From emplacement to Virtuality: A sociomaterial Perspective on the Emotional Transformations in Coworking Spaces during COVID-19

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Introduction

Coworking spaces have prospered in recent years as hubs for creative and entrepreneurial activities, offering flexible workstations, shared resources, and a sense of community and mutual learning (Spinuzzi, 2012; Kojo & Nenonen, 2017). By bringing diverse workers together in physical proximity, these spaces aim to foster face-to-face interaction, serendipitous encounters, and collaborative dynamics that can spur innovation and personal growth (Garrett, Spreitzer, & Bacevice, 2017). Yet, the sudden onset of the COVID-19 pandemic disrupted this core model, compelling coworking spaces to reassess how they could maintain and nurture community ties when health restrictions and remote work practices became the norm.

As coworking spaces grappled with social distancing mandates, many turned to digital platforms to replicate - albeit imperfectly - the spontaneous exchanges and convivial atmosphere traditionally engendered onsite (Bouncken, Kraus, & Martínez-Pérez, 2020; Hu, 2020). This pivot raised questions about the sustainability of in-person–focused ecosystems and whether online collaboration could sustain the sense of identity and togetherness that underpins the coworking ethos. Early indications suggest that integrating virtual and onsite elements introduced new opportunities for broader participation and resource sharing. At the same time, some members voiced anxiety and frustration over the potential erosion of the physical and social qualities that many consider essential to coworking.

This study adopts a sociomaterial perspective (Orlikowski & Scott, 2008) to underscore how coworking practices emerge from the interplay of material artifacts, technological tools, and social interactions. However, unlike much of the sociomaterial literature, I also foreground the affective dimension as an essential catalyst of organizational change. The emotions such as anxiety, hope, or frustration do not merely accompany sociomaterial transformations; they actively shape how digital platforms, physical distancing measures, and communal identities are reconfigured under crisis conditions. By bringing emotions into the sociomaterial lens, this research extends the existing theory to illustrate how coworking communities negotiate new practices through both technological affordances and the shared emotional states that sustain or hinder adaptive processes. Drawing on a discourse analysis of social media posts before and during the COVID-19 crisis, this study investigates how emotions reflect and shape coworking communities' adaptive efforts. The findings reveal that while hope-driven narratives often fueled experimental hybrid practices and sustained member engagement, negative emotions such as isolation and uncertainty also surfaced, challenging the resilience of these spaces. By revealing how coworking members leveraged digital tools to enact or resist new modes of collaboration, this research highlights the significance of affective processes - ranging from optimism to fear - in mediating sociomaterial change (Nolen-Hoeksema & Morrow, 1991; Orlikowski & Scott, 2008).

In what follows, the paper situates coworking spaces within broader debates on collaborative work and sociomaterial practices, detailing how exogenous shocks like the pandemic can either propel or hinder organizational transformation (Christianson, Farkas, Sutcliffe, & Weick, 2009; Meyer, 1982). Accordingly, the central research question guiding this study is: *How do coworking spaces transform their sociomaterial practices under the exogenous shock of COVID-19, and how do social media discourses reveal the ways in which emotions mediate these transformations?*

The subsequent sections outline the methods used to examine online discourse and present a detailed account of how coworking communities negotiated these unprecedented circumstances. The discussion then reflects on the broader theoretical and practical implications of these adaptive responses, offering new insights into how collaborative space can preserve core values of community and innovation even under the constraints of physical distancing.

Theoretical background

Coworking Spaces: A Theoretical Perspective on Their Evolution and Challenges

Collaborative spaces, particularly coworking spaces (CSs), have gained prominence in organization studies for their potential to spark creativity, knowledge exchange, and entrepreneurial synergy (Kojo & Nenonen, 2017; Spinuzzi, 2012). Such spaces are often theorized as sites of "economies of encounters," wherein physical proximity and unplanned interactions actively shape how work is done, ideas are generated, and professional networks are established (Garrett, Spreitzer, & Bacevice, 2017). Initially celebrated for providing cost efficiencies and community anchoring, CSs also align with broader sociomaterial perspectives that foreground how material and technological elements jointly influence organizational practices (Leonardi, 2012; Orlikowski & Scott, 2008).

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However, scholars have begun to question whether these benefits, rooted in coworking's tangible, face-to-face dynamic, remain robust when confronted with emerging digital platforms or the constraints imposed by exogenous shocks (Hu, 2020).

In particular, debates center on whether digital modes of collaboration can sustain the spontaneity and serendipity that many view as fundamental to coworking (Hofeditz, Mirbabaie, & Stieglitz, 2020). Although online tools promise flexibility and broader participation, they may also dilute the sense of place-based community that gives coworking its unique character. This tension has become more pronounced since the COVID-19 pandemic, which has compelled organizations of all kinds to adapt suddenly, blending onsite and remote work practices at an unprecedented scale (Christianson, Farkas, Sutcliffe, & Weick, 2009). For CSs, this crisis has magnified questions about how emotional and motivational factors, such as hope, anxiety, or resilience, mediate the uptake of new sociomaterial arrangements (Nolen-Hoeksema & Morrow, 1991; Ashkanasy, Humphrey, & Huy, 2017).

Accordingly, the contemporary theoretical conversation extends beyond whether CS merely "works" in a digital environment toward interrogating how exogenous shocks accelerate the hybridization of physical and virtual domains. This perspective illuminates both opportunities for expanded community participation and potential losses in relational proximity and communal identity (Meyer, 1982; Spinuzzi, 2012). By foregrounding the interplay of technology, space, and emotion, this study positions CSs as critical testbeds for understanding how organizations integrate onsite and virtual practices and how these integrations, in turn, reshape the meanings of collaboration, innovation, and collective engagement.

CSs have grown rapidly in recent years, incentivized by interests in cost reduction, the attractiveness of new ways of working, work-life balance, efficiency, sustainability, and regional development incentives (e.g., Kojo & Nenonen, 2017; Spinuzzi, 2012). The expansion of new emerging technologies plays a significant role as they afford workers to work in any physical location, as long as they have the necessary electronic devices (Kojo & Nenonen, 2017). However, while working from home certainly prefigures as a cheaper alternative, it also brings along the threat of isolation from both social and business contexts (e.g., Kjaerulff, 2017). The emergent CSs literature shows that CS constitutes an 'antidote' to the alienation of smart working and focuses on the social dimension in CSs whereby freelancers can build a space-centric network from which a sense of community arises (e.g., Garrett, Spreitzer, & Bacevice, 2017) and with which coworkers can identify (Capdevila, 2013; Cochis et al., 2021). Independent workers are looking for spaces that bring new stimuli for creativity and innovation and foster new social relations. On the one hand, they also offer an everyday routine that can make them feel like they are part of an organized work environment and a professional support community (e.g., Butcher, 2018). Drawing on a sociomaterial prospective (Leonardi, 2012; Orlikowski & Scott, 2008), some recent CS studies have highlighted the importance of sociomaterial practices whereby the physical space transforms to answer "the need to facilitate inspiration and serendipity by open interaction and collaboration," (Bouncken, Kraus, & Martínez-Pérez, 2020, p. 120; Ungureanu et al., 2018). At the same time, other researchers have argued that the sociomaterial practices typical of CS are not necessarily confined to knowledge sharing in the social proximity of physical space but can also be supported by complementary virtual coworking platforms which "enable participants, who are not always able to physically interact with others, to be a part of the community and to benefit from the advantages such as knowledge and motivation exchange." (Hofeditz, Mirbabaie, & Stieglitz, 2020, p. 10).

Despite these qualities, tensions arise when the features originally intended to counteract the alienation of virtual work, such as a tangible sense of community, relational proximity, and serendipitous exchanges, are increasingly invoked to support remote or digitally mediated activities. Merging situated and virtual practices may extend the coworking revolution into new terrain, yet it also risks reconstituting forms of isolation wherein individuals effectively work "alone, together," despite nominally shared communities (Cook, 2020; Spinuzzi, 2012). When this interplay is further accelerated by an exogenous shock such as COVID-19, the stakes become more pronounced as operators and members alike must quickly integrate new sociomaterial arrangements without compromising the trust and spontaneity that define coworking's communal ethos. These dynamics point to a significant gap in understanding how collaborative spaces negotiate such hybridization processes under crisis conditions, underscoring the need for deeper investigation into how coworking models adapt when physical and virtual forms of engagement converge.

COVID-19 pandemic and collaborative spaces: Exogenous shock, emotional mediation, sociomaterial change

Starting in December 2019, a new coronavirus (COVID-19) (Wang, Horby, Hayden, & Gao, 2020) has affected the whole world, causing a global pandemic, leading several national governments to apply blocking restrictions to reduce the infection rate (Bonaccorsi et al., 2020). Due to the constraints imposed by the pandemic, many workers started working remotely, but for others,

doing remote work was virtually impossible, and many were forced to become inactive or find new jobs (Bick & Blandin, 2020). The social distancing measures can negatively affect workers' lives; this is often the case for creative and digital workers, many of whom are regular users of coworking spaces (Hu, 2020). I argue that the outbreak of the pandemic and the correlated lockdown represent an exogenous shock for the CS industry (i.e., unexpected changes triggered by the external environment) (Spinuzzi, 2012). Collaborative spaces had to implement change practices, accelerating the transition to a virtual offering, trying to keep intact the sociomaterial practices and discourses associated with the physical space. In addition, they had to respond promptly to the exogenous shock, providing new answers to the coworkers' entrepreneurial needs (Hu, 2020; Corvello, Verteramo, & Giglio, 2023; Corvello et al., 2024). In this study, I am concerned with the impact of the COVID-19 exogenous shock on the sociomaterial discursive practices regarding collaborative spaces, and in particular on the process of hybridization of place-centric and virtual work practices.

The literature on the effects of exogenous shocks has shown on the one hand the negative consequences that abrupt change can have on some organizations, but on the other, has also highlighted opportunities in terms of learning, motivation, identity and collaboration processes for individuals, teams, organizations (Christianson, Farkas, Sutcliffe, & Weick, 2009; Meyer, 1982). Importantly, it has been suggested that exogenous shocks affect individuals' lives through emotional processes such as fear, uncertainty, despair, anxiety, hope, energy or determination, pushing them to embrace change with energy, motivation or resolution which were once unknown (Nolen-Hoeksema & Morrow, 1991). For these reasons, I propose that emotions may play a fundamental role in triggering change in the sociomaterial practices of CS facing the COVID-19 restrictions and inquire about how emotions triggered by the exogenous shock may lead and sustain change in the sociomaterial practices of CSs.

Even in normal times, CSs are intended as emotional experiences designed to stimulate user innovation and creativity. Space itself is designed to stimulate positive emotions and encourage the coworker's embeddedness with the space-centric community, for instance, through openness and serendipity (e.g., Amir, 2020; Waters-Lynch & Duff, 2019). Organizational studies have explored the antecedent and mediating role of emotions and socio-emotional processes in creative and innovative processes (e.g., Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Seligman, 2012). For instance, Sweetman et al. (2011) show how the generation of creative ideas depends on psychological resources such as hope and optimism, just as emotions can become barriers in entrepreneurial change processes, creating rigidities and acting negatively on entrepreneurs' motivation or initiatives (Doern & Goss, 2013). Since emotions can be both antecedents and mediators of creative processes, it is essential to recognize their role in the processes taking place in CS regularly and even more in the presence of an exogenous shock, which may generate further emotional loads. In such conditions, coworkers may either spill further energy and emotions into their environment, augmenting the attachment to work for places and communities, or manifest a lack of interest, rigidity, and disinvestment in the coworking model (Ashkanasy, Humphrey, & Huy, 2017).

Data and Methods

Twitter as a window on social opinions

To understand how communities related to CSs responded to the COVID-19 disruption, I collected data through Twitter (from 2023 called X) social media, which represents highly interactive platforms through which individuals and communities share, co-create, and discuss (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011) every day. Its users leave billions of digital traces regarding their social interactions, opinions, emotions, and thoughts, providing the opportunity to collect massive observational data. Twitter messages convey moods and feelings belonging to the authors, whether the intention is to share information or talk about selves (Bollen, Mao, & Pepe, 2011). I thus analyzed the discourse of CSs' actors through Twitter microblogging to capture emotions related to the COVID-19 disruption and discourses about change practices involving CSs, affording a better understanding of the role of emotions in the change processes. For this research project, 99,745 Twitter messages were collected using a scraping technique between 1 September 2019 and 31 August 2020.

Period	*Number of Tweets*
September 2019	9,538
October 2019	9,522
November 2019	8,794
December 2019	7,048
January 2020	9,551
February 2020	9,542
March 2020	9,605
April 2020	6,209
May 2020	7,100
June 2020	7,388
July 2020	7,605
August 2020	7,843
Total	**99,745**

Table 1. Total Tweets Collected Distribution per Month

To study changes caused by an exogenous shock, it is necessary to distinguish at least between a pre - and

during-crisis. To this purpose, I have analyzed tweets containing specific keywords and hashtags - such as coronavirus, covid, stayhome, quarantine, lockdown, staysafe, socialdistancing, coronaviruspandemic, stayathome, and wfh (an acronym for "working from home"). The resulting data revealed a limited presence of relevant tweets before the COVID-19 pandemic, specifically between September 2019 and February 2020. Upon closer analysis, this early occurrence was primarily associated with the hashtag #wfh, which, while unrelated to the pandemic at the time, referred to the concept of working from home. In contrast, a marked increase in the volume of tweets containing the identified keywords was observed from March 2020 onwards. This significant uptick aligns with the onset of the global health crisis and the implementation of widespread lockdowns and social distancing measures. To account for these trends, two distinct sub-datasets were created: the first includes tweets published between September 2019 and February 2020, representing the pre-crisis period, while the second encompasses tweets published from March to August 2020, corresponding to the during-crisis period.

Time	*Period*	*Relevant Tweet*
Pre-crisis	Sep 2019 - Feb 2020	100
During crisis	Mar 2020 - Aug 2020	7,008

Table 2. Relevant Tweets by Time Period

As shown in Table 2, the pre-crisis period is characterized by a relatively small volume of relevant tweets, totaling 100. By contrast, the crisis period reflects a sharp increase, totaling 7008 tweets. This distinction underscores the significant role of the COVID-19 pandemic in amplifying the online discourse surrounding CSs, as individuals increasingly engaged in conversations related to remote work, lockdown measures, and social distancing during this time.

Topic Model algorithm

To analyze the data collected, I use LDA. The algorithm focuses on co-occurrent words inside documents and treats documents as a random set of latent topics, where each topic is itself a word distribution (Blei, Ng, & Jordan, 2003). Generating topics starting from probabilistic models has three benefits. First, researchers must not impose dictionaries and interpretative rules on data. Secondly, this method recognizes important themes that humans cannot discern. Finally, it allows for polysemy because the topics are not mutually exclusive; the single words appear in the topics with different probabilities, and the topics can overlap or group (DiMaggio, Nag, & Blei, 2013). The output of the LDA model includes a topic-word matrix (reports the word weights in each topic) and a topic-document matrix (reports the topic weights in each document) (Hannigan et al., 2019). These distributions can be used to identify models and patterns for the study. To determine the optimal number of topics, I employed the coherence score method, which is widely used to assess the interpretability and consistency of topic models. This analysis allowed us to identify 16 topics for the Pre-Crisis dataset and 14 topics for the During-Crisis dataset, balancing the need for thematic granularity with semantic clarity to ensure meaningful and manageable outputs.

Following the procedure outlined Croidieu and Kim (2018), I adopted a systematic approach to refine and interpret the topics. Initially, two independent researchers reviewed a sample of tweets associated with each topic, focusing on the most probable words and their contextual use to uncover coherent thematic patterns. To consolidate the emerging themes, I applied selective coding to a subset of representative tweets, which allowed us to identify core semantic constructs and recurring patterns. This step was critical to ensuring that the labels assigned to the topics captured the essence of the data while maintaining consistency with existing theoretical perspectives.

The labeling process involved iterative refinement through researchers' discussions and comparison with relevant literature on collaborative spaces and sociomaterial practices. This collaborative effort ensured that each topic label reflected both the probabilistic outputs of the model and the substantive insights emerging from the data. I performed an early-stage analysis of the labeled topics, focusing on identifying key patterns and shifts between the Pre-Crisis and During-Crisis periods. This step provided a deeper understanding of how the COVID-19 crisis impacted the coworking community's discursive practices and emotional narratives. This methodological approach allowed us to construct a robust theoretical artifact that captures the evolving themes and dynamics within the datasets.

Results

Table 3 and Table 4 show the topic-word matrices from the topic modeling algorithm LDA and the label coding.

Topic	*Key words*	*First order labels*	*Second Order Labels*	*Third order labels*
3	startup, provid, benefit, flexibl, space, innov, product, mani, support, workplac	Flex-place and Flex-work offered	Services Offered	Work practices
4	wework, market, industri, compani, year, oper, plan, trend, leas, growth	Entrepreneurs Business Centre	Business Development	Work practices

5	open, locat, cowork, citi, real, hous, founder, center	Physical space location	Services Offered	Work practices
10	meet, book, room, desk, workspac, visit, tour, membership, avail, access	Coworking services	Services Offered	Work practices
12	offic, space, offer, call, privat, servic, flexibl, info, rent, suit	Coworking services	Services Offered	Work practices
14	space, cowork, find, perfect, move, social, weve, market, job, london	Perfect synergy in the coworking job market	Business Development	Work practices
1	cowork, space, share, talk, find, top, women, tech, develop, creativ	Female digital community	Digital Community	Social practices
2	member, team, learn, hub, share, manag, experi, excit, futur, amaz	Exciting for knowledge-sharing community	Space-driven Community	Social practices
6	cowork, space, design, launch, project, brand, beauti, club, hotel, build	Inspiring the community through design	Space-driven Community	Social practices
7	busi, amp, great, startup, network, entrepreneur, make, collabor, connect, grow	Great social and entrepreneurial collaboration	Space-driven Community	Social practices
8	cowork, check, read, list, show, articl, play, readi, latest, post	Click here to enter our community	Digital Community	Social practices
9	workplace, peopl, home, palace, creativ, world, chang, environ, life, togeth	Creative synergy: matching opportunities to individual needs	Space-driven Community	Social practices
13	cowork, space, commun, remot, event, part, worker, live, nomad, studio	Social digital community	Digital Community	Social practices
15	join, week, event, tomorrow, pm, Friday, host, day, st, free	Event planning	Space-driven Community	Social practices
11	time, coffe, im, good, thing, feel, shop, lot, friend, tri	Positive emotions for space community	Positive Emotions	Emotions
16	cowork, love, happi, space, area, realli, welcom, everyon, full, made	Positive emotions for space community	Positive Emotions	Emotions

Table 3: Pre-Crisis Period Topics, highlighting key words related to emotions.

Topic	*Key words (most frequent)*	*First order labels*	*Second order labels*	*Third order labels*
1	space, cowork, find, provid, live, rent, creativ, citi, benefit, hub	Positive gains from coworking	Services Offered	Work practices
3	offic, space, cowork, call, offer, privat, month, amp, start, suit	Coworkers are missing their CS's benefits	Services Offered	Work practices
6	cowork, share, space, support, local, talk, manag, post, top, plaas	Enthusiastic support for coworker businesses	Business Development	Work practices
7	compani, flexibl, wework, futur, pandem, industri, market, coronavir, oper, solut	Business response to the crisis	Business Development	Work practices
13	meet, room, coffe, desk, hour, miss, enjoy, shop, session, morn	Coworkers are missing their CS's benefits	Services Offered	Work practices
2	open, place, space, social, cowork, close, safe, stay, member, founder	Crisis perception of space-driven community model	Space-driven Community	Social practices
5	join, virtual, free, week, event, onlin, check, discuss, sign, tomorrow	Anticipation for the onsite community going virtual	Space-driven Community	Social practices
9	back, im, cowork, good, realli, hous, welcom, everyon, news, ive	Welcoming positivity for returning to the space	Space-driven Community	Social practices
10	busi, commun, amp, peopl, connect, world, grow, great, network, collabor	Exciting synergy in the online community	Digital Community	Social practices
11	work, home, remot, peopl, mani, chang, feel, environ, worker, product	Adapting work to context needs (virtualization)	Space-driven Community	Social practices
12	cowork, learn, thing, startup, creat, togeth, design, tech, ashievl, innov	Virtual innovation and creativity	Digital Community	Social practices
14	cowork, space, read, locat, build, check, team, membership, interest, articl	Concerns for the future of the onsite community	Space-driven Community	Social practices
4	cowork, time, make, love, space, great, move, import, set, friend	Positive emotions for coworking life transition	Positive Emotions	Emotions
8	cowork, member, workspac, busi, book, happi, servic, visit, play, tour	Positive emotions for returning in the space	Positive Emotions	Emotions
11	time, coffe, im, good, thing, feel, shop, lot, friend, tri	Positive emotions for space community	Positive Emotions	Emotions
16	cowork, love, happi, space, area, realli, welcom, everyon, full, made	Positive emotions for space community	Positive Emotions	Emotions

Table 4 During-Crisis Period Topics, highlighting key words related to emotions

The matrices show the evolutionary adaptation of CSs in response to the exogenous shock caused by the COVID-19 emergency. Two discourses regarding the impact of the crisis are central in the model: discourse regarding changes in work arrangements and discourses regarding changes in social practices.

Discourse concerning the change in work practices develops through two different areas: the services offered -i.e., the resources made available by the CS before and after the shock, and business development ideas -i.e., visions, ideas, initiatives to promote and encourage new entrepreneurial activities. In terms of offered services, CS actors strive to find a virtual dimension that combines the characteristics they experienced in the physical space

with new experiences that can be fostered in the online environment, for instance, support for technical problems related to the use of the most popular digital platforms or creation of customized digital platforms. Business development ideas further bring to the debate forum the role of virtual meetings, webinars, and courses to support businesses in times of crisis.

Discourses about change in social practices are nested in two different facets of the concept of CS community: the digital community and the space-driven community. The most significant evidence related to social change practices is the shift toward practices of online community-making. Such practices concern crafting larger and more inclusive virtual communities in which members seek new adaptive solutions to the dual need of keeping distance to stay safe and maintaining status and participation in a dematerialized, ever-widening, and universally valid coworking space.

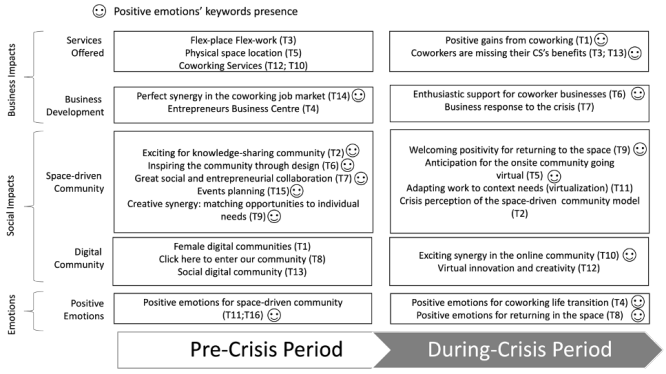

Figure 1 Model

The model (Figure 1) provides a detailed comparative analysis of the topics and practices that characterized collaborative spaces in the pre-crisis and during-crisis periods. Each component of the model offers insights into how CSs adapted their work practices and social dynamics to navigate the pandemic-induced challenges.

Work practices in collaborative space

Work practices refer to the organizational strategies and operational activities that define how tasks are structured, executed, and supported within collaborative spaces (CSs). These practices encompass the range of services offered by CSs and the initiatives aimed at fostering business development.

In the pre-crisis period, services offered by CSs were heavily focused on enabling flexible work arrangements (e.g., Flex-place Flex-work, T3), the availability of physical coworking spaces, and supplementary services such as technical support onsite. These services emphasized the importance of physical presence and direct interaction among members. For example, many CSs organized on-site workshops and technical training sessions to assist members with professional development. They also offered dedicated desks, meeting rooms, and event spaces, facilitating in-person networking and collaboration (i.e, Coworking Services, T12; T10).

During the crisis, there was a notable shift toward virtual service offerings. CSs adapted by providing digital solutions to recreate the collaborative experience online. Examples included offering technical assistance for navigating widely used platforms like Zoom or Microsoft Teams, developing custom digital tools for member collaboration, and transforming previously in-person events into virtual webinars and networking sessions (e.g., Positive gains from coworking, T1). These adaptations ensured that members continued to benefit from community support and professional resources despite the physical limitations imposed by the pandemic.

Social practices in collaborative spaces

Social practices in CSs represent these environments' cultural and community-driven dimensions, focusing on how individuals connect, interact, and create shared experiences. These practices are grounded in two key aspects: the space-driven community and the digital community. Before the pandemic, the space-driven community was the cornerstone of CSs. Members engaged in spontaneous and structured interactions, fostering a sense of belonging and facilitating knowledge exchange. Examples include informal discussions during coffee breaks, collaborative brainstorming sessions, and in-person networking events, all of which rely on the physical proximity of members to create vibrant and dynamic communities (e.g., Exciting for knowledge-sharing community, T2); Great social and entrepreneurial collaboration, T7).

The pandemic, however, brought significant disruption to these physical interactions, necessitating a shift toward virtual solutions. To sustain the space-driven community spirit, CSs adopted hybrid approaches. Virtual events, such as online workshops and digital networking sessions, were introduced to replicate the collaborative atmosphere. Additionally, where feasible, limited in-person interactions were maintained with strict safety protocols, such as reduced capacity and social distancing measures, ensuring that members could still engage in meaningful connections.

The digital community, initially a secondary component, gained prominence during the crisis. Before the pandemic, digital platforms in CSs were primarily used as complementary tools for onsite activities, such as sharing event details or maintaining professional networks. With

the onset of the pandemic, these platforms became central to the survival and growth of CSs. Members increasingly relied on online forums, virtual collaboration tools, and social media to maintain connections and share knowledge. This shift enabled the creation of broader and more inclusive virtual communities, breaking geographical barriers and allowing members from different locations to participate in discussions and projects. For instance, some CSs hosted international webinars or created online groups for peer-to-peer support, which expanded the reach and accessibility of their community-building efforts (e.g., Anticipation for the onsite community going virtual, T5; Adapting work to context needs (virtualization), T11).

The evolution of social practices highlights the adaptability of CSs in preserving their core values of connection and collaboration, even in a dematerialized context. By transitioning from primarily physical interactions to hybrid and fully digital models, these spaces demonstrated resilience and a commitment to sustaining community dynamics during unprecedented times.

Shifts in Emotional Dynamics

The model also highlights significant shifts in the emotional tone associated with the practices observed in collaborative spaces. An important visual cue in the model is the presence of smile icons next to specific topics, which denote keywords tied to positive emotions in the associated tweets. These keywords, such as "happi," "love," "great," and "welcom," capture the optimistic and supportive tone expressed by users in the pre-crisis and during-crisis periods. For example, in the pre-crisis period, positive emotions were strongly associated with topics such as "flex-place" and "flex-work," reflecting enthusiasm for the flexibility and community provided by coworking spaces.

During the crisis, the presence of smile icons next to topics such as "online community broad functioning" and "virtual innovation and creativity" indicates a shift toward hope-driven emotions. Users frequently expressed optimism about the adaptability of coworking spaces, praising efforts to maintain connection and collaboration through virtual platforms. These emotions not only highlight the perceived value of coworking spaces but also underscore their role in fostering resilience and innovation during challenging times. By incorporating these cues, the analysis provides a richer understanding of how emotional engagement influenced both work and social practices in collaborative spaces. Positive emotions, which were a dominant feature in both the pre-crisis and during-crisis periods, evolved in their orientation. In the pre-crisis phase, these emotions were predominantly enthusiasm-driven, as members expressed excitement and energy about the vibrant onsite activities and opportunities for collaboration within coworking spaces (e.g., Positive emotions for space-driven community, T11;T16). For example, Twitter posts often highlighted the joy of engaging in dynamic brainstorming sessions or the satisfaction of building professional networks in a lively and supportive environment.

During the crisis, positive emotions transitioned to being more hope-driven. Members expressed optimism about the innovative strategies adopted by coworking spaces to navigate the challenges of the pandemic. For instance, users celebrated the successful adaptation of physical events into virtual formats, such as online workshops and networking sessions, which allowed them to remain connected despite physical distancing measures. Similarly, hope was reflected in messages appreciating the resilience of these spaces in continuing to provide value through digital tools and hybrid collaboration models.

This shift underscores the role of emotional engagement in sustaining both work and social practices during a period of uncertainty. While negative emotions such as frustration and anxiety were also evident, particularly in posts lamenting the loss of physical interactions or highlighting challenges in remote work, the predominance of hope-driven narratives illustrates the capacity of collaborative spaces to inspire confidence and adaptability among their members (e.g., Positive emotions for coworking life transition, T4). The interplay between these affective responses and the adaptive measures taken by coworking spaces highlights the critical importance of fostering emotional resilience to maintain community dynamics and collaborative effectiveness in times of crisis.

Discussion

Literature Contribution

This study advances the literature on collaborative spaces by illuminating how coworking communities respond to exogenous shocks through sociomaterial reconfigurations and emotional processes. Previous work on coworking has primarily focused on the function of physical proximity, arguing that interpersonal encounters and the sense of community are key drivers for innovation and individual well-being (Kojo & Nenonen, 2017; Spinuzzi, 2012; Ungureanu et al., 2021). The study extend these contributions by showing how members and operators navigate the tension between onsite interaction and virtual collaboration when forced to adopt social distancing measures. In doing so, I elaborate on sociomaterial perspectives (Leonardi, 2012; Orlikowski & Scott, 2008) to emphasize that the affordances of physical

space are not merely transposed online but reconfigured by crisis management's emotional and pragmatic imperatives. This attention to emotional dynamics enriches the existing knowledge on coworking culture, which has often highlighted positive affect (Bouncken, Kraus, & Martínez-Pérez, 2020; Waters-Lynch & Duff, 2019), by stressing the role of fear, hope, anxiety, and optimism as key enablers or inhibitors of organizational change (Nolen-Hoeksema & Morrow, 1991; Ashkanasy, Humphrey, & Huy, 2017). Thus, these findings spotlight how the sociomaterial entanglement of technological affordances, physical environments, and emotional states configures coworking experiences when face-to-face contact is disrupted. Building on Orlikowski and Scott's (2008) assertion that materiality and sociality co-constitute organizational practices, the data show that emotional responses, ranging from hope and enthusiasm to frustration and anxiety, can become powerful forces shaping whether and how digital platforms are embraced. In other words, the place is not merely replaced by its virtual counterpart; rather, it is reassembled through an affect-laden process in which technology is experienced as an extension or partial stand-in for the physical site. This realignment of sociomaterial elements can either support or undermine the sense of community: on the one hand, optimistic emotional undercurrents may drive the creative use of platforms such as Zoom or Slack; on the other, fear or confusion can impede the adoption of new routines, reifying the loss of serendipity and belonging. By integrating emotions into a sociomaterial lens, I reveal how coworking members do not simply replicate onsite behaviors online; instead, they renegotiate shared practices by weaving in or withholding their emotional engagement. As a result, place-virtual hybrids emerge not purely as functional responses to distancing measures but as emotionally charged spaces where collective resilience or anxiety can accumulate. This expands prior research by demonstrating that emotional climates are integral to sociomaterial redesign and by showing that, in the face of exogenous shocks, the success of hybrid work arrangements depends as much on how people feel about these new configurations as on the tools themselves (Leonardi, 2012; Ashkanasy, Humphrey, & Huy, 2017).

Moreover, the study contributes to research on exogenous shocks by demonstrating how the sudden and global nature of the COVID-19 pandemic propels coworking spaces to realign their practices and discourses (Christianson, Farkas, Sutcliffe, & Weick, 2009). Although prior investigations have explored the effect of unanticipated events on organizations (Meyer, 1982), the findings draw specific attention to the process by which coworking participants harness digital platforms to maintain community ties. In so doing, I respond to calls for a deeper understanding of whether the distinctive traits of coworking, such as serendipitous social encounters and relational proximity, can persist when intermediated by online platforms (Hofeditz, Mirbabaie, & Stieglitz, 2020; Cook, 2020). The study thus highlights how hybrid models, blending spatial and digital practices, may not only preserve but also enrich community interactions by allowing broader participation, expanding creative exchanges, and ultimately fortifying members' sense of shared identity.

Practical Contribution

The results underline the importance of agile responses to exogenous shocks and offer practical insights for coworking managers seeking to sustain their communities under conditions of uncertainty. While earlier studies suggested that flexible work arrangements and resource sharing were key to coworking's value proposition (Capdevila, 2013; Kjaerulff, 2017), this study shows how these strategies can be extended to the virtual realm. Managers can design digital infrastructures that replicate, as closely as possible, the spontaneity and informality of face-to-face interactions, thereby fostering a sense of collective engagement. In parallel, they can institute strict health and safety protocols for onsite activities, ensuring that the physical dimension retains its unique capacity to spark creativity and trust (Garrett, Spreitzer, & Bacevice, 2017). By balancing virtual and onsite offerings, coworking operators can help mitigate the negative emotions associated with isolation and fear while channeling the hope and optimism that sustain members' resilience and entrepreneurial spirit (Sweetman et al., 2011). This hybrid approach, although born from necessity, may evolve into a long-term strategy, as it broadens participation and enables diverse forms of collaboration that transcend geographical constraints (Butcher, 2018).

Future Research

The findings open multiple avenues for future research. One promising direction involves comparative studies of coworking spaces across different cultural and institutional contexts, to ascertain whether the patterns of hybridization observed here generalize or are shaped by local norms and regulations (Hu, 2020). Longitudinal approaches could track changes in user satisfaction, innovation outputs, and sense of community over an extended period, thereby providing richer insights into the durability of virtual and hybrid arrangements once the exogenous shock subsides. Additionally, investigating individual-level emotional trajectories in response to uncertainty—from anxiety and stress to renewed motivation, would yield further evidence on how social and psychological factors interact to drive organizational adaptation (Doern & Goss, 2013). Finally, a deeper exploration of how digital platforms alter relational dynamics in coworking communities would be fruitful,

especially as technologies enabling immersive remote interaction, such as virtual or augmented reality, become more prevalent.

The study is subject to several limitations. By concentrating on Twitter discussions, the analysis relies on self-reported, publicly visible sentiments that may not fully capture the nuances or the depth of emotional states within coworking communities. This data source privileges individuals and organizations who are active on social media, leading to a possible selection bias that underrepresents those who participate less frequently online. Moreover, while topic modeling is useful for handling large-scale datasets and detecting broad thematic patterns (Blei, Ng, & Jordan, 2003; DiMaggio, Nag, & Blei, 2013), it may oversimplify linguistic context and the meanings behind user-generated content, particularly when emotionally charged exchanges occur. A mixed-methods approach, integrating interviews or ethnographic observations with social media analysis, could generate richer insights into the experiential and affective dimensions of coworking. Lastly, the temporal boundaries of the data collection captured only the early months of COVID-19 and may not fully reflect the longer-term transformations of coworking ecosystems, an issue that future studies could address with an extended timeframe.

Conclusion

This study demonstrates how coworking spaces - originally conceived as places of vibrant face-to-face interaction - reacted to a sudden and disruptive exogenous shock. By focusing on the emotional tenor of online discourse, the findings show that coworking communities collectively recalibrated their practices and identity in the face of pandemic-related constraints. Far from merely transferring onsite routines into digital venues, coworking actors harnessed the affordances of virtual platforms to preserve, and sometimes extend, core values such as shared identity, creativity, and knowledge exchange. Emotions played a decisive role in this adaptive process. Enthusiasm, which characterized pre-crisis engagement, evolved into hope that motivated resilience and innovation. Negative emotions such as frustration and anxiety, while present, did not overwhelm the larger narrative of solidarity and problem-solving, attesting to the capacity of coworking communities to withstand adversity and maintain collaborative ties.

In bridging situated and virtual practices, coworking spaces revealed new possibilities for blending physical infrastructure with online connectivity. This blended model allowed them not only to sustain their activities amid a prolonged crisis but also to lay the groundwork for potentially more inclusive and resourceful communities. In doing so, coworking spaces also exposed how emotional dynamics both influence and are shaped by sociomaterial shifts, suggesting a deeper interdependence between the affective realm and organizational adaptation. Such insights enrich the literature on collaborative spaces and exogenous shocks, showing that crisis contexts may stimulate organizational learning, broaden participation, and potentially reshape future directions for coworking business models.

As restrictions recede and new working modes continue to evolve, the permanence of hybrid coworking solutions remains an open question. However, the capacity to balance onsite sociability with digital fluidity appears poised to redefine notions of proximity and community. This study underscores how, in times of uncertainty, emotional engagement, and sociomaterial reconfigurations can become catalysts for organizational resilience. By recognizing the centrality of such factors, practitioners and scholars can better understand the opportunities and challenges at the intersection of physical space, digital platforms, and human affect.

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