journal of Informetrics*, 11(4), pp 959-975, Elsevier.
- British Council. (2015). Creative HubKit. London: *British Council*.
- Bouncken, R. B., & Reuschl, A. J. (2018). Coworking-spaces: how a phenomenon of the sharing economy builds a novel trend for the workplace and for entrepreneurship. *Review of managerial science*, 12(1), 317-334.
- Braun, T., Glänzel, W., & Schubert, A. (2005). A Hirsch-type index for journals. *The scientist*, 19(22), 8.
- Brown, J. (2017). Curating the “Third Place”? Coworking and the mediation of creativity. *Geoforum*, 82, 112-126.
- Bueno, S., Rodríguez-baltanás, G., & Gallego, M. D. (2018). *Coworking spaces : a new way of achieving productivity*. <https://doi.org/10.1108/JFM-01-2018-0006>
- Cabral, V., & Winden, W. V. (2016). Coworking: an analysis of coworking strategies for interaction and innovation. *International Journal of Knowledge-Based Development*, 7(4), 357-377.
- Canova, K. (2020). Urbanidade e Justiça Espacial na cidade de São Paulo: metodologia de análise e subsídio para tomada de decisão no planejamento urbano. Confins. *Revue franco-brésilienne de géographie/Revista franco-brasilera de geografia*, (48).
- Calders, B. (2020). What coworking spaces say about the impact of the coronavirus—results of the survey. Retrieved from : <https://socialworkplaces.com/what-coworking-spaces-say-about-the-impact-of-the-coronavirus-results-of-the-survey/>
- Capdevila, I. (2014). Different Inter-Organizational Collaboration Approaches in Coworking Spaces in Barcelona. *SSRN Electronic Journal*, January 2014. <https://doi.org/10.2139/ssrn.2502816>
- Capdevila, I. (2015). Co-working spaces and the localised dynamics of innovation in Barcelona. *International Journal of Innovation Management*, 19(03), 1540004.
- Capdevila, I., & Zarlenga, M. I. (2015). Smart city or smart citizens? The Barcelona case. *Journal of Strategy and Management*, 8(3), 266–282. <https://doi.org/10.1108/JSMA-03-2015-0030>

- Capdevila, I. (2019). *Joining a collaborative space : is it really a better place to work ?* 40(2), 14–21. <https://doi.org/10.1108/JBS-09-2017-0140>
- Carvalho, M. M., Fleury, A., Lopes, A. P. (2013). An overview of the literature on technology roadmapping (TRM): Contributions and trends. *Technological Forecasting and Social Change*, 80(7), 1418–1437.
- Cauchick , P. A. M., Fleury, A., MELLO, C. H. P., NAKANO, D. N., Turrioni, J. B., Ho, L. L., ... & Pureza, V. (2010). *Metodologia de pesquisa em engenharia de produção e gestão de operações*. Rio de Janeiro: Elzevir.
- Ceinar, I. M. (2021). *The Effects of Covid-19 on Coworking Spaces : Patterns and Future Trends. April.* <https://doi.org/10.1007/978-3-030-63443-8>
- Ceinar, I. M., & Mariotti, I. (2021). The effects of Covid-19 on coworking spaces: Patterns and future trends. *New Workplaces—Location Patterns, Urban Effects and Development Trajectories: A Worldwide Investigation*, 277-297.
- Chesbrough, H. W. (2003). Open innovation: The new imperative for creating and profiting from technology. *Harvard Business Press*.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive Capacity : A New Perspective on Learning and Innovation Author ( s ): Wesley M . Cohen and Daniel A . Levinthal Source : Administrative Science Quarterly , Vol . 35 , No . 1 , Special Issue : Technology , Organizations , and Innovation ( Mar .. 8/Administrative Science Quarterly, 35(1), 128–152
- Coworking.com (N.d). Core Values and Community. Retrieved from <https://coworking.com/core-values/>
- Deskmag. (2019). Number of coworking spaces & members worldwide. Retrieved from <https://coworkingstatistics.com/number-of-coworking-spaces-and-members-worldwide-throughtout-the-years>. Accessed January 15 2022
- Dinardi, C. (2019). Grassroots creative hubs: Urban regeneration, recovered industrial factories and cultural production in Buenos Aires and Rio de Janeiro. *In Creative hubs in question* (pp. 299-317). Palgrave Macmillan, Cham.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of management journal*, 50(1), 25-32.
- European Creative Hubs Forum (2015). Retrieved from : <http://creativehubs.org/>
- Fabrizi, J., & Charue-Duboc, F. (2016). *Coworking Spaces [Les espaces de coworking]* (No. hal-01499952).
- Florida, R. (2002). The economic geography of talent. *Annals of the Association of American Geographers*, 92(4), 743-755.

- Gandini, A. (2015). The rise of coworking spaces: A literature review. *Ephemera : Theory and Politics in Organization*, 15(1), 193–205.
- Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy—A new sustainability paradigm?. *Journal of cleaner production*, 143, 757-768.
- Global Coworking Map. (2023). *Global Coworking Map*. Retrieved from <https://coworkingmap.org/>
- Gill, R., Pratt, A. C., & Virani, T. E. (Eds.). (2019). *Creative hubs in question: Place, space and work in the creative economy*. Springer.
- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic management journal*, 12(6), 433-448.
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research methods*, 16(1), 15-31.
- Gulati, R. (2007). Tent poles, tribalism, and boundary spanning: The rigor-relevance debate in management research. *Academy of Management Journal*, 50(4), 775-782.
- Hill, S., Ionescu-Somers, A., Coduras, A., Guerrero, M., Roomi, M. A., Bosma, N., ... & Shay, J. (2022, February). Global Entrepreneurship Monitor 2021/2022 Global Report: Opportunity Amid Disruption. *In Expo 2020 Dubai*.
- Hirsch, J. E. (2005). An index to quantify an individual's scientific research output. *Proceedings of the National Academy of Sciences*, 102(46), 16569-16572.
- Homrich, A. S., Galvao, G., Abadia, L. G., & Carvalho, M. M. (2018). The circular economy umbrella: Trends and gaps on integrating pathways. *Journal of Cleaner Production*, 175, 525-543.
- IBGE- Instituto Brasileiro de Geografia e Estatística . (2021). *Portal Cidades - São Paulo*. [Cidades.ibge.gov.br](https://cidades.ibge.gov.br). Retrieved January 17, 2023, from <https://cidades.ibge.gov.br/brasil/sp/sao-paulo/panorama>.
- Konya, K. (2020). SURVEY: How Coworking Spaces are Navigating COVID-19 [WWW Document]. URL <https://www.coworker.com/mag/survey-how-coworking-spaces-are-navigating-covid-19> (accessed 11.30. 20).
- Leclercq-vandelannoitte, A., & Isaac, H. (2016). *The new office : how coworking changes the work concept*. 37(6), 3–9. <https://doi.org/10.1108/JBS-10-2015-0105>
- Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative research journal*.
- London Development Agency (LDA) (2003). *Creative London: Vision and plan*. London: London Development Agency. Available at: <https://creativeindustrieslondon.files.wordpress.com/2014/11/creative-london.pdf>.

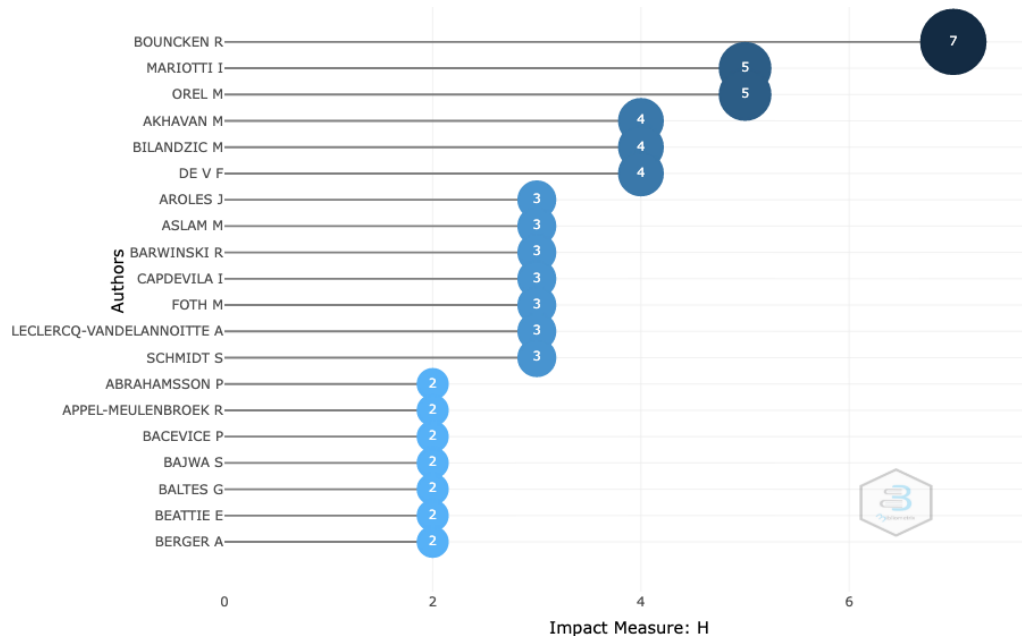
- Matheson, J., & Easson, G. (2015). *Creative HubKit: Made by hubs for emerging hubs*. UK: British Council.
- Merkel, J. (2015). "Coworking in the City", *ephemera: theory & politics in organization*, 15(1): 121-139. (Vol. 15, Issue November).
- Merkel, J. (2017). Coworking and innovation. In *The Elgar companion to innovation and knowledge creation* (pp. 570-586). Edward Elgar Publishing.
- Merkel, J. (2019). Curating Strangers. In *Creative Hubs in Question* (pp. 51-68). Palgrave Macmillan, Cham.
- Nakano, D., dos Santos, E. G., Lima, E. M., & Virani, T. (2023). Proximity and knowledge sharing in coworking spaces: The case of São Paulo. *Geoforum*, 144, 103789.
- Nakano, D., Shiach, M., Koria, M., Vasques, R., dos Santos, E. G., & Virani, T. (2020). Coworking spaces in urban settings: Prospective roles?. *Geoforum*, 115, 135-137.
- Narasimhan, R. (2018). The fallacy of impact without relevance—reclaiming relevance and rigor. *European Business Review*.
- Neuberg, B. (2014). *The start of coworking (from the guy that started it)*. [http://codinginparadise.org/ebooks/html/blog/start\\_of\\_coworking.html](http://codinginparadise.org/ebooks/html/blog/start_of_coworking.html)
- Orel, M., & Alonso, M. (2019). *The ambience of collaboration in coworking environments environments*. 21(4), 273–289. <https://doi.org/10.1108/JCRE-12-2018-0050>
- Orel, M., & Bennis, W. M. (2021). Classifying changes. A taxonomy of contemporary coworking spaces. *Journal of Corporate Real Estate*.
- Orel, M., Mayerhoffer, M., Fratricova, J., & Pilkova, A. (2022). Coworking spaces as talent hubs : The imperative for community building in the changing context of new work. *Review of Managerial Science*, 16(5), 1503–1531. <https://doi.org/10.1007/s11846-021-00487-4>
- Parrino, L. (2015). Coworking: assessing the role of proximity in knowledge exchange. *Knowledge Management Research & Practice*, 13(3), 261-271.
- Patvardhan, S. D., Gioia, D. A., & Hamilton, A. L. (2015). Weathering a meta-level identity crisis: Forging a coherent collective identity for an emerging field. *Academy of Management Journal*, 58(2), 405-435.
- Schmidt, S., Brinks, V., & Brinkhoff, S. (2014). Innovation and creativity labs in Berlin. *Zeitschrift für Wirtschaftsgeographie*, 58(1), 232-247.
- Scott, A. J. (1997). The cultural economy of cities. *International journal of urban and regional research*, 21(2), 323-339.

- Sedini, C., Vignati, A., & Zurlo, F. (2014). Conceiving a (New) definition of hub for the development of a transnational network for creative companies. *In The idea of creative city/The urban policy debate* (pp. 106-118).
- Spinuzzi, C. (2012). Working alone together: Coworking as emergent collaborative activity. *Journal of business and technical communication*, 26(4), 399-441.
- Surman, T. (2013). Building Social Entrepreneurship through the Power of Coworking. *In Innovations: Technology, Governance, Globalization* (Vol. 8). <https://muse.jhu.edu/article/536511>
- Tintiango, J., & Soriano, C. R. (2020). *Coworking Spaces in the Global South: Local Articulations and Imaginaries*. 27(1), 67–85.
- Tremblay, D., & Scaillerez, A. (2020). *Coworking Spaces: New Places for Business Initiatives? January*. <https://doi.org/10.3917/jie.pr1.0063>
- United Nations Conference on Trade and Development (UNCTAD). (2018). *Creative economy outlook: Trends in international trade in creative industries*.
- United Nations Conference on Trade and Development (UNCTAD). (2022). *The international year of creative economy for sustainable development: Pathway to resilient creative industries*.
- United Nations, Department of Economic and Social Affairs, Population Division. (2021). *World Population Prospects 2022*, Online Edition.
- Virani, T., Dovey, J., Pratt, A., Lansdowne, J., Moreton, S., & Merkel, J. (2016). Creative hubs: Understanding the new economy. *Creative Hubs: Understanding the New Economy*.
- Virani, T. E., & Malem, W. (2015). Re-articulating the creative hub concept as a model for business support in the local creative economy: The case of Mare Street in Hackney. *Creativeworks London Working Paper Series*.
- Waters-Lynch, J., & Potts, J. (2017). The social economy of coworking spaces: a focal point model of coordination. *Review of Social Economy*, 75(4), 417-433.
- Waters-Lynch, J. M., Potts, J., Butcher, T., Dodson, J., & Hurley, J. (2016). Coworking: A Transdisciplinary Overview. *SSRN Electronic Journal*, January. <https://doi.org/10.2139/ssrn.2712217>
- Yan, E., & Ding, Y. (2012). Scholarly network similarities: How bibliographic coupling networks, citation networks, cocitation networks, topical networks, coauthorship networks, and coword networks relate to each other. *Journal of the American Society for Information Science and Technology*, 63(7), 1313-1326.
- Yang, E., Bisson, C., & Sanborn, B. E. (2019). Coworking space as a third-fourth place: changing models of a hybrid space in corporate real estate. <https://doi.org/10.1108/JCRE-12-2018-0051>

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429-472.

### Appendix A – Additional Bibliometric Analysis

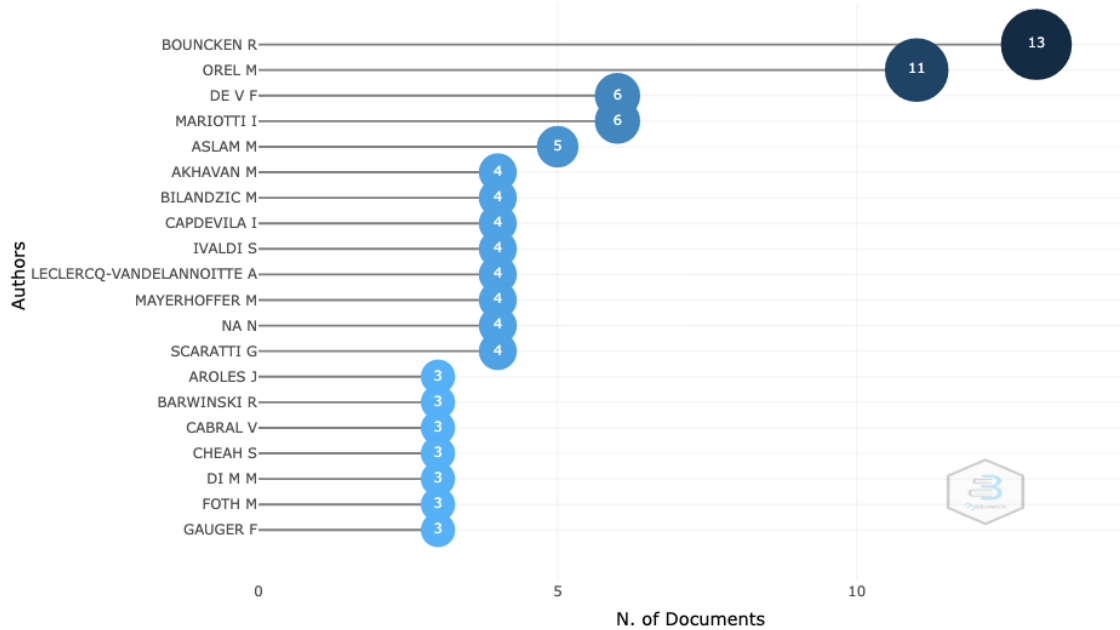
The authors' h-index measures authors' productivity and citation impact (Hirsch, 2005). The index is compounded by the researcher's most cited papers and the number of citations received in other articles (Aria & Cuccurullo, 2017). The following figure displays the local impact of authors according to the H index.



Source: Author.

The bibliometric analysis identified the authors with the highest H-index, the most relevant authors according to the number of publications. The first ten authors are the same in both lists, in different order, indicating the list is a reliable and well-formed indication of the most representative authors in the field. The following figure shows the Most Relevant author according to the number of documents.



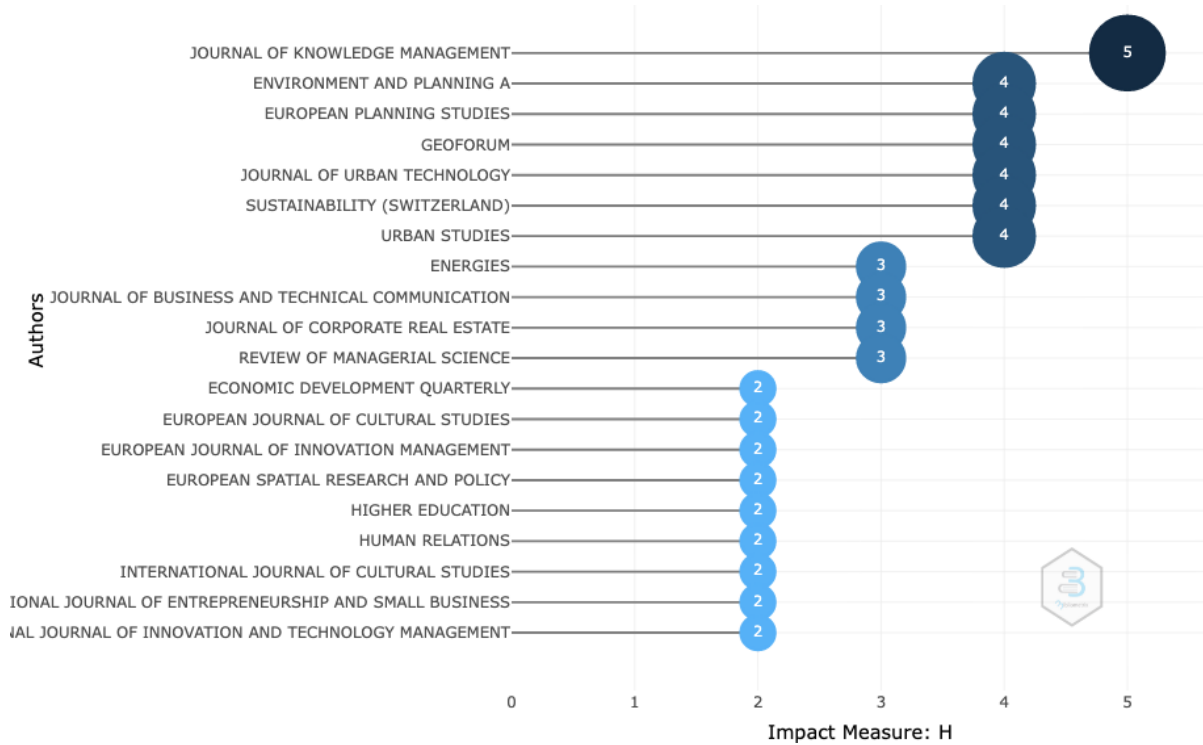


Source: Author.

Braun, Glänzel, and Schubert (2005) introduced the H-index for journals, which can indicate a degree of prestige. The journal H-index is calculated as:

Retrieving all source items of a given journal from a given year and sorting them by the number of times cited, it is easy to find the highest rank number which is still lower than the corresponding times-cited value. It is exactly the journal's h-index for the given year (Braun et al., 2005, p. 8).

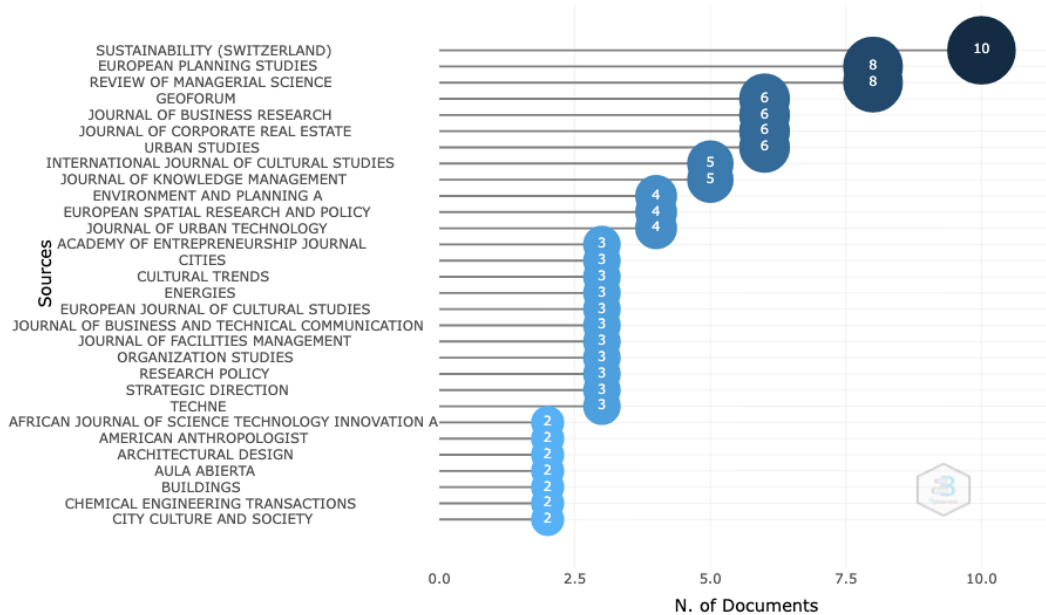
According to the H-index, the analysis of the local impact (considers only the sample) indicates the Journal of Knowledge Management, Environment and Planning, European Planning Studies, Geoforum, Journal of Urban Technology, Sustainability (Switzerland), Urban Studies, Energies as the source of significant impact in the literature. The following figure shows the 20 ranked journals and their H-indexes.



Source: Author.

According to the number of publications, the 11 journals with the best h-index are also the most relevant sources, with only distinctions of position. It is possible to observe the crescent attention and relevance of the theme in the academic community, the number of publications, the significance of the published journal, and the solidity of the research field evolving and ratifying the need for more empirical and exploratory research.

The analysis of publications by journal and year reveals a great diversity of sources. There are 461 articles distributed in 338 journals. Most sources occupy the first quartile (Q1).



Source: Author

## Appendix B - Interview Script

### **Innovation Hub Manager**

### **Innovation Hubs Research Project**

**Davi Nakano (USP), Rosana Vasques (USP), Emerson Gomes (UNIFESP) Ely Lima (USP) Interview**

#### **Identification**

Name (optional, to be published if authorized)

Job title

Time in the position

Responsibilities

Characterization of the hub (for-profit/non-profit)

What is the corporate composition?

Is it part of a franchise?

What are the goals of the hub?

#### **1. Infrastructure Provider**

1.1 What is the occupied area?

1.2. What infrastructure is offered?

1.3 How do you position yourself in the market? (price, innovation, focus on specific activities)

1.4 What kind of work environment is sought? (collaboration, innovation, dynamism, etc.)

1.5 How many users does the space have?

#### **2. Support for Internal Collaboration**

2.1 What activities are promoted to encourage interactions between users?

2.2 What is the level of user participation in these activities? Why?

2.3 Are there examples of cooperation and joint action? Are they frequent? Cite examples.

#### **3. Dissemination of knowledge**

3.1 Is there an exchange of knowledge (technical, contacts) between users?

3.2 What is the frequency?

3.3 What knowledge training activities are promoted by the Innovation Hub? What activities for knowledge exchange between users are promoted? 3.4 What is the level of user participation?

#### **4. Point of contact**

4.1 Is the participation of external parties allowed? How?

4.1 Are the promoted activities open to external people?

4.3 How does the Innovation Hub work its image before the community? What is the evaluation of these actions?

4.4 Has the Innovation Hub become a reference (of some kind) for the community? In what situation?

## **5. Global Connection**

5.1 Are you part of international networks? What network?

5.2 How important is participation in the Innovation Hub?

5.3 How do users benefit from this participation?

5.4 Are there foreign companies or professionals working?

5.5 Do you have agreements with foreign innovation hubs?

## **6. Results obtained**

(specify period: in the last year, in the last 2 years, since the foundation)

6.1 How does the hub evaluate itself? What are the criteria used?

6.1.1 New companies formed?

6.1.2 New products and services developed by residents?

6.1.3 Jobs generated?

6.1.4 Revenue generated?

6.1.5 Formation of new partnerships between residents?

## **7. Covid19**

7.1. What is the perspective of the business with social distancing?

7.1.1 As for the users: did they cancel, suspend, ask for a contract reduction?

7.1.2 Regarding management: was any layoff or reduction of part of the business necessary?

7.2. What is the expectation for the return to presential activities?

7.3 Does the space intend to maintain the current infrastructure?

7.4 What will be the main operational changes on return?

7.5 What is the expected impact on revenue?

## Appendix C – First and Second-Order concepts

1st Order Concepts	2nd Order Concepts
The community managers are essential for connections to happen	Community managers are important for enhanced connection between participants.
During the pandemic, the importance of the Hub and community managers increased due to the absence of other connection mechanisms	
There are different profiles of Hubs members and the role of community manager is important for internal exchanges to take place	
The connecting role is played at the individual level. Highlighting the importance of a community manager	
Even with the community being generated by the curatorship, the need for integrations and connections by the hub management is present.	
Sponsors demand direct results and impacts, as collaborations, new businesses and hub innovation are not fully measured.	Sponsors demand results and direct impacts. Disregarding the collaborations, new business, connections, innovations and indirect impacts of hubs.
Hub results do not include innovation impacts	
The results of companies and participants are not observed by the HUB	
The Hub's ways of measuring results are related to the stated objective. Media presence is the main indicator for the program. Participant satisfaction is also measured.	
The demand for results and greater formalization of startups by some hubs and sponsors can undermine development and success	
The hub is perceived more as a facilities company than as a hub.	Covid-19 forced the events to be digital, increasing participation and engagement
Results are financial and to support the hub, they do not include the impacts of the Hub	
The results of the companies, in generating innovation, partnerships, etc. are not relevant to the hub	
The positive impact of the changes brought by the Covid-19 period is stated by the greater access and increased event participation.	
Some initiatives in the virtual world boosted the volume of participants, themes and engagement with the Hub	
For hubs associated with public initiatives, volatility, bureaucracy and cases of government corruption hinder the performance of activities and the achievement of objectives	The state-owned hubs are subjected to volatility, bureaucracy and cases of government corruption, which are obstacles to carry out their activities and achieve their goals.
Hubs with the public initiative are heavily dependent on the government	
The curatorium seeks startups with a certain level of maturity	
The curating of the program and structure guarantee the high engagement of the participants. Goals and deliveries determine the continuity of the startup in the program.	
Some hubs by applied curation restrict the diversity of participants in the HUB	
The model involves a large number of participants, there is a healing process. Industries and sectors are diverse, the focus is technology	The curation of the HUB determines the diversity of industries, maturity and engagement of the participants.
The curator of the program/space is important for community creation. Interactions and knowledge exchanges are more organic	
The Hub structure has different stakeholders in business generation between large companies and startups.	
The purpose of the hub is to disseminate knowledge	
The interaction of startups generates new, not necessarily requiring large companies	
Participation in events occurs for various reasons, from networking construction, prospecting of new customers, absorption of knowledge and for less noble motivations such as beer and free food.	Events are important for building networking, prospecting new customers, absorbing knowledge and also for the amenities offered.
Collaboration between members of the Hubs satisfies organically	
Joint actions and examples of engagement are not listed because they are very organic	
Startups contribute to each other through customer sharing	
Community difficulty in occupying the HUB	
Difficulty of individuals to perceive themselves as entrepreneurs, seek formalization and support	Individuals from the local community does not perceive themselves as entrepreneurs, and do not seek formalization or support.
The distance of Hub Sponsors to the reality of startups and professionals, results in initiatives and services that are not adhering to the objectives of the Hub	
The needs of the HUB participants shape the identity of this	
The needs of startups are heard and met	
The hub is measured by participant's satisfaction	
The content of the events, workshops and training must be relevant to the hub participants	Participants' needs can be captured to shape the events and services offered by the HUB.
The services may change according to the needs of the participants	
The Hub curator considers the image impact of startups	
The prolonged duration of the quarantine in Brazil has brought saturation for online events, making it difficult to participate and engage	
Saturation of online inventories during the pandemic	
Events are catalysts for meetings, networking and knowledge dissemination	Through the managers, the events are catalysts for meetings, networking, dissemination of knowledge and dissemination of the hub's objectives
The events and external openness take place with the aim of promoting the image of the company that maintain the hub	
During the pandemic there was a decrease in demand for the program and withdrawals. The period forced startups to review their business models and priorities.	
The hub has different mechanisms to generate connection, from the role of community managers, through events and meetings to the architecture itself.	
The architecture of the place is important in encouraging collaboration, spontaneous encounters, creativity and innovation.	
Everything at the hub is thought to promote collaboration, community spirit and represent the concept of the hub	The Hub has different mechanisms (events, managers, architecture) to promote collaboration, community spirit and represent the hub concept.
The space architecture is designed for spontaneous encounters, so that people can see and interact	
Annually they evaluate startups, verify results and adherence to the program. It's a constant healing. Maintaining network connections "organized"	
The Hub hosts too many events that are not directly related to the objectives of the Hub	
Negative impact of coexistence in hubs between different companies is harassment by employees and narrow boundaries of intellectual property	
	Curation is an ongoing process that ensures the relevance of participants in the HUB
	The HUB hosts external events and supports knowledge sharing from "non-participants"
	Negative impact of coexistence in hubs between different companies is harassment by employees and narrow boundaries of intellectual property

Source: Author