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# Doing Business, Making Friends

How a collaborative environment emerges in coworking spaces

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For Stefan, Sofia, Mami and Papi

# Summary

I examine the emergence and evolution of new social formations in a coworking space over the course of three years. I evaluate the interactions of a group of co-located self-employed individuals, freelancers, and start-up workers in the cultural and creative industries (CCIs). To my knowledge, no other scholars have undertaken a longitudinal study of the evolution of social relations in coworking spaces.

Coworking spaces convene diverse and often complementary knowledge bases, facilitating coworkers' creative processes (Merkel 2017; Schmidt et al. 2014) and collaborations. These spaces also support community-based approaches to work organization and social opportunities for their users, most of whom labor outside the organizational structures of firms.

How do collaborative environments emerge in coworking spaces? I analyze the case of Department 16, the first center for the CCIs in Heidelberg, a second tier city in southwest Germany. I focus on two types of relationships and their dynamics to better understand the genesis of collaborative environments. The first relationship is collaborative, which I call "Working Together," and comprises three types of links: business/commercial, arts/culture, and community. The second focuses on social practices (or what I call "Making Friends") and includes four frequent, informal conversation types: conversations about work, exchanges of ideas, conversations about private matters, and those about other topics.

I use a relational approach that combines intensive ethnographic work, interviews, and social network analysis to describe the interactions and characteristics that build coworking spaces. I explore and theorize the mechanisms of networks' origins. I reflect on the emergence of evolutionary social processes and understand evolution to be the recombination, permutation, and transformation of existing social formations.

I find that collaborative and social relationships flourish in coworking spaces and that exchanging ideas is critical to the emergence of a collaborative working space.

First, coworkers develop what I call an "omnivore" strategy for collaboration. This strategy has three stages: Initially, coworkers pursue all possible collaborations to promote a sense of community. Then, group solidarity consolidates close relationships among certain peers and encourages conformity (via social pressure) to community values at the coworking space. Finally, coworkers can gain social recognition and increase their social status in the space and visibility to other local partners through collaborations.

I also find that work-related conversations and exchanges of ideas characterize interactions during the center's first stage, whereas private conversations are the center's social backbone in the final phase. Furthermore, when coworkers join the center affects their future socialization strategies. Beta-phase tenants, who self-identify as "pioneers," engage in more conversations in all three stages.

Finally, collaboration correlates highly with exchanges of ideas in Stage 1 but work-related conversations in Stage 3. In Stage 1, the coworking space emerges as a community and

organization for the exchange of ideas. To access more resources in the coworking space (e.g., information and help), actors increase their centrality in the network. Coworkers exchange ideas to build their social networks, which in turn creates feedback loops and produces work referrals. Networking mixes two strategies: communality, or participating in discussions about ideas and future collaborations, and sociality, which creates weak ties through work referrals in professional networks. Coworkers interact with others who do not share their economic success, and qualitative analysis suggests that coworkers use status games and social solidarity strategies at different periods during the development of the coworking space.

Due to budgetary constraints, Department 16 lacked a community manager. Instead, the management agency unofficially asked coworkers to perform management activities, like organizing community projects, supporting networking and coaching events, and managing marketing and public relations. Therefore, this case study may not be directly generalizable to more conventional coworking spaces. However, it presents an opportunity to observe coworking spaces' social dynamics without the community manager figure.

This research has four practical implications. First, this investigation confirms the value of coworking spaces for fostering creativity, networking, innovation, and new business opportunities. However, financial and logistical constraints hamper innovative processes and business development. Second, this research addresses the social dynamics of a growing group of economic actors: independent, self-employed workers and freelancers. I shed light on the structure and content of their interactions in a coworking space. Third, my analysis examines some advantages and disadvantages of specialized coworking spaces. On the one hand, coworkers demand communities of peers with whom they can exchange ideas and discuss common work-related problems. On the other hand, the most active networkers are situated between CCI branches and sectors. Fourth, building a sense of community in a coworking space requires effort. If managers are unable or unwilling to nurture an appropriate environment and create networking opportunities, users should take the initiative to make changes to their work environment. Coworkers' engagement not only fosters a sense of community and strengthens shared values but also catalyzes new business opportunities.

# Zusammenfassung

Diese Dissertation untersucht als erste Längsschnittstudie die Entstehung und Entwicklung neuer sozialer Formationen in einem Coworking Space über den Verlauf von drei Jahren – im Konkreten, die Interaktionen einer Gruppe von Selbstständigen, Freiberuflern und Existenzgründern in der Kultur- und Kreativwirtschaft (KKW).

Coworking Spaces versammeln unterschiedliche und oft komplementäre Wissensbasen und erleichtern sowohl die kreativen Prozesse der Coworker (Merkel 2017; Schmidt et al. 2014) als auch Kollaborationen zwischen ihnen. Coworking Spaces unterstützen außerdem gemeinschaftsbasierte Ansätze der Arbeitsorganisation und soziale Möglichkeiten für ihre Nutzer, von denen die meisten außerhalb der Organisationsstrukturen von Unternehmen arbeiten.

Wie entstehen kollaborative Umgebungen in Coworking Spaces? Am Beispiel des Dezernats 16, des ersten Zentrums für die KKW in Heidelberg, konzentriert sich diese Arbeit auf zwei Arten von Beziehungen und deren Dynamik, um die Entstehung von kollaborativen Umgebungen besser zu verstehen. Die erste Beziehung ist kollaborativ („Working Together") und umfasst drei Arten von Verbindungen: Wirtschaft/Kommerz, Kunst/Kultur und Gemeinschaft. Die zweite konzentriert sich auf soziale Praktiken („Freunde machen") und beinhaltet vier häufige, informelle Gesprächsarten: Gespräche über die Arbeit, Gedankenaustausch, Gespräche über private Angelegenheiten und solche über andere Themen.

Der verwendete relationale Ansatz kombiniert intensive ethnographische Arbeit, Interviews und soziale Netzwerkanalysen, um die Interaktionen und Eigenschaften zu beschreiben, die Coworking Spaces ausmachen. In dieser Dissertation untersuche und theoretisiere ich die Entstehungsmechanismen von Netzwerken und reflektiere die Entstehung von evolutionären sozialen Prozessen, wobei ich Evolution als Rekombination, Permutation und Transformation von bestehenden sozialen Formationen verstehe.

Eine Haupterkenntnis ist, dass kollaborative und soziale Beziehungen in Coworking Spaces gedeihen und dass der Austausch von Ideen entscheidend für die Entstehung eines kollaborativen Arbeitsraums ist.

Zunächst entwickeln Coworker eine „Allesfresser"-Strategie für die Zusammenarbeit, die drei Stufen umfasst: Auf der ersten Stufe verfolgen die Coworker alle möglichen Kollaborationen, um ein Gemeinschaftsgefühl zu fördern. Danach festigt die Gruppensolidarität die engen Beziehungen zwischen bestimmten Peers und fördert (durch sozialen Druck) die Konformität mit den Gemeinschaftswerten im Coworking Space. Schließlich können Coworker durch Kooperationen soziale Anerkennung erlangen und ihren sozialen Status im Coworking Space und ihre Sichtbarkeit für andere lokale Partner erhöhen.

Eine weitere Erkenntnis der Arbeit ist, dass arbeitsbezogene Gespräche und der Austausch von Ideen die Interaktionen während der ersten Phase des Zentrums charakterisieren, während private Gespräche das soziale Rückgrat des Zentrums in der Endphase sind. Darüber hinaus beeinflusst der Zeitpunkt, zu dem die Mitarbeiter dem Zentrum beitreten,

ihre zukünftigen Sozialisierungsstrategien. Mieter in der Beta-Phase, die sich selbst als „Pioniere" identifizieren, führen in allen drei Phasen mehr Gespräche als andere.

Schließlich korreliert die Zusammenarbeit stark mit dem Austausch von Ideen in Phase 1, aber mit arbeitsbezogenen Gesprächen in Phase 3. In Stufe 1 entsteht der Coworking Space als Gemeinschaft und Organisation für den Austausch von Ideen. Um auf mehr Ressourcen im Coworking Space zuzugreifen (z.B. Informationen und Hilfe), erhöhen die Akteure ihre Zentralität im Netzwerk. Coworker tauschen Ideen aus, um ihr soziales Netzwerk aufzubauen, was wiederum Feedback-Schleifen erzeugt und Arbeitsempfehlungen hervorbringt. Beim Networking werden zwei Strategien vermischt: Kommunalität, d.h. die Teilnahme an Diskussionen über Ideen und zukünftige Zusammenarbeit, und Sozialität, die schwache Bindungen durch Arbeitsempfehlungen in professionellen Netzwerken schafft. Coworker interagieren mit anderen, die ihren wirtschaftlichen Erfolg nicht teilen, und die qualitative Analyse deutet darauf hin, dass die Coworker zu unterschiedlichen Zeitpunkten während der Entwicklung des Coworking Spaces Statusspiele und Strategien der sozialen Solidarität anwenden.

Aufgrund von Budgetbeschränkungen fehlte der Dezernat 16 ein Community Manager. Stattdessen beauftragte das Management inoffiziell Coworker mit der Durchführung von Managementaktivitäten, wie der Organisation von Community-Projekten, der Unterstützung von Networking- und Coaching-Events und dem Management von Marketing- und Öffentlichkeitsarbeit. Daher ist diese Fallstudie möglicherweise nicht direkt auf konventionellere Coworking Spaces anwendbar. Sie bietet jedoch die Möglichkeit, die soziale Dynamik von Coworking Spaces ohne die Figur des Community Managers zu beobachten.

Diese Studie hat vier praktische Implikationen. Erstens bestätigt sie den Wert von Coworking Spaces für die Förderung von Kreativität, Vernetzung, Innovation und neuen Geschäftsmöglichkeiten. Allerdings behindern finanzielle und logistische Beschränkungen innovative Prozesse und die Geschäftsentwicklung. Zweitens liefert die Untersuchung neue Erkenntnisse zur sozialen Dynamik einer wachsenden Gruppe von Wirtschaftsakteuren - unabhängige, selbständige Arbeitnehmer und Freiberufler - indem sie die Struktur und den Inhalt ihrer Interaktionen in einem Coworking Space beleuchtet. Drittens untersucht meine Analyse einige Vor- und Nachteile von spezialisierten Coworking Spaces. Auf der einen Seite fordern Coworker Gemeinschaften von Gleichgesinnten, mit denen sie Ideen austauschen und gemeinsame arbeitsbezogene Probleme diskutieren können. Andererseits befinden sich die aktivsten Netzwerker zwischen den Branchen und Sektoren der KKW. Viertens zeigt diese Analyse, dass der Aufbau eines Gemeinschaftsgefühls in einem Coworking Space Anstrengung erfordert. Wenn Manager nicht in der Lage oder nicht willens sind, ein angemessenes Umfeld zu pflegen und Vernetzungsmöglichkeiten zu schaffen, sollten die Nutzer die Initiative ergreifen, um Änderungen an ihrer Arbeitsumgebung vorzunehmen. Das Engagement der Coworker fördert nicht nur das Gemeinschaftsgefühl und stärkt gemeinsame Werte, sondern ist auch ein Katalysator für neue Geschäftsmöglichkeiten.

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# Chapter 1. The Emergence of a Community of Artists, Creative Workers, and Start-ups: the Coworking Space

In this study, I explore how social and organizational formations emerge in the cultural and creative industries (CCIs). I examine the social interactions of a set of actors grouped in a single physical space for a specific period of time. These actors collaborate in many forms, i.e., by giving and taking paid and unpaid work commissions, helping each other in work-related issues, or forming teams to make improvements to their common shared spaces. The actors have also been increasingly engaging in conversations with others since they started working together.

Inspired by Harrison White's *Identity and Control* (White, 2008), I use a relational approach that combines intensive ethnographic work, interviews, and social network analysis to describe the "hows" of forming a coworking space and the critical interactions that built it. I elaborate on the networks' starting mechanisms and theorize about these dynamics. To understand emergence processes, I elaborate on the work of John F. Padgett and William W. Powell in *The Emergence of Organizations and Markets* (Padgett & Powell, 2012a). I particularly reflect on "the problem of emergence" as Padgett and Powell see genesis's processes to be vital to social evolution. According to Padgett and Powell, research on evolutionary processes has marginalized the exploration of the forces that trigger social change. Evolution is the recombination, permutation, and transformation of what exists, so there are no "virgin births." It does not, however, explain what catalyzes change. The discrete notions of actor and organization prevent the investigation of the processes that transform them into actors. The central question is: how does novelty emerge in actors?

Padgett and Powell address the work of Granovetter (M. Granovetter, 1985), who, based on the concept of embeddedness, refers to multiplex relationships to explain economic behavior. Multiplexity is the qualitative correlation or simultaneity of two or more ties, such as two actors sharing information (i.e., advice) and being friends (Skvoretz & Agneessens, 2007). Different social networks' intersections produce "crossed-fertilization" effects since one type of link is nested in another. Granovetter's approach motivated numerous studies of informal networks, such as friendship, advice, and cooperation (Brailly, Favrea, Chatelleta, & Lazega, 2016) that evaluate multiplex ties' impact on economic negotiations. In short, the embeddedness theory incorporates "the social" as a defining element of "the economic." The central idea is that actors not only seek to maximize their profits but are also motivated by their values, have interpretative frameworks informed by their socialization, and reproduce their decision-making practices to address their problems (Bathelt & Glückler, 2011). All of these factors occur within a social context that constitutes the institutional framework of economic activities. Padgett and Powell's approach expands Granovetter's vision by including a new dimension, the temporal one: they analyze how multiple network topologies affect each other over time.

I complement Padgett and Powell's emergence approach by interpreting a key concept in White's work: the netdom[1]. The netdom is a "specialized sets of ties and associated story-sets that keep those ties moving forward in time through a continuous process of reflection, reporting and updating" (Mische, 2012). It is the interpretative framework of actors in an environment. Still, since the social world is composed of diverse backgrounds, actors must *transit across netdoms* (White & Mohr, 2008), a process that can potentially trigger novelty. I will elaborate on the netdom in more detail below, but for now, I want to emphasize that the netdoms' analysis and description are essential to understanding emergence processes.

The concept of emergence proposed by Padgett and Powell derives from their analysis of White's work[2], so it is not accidental that I connect them. White made essential contributions to the structural analysis of social networks in the 1970s with his models of vacancy chains (White, 1970) and structural equivalence (Boorman & White, 1976; White, Boorman, & Breiger, 1976). Later, he adopted the cultural and linguistic turn of the 1990s and presented the first edition of *Identity and Control* in 1992. This work represents a radical change of view since it uses identity-forming mechanisms and narratives to explain how actors change their social space positions (Mische, 2012; Pachucki & Breiger, 2010). White's work stems from an in-depth knowledge of empirical work on social networks, and his priority was to provide conceptual tools for developing observations (Schmitt & Fuhse, 2015). Padgett[3] and Powell[4], both central figures in the social network analysis (SNA), are among the large group of network analysts who White influenced.

In the second part of this chapter, I explore cultural and creative industries (CCIs). I analyze critical aspects of creative work, such as the tensions between economic and cultural interests and the actors' expectations and motivations. Finally, I examine the most relevant model of work organization in the CCIs: projects. The CCIs' field breakdown sheds light on the network of meanings in which the cultural and creative professionals work. Social networks' relevance to the CCIs is a recurring theme in academic literature; however, social network analysis is not. Studies using SNA explore the strategies actors use to improve their chances of both creative (Perry-Smith, 2006, 2014; Perry-Smith & Shalley, 2003) and commercial success (Konrad, 2013, 2015; Kratzer, Leenders, & Van Engelen, 2010; M. Lee, 2015; Satornino & Brady, 2014). Combining SNA with qualitative analysis of social relationships is even less common. One exception is Crossley's studies of cultural networks in the UK music scene of the 1970s and 1980s (Bottero & Crossley, 2011; Crossley, 2009, 2015).

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[1] To my knowledge, there are no other studies on CCIs that employ social network and qualitative analysis as formulated by White (White, 2008). Studies that have used the concept of netdom (and others such as identity and control) analyze conversational encounters (D. R. Gibson, 2005); personal loans in Renaissance Florence (Gondal & McLean, 2013); institutional entrepreneurship in Brazil (Andrade Ribeiro, 2019); and Soviet cinema of the 1970s and 1980s (Kaspe, 2017).

[2] For a detailed analysis of the link between White and Padgett and Powell, see Mützel, 2015.

[3] For influential work on historical network evolution see Padgett & Ansell, 1993; Padgett, 2001; and Padgett & McLean, 2006.

[4] Powell's key research on institutional change is on DiMaggio & Powell, 1983; Powell & Brantley, 1992; and Powell, Koput, White, & Owen-Smith, 2005.

Finally, this research contributes to knowledge about emergence processes and multiplex relationships in the CCIs[5]. Its approach is novel in economic geography and regional studies since I explore the evolution of an agglomeration of self-employees, freelancers, artists, and start-ups from individual workers without links to each other to a social formation: the coworking community.

## I.        What is emergence?

All change comes from a specific social context and follows a historical path (i.e., path-dependent). The same happens with emergence, which is the birth of new social formations through the transformation, permutation, and recombination of previous social structures (Padgett & Powell, 2012a). Simply saying that an actor acts or interacts does not help us understand the genesis of a change. A fundamental task of the analysis of evolution is to elucidate the motor of such transformations. To comprehend the origin of an evolutionary process, it is also necessary to investigate the social mechanisms and practices that form the actors and make their (inter)actions possible. In this sense, Padgett and Powell point out that it is indispensable to understand how emergence processes transform real people into actors through interaction.

Social relations condense the historic, dynamic, and evolutionary interactions among actors (Crossley 2013: 125). For this reason, I adopt the relational perspective in my research, which proposes an alternative to the leading social theories that amalgamate structure and agency. I refer particularly to Giddens' structuration theory (Giddens, 1979, 1984) and Bourdieu's field theory, and most precisely to the concept of habitus (Bourdieu, 1989, 1993). I elaborate this point through an argument by Emirbayer and Mische (1998: 984-998), who explain that the main difficulty of these theories lies in the fact that both Giddens and Bourdieu define agency mainly as a routine, losing sight of practices' contingencies. Although Giddens and Bourdieu do not deny the possibility of change, their theories do not offer the tools to recognize it in empirical research. Finally, it is not their objective to interrogate change, but rather the permanent; they are more interested in structures and their reproduction.

### The relational perspective on emergence
The relational analysis avoids essentializing and a priori assumptions, and it does not seek "universal truths." This perspective prompts a research strategy that reflects social processes' dynamism and fluidity (Emirbayer, 1997; Christopher Powell & Dépelteau, 2013). Relational analysis adopts the premise that "[i]n the short run, actors create relations; [however] in the long run, relations create actors" (authors' emphasis) (Padgett & Powell, 2012: 2). The relational perspective is neither univocal nor free of contradiction. On the one hand, researchers analyze concrete relations between individuals (links, interactions, and transactions); on the other, actor's different access opportunities to social resources, i.e., power, prestige, information, and money, take the central role (Crossley, 2012, 2013;

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[5] For examples of a multiplex analysis in the CCIs see S. Lee & Lee, 2015 in the advertising industry and Kröger, Domahidi, & Quandt, 2013 in the videogames sector.

Christopher Powell & Dépelteau, 2013). This latter approach differentiates actors' concrete connections from their potential relations in a field (C Powell, 2013).

The relational analysis synchronizes social action phases with their respective logics (Dewey and Bentley 1949 in Emirbayer, 1997). Therefore, this perspective excludes the possibility of generating stable categories of social action (Somers and Gibson 1994 in Emirbayer, 1997). Instead, following Emirbayer's *Manifesto for a relational sociology* (1997), relationships between individuals are contingent. The creation of new meanings and identities depends on the actors' ability to change their functional roles through interaction. According to C. Powell and Dépelteau (2013), individuals are subsumed in social relations of interdependence, so it is impossible to understand individuals' behavior without also alluding to the web of social relations they are involved. The relational analysis focuses on the perceptible aspects of a relationship, which entails movement, transformation, interaction, or transaction to produce or destroy something. Regardless of their content or purpose, relationships always involve the actors' work (C Powell, 2013). Finally, the relational perspective delves into the conditions that make the actors' agency and their interactions possible, both symbolically (what do these transactions mean?) and materially (how do the links form?):

> *A relational perspective focuses on individual and collective opportunities for action and conceives these opportunities as enabled through the specific context (meaning) and structure (connectivity) of social relations. Such a theoretical perspective necessarily implies an analytical focus on the connectivity of social and economic action (Glückler, 2013: 882).*

Bathelt and Glückler (2011) integrate the spatial perspective to the relational, so relational research emphasizes micro-patterns of behavior that capture the social context, the path-dependent trajectories, and contingencies of activities (Bathelt and Glückler 2011). As economic geographers, Bathelt and Glückler focus on economic agents, who, seen through the relational perspective lenses, "act according to economic and non-economic goals and strategies, as well as feelings and emotions" (Bathelt & Glückler, 2011b: 47). Bathelt and Glückler understand that economic action is also social action, i.e., actors make sub-optimal economic decisions under the influence of their social context.

The dynamics between interactions, interpretations, meanings, and social context lay the foundation for describing patterns and mechanisms of social practices. These mechanisms reveal the macro-level of social structures (Hedström & Swedberg, 1998; Lazega, Hedström, Swedberg, & Hedstrom, 2006). Thus, the "micro-level to macro-level" route starts with the actors' interactions and motivations and ends with their social formations, such as collectivities and institutions.

Therefore, a relational research design combines observations at the micro-level and abstractions of social structures at the macro level. First, I understand that social life occurs in the interactions between a small number of subjects, organized in different social formations (Dépelteau, 2013) such as the community, the business company, the work team, or the work assignment. Hence, I focus on a micro-level of face-to-face interactions. Secondly, the relational perspective underlines the subjects' values and interpretative frameworks to explain social processes such as collaboration, exchange of information and

ideas, and affective bonds, like friendship. Finally, the geographic space or place is the reference point of actors' practices.

## Actors in interaction

In *Towards Relational Sociology*, Crossley describes actors as being intentional in their actions, although subject to the influence of external factors in their environment, such as the action and interaction with other actors (Crossley, 2012). Crossley observes that the past and future shape interactions:

> *A social relation is not an object, akin to a bridge, but rather a shifting state of play within a process of social interaction. To say that two actors are related is to say that they have a history of past and an expectation of future interaction and that this shapes their current interactions* (Crossley, 2012).

Therefore, interaction is an essential process in the composition of agency. Interaction does not happen in a predetermined or passive way — social structures do not delimit the mechanism. On the contrary, for Crossley, interaction is an open possibility subject to the imagination, receptive capacity, and agency of individuals (Crossley 2013: 138).

Homans (1962) defined interaction and developed his theory about reciprocal and positive relationships from studies on small primary groups. Interaction includes both feelings (actors who sympathize with each other) and activity (collective action). Homans hypothesized that as actors interact, they tend to develop positive feelings toward their interlocutors, encouraging their participation and commitment in joint activities (N. Lin, 2004). But what is the reason for interaction? Are relationships between actors always instrumental, or can they occur for their own sake? Exchange theory (Blau, 2016; Knottnerus & Guan, 1997) warns that there is always a purpose for interaction. At the same time, Simmel's notion of sociability (Simmel & Hughes, 1949) points to the pleasure of friendliness itself: sociability is a playful and valuable process in itself, which generates satisfaction and, thereby, the reason for its reproduction. People associate with a goal in mind and because they enjoy others' company. Simmel explains:

> *…one may speak of an impulse to sociability in man. To be sure, it is for the sake of special needs and interests that men unite in economic associations or blood fraternities, in cult societies or robber bands. But above and beyond their special content, all these associations are accompanied by a feeling for, by a satisfaction in, the very fact that one is associated with others and that the solitariness of the individual is resolved into togetherness, a union with others* (Simmel & Hughes, 1949: 254-5).

One particular type of socialization that I examine in this study is face-to-face interaction. In *The Relational Economy (2011),* Bathelt and Glückler study the advantages of face-to-face interaction and physical proximity or co-location. I elaborate on these topics based on their observations. First, face-to-face interaction facilitates the exchange of complex messages; enables instant feedback; diminishes information asymmetries and reduces interaction risks since actors can better evaluate future partners. On the other hand, physical proximity generally produces cultural or socio-cultural proximity, which translates into the formation of collective knowledge (see also Crossley, 2011). Physical proximity or co-location is a relevant factor in the knowledge economy since "social relations are continuously being

restructured through feedback between [actors]" (Crossley, 2011: 43). Co-location also enables actors to participate in multiplex relationships, i.e., multiple networks with different rationalities. Thus, neighbors become friends and business partners even if face-to-face encounters in co-location do not determine connection or bonding processes. This is not to say that only spatial proximity favors knowledge creation. Theories about focused or specialized-knowing-communities like communities of practice (Wenger, 1998) and epistemic cultures (Knorr-Cetina, 1983, 1991) offer a landscape of the existential conditioning of knowledge production.

## Introduction to the concept of netdoms: networks of ties and cultural domains

The netdom is a conceptual tool to analyze social relations. It resembles other sociological relational terms like field (Bourdieu, 1993), social system (Luhmann, 1977), world (Becker, 2008), relational setting (Somers, 1994), and ecology (Abbott, 2005; Kelly & Archibald, 2019). What sets the netdom apart is its twofold and complementary study of social relations. A netdom is the intersection of an intricate patterning of relationships with communicative interplays, strategies, and reflective problem-solving practices (Mische 2010). Therefore, the netdom requires the quantitative methods of social network analysis and the interpretative or cultural research analysis to describe domains.

### *Unpacking the netdom*

The netdom has two symmetrical and articulating components: the production of networks and the interpretation of their meaning. Below, I examine each separately and then elaborate on their role in the definition of identities.

## The network (net)

Wasserman & Faust (1994) developed the most comprehensive introduction to social network analysis (SNA), and from them, I adopt fundamental concepts to the study of networks. The first is the social network, which they describe as a finite set of actors or social entities and their ties. Actors are individual, collective, or corporate with or without volition (their ability to act is not indispensable). Actors in a network are subdivided into sets of two (dyads), three (triads), and four or more actors (cliques or groups). There are also different types of ties like exchanges, interactions, evaluations, affiliations and associations, formal relations or hierarchies, and biological relationships (like kinship and descent).

A collection of ties (also known as relationships, links, or connections) of a specific kind among members of a group forms interpersonal relations. The patterns that these ties follow over a relatively prolonged period represent social structures, which are the main object of study in SNA. Structures are important because they "affect the opportunities and constraints of individual action and their outcomes" (Glückler, 2013: 881).

Network structures affect collaboration and information exchanges. Research in organization theory, sociology, and economics has generated vast literature on the topic. Their focus had been on structures supporting knowledge and innovation processes — mostly in firms. I address the most pertinent structures and their characteristics through Glückler's analysis in *Knowledge, Networks, and Space* (Glückler, 2013).

- The *number of collaborative and exchange of information ties* has a positive effect on knowledge creation. Cooperation enhances opportunities for actors in at least three crucial areas: economic, as actors gain access to new markets and reduced costs through the use of the same infrastructure; learning, as actors recombine their knowledge; and reputation, as actors build trust and increase their status through their collaborators' prestige.

- The *quality of the relationships* affects the actors' performance. Granovetter's relational embeddedness (M. S. Granovetter, 1973) delves on the tie's quality or strength, which is the intensity of a link between two actors. There is no consensus on which strength (weak or strong) is more valuable for the actor's performance. As the actors and firms face different development stages, so too the quality of their ties adapts to the transitions.

- The *actor's position in a network* affects his/her performance. Central actors benefit clearly from their centrality (standard measures are closeness, betweenness, and power-centrality). But actors also move beyond their cliques to interact externally — which helps actors' performance significantly. The third aspect of actors' positions consists of forming non-redundant ties, a network strategy address in Burt's theory of structural holes (Burt 1992). While structural holes center the analysis in the adoption of "the new", the complementary theory of structural folds proposed by Vedres & Stark (2010) examines the emergence of new ideas through the actors' recombination in teams. The structural folds approach requires historical networks to trace the team's evolution across time.

### The domain (dom)

Networks in White's network sociological theory emerge from *stories*. These narratives do not only accumulate meanings, but they are directly responsible for networks' patterns and intentions (DiMaggio, 2011). Godart & White (2010) describe stories as *scripts* that express commonalities (as shared aims) and reproduce in geographical, historical, and social contexts.

The idea of domains is not alien to research in the cultural industries. For example, Howard Becker examined in *Art Worlds* (Becker, 2008) the interdependence, cooperation, and competition of cultural producers (or artists) and the environment necessary for the production and exhibition of their products (or artworks). As in the art world, a *domain* encompasses actors linked through their participation in communication and production processes, which defines them as a sector of society.

A domain embraces a network of relationships (Schmitt & Fuhse, 2015), which produce a social structure. A social structure is composed of cultural constructs temporarily fixed in scripts, such as expectations, identities, and categories (Fuhse, 2009). For example, the analysis of an actor's identity includes, on the one hand, the manifest networks from which it emerges (Mützel & Fuhse, 2010), and, on the other, the stories that constitute the actor's cultural domain (Godart & White, 2010).

The external observer takes linguistic and visual cues to recognize the netdom:

> *[A domain is] the perceived array of… story sets, symbols, idioms, registers, grammatical patterning, and accompanying corporeal markers, that characterize a particular specialized field of interaction. Such domains are jointly perceived and*

*produced by at least some subset of actors, who sustain those domains across the*
*flow of social settings in more or less routinized of self-reflective ways (Mische &*
*White, 1998: 702).*

Domain is not synonymous with culture, although the terms are similar. The domain is a subset of cultural space or a fragment of culture as a whole. The domain's function is centered on and circumscribed by the actors' meanings in a social network (Schmitt and Fuhse 2015). Similarly, a domain is not a community but a fragment (or reflection) of it. Culture is renewed through the transformation of domains, where interaction occurs. Emergence processes are nested in these circumscribed spaces. Culture, a signifying system from which social order is communicated, reproduced, experienced, and explored (Williams 1981 in Hesmondhalgh & Baker, 2011), is only experienced in domains.

New social and organizational formations emerge from creating new meanings, which happens when actors move across domains. However, actors' interactions between domains are not sufficient for breakthroughs or new and radical ways of doing things. Change is only possible in certain contexts. In short, a domain is an interpretive framework for an actor (Mische & White, 1998). It consists of a web of specific cultural forms that guide the actors' behavior and practices (White, 2008).

### Netdoms shelter identities

The concept of identity introduced by White (2008: 9-18) has five identity layers or senses. In the first one, identity is similar to a person's sense of being in the world. A person would have a bundle of identities that expresses who she is and the social roles she person plays. The second level consists of the affinity between persons due to their roles. So, people associate and have strong homophily feelings to others who shared their identity. In the third sense of identity, the person's experiences across time confront her with other identities. This level focuses on an actor's path to form her identities. While the third sense represents an accumulation of identities, the fourth level is the person's interpretation of this path. These are the narratives that make a coherent history or personal story. It is the person's interpretation of her life's roles. Finally, the last layer of identity is the ultimate meaning of the person's path across netdoms. This level of identity guides and unifies all others (Table 1).

*Table 1. The five functions of identities (summary).*

| Level | How to understand identity? | Example |
|---|---|---|
| 1st | Person as a bundle of identities | Person's social roles |
| 2nd | Person associated to a group by sharing a common social representation and self-denomination | Collective identities |
| 3rd | Collection of identities during a person's life | Life course (also life career, résumé) |
| 4th | Interpretation of the person's identities path | Interpretation of one's life course in life stories |
| 5th | Guiding motives shaping one's identities path | Motivations, expectations, goals |

I want to underline that identities do not single out a person, although each person assumes an identity. According to identities' five levels of analysis, these are social constructs that actors rely on to participate in social life. Therefore, they are open, unfinished processes, and they are in disagreement and conflict or alliance and cooperation with other identities (White, 2008). Identities are fundamentally relational, and in contrast to the concept of

"actor" (which I will continue using interchangeably for clarity purposes), *identities do not constitute an anthropological constant.* On the contrary, identities are persons' responses to specific contexts. They are the starting point for the emergence of social formations and the result of these formations (Schmitt & Fuhse, 2015).

Communication between identities (or actors) requires that they share a common basis of understanding. This process of steadiness between identities, or "footing" (White, 2008), triggers phases of control. Control represents the stabilized interdependencies between identities (Schmitt & Fuhse, 2015). It is the frame of reference and context shared by actors in their interactions, and therefore, social life's most important task:

> *The principal business of one's social life is finding and then maintaining one's own footing [control] with respect to others who are seeking footing for themselves. This is an ongoing interactive process whose history is in and also constitutes networks of relationships (Harrison C. White, 2000: 119).*

## II.     A cultural and creative industries overview

In the previous section, I called identity the accumulation of action options, which produce and are products of interweaving networks of relations in a cultural domain. This swarm of networks and meanings is what constitutes the netdom (White, 2008). The emergence of social and organizational formations results from the interaction between identities, which gestate in netdoms. This section reviews the working conditions that make the cultural and creative industries a fertile environment for the study of emergence processes. I analyze the CCIs as an economic sector engaged in cultural production and the management and circulation of creative work (Hesmondhalgh, 2007). While some see the creative industries as engines for economic growth, job creation, and social cohesion (Hartley et al., 2013; Potts, Cunningham, Hartley, & Ormerod, 2008; Pratt & Jeffcutt, 2009) as well as spaces for experimentation with new organizational and business forms (Hartley et al., 2013; Lampel & Germain, 2016; Potts et al., 2008), others highlight the high levels of job insecurity, casualization of employment, and self-exploitation (Hesmondhalgh & Baker, 2011; McRobbie, 2002, 2016; Ross, 2009) and question how public policy has co-opted creative industries' rhetoric for economic gain (O'Connor, 2016).

The creative industries demand working conditions favorable to the generation of new ideas. The forms that best meet this need are projects and temporal contracts (Grabher, 2002, 2004b; Vinodrai & Kennedy, 2017). The creative industries are leading organizational models for the on-demand economy (Gandini, Bandinelli, & Cossu, 2017), which could be an important component of the "new economy" (Arthur, DeFillippi, & Lindsay, 2008; Barley & Kunda, 2006; Vinodrai & Kennedy, 2017; Wittel, 2001). The creative industries worker, on the other hand, is characterized by personal motivation and desire for self-realization, which often leads to long working hours (Hesmondhalgh, 2007; Ross, 2009), multitasking (McRobbie, 2016), and unpaid work (Kuehn & Corrigan, 2013; Siebert & Wilson, 2013). These conditions are barriers to entry — particularly to women, marginalized social groups, ethnic minorities, and the working class — shaping the type of workforce that can enter and pursue a career in the creative industries (Crossley, 2009; Eikhof & Warhurst, 2013; Evans,

2009; McRobbie, 2016; Murray & Gollmitzer, 2012; O'Brien, Laurison, Miles, & Friedman, 2016).

In what follows, I examine the working conditions for the emergence of CCIs' worker clusters in coworking spaces. Because the conflict between cultural production, creative work, and the business and entrepreneurial approach echoes throughout my research, I explore the CCIs' "identity crisis" characteristics: the tension and dynamics between the cultural and the economic. Thus, I propose to generate guidelines for analyzing a community of cultural and creative workers using their working relationships (collaboration) and frequent coexistence (socialization) in a specific physical space — the coworking place — to describe their identities.

## The cultural and creative industries (CCIs) as netdom

Producers in the creative industries dominate coworking spaces. The creative industries are a hybrid environment because they mix industry, culture, and creativity and operate within the market (Hartley et al., 2013; Mietzner & Kamprath, 2013; O'Connor, 2011). They comprise the creative arts represented by the visual and performing arts, like dance and theater; the established media, which includes broadcasting, film, tv, radio, music; new media, like the software and games industries and e-commerce and content; and architecture and design (Jones, Lorenzen, & Sapsed, 2017). Because of their interconnectivity, the creative industries are trans-professional, i.e., workers specialized in different disciplines collaborate on projects, and trans-sectoral since products and services require other sectors' coordination to reach the market (Pratt & Jeffcutt, 2009).

As a sector, the creative industries are *inspired* by the cultural industries. The most relevant change was incorporating the software and database development sectors into the already well-known cultural industries (Jones et al., 2017). The link between the cultural industries and the software and advertising sectors (the creative industries' core) reinforced a dynamic that began before the cultural and creative industries union was formally recognized. The industries' blending confirmed (and validated) the commercial use of art and culture as an intellectual property resource that generates and provides content (e-content) to the "new media" sub-branches (McRobbie, 2016; Ross, 2009). Innovations in telecommunication technologies drove the cultural sector's development to fill the vast content gap generated by the Internet's rapid growth (Hesmondhalgh, 2007).

The new creative industries' model — based on the creative economy and the knowledge economy — reworked economic thinking and systems (Hartley et al., 2013). The new economic sector represented by the CCIs conveyed a vibrant, youthful, technological future as it created and monetized new brands (Ross, 2009). Likewise, statistics on creative industries reflected their contribution to job creation and added value and encouraged policymakers to support further the CCIs' development (Hartley et al., 2013).

However, how the CCIs foster economic growth remains difficult to assess in quantifiable measures:

> [F]rom a mainstream business perspective, the creative industries are not progenitors
> of the standard causes of economic growth in developing new technology, in capital
> deepening, in operational efficiency, in business model innovation or in institutional

*evolution. Yet many of the people and businesses in this sector are actually intimately involved in all of these things. The creative industries are deeply engaged in the experimental use of new technologies, in developing new content and applications, and in creating new business models. They are broadly engaged in the coordination of new technologies to new lifestyles, new meanings and new ways of being, which in turn is the basis of new business opportunities. The creative industries are not the seminal forces of material economic growth, but they are germinal in their role in coordinating the individual and social structure of novelty and in resetting the definition of the normal (Hartley et al., 2013: 61).*

In general, the basis for the cultural and creative economy is the importance of culture, new information and communication media (ICT) (Jones et al., 2017), and design for economic growth (Hartley et al., 2013). However, these name changes (from cultural industries to cultural and creative industries and creative economy) carry meaning. Although they have a common basis, they also indicate different and even contradictory routes. The cultural industries were part of a democratizing process in the production, distribution, and consumption of culture. Their agenda included support for small- and medium-sized cultural enterprises, the regeneration of cities and regions after the crisis caused by deindustrialization, the mixed-use of cultural spaces, and, to some extent, political lobbying to influence legislation on these sectors (Oakley & O'Connor, 2015b). The elimination of the "culture" component has noteworthy implications (McRobbie 2016; Ross 2009). For example, the concept of "creativity" stripped the industries of the collective or shared values that the term culture implied (Oakley & O'Connor, 2015b). The term creativity, previously linked to artistic and cultural production as input, is now linked to the individual's ability to generate business ideas for commercial purposes (NESTA 2012, 2013 in Oakley & O'Connor, 2015b). Similarly happened to the term "innovation", which now refers not to the ability to come up with an idea (McRobbie, 2016) but to an idea's power to spark economic change (Hartley et al., 2013).

It is undeniable that the creative industries have opened up new directions and are driving innovation (Hesmondhalgh, 2007). The CCIs are pioneers in various fields and offer valuable lessons to other knowledge economy sectors (DeFillippi, Grabher, & Jones, 2007; Hartley et al., 2013). However, the CCIs' direct contributions to the economy are difficult to learn. First, official figures on the creative industries' growth remain poor, underdeveloped, and even suspect (Banks & O'Connor, 2009; Hartley et al., 2013). Despite progress in generating databases in hybrid and emerging sectors, there is little transparency in statistical reports, especially those measuring employment and turnover (Cunningham & Potts, 2017). Additionally, there is a clear imbalance between jobs generated in the software industries and the other sectors (Oakley & O'Connor, 2015b). Furthermore, only a small portion of creative products is profitable (Eikhof & Warhurst, 2013; Hesmondhalgh, 2007), and although the CCIs have a high capacity for cultural transformation, this does not make them economic engines (Chapain, Clifton, & Comunian, 2013; Flew, 2012; Jones et al., 2017).

Public policy has mostly influenced the growth of the creative industries (Hartley et al., 2013). For example, at the beginning of the new millennial, Richard Florida coined the term creative class (Florida, 2002b, 2012b) to describe professional workers who create meaningful new forms, solve and recognize problems, and are paid financially for doing this type of work. The creative class incorporates creative producers, designers, and

entrepreneurs (the "super-creative core") and professionals in high tech, finance, legal, health, business administration, and research sectors — the most numerous sector of "creative professionals" (Florida, 2014). Florida argued that the creative class is a vital force for the economy, and so it is its lifestyle and consumption choices. Along with other "celebrity urbanologists" (for a critic, see C. Gibson, Carr, & Warren, 2015), Florida paved the way for government initiatives around the world that relied on the creative industries as economic models for promoting employment, growth, and urban revitalization (de Peuter, Cohen, & Saraco, 2017; Florida, 2002a, 2012b, 2012a; Florida, Mellander, & Adler, 2015). The Creative Economy Report in 2008, 2010, and 2013 (the two first published by the United Nations Conference on Trade and Development, and the last one by UNESCO) formulated the most prevalent arguments in favor of the CCIs' public intervention (Thorsby, 2015). From a socioeconomic perspective, the presence of a creative class' milieu generates tourism, real estate value, and specialized commerce (Chapain, Cooke, De Propris, MacNeill, & Mateos-García, 2010; Cunningham & Potts, 2017), but also gentrification and polarization between affluent and low-income sectors (Ross, 2009). In a nutshell, policymakers have struggled to balance economic development from investment in cultural infrastructure (Oakley & O'Connor, 2015a).

## Examining the production of creative work

In the more traditional definitions of the creative industries, creativity is the articulating element of the organization of work and employment. According to these definitions, creativity does not occur in the same way in other sectors. CCIs exploit creativity's commercial value as intellectual property and their capacity to generate jobs and wealth (Department for Digital, Culture, 1998; Jones, Lorenzen, & Sapsed, 2015). They do this by eliciting creative processes intended to create something new from a combination of existing elements. Creative individuals possess the disposition, capacity, and desire to carry out non-routine, experimental, and uncertain activities (Jones et al., 2015). Generally, the approach to creative work is individual and based on one's skills and talents.

One important challenge about defining the creative work in the CCIs is the broad range of activities performed in the different sub-branches. CCIs' firms differ in terms of size and management style (Mietzner & Kamprath, 2013). It is difficult to characterize these sectors' unique sense of creativity, especially because many core activities do not involve novelty or originality (Hartley et al., 2013). Thus, the definition of creative work is trapped in a self-referential circle (Rehn & De Cock, 2009), where the creative *is* what the creative industries produce. In reality, much of the creative labor is mundane and routine and made up of standardized and derivative practices (Bettiol & Sedita, 2011; Hartley et al., 2013).

Regardless of the degree of creativity of the CCIs, people are their most valuable resource (Mietzner & Kamprath, 2013). Those who work in the CCIs have the opportunity to participate in an attractive global market with relative ease, as barriers to entry are minimal (Jones et al., 2017). Yet, the worker population's composition at CCIs — for example, their age, gender, ethnicity, and even region of origin and family income — is homogenous (McRobbie, 2016). In other words, diversity is not a characteristic of CCIs. Some authors justify the lack of diversity by pointing out how CCIs operate. For example, since they require people to work flexible hours, CCI firms generally favor hiring men over women (Howkins, 2001).

*Recognition and appreciation of creative work*

The problem with defining creativity as an individual process — such as the heroic and radical act of creating something new — is that it disconnects people and their creative thinking from the contexts and systems that give meaning and value to their innovations and talents (Bilton, 2010, 2015; Bilton & Leary, 2002). From a sociological perspective, the studies of Bourdieu (Bourdieu, 1993, 1996; Bourdieu & Darbel, 1991; Mohr, 2013), Becker (Becker, 1978, 2008) and White (White, 1993; White & White, 1993) address the relationality of the artistic labor. For example, the role of feedback is essential to understanding how creativity works. While the creative worker takes elements from the symbolic system he or she has inherited (or chosen to represent), it is the social system that evaluates and accepts his or her work as novel (Mockros and Csikzentmihali, 1999 in Hartley et al., 2013; Rehn & De Cock, 2009). The creative process does not occur just in people's heads but in interactions with other people and their thoughts in a socio-cultural context. It is a systemic rather than individual phenomenon (Wuggenig, 2011).

Flexible forms of work organization, collaborative models, and dynamic and competitive environments predominate in the creative industries (Chapain et al., 2013; Grabher, 2002; Potts & Morrison, 2009). This environment has its origin and inspiration in the artist's work ethic (McRobbie, 2016). One of the problems with adopting the artist as a model worker in the CCIs (and in other sectors) is that the working conditions have always been unfavorable (Ross, 2009). For example, there is more inequity, variability in perceptions, joblessness, and underemployment (Menger, 2001, 2006, 2015) than in other traditional sectors.

McRobbie (2016), among other cultural sociologists, argues that the idea of working as an artist — for the love of the work itself — and seeking personal self-fulfillment through work is a widespread phenomenon in the creative industries. She observes that working in the CCIs combines pleasure and self-discipline and that the mechanisms of reflexivity (Beck, 2009; Grenfell, 2008) absolve the labor market from its failures and incongruities, and even inhibit and disable any social criticism to the social and economic system that encourages the inequalities (McRobbie, 2016).

But it is not only the pleasure of creative work that makes the CCIs attractive. Besides, McRobbie points to the stars' phenomenon, or the few who earn much — the superstars — while the vast majority receives little. The star system reflects the belief that talent is scarce and highly desirable (Menger, 2015) and distorts the small differences in talent among workers (Hesmondhalgh & Baker, 2011).

Labor flexibility in creative work

To understand employment forms and work in the CCIs, I bring forward these practices' values. Flexibility is the core value. It has its origins in the 1970s' revolts against the repetitive, boring, and unsatisfactory forms of work in factories and offices (Ross, 2009). For Ross (2009) and McRobbie (2002, 2016), the flexibility of the work programs that currently dominate the labor market is a perversion of the original idea of being freed from work alienation. The result is a highly individualized workforce (McRobbie, 2016; O'Connor, 2016; Ross, 2009) exposed to greater job insecurity and irregular or low income and subject to greater demands for schedule flexibility and geographic mobility than the average population (Eikhof & Haunschild, 2007). In this respect, "[creative] workers have to assert

their job rights by way of personal deals and contracts and have to select and pay for their own training" (Howkins, 2001: 142-3). However, working independently and flexibly does not necessarily mean working precariously. Workers can negotiate favorable contracts, especially if they are at the top end of activities. A portrait of the typical creative industries player is:

> "...an actor gathering information; learning by doing; revising her skills, expectations, and conception of herself; building networks in order to widen her range of experiences; and acting without knowing her initial endowment of ability and talent or what she may be able to express over the course of her loosely patterned career" (Menger, 2015: 166).

These working conditions make actors dependent on their self-promotion strategies, public relations abilities, multitasking skills, and inflation of their status on résumés (McRobbie, 2016). They also seek a balance between monetary and non-monetary rewards (Hartley et al., 2013). For example, not all actors perceive long working hours and self-exploitation negatively (Hesmondhalgh & Baker, 2011). In a study published by Eikhof & Haunschild (2007) on work-life balance, researchers found that work is one of life's most important satisfactions, so workers may not always want to work fewer hours if it would be detrimental to their economic status. They also found that working hours were precious to mothers because stepping away from home helped them mitigate family stress. In summary, labor flexibility is a value highly appreciated by creative workers, who see opportunities for self-realization, freedom, and independence in these forms of work.

## Organization of creative work

Work organization in the creative industries occurs in teams made up of professionals with diverse skills. The work is flexible and focused on specific tasks (Grabher, 2002, 2004a, 2004b). This form of work, known as "project-based organization", is one of the most favored in the creative industries and also common in other sectors such as law, construction, shipbuilding, engineering, automotive, medical research, chemical, and textile industries (Chapain et al., 2013; Grabher, 2002).

The dynamics of collaboration constitute the socio-cultural and economic space in which individuals participate and are recognized as actors or creative workers (Graham & Gandini, 2017). Collaboration is an indispensable type of networking for creatives' professional careers. However, the organization is paradoxical because the creative industries encourage individual work and demand that workers participate in teams (Gandini, 2016a; Graham & Gandini, 2017). The rhetoric that favors collaboration in the CCIs minimizes the role of competition, even though temporary and flexible employment relationships foster a climate of tension and rivalry (Graham & Gandini, 2017). Another relevant aspect of sociability in collaboration or "networking" is the blurred barrier between private and professional life. Thus, collaborative practices are an example of how the social realm explains the economic logics, specifically how actors use social capital strategically to establish work relationships (Gandini et al., 2017).

## *Work in projects and temporal contracts*

Work in the creative industries is project-based (DeFillippi, 2015). This brief and ephemeral form of organization allows for a specific yet flexible application of resources (Grabher,

2004a), which favors a fruitful environment for the generation of new knowledge (DeFillippi, 2015; DeFillippi et al., 2007), creativity (Greve, 2009; G. Kaufmann & Runco, 2009), and better market orientation (Boltansky and Chiapello 1999 in Grabher, 2002). The project-based organization requires the 'just-in-time person' or hiring people only for a certain period to perform specific tasks (Howkins, 2001).

The organization takes the form of networked production (Davis & Scase, 2000) based on the ecology of the projects. This organizational form is a relevant conceptual framework to analyze learning in projects (Eikhof & Haunschild, 2007; Grabher, 2002, 2004a). Network organization — or networked processes — has historically characterized creative work (e.g., artistic production). In addition to labor, spatial, and temporal flexibility and the focused use of resources, networked production has equally flexible hierarchies due to the rotation of partners and alliances (Eikhof & Warhurst, 2013). These forms of labor organization also imply that job-seeking practices depend on the ability of workers to make use of their personal networks (Blair, 2001; Gandini, 2016a; Nairn, 2020) in forms of sociability known as "networking" (Chapain & Comunian, 2010). For Chapain & Comunian (2010), networking is characterized by integrating informal networks of contacts into friendship and information exchange dynamics. Therefore, knowing "who is who" and maintaining networks of contacts are fundamental to participating in creative productions.

On the other hand, spatial proximity by co-location is not indispensable for participation in projects, even though collaborators' circles tend to repeat themselves (Grabher, 2002). Non-spatial determinants of collaboration are the motivation and the capacity of the actors to establish cooperative links (Coutinho, Diviák, Bright, & Koskinen, 2020). However, actors form social ties with those in their immediate environment (Crossley, 2013). Finally, the urban environment itself causes co-location in the creative industries. It does not appear to be a cluster effect (Oakley & O'Connor, 2015a), although face-to-face interaction is highly valued, even in new media industries (Pratt, 2006; Pratt & Jeffcutt, 2009).

### A community of actors in the CCIs: the coworking space

I investigate the social and organizational formations that emerge from the frequent face-to-face interaction between actors in the creative industries. They share a physical and border-defined workspace.

The dynamics of interaction between the actors constitute a social space that I call "community". I rely on Wellman (Rainie & Wellman, 2012; Wellman, 1999) to elucidate the main features of the type of community I analyze. Studies on community distinguish between communities of a traditional kind, including ties between neighbors and friends, which are moderately dense and heterogeneous. On the other hand, communities in a broad sense are comprehensive, specialized, not very thick, and heterogeneous. The main difference between the two is the physical proximity between the actors. I do not rule out the enormous relevance of community contacts beyond the actors' immediate circle. Yet, I intend to investigate how the traditional types of communities emerge.

Office-type environments, shared services, and common-use areas are features[6] coworking spaces deliver to a growing population of self-employed workers — mostly in the creative industries — such as freelancers, start-up personnel, mobile workers, and artists, who otherwise would be working from home. Coworking places[7] are generally urban phenomena that vary in the flexibility of their use: some allow users to have a fixed office space and desk, while other places favor user rotation (Bianchi, Casnici, & Squazzoni, 2018; DeGuzman & Tang, 2011). These areas' autonomy varies: artists organize some, others are workers' cooperatives and cultural centers (de Peuter & Cohen, 2015). However, coworking spaces are increasingly in the hands of companies that offer short-term rental services (de Peuter et al., 2017).

Through a monthly payment, "knowledge professionals" can be part of a community and share work routines (Gandini, 2015). The frequent interaction made possible by these types of spaces reduces the isolation of individual work, facilitates collaboration between and socialization among its users (Gandini, 2015; Boltansky and Chiapello 2005 in Hesmondhalgh & Baker, 2011), expands the networks of clients and collaborators (Gandini, 2015), and promotes values such as cooperation, which confirms the persistence of the "law of mutual aid" (de Peuter & Cohen, 2015). Coworking spaces are not only fixed settings for growing communities. Since firms no longer provide physical and organizational structure to CCIs workers, coworking spaces have filled the gap (Gandini, 2015). As Gandini explains, a characteristic of these spaces is the absence of feelings of competition. On the contrary, community values, such as the desire to include the social in working life, predominate. For example, Gandini (2015) examined the actors' motivations for joining a coworking space and found that the actors refer first to their interest in being part of a community and second to the possibility of increasing their network of contacts and improving their professional reputation. In summary, coworking spaces promote interdependence among actors, creating opportunities to raise coworkers' turnover either by gaining work commissions among other coworkers or by work referrals (Gandini 2015).

### III.    Summary and conclusions

In this chapter, I elaborated on my research's central concepts and underscored their connection to the cultural and creative industries. I took up and developed the analysis of emergence (Padgett and Powell 2012) and netdom (White 2008). While I welcome advances in social network analysis at the intersection of cultural domains, I do not seek to reproduce the extant models. I take inspiration from them; they guide my observations and feed my scientific concern, but they do not govern my work's meaning or scope. In particular, White's perspective, which approaches the cultural field from language and linguistic

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[6] The amenities in coworking places go from free drinks and snacks; to nap-pods and yoga rooms. Often, they have series of talks and regular meetings. See https://www.coworkingresources.org/blog/top-coworking-amenities; https://sharedspace.work/5-must-have-coworking-amenities/ last visit: Sept. 17th, 2020).

[7] However, the current use of shared spaces dates back to 2005 and has its origins in San Francisco. It began as an alternative between the traditional standard of office work in a company, which offers a working community delimited in a workspace, and the life of the independent worker, which is accompanied by the freedom and flexibility of work by not having a boss or a hierarchical structure to which to subject himself (de Peuter et al., 2017; Gandini, 2015).

analysis, is a task that is not part of this dissertation and remains an area for future research.

As a cumulative experience of social life (and not as a "thing"), the netdom is an analytical instrument suited for examining evolutionary processes. It is particularly apt for the characterization of social formations' and organizations' emergence (Table 2).

*Table 2. Conceptual framework (summary).*

| Concepts | Description | Analysis |
|---|---|---|
| Netdom | The limited context in which one experiences social life. | |
| "Net"<br>Social Structure | Dedicated to the study of social structures.<br>Patterns of ties present during a relatively prolonged period.<br>Structures affect actors' opportunities, enabling or inhibiting his/her access to networked resources. | Social network analysis |
| "-dom"<br>Domain | Dedicated to the study of meanings.<br>A subset of cultural space and community that serves as the interpretative framework for an actor. Stories as scripts reproduced the domain. | Cultural analysis |

To examine emergence processes, I focus on the birth of the coworking space. Since self-employees, freelancers, start-ups entrepreneurs, artists, and cultural producers breed in this kind of space, I reviewed the main characteristics of the CCI's working conditions, type of workers, and organizational forms. Work in projects and temporal contracts create a labor atmosphere dependent on frequent collaboration and socialization interactions (Table 3).

*Table 3. Research's overview: the emergence of the coworking space through the study of two relations: collaboration and socialization.*

| Evolution processes:<br>focus on emergence | Case study | Examined Relations | Observed Interactions |
|---|---|---|---|
| Emergence is the birth of new social formations through the transformation, permutation, and recombination of previous social structures. | The coworking space is a new social and organizational form that encourages work-related networking processes. | The collaboration relation focuses on work production; and the socialization relation is for information exchanges. | Work in projects and work contracts; work-related conversations, exchange of ideas, personal conversations and other topics. |

My investigation of the cultural and creative industries contextualizes creative work, the motivations and expectations of creative producers, and the sector's predominant organizational forms (Table 4). I have taken the first steps to formulate the network domains (netdoms) that I elaborate in detail in the following sections (Chapters 3, 4, and 5). In the next chapter, I articulate my research questions, introduce the methods and methodology, and present the case study.

*Table 4. The Cultural and Creative Industries Overview (summary).*

| Basic concepts | Description |
|---|---|
| Cultural and Creative Industries | • A hybrid environment that mixes industry, market, culture, and creativity for the commercial exploitation of its products and services. <br> • The CCIs use the commercial value of human creativity to generate jobs and wealth. |
| Cultural and creative workers | • Actors who possess the disposition, capacity, and desire to carry out non-routine, experimental, and uncertain activities. <br> • Generally, creative work is individual and based on one's skills and talents. <br> • Self-employed workers, freelancers, star-up personnel, artists, and cultural producers are the core workers of the CCIs. |
| Work organization | • Creativity is the articulating element of the organization of work and employment. <br> • People are the most valuable resource. <br> • Flexible work organization, collaborative models, and dynamic and competitive environment characterize CCIs' work organization. |
| Projects and temporal contracts | • Projects allow the specific and flexible application of resources. <br> • The work in projects is subsumed in networked production strategies, which historically have characterized creative work. |
| Coworking space | • Office-type environments where cultural and creative workers laboring outside the context of the firm people share services. <br> • These mostly urban places allow workers, most of them CCIs' workers, to be part of a community and share routines. |

# Chapter 2. The Collaboration and Socialization Networks' Co-Evolutions. A Research Design.

Because evolution is a gradual process, we rarely notice its emergence. Even small changes, transformations, and permutations can shape new organizational and social formations (Padgett & Powell, 2012a; Tasselli, Kilduff, & Menges, 2015). A relational approach could shed light on the mechanisms that generate the "new" from the "old". I develop my argument based on the work of Padgett and Powell (2012b). By following the biographies, careers, and activities of a group of actors in the Cultural and Creative Industries (CCIs), I analyze a community's formation. These cultural and creative workers share a work location, geography, ambitions, and expectations, and they are engaged in more or less comparable activities subject to similar reputational and regulatory processes. They implement the local norms of collaboration and knowledge exchange and test new possibilities. They may interact between domains by sharing tools across milieus and starting new practices. My research contributes to the discussion of these cross-network transpositions (W. W. Powell, Packalen, & Whittington, 2012).

## I.      Collaboration and socialization in the CCIs

Studies on social embeddedness highlight cross-fertilization across domains and primarily address informal relationships' relevance to producing business transactions and building trust and support (Bathelt & Glückler, 2011; Brailly et al., 2016; Coleman, 1988; M. Granovetter, 1985; Lazega, 2001). These relationships include friendship links and information exchange channels (Daskalaki, 2010), such as advice (Lazega, Bar-Hen, Barbillon, & Donnet, 2016; Wolff, Wältermann, & Rank, 2020), ideas (Marchegiani & Arcese, 2018; Vicentini & Nasta, 2018), and even gossip (Ellwardt, Steglich Rafael, Steglich, Wittek, & Steglich Rafael, 2012). In the CCIs, collaborative relationships are embedded in friendly relationships, which promote work opportunities but also generate tensions and conflicts (Gandini et al., 2017; Grabher, 2002). Coworking spaces in particular are laboratories for exploring social dynamics, since collaboration is self-organized (Bianchi et al., 2018) and no hierarchical structures dictate interactions or transactions. Therefore, various heterarchical forms of organization can arise (Grabher, 2001). However, collaborations exist not only as economic transactions in coworking spaces (Gandini, 2015), but they also facilitate solidarity behavior, such as cooperation and aid (Bianchi et al., 2018). Coworkspaces offer a favorable atmosphere for research on the formation of social relations and networking (Jackson, 2017).

Even though it favors and stimulates the formation of collaborative and communication networks, social embeddedness is not the automatic result of physical co-location (Chapain & Comunian, 2010). According to Bathelt and Glückler (2011), co-location does not determine the generation of local networks since "fundamental interdependencies exist with economic, technological, social, and cultural dynamics in and between other places" (Bathelt & Glückler, 2011, p. 221). Therefore, actors experience the advantages and disadvantages of co-location at different spatial scales (Bathelt & Glückler, 2011). In co-location, face-to-face interactions are frequent. However, the intensity of the "local buzz"

varies, i.e., information exchange, intentional and unintentional learning processes, and the incorporation of shared interpretative frameworks (Bathelt & Glückler, 2011). Co-location favors the formation of new social knowledge (Doreian & Conti, 2017). "Know-who" (Lundvall & Johnson, 1994 in Glückler, 2007) — or knowing and recognizing others and being aware of their activities — promotes references and work recommendations (Bianchi et al., 2018; Gandini, 2016b; Spinuzzi, 2012). This interdependence makes networking an indispensable social skill in the CCIs because it constitutes the soft infrastructure that supports economic activity (Grabher, 2001, 2002, 2004a, 2004b; Wittel, 2001).

What is the effect of co-location on the formation and evolution of social networks? I use a micro-level scale to analyze the interactions between co-located actors in a physical and shared workspace (coworkspace or coworking space). The focus of my research is relational and longitudinal: I follow the interactions among a set of actors for 36 months. My goal is to identify the evolution and co-evolution (interdependence) mechanisms of their collaborations and socialization relations. I examine four stages of this process, which I interpret by conducting a netdom[8] analysis: I combine the interactions of the actors to produce each one of the relations (the network, or "net") and the stories that articulate and give meaning to the links (the cultural domain, or "dom"). The netdom is a limited cultural domain unit and a resource for accessing the relations' meanings, as discussed previously.

This chapter is structured as follows: I elaborate on the objectives and research questions in the first part. In the second part, I explain the methodology and describe the case study. I close the chapter with a summary of the case study. I address the analysis in the following chapters.

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[8] The historical network works of Padgett and Ansell (Padgett & Ansell, 1993) and Gondal and McLean (Gondal & McLean, 2013) are references and inspiration for the operationalization of netdoms.

## II.      Research questions

Using the netdom as the unit of analysis, I observe how coworkers perform their identities through two separate but linked activities: collaboration and socialization. I examine the concrete links between individuals and the meanings they give to their interactions. In this way, I address the social mechanisms that constitute these relationships.

### General questions

Collaboration and socialization comprise activities ranging from economic transactions to social activities, such as support and cooperation. I propose a scale of economic and social value that describes the collaborative and social practices in the universe of relationships in the coworking space. I observe three dynamics of tension in the development of relationships:

1. Economic versus cultural. In a constellation of actors from all branches of the CCIs, it is possible to investigate the intersections and links between both economic and cultural worlds and the mechanisms that join or separate them. In the previous chapter, I described the type of work (self-employment, freelance work, project-based), the advantages and disadvantages of labor flexibility, and the predominant configurations of work organization in the CCIs. Tensions between the economic and the cultural and between profit and not-for-profit interests frame all of these aspects of CCIs. Therefore, I evaluate the following questions:
    a. How do actors negotiate their economic, creative, and cultural interests when establishing relationships?
    b. How do the actors, who articulate economic and cultural perspectives in relationships, forge their identities over time?
2. Cooperation versus competition. Although competition usually plays a secondary role to collaboration in the creative industries (see Chapter 1), I aim to better understand the meaning of competition in the CCIs:
    a. What activities produce cooperative interactions? What activities generate competition?
    b. What mechanisms regulate competition and produce cooperation?
    c. How do actors in a coworking space experience competition?
3. Community versus individuality. Actors experience a tension between pro-community feelings that characterize coworking spaces and individual or anti-community interests. I discuss:
    a. How do actors foster community feelings and shared values in the center?
    b. How do the users of coworking spaces negotiate community participation and the need to maintain autonomy?

My research contributes to understanding how independent self-employed individuals, freelancers, and start-up workers with different backgrounds practice complementarity processes in coworking spaces. I also contribute to the literature on how face-to-face interactions catalyze social dynamics, like networking. I anticipate that the actors will follow different strategies to establish relationships. I use the three dynamics of tension to help identify the social mechanisms that produce collaborative environments in coworking spaces.

Specific questions

*Collaborative relationships*

Capdevila (2014) identifies three types of collaboration in coworking spaces: 1) cost-related collaboration refers to actors who join coworking spaces to reduce their operational costs by sharing office space and services with coworkers; 2) resource-based collaboration is for actors who collaborate to learn from others and complement their resources; and 3) relational collaboration indicates synergistic collaborative practices, in which actors engage with others to produce a new service or good (Capdevila 2014). Following Merkel's (2017) analysis of Capdevila's typology, I consider only the last two categories to be collaboration, or working together toward a shared and mutually defined goal.

I explore collaborative practices in coworking spaces and evaluate the following questions:

1. Collaborations and their logics:
   – What kind of collaborations occur in a coworking space and what are their motivations?
   – How do collaborations contribute to D16 tenants' identity formation?
2. Mechanisms of the formation of collaborative relationships:
   – What mechanisms facilitate the formation of collaborative relationships?
   – What are actors' motivations to collaborate across domains (e.g., across economic sectors and sub-branches)?
   – How do actors' attributes influence collaborative relationships?
3. Collaborative dynamics:
   – What network structures characterize collaborations and how do these structures change over time?
4. Collaborations, learning, and knowledge-exchange:
   – What kinds of information and knowledge do actors exchange in collaborations?

*Social relationships*

Socialization is a result of four face-to-face conversations common to coworking spaces: conversations about work, exchanges of ideas, conversations about private life, and conversations about other topics. I do not observe dynamics of tension in socialization but rather the correlation between the four different conversation forms. I am interested in exploring the complementarity or exclusivity of the conversations and their co-evolution. Conversations about work and exchanging ideas belong to the professional sphere, while conversations about private life represent emotional exchanges and, possibly, friendship. Other topics of conversation refer to social forms of friendly coexistence, such as small talk.

I anticipate that tenants share ideas and have work-related conversations with fellow tenants in their own branches and sectors and across domains. I expect actors to learn from their coworkers and to incorporate new knowledge into their practices. Lastly, I assume that physical proximity and regular interaction will help build trusting relationships and even friendships. The research questions follow:

1. Conversations and their logics:
   - What are the logics of the different types of conversations?
   - How do conversations in each stage contribute to identity formation?
2. Mechanisms of the formation of conversation- based relationships:
   - What mechanisms facilitate the formation of social relationships?
   - What are actors' motivations to switch between conversation-types?
   - What role do actors' attributes play in the creation of social relationships?
3. Conversation dynamics:
   - What type of conversation predominates in each stage, and what social structure does it favor?
   - Do personal bonds necessarily precede exchanges of ideas?
4. Conversations, learning, and knowledge-exchange:
   - What kinds of information and knowledge do actors exchange in conversations?
   - Do actors choose different interlocutors for discussing professional and personal topics?

## *Convergence of collaborative and social relationships*

The coworking space that I analyze exemplifies an organizational form that produces social knowledge and learning experiences for its users. By collaborating and engaging in business activities, coworkers develop additional — and usually supportive — social ties that, in many cases, flourish into friendships. "Doing business, making friends" points precisely to this tendency, which corroborates previous literature on the coworking in the CCIs (DeGuzman & Tang, 2011; Serje Schmidt, Schreiber, Pinheiro, & Bohnenberger, 2020; Spinuzzi, 2012).

Coworking spaces produce opportunities for networking. Networking is the practice of creating, activating, and sustaining ties, primarily in a face-to-face fashion. The goal of networking is to access valuable information and resources, develop work projects, and gain emotional support through different (inter-personal) paths. These practices use reputation mechanisms to access, evaluate, and control the distribution of the network's goods.

While I initially explore collaborative and social relations independently, my central aim is to examine their convergence. I record the interactions of the actors who produce collaborative links; I observe their social interactions (or ties). I elaborate on the mechanisms that constitute both relationship-types, which allows me to explain the abstract level of social structures. Then, I evaluate the mechanisms that support the emergence of social formations. Finally, I investigate how collaboration and socialization co-evolve and generate a social network with multiple meanings. The following questions guide my analysis:

1. How are collaborative and social relationships expressed over time?
   - What motivates actors to follow different collaborative and social strategies?
   - How do past relationships affect future relationships?
2. What network structures and dynamics characterize the articulation of collaborative and social relationships?

     − Do network structures vary between subsets of actors or do all actors reproduce the overall network structure?

3. What network mechanisms characterize the articulation of collaborative and social relationships?
4. What relationships support networking strategies in coworking spaces?
5. Are actors who collaborate and socialize in coworking spaces more successful economically (e.g., do they have more work assignments or increase their revenue) than residents who collaborate and socialize less?

## III. Methodology and case study

I use a mixed-methods approach to explore one case study. On the one hand, I conduct a qualitative analysis of interviews and ethnographic notes processed in MAXQDA (VERBI Software, 2019); on the other hand, I use UCINET (Borgatti, Everett, & Freeman, 1999) and Netdraw to conduct a social network analysis.

### Case study

The actors of this study are tenants[9] of the first Center for the Cultural and Creative Industries (CCIs) Department 16 in Heidelberg (HD), Germany. The facilities[10] belong to the local city government, which approved the building complex's temporary use in 2013[11]. The center hosts the business activities of approximately 240 freelance workers, artists, and entrepreneurs. Many of them are starting their own company, and others were active professionals working at home or in an office, several of whom had few contacts and felt professionally underdeveloped. For all of them, the center's inauguration was a chance to start new projects, collaborate with new partners, and refresh their careers. Heidelberg is a late bloomer in the creative industries. Cities like Berlin, Munich, and Hamburg are known for their established start-up and creative scenes. Mannheim, only twenty kilometers away, is developing a city plan based on a substantial investment in the CCIs[12]. Heidelberg — a second-tier city known for its university and its scientific research — made a strong commitment to developing the CCIs by supporting the center.

In Germany, the Federal Ministry for Economic Affairs and Energy oversees the development of the CCIs, including at least 11 industries or markets: music industry, book market, art market, film industry, broadcasting industry, performing arts market, design industry, architecture market, press market, advertising market, and software and games industry. The national public policy stipulates that "all cultural and creative enterprises that are mainly market-oriented and deal with creation, production and/or dissemination through the media of cultural/creative goods and services" are under its purview (Bundesministerium für Wirtschaft und Energie, 2019a). The companies in the CCIs must have a commercial character, be subject to Value Added Tax, and aim to generate revenue from art, culture, and creativity[13]. The emphasis is, therefore, on profitability and self-reliance.

Following these guidelines, HD's local government chose the center's residents according to five criteria: their activities had to be in at least one of the CCIs' domains; the companies had to be new (0 to 3 years of operation); all applicants had to follow a selection process that started with the completion of an application form and ended with final approval by the city council; applicants active in the architecture, book, and advertising markets, and the

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[9] In this study, also coworkers, residents and users.

[10] Four buildings, two parking lots, and several green areas, approximately 4,500 m2.

[11] The city council allowed the center's operation until the end of 2023. After that, a new time extension has to be approved.

[12] See: https://www.mannheim.de/de/kultur-erleben/kreativwirtschaften; https://next-mannheim.de.

[13] Therefore, entities funded by governmental subsidies, license fees, non-profit funds, and private investors are not in the CCIs. Examples of these organizations include museums, city theaters, city opera houses, orchestras, and ballet theaters; that is, most of the classic or high arts.

software and games industry had a priority since the city wanted to support its already developed branches; finally, early applicants had an advantage over later candidates, since managers reviewed applications as they arrived.

*The local context: the city*

The case study takes place in Heidelberg, a city of 161,485[14] inhabitants, the fifth largest in the southwestern state of Baden-Württemberg. Along with major cities like Mannheim and Ludwigshafen, HD forms the Rhine-Neckar Metropolitan area, with an estimated population of 2.4 million[15]. Heidelberg University is the country's oldest university and one of the most prestigious[16]. Furthermore, the university is a significant local employer[17]. After World War II (1952–2015), HD had the largest US military base in Europe, at one point hosting 16,000 soldiers and their families[18]. Finally, HD attracts almost 12 million visitors every year[19].

In 2010, the Institute of Geography of Heidelberg University researched the creative industries (Glückler, Ries, & Schmid, 2010). Based on interviews with start-up companies and self-employed workers, the researchers determined that high rents and limited availability of necessary spaces — offices, workshops, ateliers, and selling points — were the actors' most critical challenges. Nevertheless, the interviewees were confident about the city's potential[20].

## Research design: survey and interview process

I carried out surveys and interviews with the Department 16's tenants throughout three consecutive years for three to five months at a time (Table 5). I sent invitations via e-mail and through social media and, when possible, also made face-to-face invitations to participate in the survey and interview process. Most of the final surveys and interviews were conducted face-to-face and in one sitting.

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[14] Baden-Württemberg State Statistical Office: https://www.statistik-bw.de/BevoelkGebiet/Bevoelkerung/99025010.tab?R=GS221000.

[15] Metropolregion Rhein-Neckar: https://www.m-r-n.com/zahlen-und-fakten.

[16] Fifty-six professors linked to the University and to the city in the areas of chemistry, physics and life sciences have won Nobel Prizes (https://www.uni-heidelberg.de/en/university/history/heidelberg-university-nobel-laureates/nobel-laureates-affiliated-heidelberg-university). Additionally, Heidelberg University belongs to the exclusive group of German "Universities of Excellence" (https://www.uni-heidelberg.de/en/research/research-profile/excellence-strategy). Besides the University, HD is a research hub, hosting the German Center for Cancer Research, the Center for Molecular Biology Heidelberg, the European Molecular Biology Laboratory, and four Max Planck Institutes, among other research centers (https://www.uni-heidelberg.de/institutions/non_university).

[17] The University Clinic employs 15,000 people. Other important employers in the city are international companies like ABB Stotz-Kontakt, Heidelberger Druckmaschinen, Heidelberg Cement, Henkel-Teroson, Lamy, ProMinent Dosiertechnik, Rockwell Collins, SAP, and SAS Institute.

[18] https://en.wikipedia.org/wiki/United_States_Army_Garrison_Heidelberg.

[19] https://www.heidelberg.de/english/Home/Life/Heidelberg+in+figures.html#:~:text=11.9%20million%20visitors…11.9%20million%20visitors%20every%20year.

[20] When asked if they would rather move out of the city to improve their business performance, 8 out of 10 people said that they would not move to another region in Germany. The interviewees reported that the city was an ideal place for CCIs since it offers a rich cultural life, only behind that of Berlin and Munich (Glückler et al., 2010).

*Table 5. Research's stages.*

| Stages | Time frame |
|--------|------------|
| 0 | Summer 2013 to March 2014 |
| 1 | From April to December 2014 |
| 2 | From January 2015 to January 2016 |
| 3 | From February to 2016 to March 2017 |

### Survey design

The survey had four sections and was roster-based, i.e., the survey displayed a list of D16's tenants. However, participants could write the names of actors not included in the roster. First, I asked for general information about the tenants and their business activities. Then, I explored their relationships with the center. I asked participants about how many hours they spent at the center on average each week and included questions about the motivations of the tenants to move into the center. The third and most important part of the questionnaire focused on relational questions. I asked three questions: 1) with which of the other tenants had they worked before moving into the center; 2) with which have they worked after moving into the center, and 3) who had been frequent conversation partners in the last 6 to 12 months. I asked them about the topics of the interactions with the conversation partners. I classified the interactions into four types: work and work-related issues, exchange of ideas, private matters, and other (which included "small talk"). The fourth and final section of the survey inquired as to the center's overall performance as an organization. The survey (conducted in German) took approximately 15–20 minutes to complete. I surveyed a total of 113 actors in the following manner: 52 were surveyed only once, 41 twice, and 20 three times, for a total of 194 surveys.

### Interview design

Since I conducted interviews in three stages, the questions varied from stage to stage. I also adapted the questions based on the interviewee's experiences. In the first round of interviews, the questions fell into three categories. First, I asked about the occupants' educational and work backgrounds, work routines, and creative processes. Second, I asked about their business activities — especially about current and future projects involving other residents. The last section was for matters related to the overall performance of the center as an organization. In the second stage of interviews, I followed up on the previous topics and introduced three new subjects: conflicts, interviewees' understanding of creativity, and their practices of idea-exchange. The third and final round of interviews did not raise new matters, but rather focused on developing previous conversations.

Each interviewed covered about 20 questions and took, on average, 45 minutes. The interviews were mostly conducted in German, with a few exceptions in English. I interviewed 7 people on 3 occasions, 28 twice, and 35 only once, for a total of 112 interviews with 70 of the center's residents[21]. The interviews were recorded, fully transcribed, and codified with the help of MaxQDA2020 software.

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[21] Interviews with representatives of the center's management, coworkspace studio, and the city are excluded from this count.

## Database design and elaboration

Department 16 tenants' database results from a 36-month research process, during which I conducted fieldwork, participant observation, periodic interviews, annual surveys, and documentation via electronic means. The research subjects are workers in the cultural and creative industries who chose to rent office workspace in D16, a city-owned real estate complex.

The study subjects are the residents of the property complex (an old fire station), which I call center, Department 16, D16, or house. The tenants are freelancers, artists, and professionals working on their accounts and individually, in start-ups, and through micro-enterprises. The rest of the population includes employees, freelance collaborators, and interns of the firms. Other relevant actors are the center's managers and the CCIs' city representatives.

### *Database description*

The database includes 215[22] actors active in the center during my research (2014, 2015, 2016, and the first quarter of 2017). The list reflects all the occupants who held a rental contract with the management. Other types of contractual or employment relationships are not entirely portrayed[23]; this is the case for coworking space studio users, interns, and firms' freelance collaborators.

The database includes:
   a) Basic information: name and contact details of each individual; name of the individual's firm and the firm's legal structure form (Table 6).
   b) Classification by type of activity in the sub-branches of the CCIs[24]; classification by sector: business, cultural industries, creative industries, and other sectors.
   c) Classification by employment status and company type: self-employees, start-up founders, freelancers and professionals, salaried workers or employees, and others.
   d) Actors' attributes: gender (male or female) and age group (20-30 years; 31-44 years; 45 years or above).
   e) Co-location variables: hours per week spent at the center; physical location by building number and area; year of admission; year of departure (if applicable); and reasons for joining and leaving the center.

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[22] The center's management (two people), coworkspace studio's coordinators (three people), and the CCIs' city representatives (two people) are part of the database.
[23] For example, I only identified 24 coworkspace-studio users and two interns.
[24] Tenants reported which sub-branches they are active in. They were usually active in two or more, only a few mentioned working in all CCIs' branches.

*Table 6. Department 16 companies' legal forms (three stages' summary).*

| Legal form | Definition | Initial funding | In D16 |
|---|---|---|---|
| **One-person business** | | | **Persons** |
| Freelancer *(in German Freiberufler)* | Freelancers are self-employed entrepreneurs who work simultaneously for multiple clients and employers in at least one freelance profession[25]. Freelancers must register in their local tax office. | No | 114 |
| Sole proprietorship tradespeople *(Einzelunternehmer)* | A tradesperson is the most common business structure in Germany. This form is for entrepreneurs, businesspeople and freelancers. Operators of sole proprietorship must register with the trade office. | No | 4 |
| **Partnership businesses and corporations** | | | **Companies** |
| GbR | *Gesellschaft bürgerlichen Rechts* is a civil law partnership. It does not need to be entered into the commercial register as long as its annual turnover does not exceed 250,000 euros and it does not employ more than five people. | No | 7 |
| OHG | *Offene Handelsgesellschaft* is a general commercial partnership and is entered into the commercial register. | No | 1 |
| GmbH & Co KG | *Gesellschaft mit beschränkter Haftung & Compagnie Kommanditgesellschaft* is a limited partnership and limited company partnership. This legal form is a combination of partnership and corporation. It must be entered into commercial register. | No | 3 |
| GmbH | *Gesellschaft mit beschränkter Haftung* is a limited liability company that must be entered into the commercial register. The initial capital is at least 25,000 euros. | Yes | 6 |
| UG | *Unternehmergesellschaft* is a provisional private limited liability company. It is a variant of the GmbH suitable for entrepreneurs and freelancers who want to limit their liability risk. The initial capital is from 1 to 24,999 euros. This type of companies must be entered into the commercial register. | Yes | 4 |
| gGmbH | *Gemeinnützige Gesellschaft mit beschränkter Haftung* is a non-profit limited company. | Yes | 1 |
| gUG | *Gemeinnützige Unternehmergesellschaft* is a non-profit provisional private limited liability company. | Yes | 1 |
| AG | *Aktiengesellschaft* is a public limited company. The initial capital is at least 50,000 euros divided into shares. Shareholders' liability is limited. | Yes | 1 |
| **Others / Non-German legal forms** | | | |
| OÜ, Ltd | Other legal forms of limited liability company. For example, the OÜ or *osaühing* is the Estonian version and its minimum funding capital is 2,500 euros. | Yes | 2 |

Author's elaboration. Source: https://www.iamexpat.de/career/entrepreneur-germany/going-freelance]; https://www.tax-consultant-germany.de/founding-company-3-steps [last visit: 24th of March 2021].

[25] See categories of freelance professions in Germany in https deutschland://www.wir-gruenden-in-.de/fileadmin/user_upload/Downloads/Downloads_Englisch/EN_Freiberufler_Kategorien.pdf [last visit: 24th of March 2021].

## The center D16 and its tenants

In the following section, I describe the case study. First, I present the composition of the population, disaggregated by age and sex. Then, I describe the activities of the tenants and their organization. Finally, I explain the tenants' reasons for entering and leaving the center. In this section, I also describe the actors' physical presence in the D16, including their attendance habits.

### Population

Between Stage 1 and Stage 2, the center's population grew by approximately one quarter (26.02 percent) (Table 7). Nevertheless, the number of people working at the center decreased by 15.06 percent in Stage 3. The companies' growth allowed them to hire staff to perform functions that previously depended on collaboration with freelancers (Table 7, column 1). The companies were also able to attract more interns during the period of study (column 3), and one factor that enhanced their attractiveness was their location at the center[26]. On the other hand, the number of self-employees, such as start-up owners, freelancers, professionals, artists, and musicians (Table 7, column 4) increased by almost a quarter (24.39 percent) between Stages 1 and 2 but then decreased the following year by a fifth (20.32 percent). Three factors explain this decline. First, the companies that left the D16 in Stage 3 were mostly composed of owners/founders and did not have employees. Second, a few companies' owners/founders quit their companies short after moving into the D16. Finally, the decrease in the number of self-employees and freelancers in Stage 3 in comparison with the amount in Stage 2 reflects the vacant spaces that the center's management did not promptly replace.

*Table 7. Center's population.*

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Stage | In-house firm employees | Freelancers working with in-house firms[27] | In-house firms' interns | Self-employees and freelancers[28] | Others: e.g., Salaried workers in external firms | Total |
| 1 | 16 | 41 | 9 | 93 | 3 | 162 |
| 2 | 46 | 38 | 7 | 123 | 5 | 219 |
| 3 | 43 | 28 | 18 | 98 | 0 | 186 |

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[26] For example, in a casual conversation with the director of one of the start-ups that left the center in 2017, we spoke about the changes he perceived as a result of their departure. He noted that applications by interns decreased notably, but on the other hand, the company received more applications from people with more qualifications and work experience. Unfortunately, the start-up was not in a position to hire more employees, and they still depended on interns. In his opinion, leaving the D16 had affected the start-up's attractiveness to young people looking to complete internships.

[27] These freelancers are not center's tenants.

[28] Self-employees are people working for his/her own company (including start-ups) and freelancers, professional workers, artists, and musicians.

How did joining the center affect the companies' sizes? The companies grew significantly in Stage 1 (Table 8). There was a considerable increase in the number of in-house firm employees (column1, from 3 to 16) and freelance collaborators (column 2, from 27 to 41) and a slight variation in the population of interns (column 3, 7 to 9) and self-employees and freelancers (column 4, 97 to 93). The latter happened when companies' founders – in some cases, start-up entrepreneurs — decided to resign the company just before joining the center D16. The center's first stage is unique in the center's evolution because new memberships decreased considerably in subsequent years: only 39 new actors joined in 2016 (column 6), and 7 did it in 2017 compared to 162 in 2015 (column 6).

*Table 8. Department 16 businesses' growth.*

| Stage | | 1 In-house firm employees | 2 Freelancers working with in-house firms | 3 In-house firms' interns | 4 Self-employees and freelancers | 5 External firm's employees | 6 Total |
|---|---|---|---|---|---|---|---|
| 1 | Before | 3 | 27 | 7 | 97 | 3 | 137 |
| | After | 16 | 41 | 9 | 93 | 3 | 162 |
| 2 | Before | 2 | 0 | 1 | 26 | 1 | 30 |
| | After | 10 | 4 | 1 | 23 | 1 | 39 |
| 3 | Before | 0 | 0 | 0 | 5 | 1 | 6 |
| | After | 0 | 0 | 0 | 5 | 2 | 7 |

The data I present for Stage 1 reflects all the center's admissions from its testing stage (known as the "beta phase") until the first round of surveys and interviews. Therefore, the first period captures everything that had happened in the center since it opened. The records in Stages 2 and 3 reflect only the previous 10 to 14 months' activity.

*7 out of 10 tenants are young and male*

Most residents, or those who rent or share an office or workshop (Table 9), are young and male (Tables 10 and 11). This is not surprising since, in Germany, women's share of participation in the CCIs decreased from 40.6 percent in 2009 to 38.6 percent in 2017. For example, women, who make up 47.9 percent of workers across all sectors, only make up 40.4 percent of the labor force in the creative industries (Bundesministerium für Wirtschaft und Energie, 2019a). Female workers make up especially low proportions of the publishing industry (38.4 percent), architects (34.4 percent), and the software and games subsector (23.7 percent) — the subsector with the highest growth and most resources among the creative industries. On the other hand, self-employed women's participation in the CCIs remained constant in 2016 and 2017 at 41.5 percent as opposed to 33.2 percent in the same period for self-employed women in Germany (Bundesministerium für Wirtschaft und Energie, 2019a). German CCIs do not report on the age distribution of workers. However, among people between the ages of 20 and 64, more men (83 percent) than women (75 percent) work (Statistiches Bundesamt, 2018).[29]

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[29] As far as gender pay gap is concerned, German women earn less than men — approximately 4.41 percent less: while men earn an average of 21 euros per hour, women only earn 16.59 euros per hour. Women who are active in branches related to or in the CCIs experience severe wage discrimination. For example, in the

*Table 9. Relationship to the center.*

| Database | Persons |
|---|---|
| *1. Department 16* | |
| Residents in shared and individual offices, music studios and workshops | 127 |
| Employees, interns, or freelancers working for a company at the center (no direct tenant) | 50 |
| *2. Coworkspace Studio* | |
| Users | 24 |
| Studio coordinators | 3 |
| *3. Center's management and city representatives* | |
| Management and maintenance supervisor | 2 |
| Culture and creative industries' city representatives | 2 |
| *4. Others* | |
| Subletters, not official tenants | 1 |
| Rehearsal room or storage users (these tenants do not have an office space at D16) | 6 |

*Table 10. Distribution of the center's population by age.*

| Age group | Persons |
|---|---|
| 20-30 | 24 |
| 31-44 | 122 |
| 45 plus | 17 |
| No info | 52 |

*Table 11. Breakdown of the center's population by gender.*

| Gender | Persons |
|---|---|
| Men | 153 |
| Women | 62 |

## Activities and their organization

### *Types of employment and CCIs' relevance*

In the German context, full-time employment has grown continuously over the last ten years (2009 to 2019), while marginal employment has decreased[30] (Bundesministerium für Wirtschaft und Energie, 2019a). The number of workers in the creative industries saw record growth in 2017, reaching 1.7 million. The majority of those workers, 7 out of 10, were employees with access to required social security or self-employed workers with a turnover of more than 17,500 Euros per year. The rest, 3 out of 10, receive up to 17,500

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branches of culture, entertainment, and recreation, women make almost a third less than men (32 percent less). Self-employed women earn 31 percent less than their male colleagues; those who work in the information and communication sectors earn 25 percent less than their male counterparts. In 2016, the overall gender pay gap in Germany was only exceeded by Estonia (25 percent) and the Czech Republic (22 percent) in the European Union (Statistiches Bundesamt, 2018).

[30] Marginal employment or mini jobs generate earnings of less than 17,500 Euros per year. This type of employment has decreased in the CCIs in Germany: its peak was in 2011 with 224,800 people; it dropped in 2017 to 194,700 people, but it experienced a slight rebound in 2018, reaching 199,000 people (Bundesministerium für Wirtschaft und Energie, 2019b).

euros per year either in mini-jobs or are self-employed (Bundesministerium für Wirtschaft und Energie, 2017, pp. 26–29). Most D16 tenants are self-employed. This category includes professionals like lawyers and architects, artists like musicians and painters, freelancers such as designers and photographers, and entrepreneurs in start-ups. I tracked the three stages' populations of respondents throughout the course of my research[31]. Survey participants responded to the question: "How many people work in your company?" and I offered a classification of the employees and their role in the companies[32]. I standardized the data in the following tables to reflect the size of the center's population accurately[33].

I developed other categories to reflect the respondents' profiles (Table 12). As I mentioned above, 8 out of 10 tenants are self-employed. Yet, self-employment frequently intersects with other occupation types, such as self-employment in start-ups combined with freelance work for other firms located at Department 16 (15 cases) or employment elsewhere. The categories of freelancers and professionals also include cultural workers, like artists and musicians, who often work in different branches of the economy — such as the health sector — and not only in the CCIs (I found five such cases).

*Table 12. Type of worker based on employment.*

| Occupation status | Persons |
|---|---|
| Self-employed at a start-up | 29 |
| Self-employed at a start-up and employee of another company (external firm, not in D16) | 2 |
| Self-employed at a start-up and freelancer or professional | 16 |
| Self-employed at a start-up, employed at another company (not in D16), and freelancer | 4 |
| Employees (interns included) | 33 |
| Employees and freelancers or professionals | 6 |
| Freelancers or one-person business | 118 |
| Not applicable | 7 |

## *The economic relevance of the CCIs*

The CCIs represent 7.8 percent of Germany's companies (Bundesministerium für Wirtschaft und Energie, 2019a). This percentage has not changed significantly in recent years: in 2009, it was 7.61 percent, and it reached its highest point in 2017 with 7.85 percent. Still, their contribution to the economy (turnover) decreased slightly during this period: from 2.74 percent in 2009 to 2.59 percent in 2018. In the years covered by my research (2015–2017), German CCI-oriented companies' earnings grew significantly: from 152,100 to 165,200 million Euros, which represents an almost 8 percent increase. My data do not include a

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[31] In cases where two or more employees of the same firm provided figures for their company's size, I include the data only once to avoid double counting. However, in questions intended to elicit impressions, opinions, and other qualitative aspects relevant to my research, I keep the answers of all participants.

[32] A considerable number of self-employees and freelancers did not answer this question or there were discrepancies in their self-classification: in some cases, they listed themselves as freelancers working for an in-house company; in others, as "self-employee company owner". I decided to list only freelancers renting a space in Department 16, and start-up founders in the "self-employees and freelancers" column.

[33] Despite these precautions, some double-counting is still possible. This likely occurred in cases were freelancers, who are tenants of the center and therefore self-employed, were also counted by the owners of the start-ups with which they collaborated. According to my observations, surveys, interviews, and informal conversations with the actors at the center, this situation could have occurred on up to three occasions.

categorization based on the earnings of the center's tenants[34]. However, I obtained information on economic development by asking "How did your income level evolve last year concerning the previous one?". Participants chose a value between "much better" and "much worse" (a Likert scale). These answers, combined with data generated during the interviews, provide a picture, albeit imprecise, of the in-house companies' overall economic performance (Figure 1).
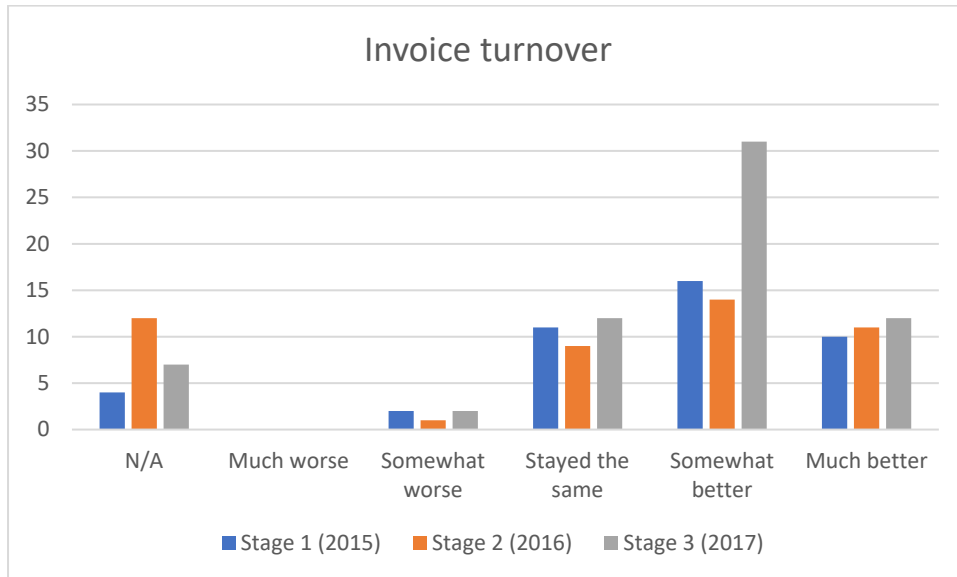


*Figure 1. Participants' self-evaluation: financial state (three stages) (N/A: not applicable).*

## Categorization by company type

In the CCIs, 95.1 percent of companies are microbusinesses[35] and generate 25.94 percent of the total income (Bundesministerium für Wirtschaft und Energie, 2019b, p. 36). In this context, a self-employed worker is a microbusiness[36]. In the Department 16, the residents work mainly for micro-businesses or are themselves a micro-business (Table 13): 81 people are self-employed, 69 work in a micro or small company with headquarters at the center (in-house firm), and 18 work in collective organizations of the micro-business type. The only municipal company located in the center does not belong to the creative industries[37].

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[34] I deliberately chose not to include questions about income due to privacy issues that could jeopardize further participation.

[35] Micro-enterprises are those with fewer than 10 employees, with an annual turnover of up to 2 million Euros. Source: https://www.destatis.de/EN/Themes/Economic-Sectors-Enterprises/Enterprises/Small-Sized-Enterprises-Medium-Sized-Enterprises/ExplanatorySME.html [last visit: March 29th, 2021].

[36] It is important to note that German government bodies monitor the performance of only for-profit CCIs companies. These companies are market-based (or at least part of their activity is) and therefore subject to pay value-added tax. These reports do not include companies that are financed by government or private subsidies or those that receive license fees or royalties.

[37] But because I aim to capture the center's dynamics, this state-owned company is considered to be part of the center's population, and at least two of its representatives participated in a round of interviews and surveys.

*Table 13. Overview of D16 business' activities.*

| Type of business organization | People |
|---|---|
| Self-employees | 81 |
| People working in in-house companies | 69 |
| Freelancers working in collective arrangements | 18 |
| Salaried workers working for external companies | 13 |
| Musicians | 13 |
| Municipal company' employees | 12 |
| Owner and employees in D16's coffee shop | 5 |
| Not applicable (management and city officials) | 4 |
| | 215 |

## New micro-enterprises and start-ups

Start-ups are an indication of the dynamics and vitality of a sector. The rate of new companies expresses the renewal intensity and competition level of products and services (Bundesministerium für Wirtschaft und Energie, 2019b). In general, the CCIs register a "very healthy" rate of new business formation, similar to the national rate: 4.6 percent of all companies in the CCIs are new versus 4.7 percent in the rest of the economy (Bundesministerium für Wirtschaft und Energie, 2019b, pp. 35–36). In particular, the software and games market alone generates 7.7 percent, the highest level of start-ups in the country, above the information and communication technologies (6.2 percent), business consulting (5.6 percent), chemical and pharmaceutical (5.5 percent), and automotive (4.2 percent) industries (Bundesministerium für Wirtschaft und Energie, 2019b). The rest of the CCIs present too small to count data in the generation of new companies, which demonstrates the difficulties that entrepreneurs face competing in these markets[38]. In 2018, the software and games industry contributed more than a third of all new start-ups founded in the CCIs: 35.6 percent. Industries such as design (15.6 percent), advertising (12.2 percent), and architecture (10.1 percent) lag far behind. The other sub-branches produce less than 10 percent of new companies (Bundesministerium für Wirtschaft und Energie, 2019b, p. 32). From 2012 to 2018, the formation of new companies in the CCIs slowed, while in the economy in general and since 2014, the growth rate has remained constant. Except for the architecture market, which has risen by one point (9.1 to 10.1 percent), the number of new companies in all other CCIs decreased. The advertising market had the starkest reduction of start-ups in the CCIs: from 18.9 percent in 2007 to 12.2 percent in 2018 (Bundesministerium für Wirtschaft und Energie, 2019b, p. 34). In summary, only the software and games market and the architecture market have grown in new businesses from 2007 to 2017 (Bundesministerium für Wirtschaft und Energie, 2019a, p. 27).

## Start-ups in the Department 16

What is a start-up in the context of Department 16? I define a start-up based on two criteria: a minimum of economic activity supported by some type of external investment

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[38] As I mention elsewhere, the reports on the evolution of the cultural and creative industries only reflect new companies whose economic activity is above a certain minimum level. Self-employees are generally not represented in the statistics of new businesses and start-ups unless their activities are comparable to those of a corporation (Bundesministerium für Wirtschaft und Energie, 2019b).

and the ambition to produce successful business models to take over the market[39]. However, this definition is lax since it does not demand a specific minimum level of economic activity, as suggested by the analyses of CCIs in Germany. To identify the group of start-ups in the center I used public information on external investment received during the observation period (2014–2017). These sources of investment include, for example, successful crowdfunding campaigns, awards in the form of state subsidies, and/or private investments. The center's start-ups that meet these criteria are concentrated in the software and games sector. Only five firms met the above criteria, and of them, only one was still working in the center at the end of 2017. One start-up had closed, but its founders had started new IT services projects and kept their offices; the rest had moved out of the center or even out of town. The rest of the center's firms were new micro-businesses operating as self-employed affiliates.

### *Activity sector and branch affiliation*

It is a common practice among companies and freelancers in the CCIs to work in more than one sub-branch. For example, one company listed in the music industry, could also be in the advertising market and in the design industry. In Germany, around 20 percent of all companies is active in more than one industry. The highest number of companies in the CCIs is in the design industry, followed by the architecture market and the software and games industry. Although design has the highest number of service providers, software and games has the maximum growing rate of companies between 2014-2017 (Table 14).

*Table 14. CCIs' companies in Germany, 2014-2017.*

|  | Sub-branches | Companies | | | |
|---|---|---|---|---|---|
|  |  | **2014** | **2015** | **2016** | **2017** |
| 1 | Music industry | 13,759 | 14,057 | 14,430 | 14,197 |
| 2 | Book market | 16,798 | 17,079 | 17,268 | 17,254 |
| 3 | Art market | 12,794 | 12,752 | 12,874 | 12,616 |
| 4 | Film industry | 18,267 | 18,624 | 19,075 | 19,013 |
| 5 | Broadcasting industry | 18,074 | 18,179 | 17,880 | 18,071 |
| 6 | Performance arts market | 17,473 | 18,249 | 19,080 | 19,419 |
| 7 | Design industry | 55,624 | 57,127 | 58,431 | 59,548 |
| 8 | Architecture market | 40,040 | 39,849 | 39,691 | 39,605 |
| 9 | Press market | 32,119 | 32,341 | 32,241 | 31,569 |
| 10 | Advertising market | 30,855 | 30,221 | 30,220 | 28,490 |
| 11 | Software and games industry | 34,725 | 35,933 | 37,375 | 39,016 |
| 12 | Other | 7,775 | 7,887 | 8,249 | 8,183 |
|  | Total with double counting | 298,302 | 302,298 | 306,813 | 306,980 |
|  | Duplicate industries | 51,336 | 51,859 | 52,330 | 52,323 |
|  | Without duplicate industries | 246,967 | 250,439 | 254,484 | 254,657 |

Source: Bundesministerium für Wirtschaft und Energie, 2019a, p. 154.

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[39] Regarding the difference between small businesses and start-ups, see: https://www.forbes.com/sites/jaredhecht/2017/12/08/are-you-running-a-startup-or-small-business-whats-the-difference/#7d5bf13826c5 [last visit: October 2nd, 2020].

In the local context [40], the design sub-branch has also the highest number of companies and freelancers with 105 firms. In second position is advertising with 79 providers, followed by software and games with 52 companies, and music with 44 firms (Table 15). Like I explain before, companies and freelancers that work in the music industry, offer their advertising and design services to clients not related to the music business. In Heidelberg, more than 40 percent of all CCIs' companies duplicate industries, that is, work in more than one industry.

*Table 15. Cultural and Creative Industries' companies and freelancers in the city context.*

|    | Sub-branches | Companies and freelancers |
|----|--------------|---------------------------|
| 1  | Music industry | 44 |
| 2  | Book market | 43 |
| 3  | Art market | 42 |
| 4  | Film industry | 24 |
| 5  | Broadcasting (radio) | 7 |
| 6  | Performance arts market | 17 |
| 7  | Design industry | 105 |
| 8  | Architecture | 17 |
| 9  | Press market | 35 |
| 10 | Advertising market | 79 |
| 11 | Software and games Industry | 52 |
| 12 | Other | 3 |
|    | Total with double counting | 468 |
|    | Duplicate industries | 202 |
|    | Without duplicate industries | 266 |

Department 16 echoes the local CCIs' ranking by number of companies (Table 16): most companies and freelancers are in design (64 people), then advertising (54 people) and finally in software and games and music (each 39 people). Close to 30 percent of the center's residents duplicate industries.

*Table 16. CCIs representation in Department 16.*

|    | Branches | People |
|----|----------|--------|
| 1  | Music industry | 39 |
| 2  | Book market | 10 |
| 3  | Art market | 10 |
| 4  | Film industry | 10 |
| 5  | Broadcasting (radio) | 10 |
| 6  | Performance arts market | 32 |
| 7  | Design industry | 64 |
| 8  | Architecture | 18 |
| 9  | Press market | 5 |
| 10 | Advertising market | 54 |
| 11 | Software and games industry | 39 |
| 12 | Other | 10 |
|    | Total with double counting | 301 |
|    | Duplicate industries | 86 |
|    | Without duplicate industries | 215 |

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[40] Information sources for companies in the CCIs in Heidelberg:
https://www.heidelberg.de/kreativwirtschaft,Lde/Startseite/Unternehmen/Kreativunternehmen+in+Heidelberg.html and https://www.kreativregion.de/sie-suchen-einen-kreativen/ [last visit: March 29th, 2021].

*The physical presence of the tenants in Department 16*

## Reasons to enter the center

The main reason to rent a space in D16 is financial. This rationale is a constant justification during the study period. Previous research on the CCIs actors' problems highlights the scarce supply of adequate space in the city, such as offices, art workshops, and music and photography studios and the high rents of the few available spaces (Glückler et al., 2010). In the first stage, other relevant reasons included the desire to share knowledge and be part of a community (Figure 2). In the following periods, interest in establishing different types of links was less clear, and I obtained fewer responses than in the first round. Responses in Stages 2 and 3 are from new tenants (Figures 3 and 4).
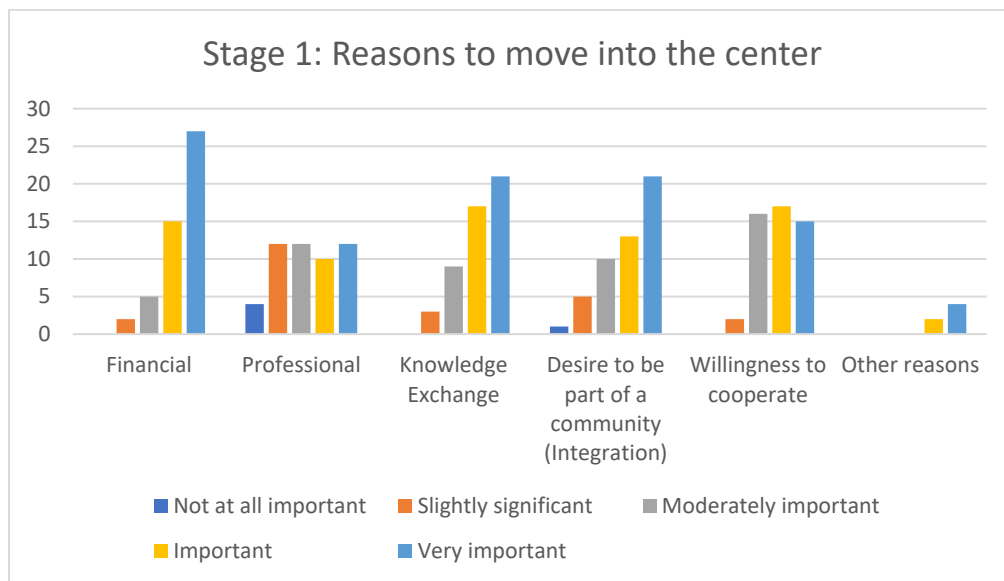


*Figure 2. What are the main reasons that motivated you to rent a space in the center? (2015)*
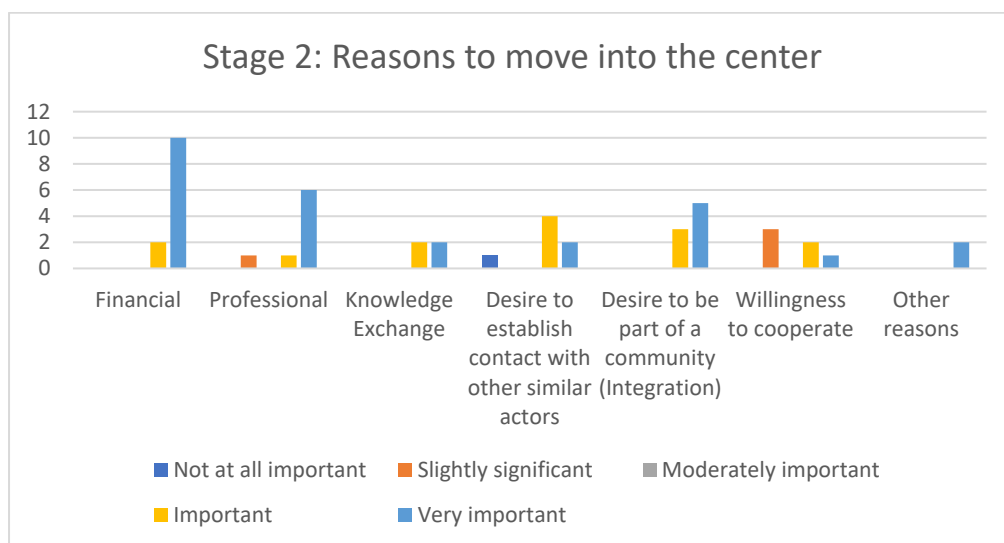


*Figure 3. What are the main reasons that motivated you to rent a space in the center? (2016)*

58
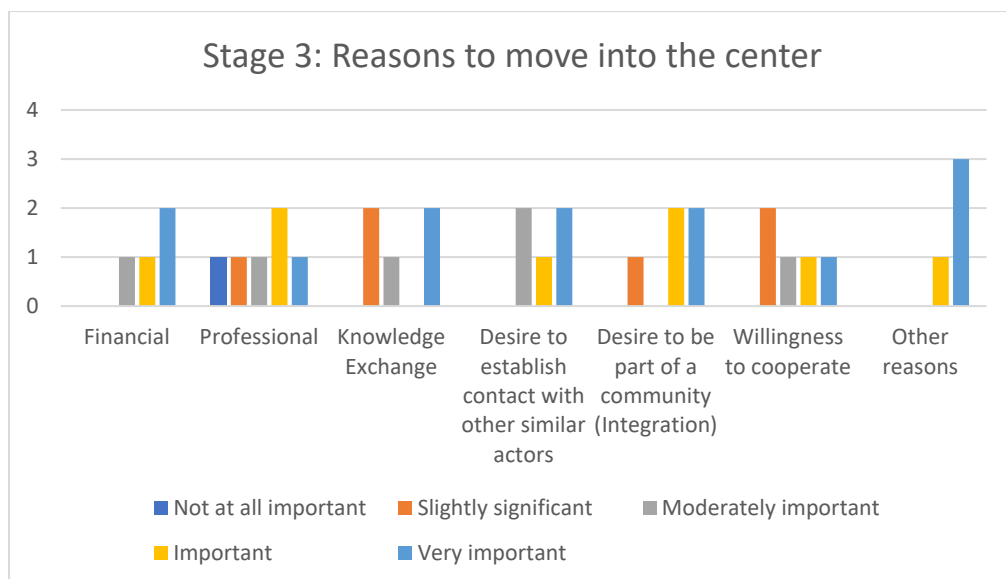
Figure 4. What are the main reasons that motivated you to rent a space in the center? (2017)

## Departures from the center

The main reason for leaving the center is the need for more space (Table 17). For example, one of the firms began in a small workshop with only its three founding members. At the time it left the center, the firm comprised 19 people. This firm gained offices and workshops on the center's premises during the research period, but these spaces were divided between two buildings. Furthermore, the company expected to continue growing in the following years. The other two companies that left the center due to space constraints worked from the coworking space, one of them from the boardroom. The second most common reason for leaving the center is to find another place in the city more suitable for the needs of the projects the companies carry out. This is the case of a start-up that began sharing offices with a collaborating company. Its new location is in a central and exclusive city area. Other actors have also chosen to improve their working conditions by renting spaces specifically designed for their activities, like art workshops. In the center, all actors must adapt their areas for use. Finally, some actors relocated from the center to different cities, mostly to Berlin.

Table 17. Why did you move out of the center D16? (Three stages' summary).

| Reasons | People | Companies |
|---|---|---|
| Company dissolved | 6 | 3 |
| Hired to work for at an external company | 1 | 0 |
| Internship completed | 2 | 0 |
| Moved to another city | 8 | 2 |
| Moved to another country | 4 | 0 |
| Moved to another place in the city | 10 | 2 |
| Needed more space | 15 | 3 |
| Personal and health reasons | 4 | 0 |
| Unknown reasons | 6 | 0 |
| | 56 | 10 |

Most of the actors who left the center were members of start-ups or microbusinesses (Table 18). In the database, I identified 14 people from the start-ups, but these firms' owners expressed that 47 people worked at their companies at the time they left the center; 11 more microbusiness employees left, as well. Not all the collaborators and employees of these firms are part of the database (215 entries), hence the discrepancy (see above). Actors who relocate from the center largely come from the advertising and communication sub-branches and the arts and culture realm.

*Table 18. Who left the center? (Three stages' summary).*

| Sub-branches | Persons |
|---|---|
| Founders, employees and freelancers working in start-ups | 21 |
| Advertising and communication freelancers | 13 |
| Artists and freelancers in arts and culture (traditional cultural industries) | 9 |
| IT Services, online services providers | 5 |
| Crafts and fashion manufacture | 4 |
| Freelancers in other services: coaching, retailer | 4 |
| | 56 |

The year 2016 saw the most departures (28 in total). Pioneering actors left the center, but new groups also arrived. Some, however, were not long-lived: one of the start-ups lasted only a couple of months (Tables 19 and 20). The center's management did not fill these vacancies promptly, so some offices and desks remained empty for up to one or two years.

*Table 19. Residents leaving the center by year of entrance and year of departure.*

| Move-in year | Move-out year | Persons | Firms |
|---|---|---|---|
| 2012 | 2016 | 1 | 0 |
| 2013 | 2016 | 9 | 1 |
| 2013 | 2017 | 4 | 1 |
| 2014 | 2015 | 2 | 0 |
| 2014 | 2016 | 11 | 3 |
| 2014 | 2017 | 9 | 2 |
| 2015 | 2017 | 12 | 1 |
| 2016 | 2016 | 7 | 2 |
| 2016 | 2017 | 1 | 0 |
| | | 56 | 10 |

*Table 20. Start-ups and microbusinesses staying at and leaving Department 16.*

| Start-ups | Move-in year | Moved out year | Reasons to move out | Size of the company in Stage 3 (2017) |
|---|---|---|---|---|
| Start-up 1 | 2012 | | | 11 |
| Start-up 2 | 2013 | 2017 | Needed more space | 19 |
| Start-up 3 & new microbusiness | 2014 | | | 2 |
| Start-up 4 | 2014 | 2017 | Moved to another location in the city | 9 |
| Start-up 5 | 2016 | 2016 | Company dissolved | |
| **New microbusinesses** | | | | |
| Business 1 | 2014 | 2017 | Moved to another city | 10 |
| Business 2 | 2015 | 2017 | Needed more space | 9 |

Although more men left the center than women, proportionally a third of the women left compared to a quarter of the men (Table 21).

*Table 21. Gender distribution of tenants leaving the center.*

| Who is leaving the center? | Persons | % of persons leaving | % of the center's population (215 persons) | % among males and females |
|---|---|---|---|---|
| Men | 37 | 66.07 | 17.21 | 24.18 |
| Women | 19 | 33.93 | 8.84 | 30.65 |
| | 56 | 100.00 | 26.05 | |

Middle age bracket tenants (31-44 years) constitute the largest group leaving D16 (Table 22). Also 16 out of 24 tenants under 30 left the center.

*Table 22. Age distribution of tenants leaving the center.*

| Age groups | Persons |
|---|---|
| 20-30 years | 16 |
| 31-44 years | 29 |
| 45 years plus | 3 |
| No information | 8 |
| | 56 |

## Physical presence at the center

In addition to knowing which actors belonged to or had left the center, I also needed to create parameters for assessing the amount of time each actor spent physically located at the center. I consider the actors' physical presence at the facilities an essential condition for the formation of trusting relationships that could translate into friendship, camaraderie, and affection, in addition to collaborations that take the form of service provision, mutual support, and assistance. The physical presence of the actors in the center also stimulates spontaneous conversations of various kinds, such as exchanging ideas, corridor talks about conflicts at work and family, and gossip. I do not rule out the importance of other means of generating bonds of trust. Yet, exchanges through internet-supported media are not a substantial part of my observations during the research period; but as a user of some of these services — particularly Facebook and Instagram — I was attentive and recorded some of the actors' online activities and interactions.

Therefore, most of the interactions that I follow happened in the center's physical space. The center has mostly shared offices. According to their sizes the offices are shared by two or more independent residents — the smallest offices are about 6 sq meter; the largest, probably more than 50 sq meter. One of the biggest shared office is known as the center's coworking space studio. This office hosts up to 20 users and has a separate management. Companies that would have wanted to remain in the center, could not find bigger offices to accommodate their team, since the management planned the center's space to host mainly independent users and micro-businesses (Table 23).

*Table 23. The center's spaces.*

| Type of space | Description |
|---|---|
| Workspaces | Approximately 36 solo- and shared offices (shared by 2 or 3) |
| | 1 large office for approx. 15 people (used by 1 company) |
| | 1 office for 6 independent users |
| | 1 coworkspace studio for 20 users |
| | 1 incubator room for 3-5 users of the same company (short-term use) |
| | 10 shared workshops (used mostly by artists) |
| | 2-3 photo studios (2 shared) |
| | 7 music studios (6 shared) |
| | 1 flexible use music studio (half-day rent) |
| | 1 rehearsal room (half-day rent) |
| | 1 shop room (used for a brief period as mechanical workshop) |
| Social areas | Daily use: café and terraces; during events: foyer, indoor court, and meeting room |
| Internet | Facebook group and management-tenant messaging network |
| Other areas | Transit zones, e.g., stairs, hallways, corridors, ramps, and parking lots; WC facilities |

During the research period, I was concern about the poor circulation of actors in the center's common areas, including the café located on the first floor, and had the impression that entire sections of a building were completely unoccupied. I cannot be sure that these spaces were vacant, but my repeated attempts to find someone in them were unsuccessful. "Why does the center seem to be empty?" and "where is everyone?" were questions that I not only asked myself but that also surfaced in my interviews with the residents, who expressed them with some concern and genuine curiosity.

Table 24 shows the data on actors' presence at Department 16. In Stage 1, members of the center were in their workspaces an average of 26 hours per week; in Stages 2 and 3, 24 hours a week. Still, these figures obscure that more actors expressed that they worked at the center for 40 hours a week in Stage 3, and a considerable number said that they used the center less than 5 hours a week. As for my observations and records, 152 actors made use of the center's facilities at least once a week for a couple of hours, while only 21 of them were sporadic users. The main reasons for prolonged absences are illness (physical and mental), maternity, and child-rearing.

*Table 24. Attendance reported by tenants.*

| Hours per week | Stage 1 | Stage 2 | Stage 2 New Tenants | Stage 3 | Stage 3 New Tenants |
|---|---|---|---|---|---|
| Average | 26 | 24 | 26 | 24 | 14 |
| Mode | 20 | 0 | 40 | 40 | 0 |
| Median | 25 | 28 | 30 | 25 | 6 |

The first group of residents to occupy the Department 16 had a separate from home place of work at the time of their admission to the center. The tenants that follow in Stages 2 and 3, were working from home (Table 25).

*Table 25. Reasons to move into the center.*

| Did you have a place to work outside your home before moving into the center? | Stage 1 | Stage 2 new tenants | Stage 3 new tenants |
|---|---|---|---|
| Yes | 32 | 4 | 1 |
| No, I worked at home | 31 | 18 | 4 |
| No information | 2 | 2 | 1 |
| Not applicable | 0 | 1 | 0 |

Finally, to the question "If it were completely up to you, how long would you like to stay in the center?" (Figure 5), the medium-term option (three to four years) was the most common. The long-term choice (more than five years or indefinitely) and unknown/blank reactions followed closely. These answers indicate a polarization among the actors. First, some see themselves at the center for the next three to four years and aspire to indefinite rental contracts. Others have no reply because they do not know how much longer they might want to remain at the center since they speculate about their labor activities and firms' future and possible relocations.
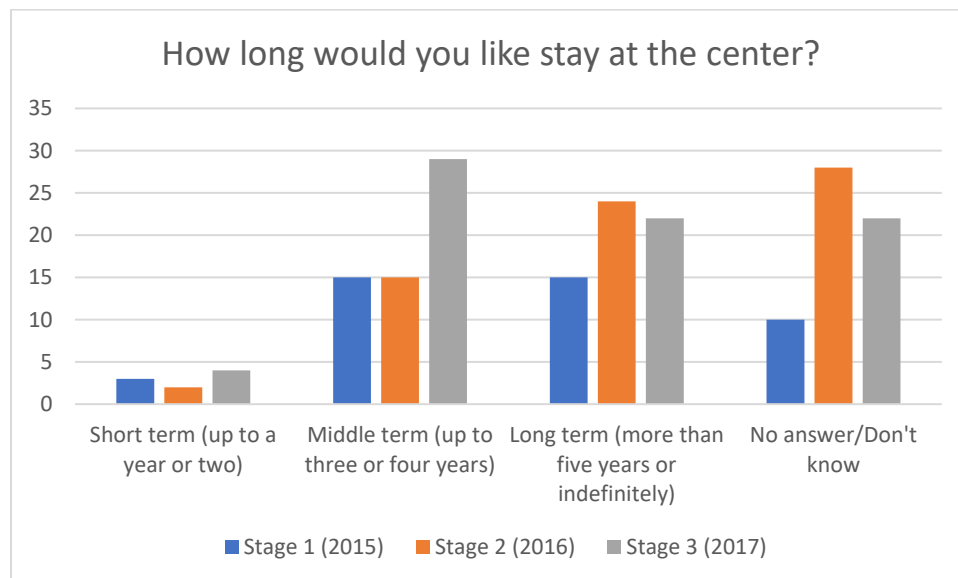


*Figure 5. Center's members' evaluation: desire to remain at the center (three stages).*

## IV. Conclusions

In this chapter, I set out my objectives and research questions. The general aim is to investigate cross-fertilization processes between domains that give rise to new organizational forms and social formations. Specifically, I intend to identify the mechanisms that articulate these processes. Through a case study, I discuss social embeddedness in co-location, especially the interdependence between informal and economic relations when independent actors pursue distinct but similar goals and share a physical working space. I accompanied the actors, observed their activities, and generated data to study collaboration and socialization relationships, particularly the links between actors and the motivations — personal but generalizable to the network — behind establishing these links. The collaboration relationship is subject to three dynamics of tension: cultural versus

economic, cooperation versus competition, and individual versus community. For the socialization relationship analysis, I consider four modalities of interactions: conversations about work, exchanges of ideas, conversations about private life, and other topics (small talk). The convergence of both relations — collaboration and socialization — crystalizes in a social network that I have preliminarily called community. However, the social functions this community fulfills for its members have yet to be specified.

This research develops a relational perspective and is longitudinal (36 months of continuous work at three different points in time). It is based on a case study and uses mixed methods: qualitative analysis of more than 100 interviews, field notes, and diverse documentation and a social network analysis from data generated in almost 200 surveys. The case is a center for CCIs in Heidelberg, Germany, where approximately 240 people are self-employed, freelancers, professionals, and work at small start-ups. The center is the result of public policy supporting CCIs in the city, which granted the temporary use of a public building (partially renovated and rehabilitated by the local government).

The center's population has remained relatively constant despite small fluctuations since its opening, and economic activities have grown. Seven out of 10 of the center's users were men, and more than half were between 30 and 44 years old. More than half were self-employed, and most improved their billing situation since relocating into the D16. Only five firms were start-ups, and at the end of the third stage, only one of these companies was still at the center. The D16 followed national and local trends in CCIs' development. The most common sub-branches were design, advertising, software and games and music. At D16, many actors were also engaged in cultural activities. Finally, tenants entered the center mainly for financial reasons (low rent in a central location). The main reasons for departure were relocation to a larger city and the need for more space. Most of the center's tenants want to stay at the center in the medium term or indefinitely, yet almost as many are undecided about how long they will remain.

In the following chapters, I present the results of the research: in Chapter 3, *Working Together,* I explore the collaboration relationship; in Chapter 4, *Making friends*, I address the socialization relationship; and in Chapter 5, *Doing business, making friends*, I discuss the intersections between both relationships (collaboration and socialization) and analyze the mechanisms of community formation. In the final chapter, I discuss the research findings and offer paths for further exploration.

## Chapter 3. Working Together

I analyze the emergence and evolution of an organizational form using a relational perspective. Other studies have analyzed the emergence of new areas (W. W. Powell et al., 2012), new organizational forms (DiMaggio & Powell, 1983; Padgett & Powell, 2012a), and the formation of new institutions (Gondal & McLean, 2013; Padgett & Ansell, 1993) through historical networks. They have used a relational perspective to explain the invention of organizational forms, in some cases using interviews and ethnographic work (see, for example, O'Mahony & Ferraro, 2007). The relational approach sheds light on different levels and times of social processes (Godart & White, 2010), such as the characterization and analysis of social practices for the understanding of new institutions' emergence in a field. Thus, the study of ongoing social practices — and identifying their changes, variations, delimitations, and transformations over time — contributes to both knowledge about emergence processes and debates about network structure and cultural meaning.

In this chapter, I study the emergence of a community of actors[41] based on the evolution of their collaborative relationships over three consecutive years. The case study subjects are the tenants or residents of a coworkspace (or coworking space) — here called the center, the house, or the Department 16 (D16) — in Heidelberg, a medium-sized city in southwest Germany. The coworkspace was a result of local public policy meant to foster the cultural and creative industries (CCIs) and start-ups.

The collaborative network evolved, meaning that the links recorded at each stage (4 stages in total) served as the basis for future interactions. The collaborators' network in the second stage is between 30 and 40 percent correlated with the first stage, and the third is more than 45 percent dependent on the second. The central question is: how does this happen? (See Maps 1-4 and Table 26).

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[41] I use pseudonyms to refer to all residents and firms.
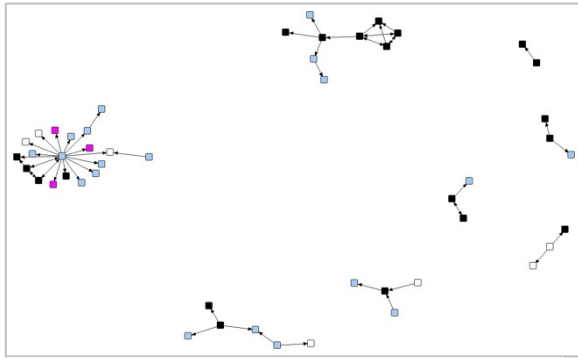
*Map 1. Collaboration network stage 0 (before moving into the center) N=49.*
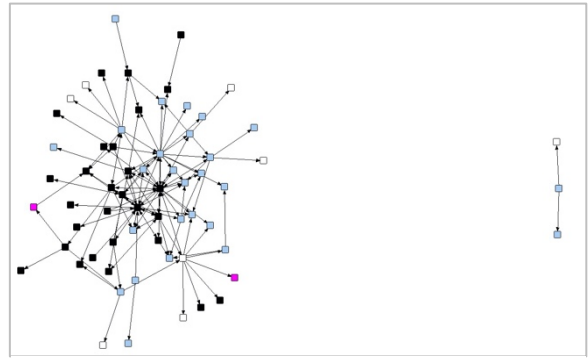


*Map 2. Collaboration network stage 1 (after moving into the center) N=64.*
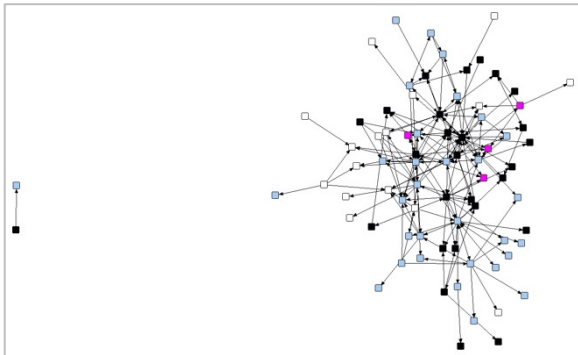


*Map 3. Collaboration network stage 2 N=78.*
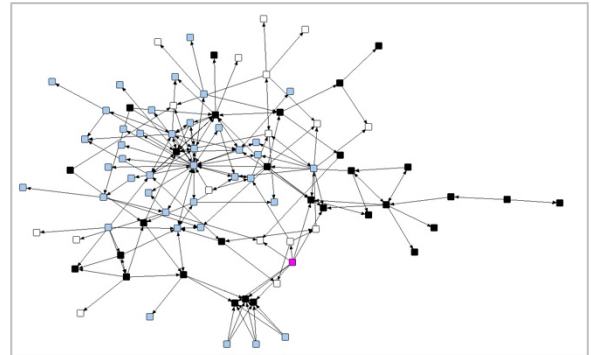


*Map 4. Collaboration network stage 3 N=87.*

*Table 26. Network evolution.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| | S2 collaborations dependence on S1 collaborations | S3 collaborations dependence on S2 collaborations |
|---|---|---|
| Regression coefficients | 0.41711** | 0.45810** |
| | (0.07144) | (0.05090) |
| Intercept | 0.14762 | 0.10952 |
| *P(r2)* | 0.00020 | 0.00020 |
| Adj. R-Square | 0.11703 | 0.26901 |

Standard deviations are in parentheses. N=21; 420 Observations; 5000 permutations. *p<0.05, ** p<0.001, *** p<0.0001.

To understand this path, I use the netdom as an analytic unit. As I explained in previous chapters, the netdom articulates the relationships between a group of people or the social fabric (the social network or "net") and its interpretative fabric (the cultural domain or "dom"), and thus constitutes the weave of lived experiences (Godart & White, 2010). To understand the forces that trigger emergence processes, I explore three dynamics of tension in the formation and evolution of collaborative links: economic and cultural, cooperation and competition, and community and individuality. Finally, individuals become actors by forging their identities. In this chapter, I explore the tenants' identities as they gain, sustain and lose positions (e.g., betweenness centrality, in- and out-degree) in a network structure based on their collaborative interactions.

The networks' links represent interactions and transactions in collaborative activities such as help, support, cooperation; paid and unpaid work assignments or commissions and equipment loans; and participation in community and cultural projects (see Typology in Table 27). I classify these links as business, arts and culture relationships and community. Jointly, these relationships constitute the collaborative dynamic of "Working Together."

*Table 27. Center's collaborative relationships.*

**Typology**

**Business links**: economically remunerated work assignments; joint efforts to launch new projects or businesses; exchange of ideas as conversations about launching collaborative, for-profit projects and firms; help and support, e. g. unpaid work commissions; work referrals.

**Arts and culture links**: participation in artistic and cultural projects; Café Control-Room booking and programming; help and support, e. g. unpaid work for cultural projects.

**Community links**: participation in projects "for the center's benefit."

While in the survey, I asked the center's tenants about their collaborative exchanges in the last 12 months; in the interviews, I explored the collaborations' features. I insisted that they take into account provider-client and other collaborative relationships in specific projects. Therefore, the survey provides me with data, and the narratives' analysis allows me to understand and contextualize the residents' interactions.

I develop a scale to classify the motivations behind collaboration. The scale has two poles: to produce economic value and to produce social or community value. In reality, actors'

motivations are far more complex. I place help interactions at the scale's midpoint because actors help each other to increase economic gain and by cooperating in cultural projects, which are not motivated by profit (Figure 6). At the same time, help interactions have a strong solidarity component and aim to create a sense of community.
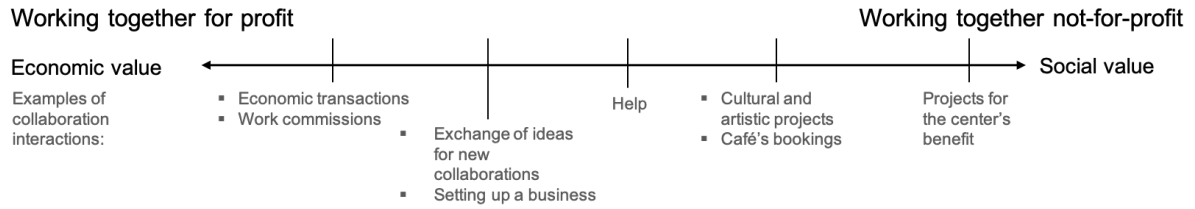


Figure 6. Collaboration scale based on economic versus social value motivations.

I analyze the collaborative links based on their prevalence at each stage. I generate a collaboration catalog by classifying and coding residents' statements about their in-house collaborations. In Table 28, I present a classification of the collaborations in the Department 16 in three stages. I have enlisted the number of times a resident said he or she helped another resident or was helped by a fellow tenant. Sometimes, tenants discussed work commissions but failed to establish the collaboration. I registered these cases because I asked tenants about them in follow-up interviews. Therefore, I list the work commissions that did happen as well as the failed projects. (See Table 28; labels "Mentions" are for mentions in interviews; "Carried out" are for events that did occur).

Table 28. Three stages' collaboration links (qualitative analysis).

| Collaboration type | Stage 1 | | Stage 2 | | Stage 3 | |
|---|---|---|---|---|---|---|
| | Mentions | Carried out | Mentions | Carried out | Mentions | Carried out |
| Help | 18 | 18 | 2 | 2 | 18 | 18 |
| Work commission | 8 | 7 | 13 | 13 | 26 | 20 |
| Participation in a center project (community project) | 8 | 4 | 0 | 0 | 3 | 3 |
| Participation in an artistic project | 2 | 2 | 16 | 16 | 9 | 8 |
| Exchanging ideas (for new collaborations) | 1 | 1 | 16 | 16 | 22 | 22 |
| Setting up a business | 1 | 1 | 2 | 0 | 4 | 3 |
| Café's booking acts and programming events | 0 | 0 | 7 | 7 | 20 | 20 |
| Other economic transactions: e.g., renting the center's facilities | 0 | 0 | 0 | 0 | 3 | 3 |
| **Total** | **38** | **33** | **56** | **54** | **105** | **97** |

I classify the tenants' collaborations based on the interview responses. I expected tenants to mention more cultural and community events than economic transactions and work commissions. However, work commissions and help in business operations were the most numerous, although in most of the cases these interactions involved two or maybe three tenants — compared to 10 residents that participated in an in-house exhibition.

I inquire as to how the collaborative network mixes business, community, and arts and culture links. To that end, I observe key actors in and across the three stages. I reconstruct the stories behind the collaborative relationships and rely on network maps to illustrate structural changes.

The chapter has three sections. I first address the formation and interrelationship of business, community, and arts and culture netdoms throughout the three stages. I summarize each stage and its netdoms. In the second section, I compare the three stages and formulate the results of the analysis. I elaborate on the dynamics of tensions, explore network mechanisms, and formulate the statistical analysis of collaborative social networks. Finally, I present the chapter's conclusions.

## I.  Three Stages

### Stage 1. The Beginning

In the Department 16's first stage, support links were the most common form of collaboration (18, or almost half of the period's total collaboration events, 38 in all). The next most common form of collaboration was working in paid assignments or commissions. While business linkages predominate in all three stages, community and arts and culture collaborations are significant only in this first stage. Therefore, this is the most balanced period in terms of collaboration types.

The atmosphere in Stage 1 is conducive to establishing all kinds of cooperative links between those in the house. Participants adopted an "in-house [actors] first" behavior with regard to assignments and job referrals. Tenants' frequent interactions during the first year and their initial commitment to the center's establishment as a local CCIs public policy project fosters a social atmosphere favorable to establishing aid and cooperation links. For example, even without time to develop trust or closer ties, residents offered and asked for help as part of their business practices.

Collaborations in the community and arts and culture netdoms aim to transform the newly created Department 16 into a local CCIs powerhouse. Community events build the center's image, which should eventually also reinforce the tenant's prestige and their business prospects. I focus on analyzing a mixed group of actors in the arts and culture domain; they promote the center's visibility in the city as a new player in the contemporary arts.

In Stage 1, there are still a few examples of social sanctions against those who do not meet the group's behavioral expectations. The sanctions generally take indirect forms, such as gossip and critique.
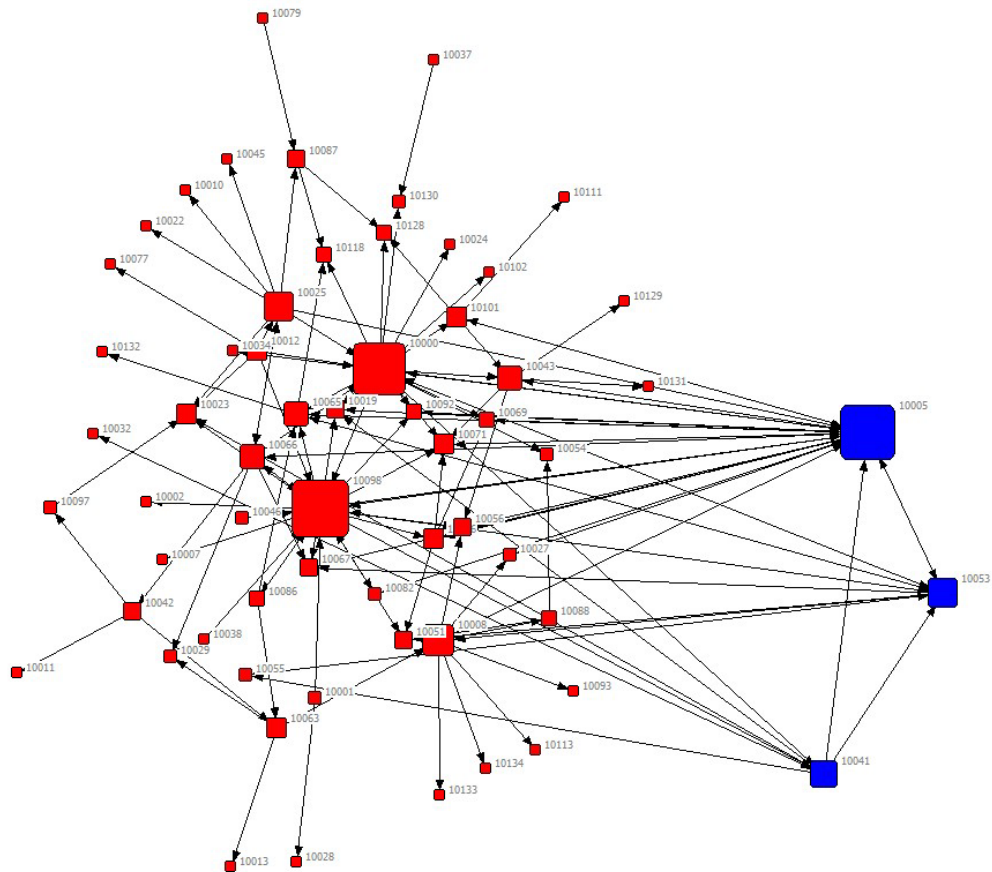
*Map 5. Stage 1. With whom did you work after joining the center? N=64. Main component; blue nodes are cutpoints.*

I want to know how actors gain and lose popularity in the network. To this end, I use two relational measures. First, the "cutpoint" identifies critical actors whose removal splits the network into two or more blocks, obstructing the flow of interactions (Wasserman & Faust, 1994, p. 113). Collaborative exchanges — including work assignments and economic transactions — are socially embedded, so identifying cutpoint actors in collaborative relationships is a first step in assessing the actors' positions in the *whole* network, i.e., collaboration intersections with socialization practices.

Second, I use outdegree and indegree measures to appraise individual actors' collaborative activity. The outdegree is the number of collaborators that an actor names during the survey process and is a measure of that actor's centrality (Wasserman & Faust, 1994). On the other side, the indegree is the number of times an actor was named as a "collaborator" by other center's users and represents that actor's prestige (Wasserman & Faust, 1994).

The three cutpoints in Stage 1 are actors who knew each other before joining the center: Alicia, Eva, and Beatriz are all women, had worked together in the past, and were very active collaborators in the center's first stage. Two of them were particularly close collaborators with women in industries other than their own (e.g., visual arts, and arts and crafts). They are active in the creative industries in advertising and commercial photography, and in the cultural industries in design — including web design — publishing, editorial, and writing services.

Coworkers acknowledged prolific collaborators. One of the actors with the highest indegree was also a cutpoint actor (Alicia, who is a commercial photographer and author). The other two residents with high indegree and outdegree work in the creative industries: Gabriel in advertising, web design, and commercial photography, and Xavier in film production (in partnership with Callum) (Figure 7).
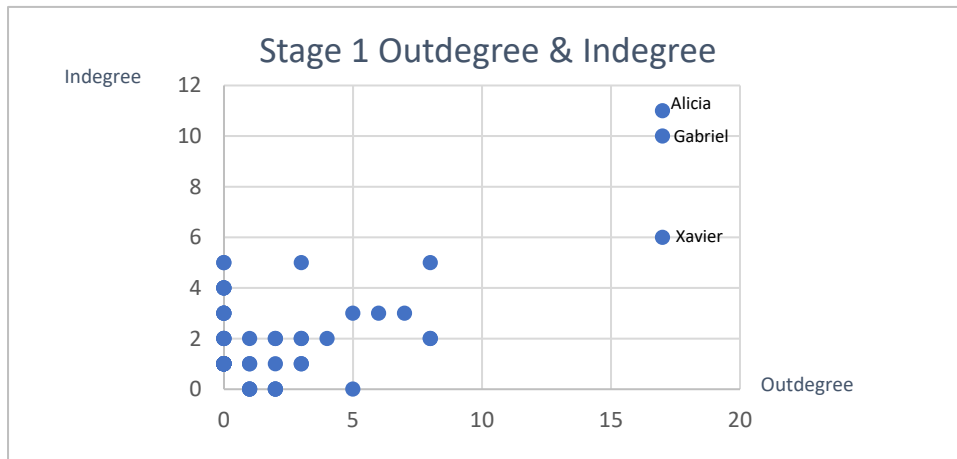


Figure 7. Network activity Stage 1.

*Business Netdom*

I begin by analyzing business relationships and use them to establish a baseline against which I can compare the later stages. I define standard business-related collaboration practices and actors' expectations and explore intersections with the other two netdoms, community and arts and culture.

In Stage 1, the most common business relationships at the Department 16 are those of help. Actors asked for and assisted with concrete tasks, lending equipment, working for free in coworkers' projects, and making work referrals. Collaborative exchanges aimed to support businesses' development and foster careers. In this section, I analyze the emergence of a social network that helps businesses launch their ideas and find jobs. Coworkspaces promote not only emotional support, social connections, and a sense of community (see Chapter 4), but actors also regularly exchange informal mutual aid and help (de Peuter et al., 2017). Being a member of the center gave actors additional social infrastructure, besides family and friends.

Help and cooperation

In Stage 1, help and cooperation largely solved day-to-day problems. However, actors also remarked upon critical situations in which help made a difference in their businesses' paths. For example, when I asked Callum and Xavier (from the film production company PD) about the advantages of being in the center, Callum cherished having an office space. Xavier, in turn, valued the community support they received since moving in:

> *We benefit greatly from the center's communication channels, from the contact with the others. This is the center's advantage. If we had ideas earlier and wanted to make*

*them, the way was longer for people who do similar things and think similarly. What I see as an advantage here is that [when] one has ideas, these are standing in one's head, one can ask someone [for help], and then it happens. [For example] when we shot our movie trailer, we were able to do it only because we are here and not somewhere else in the city. Here we found huge support! (Xavier 2015).*

Collaboration, cooperation, and trust are usually intermingled concepts since they all reflect the assets of the social network. Because I specifically asked the center's tenants to tell me about collaborative exchanges, I had the opportunity to focus exclusively on collaborative interactions (or transactions) and use the qualitative data to make sense of the actors' motivations. I found that actors perceive and are motivated by cooperation and trust when interacting in the center's social space.

Residents expressed and demonstrated that the paths to access help and other resources became shorter since moving into the center. Actors expected that being part of the community meant being considered for work assignments and referrals. Freelancers repeatedly stated in the interviews the idea that coworkers should look in-house for professional services. For example, Gabriel said that since moving in, he finally had a network of people who could easily supplement all his working needs.

## Help practices

### *Linking competencies*
Throughout the interviews, multiple pairs of actors conveyed their desire to support each other by complementing each other's competencies. These actors wanted to formalize support exchanges in a stable partnership structure, like by creating a new firm. In Stage 1, however, participants expressed that their efforts to collaborate depended more on their capacity to generate working assignments than on their willingness to work together. Collaborative efforts were unnecessary when clients did not demand challenging projects. Therefore, clients are critical to coworkers' collaboration because they catalyze innovation by providing revenue and sharing expertise (Glückler, 2007b).

### *Working for free*
Unpaid work commissions allow actors to test ideas and teams. Unpaid work is often the only route into the CCIs (Siebert & Wilson, 2013), but research on this topic focuses mostly on internship practices (de Peuter, 2014; Siebert & Wilson, 2013), and less has been said about unpaid work ("working for free") in coworkers' projects. However, low payment and underpayment are common in the CCIs, particularly in the non-commercial arts (Hesmondhalgh, 2007; Hesmondhalgh & Baker, 2011; Ross, 2009). I found one example of this practice in Stage 1. In this case, an in-house start-up called MR needed to produce a video. Fatima, MR's founder and co-director, recounted how they urgently needed the video to participate in a call for a business accelerator program in Berlin. Without resources and very little time to execute the project, the MR team shared their problem with D16's Facebook group. Gabriel, among others, formed a production team to film the video in one day. MR later won a place in the program, and their success story became part of the center's achievements and appeal. This example is important to the evolution of collaborative networks since this type of help (unpaid labor/free work) happened just once

in the business netdom, while it was a regular – if dreaded and undesirable – practice in the arts and culture arena.

### Coworkers win work referrals

Referrals and word-of-mouth communication provide cheap access to potential clients and future business opportunities (Glückler, 2005). CCIs' independent workers seek jobs (e.g., work commissions, work in projects) through referrals from other CCIs' colleagues (Lingo & Tepper, 2013). Social networks in the CCIs are complex structures, and information feedback is one of their mechanisms. Word-of-mouth dynamics signal people's choices (Hartley et al., 2013). Especially freelancers in the CCIs seek ways of winning positive work referrals. Being at the center helps independent workers gain a) visibility about their work fields and b) access into a CCIs' social network.

Eva indicated that referrals were one benefit of being a tenant of D16. She works halftime at her magazine, but her main income comes from freelance assignments:

> Me: What was it like for you before moving into the Department 16 and after moving into the Department 16?
>
> It was very positive. Precisely I got two of the clients I have now besides the magazine from contacts in the Department 16. I did a couple of things for tenants. That's how I found the clients.
>
> Me: Through tenant's referrals?
>
> Yes (Eva 2015)

Referrals are not only economical forms of gaining contracts, but they also put clients at ease. Jim, a co-founder of a media company, explained:

> You need the confirmation of a third one, someone who says, "Yes, he is good." Because a lot of people don't have a clue [about the work]. The best customer acquisition is when two [people] talk, and one says, 'I need a video.' And then the other says, "Go to these guys, they are good." Then there is great trust! And of course, [it is good business when] customers come back. That signals, 'I have someone I am convinced of.' (Jim 2015)

### Solutions are only a few steps away

The center was a bridge between actors needing and supplying technical support. These exchanges allowed members of the business sector and the creative and cultural industries to interact across sectors regularly, something that I did not observe in the later stages. Eva and Beatriz addressed these dynamics:

> Eva: I met Charles here. He gave us some technical support or advice for the website. This is a very concrete [form of] cooperation. It is always important to have this exchange. You can just walk there and ask a few questions (Eva 2015).
>
> Beatriz: I am open and communicative, curious. I always want to learn something new, for example, web design. I taught myself a new way of creativity. Today, I work in web design for smaller companies. There is a desire to talk face-to-face with the customer. They want this exchange. I am not technically advanced, so I need

*programmers if the website is too complex. The Department 16 plays a big role in this. I used to work in a small office as a graphic designer. There was minimal private, political exchange, but there was not much at this creative level. I wasn't thrilled, but here I find that it's really on another level because people can suddenly also see me as a web designer, as a translator. I am more visible with my fashion, and that helps me to be confident. I think that is also important (Beatriz 2015).*

### Women help other women

Eva and Beatriz had collaborative ties before moving into the Department 16. They belonged to a cluster of mostly female independent workers (seven out of nine people, see Map 6). After joining the center, three of these women — Eva, Beatriz, and Alicia — were Stage 1 cutpoints. Their presence in D16 expanded these female freelancers' network to include new support actors (like Charles for Eva or Gabriel and Xavier for Alicia). Moreover, their activity in D16 allowed them to keep up-to-date on changes in the CCIs and develop their careers.
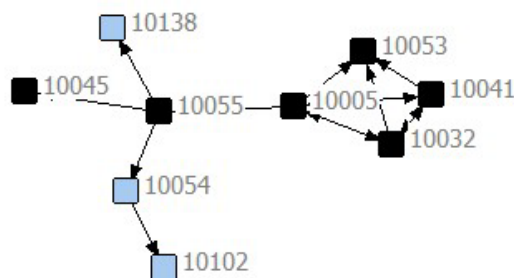


*Map 6. Main component before moving into the center. Women worked together before joining the center (color code: blue for cultural industries; black for creative industries). Actors 10045 and 10138 are male.*

Eva and Beatriz left the Department 16 the following year due to personal and work-related issues, which considerably diminished the role of female residents in the social network. In Stage 1, women supported other women. For example, Beatriz made webpages for several female coworkers (one of them was Lucy, an important center's resident in the arts and culture netdom).

### Coworkers get better prices

Tenants were able to bargain and obtain reasonable prices for deals with their coworkers. The stories about these arrangements came mostly from the providers of the services. For example, Lyam from the company WDS, which designs and produces promotional items, provided services to several other tenants. He said that the contracts with the center's tenants were not economically significant for his business. Nevertheless, they were one of the few companies hired by both independent workers and by start-ups. His company was one of the busiest in commercial transactions. Fatima recalled their collaboration with them:

> *We needed t-shirts, even when we were [temporarily] in Berlin [for the accelerator program], and there are all these print companies, but I decided 'Hey, we are in a group here!' and WDS ended up doing the t-shirts for us at a very competitive price. I was happy to support the businesses here [in the center]. There's the trust factor, so it's not anonymous, so we are with people who have personality and face and are interested in what you are doing (Fatima 2015).*

*Arts and Culture Netdom*

In Stage 1, tenants started the association Konnex Art (KA). A group of center's residents active in the visual arts, advertising, web design, and commercial photography wanted to produce an art exhibition with in-house talent and guest artists. The association's foundation allowed these tenants to access monetary resources for exhibitions outside of institutional arts frameworks, like museums, art houses, and galleries. In Stage 1, KA's members set about planning an exhibition at D16.

The association started with a group of center's artists and other tenants and just one external member. In Stages 2 and 3, KA took more outside participants, most of them local artists not working at the Department 16. Lucy, a visual artist with academic education in the arts, and Gabriel, a freelancer in communication services (e.g., advertising, marketing, web design, commercial photography, etc.), lead the organization together with KA's only outside member.

The arts exhibition — called *Grün*, or *Green* in English — was meant to increase the visibility of in-house artists' work within and beyond D16, allowing them to connect with art organizations, other local and regional artists, and the public. This is how Lucy expressed it:

> *I would actually like to contribute to the center, so it becomes a kind of brand that people say, 'Yes, this exhibition at the center was a success.'* (Lucy 2015).

On the other hand, Café Control-Room, the actors' meeting place, especially during the beta phase, became a space rarely visited during the day. The Café's clients were mainly the residents and their visitors. Just a few tenants hosted business meetings at the Café. However, Zack, the Café's owner, gradually began booking events and programming music gigs at night. Control-Room started to become a relevant local venue for all tenants having something to show or display, like musicians, painters, photographers, performers, comedians, and urban poets.

*Netdoms intersections*

The business and arts and culture netdoms intersect via tenants' activities in both realms. That is the case of Gabriel, who in Stage 1 began switching roles as freelancer in the creative industries to cultural manager in art exhibitions and writers' meetings. Before joining the center and at this early stage, he was known as a commercial photographer and web designer who always carried a camera. However, his leading role in Konnex Art and his involvement in the organizing committee of another major local cultural event[42] that also started around this period gave his professional path a new twist. He gradually became known as a marketing professional specializing in events in the cultural industries, and he stopped carrying a camera. Gabriel's links to the creative and cultural scenes made him a central figure in the Department 16's life. His professional evolution reflects creative workers' flexibility and eagerness to identify and take advantage of new opportunities.

---

[42] Literature Camp, an annual event without a pre-established format that brings together German-speaking writers to discuss topics chosen by a vote in plenary sessions.

*Community Netdom*

In the Department 16's Stage 1, actors participated in projects for the center's benefit. To influence the center's future, actors created a council whose purpose was to promote improvements in the facilities, plan community events, and increase D16's presence in the city. However, expectations of acting as a collective and working for the center created tension between the actors. One group wanted to promote the center as a CCIs brand at the local or regional level. To others, the center was nothing more than real estate, where their business activities temporarily resided. Furthermore, tenants were dissatisfied with how the management handled collective activities, such as the first annual Open Doors Day fest.

The Open Doors Day was supposed to provide actors with a vital opportunity to access a broad audience of potential customers. Some tenants wanted more open events and autonomy in the planning of the entire festivity.

By the end of Stage 1, approximately one year into the center's life, council members had abandoned their roles as intermediaries between the community and the management agency. Handling community projects was a cumbersome task since other actors had to be convinced to participate. In the community, apathy was more common than enthusiasm, and creative actors with cultural links (like photographers) tended to want events while start-ups and businesses were largely indifferent. Although tenants initiated eight community projects during Stage 1, only half were carried out.

*Stage 1 - Summary*

The business netdom covers intensive and customary collaboration practices in the CCIs. Collaboration means joining efforts to provide services, work assignments (paid and unpaid), consultation and advice on technical matters, work referrals, increase network and support opportunities for women, and lower rates for services.

The arts and culture netdom's highlights are the foundation and start of the Konnex Art association, which begins planning the art exhibition *Green*. The center's café, the Control-Room, was a meeting point for tenants during the beta phase, and in Stage 1 begins to host regularly cultural events at night. I identified the case of a resident switching between the cultural and the business netdoms.

The community netdom nurtures contradictory feelings among the center's residents. Some feel enthusiasm about the center's future and its possibilities, while others are indifferent to community initiatives. The center's enthusiasts wish to work on the center's image and have more control of community events, like the Open Doors Day fest.

## Stage 2. Crisis and Adjustment

In Stage 2, collaborative relationships are distributed differently than in Stage 1. Conversations about the possibility of carrying out a joint project or business idea are more frequent than working together on commissions (13 successful attempts). Sixteen times residents mentioned that they had exchanged ideas with other tenants about starting a new business, but only twice these conversations took a step forward. In both cases, the business projects failed (or did not continue). Statements about help linkages also decrease compared to Stage 1 (2 comments in Stage 2 compared to 18 in Stage 1). On the other hand, participation in art projects increased considerably, primarily due to the realization of the visual arts exhibition *Green*. Café Control-Room's evening programs also flourished, so the number of collaborative links also increased (7 mentions). In Stage 2, I did not register community links, which shows the consequences of the tenants' frustration. The management's events, such as the Open Doors Day Fest, are not part of this count.

In the second stage, the arts and culture links are more numerous than in any other stage. Most of the mentions refer to *Green*, which is a highlight of the period. The art exhibition is the axis of cultural activity in D16 due to its convening power. The management also played an important role in the realization of the exhibition by providing timely support to their coordinators.

The collaborative atmosphere — with its maxim of "in-house actors first" — that prevailed in Stage 1 paved the way for a new standard: it is logical or obvious to choose the center's residents as collaborators. Without the enthusiasm and pioneering feeling of the first stage, this new message, which aims to articulate and mobilize even more collaborations (e.g., work assignments) within D16, faces barriers to consolidation.

Even actors in the arts and culture netdom do not always go to other D16 tenants for collaborations. The new Konnex Art association proposes a new approach for setting up future exhibitions.

At this stage, there are explicit examples of disenchantment, disgust, and frustration with actors who do not comply with social norms of expressing support for coworkers and in-house projects.
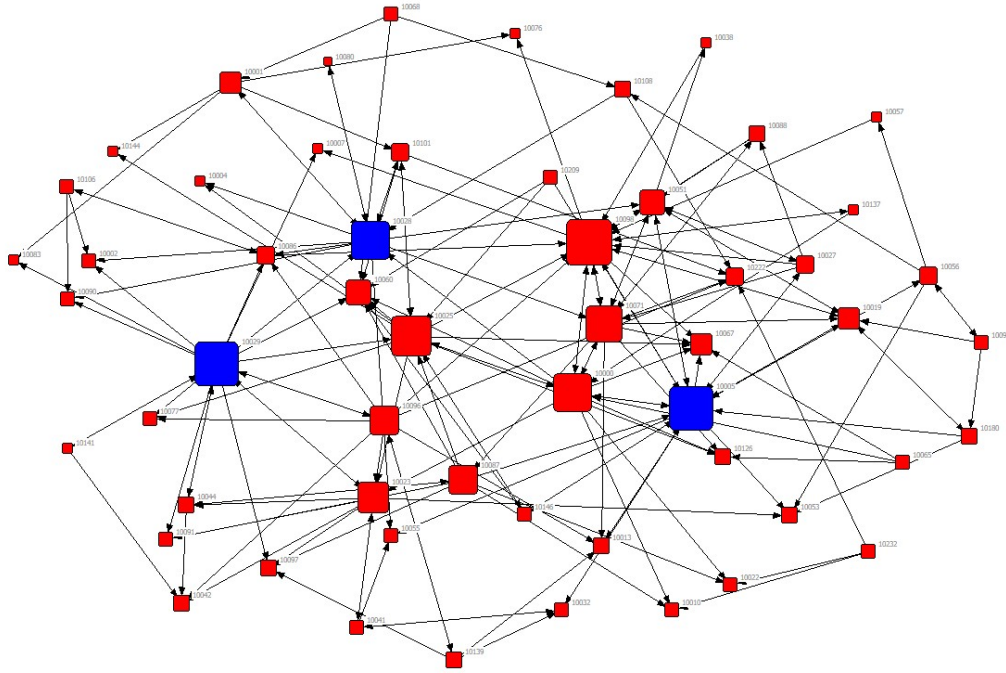
*Map 7. Stage 2. With whom did you work in the last 12 months? N=78. Main component; blue nodes are cutpoints.*

Stage 2 has three cutpoints: Zack, Café Control-Room's owner; the photographer and author Alicia, who was one of Stage 1's cutpoints; and Lyam, a partner in WDS, a company that regularly collaborates on small assignments with many residents, including start-ups and freelancers.

The most active tenants are not always mentioned as collaborators. One explanation is that not all residents were surveyed (e.g., many musicians did not participate in the survey and interview process). The café's owner, Zack, establishes many collaborations, particularly with tenants in the cultural industries, and many of them recognize his role as partner, which makes him one of the three highest indegree actors. Lyam (from WDS) and Jim (from the media production company) work interchangeably with actors in the cultural, creative, and business fields. The most-mentioned actors are again the photographer Alicia, who unofficially becomes a spokeswoman in the Department 16, and Gabriel, who gladly connects people between fields as he moves across the creative, cultural, and business sectors (Figure 8).
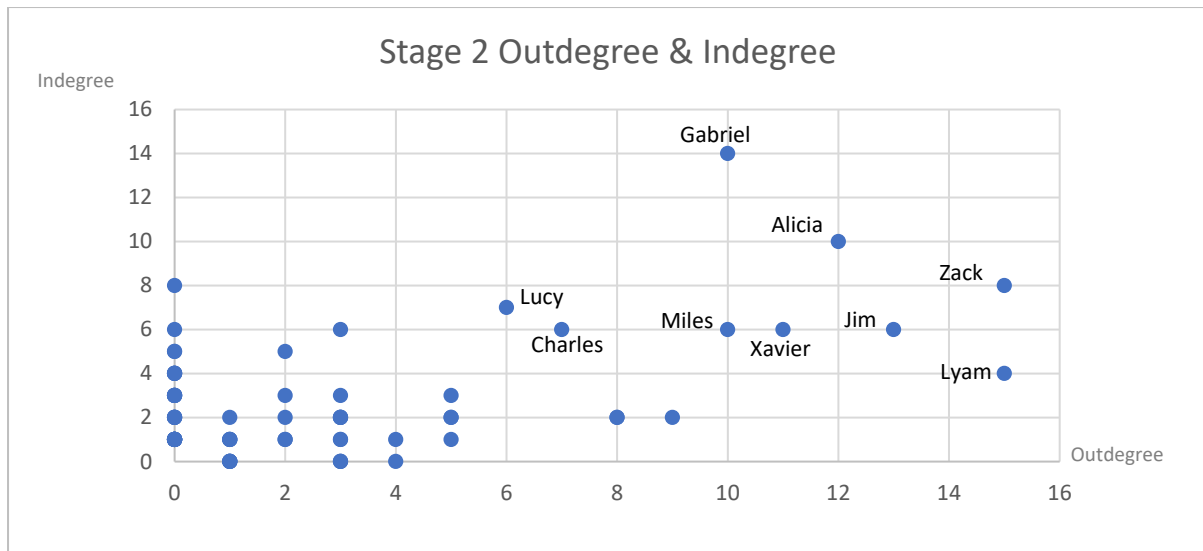
*Figure 8. Network activity Stage 2.*

Tenants came to expect collaborations among D16's actors as the logical consequence of frequent coexistence. But coexistence refers to actors' immediate vicinity: neighbors distributed along the same corridor or even, in some cases, in the same office. Thus, by defining the tenants' distribution across the Department 16 four buildings, the management agency influenced actors' opportunities to contact potential collaborators. While some collaborations transpired between non-immediate neighbors, these exceptions demonstrate the rarity of more distant tenants' encounters at this second stage.

## Work contracts

Charles's company, WWB, was a start-up for software and app services in the dental branch, and it was rapidly expanding. At the time of the interview in the second stage, Charles's main challenge was to ensure his start-up's growth:

> *Me: What are the most critical challenges at the moment?*
>
> *Challenges are always building a bigger team, delegating better, doing it well, finding the right people, and creating issues where everyone wants to make a difference. As a founder, you do everything yourself at the beginning. It's different in a corporation because it is specialized and generates responsibility the more you attract. As a founder, it's different. As a founder, the complete responsibility comes from the beginning, where you have to do everything. Then you grow in your activity when you give things away. That means you have to learn to give things away, delegate, trust other people, and create a good climate, motivating people to work. That's the challenge we have. We all haven't learned that because we didn't study entrepreneurship and stuff like that. Also, these studies are not the same as founding a company in such a small format. So, what we do has a lot more to do with self-learning. You have to see for yourself how you learn things, how you do it well and correctly. These are the challenges, having to constantly learn other things that you would never have dealt with before or that usually don't make sense to deal with. [In this context, social contacts are] extremely important, [but] on the other hand, professional know-how is extremely important, too. The other important component*

> *is knowing people with whom you can make a difference and with whom you have common interests (Charles 2016).*

Charles started to work with in-house professionals every time he found they provided a service his firm could use. He explained this when discussing contracting D16 coworkers:

> *[In-house collaboration] happens when you need someone to do something, and this service is offered [at the Department 16]. It is a logical development that you work with someone from the house, as we also continue to work with people outside the house.*
>
> *Me: So, you collaborate regularly with other tenants?*
>
> *Yes, all the time! Of course! I also have friendly relationships. And you do what you do among friends when someone needs help. They know that I already have some experience, so you share information all the time. And that doesn't happen everywhere! Spaces like this don't exist in this form in the city. That's why it is an important space for us (Charles 2016).*

To hire staff, Charles turned to Xavier, an advertising psychologist and co-founder of the film production company PD, which he ran with his partner Callum. Charles and Xavier were immediate neighbors and founding members of D16. They had also become friends in Stage 1. Another essential service contract for Charles's company was developer Bryan, a Stage 1 tenant who shared an office in the same corridor as Charles and Xavier. In Stage 2, he worked temporarily on an hourly basis on WWB's software development project.

However, Bryan left the center shortly after establishing his rental contract because it did not provide the necessary services to do his job (e.g., the internet was unreliable for several months). Although he no longer worked from D16 — at the time, his employer's offices were in the city — Bryan kept his office desk for several months. What did a worker like Bryan look for in a place like the center? It was neither the exchange of ideas nor practical facilities, but rather social connections:

> *The people, the same people, that's what I mean. We all don't buy an expensive car. We have different maxims in life. It is more important to do good work than to earn a lot of money. For me, it is essential to have this same horizon (Bryan 2016).*

I began Bryan's interview by reminding him of another interview he gave to a regional paper almost a year before. Back then, he said that his work allowed him to be flexible and work from any location, so having a fixed place was not necessary. One year later, he candidly acknowledged he had never thought that way but that it was expected of him to express the cliché. Not only did he need reliable internet access, but he also required few disruptions during working hours, the stability of arriving at his desk every morning, and some other comforts. However, having the right work atmosphere was also important. In Stage 2, the human connection between coworkers became increasingly important to business collaborations. Collaborations became superimposed on social relationships. I address this development in Chapter 4.

### Synergies between start-ups

Fatima from the start-up MR explained how collaborations with a software development company and an illustrator came about:

*Me: The relationship started here? Did you meet them here?*

*Yes, we met them here. Actually, that is a nice success story for the Department 16. We met them at the Open Doors Day. They came around, and they said, 'we are developers,' and I said, 'I need a developer' (laughs). [Good timing!] So, really, it's how it happened, but you need to set expectations at the beginning. It took some time to get on the same page, but now it's great.*

*Me: And what about Gaby [the illustrator]?*

*I posted on the [internal] Facebook group that I was looking for an illustrator, and then someone told her that she should come down. And then, she came by and introduced herself, and that's how it works!*

*It has worked well so far, [but] I also looked outside the D16. I got other offers, too. Still, I decided to go with the local people because if you are with young people, there are always positives and negatives: they are more flexible; they are willing to work evening nights and weekends; they have more patience. The professional company is probably quicker, they have more experience, but we decided to go with them [LC and Gaby]. It ended up working very well because they worked evenings and weekends, which was great because we needed quick results. So, I recommend them for sure! (Fatima 2016).*

MR's app thrived. This project was Gaby's first work assignment as an independent illustrator and LC's first collaboration with an in-house start-up. Unfortunately, shortly after finishing the MR commission, Gaby left the center for personal reasons. But the programmers started working with another in-house start-up a year later.

Synergies among coworkers are relational collaborations that "empower the whole community to be innovative" (Capdevila 2014 in Merkel, 2017, p. 578). MR's app collaboration is an example of synergies based on face-to-face interactions and physical agglomeration.

Residents' motto "tenants first" creates positive and negative synergistic feedbacks. On the one hand, the motto stimulates collaborations, work referrals, and narratives that celebrate the Department 16's collaboration stories. On the other hand, negative synergistic feedbacks regulate tenants' behaviors. For example, in-house companies hiring D16 coworkers expect collaboration conditions that a big and established company would not accept. If D16 companies fail to meet deadlines under these circumstances, coworkers could suffer reputational damage.

### When is working with residents not an option?
Although collaborations were abundant, I identified four main roadblocks to collaboration. Actors may be self-sufficient, require that collaborations be financially beneficial, necessitate outside funding, or look for collaborators outside of D16.

### Actors do not require services
Assignments depended on the needs of the tenants. Some, like Bryan, required very few services outside the CCIs, such as accounting and secretarial work. So, Bryan entered the

center to share a working atmosphere and values with other professionals like him but did not consider that collaborations could arise from the center.

Other actors learned to become self-sufficient. For example, Oliver, a drum school founder and director, said he wanted to pay someone to upgrade his website, edit his music manuals, and produce videos or audio recordings for his students. Since he and his students could not afford to pay for professional services, they relied on their own knowledge, abilities, and skills to meet their needs. Likewise, freelance fashion designer Jessica observed that her small team provided all the services her company required.

## The working commission is not profit-oriented

One requirement for collaboration is that interaction serves an economic purpose. If one party requires payment, then the collaboration must have a financial component. Bryan and Jessica were both freelancers who depended on contracts for income. Thus, they were unable to provide professional services for free (or discounted) to in-house projects. Jessica, for example, mentioned that as a freelancer, her contact with other actors regarding collaboration is limited. Her demanding work and family schedules coupled with her profession's specialized know-how prevent her from accepting invitations to join or support unpaid projects:

> Me: Have you collaborated with anyone from the center in the last year?
>
> Collaborate?! I find it difficult! The young people from downstairs asked me if I could design some costumes, but it wouldn't have been possible. I have a job, but I am also a mom. I have a little son. Others in the Department 16 do very classic fashion design [design, dressmaking, sewing clothes]. Many find it interesting how I do it [computer design, industrial manufacture]. But many don't understand it. They ask me: [pointing to more than a hundred clothing pieces hanging at her annual backyard sale in the center's premises] 'Is it all self-made?' Just think about it! It is not possible! [laughs] They say, 'Wow! You are huge!' But we sit here two people and two interns, and we also cook with water! [we have it as hard as anyone else] (Jessica 2016).

## Demand and supply don't match

For another group of residents, collaboration requires an outside client's financing. In Stage 1, numerous actors expressed this same idea. For example, Gabriel said he looked forward to running an advertising firm or another type of permanent collaboration with Xavier, based on their previous successful partnerships and good rapport. Others had already found collaboration partners but not financial resources or customers. Such was the case of the companies LC (MR's app developer) and EN, a video game software development firm, and the web designer (and drum instructor in the center's drum school) Nic, who were prepared to collaborate on a big project:

> It was a complete coincidence! [The client] told us what they needed, and we thought we could do the software development, the game developers could do the animation, and Nic could do the design, so it fits perfectly! We cannot do this alone. And of course, it is perfect for everybody. Everybody wins!
>
> So, I see clearly as a total plus that we have found here [in the Department 16] other people that do other things. But even if someone were doing exactly the same thing, I would see that as an advantage, unless he was an [expletive] [laughs], because that

*would simply mean that you would have the possibility to take on even bigger projects, because at least theoretically, you'll be having more people at your disposal (Eric 2016).*

The collaboration involving the Department 16 neighbors would have involved the two firms and the freelancer. However, the client discontinued the project.

There were, however, a few examples of joint business ventures. One of these projects, a collaboration between two designers in different fields — one industrial, the other in fashion — failed almost immediately. The business partners realized their product was unsuitable for the market due to its costly manufacturing requirements. Both designers lacked experience in industrial manufacturing, and even in-house fabrication would not have been profitable. After exploring their options (e.g., in-house manufacturing; exclusively online sales), both partners abandoned the project. The industrial designer focused more on an artistic career as a painter and sculptor, while the fashion designer took a long hiatus for family reasons and subleased her workshop (which was not officially permitted). I would not have been able to identify this story without Jessica's remarks. In our interview, Jessica mentioned given advice to the would-be collaborators, but neither partner revealed this exchange during our conversations. As usual in these cases, when I asked them about their failed collaboration, both residents recalled the project coolly.

### Companies hire services outside of D16

Both Bryan and Xavier worked with the in-house start-up WWB, which grew with the Department 16's creative talents. WWB's behavior became increasingly unconventional to the center's collaboration practices since other center's new companies began engaging services from outside professionals, overlooking in-house freelancers.

In Stage 2, residents conveyed the impression that the center operated in a disjointed manner, with little contact between the center's various generations (i.e., the new tenants did not interact with the older residents). Although the center had grown and new firms had arrived in Stage 2, the in-house companies were not contracting Stage 1 freelancers. Contrary to what happened in Stage 1, in Stage 2, collaborations occurred mainly between actors of the same branch of activities. Besides, companies that had commissioned work in design, commercial photography, advertising, and marketing before opted in Stage 2 for external collaborators.

### *Arts and Culture Netdom*

In Stage 2, D16's tenants held their first collective exhibition. Although the center had already hosted cultural events, *Green* was a larger and more ambitious project. It was also Konnex Art's (KA's) debut on the city's visual arts scene. The exhibition included eight residents and brought in eight other local outside artists, for a total of 16 participants. Besides the exhibition room (located at the center's indoor court), *Green* generated parallel activities like a series of pop-up sculpture and musical events in collaboration with the city's international classical music festival. Unlike the center's other exhibitions, which usually lasted one weekend or a week, *Green* was open to the public for a month.

Three KA members, two from the center (Lucy and Gabriel) and one external, acted as exhibition managers. Lucy provided know-how, while Gabriel oversaw communication and marketing. This combination of efforts had not been previously sustained at the center and was uncommon in small venue and budget exhibitions.

Although an experienced visual artist and exhibition planner, Lucy challenged herself by adopting new roles as curator and spokesperson. Because she had recently moved to the city, Lucy wanted to make her knowledge and professional experience visible to the city's visual arts community. Although she experienced personal challenges — she is the mother of two schoolgirls, and her husband's work schedule is less flexible than hers — she achieved most of *Green*'s goals.

## Conflicts

*Changing practices*

Lucy invited *Green*'s participants, and this caused tension between her and those left out. Before this exhibition, artists could use D16's exhibition spaces as they wished. This was the case, for example, of Café Control-Room, where artists regularly exhibited their works. With her visual arts training and work experience, Lucy undertook another way of selecting artworks. She made it clear that *Green* was not an event open to all in-house artists even though the center was hosting the exhibition. Lucy made it clear that her practices were new in the center's context:

> *Me: Is this your first curatorial work?*
>
> *Yes. I've been working on off-space exhibitions, and I've seen and set up many exhibitions. In the art academy, you learn how to get an exhibition ready for an open house. [We ask ourselves:] Do you want an exhibition? or do you want a working situation? or do you want something conceptual? So, you learn to stage a little bit. [Therefore] I can't just hang up two paintings and say: "Here are two in-house painters" because as soon as they both lay down, something like that happens. I can't not think about it! There are people here [in the Department 16] to whom it doesn't matter if it is a mirror that they're hanging (Lucy 2016).*

I registered another tense moment during Lucy's interview, this time directed toward Gabriel. We talked about the exhibition's financing difficulties that Lucy and Gabriel had to secure the needed production and artists' fees. Gabriel was in charge of the sponsorships. After reflecting on some alternative funding options, a conflict emerged:

> *Gabriel: one should simply see how one can earn money.*
>
> *Lucy: There are [cafés or alternative cultural spaces] for that matter. That's a direct way to hang up art and sell art. That's out of the question for me. I don't hang up my paintings that easy. Well, I don't do that. That's not a platform for me. Maybe I could have done that quickly. But I think it should be something long-term (Lucy 2016).*

Art practices do not fit the CCIs' definition of being for-profit and self-sufficient. However, artists do aspire to make a living from their work. The association, formed to apply for public and private funds, is not technically in the CCIs, but in practical terms, KA still had a

marketing component. Lucy's practices clashed with the center's reality: the Department 16 was not a cultural space, although the center's name includes the label "cultural." Like some of her coworkers, she does not make a living from her work as a cultural or creative producer.

*Big actors versus small actors*

Bigger, respectable, growing companies did not want to take part in the exhibition. KA's team was unable to secure partnerships with any of them:

> *[The visual artist] Esther goes with a mobile space in the city, with a sculpture that is a space, in the public space. [I asked them:] 'Isn't it a theme for you? 'Couldn't we do something together?' They [the municipal company] said no, they didn't want to participate. I also asked them if someone from [the company] wanted to give the opening speech to create this link between them and the exhibition [and they again turned down the invitation]. I can imagine that it will be [a collaboration] in the future. But now, there are many fears and prejudices. Perhaps they thought, 'It is bad art!' [laughs] [They thought] 'Oh, these artists from the house, oh, no! Imagine what could happen?!' (Lucy 2016).*

The second conflict was the start-ups' lack of interest in participating in the exhibition's events. According to Lucy, the investment in communication work that would have been necessary to attract start-ups went beyond what she could achieve as an artist. A mediator from the management agency would perhaps have facilitated the start-ups' involvement.

> *Me: The exhibition was intended to be a brand for the center.*
>
> *Lucy: Well, Gabriel is more and more with publicity and the brands [involved than I am]. It is a green screen for me, and I don't see why I should play that game. I just want to take the opportunity that we have here and pack the room with my ideals.*
>
> *Gabriel: If we speak of brands, we talked [a year ago] about the association, Konnex Art as a brand [not the center].*
>
> *Lucy: But, no, not really. In the beginning, we had the idea that we should have many events in the city, that the companies here would also take part in these events, create their own events. But the people here [in D16] think differently [than us], and they didn't collaborate. These are such different worlds! It is an enormous work of communication [to convince them to participate], and I am an artist who also wants to make a living. I have to do work that makes sense to me, such as teaching and curating this exhibition. It would be completely another thing to do the [communication] work for the center. Besides, all this that we have done has been without receiving any fees. That is the question that we have at this moment. We don't know if our voluntary work will be minimally recognized. We still don't know! (Lucy 2016).*

At the time of the interview, there was tension in the exhibition's management team. Several state offices and private foundations had responded negatively to requests for financial support. Being new and having limited resources jeopardized KA's chances of securing an endowment. Still, there was a clear institutionalized path of working and securing resources in the art world for Lucy, i.e., by submitting art proposals to obtain grants from private and public art organizations.

*Gabriel: the CCIs office in the city clearly has the start-ups in focus. They have them clearly in focus [and] they don't see our association as a start-up!*

*Lucy: I would not have wanted to start a company! We want to do a project, and we thought about how we could do it. That's why I got this application for arts-sponsoring associations. I have no intention of launching a company (Lucy 2016).*

### Café Control-Room

In stage 2, Café Control-Room often had few guests. Residents used the café to access their offices; some bought coffee-to-go or smoked on its terrace. Many did not rely on the café for their morning caffeine fix since they equipped their offices with coffee machines. Only smokers belonged to Control-Room's loyal customers. However, Control-Room transformed from a dreary and empty space by day to a busy and lively one by night. In Stage 2, the Control-Room became a live music club. These activities were geared toward the local public. According to its owner, Zack, the tenants were not part of the café's nightly audiences — something I confirmed in my interviews and nighttime visits. However, the café's programming frequently included in-house musicians and artists.

### *Community Netdom*

Participation in community projects virtually disappeared during Stage 2. One possible explanation is the actors' apathy and disinterest due to the management agency's control. Another is that the pioneering feeling characteristic of Stage 1 subsided, and tenants were no longer motivated to improve the center. In Stage 2, residents were concerned (and somewhat resigned) that the center showed "no more surprises, nothing new." Neighboring cities were investing generously in the CCIs (like Mannheim, which opened a new creative hub during this period). This is how one resident expressed his views on the subject:

> *To summarize, you can have two possibilities: either you put up a high gloss building, where everything perfectly works, like Mannheim did, or secondly, you make a conversion, then the city provides an old building, and that only works when the tenants can make changes. And here [the Department 16], in our case, we are in between [these possibilities] because you are not allowed to do anything outside of the offices, and that is still one of the biggest problems. I think that it wouldn't work anymore if the management had said tomorrow: 'ok, now it's allowed!' I think there would be no more interest [among the tenants]. It's over already! They never allowed us to do anything, anything! No matter what you wanted to do, you had to vote for it! We once had a long meeting because someone wanted to paint the wall outside! Just incredible! Such a waste of time! (Aaron 2016).*

*Stage 2 — Summary*

In the business netdom, I identified four main challenges for in-house collaborations: self-sufficient actors, financial incompatibility, customer shortage, and tenants choosing external providers.

In the arts and culture netdom, the Konnex Art exhibition *Green* was a highlight at the center. The exhibition connected the center successfully with the local community. *Green* also exposed an internal rift between the cultural and creative sectors, as start-ups and other companies refused to participate.

Finally, in the community netdom, grassroots projects diminished drastically, and the prospect of participating in future community projects was daunting.

## Stage 3. The way it is

In Stage 3, I detected fewer actors than in Stage 2 (186 in 3; 219, in 2). Nevertheless, work assignment-based collaborations are more numerous than in the previous two periods (26 mentions), and discussions about possible collaborations also increased considerably: from 16 in Stage 2 to 22 in Stage 3. On the other hand, help interactions regained their relevance with 18 mentions after fading in Stage 2.

For the first time in the cultural field, there are more collaborations linked to Café Control-Room than to art exhibitions: 20 mentions for Control-Room, compared to 9 for arts and culture events. The café has already gained a local reputation for its nightly events. Community projects are also more prevalent in Stage 3 than in Stage 2: three mentions compared to zero in the previous round. This is significant because a new generation of residents took the lead in planning and inspired other generations — from pioneers to recent arrivals — to participate in tenants' meetings once again.

One of three cutpoint residents is Xavier, who collaborates continuously in the creative and cultural industries. Xavier has been a prolific collaborator in all three stages. The other two cutpoints are Zack, owner of the Café, and Joss, an art photographer, who joins the list of important collaborators for the first time. He is the first non-pioneer resident to become a central collaboration figure (Map 8).
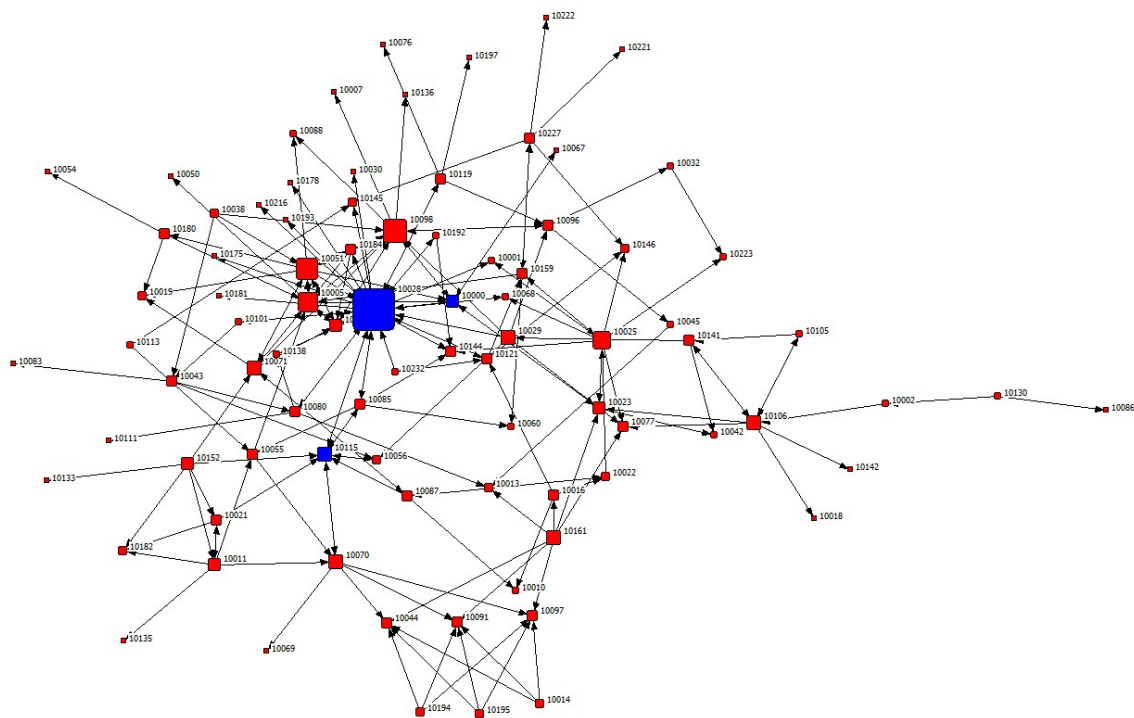


*Map 8. Stage 3. With whom did you work in the last 12 months? N=87. Blue nodes are cutpoints.*

Zack was the strongest collaborator. The café's activities increased considerably during this period, and so did Zack's in-house collaborations. Gabriel remained an important collaborator, and Lucy also increased her activity, although her indegree contacts declined slightly. Alicia, previously an intensive collaborator, visited the center only occasionally in

stages 2 and 3. However, her collaboration contacts remained constant (thanks to her social links, next chapter's topic). All actors identified in Figure 9 are involved in cultural activities, and two of them also work in the advertising branch. Therefore, cultural projects are an essential source of collaborations.
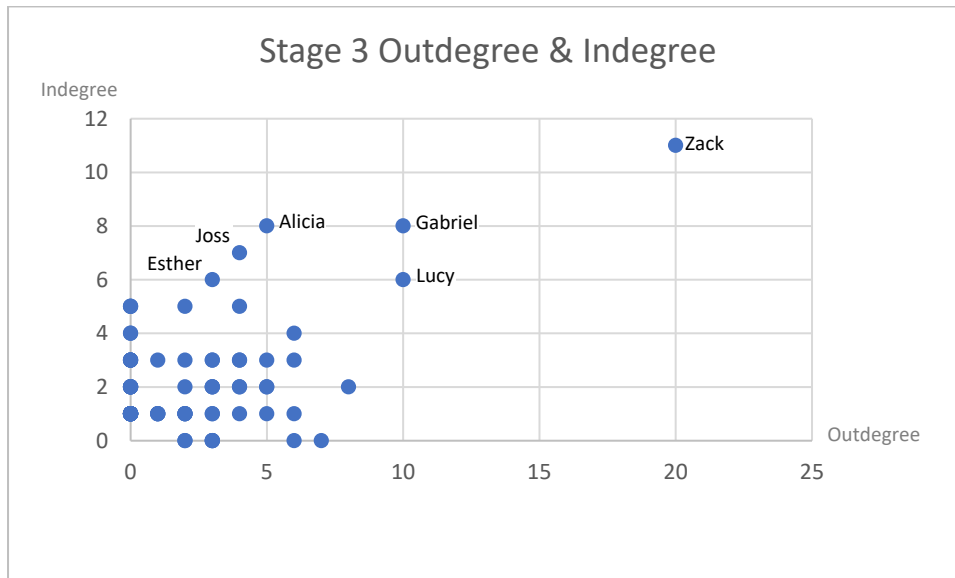


*Figure 9. Network activity Stage 3.*

*Business Netdom*

Help links

In the third stage, help relationships regained their place as one of the most relevant types of collaborations. One possible explanation is that recent residents established new ties to previous tenants. As in the first stage, when tenants' exchanges were more frequent and intensive (e.g., tenants were spending more time together), help once again flourished as a communication mechanism.

One of the most active, supportive tenants was the art photographer Joss. He was the first "new resident" (i.e., not beta-phase tenant or pioneer) to gain a cutpoint position in the collaboration network. Joss articulated help connections that extended beyond his area of expertise in photography. He was knowledgeable in construction, and at the center, his building skills made him popular. He built for tenants and lent them tools; he also advised them about construction matters. Even the house janitor asked his opinion on some center's renovations. Besides, he worked at the center's premises every day and was a frequent guest at the café.

Other actors who strengthened the aid ties are those who knew each other before joining the center and shared a "lifestyle turn business" culture. This was the case of the companies CBC and VX, whose founding partners enjoyed friendship ties that go years before the center's foundation. The e-bike start-up CBC and the bike messenger company VX collaborated regularly. For example, VX bikers tested e-bike models, and CBC used VX as a courier service. CBC's collaboration with VX was framed by a cultural domain centered on its

love for cycling. This cultural space for and about bicycles also included the in-house magazine FS. The magazine offices were a meeting place for bike enthusiasts in the city. Soon after FS's arrival to D16, CBC advertised one of its new e-bike models in the magazine. These collaborations with CBC are relevant for all parties since CBC was one of the few start-ups at the center that demonstrated remarkable growth during the three stages: the company started with only three founding members and ended up with 19 employees before moving out.

## Recruitment, referrals, competition

The trend initiated in Stage 2 among software development firms continued in Stage 3: regardless of their physical location in the center, actors in technologically oriented companies interacted and produced business linkages. In Stage 3, Charles hired LC, the same company that worked with MR. Soon LC became known as the local start-up working with start-ups.

Work referrals occurred mainly between colleagues in the same branch, not between branches. Photographers, musicians, and web designers passed work on to coworkers. According to Jim, everyone knows their competition in a small city. Hence, it is better to cooperate than to get openly upset about losing work assignments. This competition occurred in Jim's sector (media production), where equipment loans were frequent and necessary for big events. "There aren't that many competitors, but there are enough to fight for a contract," he said. In his opinion, when a center's company hired an outside business, skipping over in-house freelancers and companies, these should not get upset and focus on the future:

> There is a conduct code ["in-house first"], but people also work for their success and are not always interested that everything stays in the house. No matter where you are, house or not, it doesn't matter. You are happy if something [a work commission] remains in the house. We say [to companies that had hired externally]: "hey, good, your video. We also make videos," and people think: "Right! Next time we go two doors down" (Jim 2016).

CBC is one of the firms that made a promotional video outside the center. In their case, they took the advice of an external collaborator, who suggested other external companies. All these referrals were start-ups in bigger cities known for their creative hubs.

> Well, we would have taken someone who is here. But the photographers, there is nobody here who does special product photography. For the website, we had someone from Stuttgart, and they said the [people] from Karlsruhe were good [for the video] (Connor 2017).

D16 actors who hired external services compared internal and external providers. It only became known as a "skipping" pattern when firms that regularly hired creative services continuously preferred outside partners.

> We have tried [to give work assignments to residents]. We have talked to the film people, but of course, we also spoke to others, not only to them. We also talked to the [in-house] photographers but also to others. I don't know why, but others got the approval because we found them more interesting. That was the point. So, to the first question, the answer is yes, it is our concern that we are looking for contacts to

*strengthen the collaboration, but it didn't fit. With the film people didn't work because they are simply making completely different films than what we need. I think they are very good. With them, I smoke regularly, and we talk. With Aaron from PK, we also work together. They have made events with us. We work together, we don't pay them or anything like that. The problem is that we are a big company compared to them, you see? And we depend on working with top people. So, we will start working with them when they are top, too (Ronan 2017).*

This big company hired in-house actors to provide courier services and to produce a cultural event. But those services were not representative of the creative industries. The freelancers and self-employed individuals in communication, advertising, and marketing areas did not find new clients among the Department 16's big players.


## Community Netdom

In Stage 3, new residents took over the community projects, which had virtually disappeared in the second period. These new tenants initiated a movement to restructure the annual autumn Open Doors Day event, which was in crisis after businesses and software developers had stopped participating. Tenants held in-person meetings and electronic discussions to plan future events at the Department 16. Visual artists Brendan and Lucas said the exchanges were intense, at times chaotic, and no one was able to keep track of all the agreements. It took almost ten months to plan the new open house event, and this time the tenants assumed control of the advertising campaign. The management agency's agreement to carry out a new version of the Open Doors Day signaled its shift toward integrating the tenants' proposals. Advertising product photographer Carlos noted how the management agency was involved as a facilitator in another project at the center: a cable structure installation for hanging images (photos and other artworks). Carlos joined D16 during the second phase, and it took him a while to get involved in the center. For the installation of the cable structure, he worked with Joss (the new cutpoint actor):

*Maybe the center was missing a little elan. Or people didn't know how to do some things. You saw that everyone has a lot to do. But [what I liked was] the feeling when someone does something, you are allowed to do it. If you want to do it, the management will do it very unbureaucratic. They will ask you, 'What do you need for it?' 'How much does it cost?' 'What is available as a cheaper version?' The idea came from us [the photographers], and we said: 'We can hang the things!' We ordered the material, and so we upgraded the building, and everyone can have a better presentation! (Carlos 2017).*


## Arts and Culture Netdom

### Café Control-Room

For the first time in the three years, more tenants mentioned Café Control-Room's collaborations than art exhibitions or other cultural projects. In Stage 3, the vast majority of tenants considered the café to be the only place that allowed tenants' interaction. Concerts, art exhibitions, poetry slam events, among others, were part of the café's regular program. In particular, musicians found the café to be a suitable venue for live music events. For Owen, a composer, musician, and event promoter, Control-Room's stage offered young

talents invaluable playing experience since small venues of this kind were rare in the city[43]. In Stage 3, residents expressed satisfaction with the café's development, and it was considered one of the center's most valuable assets. Shane, a cultural promoter of regional poetry slam sessions, reflected on the café's relevance in the city's cultural landscape:

> Me: Any surprise or something that you particularly liked last year?
>
> H: I don't know, one positive thing, but it is not a surprise, but it's positive, is the way the Café is developing, it has grown quite well, and more and more people know about the Café. For example, in the beginning, I had to add in the flyers a map to the Café. Now I don't have to do that anymore because people know where it is (Shane 2017).

Café Control-Room was one of the center's small businesses that reconciled economic and cultural interests; it was a meeting place for residents and a bridge to the local community. However, it was not officially allowed to host concerts. This situation threatened its existence and frustrated its owner, Zack. During the research period, Zack tried unsuccessfully to obtain these authorizations.

## Artistic projects

Konnex Art continued to be the engine and platform for the creation of new art projects. In Stage 3, they worked on another exhibition, but only Lucy and Gabriel planned it. They had managed to set up a working team inside the Konnex Art organization that would facilitate collective and large-scale exhibitions. Other KA participants made use of the association differently. At this stage, KA was able to integrate the plurality of its members' interests:

> I have a work structure. There is a total changeability in this context. That's the kind of connection that works for me at the moment. I have formed this parallel network [inside Konnex Art]. But others do it differently. For example, Miles wanted his solo-exhibition and his catalog. He has already told me he has a different attitude towards his career as an artist. He sees the association [Konnex Art] as a joint project, but he wants to use it for his solo artist career. As for me, I always integrate a lot of people [in my exhibition projects]. But I do reflect on my position. I don't just give myself a collaboration (Lucy 2017).

---

[43] Control-Room has room for up to 80-100 standing guests.

*Stage 3 — Summary*

In the business netdom, the software development sector tightened its collaborative connections. Work referrals occurred mainly between colleagues in the same branch, and larger actors continue to overlook in-house freelancers when completing tasks in the creative fields.

In the art and culture netdom, Konnex Art establishes new practices as it plans a second exhibition. Café Control-Room's stage adds to the local music and cultural scene, but its unofficial status as a music venue jeopardizes its growing possibilities.

In the community netdom, new residents renewed energy for planning community-wide events. The management agency found a better way to support the tenants' initiatives.

## II.       Evaluation of the Three Stages

The center's coworkers created a new context for their business, cultural, and creative activities over three years. They brought their knowledge and expectations to the center, and they switched from one working schema to another. City administrations impose restrictions and a set of beliefs on the spaces they manage. In this context, actors at D16 found both allies and resistance to collaboration among their coworkers. On average, the residents had two collaborators, and the second stage, the "crisis and adjustment" phase, registered the highest density[44] and number of collaborative links. As more actors found it difficult to establish collaborative ties (especially work assignments) with bigger companies, the residents relied even more on preexisting collaborative contacts. Besides commissions, other kinds of collaboration practices — help, referrals, and cultural work — shaped the "Working Together" relation (Table 29).

*Table 29. Comparison of three stages' basic structural measures.*

| Stage | Density (%) | No. of ties | Standard Deviation | Average Degree |
|-------|-------------|-------------|--------------------|----------------|
| 0 | 2.3 | 53 | 0.148 | 1.082 |
| 1 | 3.3 | 135 | 0.180 | 2.109 |
| 2 | 3.4 | 205 | 0.182 | 2.628 |
| 3 | 2.6 | 191 | 0.158 | 2.195 |

*Interpreting the numbers: Stage 1 density is 3.3%, which means only 3 out of a possible 100 collaboration links were established.*

What influenced the residents' collaborations? I used two methods to process relational data. The first was the E-I Index, in which the residents were grouped according to attributes. For example, if the residents were both start-up founders, then they were in the same group. The E-I index subtracts the groups' internal links from the groups' external links. A positive index indicates that the groups' external links predominate. A positive E-I index for the "type of worker"-category indicates that the residents prefer collaboration partnerships with residents that have a different than their own employment status.

Besides E-I Index, I also used multiple regression quadratic assignment procedure (MRQAP) analysis. I computed regression coefficients to establish how collaboration' network patterns relate to actors' attributes. Positive and significant coefficients indicate a direct correlation between collaborations and attributes.

---

[44] The network's density is the total number of links among the total number of all possible links (Wasserman & Faust, 1994, p. 129).

## D16 residents collaborate with similar residents

The E-I Index analysis was significant in Stages 2 and 3, but not in Stage 1. Therefore, the E-I Index does not add reliable information about Stage 1's collaborative relationships (Table 30). The MRQAP analysis, on the other hand, provided significant results in all three stages.

In Stages 2 and 3, three attributes (type of worker, sector, and gender) are significant to forming collaborative relationships. Being in the same age group (in Stage 2) and in the same building (in Stage 3) also helped support collaborative behavior. In Stage 3, residents collaborated mostly with tenants who had different work schedules than their own.

*Table 30. E-I Index for collaborative relationships.*

| | Adjacency dataset: Collaborations | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|---|
| 1 | **Type of worker** | -0.008 | -0.162* | -0.193* |
| | Self-employed | -0.113 | -0.229 | -0.326 |
| | Start-up | 0.124 | -0.193 | -0.061 |
| | Others | - | - | 1.000 |
| | Not available | - | 0.600 | 0.273 |
| 2 | **Cultural scenes** | 0.798 | 0.401 | 0.168 |
| | Architecture and urban planning | 1.000 | 0.077 | 0.273 |
| | Bike cluster | 1.000 | 0.750 | -0.286 |
| | Business | 0.584 | 0.852 | 1.000 |
| | Commercial and art photography | 0.818 | 0.800 | 0.143 |
| | Design and communication | 0.778 | 0.892 | 0.810 |
| | Fashion and crafts | 1.000 | 0.294 | 0.667 |
| | Film production | 1.000 | 0.333 | 0.600 |
| | Software developers | 1.000 | 0.789 | 0.048 |
| | Music | 0.909 | -0.081 | -0.257 |
| | Performance arts | 1.000 | 1.000 | 1.000 |
| | Visual arts | 0.889 | 0.568 | 0.415 |
| 3 | **Sector** | 0.261 | -0.030* | -0.155* |
| | Business sector | 1.000 | 0.750 | 0.455 |
| | Creative industries | 0.008 | -0.046 | -0.196 |
| | Cultural industries | 0.049 | -0.216 | -0.316 |
| | Other | 0.846 | 0.400 | 0.263 |
| 4 | **Entry year** | 0.328 | 0.329 | 0.590 |
| | 2012 | 1.000 | 0.897 | 1.000 |
| | 2013 | 0.381 | 0.006 | 0.739 |
| | 2014 | 0.107 | 0.527 | 0.439 |
| | 2015 | 1.000 | 0.840 | 0.496 |
| | 2016 | - | 1.000 | 1.000 |
| 5 | **Gender** | -0.042 | -0.461* | -0.553* |
| | Men | -0.180 | -0.644 | -0.719 |

| | | | | |
|---|---|---|---|---|
| | Women | 0.152 | 0.111 | 0.091 |
| 6 | **Age groups** | -0.496 | -0.353* | -0.205 |
| | <30 | 1.000 | 1.000 | 0.667 |
| | 31<45 | 0.725 | -0.609 | -0.490 |
| | 46+ | 0.867 | 0.455 | 0.574 |
| 7 | **Physical co-location** | 0.479 | 0.138 | -0.081* |
| | Building 1 | 0.403 | -0.032 | -0.350 |
| | Building 2 | 0.556 | 0.404 | 0.282 |
| | Building 3 | 0.368 | 0.153 | 0.000 |
| | Building 4 | 0.750 | 1.000 | 0.765 |
| 8 | **Hours per week** | 0.294 | 0.293 | 0.317* |
| | <20 | -0.015 | 0.049 | 0.155 |
| | 21<34 | 0.623 | 0.730 | 0.622 |
| | 35+ | 0.765 | 0.375 | 0.356 |

\* E-I Index is significant ($p<0.05$). Permutation test number of iterations: 5000.

*Interpreting the numbers: Start-ups in Stages 2 and 3 had more collaborative interactions with other start-ups than with other types of workers (negative index).*

I compare and complement the E-I Index analysis with the results of the MRQAP analysis.

The MRQAP analysis reveals that in Stage 1, collaborations correlated with three attributes: same sector, same building, and product of hours per week[45] (Table 31). The results corroborate the E-I Index analysis: collaborations occur mostly in the same sector and not across economic sectors.

*Table 31. Stage 1 collaborations and residents' attributes.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**
**Dependent variable: Stage 1 collaborations**

| | | Model 1 | Model 2 |
|---|---|---|---|
| 1 | S1 hours per week (product) | 0.00002* | 0.00002* |
| | | (0.00001) | (0.00001) |
| 2 | Same type of worker | -0.00820 | -0.00752 |
| | | (0.00632) | (0.00615) |
| 3 | Same cultural scene | 0.00746 | |
| | | (0.01123) | |
| 4 | Same sector | 0.01942* | 0.02087** |
| | | (0.00796) | (0.00796) |
| 5 | Same building | 0.01551* | 0.01654* |
| | | (0.00835) | (0.00820) |
| 6 | Same entry year | 0.00374 | |
| | | (0.00854) | |
| 7 | Same gender | 0.00561 | |
| | | (0.00936) | |
| 8 | Same age range | -0.01120 | |
| | | (0.01510) | |

---

[45] The product of hours per week multiplies the number of hours that residents *i* and *j* spend at Department 16. A greater absolute value means that both residents spend a large amount of time at the center.

| | | | |
|---|---|---:|---:|
| Intercept | | 0.03348 | 0.03348 |
| *p(r2)* | | 0.00020 | 0.00200 |
| adj. R square | | 0.01099 | 0.01081 |

Standard deviations are in parentheses. N=64; 4032 Observations; 5000 permutations. * p<0.05, ** p<0.001, *** p<0.0001.

In Stage 2, more tenants' attributes predicted collaborations than in any other stage. Besides same sector, same building, and hours per week (the attributes significant in Stage 1), same type of worker (employment status), same cultural scenes, and same gender anticipated collaborative behavior in Stage 2 (Table 32).

The time between Stage 1 and Stage 2 allowed tenants additional opportunities to get to know each other. Therefore, the personal attributes became affiliations displaying homophily — that is, residents preferred collaborators who they considered similar or came from comparable backgrounds. Residents found more ways to connect to other tenants by expanding the categories of similarities.

*Table 32. Stage 2 collaborations and residents' attributes.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent variable: Stage 2 collaborations**

| | | Model 1 | Model 2 |
|---|---|---|---|
| 1 | S2 hours per week (product) | 0.00002* | 0.00002* |
| | | (0.00001) | |
| 2 | Same type of worker | 0.01964* | 0.01958* |
| | | (0.00662) | |
| 3 | Same cultural scene | 0.03223* | 0.03261* |
| | | (0.00977) | |
| 4 | Same sector | 0.02846** | 0.02866** |
| | | (0.00626) | |
| 5 | Same building | 0.01640* | 0.01575* |
| | | (0.00661) | |
| 6 | Same entry year | 0.00269 | |
| | | (0.00682) | |
| 7 | Same gender | 0.01511* | 0.01574* |
| | | (0.00788) | |
| 8 | Same age range | 0.01475 | |
| | | (0.00945) | |
| | Intercept | 0.03413 | 0.03413 |
| | *p(r2)* | 0.00020 | 0.00020 |
| | adj. R square | 0.02460 | 0.02330 |

Standard deviations are in parentheses. N=78; 6006 Observations; 5000 permutations. * p<0.05, ** p<0.001, *** p<0.0001.

In Stage 3, collaboration correlated with three attributes: hours per week, same gender, and, for the first time, same entry year (Table 33). The MRQAP analysis indicates that the product of hours per week (i.e., tenants who work more hours at the center) correlated with collaboration in all three stages. Gender was also relevant in two consecutive years (Stages

2 and 3). More tenants — and those who, on average, spend more time at the center — are male. Tenants' seniority at the center influenced collaboration, but only until newer residents entered Department 16. In Stage 3, fewer exchanges occurred between D16's first wave of users (i.e., the pioneers) and the later cohorts.

*Table 33. Stage 3 collaborations and residents' attributes.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**
**Dependent variable: Stage 3 collaborations**

| | | Model 1 | Model 2 |
|---|---|---|---|
| 1 | S3 hours per week (product) | 0.00002* | 0.00002* |
| | | (0.00001) | (0.00001) |
| 2 | Same type of worker | 0.00087 | |
| | | (0.00228) | |
| 3 | Same branch and cultural scene | 0.00005 | |
| | | (0.00016) | |
| 4 | Same sector | -0.00136 | |
| | | (0.00140) | |
| 5 | Same building | 0.00217 | |
| | | (0.00136) | |
| 6 | Same entry year | 0.00179* | 0.00160* |
| | | (0.00071) | (0.00063) |
| 7 | Same gender | 0.02845* | 0.03097* |
| | | (0.01271) | (0.01244) |
| 8 | Same age range | 0.00015 | |
| | | (0.00290) | |
| | Intercept | 0.02553 | 0.02553 |
| | *p(r2)* | 0.00020 | 0.00020 |
| | adj. R square | 0.01128 | 0.01008 |

Standard deviations are in parentheses. N=87; 7482 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Finally, I explore the relationship between each stages' collaborations and residents' attributes to determine their influence on collaborative links in Stage 3. The most important correlation is between collaborations in Stages 2 and 3, representing more than 40% correspondence. Tenants who collaborated throughout the three stages (21 people) worked together with others who shared their same employment status (type of worker) and belonged to the same cultural scene (Table 34). These two attributes (type of worker and cultural scene) also related positively to collaborations in Stage 2.

*Table 34. Working together in all three stages.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**
**Dependent variable: Three-stages collaborators - Stage 3 collaborations**

| | | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|---|
| 1 | Stage 1 collaborations | 0.02208 | | | 0.03458 |
| | | (0.04866) | | | 0.04995 |
| 2 | Stage 2 collaborations | 0.45180** | 0.45810** | | 0.42905** |
| | | (0.05096) | (0.05090) | | 0.05296 |
| 3 | S3 hours per week (product) | | | 0.00271 | 0.00823 |
| | | | | (0.01332) | 0.00910 |

99

| | | | | | |
|---|---|---|---|---|---|
| 4 | Same type of worker | | | 0.10277** | 0.05903* |
| | | | | (0.03627) | 0.03004 |
| 5 | Same cultural scene | | | 0.13029* | 0.10230* |
| | | | | (0.06017) | 0.04704 |
| 6 | Same sector | | | -0.00735 | -0.04158 |
| | | | | (0.04269) | 0.03319 |
| 7 | Same building | | | 0.04745 | 0.03692 |
| | | | | (0.05432) | 0.03848 |
| 8 | Same entry year | | | -0.02027 | -0.01908 |
| | | | | (0.04269) | 0.03155 |
| 9 | Same gender | | | -0.00431 | -0.02671 |
| | | | | (0.04966) | 0.03739 |
| 10 | Same age range | | | 0.03851 | 0.01392 |
| | | | | (0.04602) | 0.03274 |
| | Intercept | 0.10952 | 0.10952 | 0.10952 | 0.10952 |
| | *p(r2)* | 0.00020 | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.26763 | 0.26901 | 0.05494 | 0.28826 |

Standard deviations are in parentheses. N=21; 420 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Thus, collaboration has a short-term effect on future collaboration: collaborations in one stage relate to collaborations in the next stage, but no further. However, collaborations do not happen in a social void. They are embedded in a complex web of social relationships, like conversations about work, ideas, private issues, and other topics. I examine the intersection of collaborative and social links in Chapter 5.

In Figure 10, I summarize the correlations between actors' attributes and collaborations. The most general attribute that promotes collaboration is spending time at the center. Sharing the same employment status and being active in the same sub-branch and cultural community are the most important tenants' attributes affecting collaborations. Finally, the main predictor of future collaborations is having collaborated in the previous stage.
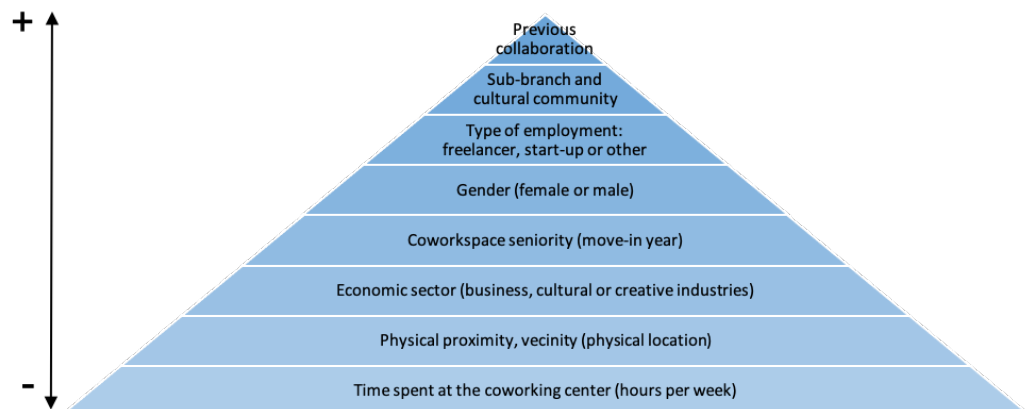


*Figure 10. Attributes' relevance to collaborations.*

## Dynamics of Working Together

I examined three types of tensions: cooperation and competition, economic and cultural, and community and individuality. Here, I explain how these conflicts underpin the dynamics of "Working Together" (Table 35).

*Table 35. Dynamics of Working Together (summary).*

| Tensions | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|
| Cooperation-Competition | Actors cooperate; they deny grounds for competition | Actors compete with external actors for in-house work commissions | Professional colleagues cooperate |
| Cultural-Economic | Actors in the cultural sector believe that it is possible to generate projects that link art and business | There is no interest from the business sector in participating in arts/cultural events | Café Control-Room is the center's cultural activity hub; it links the center to the local community |
| | Pioneering feelings inspire participation in community projects (for the center's benefit) | Actors' differences in community project goals intensify; management's control creates tensions | A new wave of actors convenes to produce events; management and actors work together to create a new image for the center |
| Community-Individuality | Actors' interactions raise a sense of community feeling. This feeling translates into the motto "tenants first." D16 frames the tenants' work autonomy | The sense of community feeling develops into a sense of community value. Yet tenants consider the pros and contras of in-house collaborations, challenging D16's "tenants first" motto | Small groups of tenants share sense of community values. Some actors pursue to reactivate the house sense of community feeling |

### *Cooperation and competition*

There is tremendous competition in the CCIs (Pasquinelli 2007 in de Peuter & Cohen, 2015; Konrad 2013); however, it is usually downplayed and rhetorically subordinated to strategies for cooperation. In the medium- to long-term, actors' networking/cooperation logics increase their job opportunities through work referrals and word-of-mouth recommendations. Since networks organize actors' reputations (good or bad) and prestige, aggressively competitive behaviors seem out of place, particularly in smaller contexts. At the Department 16, residents believe that their professional profiles are unique, in line with how artists think of themselves (McRobbie, 2016). D16 residents consider that external actors are their "real" competition. Therefore, they use their incorporation to the center as a sign of prestige and distinction from the rest of the city's independent CCIs' professionals. However, actors like Gabriel show that acknowledging in-house competition can potentially bring about new opportunities. As one of the many D16's photographers, Gabriel would have eventually had to compete with others at the center. Yet, in his new role as a marketing and communication professional, he holds a unique position in the center and the city.

*Culture and economy*

The for-profit and not-for-profit antagonism is clear in the creative industries, representing a field par excellence for studying the tensions between a professional ethos and the organizational and corporate logics (DeFillippi et al., 2007, p. 514). I found two examples of the dynamics of tension between actors' cultural and economic ambitions.

In the first case, two residents (Gabriel and Lucy) created a space to produce artistic and cultural events. One formulated the artistic ideals and contributed the know-how, and the other brought his advertising and communication experience. The actors prioritized the artistic goals (worked on a curatorial proposal) and institutionalized production mechanisms (through grant application processes) to protect the project's legitimacy in the visual arts world.

In the second case, cultural workers pursuing collaborations with professional creators found mismatched partners (e.g., the fashion designer Jessica refused to produce designs for a tenants' cultural project). Here, actors with different working ethos (i.e., actors not willing to work for free or cheap versus actors working for art's sake) were incompatible.

I deliberately attempted to leave the socialization component out of the collaboration analysis. By itself, the working together relationships only rarely involved actors moving between the for-profit and not-for-profit sub-branches. However, actors with one foot in both netdoms were consistently prolific collaborators (e.g., Gabriel, Alicia, and Xavier). Also, cultural and community projects catalyzed additional in-house work assignments.

*Community and individuality*

Coworking spaces started as grassroots movements to bring together CCIs professionals working outside of firms (Gandini 2005). They are an outgrowth of artists' collectives (McRobbie 2006; 2016) and a product of the sharing economy (Bouncken & Reuschl, 2018). On the one side, coworkspaces underline coworkers' high levels of autonomy. Coworkers can use the facilities at self-regulated working hours, and, most importantly, they can decide the intensity and openness of their collaborative and communicative exchanges (Bouncken & Reuschl, 2018, p. 320). On the other side, the sense of community sets coworkspaces apart from other workspaces, like libraries, cafés, Wi-Fi-equipped public spaces, and traditional offices (Garrett, Spreitzer, & Bacevice, 2015). Coworkspaces' sense of community is "the right mix of atmosphere, amenities, forms of interaction, and privacy suitable for working professionals" (Garrett et al., 2015, p. 1). Besides membership, mutual influence, integration in a community, and emotional connection (Garrett et al., 2015), a sense of community entails reciprocal obligations. What obligations and responsibilities coworkers have in a coworkspace? Collaborations in the Department 16 demonstrate two problems that are linked to the sense of community-individual autonomy tension dynamic.

First, residents struggle to communicate their center's ideas (and ideals) to other D16's coworkers. While some tenants wanted to produce community events and work for the center's benefit in order to build a name as a CCIs' hub in the city (and if feasible also in the region), others were uninterested and even irritated by such efforts. Besides, tenants' conflicts with the management frustrated community enthusiasts. The tension between the Department 16's management and the actors' expectations broke the already fragile self-

organized alliances (such as the tenants' council). Luckily, new ways to negotiate the center's agenda emerged — but it was a slow and energy-consuming process. But community efforts in Stage 3 catalyzed future events (beyond the scope of this research). For example, actors came up with the idea for the Cultural Christmas Market in Stage 1. Almost three years later, it became real.

The second problem related to the sense of community-autonomy tension was the group social pressure to generate in-house project assignments over external work commissioning. D16's users (mostly freelancers) wanted other residents to support them by championing phrases like "tenants first." Although no one was obliged to contract the Department 16 professionals and companies, and work referrals to clients were voluntary, tenants expected mutual cooperation and solidarity. Overlooked tenants expressed disappointment, frustration, and bitterness when potential in-house clients favored companies outside the Department 16.

## Working together network: emergence and evolution mechanisms

The social mechanisms that I elaborate on follow the pattern of action-formation, or a type of mechanism that combines individual desires, beliefs, and action opportunities to generate a specific action (Hedström & Swedberg, 1998, p. 23). Mechanisms are analytical constructs that provide hypothetical links between observable events (Hedström & Swedberg, 1998, p. 13).

### *Omnivore collaboration*

The first mechanism addresses a collaboration process that focuses on frequent, short, and diverse interactions that form weak ties. I employ one aspect of the theory of weak ties (M. S. Granovetter, 1973) formulated by Schultz & Breiger, 2010: "the strength of weak culture." A weak culture bridges otherwise disconnected social groups and offers actors a prelude to role-taking (Leifer, 1988). I take inspiration from this concept to formulate a collaborative mechanism that explains the emergence of collaborative ties across all of the center's sub-branches.

CCIs actors pursue good reputations, which are networked (i.e., new contacts learn about each other's reputations through mutually trusted contacts within their social networks) (Glückler, 2007b). But actors do not know which connections will be more productive; therefore, prolific networkers pursue as many connections as possible to gain status. A variety of exchanges across domains — characteristic of the center's first stage — signals an effort to explore all available opportunities. This strategy is what I call "omnivore collaboration." The term omnivore in cultural sociology (Peterson, 1992) refers to actors who consume both high and low culture. The omnivore collaboration mechanisms produce abundant weak ties (Table 36).

*Table 36. Omnivore Collaboration - Social Mechanisms (summary).*

| | Social Mechanisms | Action-formation mechanism | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|---|---|
| 1 | Reach-out | Help and cooperation | Predominant; actors establish support links | Not relevant | Resurfaces as new actors intensify cooperation interactions |
| 2 | Group solidarity | Social pressure to hire in-house services | Motto: "In-house [actors] first" (Various residents) | Motto: "It is obvious to collaborate with residents." (Charles) | Actors complain about being skipped over for assignments |
| | | Social pressure to participate in community events | "Actors should give 10% of their time to community events" (Alicia) | Community events stagnate | Community events resurface |
| 3 | Social recognition | Efforts to be known, efforts to increase visibility | Actors gain visibility by participating in the center's meetings; actors speak of a "pioneering spirit" | Tenants produce events to boost their careers, e.g., art exhibitions | Center's "bigger" companies disagree with hiring in-house services |
| | | Physical presence; opportunity for face-to-face interaction | The hours per week at the center affect the formation of collaborative links | Physical proximity (e.g., sharing the same building) influences collaboration | Regardless of their physical presence at the center, same generation residents seek each other's social recognition |
| 4 | No-collaboration | Resistance to meeting expectations | Residents expect to collaborate | Supply and demand are incompatible; DIY actors; imbalance between working for-profit and not-for-profit; lack of funding/clients | As new residents' join the D16, collaboration efforts are again expected |

### Reach-out

A sub-group of D16 tenants formed identities as collaborators. In Stage 1, actors who undertook omnivorous collaboration maintained their collaboration level throughout the stages. Their interactions were motivated by their desire to foster a community and to generate commissions and projects. These relationships link similar and dissimilar actors and aim to develop support, complementarity, and social knowledge. Furthermore, this mechanism, which I call reach out, regulates competition and promotes reciprocity among

colleagues. The impetus to collaborate is a common phenomenon in the creative industries. It mitigates professional isolation and financial insecurity (Hesmondhalgh & Baker, 2011). These obstacles are latent challenges for tenants of D16.

### Group solidarity as social pressure

Group solidarity is another component of the omnivore collaboration mechanism. Its function is to produce an environment of mutual aid between residents and to generate more paid assignments. Collaborative behavioral codes and social sanctions urge actors to satisfy the group (Wellman and Frank in Lin, Cook, & Burt, 2001, p. 235). The maxims of "in-house actors first" and "working with tenants is a logical follow-up" exemplify this mechanism. Kuwabara defines solidarity as actions of mutual trust, regard, and cohesion that enable actors to maintain mutually beneficial exchanges or produce collective goods (Kuwabara, 2011, p. 561). As the case of D16 demonstrates, solidarity can occur between indirectly connected actors (Bianchi et al., 2018). In other contexts, high-status actors experience more pressure than lower-status persons to meet group consensus demands (Lazega and Pattison 2001 in Lin et al., 2001, p. 195). In the next chapter, I examine the residents' socialization practices (types of conversation exchanges) and aim to assess their social status.

### Looking for social recognition, visibility, and prestige

Residents want to be recognized inside and outside the center for their work, and one way they show their skills is by establishing collaborative links with other tenants. The actors who have the most collaborative links (outdegree) are also the most recognized as collaborators (indegree), which contributes to the formation of their professional identities. Prestige is a solution to cooperation. It has the symbolic function of showing appreciation toward others and, therefore, an incentive to establish connections (Aerne, 2020, p. 196). Residents — especially women in Stage 1 — increase their visibility by collaborating. This type of networking is essential for business growth since referrals to potential clients are the most common way to generate new assignments and projects. This connectivity is one of the main benefits of participating in social networks (Hartley et al., 2017).

### *Non-collaboration*

The opposite of the omnivorous collaborator is the univore, who specializes in one or a few types of contacts. Contracting services externally is an important example of in-house non-collaboration. Actors hire external workers and firms, particularly in the sub-branches of the creative industries. Companies justify their decisions to outsource based on three arguments: they are looking for more experienced partners, they share aesthetic tastes or preferences with the external providers, and work commissions with outsiders have emerged as a serendipitous opportunity.

## III.    Conclusions

In this chapter, I examined collaborative relationships in the context of a coworking center in Baden Württemberg, Germany. For three consecutive years, I tracked the emergence and evolution of a community of actors in the cultural and creative industries. The collaborative network is one piece of a new organizational form emergence puzzle.

Collaborative exchanges displayed different patterns throughout the years. However, business collaborations predominated, and two of its most common forms were work assignments and providing assistance. I analyzed how and where business collaboration practices intersected with those in the other two domains: the arts and culture, and the community. Collaborations across domains were frequent in the center's first stage but declined considerably in the following years.

I elaborated on a mechanism that focuses on frequent, short, and diverse interactions that form weak ties. I called this mechanism "omnivore collaboration." Actors engage in multiple collaborations to learn about their social environment and build their own good reputations or prestige, which is essential to the job-seeking process. The reach-out process utilizes a transposition strategy in which actors switch between domains to access opportunities. But by themselves, collaborative relationships tell just one side of the story. Exploring social interactions — through conversations — is the next analytical step.

Why do actors join a coworking center? What opportunities do they make use of? Literature on management and organizational studies states the importance of generating new business ventures or profiting from value chains in coworkspaces (Aslam & Goermar, 2018; Bouncken & Aslam, 2019; Bouncken, Laudien, Fredrich, & Görmar, 2018; Bouncken & Reuschl, 2018; Marchegiani & Arcese, 2018; Moriset, 2017). Although these transaction types exist at the D16, they do not seem to be the main rationale for joining the community. Just as companies continue to cluster in major metropolitan regions across Europe to profit from geographies of reputation (Glückler 2007), so too do actors value the social platforms, prestige, and word-of-mouth opportunities that coworking spaces offer.

# Chapter 4. Making Friends

In this chapter, I analyze social interactions and their evolution. I focus on four types of communication exchanges over the three years of study: conversations about work, exchange of ideas, private issues, and other topics. I conducted interviews with the residents, in which I explored the nature of these conversations and asked participants to provide examples of the valuable information they received or gave during their interactions with other tenants.

As in the previous chapter, I take a network evolution perspective. I am interested in how interactions occur, change, and are maintained. My analysis is intended to better understand social mechanisms. Network structures and social mechanisms co-evolve, as the conditions and opportunities that affect the emergence of relationships change over time (Zaheer & Soda, 2009).

I had intuitions about the network structures and social mechanisms that I could find in a case study of the creative industries. Specifically, I thought that transposition, or the adoption of external practices from across domains, might characterize the relationships. After all, the cultural and creative industries (CCIs) are an agglomeration of contrasting subbranches. While some have strong roots in cultural practices and are difficult to integrate into a market structure, others are cutting edge participants in the knowledge economy.

At the D16, about 200 residents are employed in different kinds of activities in the CCIs. They collaborate on business transactions, help each other, work together in the community and on cultural/artistic projects. At the center, collaborations tend to occur between residents in the same sub-branches. The collaborative relationship (see Chapter 3) grew through a mechanism that I call omnivore collaboration. In the beginning, actors were open to establishing all kinds of collaborative efforts to explore and get to know each other, and exchanges between domains were common. Then this time- and energy-intensive strategy declined, and actors focused more on niche collaborations. In the third phase, however, a new wave of residents returned to the initial pattern of collaboration.

The work-related conversations (e.g., talk exchanges about work problems) are of particular importance to this research. I compared their network structure evolution to the rest of the conversation topics (exchanging ideas, private and other issues conversations) and to the residents' attributes (e.g., type of worker, branch, cultural scene, age and sex). By doing so, I quantify the relational embeddedness of dyadic (Glückler, 2013) and larger groups of relationships. I use the concept of netdoms (network domain) to analyze types of conversations and their network structure. These conversations encompass the socialization relation "Making Friends".

The social networks based on conversation interactions that I examine in this chapter are inter-correlated. In Stage 3, for example, work-related conversations overlap more than 40 percent with the discussions about private issues, suggesting a strong connection that built up over time. Interactions about private matters were not the backbone of work-related

conversations, but the opposite: conversations about work led to opportunities to discuss personal matters, a result that confirms my observations about collaborations in Chapter 3.

Following the research on multiplexity (Cross, Borgatti, & Parker, 2001; Lazega & Pattison, 1999; Skvoretz & Agneessens, 2007), I investigate the residents' choices of interlocutors for discussing work, exchanging ideas, private topics, and other issues. Multiplexity refers to the extent to which two ties relate to each other, so actors that have private conversations (e.g., are friends) might also seek advice, ideas, and discuss work-related topics.

I also explore the effects of proximity on conversation networks. Research demonstrates that physical co-location facilitates interactive learning by strengthening other dimensions of proximity (Boschma, 2005), including the extent to which actors share the same knowledge (cognitive proximity), the personal associations between actors (social proximity), membership in the same organizational entity (organizational proximity), and how actors operate when they share the same set of norms and incentives (Balland, Boschma, & Frenken, 2014; Boschma, 2005). Therefore, physical co-location alone may not be sufficient for actors to benefit from local knowledge (Owen-Smith & Powell, 2004) or other endowments. Following Boschma (2005), because co-location produces face-to-face (rather than remote) interactions and builds trust, co-located actors' connections are also deeper and embedded.

Workers in the creative industries thrive in agglomerations like clusters, milieus, and networks (Banks, Lovatt, O'Connor, & Raffo, 2000). Creative producers must be close to others in their fields to swap ideas and contacts (Oakley & O'Connor, 2015a). Communities and networks are the soft architectures supporting the production of ideas in the creative industries (DeFillippi et al., 2007). Co-location stimulates creative workers' identities and reputations (Lange, Streit, & Hesse, 2011) and facilitates mutual social support, which benefits freelancers and other self-employed workers at early stages of their careers in particular (Lloyd 2004 in Brown, 2017). Therefore, these social systems are increasingly relevant units of economic action (Grabher, 2002).

The chapter is organized in four sections: first, I elaborate on the concept of interaction and its role in generating evolutionary processes. I explain how this relates to the concept of netdoms. In the second part, I describe and analyze social interactions (in the form of conversations) throughout the three phases of my research. In the third section, I summarize the results and elaborate on the evolution of networks by describing its social mechanisms. The last section is for conclusions.

## I. Conversations' netdoms and organizational genesis

In the previous chapter, I used the concept of netdom to address social relationships and stories about collaborative projects. In this chapter, I explore the dynamics of conversations over three years and again use the netdom as an analytical unit. Here, however, I use the concept to understand the meaning and structure of conversation patterns. Netdoms are relational settings based on patterns of interactions (Pachucki & Breiger, 2010); they are networks (sets of ties, structures) intertwined with domains (sets of stories, meanings) that constitute the fabric of lived experience (Godart & White, 2010).

Following Padgett and Powell (2012), I also understand that "actors and ties in social networks are not reified dots and lines" (2012: 3), and interaction (e.g., learning processes) can expand actors' opportunities for co-evolution. Interactions are key to evolutionary processes. Novelty emerges from actors interacting across multiple domains, potentially sparking new organizational forms.

Interaction patterns are common histories and expectations about future exchanges. It is not a bridge between actors, but a dynamic process that actors affect and are affected by (Crossley, 2012, pp. 28–30). Furthermore, interactions are the empirical and interpretable component of social relations. They trigger relations' constant reconstruction (Mische & White, 1998, p. 695).

Crossley (2012) identifies five dimensions of interaction, which are usually interrelated and overlapping. In this section, I elaborate on his analysis. The first dimension is symbolic, or when actors interpret one another's actions and categorize each other. The second dimension is affective, which encompasses perceptions, thoughts, and memories of others; it is embedded in emotion. This state is a permanent dimension of being in the world and being toward others. Actors express feelings about others but also internalize others' perspectives about themselves. The third dimension relates to conventions. Actors draw upon conventions — along with improvisation and innovation — to communicate meaningfully. The fourth dimension is strategic, reflecting an actor's capacity to anticipate an interaction's outcome. Actors size one another up, project into the future by anticipating positive and negative possibilities and seek an advantage. Actors' interests are derived from their position in a network, and conflicts may ensue. The fifth dimension is exchange-power, which entails the interaction of tangible and intangible goods, including sociability's pleasure. Exchange theory proposes that actors engage with each other because they anticipate a rewarding experience. Since actors cherish relationships, they establish interaction patterns (e.g., conversation patterns) and choose interlocutors for their distinctive qualities. Interactions generate interdependencies, and thereby a balance of power (Table 37).

*Table 37. Dimensions and logics of interactions.*

| Dimension | Logics |
|---|---|
| Symbolic | I read others, and they read me back. Actors categorize one another. |
| Affective | I like/dislike others; I approve/disapprove of others. |
| Convention-innovation | How are we supposed to engage with each other? What are the behavior templates? Actors can also develop their own shared rituals of engagement. |
| Strategic | Networking; pursuing a broker position; becoming a central actor; avoiding social exchanges |
| Exchange-power | What exchanges are costly and risky? What exchanges are more rewarding and safer? |

Table based on Crossley, 2012: pp.33-35.

## How relational mechanisms affect organizational genesis

Here, I discuss the relational mechanisms of conversation networks (actor level) and explore how they may trigger the genesis of organizational mechanisms (organizational level). Relational mechanisms are patterns of social interaction that explain why events unfold in a particular fashion instead of in another way (Crossley & Edwards, 2016). Mechanisms are not laws of social interactions, but they may contain clues to how predictable outcomes are formulated (Crossley 2012: 32-33). By understanding social interactions in coworking spaces, I explore "the conditions under which [social mechanisms] are more or less likely to kick in and any other further mechanisms… [that] explain them." (Crossley, 2012, p. 33).

Homophily mechanisms, for example, explain the tendency for social actors to disproportionately forge ties with others who are similar to them in some salient respect (Crossley & Edwards, 2016; McPherson, Smith-Lovin, & Cook, 2001). Therefore, homophily can limit people's social contacts, which has important implications for receiving information.

On the other hand, following Padgett and Powell's arguments, mechanisms of organizational genesis recombine social relations in multiple domains. New organizations of all stripes — not just companies — aim to thrive. From an evolutionary perspective, organizations need to attract people and resources to emerge and develop. Padgett and Powell explore how transposition mechanism relates to organizations' evolution. Multiple network topologies can shape emergence dynamics, and even small-scale transpositions can reverberate in organizational genesis, as actors reorganize old structures into new ones. People in organizations act as multifaceted "reproducing flows", what means that individuals' social interactions reinforce domains but also generate new ones (Padgett & Powell, 2012a, pp. 5–7).

The homophily mechanism is multidimensional: what actors experience as common ground is complex and diverse. Gender, age, profession, habits (e.g., smoking or drinking coffee), hobbies and sports, and taste (e.g., music preferences) are known to bind people together (Crossley 2012; McPherson et al., 2001). On the other hand, the transposition mechanism necessary for generating a new organization relies on mixing the old and the new and moving across realms. How can these two countervailing forces interact to shape a new social space?

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### Making Friends Relationships

The "Making Friends" relationship type contains social practices, including frequent and informal conversations that emerge from everyday interactions. Despite the emphasis on the social contexts of coworking spaces, little is known about how informal relationships are intertwined with ties that involve work-related information-sharing and exchanges of ideas. I define four types of interactions based on the content of these exchanges.

#### *Work-related conversations and exchanges of ideas*

In coworking spaces, actors can learn practice-based skills, industry standards, and narratives to evaluate and communicate with other professionals in their fields (Merkel, 2017). By learning how to communicate in their fields, actors can build and reinforce their professional identities (Merkel 2017). Therefore, a challenge for managers in coworking spaces is to enhance the flow of knowledge through their communities' social networks (Spinuzzi, Bodrožić, Scaratti, & Ivaldi, 2019; Surman, 2013).

Some argue that innovation can emerge from coworking spaces because entrepreneurs can learn quickly and effectively exploit gaps between sectors (Bouncken, Laudien, et al., 2018; Surman, 2013). Others, however, question how much actors with different epistemic backgrounds can learn from each other (Merkel, 2017), since overcoming barriers between different communities is necessary and challenging (Spinuzzi et al., 2019, p. 11). Coworking spaces' tendency to specialize in branches signals that coworkers prefer workspaces that match their individual professional needs.

Rus and Orel (2015) argue that creative class workers favor coworking spaces because they want to join a community of work that facilitates a culture of sharing. A culture of sharing entails giving and receiving information, knowledge, ideas, and material resources — all of which are valuable resources for the creative class.

Likewise, coworking spaces might improve the transfer of and search for ideas (Bouncken, Laudien, et al., 2018). Bouncken et al. (2018) find that actors collaborate to generate creative (entrepreneurial) ideas from which they can breed new venture concepts. Furthermore, coworkers can rely on the group's collective wisdom to solve complex problems (Bizzarri 2014 in Bouncken et al., 2018; Capdevila, 2014; Moriset, 2017; Rus & Orel, 2015).

Coworking spaces aim to produce social interactions and encounters (Gerdenitsch, Scheel, Andorfer, & Korunka, 2016; Spinuzzi, 2012; Spreitzer, Bacevice, & Garrett, 2015). Researchers studying this phenomenon of encounters in coworking spaces conceptualize it as "serendipity" or "accelerated serendipity" (DeGuzman & Tang, 2011; Jakonen, Kivinen, Salovaara, & Hirkman, 2017; Spinuzzi, 2012). Jakonen et al., 2017 address the exploitation and management of serendipity in coworking spaces as an economy of encounters (Jakonen et al., 2017). They conclude that professional and academic literature on coworking probably has idealized these interactions. For example, they observe that independent workers do not have the time to engage in activities besides their work (Jakonen, Kivinen, Salovaara, and Hirkman, 2017, p. 241).

At Department 16, residents share two types of knowledge in work-related conversations: codified knowledge and tacit knowledge. Codified knowledge can be written down in rules and formulas (Bathelt & Glückler, 2011). It is easily transmitted through distance without loss (Capdevila, 2014). However, to understand it, actors need cognitive resources — and this cognition is not available in a codified form (Bathelt & Glückler, 2011). Therefore, codified knowledge relies on tacit knowledge (Johnson et al., 2002 in Bathelt & Glückler, 2011) for interpreting and integrating new (codified) knowledge (Bathelt and Glückler 2011).

Contrary to codified knowledge, tacit knowledge has a "sticky" character (Amin & Cohendet, 2011); it is context-dependent (Gertler & Vinodrai, 2009) and non-codifiable (Bathelt & Glückler, 2011). Thus, actors cannot transfer and imitate tacit knowledge (Capdevila, 2014) since it is embodied (Polanyi 1967 in Bathelt & Glückler, 2011). Tacit knowledge refers to practical knowledge, like knowing how to use "know-what" knowledge and rules of thumb (Bathelt & Glückler, 2011).

### *Private issues conversations and other topics*
Friends have private conversations and can share hobbies, music tastes, and sports. Research on organizations has found that personal friendship ties are elemental building blocks of informal relationships because actors tend to be more cooperative and productive when informal ties complement formal contacts (Ellwardt et al., 2012). Informal ties are channels of information about colleagues' trustworthiness. Conversations about private issues and other topics can also determine an actor's reputation (Burt and Knez, 1996; Burt, 2008 in Ellwardt et al., 2012).

Besides providing information about others, friendship ties represent the expressive dimension of relationships involving positive affect and emotional support (Lincoln and Miller, 1979 in Ellwardt et al., 2012). Close interpersonal ties, like conversations about private issues, facilitate the transmission of social cues, support, and social influence (Baldwin, Bedell, and Johnson, 1997; Rice and Aydin, 1991; Shah, 1998 in Lee & Lee, 2015).

Conversations about other issues can reveal actors' interconnections based on tastes (Crossley, 2012). For example, cultural forms (like music tastes, sports, television program preferences, and hobbies) are consumed with others, adding pleasure to the sociability experience (Crossley 2012). It is easier and more rewarding for actors to interact with others who share similar preferences; otherwise, cognitive dissonance can disrupt the relationship. Tastes are important social references because they serve as talking points during interactions (Crossley 2012). General and diffuse tastes can connect actors to large groups and even masses, while specific tastes circumscribe and create boundaries around small groups (DiMaggio 1987 in Crossley 2012).

## II. The tenants and the center: A story of social evolution

Organizations pursue success (Padgett & Powell, 2012a), and they adopt characteristics in response to environmental conditions during their foundation period (Glückler, 2007b, p. 626). The center's first years of life were crucial for establishing an organizational form that will probably persist and outlast its population fluxes.

The center is an open system. As such, fluctuations and political decisions will greatly affect its development, for example, the risk of disappearing entirely due to sale of the facilities was a possible, although unlikely, outcome during the research period.

Department 16 is the result of a policy to foster learning in knowledge economies and maximize networks (C. Gibson et al., 2015) through public investment in workspaces, studios, and incubators (Oakley & O'Connor, 2015a). Coworking spaces, like the center D16, could help create an organization capable of fostering different types of exchanges, including isolated interchanges, collaborations, and enduring dynamic networks (A. Kaufmann & Tödtling, 2001, pp. 23–24).

The Department 16's creation affected local formal structures in the CCIs, but the question of how much local buzz the center could create remained. Local buzz (or information flows) is learning processes that take place among actors embedded in a community by just being present (Bathelt & Glückler, 2011). However, the effect of local buzz is limited when actors are linked to different value chains (Bathelt & Glückler, 2011) and interdependency is not crucial for development. Therefore, the variety of the center's sub-branches could hamper the formation of social contacts. Nevertheless, learning by interaction between domains might "[break up] collaborative dead-ends and [interrupt] positive feedback loops [from spiraling] downward" (Dornisch 2002 in Grabher, 2002).

### With what social expectations was the center created?
In addition to supporting the CCIs' actors by providing them with a physical space for carrying out their business operations and artistic work, the city government promoted the center's formation to enable residents to spark the city's economic development through mutual engagement.

In Stage 1, I interviewed the center's managers. They were about to receive the first large concentration of actors (approximately 100 new tenants). The beta phase involved only about 25 actors. At the beginning of Stage 1, the center's managers were still working on how to distribute the actors throughout the offices, a task they described as "playing Tetris." They were referring to the effort to harmonize actors according to their activities and possible complementarity. This meticulous task was intended to encourage the generation of synergies between actors. Although it was not one of the main criteria for admission to D16, an interest in networking was considered a desirable prerequisite.

The center's beta phase was characterized by intense socialization among the small group of participants and their frequent contact with the city's CCI representative, who was an active proponent of the Department 16's formation. However, the city decided to give the center's management contract to an employment agency that was already running several programs

in the city. The agency provided two managers for a couple of months and then decided that only one was financially feasible. In every stage, the center's manager, Francis, was an important social contact for work and private issues for many of the residents.

Socialization occurred in informal meetings (eating lunch, drinking coffee, and smoking) and in semi-formal gatherings convened first by the CCIs' city office and later by the management agency. Tenants felt that they were participating in a founding moment for the CCIs of the city. A pioneering spirit prevailed.

### After the beta phase

The first large population arrived in the first weeks of April 2014 (Stage 1). The new residents joined the beta phase tenants, who mostly remained at the center. Later that same year, another group moved into the center. In Stage 2 there were 250 actors at the Department 16.

For first stage tenants, a frequent theme of interactions was the center as a project: what form should it take, what could it become, and what could they do to achieve that development? On the one hand, some actors wanted a platform to promote their activities and reach the city and region; on the other hand, there were basic issues in the facilities' operation, such as maintenance, cleaning, and even internet services that still required immediate attention.

Becoming members of the center was an asset for the tenants', especially in communication with their clients. Sharing facilities with young start-ups and artists boosted their images. However, D16 changed radically in less than a year. At the end of Stage 1, the center had already lost the socialization tools that had helped create the community atmosphere so highly celebrated both in the beta phase and in its first months of activity.

### Informal socialization instruments and practices

In Stage 1, the main socialization instrument was the tenants' meetings convened by the management. Previously, the meetings organized by the city's CCI's office generated buzz about the creative industries. The formation of the center's advisory board — a group of tenants elected by their peers — was a project that could have given voice to the tenants' interests, visions, and concerns. It did not, however, succeed in its purpose: it failed to be the communication vehicle between the tenants, management, and city. Shortly after its formation, the advisory board could not establish fruitful communication with the management agency. Without any official notification, the advisory board disbanded.

Other socialization tools, such as online social networks (particularly Facebook), notified the community about everyday issues, like the arrival and safekeeping of packages. It also enabled the tenants to ask questions on various issues and to request assistance.

Residents employed various interaction strategies, such as keeping the door to their offices or workshops open — sometimes permanently. Others chose to visit and introduced themselves to fellow tenants. Circulating through the corridors and visiting the café were other options for producing social contacts.

Almost unanimously, actors felt good about being and working in the center. The desire to be part of a creative and entrepreneurial environment is what had motivated many of them to apply for admission. Some actors expressed feeling that they were in the right place precisely because they would not have wanted to work among colleagues in the same profession or sector. The center's "melting pot" concept seemed to attract many residents.

The management agency partially planned the center's social life and external communication by unofficially assigning two actors to support the information flow between the management's agency, the tenants and the public. The agency's director appointed these residents because of their commitment and enthusiasm for the center as a city project. The two tenants, Gabriel and Alicia, were prominent figures throughout the research period as they had the highest in-house social contacts. Gabriel oversaw the D16's external electronic communication channels (e.g., Facebook and website), while Alicia helped in public relations (e.g., as center's speaker and representative).

## Stage 1. A place for work and exchanging ideas

The first stage's biggest challenge was to transition from a small, almost family-like community of about 25 people to a group nearly ten times larger in less than a year. Actors had mixed feelings about the Department 16's growth. The center had become bigger, but it felt less like a community. The quality and strength of the tenants' relationships changed markedly in less than a year.

The socialization relation in Stage 1 (see maps below) displays the residents' conversation interactions in Stage 1. The first map displays the conversations about work (Stage 1 Work conversations). Each node represents a resident, and every link represents a conversation interaction between two tenants. The arrow indicates that actor *i* mentioned actor *j* as the person with whom, he or she had frequent work conversations in the last 12 months. The nodes without links (listed in a column at the upper left margin of the map) are center's residents that did not engage in work conversations, however had other types of conversations, like exchange of ideas (Stage 1 Exchanges of ideas), conversations about private issues (Stage 1 Private issues conversations) and conversations about other issues (Stage 1 Other issues conversations), like music, sports, hobbies and small talk. In Stage 1, most tenants had conversations about work related issues (87 links) and exchange of ideas (77 links) (see below Socialization relation Stage 1).

Stage 1 Work conversations
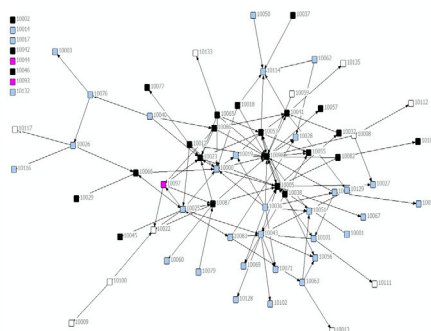


Stage 1 Exchanges of ideas
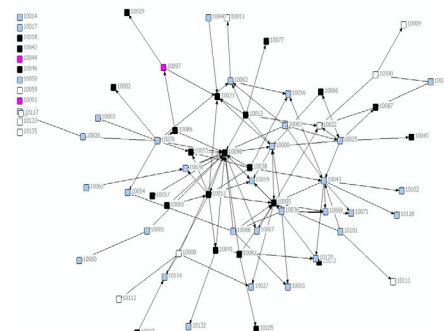


Stage 1 Private issues conversations
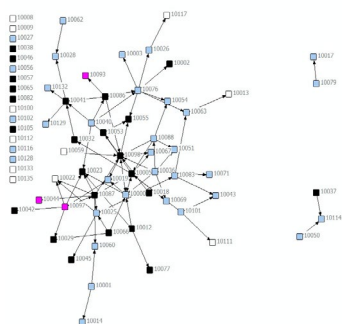


Stage 1 Other issues conversations
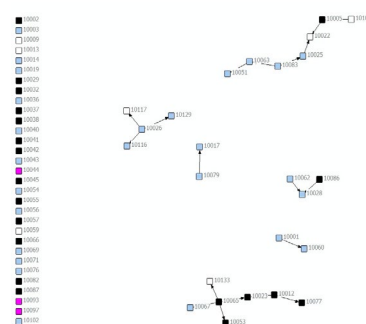


*Socialization relation Stage 1.*

## Work conversations and exchanges of ideas netdoms

### Conversations are for sharing valuable information

For those who previously worked from home, the Department 16 gave them new access to diverse and current information about the CCIs. The center's informal gatherings allowed these individuals to keep up-to-date or feel less isolated, either socially or professionally. Eva stressed that this was an advantage of D16. Information exchanges occurred through encounters and meetings, mostly unplanned or spontaneous, which were uncommon in tenants' previous work environments (offices or homes). Before entering the center, Eva spent time and effort planning meetings that now occurred more immediately, without preamble, since her contacts were also tenants. As a result, Eva increased the frequency of her interactions with in-house collaborators and enriched her network most in this period. Eva reported gaining new clients from among the tenants and at least two job referrals to other clients outside the center.

Information flows were not only about the tenants' business areas and the functioning of their companies. Work ethic and other expressions of commitment were on display (e.g., having regular and long working schedules, dedication, enthusiasm, etc.). These actions reflected a tenant's vitality, effort, and commitment to overcoming the challenges of establishing a new company. Eva compared the D16 to her previous experience in a coworking-style office. Previously, she had interacted only with the neighbor of her office. In the center, she enjoyed the high volume and diversity of interactions. Eva expressed feeling encouraged and inspired by the Department 16's community.

> *Although I already knew them, it's not the same since we're in the center: we can talk in short, we can meet for lunch at noon. It's totally different from being in the house... here it's closer. In your house you are alone. Contacts happen because there is something concrete to ask, something specific to get in touch with, and here you meet people spontaneously in the hallway, in the café, and you can talk to them, you talk about what is happening now, it is more lively, you are not on an island... also you learn from each other's projects, and there is no direct intersection between the projects or common projects or a way to translate one into the other, but it is still interesting, how everyone does what they do and how they do it; and then there are the issues that interest us all: generating new clients; administrative tasks; the ones that have interns... (Eva 2015).*

However, not all actors felt that they benefitted from the mix of branches at the center: "There would be more exchange of ideas and collaboration if we [had] more start-ups in the center," said Connor from the start-up CBC. Since its inception, the center hosted more self-employed individuals and artists than start-ups. Furthermore, most companies were micro-businesses and had no real growth prospects. In Stage 1 and within a few months in the center, it was already clear which firms would be able to develop further. Founders of start-ups participated in start-up events; implemented successful crowdfunding campaigns; won

awards, scholarships, public financing, and private investments; joined business acceleration programs; and received favorable press coverage. The external attention generated a hierarchy of companies and actors. Although they shared more or less similar beginnings, clear differences between the companies' paths emerged by the end of Stage 1.

## The center as a social space for the city

The center was not only a space for internal socialization, but it also enabled the exchange of ideas and collaborations between its residents and the visiting public. The first annual Open Day event is an example of these interactions. In Stage 1, all the actors participated, which was not the case in subsequent years (start-ups, software and IT professionals would be absent in the following iterations).

A remarkable example of the consequences of exchanges between tenants and visitors involved one external entrepreneur who offered Lucy, an artist, pre-built walls for remodeling the painting workshop. The workshop did not have dividing walls to separate the working areas, and two sides of the buildings were windows, so Lucy was eager to modify the arrangement. The painter Penelope also commented that these events afforded her the opportunity to discuss art themes that interested her, but which did not resonate with other in-house painters.

Another series of events that promoted the tenants' socialization with the city's start-up community was "Zünder für Gründer" (in English: Igniter for founders), organized by Heidelberg Start-up Partners. Once a month, Start-up Partners invited speakers to tell their companies' stories. Tenants participated in these sessions, which concluded with a set of short, informal presentations by the public. Attendees were invited to network at the end of the program. These gatherings included free food and beverage service. Many tenants mentioned attending or at least knowing about these meetings. For some, like Fatima from MR, there was no incentive to join the sessions since its topics were too general or unnecessary for their start-up: "We are not exactly at the beginning anymore but also not well developed. We are in the 'Death Valley,'" she lamented.

*Private issues netdom*

## Trust and friendships

Access to information and advice affects actors' economic performance and organizational structure. But trust is necessary to prevent mutual exploitation (Bianchi et al., 2018). In a coworking space, an authority or hierarchy does not force or regulate interactions between tenants (Bianchi et al., 2018; Broadbridge, 2010), contrary to what might be expected from a more formal organization.

In Stage 1, the residents developed bonds of trust through frequent informal, semi-formal, and formal meetings during the Department 16's beta phase and later through the center's management-organized planning meetings. Informal gatherings in the café and terrace were also frequent. According to many interviewees, the new personal contacts (affective interactions) were the most positive thing that the center had generated.

Video productions and photo sessions for (almost) all of the actors present at the center in Stage 1 strengthened their sense of community. The visual content appeared on the center's website and YouTube channel. Xavier, co-partner of the media production company PD and director of several tenants' video presentations, recalled working pleasantly together and developing feelings of trust toward his new neighbors. Two years later, in Stage 3, Xavier trusted and shared ideas with an almost identical group of actors. Stage 1 residents built a core group that persisted at least until the end of Stage 3.

More than exchanges about specific work-related topics, the most frequent daily encounters were those in which actors could express frustration after a difficult day. For example, for Fatima, personal support was a valuable aspect of membership at the center. She often vented her problems to her neighbors in the corridor. Moreover, knowing that others were experiencing similar problems was comforting, despite not having first-hand information about other tenants and their activities. In interviews, tenants addressed repeatedly how sharing a physical space increased their community feelings.

However, the opposite was true for tenants with flexible working hours or those who had rarely worked from the center. Many were away from their offices and workshops for days, weeks, or even months. The contrast in time management among the tenants was evident. Hence, long working days contributed to generating a new form of homophily. Two groups formed: one consisted of start-ups and professionals who shared similar working routines, and the "rest" mostly consisted of artists and tenants frequently absent from the center's premises.

Physical presence in the center and dedication contributed to creating positive links between the actors, but so did similar actor-types. In Stage 1, young companies bonded over their shared adversities and opportunities, regardless of branch and sector.

*Other topics conversations - Common areas as social places*
For various reasons, including work and personal issues, most of the actors who had actively participated during the center's first months reduced the intensity of their center's social interactions at the end of Stage 1. In interviews, these actors expressed their distance from social life as well as from planning activities of the D16. Still, they thought that the rest of the actors continued to participate in the meetings with the management or visit the Café Control-Room regularly (neither were the case).

The reality was that by the end of Stage 1, interactions through formal and informal meetings had decreased. Contacts between neighbors were frequent but superficial, and lunchtime meetings were a thing of the past. Moreover, the common areas, either furnished by the management or the residents, did not increase in popularity, but rather looked abandoned, dusty, and charmless. For example, the management closed the terrace because the height of the railing did not comply with the city's regulations. More than two years later, it was still not fixed, and the terrace remained officially closed. Actors managed to use it by climbing through a window, but they would not consider asking clients to do the same. The management addressed issues (e.g., frequently broken toilets, unlocking doors, stolen doorbells not replaced for months, poorly functioning heating system, and unreliable

internet connection) but slowly: cheap rent meant poor quality services. The management responded by pointing at the business' relevance of these troubles, what polarized actors. In the big picture, was it important to have a working toilet? The management and other tenants claimed that people demanding services were narrow-minded and troublemakers.

*First stage conversations' quantitative analysis*
I use the software UCINET (Borgatti, Everett, & Freeman, 2002) for relational data analysis. First, I evaluate the correlation coefficients between work conversations and other forms of conversations (MRQAP analysis). For clarity, I transform the correlation coefficients to percentages. Then, I employ the E-I Index to measure the external versus internal group relationships based on actor's attributes. The E-I Index reveals the residents' homophily tendencies in work conversations and exchanges of ideas.

Work conversations concurred with other forms of conversations. In the first stage, work conversations and exchanges of ideas were tightly interrelated: more than 60 percent, which is the highest correlation between two conversation forms in all three stages. Only a quarter of the work conversations overlap private exchanges and a fifth, other topics. In Stage 1, D16's residents were having work conversations in their same cultural scenes (e.g., between bike enthusiasts, fashion and crafts producers, and artistic and commercial photographers), and within their same economic sector (e.g., cultural industries, creative industries, business sector, or other sectors). On the other hand, residents discussed work related issues with workers from other branches. Sharing the same entry year was also not relevant for establishing work related conversations (Table 38).

*Table 38. What influences work conversations? (Stage 1).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| Dependent Variable: Conversations about Work | | Stage 1 | |
|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** |
| 1   Same type of worker | | | -0.00359 |
| | | | (0.00288) |
| 2   Same cultural scene | | | 0.00897* |
| | | | (0.00488) |
| 3   Same branches | | | -0.00876* |
| | | | (0.00344) |
| 4   Same sector | | | 0.01057** |
| | | | (0.00316) |
| 5   Same entry year | -0.00367 | | -0.00652* |
| | (0.00576) | | (0.00307) |
| 6   Same gender | | | 0.00181 |
| | | | (0.00325) |
| 7   Same age | | | 0.00135 |
| | | | (0.00407) |
| 8   Same house | 0.01743** | | -0.00163 |
| | (0.00565) | | (0.00317) |

| | | | | |
|---|---|---|---|---|
| 9 | Hours per week (product) | 0.00692** | | 0.00192* |
| | | (0.00213) | | (0.00088) |
| 10 | Exchange of ideas | | 0.62569** | 0.62173** |
| | | | (0.01585) | (0.01529) |
| 11 | Conversations about private matters | | 0.25870** | 0.26055** |
| | | | (0.01404) | (0.01447) |
| 12 | Conversations about other topics (Small Talk) | | 0.21040** | 0.20995*** |
| | | | (0.01913) | (0.01887) |
| | Intercept | 0.00004 | 0.00517 | 0.02465 |
| | p | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.01100 | 0.61500 | 0.61686 |

Standard deviations are in parentheses. 5000 permutations. Stage 1: N=72, 5112 Observations; * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

The E-I Index analysis corroborates the MRQAP analysis and offers additional information. For example, tenants had work conversations and exchange ideas primarily with other tenants in their same sector. In the case of exchange of ideas, residents discussed their ideas with tenants in their same buildings, although they spent different number of hours at the center. This means that tenants that occasionally worked at the center or did it only for a couple of hours a day had opportunities to exchange ideas with residents who worked regularly and for many hours at the center (Table 39).

Table 39. E-I Index: External ties versus internal group ties (Stage 1).

| No. | Attribute | Work | X-Ideas |
|---|---|---|---|
| 1 | Type of worker | -0.017 | -0.086 |
| 2 | Branch and cultural scenes | 0.569 | 0.581 |
| 3 | Sector | -0.138* | -0.029* |
| 4 | Entry year | 0.259 | 0.143 |
| 5 | Gender | -0.293 | -0.219 |
| 6 | Age | -0.448 | -0.314 |
| 7 | House | 0.103 | -0.010* |
| 8 | Hours per week | 0.397 | 0.448* |

* E-I Index is significant ($p<0.05$).

I evaluate the degree of popularity/activity by using the outdegree/indegree measure and betweenness centrality. The outdegree derives from the tenant's number of interlocutors, while the indegree corresponds to the number of people who named the tenant as a conversation partner. Outdegree signals an actor's centrality, and in-degree indicates his or her prestige.

Alicia, the tenant selected by the management to help with communication and PR, was the center's most active socializer. Gabriel, who became the center's "networker," received the most mentions regarding both work and private issues. For work and private issues, Alicia and Gabriel have the highest betweenness centrality. However, removing all their work-related conversations' links does not disrupt the network's interconnection (see Map 1).
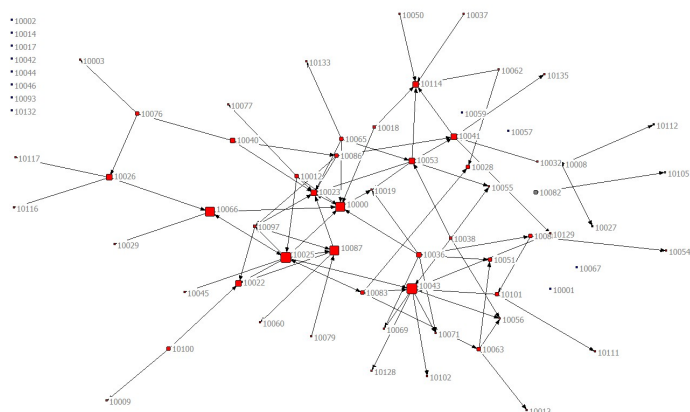
*Map 1. Work conversations network without the highest betweenness centrality actors (two actors). The network remained connected (N=70).*

On the contrary, the exchange of ideas network would split into three components without the broker actors Alicia and Gabriel (Map 2), when originally the Stage 1 Exchange of ideas' network had only one component.
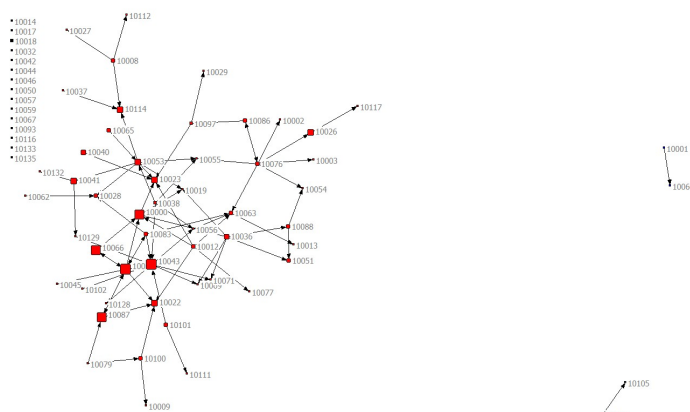


*Map 2. Exchange of ideas without the highest betweenness centrality actors (2 residents). The network fragmented into three components (N=70).*

## *Stage 1 - Summary*

In Stage 1, the center transitions from a small group of 25 people to a more extensive community of approximately 200 people. This growth changes the quality and frequency of the tenants' conversation exchanges. Work conversations are most closely linked with exchanges of ideas. Tenants who previously worked from home or in less social environments celebrate the center's diversity of economic and cultural activities. Actors enjoy this period of intense socialization, particularly the help completing tasks, sharing work referrals, and providing social support. The center inspires its tenants to overcome adversities. Of all their interactions, D16 tenants value personal relationships most highly.

## Stage 2. The mixed zone: The intermingling of work and private conversations

During the second stage, many actors were unable to participate in the center's social life. From morning until late evening, they worked nonstop. This was the case for Jackson from the merchandising firm CW:

> Yes, I walk around very rarely. I go down to the Café Control-Room for a moment, I get something to eat, and that's it. Maybe I am there two minutes. I don't even look outside the window! The sun is shining, or it's raining. From here, I see "Oh my God! It's raining", sometimes it's been raining all day, and I didn't realize that [laughs]. I see a few people here, only for concrete things (Jackson 2016).

Jackson had already found the residents who could help him in his business and regularly collaborated with them. That was also the case for social connections in the center: many social bonds predated the foundation of the Department 16, including a friendship with Francis, the center's manager, and many other residents.

Many residents in the music scene came from Kosmodrom, a non-profit, community-oriented, and sadly ephemeral project (it lasted less than four months). In a limited way, Kosmodrom was a social antecedent of Department 16. However, its goals and management style were almost opposite: Kosmodrom was a collective, young, and all-inclusive cultural project, while Department 16 has a for-profit focus and is based on strong univocal leadership from the management agency's director.

After the advisory board collapsed, the agency's director replaced it with a select group of tenants, whose mission was to represent the center externally and create internal synergies around specific topics. Alicia, a photographer and author, was one of the tenants selected by management. She had been part of the tenants' advisory board, and her new task was to communicate the center's advantages for CCIs' workers and bring attention to the Department 16's developments and potential. She acted as a broker between the center and the city and between the residents and the management agency. She developed her role intensively and was the most or one of the most socially connected residents every year.

> Me: Why did you leave the tenant's advisory board? Was there any conflict?
>
> There was no conflict. It just did not work. I put myself in. I don't know any more [what happened]. What was the point where I said, "I've had enough?" Well, exactly, they talked behind my back. What did they say about me? That I am for the [management's agency], that I am pro-[management], that my decisions were for the [agency], and it is not true at all! I can decide neutrally. I can also know if someone tries to influence me.
>
> Me: So, it was the [management] versus Department 16?
>
> Yes, yes, exactly. [They said that] I will not act or decide for the tenants' benefit but for the [management]. I don't think so, and it's my free time, and I'm more mature [than most in the center]. I know when someone tries to manipulate me and change my mind.
>
> After that, [the agency's director] called me. He knows that I am idealistic. So, now we meet every six weeks, and he tells me what happens and what we could do. He

*has me as underground, not officially, but he thinks what we could activate certain tenants, for example, who would be the right person for some events (Alicia 2016).*

The city politics behind Department 16 are an important component of the center's dynamics. Located in the old fire station, the center is a city project, which has received public funds for renovating the facilities and constructing music studios in the basement. The city also dictates the center's operating guidelines (e.g., to host for-profit oriented CCIs business activities and start-ups temporarily). Therefore, political pressures quietly influence the center's proceedings. In a pair of interviews with the center's managers (first with the two, later with the remaining one), they addressed the complex power network that enveloped the center. City officials scrutinized the center's every step. For example, every single tenant had to be approved by the city council.

At least once a year, city officials and political parties visited the center. A select group of tenants acted as hosts. Alicia and Gabriel were always among them. These encounters expanded their social network greatly:

> *Me: How is your work commissions' situation before and after joining the center?*
>
> *It's much more now, much more now.*
>
> *Me: Does this have something to do with the Department 16?*
>
> *Of course! My visibility has increased! It's not that I get more money from the assignments in Department 16. Quite the opposite. I earn very little from these orders. It's always low budget. I only make sure that I don't have expenses and that I earned a little money. But it's the visibility that I gain by doing these works. Through the Department 16, I got to know the whole municipal council. All the political parties were with us, and they all passed through me because I have one of the most beautiful rooms, one of the most interesting rooms, a room where you can get something out of it. The people understand what we are doing. They can take something with them. Now, when I'm in town for the [city] events, I can talk to them because they already know me, and we talk, and that's how I get new contacts (Alicia 2016).*

On the one hand, many actors in Stage 2 did not have the time or disposition to engage in the center's activities. Many had already found their trusted collaborators and contacts. Tenants had more work conversations than all other conversation's types. Work-related conversations (S2 Work, 133 links) and private conversations (S2 Private, 123 links) were the most abundant. In Stage 1, work-related conversations and exchange of ideas had prevailed over the others (see below: Socialization relation Stage 2).

Stage 2 Work conversations
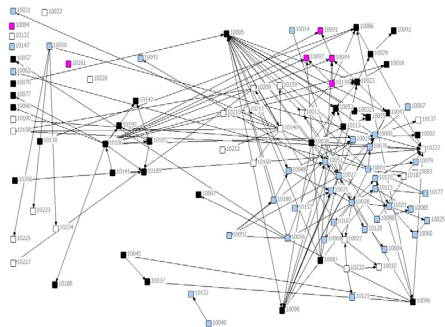


Stage 2 Exchanges of ideas
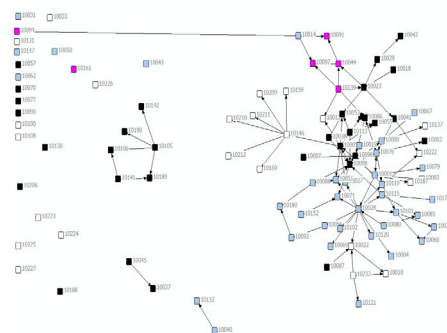


Stage 2 Private issues conversations
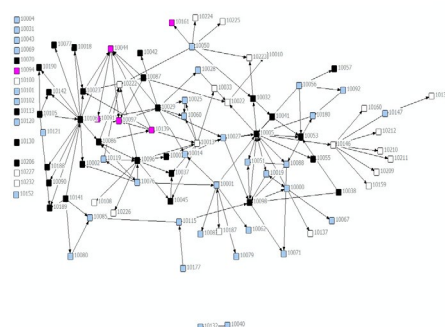


Stage 2 Other issues conversation
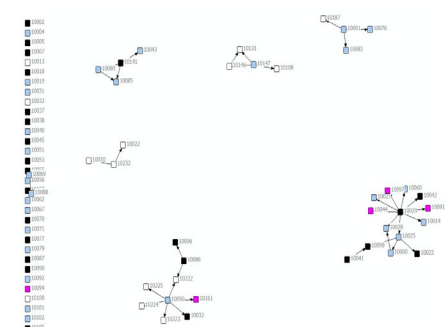


*Socialization relation Stage 2.*

*Color code: Pink refers to business; blue to cultural industries; black to creative industries; and white to others/not applicable. Arrow direction indicates who named whom (Actor i named → Actor j). N=98.*

Two brokers (at least one of them appointed by the management agency) were extremely important to the flow of ideas: without them, the exchange of ideas network would have split into six components instead of four (see Map 3, 133 links without a broker instead of 166 in the original network).
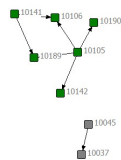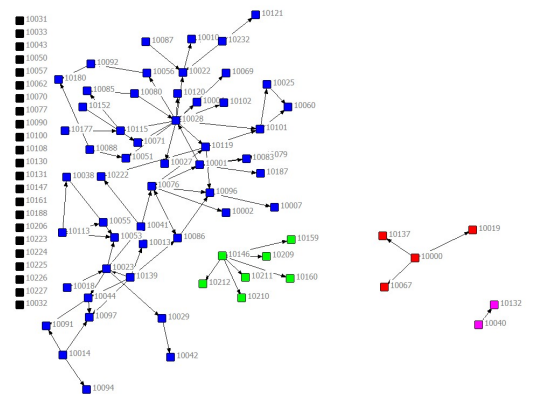


*Map 3. Exchange of ideas without two brokers (Stage 2). The network fragmented into 6 components (instead of 4) (N=96).*

The work conversation network would have been also less dense (94 links instead of 109), but the flow of information would have remained stable — two components with or without brokers (Map 4).
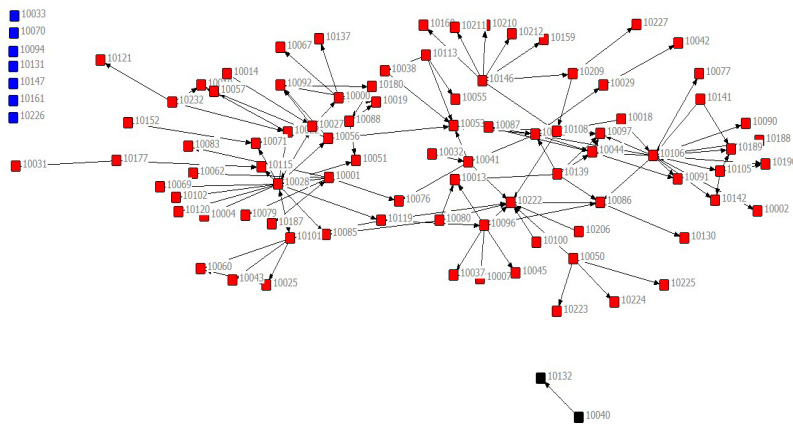


*Map 4. Work conversations without two brokers (Stage 2). The network remained the same (N=96).*

## Work conversations and exchanging ideas diverge

In the second stage, almost 50 percent of the work-related conversations correlated with exchanges of ideas. In Stage 1, the correlation was higher: 62 percent. Work-related conversations correlated more with interactions about private matters. This finding suggests that actors were becoming friends, and conversations were increasingly intermingled: tenants easily switched between the work topics and personal issues. Work-related conversations seemed to focus on a set of actors already chosen for those interactions, so other topics (including small talk) were counterproductive to establishing meaningful work dialogues; the correlation between work-related conversations and discussions about other topics was negative (-11 percent) (Table 40).

*Table 40. What influences work conversations? (Stage 2).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| Dependent Variable: Conversations about Work | | Stage 2 | | |
|---|---|---|---|---|
| | | Model 1 | Model 2 | Model 3 |
| 1 | Same type of worker | | | -0.00031 |
| | | | | (0.00186) |
| 2 | Same cultural scene | | | 0.00529* |
| | | | | (0.00301) |
| 3 | Same branches | | | 0.00140 |
| | | | | (0.00249) |
| 4 | Same sector | | | 0.01379** |
| | | | | (0.00206) |
| 5 | Same entry year | 0.00531 | | -0.00507* |
| | | (0.00138) | | (0.00206) |
| 6 | Same gender | | | 0.00084 |
| | | | | (0.00221) |
| 7 | Same age | | | -0.00291 |

| | | | | (0.00246) |
|---|---|---|---|---|
| 8 | Same house | 0.01889** | | -0.00204 |
| | | (0.00360) | | (0.00199) |
| 9 | Hours per week (product) | 0.00533** | | 0.00017 |
| | | (0.00138) | | (0.00066) |
| 10 | Exchange of ideas | | 0.49992** | 0.49475** |
| | | | (0.01137) | (0.01116) |
| 11 | Conversations about private matters | | 0.55445** | 0.55371** |
| | | | (0.01129) | (0.01097) |
| 12 | Conversations about other topics (small talk) | | -0.11058** | -0.10970** |
| | | | (0.01461) | (0.01453) |
| | Intercept | -0.00467 | 0.00334 | 0.01746 |
| | p | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.01100 | 0.64900 | 0.65161 |

Standard deviations are in parentheses. N=98; 9506 Observations; 5000 permutations. * p<0.05, ** p<0.001;
*** p<0.0001.

The range of other topics is broad. For example, I asked actors about their hobbies and what they did in their free time to look for possible social interactions in other realms. With some exceptions (two residents occasionally met to practice swing dance and another pair played soccer weekly), tenants said they did not have any hobbies or play sports. Casual, unplanned encounters in the city were also rare for most of the residents. Only a few mentioned seeing each other in local bars.

Tenants had more interactions with actors physically close to them (in the same building) compared to in Stage 1. Since neither meetings nor social exchanges were being conducted in the café, actors worked in a focused manner, keeping to themselves and their neighbors. The center's total population was larger, but the actors' contacts were confined to their direct neighbors, except where actors deliberately networked in order to keep up with the center's growth (as the two brokers, Gabriel and Alicia, did) (Table 41).

*Table 41. E-I Index: External ties versus internal group ties (Stage 2)*

| No. | Attributes | Work | X-Ideas |
|---|---|---|---|
| 1 | Type of worker | -0.087* | -0.176* |
| 2 | Cultural scenes | 0.195 | 0.118 |
| 3 | Sector | -0.383* | -0.353 |
| 4 | Entry year | 0.235 | 0.176 |
| 5 | Gender | -0.342 | -0.314 |
| 6 | Age | -0.396* | -0.529* |
| 7 | House | -0.074* | -0.275* |
| 8 | Hours | 0.477* | 0.373 |

* E-I Index is significant (p<0.05).

In Stage 2, three new actors (Eric, from the software industry; Hugo, in the music branch; and Salma, the co-founder and product developer of a food start-up) deliberately formed relationships with other residents. All of them decreased the intensity of their social lives at

D16 in Stage 3, and one, Salma, even moved out due to expansion (the food start-up had been operating from a meeting room of the coworking space studio).

The center's brokers (still Gabriel and Alicia) were the most-named conversation partners (indegree and outdegree combined). Alicia, who was unofficially commissioned to work as the center's communicator, was also the resident with the most shortest-paths to other residents, and she scored the highest betweenness centrality for work conversations in Stages 1 and 2. Gabriel and Alicia worked as a team to increase the center's presence in the city. Besides, they were good friends. Many tenants mentioned the manager as an important conversation partner for work-related issues in Stage 1; in stage 2, he took third place, after Gabriel and Alicia. As such, the three people most linked to the center's program or political agenda were the most active work-related conversation partners.

## Sharing information within branches

Residents in the same branches cooperate and share information. Sharing the same branch does not mean that actors are competitors. Each branch is diverse, so despite (or because of) the city's small size, the center's tenants rarely experience competition:
I'm also relatively alone in the segment here in the house. There are few people in the concert business, and then there are people who do weekend events, like Literature Camp and Barcamp, but that's a totally different target group, a totally different segment. What I do with the [music] band, that's not really a creative business, but I do the event, I'm the organizer. I don't really exchange ideas that much. I'm in my office with the guys from [another music agency], but they are in another segment...

> Me: Aren't you competitors? They also organize concerts in [another venue] …
>
> Yes, but they do electro parties. It's totally different. It's more like I can send people from here to their parties because they usually start at 11 pm or midnight, and that's when I'm finishing the concerts. Besides that, it's another target group, too.
>
> Me: Is there any support between you?
>
> Yes, yes, there is an exchange. If I need a DJ [I ask them], or if they need a band [they ask me] or 'Hey, there is a big event, could you invite a few people?' It works quite well with them (Hugo 2016).

For residents in the software and IT sector, tenants like Bryan tend to exchange ideas primarily through online networks. However, according to the software developer Marcus, the center also offers opportunities for in-person exchanges, although it is difficult to pinpoint the impact these interactions have on their work:

> There are already people in the house. You meet them in the corridor. They also make apps. We give each other tips. Such a thing. There is this synergy effect in the house, definitely (Marcus 2016).

## Getting the prices right
Access to knowledgeable actors — some with more experience or from other regions — helped center's less experienced residents address work issues, like assessing their fees.

That is the case of Alicia. Although she was in the center's upper age bracket, she had only a decade of experience working as a freelance photographer, and she was financially dependent on her family due to her limited revenue.

The photographer Carlos, who had recently moved to the city for personal reasons, previously worked in Hamburg as an assistant for product photo shoots. He was able to help Alicia understand her place in the local photography market:

> *Me: Is there any new strategy in your work?*
>
> *Yes, I have increased my costs [with a new website, designed by an in-house web-designer], and I have increased my prices. I am always looking at what I need to change. How should I approach my customers so that I can work more? Should I choose new customers? I am always thinking. So, last year I met with an in-house colleague, Carlos [product photographer], and he told me, 'You are very cheap, you have to become expensive. Raise your prices! You have too many small customers that cost you so much time. You have to be expensive'. And that's what I did this year, from 139 Euro to 189 Euro, because this hour the customers are buying is still minimum one more hour because I have to work on the pictures. I have a lot of phone calls with customers. I send the link away, and then it comes back, and then something is wrong, and there is so much time, and I have increased the prices, and all customers have accepted them until now, both the old and the new customers (Alicia 2016).*

## Sharing information between branches

### Adjusting expectations and learning from other fields

Not all musicians teach, but teaching is part of what many professional musicians do in addition to performing and recording. In Department 16, some musicians do not teach and use the rooms only for rehearsals. During the day, predominantly teaching musicians work in the music studios. At night, one or two musicians work regularly and only occasionally do they hold band rehearsals.

> *There are networking points, a lot of things happen in class, it's clear to us, but it was the idea, of course, we go in [move into the center], ok, the rent is a bit expensive, but the location is networkable. Now we are in, and there are connection points with Hugo [music promoter], Alicia [photographer]. That happens already, but not that we'll say: 'we profit greatly from the Department 16 because there are many musicians in it' (Oliver 2016).*

Even if they do not collaborate directly with other musicians, some benefit from their contact with other professionals closely related to the music production industry. Through conversations with in-house media producers, the music school has been able to expand its students' horizons:

> *Me: Who has inspired you? Have you learned something from other tenants?*
>
> *Yes, in any case, OL [media producers] also with the studio they have inspired us, because we are installing a mini studio, for example, a studio for the production of our own music. Not in their style, but for us [much smaller], it's not that we can say to our students 'go-to OL and get a recording for 400 euros!' They are schoolboys!*

*[laughs], but it inspired us to do it [a sound studio], directly recording lessons, with video and everything (Oliver 2016).*

## Exchange of ideas is a social exchange

Business-oriented individuals looking for ideas to improve their companies could definitely find the knowledge they need at the center. That was the case of the company WWB, which consulted with and hired their coworker, the software developer, Bryan. But not all encounters at the center are business-related, no matter the goals of their participants:

*It must be a company because that's business. Everything else is no business. It's just me having an idea and doing something that's going on but is going on very slowly. Where there is business, there's money, and there's time pressure. Everything else is no business. I'm having a coffee and talking to people, 'How's it going with you?' But that's "the social," and not for business development, that's not business development (Bryan 2016).*

Synergies come from exchanging ideas, which is a social exchange. Showing approval, interest, respect, or appreciation for someone else's work reinforces information exchanges and provides important clues about the "who's who" in a social network — knowledge particularly valuable for the city's "newbies." That is the case for Tina, who recently began living and working in the city. As a press and communications professional, it was important for her job to learn about the social context. The center's residents were able to provide her with this information:

*Me: How do you benefit from D16?*

*[Since I'm not from this city] I think that for my tasks I actually profit from the people who work here and know the city very well. They are rooted here, at least the people I have met in the center, and they can tell me a lot: Who is who? Who is good for what topic? Who is an important interlocutor? I think I profit more from the fact that they give me information about their networks. For example, I go and ask them: Who is a good filmmaker or photographer? Or could you help me find someone who does x? It's basically information about their networks (Tina 2016).*

## Exchanging ideas expresses collegiality and friendliness

The nature of most exchanges of ideas is also important. It was difficult for tenants to recall concrete examples of when they received or gave information to other tenants. Sharing ideas as suggestions is intrinsically connected to the life at the center, so it is hard to pinpoint specific and relevant exchanges:

*Having an office with other people helps for ideas, giving a perspective of what they are doing…*

*Me: Can you give me an example of how it has helped you?*

*There can be small things, 'how would you say that in German?' or they would ask me the same in English. Or it can be something abstract like 'do you think that these colors work?' or a tax question that we are all familiar with because we are all in the same situation. Someone will know the answer. Or it could be other things like Beatriz*

> *would say 'oh, in Berlin I saw this exhibition,' and she would tell us about it. People share (Rocco 2016).*

Furthermore, some information and ideas are harder to share, and they require a trustworthy interlocutor. Valuable information is intermixed with trivialities, particularly with those that build relationships, and not just small talk.

> *People share practices. I think it can be improved. If you don't have relationships with people, you cannot expect them to share ideas with you (Fatima 2016).*

In building relationships, language plays an important role. For foreign tenants, the barriers to participating in a sharing dynamic are more evident than for native German speakers. It is possible to assess the social mechanisms taking place in exchange of ideas-conversations by considering language barriers. Small talk — or lack thereof — is important:

> *Me: What comes to your mind when you hear "exchange of ideas in Department 16"?*
>
> *I think of a place where there is free beer [laughs]. No, the first thing that comes to my mind is freedom, "wow, what a great opportunity" …*
>
> *Me: That was at the beginning, but now that you have been here for almost two years, how does exchange of ideas work?*
>
> *I thought at the beginning that we were going to have experts coming in and talking about specific issues that are relevant to people working in our situation. That was a really good thing, but for the exchange of ideas… well, my German, as much as I try to make it better, I have these limits because exchange of ideas is something very informal, and that is hard to do when you can't make a lot of small talk, or you just sound weird when you try to make small talk (Rocco 2016).*

Conversely, in Stage 2, work-related conversations and exchanges of ideas correlated negatively with other conversation topics: -11 percent and -3.26 percent, respectively. Actors who shared non-work interests or who had regularly other issues or small talk-type exchanges were not chosen as discussion partners for work-related topics or exchanging ideas.

Nevertheless, exchanges of ideas and work-related conversations were tightly correlated in Stages 1 and 2, and they probably exhibited similar dynamics: switching from work to private issues, to other topics, to small talk, and so on (precisely Rocco's argument).

Having interactions about other issues supports the social network. The multiplexity of actors' ties can jeopardize more meaningful — economically and/or personally — relationships. During Stage 2, work-related conversations correlated 30 percent more with private matters than a year before (25 percent in Stage 1 to 55 percent in Stage 2): residents were not just chit-chatting with coworkers but had already established friendship-like ties. Therefore, between Stages 1 and 2, work-related issues became intertwined with personal/private issues, and actors who were left-behind — those who did not build connections during Stage 1 — were less able to participate in the center's conversation netdom in Stage 2.

## Emotional links: Admiration and dislike

Tenants talked about the center's success stories. Information flowed rapidly through the center's communication channels (newsletter, website, Facebook, gossip). In addition, tenants witnessed the companies' growth. There was a sense of awe for original and unexpected ideas:

> I was surprised about how many people were here and what they do. For example, about Rafael, about his clothes. With him, I had my first contact here, he was next to us, and it was a surprise to learn what he does! That is really crazy! A guy who didn't learn to sew sells leather clothes for thousands of Euros [laughs] in New York! [laughs] These are things I would never have thought to meet. He's a very nice guy, so he's definitely very impressive. I am happy that there is such a place like this in the city (Brett 2016).

Residents also paid attention to what they interpreted as an indicator of work ethic and commitment: the work schedule. To some tenants who dealt with space problems, it was frustrating to have constantly absent neighbors occupying valuable subsidized space:

> [My neighbors] split [their room] in three or even more, so they can afford these 300 euros every month. Then they can say, 'I'm an artist.' What is that?! And then there was this time when I had a mini thing [room], and I needed more space, and it [the space] was all taken. The CBCs also needed more space, 'all taken.' WDS needed more space, 'all taken,' and they are here! [they work daily in the center]. They are doing something! And the space is taken by people who offer [craft] courses! [laughs] What is this?! I was really upset, but I also said: 'it's good, you can't throw them away at all.' And I can understand it, but [the management] should do it because [the center] is about promoting art and supporting people who at least appear to be working. This is not about money. I'm not saying that they should be making lots of money, not at all! But if you don't work, how could you expect to make it work?! Of course, it won't work! [laughs]. If you say that you're an artist, that you're doing this kind of work, then I expect that you're really doing this kind of work and that you don't come in once a month to do two strokes and then say 'yes, [my career] doesn't work.' It's clearly it doesn't work!

> I had a studio down there [in the workshops' ramp] at that time, which it's ok, I liked it, but it leaked, and I thought: 'it can't be that I pay 7.50 Euro [per sq meter] and it rains in, and I have no electricity, nothing, and up here they pay the same, and there are never here! I never see them! [and] I've been here every day since I rented this place (Rafael 2016).

## Private issues and other topics

Patterns of conversations about private issues strongly resemble work-related conversations. In this stage, both types of communication were more intermixed than in either the previous or following stage. Beginning in Stage 2, work-related conversations and those about private issues were more strongly correlated than work-related conversations and exchanges of ideas.

Like Eric (from the software branch), new actors were active conversation seekers, both for work and private topics. The successful entrepreneurs from two start-ups (CBC and WWB) were considered important interlocutors for private matters, although they were less active

conversation partners for work issues and exchanging ideas. Only Charles, from the start-up WWB, was relevant in the work and private realms. In the collaboration analysis in Chapter 3, Charles played an important role since he moved easily between his professional/work/start-up persona as a software developer and his personal/private interests as a trained artist.

Alicia also played an important role as interlocutor in private conversations and was again the actor with the maximum number of shortest paths to other residents (she scored the highest betweenness centrality).

Women's role in private conversations was relevant in Stages 1 and 2: in the first stage, the betweenness centrality measure indicated that 6 women were in the top 10 most central residents; in this second phase, 5 out of the 10 were female. Although women engage in social support networks more than men (Broadbridge 2010), this finding does not persist in Stage 3, when only two out of the ten top central actors will be female.

## Man does not live by bread alone

Being at the center nurtured interests outside of work, like music. For remote workers, the center offered the opportunity to surround themselves with likeminded peers. Some actors shaped, to a certain degree, their social atmosphere:

> I'm in Darmstadt once a week [at the company], and I can't talk to people about my private life there. We live differently. They [the Darmstadt work colleagues] have different interests, and the people who are here are mostly on the same page. These [shared] interests have a lot to do with music, a lot to do with creative work. That's for me! That inspires me quite a bit! So that's very important for me, for my personal happiness. I feel comfortable when I go to concerts, when I talk about music.
>
> Me: Any contacts in the center for exchanging ideas?
>
> For the work in itself, I cannot do much with the people here, because they work in a completely different area. But for me personally, being here brings a lot because I don't identify my life with the work that I am doing right now. I like to do it, I earn my money, but my private life has quite a different interest, and for that, the Department [16] is very important (Brett 2016).

When I asked actors about their sources of inspiration, and particularly about learning from other tenants, some recalled experiencing awe and respect for the human side of their coworkers:

> I get much more inspiration from the friendly contact with start-ups [entrepreneurs] who are decisive for me than from them being business companies (Xavier 2016).

## Socialization conditions

### Social habits shaped casual encounters: Drinking coffee and smoking

In Stage 2, informal and brief interactions among the center's actors were routine. The tenants' main meeting points were the commonly used transit spaces such as stairs, corridors, accesses to buildings, terraces, courtyards and parking areas, and the Control-Room café. Contrary to Stage 1, tenants' meetings, which were routine during the center's formative stage, were no longer held with the same frequency or convening power.

Drinking coffee and smoking were keys to strengthening relationships. Alicia even mentioned starting to smoke after joining the center. Jessica mentioned that she had fewer chances of social interactions by not drinking coffee and not smoking (however, she did not lament her options). Jim also acknowledged the relevance of social smoking to the center' social life:

> We meet to smoke! It is quite funny, but this is how it works. If you are not a smoker or don't drink coffee, you sit in your office, and you don't have contacts! (Jim 2016).

Some actors explicitly recalled their lives before joining the center as somehow poorer for not having socially imbued smoking breaks. Smoking pauses helped them make contacts, which were the best publicity:

> Social contacts are always important. I used to have a studio in the Weststadt, and I wasn't with this community, there was an office, and there was nobody there for lunch or smoking breaks... here it's different, you meet so many people by smoking... there's Gabriel with his art association and the other photographers, and nobody is my competition, because I am the only one who does analog [photography]. If they did a workshop, they wouldn't do it analog. For analog photography, you need equipment. You have to try it too. So, here it's actually great. Social contacts [are] much better than flyers [for publicity] (Joss 2016).

### *Stage 2 – Summary*

From Stage 2 onward, conversations about work and those about private issues are more tightly correlated than work-related conversations and exchanges of ideas. In the second phase, demanding work schedules affect actors' social practices. For example, many members limit their contact to specific work-related exchanges and conversations with immediate neighbors. The tenants' advisory council disbands, and the management agency recruits two tenants to handle the center's communication and public relations. These tenants (Gabriel and Alicia) become the center's spokespeople in meetings with local authorities and politicians. Actors downplay the existence of in-house competition and share information within branches. However, sharing information between branches occurs more rarely than it did in Stage 1. D16 members exchange ideas over a cup of coffee or during smoke breaks. Tenants find the most valuable experiences at D16 come from getting to know each other privately (e.g., social interaction, building friendship ties).

## Stage 3. Hybrid actors win

In Stage 3, residents' work-related conversations were almost equally correlated to exchanges of ideas and private discussions (around 40 percent in both cases). Although not yet as high as in Stage 1, conversations about other issues increased their correlation to work conversations almost 25 percentile points to reach 15 percent (in Stage 2 the correlation had been negative). Being active in the same branches correlated significantly with work conversations. Having the same entry year to D16 compared negatively with work conversations — what had happened before in Stage 1. The correlation coefficient indicates that tenants were having work-related conversations trans-generationally (Table 42).

*Table 42. What influences work conversations? (Stage 3).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| | Dependent Variable: Conversations about Work | Stage 3 | | |
|---|---|---|---|---|
| | | **Model 1** | **Model 2** | **Model 3** |
| 1 | Same type of worker | | | 0.00006 |
| | | | | (0.00187) |
| 2 | Same cultural scene | | | 0.00119 |
| | | | | (0.00304) |
| 3 | Same branches | | | 0.00778* |
| | | | | (0.00250) |
| 4 | Same sector | | | 0.00427* |
| | | | | (0.00207) |
| 5 | Same entry year | -0.00242 | | -0.00409* |
| | | (0.00364) | | (0.00207) |
| 6 | Same gender | | | 0.00232 |
| | | | | (0.00197) |
| 7 | Same age | | | 0.00100 |
| | | | | (0.00204) |
| 8 | Same house | 0.02700*** | | 0.00160 |
| | | (0.00372) | | (0.00209) |
| 9 | Hours per week (product) | 0.00432** | | 0.00039 |
| | | (0.00141) | | (0.00063) |
| 10 | Exchange of ideas | | 0.38811** | 0.38429** |
| | | | (0.01061) | (0.01049) |
| 11 | Conversations about private matters | | 0.41660** | 0.41507** |
| | | | (0.00992) | (0.01002) |
| 12 | Conversations about other topics (small talk) | | 0.14623** | 0.14561** |
| | | | (0.00886) | (0.00877) |
| | Intercept | 0.00253 | 0.00320 | 0.01886 |
| | p | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.01100 | 0.60100 | 0.60214 |

Standard deviations are in parentheses. N=98; 9506 Observations; 5000 permutations. * p<0.05, ** p<0.001; *** p<0.0001.

To trace the development of the network of work-related conversations, I evaluated only the residents active in all three stages and compared their relationships (n=32). The work conversation networks are more strongly correlated in Stages 1 and 3 (24 percent) than in Stages 2 and 3 (17 percent) (Table 43).

*Table 43. Work conversations' network stage comparison.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: Work Conversations in Stage 3**

| | |
|---|---|
| Work conversations in Stage 1 | 0.24713** |
| | (0.03191) |
| Work conversations in Stage 2 | 0.17858** |
| | (0.03073) |
| adj. R square | 0.13100 |
| p | 0.00020 |
| Intercept | 0.02309 |

Standard deviations are in parentheses. N=32; 992 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

In Stage 3, residents had work-related conversations and were exchanging ideas with the same type of worker, and within their sector, gender and age group (Table 44). Being in the same house was important for exchanging ideas, while having similar work schedules did not affect work conversations. Stage 3 had the highest number of E-I significant indexes (10 in total) compared to the previous two stages (4 in Stage 1; 8 in Stage 2).

*Table 44. External ties versus internal group ties (Stage 3).*

| No. | Attributes | Work | X-Ideas |
|---|---|---|---|
| 1 | Type of worker | -0.263* | -0.265* |
| 2 | Cultural scenes | 0.251 | 0.088 |
| 3 | Sector | -0.151* | -0.156* |
| 4 | Entry year | 0.475 | 0.456 |
| 5 | Gender | -0.520* | -0.497* |
| 6 | Age | -0.296* | -0.293* |
| 7 | House | -0.061 | -0.020* |
| 8 | Hours | 0.218* | -0.184 |

* E-I Index is significant ($p<0.05$)

In Stage 3, the socialization relation had 206 ties for work-related conversations, 203 for private issues, and 170 ties for exchanges of ideas. Other issues conversations increased significantly in Stage 3, compared to Stages 1 and 2.

Stage 3 Work conversations
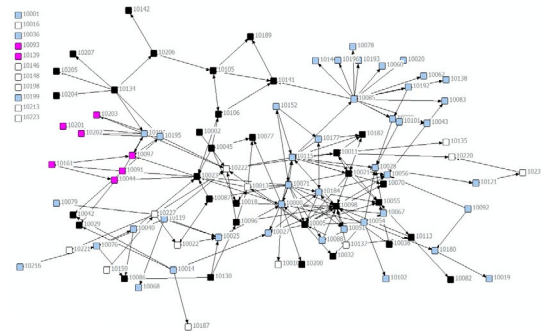


Stage 3 Exchanges of ideas
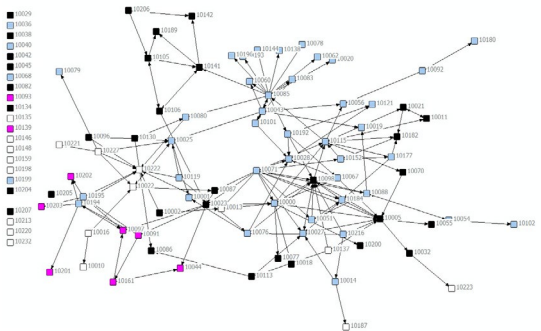


Stage 3 Private issues conversations
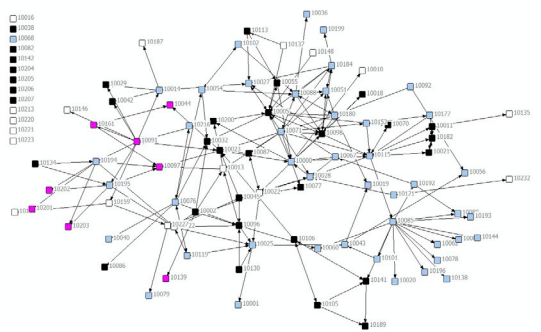


Stage 3 Other issues conversations
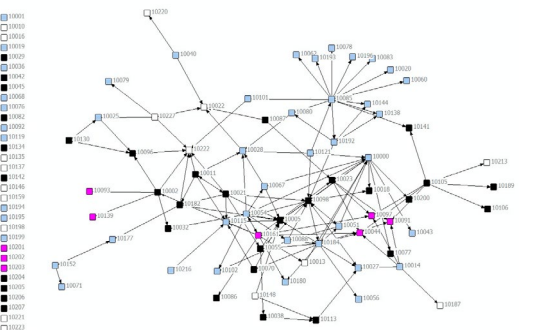


*Color code: Pink refers to business; blue to cultural industries; black to creative industries; and white to others/not applicable. Arrow direction indicates who named whom (Actor i named → Actor j). N=105*

*Work conversations and exchanging ideas*

Active conversation partners are people who mentioned many tenants but were not able to indicate what kind of information they had exchanged. In interviews, they expressed a strong will to approach others. They had open minded attitudes toward all kinds of activities and curiosity about others' projects, but their exchanges were indirectly connected to their own work.

Stage 3's highest scoring betweenness centrality individuals differed from the previous two stages: Joss, who did not belong to the center's pioneering generation, came to the fore. He did not have contacts with the center's management agency and gained notoriety solely from his networking efforts. Xavier also surpassed the betweenness centrality score of Alicia (the center's unofficial communicator). The two actors took two different approaches: one (Joss) engaged in the center's cultural life as a regular host and guest, and the other (Xavier), worked with different tenants and did not attend the center's events. Neither had a specific agenda, but they both sought collaborations, notoriety for their work, and to learn from social interactions.

Other dynamics also helped to shape the landscape of Stage 3. For example, Joss was Seth's friend, who had the highest outdegree score in Stage 3. Joss moved into the center during the second stage thanks to Seth's help. Gabriel received the most mentions as an interlocutor for work topics, but he did not mention even half of these exchanges. He consistently downplayed these interactions.

Sharing valuable information

How did Joss and Xavier gain central positions? How did they displace the centrality of residents who had been leading the work-related conversations, exchanging ideas, and private discussions? Joss, Xavier, Gabriel, and Alicia worked together. For example, Gabriel repeatedly mentioned that Xavier was his best and most important work and idea-sharing partner. His interest in a formal collaboration (for example, founding a communications/marketing agency) was a recurrent topic. However, Xavier had been in a film production company and participated in several other running projects, including teaching part-time.

In Stage 3, Xavier and his business partner Callum (from the film production company PD) decided to split up after a bitter confrontation[46]. During the final interviews with them, Xavier and Gabriel were getting ready to move their businesses in together and share another, bigger office at the same center. There were no plans for initiating a marketing company, but the idea was to continue working together, supporting each other's projects. Gabriel founded a communications company with another partner, who joined the center. Five people planned to share the office.

---

[46] Xavier disagreed with the way Callum had managed the direction of his feature film. Although there were tensions during the filming process, the work team stayed put. Afterwards, however, Xavier did not work on the end-phase of the production process and abandoned the project definitively.

In addition to being a film — and therefore cultural — producer, Xavier was an economic psychologist. This role opened several doors to him at the center. The combination of his background made him an attractive interlocutor. Artists, software developers, and marketing professionals all had something to share with him, and all wanted his input. He joined the exhibition *Green* (in Stage 2) with a collaborative video animation project that included Syrian refugees (Gabriel lead the project). He co-founded an e-platform to crowdfund cultural projects. He often worked with other in-house media producers and was in charge of WWB's hiring processes. He undertook all of these ventures with the center's pioneers and Stage 1 tenants.

On the other side, Joss brought more to the center than his official title. He was the only in-house analog photographer. He required a proper darkroom to develop his film in addition to an adequate setting for teaching photography courses. It took him about a year to completely remodel his room. At the end he had a proper photo studio that looked like no one else's workplace at the D16. His space attracted many visitors during and after the remodeling process. Following Joss's steps, the photographers next door decided to renovate their photo studio, and Joss advised them and lent them some tools.

But Joss was not only an analog photographer and photography instructor: his expertise is in remodeling old houses, so he also worked in the city. He juggled his photography projects, remodeling jobs, and parenting duties (he was one of the few tenants to bring his children to the center regularly). The photography projects and the remodeling jobs brought him recognition in the center: during Stage 3, he presented two photo exhibitions in Café Control-Room. Both opened to parties with music provided by his good friend Seth's band. Joss had recently built Control-Room's stage (previously musical acts performed at floor level). He knew how to build, and he was interested in making the Department 16 a cultural center. He expressed this ambition during our interview in Stage 2; in Stage 3, he was ready to pursue it.

In Stage 3, the networks of work-related conversations and exchanges of ideas were not affected by excluding the center's two brokers. The flow of information was almost entirely preserved (the exchanges of ideas network lost only two actors from the main body). The exchanging ideas network showed signs of its robustness in Stage 3 — a great recovery from its six-part fragmentation in Stage 2 (Maps 5 and 6).
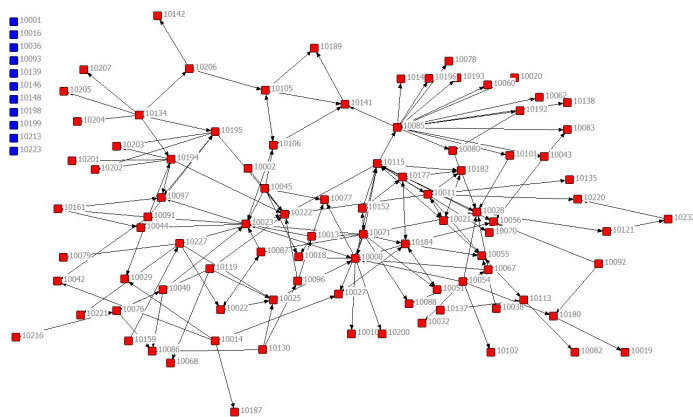
*Map 5. Network of work-related conversations without two brokers (Stage 3). The network did not split (N=102).*
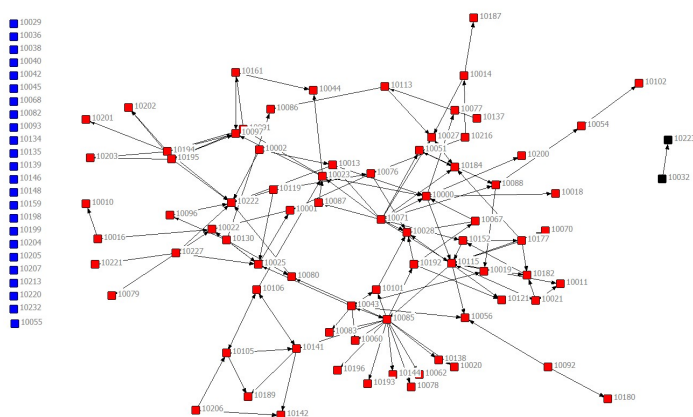


*Map 6. Network of exchanging ideas without two brokers (Stage 3). The network fragmented from one to two components (N=102).*

## Sharing information in the same branches

### Among photographers

In Stage 3, photographers' referrals became common exchanges. Niche photographers, like the advertising and commercial photographer Carlos, reported receiving work assignments from colleagues. At the same time, his colleagues mentioned Dominik as a source of knowledge for object photography and marketing tips. A photographer testing his abilities as a video producer, Andre (Alicia's photo studio partner), mentioned Joss as a source of knowledge. Andre even co-produced a small video about Joss's analog photographic work, and the two were in talks to create a second video (this time as a work assignment) for Joss's developing project. Andre was also an important interlocutor for Alicia. She mentioned him as a source of information on trends in video production and other current topics. In Stage 2, Andre had lamented not having younger colleagues at Department 16 with whom to exchange ideas. After starting to work more regularly at the center (he moved his office work to the photo studio), he met more tenants and found conversation partners irrespective of their age. He expressed satisfaction for these new contacts.

### Start-ups, software developers and IT-people

In Stage 3, the start-up, software and IT professionals were strongly connected to each other, regardless of their physical proximity at the center. All other branches were excluded from this mix. Xavier, however, was able to bridge this divide: he was equally active in the cultural and creative industries, and in the e-business sector. Two additional factors contributed to his ability to share social knowledge: physical proximity between his original company, PD, and WWB and the fact that he was one of the center's pioneers. WWB was co-founded by Charles, a trained visual artist, who also appears in the three stages as a relevant interlocutor for work-related issues. His business partner, a health professional, was never a central figure in the conversation networks.

Nevertheless, other actors did not mimic Charles's exchanges, which were based on interactions between domains. Tenants felt that there were insufficient learning opportunities. The city could have founded a space dedicated solely to start-ups. After all, there were not many emerging companies at D16, as Connor from CBC expressed in our last interview, which took place just a few weeks before his company moved out of the center.

### Art and music scenes

Brendan, a visual artist, illustrator, and storyboard artist, joined the center after a tip from Joss. They met at their children's nursery/kindergarten soon after Brendan moved into the city due to his partner's academic career. In Brendan's opinion, the exchange between in-house artists was limited to just a few contacts. For example, he found only one other painter who, like him, taught arts (Darcie). His other encounters were rather disappointing, especially his contribution to an art auction, to which he donated art pieces. He participated because he was new to the city and wanted to expand his name recognition. The organizers (also in-house actors) said he would get publicity, and art collectors would be able to see his work. But the experience was upsetting, and in part because of it, he declined to join Konnex Art later on.

> *I walked in, and the room was like a little café. The auction had already started, and just by chance, when I walked in, my picture was on display in the back. Totally weak reaction! I had a coffee, and I think two things were sold... I'm not a dilettante artist. I've done many different things in my life. I've worked as an actor, in music, in movies as a drawer [storyboard artist], I've earned money, but this [auction] revealed such an amateur behavior! Yes, I had an unpleasant feeling the whole time: with other people's work to find the money for your own project?! That is the unpleasant taste. Somehow a little bit immoral. They sold me the idea that I'll have a bit of presence because I don't know so many people in the city. They were going to invite art collectors and that stuff, and then my opportunity would be there, to make connections, but it wasn't so! (Brendan 2017).*

However, not all artists were disappointed by their social ties in D16. One artist, Darcie, mentioned she changed her mind about collective exhibitions since she moved into the center. In Department 16, she found a couple of artists with whom she regularly discussed work and shared ideas. Before joining the center, Darcie (a trained academic artist and art teacher) had a workshop in another location, where it took her more than a year to get to know other fellow artists. By contrast, in Department 16, work exchanges happened at a much faster pace: less than a year after moving in, she participated in a collective exhibition with the center's other artists and joined Konnex Art.

Other residents active in the arts scene were not invited to join Konnex Art, and they felt left out. The two actors who reported feeling excluded were pioneering members of D16 but had been absent for almost two years because of health and personal issues. One produced mostly decorative art pieces, and the other was a gallerist who asked artist to co-produce exhibitions (it was unclear if the gallerist intended to keep a portion of the sales of the artworks). Because of their seniority at the center, both of these actors expected to be included and did not consider that their practices might have led to their exclusion from Konnex.

## Sharing information between branches

The center's coworking studio (for approximately 15 to 20 people) implemented policies that differed from the rest of the Department 16. Coworkers did not have to be in the cultural and creative industries. Although initially hesitant, the coworking managers (two people in charge of this and several other coworking spaces in the region) were relieved to see how the mixed-use working areas worked to everyone's advantage. They saw workers flourish socially in these spaces; as in the center, people passed referrals on to colleagues or worked together on bigger projects. Once people were acquainted, problems were easily solved. Professionals working outside the CCIs were not less involved in the coworking space's dynamics. However, the users of the coworking studio created a group within the center. They built a cozy and friendly atmosphere, similar to the one the center's pioneers recalled from the Department 16's beta phase. Coworkers held monthly breakfasts (promoted and organized by the managers), shared a small kitchen, and had comfy sofas and a meeting room. The decor had a modern, urban, retro flair meant to create ambiance. The Department 16 had none of that.

The work-related conversations and exchanges of ideas in Stage 3 occurred mostly between direct neighbors, regardless of their branches. A designer learned to solve coding issues from the software professionals with whom he shared an office; a fashion designer learned about fabric dye from the screen-printing company next door; a web designer learned from a corporate designer and a typographer, all three of whom shared an office; an industrial designer heard from his game developer neighbors where in the city to find a 3D printer, and so on. Tenants were open to learning from other companies' practices and expertise, even if there was no immediate use for the knowledge (or information) at the moment. For Jim, this type of knowledge could be of use if it goes on to help him learn about and understand future clients' problems.

> *One exchanges... it is not that brings something... I have a private interest in other companies, for example [in the merchandise company]. I want to know how they work, and I find that totally exciting, but that brings us nothing [as a media production company]. Maybe someday, subconsciously [but] it is not that we have an entrepreneurial interest. There are exciting companies here! It is nice to have access [to them] so quickly. One meets in the hallway [and I can ask them:], "what do you actually do? how do you actually do it?" [and I think:] "Oh so! That's how they did it!" But it is not something concrete. The effect is already there, that we have a look at other companies because we are sitting here in a center and you don't have to ring the bell and go by because the door is open, and you look and [say]: "hey, what's up?", and that's an effect that you shouldn't underestimate here. If I have a customer who does similar things to someone who works here, in principle, I can [think] "ah, he*

*also does like him" [and then] I know a bit how it works, for example. That is definitely a big advantage, I would say (Jim 2017).*

## Private issues and other topics

The four most active conversation partners were prominent communicators of both work and private issues. From the fifth position on, different actors focused on either work-related or personal topics. These actors specialized in one particular form of conversation exchanges, and they did not easily switch between work and private matters.

Some tenants found a niche in their hobbies-turned-careers. That was the case of the bike cluster, which encompassed e-bike producers, a bike courier service, and a magazine/café/shop for bike aficionados. They knew and supported each other and had a very clear focus: bicycles. As residents of a medium-sized city, many tenants used bicycles as a means of transportation. Therefore, some tenants regularly visited the curb-level e-bike mechanical repair workshop.

I asked tenants about their interactions outside the center that could increase exchanges within the Department 16. These exchanges were extremely limited. Encounters with others were planned, (i.e., tenants, who were already friendly with each other, met outside the center for events and in private gatherings).

Musicians saw each other more outside the center than in the center, largely because of concert attendance. Meeting musicians in the music studio basement was rare, no matter the time of day. Therefore, musicians with limited social contacts produced their own social hotspots to attract and create a music scene around their projects. For example, as drum player Sonny explained, he created his own musicians' meeting hub when he realized he was insufficiently involved in the local scene. He started a monthly open mic event for new talent at another venue (not at Café Control-Room). Another musician, Owen, did the same (his sessions were also for young, new talents). However, Owen ran events at Control-Room as well as at other venues.

Sonny and Owen recalled a time when the musicians at Department 16 thought it would be a good idea to have a lounge area with coffee service at the end of the basement's corridor, a space to socialize outside their studios. The idea did not proceed, but they both eventually conceded that it probably would not have worked. People came and left as fast they could, explained Sonny and Owen. Musicians used the studios, finished their rehearsals, and left.

Visual artists had a common working area in the center's workshops, but artists in other building sections rarely interacted. For example, tenants remembered meeting other in-house artists in art events in the city (e.g., openings, art talks, and vernissages), only to later realize that they both had workshops at Department 16. The visual arts scene is small enough to get to know artists' faces from city events, they commented.

Other places, like bars, music and dance clubs, sporting events, and children's playgrounds, and other possible shared interests were not significant to the tenants as sources of social exchange outside the center.

What affects socialization significantly is tenants' absence from the center. Marcus, who co-founded a couple of software and IT companies since joining the center, explained that he missed exchanges with his direct neighbors. He and his business partner started working on a project for a big transportation company in Frankfurt, so they were hardly spending any time at the center anymore.

Some actors recalled when their neighbors were often around before starting to work in other places where their regular presence was required. For example, when the basement studios were being remodeled during the beta-phase and part of Stage 1, the musicians had frequent social exchanges. They shared tips, materials, and tools. By Stage 3, that time was long gone.

To others, it was unclear if their neighbors were still tenants, since weeks or even months passed without any contact with them. This was industrial designer Ethan's experience. Despite working at D16 for two years, he recalled seeing his neighbor only twice in the past year. Shortly after our interview, Ethan moved out and started working for a US company. One other tenant mentioned meeting a resident at a planning meeting and wanting to reconnect afterwards. She looked for her name and could not find her in the center's directory or on the website. After almost four years of operation, no reliable source of information about the center's occupants existed.

When I asked actors about what they learned from others or if they had any problems with other tenants, they usually were unable to produce examples. Connor from CBC said it was difficult to have social exchanges, positive or negative, with neighbors who worked just once a week in the center "and then, they are here to organize breakfasts." Other residents have also noticed how the tenants' population has decreased. For example, Susanne's office that has a six-person capacity has only a couple of workers. Many tenants spread the word (even on Facebook) about open spaces in the Department 16. Applicants complained that the management agency did not reply. When I asked the center's manager, why the center had so many empty spaces, he argued that the facilities were 90 to 95 percent filled and that the management wanted to have space available for the growing companies already located at the D16.

Approximately six months after I concluded this study, a group of tenants and the management agency presented a center's brochure during the 2017's Open Doors Day. The brochure provided profiles of the center's residents: most entries included a headshot with a brief description of the tenant's services. Because the brochure was organized by sector, several tenants (with work in multiple sectors) were included multiple times. It provided no information about available office space, prices, amenities, or actors' experiences — information that coworking companies usually provide to attract applicants. Despite the brochure's shortcomings, the center's manager, Francis, commented that it was a long-desired project. It simplified the center's message and made it easy to spread the word:

Department 16 was a place to find service providers and the one-stop-shop for the creative industries in the city.

*Stage 3 – Summary*

In Stage 3, work-related conversations and exchanges of ideas correlate with private conversations. Conversations about other issues are also more highly associated with work-related conversations than in the previous two stages. The social dynamics of Stage 3 more closely resemble those of Stage 1 than those of Stage 2. Actors' attributes increasingly explain patterns of work-related conversations and exchanges of ideas. Actors discuss work and share ideas with others similar to themselves, in terms of worker type (e.g., employee of a start-up, self-employed worker), gender, age, and physical location within the center. Likewise, conversations occur more within branches and cultural scenes than before. However, Stage 3's most central tenants work in activities not traditionally linked to the CCIs (construction and economic/business psychology). Vacancies at the center (e.g., empty offices and unoccupied desks) preoccupy tenants but are not a concern for the management agency.

## III. Evolution throughout the three stages

I asked residents about their interlocutors for four subjects: work, exchange of ideas, private issues, and other topics. I did not disclose their answers to other tenants, and respondents could indicate any number of interlocutors. Some residents chose no interlocutors for some topics, but most mentioned at least one other actor for each category. In interviews, I asked participants about how they benefitted from being at the center with regard to the following areas: knowledge or learning from others ("What have you learned from others?"); exchange of ideas ("What comes to mind when you hear the phrase 'exchange of ideas in Department 16'?"); admiration and being inspired by others ("Who has inspired you?); and trust ("Who could represent your interests about the center in a meeting?"). Their answers provided the context for understanding their relationships and the overall relational orientation of this research.

I hypothesized that tenants would share ideas and have work-related conversations with fellow tenants not only in their own branches and sectors, but also across domains. I expected actors to learn from their coworkers and to incorporate new knowledge into their practices. I anticipated that physical proximity and regular interaction would help build trusting relationships and even friendship ties.

Table 45 presents an overview of the E-I Index analysis. The attribute that better explains work-related conversations is working within the sector, while exchanging ideas' most influential attribute is location in the same house or building. Another three attributes — type of worker, age, and hours per week — were also relevant but less significant to produce conversation links.

*Table 45. E-I indexes' results  – overview of the three stages (only significant results, $p<0.05$).*

|  | Stage 1 | | Stage 2 | | Stage 3 | |
| --- | --- | --- | --- | --- | --- | --- |
| **Attribute** | Work | X-Ideas | Work | X-Ideas | Work | X-Ideas |
| Type of worker |  |  | ⊖ | ⊖ | ⊖ | ⊖ |
| Sector | ⊖ | ⊖ | ⊖ |  | ⊖ | ⊖ |
| Gender |  |  |  |  | ⊖ | ⊖ |
| Age |  |  | ⊖ | ⊖ | ⊖ | ⊖ |
| House |  | ⊖ | ⊖ | ⊖ |  | ⊖ |
| Hours |  | ⊕ | ⊕ |  | ⊕ |  |

*Interpretation: ⊖ Minus symbol: Actors had work conversations and exchanged ideas conversations within their sector; ⊕ Plus symbol: Actors exchanged ideas with others that have different then their own work schedules.*

In Table 46, I compare the work-related conversations and exchanges of ideas' MRQAP analysis results. These confirm and add information about the tenants' conversation patterns. Work-related conversations happen within the actors' economic sector and are not associated to entry year. On the other hand, exchanges of ideas are connected to the actors' location at the center (e.g., their house or building) and to the time they spent at Department 16.

*Table 46. MRQAP analysis' results for work conversations – overview of the three stages (only significant results, p<0.05).*

| Attribute | Stage 1 | | Stage 2 | | Stage 3 | |
|---|---|---|---|---|---|---|
| | Work | X-Ideas | Work | X-Ideas | Work | X-Ideas |
| Same cultural scenes | yes | | yes | yes | | yes |
| Same branches | no | | | | yes | |
| Same sector | yes | | yes | | yes | |
| Same entry year | no | | no | | no | |
| Same age | | yes | | | | |
| Same building | | yes | | yes | | |
| Product hours per week | | yes | | yes | | |

*Interpretation:  Do tenants have work conversations within their cultural scenes? Yes, in Stages 1 and 2, tenants had work conversations within their cultural scenes.*

Lastly, in Stage 1, work conversations happened between the branches; later on, in Stage 3, work conversations occurred within the branches.

## Results overview

### *Work conversations and exchanges of ideas' evolution*

In this chapter, I explored the multiplexity of the tenants' social exchanges in the form of conversations. Work-related conversations began closely related to exchanges of ideas. However, at the end of the three-year study, work-related conversations coupled almost equally to sharing ideas and discussions about private matters. Sharing ideas with work conversation interlocutors became less important (Figures 11 and 12).



**Work Conversations**
and other conversation forms (%)

| | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|
| X-Ideas | 62.56 | 49.99 | 38.81 |
| Private issues | 25.87 | 55.44 | 41.66 |
| Other topics | 21.04 | -11.05 | 14.62 |
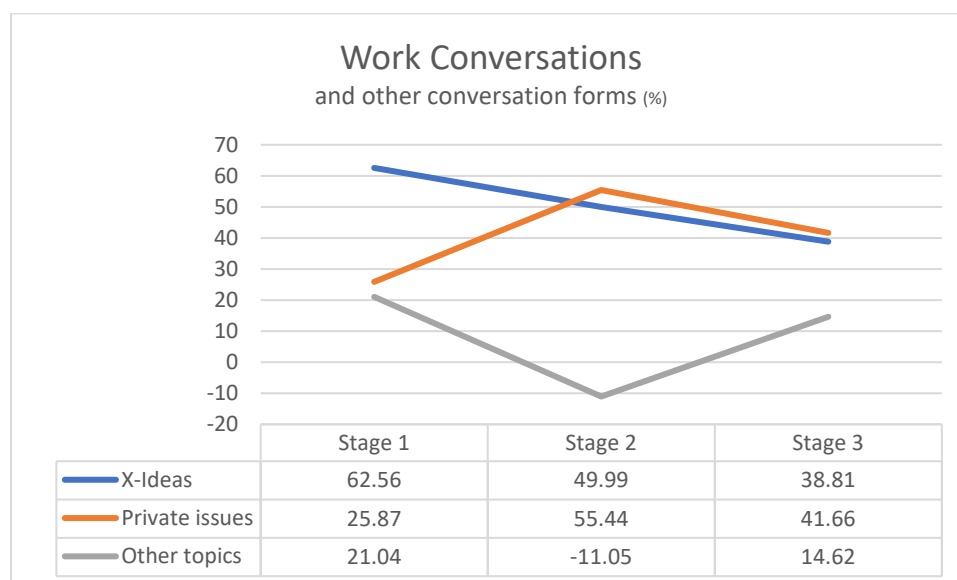
*Figure 11. MRQAP - Work conversations (summary).*
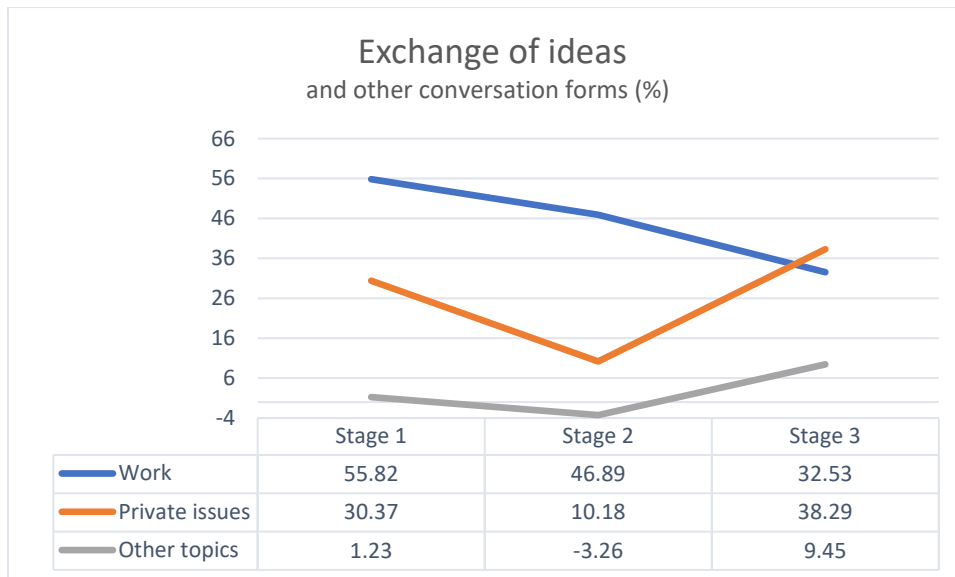
Figure 12. MRQAP - Exchange of ideas (summary).

Work-related conversations were decreasingly linked to exchanges of ideas. In Stage 1, residents had more opportunities to engage in the center and collective projects; these topics were the center's social backbone.

In Stage 2, work-related conversations and exchanging ideas concurred less than in Stage 1 — and the relationship weakened even more in Stage 3. Starting in Stage 2, private conversations gained almost equal importance in the center's social life. I collected examples of tenants sharing advice with workers in the same branch and between branches; I heard numerous stories about small acts of sharing and support that signaled approval, engagement, and emotional care. Residents also talked about admired and disliked residents. Figure 13 represents the evolution of conversations at Department 16.
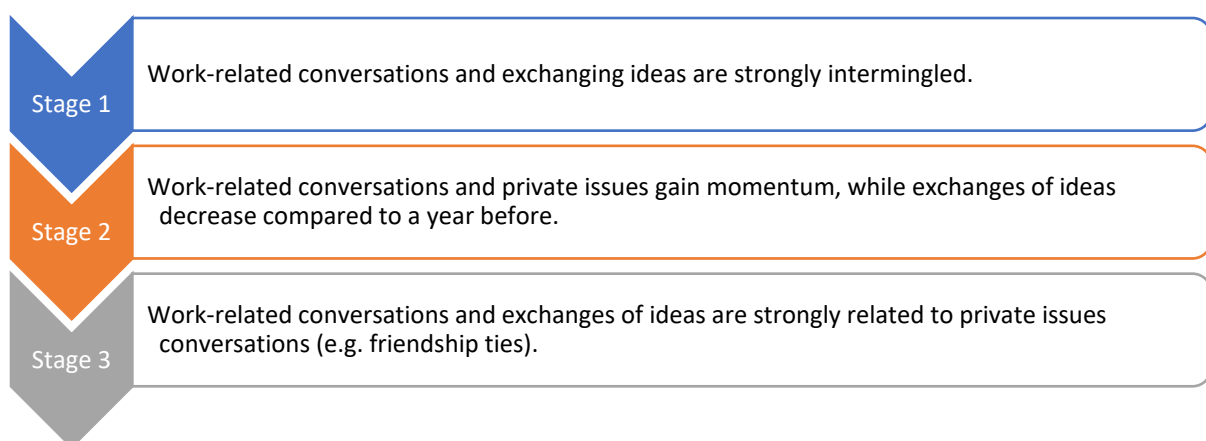


Figure 13. Conversations' evolution (summary).

At the Department 16, exchange of ideas (particularly for business development) followed two paths. In the first, actors worked together to solve a concrete problem. In this case, there was time pressure and a budget. In the second, conversations moved around several

topics, giving residents an opportunity to elaborate on valuable information and learn from the exchange. The center produced more of the latter exchanges. However, tenants chose interlocutors beyond their work-related conversation partners for these types of exchanges. In Table 47, I provide examples for each of the four conversation's categories.

*Table 47. Conversations' content (summary).*

| Exchanges | Examples |
|---|---|
| Work-related conversations | Seeking and giving advice; venting about work problems |
| Exchanges of ideas | Discussing ideas; planning future projects |
| Private issues | Building friendship relationships; gaining emotional support |
| Other topics | Sharing non-work-related interests; recurrent small talk encounters |

What is the purpose of the work-related discussions in Department 16? Work-related conversations are for sharing information about current employment-related issues, like problems completing tasks and dealing with clients; trends in the interlocutors' branches and in the CCIs; helping each other complete work, e.g., sharing information about how to solve technical difficulties with webpages; and supporting each other with administrative aspects associated to their independent employment (e.g., filing tax reports and applying for health insurance). While work-related conversations focusses on labor-based problems and work practices, exchanges of ideas refers to mind-explorative interactions, allowing interlocutors to verbally develop, test, and refine their ideas together. Feedback loops enrich or stifle the sharing process for work conversations and exchanges of ideas.

### D16' residents kindle a sense of community

Department 16 had an operations manager, Francis, to supervise the center's overall everyday functioning. He oversaw the renting of workspaces (e.g., offices, workshops, music studios, rehearsal room, and meeting room), and areas for events (like the foyer and the sports hall)[47]. He did not act as a community manager or host, a common role in coworking spaces. [48] Several studies have found that community managers play a critical role in producing a harmonious work environment and networking opportunities by setting up rules, channeling conflicts (Ansio, Käpykangas, & Houni, 2020; Bouncken, Laudien, et al., 2018); dynamizing the community (Cabral & Van Winden, 2016; Lange et al., 2011; Lindsay, 2013; Seo, Lysiankova, Ock, & Chun, 2017) and providing coaching (Capdevila, 2014). Managers also link the tenants with their local communities, and communicate the coworking space experience to the public (Seo et al 2017; Bouncken, Laudien, et al., 2018; Capdevila, 2014).

Department 16's tenants undertook pro-community activities that the center's management did not fulfill, and that in other coworking spaces would have been part of his tasks. Particularly relevant were communication and public relations services, and the organization of tenants' meetings to socialize and plan for in-house events. This way, actors reinforced the collaborative, community and communicative structures of D16.

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[47] External companies and several city administration offices rented regularly the center's event halls; only occasionally D16's tenants booked these facilities.
[48] See, for example, https://coworkinginsights.com/coworking-roles-and-their-proper-function/ [Last visit: April 13th, 2021].

*Betweenness centrality (b-centrality)*

The center's two most important brokers, Alicia and Gabriel, were intermediaries between the management agency and the tenants. They consolidated their position and built identities based on their networking activities. While other actors considered it too costly to participate in tenants' meetings and other similar events, the two brokers were always available, so they gained access to outreach activities. A select group of firms was also invited to represent the center. For their time and effort, residents were promised publicity.

I use the betweenness centrality measure to assess the residents' degree of influence or control in the network (Table 48). "Interactions between two non-adjacent actors might depend on the other set of actors in the set of actors, especially the actors who lie on the paths between the two" (Wasserman & Faust, 1994, p. 188). Central actors may exert control over the interactions between the two nonadjacent actors. The actor in the middle has more interpersonal influence on the others (Wasserman & Faust, 1994, p. 189). Actors with high betweenness centrality are gatekeepers to networks' valuable resources (Wasserman & Faust, 1994, p. 191).

*Table 48. Top 10 betweenness centrality high scorers in at least two stages.*

| No. | Resident | Work | X-Ideas | Private | Entry stage |
|-----|----------|------|---------|---------|-------------|
| 1 | Gabriel | *** | *** | *** | Beta-phase |
| 2 | Alicia | *** | ** | *** | Beta-phase |
| 3 | Xavier | ** | *** | ** | Beta-phase |
| 4 | Charles | ** | ** | * | Beta-phase |
| 5 | Jim | ** | * | * | Beta-phase |
| 6 | Shaun | * | ** | * | Stage 1 |
| 7 | Eva | * | ** | * | Beta-phase |
| 8 | Joss | * | ** | * | Stage 2 |
| 9 | Rosemary | | * | ** | Stage 1 |
| 10 | Fatima | | | ** | Stage 1 |

*Interpretation: betweenness centrality actors top 10: * in one stage; ** in two stages; and ***in three stages. Only Gabriel has been central in all three conversation types and in all stages.*

In Table 48, six out of 10 residents participated in the center's beta phase, and the rest moved in during Stages 1 and 2. At the end of Stage 3, Eva, Sarina, and Fatima had left the center (but all continued working). In work-related conversations, exchanges of ideas, and private issues interactions, female residents' betweenness-centrality role decreased over the three stages period. Women's participation was especially low in conversations about the exchange of ideas.

The two brokers at D16 (Gabriel and Alicia) shaped the conversation networks and were particularly important interlocutors for exchanging ideas in Stage 2 — the weakest stage in terms of sharing ideas (see conversations' densities and number of ties in Table 49).

*Table 49. Socialization exchanges: three stages' density comparison.*

| Relation | Stage | Density (%) | No. of ties | Std. dev. | Avg. degree |
|---|---|---|---|---|---|
| Work-related conversations | 1 | 2.5 | 126 | 0.155 | 1.750 |
| | 2 | 1.7 | 166 | 0.135 | 1.694 |
| | 3 | 1.9 | 206 | 0.137 | 1.962 |
| Exchanges of ideas | 1 | 2.2 | 113 | 0.147 | 1.569 |
| | 2 | 1.1 | 109 | 0.106 | 1.112 |
| | 3 | 1.6 | 170 | 0.124 | 1.619 |
| Private issues | 1 | 1.7 | 88 | 0.130 | 1.222 |
| | 2 | 1.6 | 151 | 0.129 | 1.541 |
| | 3 | 1.9 | 203 | 0.136 | 1.933 |

The two brokers juggled the management agency's goals with their own: the management's agency wanted to make D16 the one-stop shop for the CCIs in the city, and it focused on fostering for-profit activities. The brokers simultaneously worked to boost their businesses and careers, often engaging in not-for-profit cultural projects that could bring them additional publicity and therefore work opportunities. In Table 50, I compare the densities without the two brokers to the overall conversation networks.

*Table 50. Socialization exchanges: networks' density without two brokers.*

| Relation | Stage | Density (%) | No. of ties | Std. dev. | Avg. degree |
|---|---|---|---|---|---|
| Work-related conversations | 1 | 1.9 | 87 | 0.137 | 1.279 |
| | 2 | 1.5 | 133 | 0.126 | 1.400 |
| | 3 | 1.7 | 176 | 0.129 | 1.709 |
| Exchanges of ideas | 1 | 1.7 | 77 | 0.129 | 1.132 |
| | 2 | 1.0 | 94 | 0.101 | 0.979 |
| | 3 | 1.4 | 146 | 0.117 | 1.417 |
| Private issues | 1 | 1.4 | 64 | 0.118 | 0.941 |
| | 2 | 1.4 | 123 | 0.121 | 1.295 |
| | 3 | 1.7 | 174 | 0.128 | 1.689 |

Although the number of exchange of ideas' ties Gabriel and Alicia produced was not high (only 15 in Stage 2, compared to 36 in Stage 1), the ties were not redundant in the network. They were moving across clusters like no other actor (Table 51). Gabriel and Alicia produced 15 up to almost 30 percent of all conversations' links.

*Table 51. Network comparison: with and without two brokers.*

| Relation | Stage | Total no. of ties | No. of ties without two brokers | Difference/ two brokers' ties | Percentage of total |
|---|---|---|---|---|---|
| Work-related conversations | 1 | 126 | 87 | 39 | 30.95 |
| | 2 | 166 | 133 | 33 | 19.88 |
| | 3 | 206 | 176 | 30 | 14.56 |
| Exchanges of ideas | 1 | 113 | 77 | 36 | 31.86 |
| | 2 | 109 | 94 | 15 | 13.76 |
| | 3 | 170 | 146 | 24 | 14.12 |
| Private issues | 1 | 88 | 64 | 24 | 27.27 |
| | 2 | 151 | 123 | 28 | 18.54 |
| | 3 | 203 | 174 | 29 | 14.29 |

As anticipated, culturally motivated actors were useful to bolstering the center's image. Because most tenants did not have the time to attend and engage in social activities, the two brokers profited most from their opportunities to communicate the center's message to strategic actors, like city councilmen and political parties. But others benefitted without these official connections. In Stage 3, the tenants with the highest betweenness-centrality scores were two actors who moved across branches and sectors (Xavier and Joss). They both worked in the cultural industries and offered other professional services for growing companies (e.g., hiring protocols, marketing advice, and construction tips).

### The center as organizer of the CCIs' scene

Tenants' socialization was an essential part of the economic development and related public policy of the center. Self-employed individuals, freelancers, micro-entrepreneurs, and start-ups needed a place to perform their economic activities. Coworking spaces satisfied this need by providing desks and offices for various contract lengths (e.g., per day, week, or month). These spaces usually market their services and amenities and use their residents' stories to attract other users. The Department 16's management (an employment agency) did not exploit the Department 16 as a real estate business. Instead, their goal — the city's goal — was to develop an alternative model of economic development through supporting start-ups and the CCIs. The city expected that the concentration of CCI-related tenants would generate synergistic effects and expand the local economy. The tenants were not only the users of the facilities, but also the faces and promoters of CCIs in the city.

Department 16 was a city policy instrument that used a familiar co-location model, the coworking concept, to attract users — self-employed individuals, freelancers, start-ups, and others in the CCIs. The management set the Department's 16 political and socio-economic agenda. The residents accepted it and adjusted their expectations to it. Co-location contributed to sparking new relationships, including business ties, between the residents. In just three years, relationships and activities grew, signaling an increasing flow of information and a dynamic community. However, the center has not generated network densities above Stage 1's levels.

Although there were in many cases no direct economic benefits from getting to know fellow tenants in Stage 1, the Department 16's actors were inclined to have work-related conversations and share their ideas. Tenants expected that this information could be of use in the future. Others, however, candidly admitted that the gaps between the firms' models, operation sizes, and branches' ethos seemed insurmountable. In Stage 1, the dissolution of the tenant advisory board meant that the chances of the center producing bottom-up initiatives (like collective actions that could shape the center's agenda) diminished. The management agency filtered out projects incompatible with the city's overall goal: transforming Department 16 into an economic development engine — and making sure it would not become a left-leaning 1970's cultural-house cliché.

## Dimensions of interactions and mechanisms

I observe that the most dynamic dimensions of social interactions were the symbolic and affective. For example, actors constructed the pioneer identity to enhance their role as center's developers. The center facilitated their judgement of others' work practices, like work schedule and habits, academic background and work-experience, self-discipline and motivation, and also art forms, products and services' originality and usualness. Actors' approval or disapproval of others reinforced their work ethics. The other dimensions (convention-innovation, strategic and exchange-power) adjusted to the changes triggered by the first two interaction dimensions. For example, residents' different working practices within branches triggered conflicts. Being at the center did not close the gap between their disagreements but accentuated the actors' positions (this happened between visual artists, who had different academic backgrounds and work experience). Nevertheless, exchanges between branches provided actors with new knowledge that they could use to improve their professional activities, for example, residents were able to offer additional services to their clients (e.g., the music school offered its students video and audio recordings). Table 52 summarizes examples of dimensions of interactions/conversations at Department 16.

*Table 52. Dimensions of interactions - residents' logics.*

| Dimension | Logics |
|---|---|
| Symbolic | Most first stage actors call themselves pioneers. "Pioneers" versus "the rest" characterizes Stage 2. In Stage 3, new and old residents work together to shape the center's identity. |
| Affective | Work ethic and work schedules affect how actors are perceived. Actors with flexible working hours or those who are absent for long periods are criticized. Actors working regular (and longer) office hours are admired and considered "focused." |
| Convention-innovation | Most conflicts in professional realms are in the cultural industries, among visual artists and musicians who do not share work standards and common references. |
| Strategic | Besides the two brokers (who have high betweenness-centrality scores in all conversation types), four other residents are strong networkers. In general, they prioritize work-related conversations and exchanges of ideas over the personal. |
| Exchange-power | Work-related conversations and exchanging ideas are costly and risky interactions that tenants balance with private talks, which are more accessible and therefore less concentrated in a few actors. |

Initially, Department 16 produced physical proximity between independent workers (freelancers, self-employed workers and start-ups) by generating extra-local linkages. Then

other dimensions of proximity emerged. The center's opening promoted social proximity as tenants created trusting relationships. Residents learned from each other, exchanged ideas and intensified their common values and practices — which did not originate at D16, but found in it a reference point.

## The "snow globe" effect

The foundation of the Department 16 "shook" the city's CCIs' scene, and actors interacted with each other immediately. After a year, some actors (even a few who had been central to socialization relationships) became less socially outgoing, and all start-ups had launched their businesses. In Stage 2, actors had less time to engage in social activities at the center. As a consequence, the network densities were lower than in Stages 1 and 3. In Stage 3, new tenants "jiggled" the conversations networks, reigniting social interaction. This observation supports other studies' findings: organizational flux — far for destroying a network — can actually stimulate the creation of new knowledge ties (Panitz & Glückler, 2020). New actors provide fresh views on established practices and can "shake up" the status quo.

Work-related conversations, exchanges of ideas, and discussions about private issues are organized differently. Four actors are central in work-related conversations and exchanging of ideas (the two brokers, Alicia and Gabriel, plus Xavier and Charles). On the other hand, many tenants participate in discussing private issues, and female residents are slightly dominant in this area. Emotional support and familiarity in private issues conversations are the most accessible, least costly social interactions.

By linking work-related conversations and exchanges of ideas not with each other but with private issues, tenants build social networks for work activities (present and future) on friendships. Private issues are the content of friendship networks, which are "systems for making decisions, mobilizing resources, concealing or transmitting information, and performing other functions closely allied with work behavior and interaction" (Lincoln & Miller, 1979, p. 196). Friendships are common in organizations and have been found to expand productivity, increase job satisfaction and engagement, favor personal growth, and provide emotional support (Lincoln & Miller, 1979).

At the center, homophily is a significant driver of tie-selection and retention (Glückler, 2007a; McPherson et al., 2001). Actors engage primarily with similar actors: they share the same work status (start-ups, self-employed, others); sector (business, cultural industries, creative industries, other); age and gender; and talk mostly to direct building neighbors. An important change in the pattern of relationships is that in Stage 1 residents started work-related communications between branches, and in Stage 3, they were interconnecting within their branches. Therefore, the tenants' homophily mechanism intensifies with time.

Furthermore, work conversations are trans-generational (entry year does not determine interactions), and similar working schedules are also irrelevant for work conversations and exchanging ideas. Hence, residents benefit from being at the center — even if they can work at its facilities just for a couple of hours a week.

Likewise, multiplexity is a mechanism that plays an important role in the evolution of networks. Network multiplexity occurs when "more than one type of relationship exists

between two nodes, with these multiple types of relationships potentially being interdependent, and influencing each other" (S. Lee & Lee, 2015, p. 57). The co-occurrence of two types of ties is highly probable in organizations (S. Lee & Lee, 2015, p. 84). For example, work conversations — sharing advice, in particular — and friendship have been found to be strongly interdependent (Lazega & Pattison, 1999; S. Lee & Lee, 2015).

In Stage 1, residents engaged in mostly work-related conversations and exchanges of ideas. Tenants prioritized these conversations and deemed them highly valuable for establishing the center as a CCI scene and workplace. In Stage 2, the intensity of interactions diminished, and tenants that had already initiated work-related conversations (and probably had worked together) had become acquainted. In Stage 3, work-related conversations, which continued to be slightly more prevalent than discussions about private issues, were anchored in personal relationships. The same thing happened to exchanges of ideas. Residents switched between personal and professional/business/work domains and balanced periods in which either work topics or exchanges of ideas were not discussed. Taking care of the personal produced social benefits, like support, empathy, and motivation, and kept the information channels open for other valuable information.

At another level, the center also juggled its multiple and conflicting domains, particularly the tensions between the cultural and the CCIs' for-profit orientation. There is no other comparable coworking space in the city, and its focus on the CCIs also makes it a special place. The Department 16 emerged as an important player and organizer of the local work scene in the cultural and creative industries.

## IV. Conclusions

Work conversations and exchanges of ideas are informal knowledge-based interactions and are critical to firms (Trippl, Tödtling, & Lengauer, 2009). Less is known about their relevance for independent self-employed freelancers and start-ups in their initial stages. I analyzed Department 16's foundation to explore the emergence of an organizational arena for cross-sector learning.

I examined how socialization relationships evolved in the course a three-year period by comparing four topics of conversation: work, exchanges of ideas, private issues, and other topics. In my analysis, work conversations were strongly correlated to other interactions, particularly the exchange of ideas in Stage 1 and private issues in Stages 2 and 3. Conversations about other issues were less relevant for establishing work-related exchanges.

In the first stage, tenants regularly participated in residents' meetings and spontaneous social gatherings. The management agency's style (centralized, bureaucratic) contributed to the meetings' dissolution and that of other collective action initiatives. At the same time, the manager himself became a reliable and trustworthy interlocutor for the tenants.

Tenants, each in a niche market, joined the center to develop commercial ideas. In exchange theory, intangible exchanges like conversations have an opportunity cost: the alternative activities foregone by the actors involved (Cook & Rice, 2006, p. 54). Actors benefited from

membership at the center because of the work advice they obtained and the ideas they shared in addition to the pleasure, awe, and sense of community they experienced.

Central broker actors steered the Department 16's socializing networks. Their absolute centrality in the first two years of D16's existence shaped the structure of its social networks. The degree to which they could push a political agenda (economic development) was partially discussed in this chapter's analysis. I used the betweenness centrality measure to assess their influence on the network.

In the next chapter, I explore the collaboration and socialization networks' interdependencies. I examine the interdependencies of both relationships in the light of the embeddedness theory.

# Chapter 5. Doing Business, Making Friends

The coworking space that I analyze exemplifies an organizational form that produces social knowledge and learning experiences for self-employed individuals, freelancers, start-up workers, and other independent workers, particularly in the CCIs. By collaborating and engaging in business activities, coworkers develop additional — and usually supportive — social ties that, in many cases, flourish into friendships. "Doing business, making friends" points precisely to this tendency, which the coworking and CCIs' literature has previously noted (DeGuzman & Tang, 2011; Serje Schmidt et al., 2020; Spinuzzi, 2012). Actors rely on conversations about private issues to support collaborations and work-related conversations. This chapter examines the emergence and evolution of the complementarity of collaborative and social relationships. As I clarify later, actors rely heavily on exchanging ideas to activate and support their social ties. I focus my analysis on the Department 16's most dynamic members, i.e., those active in the three stages (Stages 1, 2 and 3) and in the two relations (collaboration and socialization).

In the first part of the chapter, I define collaborative and social relationships and describe their domains. I elaborate the concepts of networking and networked reputation or word-of-mouth reputation. In section two, I present the results of my analysis. First, I compare three subsets of actors to identify their different networking strategies. Then, I examine the networks' evolution in three time frames: ties' interconnections in each individual stage (i.e., discretely in Stages 1, 2, and 3); the effects of the collaborative and social ties between each stage and its following stage (i.e., between Stages 1 and 2, 2 and 3); and the correlation between all links: collaborations, work-related conversations, exchange of ideas, private issues and other topics conversations in the three stages for the three different types of interactions (collaborations, work conversations, and exchanges of ideas). I close the results section by analyzing the tenants' tendencies to interact with actors who do not share their same level of economic success. In the last section, I discuss the findings and present the chapter's conclusions.

## I. Dimensions of the Collaborative and Social Netdoms

### The intersection of the collaborative and social netdoms

Since the 1990s, a number of studies have investigated how informal relationships affect economic transactions (see, for example, Lazega, 2000a, 2000b; Lazega & Pattison, 1999). Granovetter's (1985) paper, which explores the relevance of social structures to economic activity, is especially relevant. Embeddedness theory argues that actors' informal relationships (i.e., friendships, advice-giving, sharing information, and collaboration) affect economic activities differently (Brailly et al., 2016).

In this study, I have analyzed collaborative and social relationships. Collaborative relationships entail practices such as working together to achieve a goal, like working together on an assignment or organizing a collective visual arts exhibition. On the other hand, socialization involves conversation interactions with different scopes and topics, like sharing information about work-related issues, exchanging ideas, and venting about personal matters. Other authors conflate these relationships, calling both "collaboration." For example, Abbasi, Hossain, & Leydesdorff (2012) interpret interactions that involve working together and those that involve sharing knowledge as forms of collaboration. However, I explore the interactions and intersections between these practices, which also have different motivations.

 "Working together" and "making friends" interactions (or ties) create dimensions of collaboration and socialization. These relations are embedded in a social context, which imbues the interactions with meaning. Collaborations might be oriented toward business-related or cultural goals, for profit or for the community's benefit. Conversations may be relevant to an actor's professional life as channels for valuable work-related information or exchanges of ideas. But conversations can also fulfill more subjective needs unrelated to work, for example by creating personal bonds like friendship, promoting a sense of community, and expanding interests beyond work activities.

A social relationship is predicated on a more or less coherent set of motivations that undergird a bundle of interactions. Actors' motivations intermingle with perceptions of the logics of the relationships, which anticipate the outcome of an interaction. Actors' motivations and behaviors continuously challenge network logics, creating opportunities for the evolution of network domains (netdoms). These netdoms represent the articulation of interactions constituting relations (network) and the bundle of social meanings that support the creation, reproduction, and evolution of those relations (domain) (Table 53).

*Table 53. Netdoms' (network domains) main components.*

| | Relations | Relationships | Types of ties | Logics | Actors' motivations |
|---|---|---|---|---|---|
| 1 | Collaborative: "Working Together" | Business, art and culture, and community | Frequent work interactions (paid and unpaid) to produce assignments or joint projects | Producing a good or service; working together to achieve a shared goal | Social recognition, visibility, and prestige |
| 2 | Social: "Making Friends" | Work-related conversations, exchanging ideas, and discussing private issues and other topics | Frequent conversation interactions | Sharing valuable information; creating a support network (practical and emotional support) | Embeddedness of the work-life in the private-life |

I argue that these interactions all entail the potential to obtain external knowledge while acquiring know-how and physical assets (Ahuja, 2000). Obtaining knowledge via collaboration and socialization is a cheap mechanism for expanding actors' competencies (Ahuja 2000) since the actors complement each other's skills, allowing them to enjoy economies of specialization without forcing each individual to invest in his/her own knowledge (Ahuja 2000).

## Dimensions of interactions in the CCIs

Based on Grabher (2004), I define two dimensions relevant to collaborative and social practices: communality and sociality.

A social setting characterized by robust and thick ties functions like a community. In a community, relationships are based on personal familiarity and social coherence. In the context of the CCIs, Grabher (2004) found that the software branch works under this notion of communality. In this context, frequent exchanges are not a condition of communality. On the contrary, actors remain distant for extended periods and resume their ties when needed. Since familiarity (rather than professional affinity) characterizes this setting, actors might not share valuable information but rather use their connections to vent about their daily work problems without expecting solutions, advice, or feedback.

The sociality setting, on the other hand, is based on professional complementarity. Personal affinity and sympathy are tools to create and preserve ties (sometimes hundreds of them). Having "contacts" and "know-whom"-information are valuable assets that require intensive social exposure (Grabher, 2004a; McRobbie, 2016). Job opportunities circulate in this type of setting, along with tacit knowledge, which is usually unarticulated and tied to the senses, movement skills, physical experiences, intuition, or implicit rules of thumb (Nonaka & von Krogh, 2009). For example, tacit knowledge includes what to wear (how to manage image and visibility), how to address clients and avoid conflict, and how to choose collaboration partners. Nevertheless, interactions are frequent and prolific relationships are largely ephemeral (Wittel, 2001). Sociality characterizes the advertising branch, where hanging out (i.e., spending free non-work time together) is an essential practice for embracing the professional ethos and being up-to-date (Grabher, 2004a).

## Networking

Networking is the practice of creating, activating, and sustaining communality and sociality ties, primarily in a face-to-face fashion. The goal of networking is to access valuable information and resources, develop work projects, and gain emotional support through different (inter-personal) paths. These practices use reputation mechanisms to access, evaluate, and control the distribution of the network's goods.

I find that a critical function of networking is increasing work referrals. Work referrals are "pointers" (Cross & Sproull, 2004) that indicate other people who could perform a specific task and provide professional, reliable service. Work referrals use networked reputation mechanisms:

> *"A friend's judgment about another party serves as an essential criterion for our evaluation of that unknown third party. This mechanism communicates certainty through an already established network of trusted relations and thus helps to access additional resources. This kind of reputation is one of the very basic ways social networks operate"* (Glückler & Armbrüster, 2003, p. 280).

Referrals are precious in the CCIs since they help inexperienced clients assess quality, experience, and professionalism. Work referrals are also optimal ways for businesses to land projects and business opportunities (M. Granovetter, 1985) and are particularly important for workers in the CCIs. Sharing a coworking space has the potential to increase the number of work referrals (Spinuzzi, 2012) since coworkers can provide referrals, become sources of information about job opportunities, or become clients themselves — a relationship that may foster future work referrals and increase valuable, trustworthy information exchanges.

Collaboration and socialization in a coworking environment can increase actors' chances of obtaining future projects. Although collaboration and socialization can be goals in and of themselves, they can also facilitate future collaborations beyond the coworking environment. In an extremely dynamic field like the CCIs, every work assignment is connected to future opportunities.

### *Establishing relationships: networked reputation mechanisms disaggregated*

Actors establish relationships by defining their positions in a network. They must also address others' situations and be able to anticipate their ambitions. Actors' identities are closely tied to established relationships. As a position in a network, identity is not *something* that singularizes a person but *something* that a person shares with others holding the same structural position.

This section identifies and defines three network mechanisms that explain how actors establish relationships in a network. I link these mechanisms to networked reputation strategies and focus on the elements that demonstrate how actors acquire, evaluate, and control the distribution of valuable resources, like information, in a network (see Table 54 for a summary).

*Table 54. How do actors form relationships and gain a reputation in a network?*

| Network mechanism | Aim | Strategy | Interactions |
|---|---|---|---|
| Preferential attachment | Access resources | Gain/maintain centrality | Actors network to seek centrality |
| Social ties | Control resources | Balance between weak and strong ties | Actors choose between their need for familiarity and novelty |
| Advice | Evaluate information | Status games or solidarity relationships | Actors assess others' information based on their status or their friendship |

## Preferential attachment

Preferential attachment (Barabási & Albert, 1999) facilitates cumulative advantages (Dahlander & McFarland, 2013) for network's central actors. In this structure, "the rich get richer," or prominent actors' centrality tends to increase over time (Barabási & Albert, 1999). These actors cumulatively gain access to the network's valuable information and resources because possessing a large number of connections makes it easier to generate new connections. Central actors gain access to relevant information before peripheral subjects and thus have better knowledge of the network's resources, facilitating the creation of new social ties (Ahuja, 2000; Cantner, Hinzmann, & Wolf, 2017).

## Familiarity and novelty

Spending time together can create strong relationships, such as friendship (Homans, 1950 in M. S. Granovetter, 1973, p. 1362). However, according to Granovetter, strong ties (like friendships) may be poor paths for acquiring new information and fresh ideas. Intense and frequent exchanges (like those that characterize strong ties) create closed groups, and too much intimacy homogenizes "understandings, ideas, and judgments on issues of mutual interest" (Li, 2017, p. 71). According to Granovetter (1973), only bridges between the groups (e.g., weak ties or friends of friends) create knowledge opportunities (Li, 2017).

Burt (2004) formulated the theory of structural holes, which posits that actors moving across groups are at an advantage. Burt argues that people who stand near the "holes" in a social structure are exposed to different perspectives, which can trigger "good ideas" (i.e., ideas praised and valued by a critical mass).

## Information: Lessons from advice networks

I turn to the study of advice networks because they explore the intersections of collaboration, socialization, knowledge networks, and learning and evaluate how network members recognize others' cognitive status and authority to know (Lazega, Lemercier, & Mounie, 2006). Actors need to assess the quality and trustworthiness of the information they receive. In an organization, members "see expertise and experience as being accumulated… and they constantly rely on advice from others, especially in knowledge intensive organizations" (Lazega, Mounier, Snijders, & Tubaro, 2012). In the case of the coworking space, members interact frequently. However, differences between the actors (e.g., type of work or involvement in different branches or sectors) jeopardize their chances of acknowledging others' authority.

Two theories explain why actors share valuable information in advice networks: to increase their social status (Lazega and Pattison 1999) or to enhance their social capital as social solidarity (Cross et al., 2001).

Honors, recognition, and privileges are tokens of social approval from peers (Lazega & Pattison, 1999). Network members also want to rely on other well-connected actors (Lazega and Pattison 1999) for future work projects and referrals.

On the other hand, building strong ties and creating solidarity relationships are also imperative because actors ask friends for advice, regardless of their expertise level. Cross, Borgatti, and Parker (2001) found that actors seek advisors not based on their status (e.g., advisors' position in the firm or advisors' knowledge and performance level) but according to relational variables like trust, closeness, and friendship.

In the next section, I explore the results of this case study. The most active and central tenants largely joined the network in the center's beta phase; they are the founders of the D16 network. I analyze correlations between "working together" and "making friends" relationships to understand how actors *mixed* relationships to produce desirable outcomes (e.g., increase visibility, gain new contacts, or obtain work referrals). I focus on the dynamics of the "exchange of ideas" network, as it appears to be the most unstable and sensitive to change. Finally, I observe that the Department 16's tenants' relationships display a complementary tendency: actors interact with tenants whose success stories they do not share.

## II.  Analysis and results

### Department 16 in three groups

I analyze the collaborative and social relationships of one group of tenants across the three stages. I selected tenants who were present for all three stages *and* participated in both collaborative "Working Together" and socialization "Making Friends" networks in all three stages. Nineteen tenants fulfilled these specifications, and most of them — fifteen residents — were pioneers, i.e., they joined Department 16 before its opening in Stage 1. Two of them had even been at the center for almost two years before the first round of official tenants arrived in Stage 1. In previous chapters, I described how a group of about 20 to 25 tenants worked at the center during the beta phase. These pioneers participated in meetings with city officials, supported the center's creation, and interacted informally and intensively with other coworkers, leading to friendships and collaborations (Figure 14).
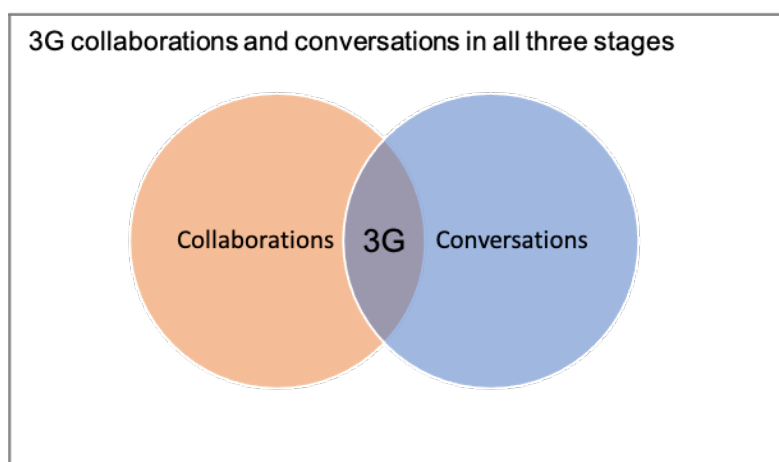


*Figure 14. 3G Members.*

The actors present across all three stages (3G) — or the pioneer group — were more experienced professionals when they arrived at the center: four of them had more than 15 years of work experience, while seven had five years or fewer. On average, this group had worked in their respective fields for 10.2 years, while the tenants who joined in Stage 1 had on average barely seven years (6.92) of experience.

Work experience probably influenced the 3G's openness to establishing social contacts. Knowledge of the field also provided them with valuable information, like how to secure an office space in the old fire station even before the city had decided to open Department 16.

The rest of the actors (W3G) are residents who did not participate in both networks (collaboration and socialization) in all three stages. For example, the W3G means that a tenant either participated in collaboration or socialization but not both (for any number of stages). This category applies to a socializing-only pioneer. For analysis, I eliminated all their links to the 3G, leaving only the relationships within the W3G (Figure 15).
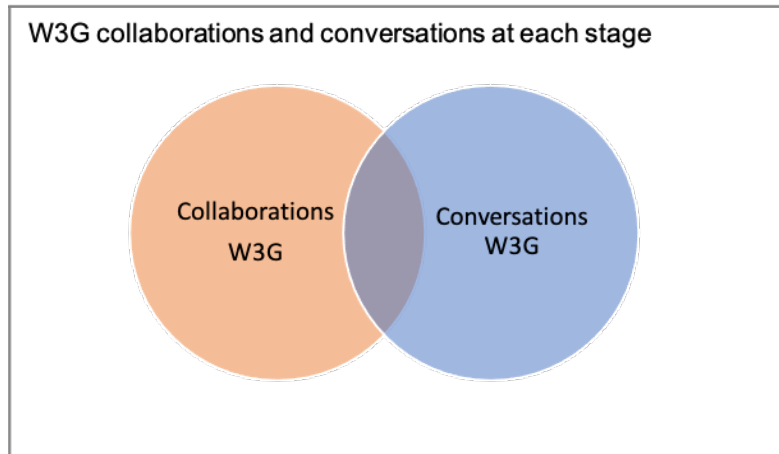
*Figure 15. W3G members.*

The last group, Department 16 (D16), encompasses all members that participated in both networks (collaboration and socialization) in a single stage, regardless of how long they were present (Figure 16).
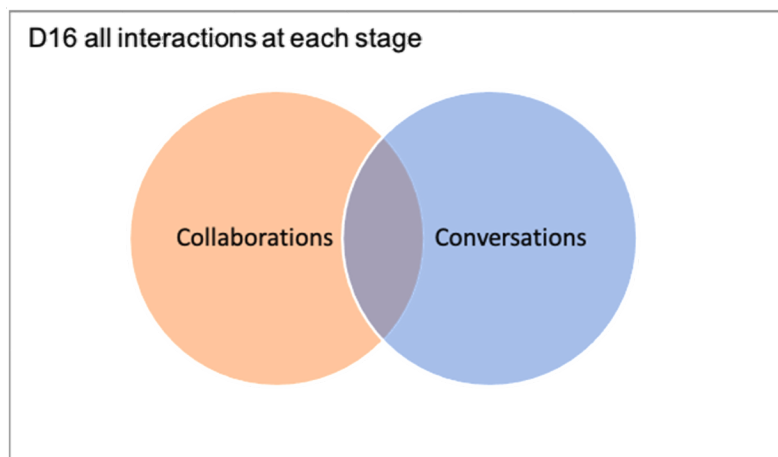


*Figure 16. D16 members.*

## The 3G focus: the exchange of ideas network

In this section, I examine the correlation between collaborations and three conversation-types during the same periods. I find that 3G's collaborations are significantly correlated to the exchange of ideas in Stages 1 and 2 (but not in Stage 3): almost 46 percent (45.98) in Stage 1 and nearly 50 percent (49.74) in Stage 2. Work- and private issues-related conversations were much less relevant in both Stages 1 and 2. However, in Stage 1, work conversations were more important than private exchanges; the opposite was true in Stage 2 (Table 55). In Stage 3, collaborations matched work-conversations. The 3G supported its social relations in two relationship types: collaborations and exchanges of ideas.

*Table 55. 3G's collaborations.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: 3G's Collaborations**

|   |                           | Stage 1    | Stage 2    | Stage 3    |
|---|---------------------------|------------|------------|------------|
| 1 | Work-related conversations | 0.18249*   | 0.09432    | 0.36063**  |
|   |                           | (0.06922)  | (0.09438)  | (0.09210)  |
| 2 | Exchanges of ideas        | 0.45987**  | 0.49748**  | 0.10967    |
|   |                           | (0.07679)  | (0.10994)  | (0.11040)  |
| 3 | Private issues            | 0.07186    | 0.17462    | 0.15558    |
|   |                           | (0.07933)  | (0.11216)  | (0.10355)  |
|   | Intercept                 | 0.10526    | 0.18421    | 0.14035    |
|   | *p(r2)*                   | 0.00020    | 0.00020    | 0.00020    |
|   | adj. R square             | 0.38476    | 0.25039    | 0.26701    |

Standard deviations are in parentheses. 5000 permutations. N=19; 342 Observations. * p<0.05, ** p<0.001, *** p<0.0001.

In the general population (D16), exchanging ideas correlated with collaborations in Stage 1 (26.89 percent). Work-related conversations were slightly less correlated (23.52 percent). But exchanges of ideas and work-related interactions switched magnitudes of importance related to collaborations in Stage 2 (23.78 percent and 25.01 percent respectively). As in the 3G analysis above, collaborations and work-related conversations had the highest correlation in Stage 3 (Table 56).

*Table 56. D16's collaborations.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: D16's Collaborations**

|   |                           | Stage 1    | Stage 2    | Stage 3    |
|---|---------------------------|------------|------------|------------|
| 1 | Work-related conversations | 0.23528**  | 0.25014**  | 0.20677**  |
|   |                           | (0.03381)  | (0.02686)  | (0.02063)  |
| 2 | Exchanges of ideas        | 0.26890**  | 0.23787**  | 0.17525**  |
|   |                           | (0.03623)  | (0.02901)  | (0.02138)  |
| 3 | Private issues            | 0.14188**  | 0.13392**  | 0.09079**  |
|   |                           | (0.03469)  | (0.02676)  | (0.02071)  |
|   | Intercept                 | 0.04735    | 0.04028    | 0.03189    |
|   | *p*                       | 0.00050    | 0.00050    | 0.00050    |
|   | adj. R square             | 0.25476    | 0.18583    | 0.16132    |

Standard deviations are in parentheses. 2000 permutations. Stage 1: N=50; 2450 Observations. Stage 2: N=69; 4692 Observations. Stage 3: N=75; 5550 Observations. * p<0.05, ** p<0.001, *** p<0.0001.

Finally, in the W3G, exchanging ideas did not play a substantial role in collaborations (Table 57). When excluding relationships with the 3G, work conversations and private conversations correlated more strongly with collaborations: in Stage 1, work conversations represented 22.91 percent, and in Stage 2, private conversations represented 6.56 percent. Without the 3G, work conversations even correlated negatively with collaborations (-11.93 percent) in Stage 2. In the same way as in the two previous groups (3G and D16), the W3G collaborations and work-related conversations had the strongest association in Stage 3.

*Table 57.W3G's collaborations.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: W3G's Collaborations**

|  |  | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|---|
| 1 | Work-related conversations | 0.22910** | -0.11931* | 0.23438** |
|  |  | (0.04409) | (0.05985) | (0.03249) |
| 2 | Exchanges of ideas | -0.11948 | 0.02690 | 0.11866** |
|  |  | (0.08741) | (0.03804) | (0.01524) |
| 3 | Private issues | 0.09601* | 0.06561* | 0.01832* |
|  |  | (0.03014) | (0.01852) | (0.01036) |
|  | Intercept | 0.05263 | 0.04516 | 0.02902 |
|  | *p(r2)* | 0.00020 | 0.00180 | 0.00020 |
|  | adj. R square | 0.23983 | 0.01606 | 0.18710 |

Standard deviations are in parentheses. S1=20, 380 Observations; S2=31, 930 Observations; S3=51, 2550 Observations. 5000 permutations. *p<0.05, ** p<0.001, *** p<0.0001.

Across all groups (3G, D16, and W3G), work-related conversations correlated most strongly with collaborations in Stage 3. In Stage 3, exchanges of ideas were the second-most important social interaction in the D16 and W3G groups (it was third for 3G).

### Actors exchange ideas as a networking strategy

In my interviews, I asked residents to express their impressions about exchanging ideas at the center. Many of them answered like Bruce, a one-time D16 tenant and the center's manager for a short time:

> *Me: What comes to your mind spontaneously when you hear the keyword "exchange of ideas in Department 16"?*
>
> *Black hole [laughs] (Bruce 2016).*

Bruce expressed that exchanges of ideas were indeed occurring, but only between close friends. Many in interviewees in Stages 2 and 3 echoed this sentiment. Additionally, pioneers (many of them members of 3G) often referred to an earlier period, when tenants exchanged ideas with greater intensity.

> *Me: What happens with exchange of ideas in the center?*
>
> *There is some in a small framework. There is collaboration, though. But a big common [practice of] exchange of ideas, there is no longer something like that, unfortunately (Gabriel 2016).*

The fashion designer Iona also recalled this period, mostly during the beta phase, when she interacted and exchanged ideas more. During this period, she developed a collaboration with the industrial designer and visual artist Fred, who she met at Department 16 and was another member of the generation of pioneers. They wanted to start a business that would make use of their competencies and skills. Their first idea was to design and produce a cushion collection. Although the business failed to launch, Iona described the collaboration positively:

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*Me: What comes to your mind spontaneously when you hear the keyword "exchange of ideas in Department 16"?*

*Yes, [it is] very helpful. Back then [during the beta phase] I think I had very helpful conversations.*

*Me: With whom?*

*With the [PD] guys, we were in the Café, with Fred, Gabriel, Lilian; Zack was also there, Alicia, too. I liked that period; I liked those exchanges.*

*Me: Were conversations about practical things? Were these about something related to fashion? What kind of exchanges did you have?*

*There were conversations about what we could do to improve the center's façade, for example, but also about how to find customers, things like that. There were always good ideas there [in the Department 16].*

*Me: Were you at that time working here [in her shop] and there [D16]?*

*Actually, I was more there. For example, I started [a project] with Fred. We designed a cushion collection together, and we did that in the Department 16.*

*Me: And what happened?*

*The design was all good, but it went on the back burner. We didn't sell any pillows, and until now, we only have costs and no income. And then, I got pregnant. So, we should have calculated the price better. I had already selected a few shops [at which to sell the collection]. They were interested. They found the design very good. They founded it great. Only our price calculation wasn't right. We could have lowered our price, and then it would have been possible. But we had to stop, and it's a story that doesn't go on. I would like to push already further ahead (Iona 2016).*

Tenants often found it difficult to pinpoint the ideas they exchanged with others, but this example demonstrates how tenants could test ideas in conversation with each other, an opportunity that they did not have outside the center. Interaction with others encouraged tenants to contemplate new possibilities. Synergetic effects grew through these encounters.

Gabriel, a photographer/marketing and communication professional, was an important promoter of the exchange of ideas. He was central in every single stage and network. When I asked Lyam and Rush from WDS, the screen-printing, design, and marketing company, what came to their minds with the phrase "exchange of ideas in Department 16", Lyam replied with a smile, "Gabriel". Saskia, an editorial designer, also remembered Gabriel's enthusiasm for sharing ideas:

*Me: Did you have any conversation, relevant encounter, a light-bulb moment [laughs] in the past year in the center?*

*Yes, maybe not exactly inspiration but important exchanges. For example, Gabriel had a book with him, and he thought about me, "you might be interested in that," [he said], and that was quite great, typographically quite great. Also, there are from time-to-time exchanges with Alicia about services I don't know yet or about photo books. I have already tried [the services] (Saskia 2015).*

However, most conversations about ideas remained just conversations. But these conversations explored possible projects, if not practical ideas. Even tenants who were unlikely to engage in a new business that their interlocutors proposed participated in these conversations. That is the case of Rosemary, who worked for an international music agency. At the time of our interview, the company had closed its offices in Germany, so she had just left her office at the center:

> *Me: What comes to your mind spontaneously when you hear the keyword "exchange of ideas in D16"?*
>
> *It was difficult for me [to exchange ideas]. I wasn't that involved because I worked very isolated. But actually, I was exchanging ideas with Gabriel.*
>
> *Me: Like for a project?*
>
> *No, not a project. Nothing concrete (Rosemary 2016).*

Exchanges of ideas led to different outcomes, and the intensity of these interactions declined in Stage 3 among the 3G members. One probable explanation is that after almost three years of consecutive operation, the tenants' success stories were publicly accessible. Non-interactive learning experiences became possible because actors knew about others' business ideas and felt inspired by their stories, even without direct exposure. Miles, a visual artist, explained that these inspirational encounters result from sharing the same space. He did not gain information from directly conversing with his co-located colleagues, but other tenants still inspired him:

> *I did not mention at the beginning that it is already great, just the space itself, to see the other people who are here, to get ideas and tips.*
>
> *Me: Do you mean exchange of ideas?*
>
> *Yes, yes. For example, the people here who make bikes don't have direct contact with me, but everything [we do] has a radiance [Ausstrahlung]. You can always look up something from the companies. I think that the people who are pure start-ups, pure business, can also look up something from the pure artists. I think that the artist was the prototype of the high performer. If you look at Michelangelo, what he did, it's brutal! (Miles 2015).*

Likewise, Austin, the founder of a company for organic food products, recalled how he was inspired by one particular D16 event organized by a local agency dedicated to supporting start-up culture (Zünder für Gründer or Igniter for Founders):

> *Me: What comes to your mind spontaneously when you hear the keyword "exchange of ideas in D16"?*
>
> *I think of this event in the great hall, the Igniter for Founders. I think about those kinds of moments, not in everyday life situations but in these events. In any case, [I remember] there was this very interesting talk with Rafael, the guy making these leather clothes. I got to know him there. Even if it is a completely different subject area, I found it very interesting what he does (Austin 2017).*

## Networks' densities

Members of the 3G collaborated and socialized intensively across all stages (Table 58). In Stage 2, 3G reached 18 percent density in collaborations, much higher than the other groups in the same period (3.4 percent for D16 and 4.5 percent for the W3G). The same holds for work-related conversations and exchanges of ideas (Table 7): the densities and average degrees (average number of links an actor has) were superior to those in the W3G and D16. The 3G is a smaller group (only 19 tenants) than the W3G and D16, but most importantly its members started the center's social network.

*Table 58. Densities of collaborative networks.*

| 3G | Density (%) | No. of Ties | Std. Dev. | Avg. Degree | Alpha |
|---|---|---|---|---|---|
| S1 | 10.5 | 36 | 0.307 | 1.895 | 0.691 |
| S2 | 18.4 | 63 | 0.388 | 3.316 | 0.811 |
| S3 | 14.0 | 48 | 0.347 | 2.526 | 0.756 |
| **W3G** | | | | | |
| S1 | 5.3 | 20 | 0.223 | 1 | 0.526 |
| S2 | 4.5 | 42 | 0.208 | 1.355 | 0.595 |
| S3 | 2.9 | 74 | 0.168 | 1.451 | 0.604 |
| **D16** | | | | | |
| S1 | 3.3 | 135 | 0.180 | 2.109 | 0.689 |
| S2 | 3.4 | 205 | 0.182 | 2.628 | - |
| S3 | 2.6 | 191 | 0.158 | 2.195 | 0.695 |

3G tenants: N=19. W3G tenants: Stage 1: N=20. Stage 2: 31. Stage 3: 51. D16 tenants: S1: N=64; S2: 78; S3: 87.

To analyze the interactions between the 3G and the W3G, I deduct the number of ties within the groups from the D16 total. For example, collaborations in Stage 1 within the 3G had 36 ties, and within the W3G, 20. Since D16 had 135 ties overall, there were 79 links between the EG and the W3G. I observed that while the work conversations between members of 3G and W3G increased continuously over the three stages (work conversations in S1 had 65 ties; 90 ties in S2, and 102 ties in S3), the exchanges of ideas declined. The 3G became more centered within itself for exchanging ideas. The 3G had 70 exchanges of ideas links with the W3G in Stage 1, then 51 in Stage 2, and only 27 in Stage 3. Collaborations between the groups also decreased in Stage 3 compared to the previous periods: 69 compared to 79 in Stage 1 and 100 in Stage 2 (Table 59).

*Table 59. Densities of social networks*

| 3G tenants | Density (%) | No. of Ties | Std. Dev. | Avg. Degree | Alpha |
|---|---|---|---|---|---|
| S1 Work-related conversations | 10.2 | 35 | 0.303 | 1.842 | 0.684 |
| S1 Exchanges of ideas | 9.4 | 32 | 0.291 | 1.684 | 0.662 |
| S2 Work-related conversations | 12.0 | 41 | 0.325 | 2.158 | 0.721 |
| S2 Exchanges of ideas | 8.2 | 28 | 0.274 | 1.474 | 0.629 |
| S3 Work-related conversations | 10.2 | 35 | 0.303 | 1.842 | 0.684 |
| S3 Exchanges of ideas | 11.4 | 39 | 0.318 | 2.053 | 0.710 |
| **W3G tenants** | | | | | |
| S1 Work-related conversations | 6.8 | 26 | 0.364 | 1.300 | - |
| S1 Exchanges of ideas | 2.9 | 11 | 0.168 | 0.550 | 0.374 |
| S2 Work-related conversations | 3.8 | 35 | 0.190 | 1.129 | 0.548 |
| S2 Exchanges of ideas | 3.2 | 30 | 0.252 | 0.968 | - |
| S3 Work-related conversations | 2.7 | 69 | 0.162 | 1.353 | 0.586 |
| S3 Exchanges of ideas | 4.1 | 104 | 0.283 | 2.039 | - |
| **D16 tenants** | | | | | |
| S1 Work-related conversations | 2.5 | 126 | 0.155 | 1.750 | 0.645 |
| S1 Exchanges of ideas | 2.2 | 113 | 0.147 | 1.569 | 0.619 |
| S2 Work-related conversations | 1.7 | 166 | 0.135 | 1.694 | - |
| S2 Exchanges of ideas | 1.1 | 109 | 0.106 | 1.112 | 0.532 |
| S3 Work-related conversations | 1.9 | 206 | 0.137 | 1.962 | - |
| S3 Exchanges of ideas | 1.6 | 170 | 0.124 | 1.619 | 0.624 |

3G tenants: N=19. W3G tenants: Stage 1: N=20. Stage 2: 31. Stage 3: 51.

D16 tenants: S1: N=72; S2: 98; S3: 105.

In all groups, the correlation between work-related conversations and exchanges of ideas weakens over time (Table 60). Conversely, interactions about private issues become more important to social dynamics over time. However, I observed that exchange of ideas in Stage 1 had an even larger influence on work-related conversations than private issues in the 3G and D16 — more than 60 percent for exchange of ideas, and 28 percent for private issues.

Although private conversations are more closely related to collaborations than exchanges of ideas, these personal conversations do not dominate social interactions. For example, in Stage 3, the difference between conversations about private issues and exchanges of ideas in the D16 group is less than three percentage points (41 percent for private issues and 38 percent for exchanges of ideas).

*Table 60. Work-related conversations evaluation: 3G, W3G, and D16.*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: Work-related conversations**

| | | Stage 1 | | | Stage 2 | | | Stage 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3G | W3G | D16 | 3G | W3G | D16 | 3G | W3G | D16 |
| 1 | Exchanges of ideas | 0.64729** | 0.34656* | 0.62569** | 0.57735** | 0.29706** | 0.49992** | 0.34512** | 0.14978** | 0.38811** |
| | | (0.06147) | (0.09933) | (0.01585) | (0.06228) | (0.02038) | (0.01137) | (0.06726) | (0.00935) | (0.01061) |
| 2 | Private issues | 0.28073** | 0.35223** | 0.25870** | 0.46623** | 0.18698** | 0.55445** | 0.39314** | 0.18940** | 0.41660** |
| | | (0.05850) | (0.03445) | (0.01404) | (0.05855) | (0.01147) | (0.01129) | (0.06389) | (0.00652) | (0.00992) |
| 3 | Other topics | -0.19319* | 0.29984** | 0.21040** | -0.03485 | 0.06542** | -0.11058** | 0.09055 | 0.03134** | 0.14623** |
| | | (0.12071) | (0.03443) | (0.01913) | (0.09908) | (0.01141) | (0.01461) | (0.05440) | (0.00410) | (0.00886) |
| | Intercept | 0.10234 | 0.06842 | 0.00517 | 0.11988 | 0.03763 | 0.00334 | 0.10234 | 0.02706 | 0.00320 |
| | *p (r2)* | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.59494 | 0.64840 | 0.61500 | 0.63922 | 0.61934 | 0.64900 | 0.62618 | 0.66404 | 0.60100 |

Standard deviations are in parentheses. 5000 permutations. 3G: N=19, 342 Observations. W3G: S1=20, 380 Observations; S2=31, 930 Observations; S3=51, 2550 Observations. D16: S1 =72, 5112 Observations; S2 =98, 9506 Observations; S3 =105, 10920 Observations. p<0.05, ** p<0.001, *** p<0.0001.

The 3G actors, being mostly pioneers, benefited socially by arriving at the center when contacts were more intense and frequent. However, few of them broke out of the pioneers' social circle and engaged with new tenants. Xavier, a media producer and economic psychologist, collaborated and socialized almost exclusively with the same people as when he started working in the center during the beta phase:

> *There is a history in this building that can be related to the tenants' generations. It seems that each tenants' generation has communication within itself, but across the generations, so trans-generationally, there is little communication. Those who came after us, we know each other less than those with whom we were first. This is a bit strange but is it also a bit of a pity (Xavier 2016).*

Xavier argued that the lack of communication was a wider cultural problem in Germany and not something particular to the center. Others, like photographer and author Alicia, also referred to this issue as the German inclination to mind one's own business. However, in interviews, actors expressed interest in other tenants. In one of my visits to the coworking room, its manager asked me if I could talk about the center since many coworkers wanted to know more about the tenants. Barriers to interactions included tenants' work routines, a lack of regular social interaction mechanisms (like periodical tenant meetings), and the center's growth.

Members joining at similar times occupied neighboring spaces in the Department 16 buildings, so tenants of different generations tended to be located in separate areas. As I have shown, neighboring tenants tended to interact more socially (particularly exchanging ideas) with each other than with residents in different buildings. However, some tenants, like Xavier, changed offices, relocating to sections with higher concentrations of newer tenants. Although Xavier had not completed the move to his new office space at the time of

our final interview, other tenants who had moved to different offices earlier did not experience a great shift in their social networks. For example, the media producer Jim changed his office in Stage 1, but his social contacts remained predominantly (but not exclusively) 3G members. In fact, his work collaborations were almost identical in Stages 2 and 3: he was working for and with the same group of people. Jim had a reliable network in the D16 based mostly on his beta phase contacts. Xavier and Jim were somewhat disappointed by the lack of significant network growth in Stages 2 and 3. Nonetheless, they belonged to a group of actors with the highest number of connections at the Department 16, and a few of those were with individuals outside of the 3G group.

Pioneers had stronger links to each other, ties similar to those found in a community. They relied on each other and their interactions were grounded in private exchanges of friendship, emotional support, and trust. Although they continued building their networks by engaging with new tenants, the pace and quality of the new relationships were not comparable to those generated in the center's first 6-12 months. By Stage 3, pioneers had formed a community, so the contours of their interactions (exchanges of ideas and collaborations) changed.

I argue that the exchange of ideas is fundamental to actors generating connections. Exchanging ideas allows actors to express who they are, what they can do, how they can work, and their expectations. These exchanges generate mental representations[49] (Neander, 2006) of possible collaborations — representations that the participants can further examine, contemplate, and even enjoy without taking further action.

### Building relationships between stages

To identify relationships' dynamics, I compare the collaborations and social interactions of the 3G in all three stages. For example, how do Stage 2 collaborations relate to Stage 1 collaborations and conversations? Stage 2 collaborations are based on Stage 1 collaborations in up to 25 percent but are tied even more strongly to conversations about private issues (43 percent) (Table 61). In other words, making friends is a good strategy for establishing future collaborative links. The friendship link is even more useful than previous collaborations for securing work commissions.

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[49] Social factors determined mental representations, but also other psychological capacities like perception, memory, learning, etc. (Neander, 2006).

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: 3G's S2 Collaborations**

| | | |
|---|---|---|
| 1 | S1 Collaborations | 0.25543* |
| | | (0.08910) |
| 2 | S1 Work-related conversations | -0.07734 |
| | | (0.10187) |
| 3 | S1 Exchanges of ideas | 0.07319 |
| | | (0.11207) |
| 4 | S1 Private issues | 0.43790** |
| | | (0.11521) |
| | Intercept | 0.18421 |
| | *p (r2)* | 0.00020 |
| | adj. R square | 0.15974 |

Standard deviations are in parentheses. N=19; 342 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

On the other hand, 3G's collaborations in Stage 3 were related to collaborations in Stage 2 (36 percent) and, to a lesser extent, to exchanges of ideas in Stage 2 (18 percent) (Table 62). Stage 2's work-related conversations and exchanges regarding private issues were not significant for Stage 3 collaborations. In other words, tenants collaborating in Stage 2 probably continue collaborating in Stage 3, possibly indicating a pattern of collaboration. The same is true of actors who discussed ideas in Stage 2: in Stage 3, they worked together on a previously discussed project idea.

*Table 62. Pioneers' collaborations (S2-S3).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: 3G's S3 Collaborations**

| | | |
|---|---|---|
| 1 | S2 Collaborations | 0.36925** |
| | | (0.05879) |
| 2 | S2 Work-related conversations | -0.06426 |
| | | (0.22995) |
| 3 | S2 Exchanges of ideas | 0.18184* |
| | | (0.03299) |
| 4 | S2 Private issues | 0.07556 |
| | | (0.18556) |
| | Intercept | 0.05896 |
| | *p(r2)* | 0.00050 |
| | adj. R square | 0.23879 |

Standard deviations are in parentheses. N=19; 342 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

## Building relationships: Comparing 3 stages and 5 relationships

In the previous section, I compared the collaborations and conversations of one stage with the collaborations of the following stage, or the development of connections in two timeframes. Now, I evaluate three relationship types (collaborations, work-related conversations, and exchanges of ideas) across all three stages.

In Stage 3, conversations about work and other issues were the most relevant to establishing collaborations (Table 63, analysis based on Model 1). Collaborations in Stage 3 are strongly tied to collaborations in Stage 2 (29 percent). However, having conversations about private (-29 percent) or other issues (-45 percent) in Stage 1 was a negative indicator of collaboration in Stage 3. Thus, making friends in Stage 1 and not collaborating in Stage 2 reduces the possibility of collaborating in Stage 3. The same happens to conversations about other issues.

*Table 63. How do S3 collaborations correlate with collaborations and conversations in previous stages?*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**
**Dependent Variable: 3G's Stage 3 Collaborations**

| | | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|---|
| 1 | S1 Collaborations | -0.04923 | 0.00640 | | | | |
| | | (0.06664) | (0.06123) | | | | |
| 2 | S1 Work-related conversations | 0.05147 | | -0.03213 | | | |
| | | (0.08350) | | (0.06438) | | | |
| 3 | S1 Exchanges of ideas | 0.10930 | | | 0.03447 | | |
| | | (0.09367) | | | (0.06247) | | |
| 4 | S1 Private issues | -0.29312** | | | | -0.09094 | |
| | | (0.09284) | | | | (0.07783) | |
| 5 | S1 Other issues | -0.45718* | | | | | -0.28784* |
| | | (0.17688) | | | | | (0.19183) |
| 6 | S2 Collaborations | 0.29339** | 0.42947** | | | | |
| | | (0.05761) | (0.05928) | | | | |
| 7 | S2 Work-related Conversations | -0.00068 | | 0.18965* | | | |
| | | (0.08281) | | (0.05818) | | | |
| 8 | S2 Exchanges of ideas | 0.11917 | | | 0.31832** | | |
| | | (0.09324) | | | (0.07194) | | |
| 9 | S2 Private issues | 0.00413 | | | | 0.22267** | |
| | | (0.08912) | | | | (0.07280) | |
| 10 | S2 Other issues | 0.11137 | | | | | 0.39161* |
| | | (0.15436) | | | | | (0.17547) |
| 11 | S3 Work-related conversations | 0.20529* | | 0.54632** | | | |
| | | (0.09028) | | (0.07125) | | | |
| 12 | S3 Exchanges of ideas | 0.10678 | | | 0.44740** | | |
| | | (0.10575) | | | (0.06275) | | |
| 13 | S3 Private issues | 0.13589 | | | | 0.47337** | |
| | | (0.10059) | | | | (0.06547) | |
| 14 | S3 Other issues | 0.17507* | | | | | 0.53834** |
| | | (0.09010) | | | | | (0.09492) |
| | Intercept | 0.14035 | 0.14035 | 0.14035 | 0.14035 | 0.14035 | 0.14035 |
| | *p (r2)* | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 |
| | adj. R square | 0.40041 | 0.22701 | 0.27467 | 0.27449 | 0.24298 | 0.13071 |

Standard deviations are in parentheses. N=19; 342 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

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As expected, work-related conversations in Stage 3 correlated most with exchanges of ideas (41 percent) and interactions about private issues (32 percent) in Stage 3 (Table 64, analysis based on Model 6). This result is unsurprising because tenants who converse about one topic likely converse about other topics as well. Besides the parallels between work-related conversations, exchanges of ideas, and interactions about private issues in Stage 3, work-related interactions in Stage 1 (21 percent) and exchanges of ideas in Stage 2 (20 percent) were significant antecedents for work-related conversations in Stage 3. Therefore, to have work-related conversations in Stage 3, tenants shared work-related information in Stage 1 and discussed their ideas in Stage 2.

*Table 64. How do S3 work conversations correlate with other conversation interactions?*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: 3G's Stage 3 work-related conversations**

|  |  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|---|
| 1 | S1 Work-related conversations | 0.24862** | 0.33280** |  |  |  | 0.21541** |
|  |  | (0.05250) | (0.05947) |  |  |  | 0.05138 |
| 2 | S1 Exchanges of ideas | 0.68134** |  | 0.15446** | 0.14948* |  | 0.00609 |
|  |  | (0.05642) |  | (0.03959) | (0.04801) |  | 0.05560 |
| 3 | S1 Private issues |  |  |  | -0.01911 | 0.08920* | -0.06264 |
|  |  |  |  |  | (0.05711) | (0.04657) | 0.05682 |
| 4 | S2 Work-related conversations | -0.15679* | 0.09814* |  |  |  | -0.07185 |
|  |  | (0.04790) | (0.05277) |  |  |  | 0.05095 |
| 5 | S2 Exchanges of ideas | 0.23422** |  | 0.11329* | 0.17106** |  | 0.20935** |
|  |  | (0.05780) |  | (0.04296) | (0.04880) |  | 0.05636 |
| 6 | S2 Private issues |  |  |  | -0.11965* | 0.01697 | -0.09122* |
|  |  |  |  |  | (0.04979) | (0.04231) | 0.05361 |
| 7 | S3 Exchanges of ideas | -0.03763 |  | 0.67636** | 0.37672** |  | 0.41397** |
|  |  | (0.05137) |  | (0.05577) | (0.06413) |  | 0.06417 |
| 8 | S3 Private issues |  |  |  | 0.36629** | 0.69036** | 0.32322** |
|  |  |  |  |  | (0.06490) | (0.05695) | 0.06276 |
|  | Intercept | 0.10234 | 0.10234 | 0.10234 | 0.10234 | 0.10234 | 0.10234 |
|  | *p (r2)* | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 |
|  | adj. R square | 0.64250 | 0.13714 | 0.61211 | 0.65328 | 0.58924 | 0.66989 |

Standard deviations are in parentheses. N=19; 342 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Finally, the relevance of the relationship between exchanging ideas and work-related conversations is clear in analyzing the networks of exchanges of ideas in Stage 3 (Table 65, analysis based on model 6). As anticipated, exchanges of ideas in Stage 3 correlated the highest with work-related conversations and interactions about private issues in Stage 3. However, the relationship between exchanges of ideas and conversations about private matters is stronger than that of exchanging ideas and work-related conversations: 64 percent with private issues (Stage 3) compared to only 30 percent with work-related conversations in Stage 3 and 16 percent work-related conversations in Stage 2. Conversations about private issues overtook work-related conversations as the strongest indicator of exchanges of ideas. However, tenants that had work-related conversations in

Stage 1 (-15 percent) and were exchanging ideas in Stage 2 (-14 percent) probably did not share ideas in Stage 3 because these conversations are inversely correlated. These results imply that exchanges of ideas are more immediate affected by recent interactions (same stage and only one stage before conversations) than work conversations.

*Table 65. How do S3 exchanges of ideas correlate with other conversation interactions?*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: 3G's Stage 3 exchanges of ideas**

|  |  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|---|
| 1 | S1 Work-related conversations |  | -0.19730* | -0.13549** | -0.11994** |  | -0.15574** |
|  |  |  | (0.05866) | (0.04301) | (0.03863) |  | (0.04390) |
| 2 | S1 Exchanges of ideas | 0.16967* | 0.09505* |  |  |  | 0.06311 |
|  |  | (0.06552) | (0.05816) |  |  |  | (0.04739) |
| 3 | S1 Private issues |  |  |  | 0.00960 | -0.03988 | -0.00486 |
|  |  |  |  |  | (0.04550) | (0.04022) | (0.04879) |
| 4 | S2 Work-related conversations |  | 0.18929** | 0.08384* | 0.08625* |  | 0.16432** |
|  |  |  | (0.05292) | (0.03690) | (0.03866) |  | (0.04446) |
| 5 | S2 Exchanges of ideas | 0.17058* | -0.17610* |  |  |  | -0.14876** |
|  |  | (0.06798) | (0.06407) |  |  |  | (0.04994) |
| 6 | S2 Private issues |  |  |  | -0.02916 | 0.03345 | -0.00688 |
|  |  |  |  |  | (0.04541) | (0.03550) | (0.04769) |
| 7 | S3 Work-related conversations |  | 0.84288** | 0.82708** | 0.28826** |  | 0.30787** |
|  |  |  | (0.07076) | (0.06988) | (0.04715) |  | (0.04703) |
| 8 | S3 Private issues |  |  |  | 0.65372** | 0.84160** | 0.64638** |
|  |  |  |  |  | (0.05484) | (0.06105) | (0.05628) |
|  | Intercept | 0.11404 | 0.11404 | 0.11404 | 0.11404 | 0.11404 | 0.11404 |
|  | *p (r2)* | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 | 0.00020 |
|  | adj. R square | 0.05431 | 0.59786 | 0.58923 | 0.77097 | 0.73636 | 0.77677 |

Standard deviations are in parentheses. N=19; 342 Observations; 5000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

## Tenants' performance and their networks (D16 group)

I explore if actors chose to collaborate or converse with others who shared their same degree of success since moving into the center. During the study period, most of the tenants mentioned gaining more work assignments and income since moving into the Department 16, a pattern that continued each successive year. However, tenants collaborated, had work-related conversations, and exchanged ideas with residents with different levels of work assignments. Interlocutors also had different plans regarding staying at the center (Tables 66-70).

*Table 66. Are equally successful tenants working together? (S1).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| Dependent Variable: Collaborations | | Stage 1 | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| 1  Same work commission situation | -0.01850* | | | |
| | (0.01051) | | | |
| 2  Different work commission situation | | 0.00432** | | |
| | | (0.00144) | | |
| 3  Same wish to stay in the center (same timeframe) | | | -0.02429** | |
| | | | (0.00986) | |
| 4  Different wish to stay in the center (different timeframe) | | | | 0.00571** |
| | | | | (0.00148) |
| Intercept | 0.03924 | 0.03348 | 0.04000 | 0.03348 |
| *p(r2)* | 0.024 | 0.00150 | 0.002 | 0.00050 |
| adj. R square | 0.002 | 0.00459 | 0.004 | 0.00772 |

Standard deviations are in parentheses. N=64; 4032 Observations; 2000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

*Table 67. Are equally successful tenants working together? (S2).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| Dependent Variable: Collaborations | | Stage 2 | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| 1  Same work commission situation | -0.01590* | | | |
| | (0.00846) | | | |
| 2  Different work commission situation | | 0.00372** | | |
| | | (0.00119) | | |
| 3  Same wish to stay in the center (same timeframe) | | | -0.01202 | |
| | | | (0.00851) | |
| 4  Different with to stay in the center (different timeframe) | | | | 0.00559** |
| | | | | (0.00133) |
| Intercept | | 0.04023 | 0.03413 | 0.03785 | 0.03413 |
| *p(r2)* | | 0.030 | 0.00100 | 0.068 | 0.00050 |
| adj. R square | | 0.002 | 0.00343 | 0.001 | 0.00604 |

Standard deviations are in parentheses. N=78; 6006 Observations; 2000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Table 68. *Are equally successful tenants working together? (S3).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

| Dependent Variable: Collaborations | | Stage 3 | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| 1 Same work commission situation | 0.00293 | | | |
| | (0.00511) | | | |
| 2 Different work commission situation | | 0.00369** | | |
| | | (0.00083) | | |
| 3 Same wish to stay in the center (same timeframe) | | | -0.00051 | |
| | | | (0.00553) | |
| 4 Different wish to stay in the center (different timeframe) | | | | 0.00478** |
| | | | | (0.00093) |
| Intercept | 0.02553 | 0.02553 | 0.02553 | 0.02553 |
| *p(r2)* | 0.39680 | 0.00050 | 0.47076 | 0.00050 |
| adj. R square | -0.00013 | 0.00446 | -0.00013 | 0.00570 |

Standard deviations are in parentheses. N=87; 7482 Observations; 2000 permutations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Table 69. *Are tenants having work-related conversations with equally successful interlocutors? (All stages).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: Work-related conversations**

| | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|
| Different work commission situation | 0.00399** | 0.00082 | 0.00233** |
| | (0.00114) | (0.00081) | (0.00069) |
| Intercept | 0.02465 | 0.01746 | 0.01886 |
| *p(r2)* | 0.00050 | 0.15542 | 0.00050 |
| adj. R square | 0.00516 | 0.00019 | 0.00239 |

Standard deviations are in parentheses. 2000 permutations. S1: N=72, 5112 Observations; S2: N=98, 9506 Observations; S3: N=105, 10920 Observations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

*Table 70. Are equally successful tenants exchanging ideas? (All stages).*

**Multiple regression quadratic assignment procedure (MRQAP) analysis**

**Dependent Variable: Exchanges of ideas**

|  | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|
| Different work commission situation | 0.00375** | 0.00089 | 0.00147* |
|  | 0.00107 | (0.00056) | (0.00059) |
| Intercept | 0.02210 | 0.01147 | 0.01557 |
| *p(r2)* | 0.00100 | 0.06197 | 0.00800 |
| adj. R square | 0.00506 | 0.00044 | 0.00111 |

Standard deviations are in parentheses. 2000 permutations. S1: N=72, 5112 Observations; S2: N=98, 9506 Observations; S3: N=105, 10920 Observations. * $p<0.05$, ** $p<0.001$, *** $p<0.0001$.

Tenants' economic performance comes from their self-evaluations of work assignments and revenue in the period of the previous 12 months compared to the year before (or the year before joining the center).

These results indicate a tendency toward complementarity and (likely) status games that Lazega, Bar-Hen, Barbillon, & Donnet (2016) have documented in other fields. Actors with different commission situations (measured in contracts and/or annual income's improvement or decline) work together and socialize. In many cases, tenants are interacting with competitors. This is a case of friendly competition or coopetition — cooperation with direct competitors (Lazega et al., 2016) — since tenants working in the same branch and at the same scale are collaborating and socializing. Pervasive private conversations (i.e., friendship ties) suggest embeddedness: actors are becoming friends with collaborators. Besides, actors are building their reputations contentiously, and word of unfriendly behavior would travel quickly and impact them negatively:

> *The competition is very pronounced in the region, very envious. I think it's relatively common. It's not a big scene and people know each other. The scene is small. Word gets around fast! People with whom I work, work with the other [and so on]. If I bad-mouth others, it will be known. So, the competition is always there! (Jim 2016).*

## III. Discussion and conclusions

The relationships I describe in this chapter are not causal: I examine co-occurring relationships without assuming that one produces another. Moreover, since each relationship follows its own logic and relationships are shaped by actors' motivations, I address how the meanings of the relationships change across stages.

I found that the importance of exchanges of ideas changed the most over time. Although exchanging ideas was most important toward the beginning of the study, private and work-related conversations became more important at the end. Exchanges of ideas correlated positively with collaborations in the same timeframe in all three stages. However, actors prioritized the personal over all other exchanges.

I compared the collaboration and conversation networks of the 3G, W3G, and D16 groups. I expected strong correlations between collaborations and work-related conversations. However, this was not the case in two of the three stages. Both exchanges of ideas and work-related conversations played important roles in collaborations (Table 71).

*Table 71. Significant correlation between collaboration and type of socialization by group (summary).*

| Group | Stage 1 | Stage 2 | Stage 3 |
|-------|---------|---------|---------|
| 3G | Exchange of ideas | Exchange of ideas | Work conversations |
| D16 | Exchange of ideas | Work conversations | Work conversations |
| W3G | Work conversations | Private issues | Work conversations |

I also evaluated the networks' densities and the interactions between the three groups. Exchange of ideas was important for establishing work-related conversations in the first two stages. For all three groups, conversations about private issues had the most impact on work-related conversations in the final stage.

Based on this analysis, I summarize the most important findings in Table 72.

*Table 72. Findings.*

| Network mechanism | Aim | Strategy | Interaction | Findings (summary) |
|-------------------|-----|----------|-------------|--------------------|
| Preferential attachment | Access valuable resources | Centrality | Actors network to gain centrality | Actors use exchanges of ideas to build their social networks |
| Social ties | Control network resources | Balance weak and strong ties | Actors choose between the need for familiarity (communality dimension) and novelty (sociality dimension) | Exchanges of ideas help actors create feedback loops to produce work referrals; networking mixes communality (through exchanges of ideas and discussions about future collaborations) and sociality (by creating weak ties through endorsement in professional networks) |
| Advice | Evaluate information | Status games or solidarity relationships | Actors assess information based on status or friendship | Actors interact with others who do not share their economic success; it is unclear if these interactions are based on status games or social solidarity (qualitative analysis points to both strategies at different moments) |

The networks are endogenous, so past relationships are correlated with future events. I analyzed what relationships were supportive of the last stages' networks for three relationships: collaborations, work-related conversations, and exchanges of ideas (Table 73). I found that the most important predictor of collaborations was having collaborative ties in the past. Likewise, private conversations and exchanges of ideas in the past also correlated positively with future collaborations. Work-related conversations and exchanges of ideas were also strongly associated (Tables 73 and 74).

*Table 73. Process of network development: from one stage to the following stage (summary)*

| S1 | S2 | S3 | Table |
|---|---|---|---|
| If actors were having private issues conversations and collaborating in Stage 1… | They were collaborating in Stage 2 | | 61 |
| | If tenants were exchanging ideas and collaborating in Stage 2… | They were collaborating in Stage 3 | 62 |

*Table 74. Collaborative and social network dynamics: three timeframes (summary)*

| | S1 | S2 | S3 | S3 parallel relationships | Correlation | Table |
|---|---|---|---|---|---|---|
| 1 | Not having private and other issues conversations in S1… | but collaborating in S2… | influenced collaborations in S3. | S3 collaborations highly correlated with S3 work-related (20 percent) and other issues conversations (17 percent). | Model 1: Collaborations in S2 and S3 correlated 29 percent. In contrast, S1 private and other issues conversations were negatively linked to collaborations (-29 percent and -45 percent, respectively). | 63 |
| 2 | If actors were having work-related conversations in S1… | and exchanging ideas in S2, then… | they were having work-related conversations in S3. | S3 work-related conversations were highly linked to S3 exchanges of ideas (41 percent) and private issues conversations (32 percent). | Model 6: S3 work-related conversations correlated 21 percent to S1 work-related conversations and 20 percent to exchanges of ideas in S2. | 64 |
| 3 | If actors were not having work-related conversations in S1… | but were having work-related conversations in S2, then… | they were exchanging ideas in S3. | S3 exchanges of ideas had significant network similarities to work-related conversations (30 percent) and private issues conversations (64 percent). | Model 6: Work-related conversations in S2 correlated positively with exchanges of ideas in S3 (16 percent). Other relationships correlated negatively: work-related conversations in S1 (-15 percent) and exchanges of ideas in S2 (-14 percent). | 65 |

Finally, assessing the actors' economic performance and networking activities reveals that interlocutors tend to interact with others who experience different levels of success.

The results suggest that residents complement each other and that status games are probably taking place. Since actors in the CCIs rely heavily on word-of-mouth (or "networked") reputation, tenants ally themselves with others who are better connected and enjoy a solid reputation. I observed this behavior pattern as I asked actors to name conversation partners. For example, founders of the most successful start-ups tended to not reciprocate in conversations exchanges with self-employed tenants, freelancers or artists. Instead, they sought other start-up founders and members of their cultural niche (the bicycle clique) as conversation partners. Central actors in both networks — tenants active in collaboration and socialization relations — were also very selective in their choices of conversation partners.

In particular, tenants exchanged ideas to build their reputation, gain centrality, and increase their interactions in the collaborative and social networks. Actors who did not follow this strategy (the W3G) participated in either one of the networks (but not both) and did not participate as frequently as the 3G actors.

These findings contribute to the "structural holes" and "structural folds" theories. The structural holes theory argues that actors benefit from their position in between groups, as they access information circulating in all their adjacent groups. Burt (2004) demonstrates that the ideas of actors located at the structural holes are more praised and accepted than ideas of actors in other positions. Vedres & Stark (2010) readdress Burt's conclusions by highlighting the trust factor: new business ventures need a reliable source of information that can help them access and develop ideas. Therefore, actors need to be part of different groups, not just move between groups. Vedres and Stark measure the actors' affiliations and probe their advantages over time. They find that actors who belong to more groups and change their affiliations are economically more successful than others who do not follow this path (Vedres and Stark, 2010).

In this case study, tenants use their positions to gain prestige for their ideas and business activities. But as Burt and Vedres and Stark also suggest, actors' creativity and ability to generate ideas (good or otherwise) does not determine a project's outcome. The photographer and visual artist Lucas explained:

> I can write some curators emails and tell them 'hey, here is my portfolio' and so what?! [they would probably say]. I think 10 percent is what you can do and 90 percent relationships. Everybody can do something. A lot of people can do good photography. It's not like brain surgery, and even brain surgery! [laughs]. But no, it's a different thing. You need to be in contact with the people. That is very important (Lucas 2017).

Exchanging ideas serves a concrete purpose: it helps actors promote themselves in the network and shortens the path between them and possible job opportunities. Actors must assess their circumstances and use different strategies to achieve their goals (e.g., conversation interactions and collaboration practices or switching between communality and sociality dimensions). In this context, the most valuable structural position is the one that enables the actor to accumulate work referrals and potential clients. I argue that exchanging ideas is the crucial socialization strategy that enables the emergence of these social networks.

In Figure 17, actor A exchanges ideas with coworker B. Actor A's aim is to improve her/his chances of generating work assignments by reaching potential clients in B's networks. Weak ties are not sufficient because actor A needs more than information about a potential client; instead, actor A needs actor B's work referrals. Coworker B needs to *point* contacts to A. Others who know about A's performance and have information about A's skills and ambitions might help A gain work opportunities by activating an exchange of ideas-work referral feedback loop.
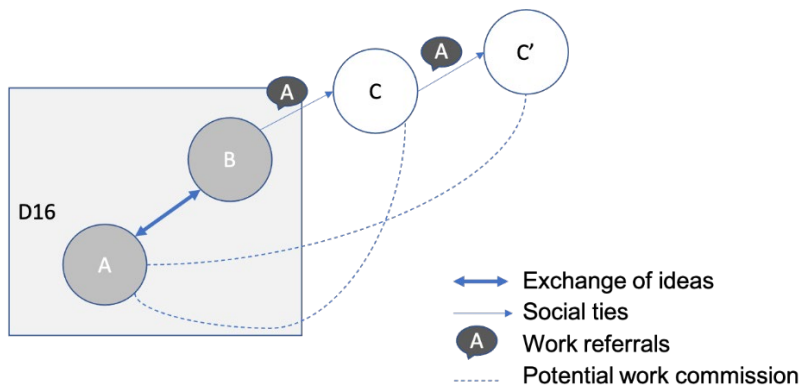
*Figure 17. Exchange of ideas-work referral feedback loop.*

What kinds of actors benefit the most from these feedback loops? Central actors benefit most. These actors — who base their centrality on their activities (Freeman, 1978) — act as local mediators by emphasizing different aspects of their experiences (Pachucki and Breiger, 2010). A star or wheel-like microstructural configuration allows them to maximize their centrality (Freeman, 1978). In Figure 18, actor A exchanges ideas with three other distinct actors (B, B' and B'').
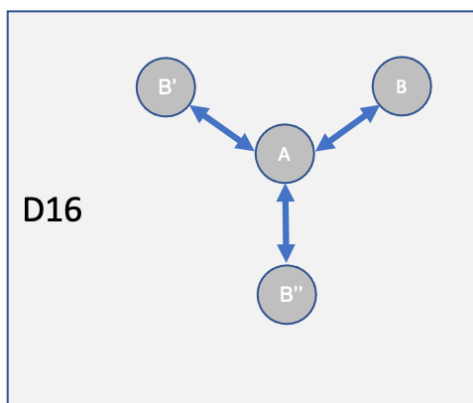


*Figure 18. Star-like microstructural configuration.*

This mix of information-dense and social relationships, also known as networking, has become compulsory for actors in the CCIs to access job opportunities (Grabher and Ibert, 2006; Hesmondhalgh and Baker, 2011; Vivant, 2013), and coworking spaces offer workers a cost effective and immediate solution for starting, regenerating, and expanding their social relationships.

# Chapter 6. Doing Business, Making Friends: The Emergence of the Coworking Space as a New Organizational Form

This dissertation examined Department 16 (D16), the first center for the cultural and creative industries (CCI) in Heidelberg, a second-tier city in southwest Germany. I analyzed two types of relationships and their dynamics to better understand the genesis of collaborative environments. The first was collaborative, which I called "Working Together". This network comprises three types of links: business/commercial, arts/culture, and community. Business or commercial links refer to economically remunerated work assignments between the center's tenants, including joint efforts to launch new projects or businesses; exchanges of ideas about launching collaborative, for-profit projects and firms; and help and support, such as unpaid work commissions and work referrals. Arts and cultural projects include organizing cultural events in the center's Café and helping or supporting the realization of tenants' artistic and cultural projects. Finally, community links encompass tenants' participation in projects for the center's benefit, like collective efforts to remodel, adapt, and improve D16's common areas.

The second type of relationship that I analyzed — I called it "Making Friends" — detailed socialization practices, including frequent and informal conversations. I defined four types of interactions based on the content of these exchanges. First, work-related conversations were for sharing information about current employment-related issues, like problems completing tasks and dealing with clients; trends in the interlocutors' branches and in the CCIs; helping each other complete work, like sharing information about how to solve technical difficulties with webpages; and supporting each other with administrative aspects related to their independent employment, like filing tax reports and applying for health insurance. Actors engaging in work-related conversations shared a mixture of codified and tacit knowledge. For example, they learned about conventions in the CCIs' sub-branches and their state bureaucracy obligations (examples of codified knowledge), but they also absorbed practical knowledge, like rules of thumb and about other residents' experience.

I also examined exchanges of ideas. While work-related conversations focused on specific labor-based problems, sharing ideas refers to mind-explorative interactions, allowing interlocutors to verbally develop, test, and refine their ideas together. Feedback loops could enrich or stifle the sharing process. As I argue below, the exchange of ideas is a social mechanism through which actors in the CCIs position themselves and demonstrate their ambitions, capabilities, and enthusiasm.

Finally, the last two types of conversations related to private issues and other matters. Conversations about private issues usually included information shared by friends, while interactions about other issues allowed actors to connect by talking about non-work topics, like sports and music, but it also frequently included small talk.

Between April 2014 and February 2017, I collected qualitative, quantitative, and relational data through interviews, surveys, and participant observation. I divided my data into three year-long "stages" and analyzed how the networks evolved during the period under

investigation. D16 members were active in one or more of the 11 sub-branches of Germany's cultural and creative industries: music industry, book market, art market, film industry, radio industry, performance arts market, architecture market, design industry, publishing market, advertising market and others.

To contextualize my findings, I elaborated on the theoretical framework of this research in Chapter 1. I explored the relational perspective that guided my analysis. A relational perspective focuses on the perceptible aspects of relationships, which entail movement, transformation, interaction, or transaction to produce or destroy something. Because relationships always involve actors' work (C Powell, 2013), this type of analysis focuses on the conditions that facilitate actors' agency and interactions.

Chapter 2 described the case and my research design, aims, and main questions. I applied mixed methods for data analysis. I conducted social network analysis for the relational data with the support of UCINET (Borgatti et al., 1999) and Netdraw software and qualitative data analysis for the text documents (transcribed interviews and field notes) with MAXQDA 2020 (VERBI Software, 2019) software. I found that before entering Department 16, half of the tenants who joined the center in Stage 1 had worked at home, and the other half had worked in offices or some other kind of facility. For all tenants, joining the center greatly impacted their sense of community, which was missing from their previous work arrangements. The most important reason tenants joined the center was financial, followed by an interest in knowledge-exchange and a desire to be part of a community.

In Chapter 3, I explored the social mechanisms that triggered changes in the collaborative network. I observed that actors engaged in short-term, diverse, and repeated collaborative interactions. Since they did not know which connections would prove more productive, tenants pursued as many connections as possible to gain reputational status and catalyze work opportunities. A variety of interactions across branches and sectors in Stage 1 signals the tenants' efforts to explore all available social possibilities. In Stages 2 and 3, collaboration was mostly linked to paid, short-term work commissions.

Chapter 4 examined the tenants' social relationships. I argued that the arrival of Department 16 disrupted the city's CCIs' scene, and members interacted with each other immediately. Each conversation type followed its own pattern. While work-related conversations and exchanges of ideas centered on only four actors across the three stages, interactions about private issues were less centralized and offered female residents a slightly dominant position. I linked homophily and multiplexity, two relational mechanisms, to organizational structures to explain patterns of information and knowledge exchanges.

In Chapter 5, I examined how the collaborative and social networks co-evolved. I focused on tenants who collaborated and had conversations in all three stages. I found that most of these individuals were "pioneers", or tenants who proudly identified themselves as founding members of the center who began working at D16 between the summer of 2012 and January 2014 (prior to its official opening in the spring of 2014).

The number of interactions at D16 fluctuated slightly across the three stages. The center's inauguration catalyzed the formation of new contacts with previously unknown colleagues.

The difference between the number of collaborative ties before and after D16's inception (53 in Stage 0 versus 135 in Stage 1) reveals the center's positive effect on networking processes in the CCIs. Since most of these new relationships occurred within sub-branches — and not between them — residents measured themselves against their peers and competitors. Tenants found interactions with residents in other sub-branches to be less rewarding and important to professional development.

Critically, I found that exchanging ideas plays an important role in the genesis of a coworking space's network. I also noted that exchanging ideas became less significant at the end of the research period (Stage 3). In Stage 3, actors depended mostly on private exchanges to generate new collaborations and work-related conversations. I concluded that actors exchanged ideas to get to know as many residents as possible ("partners' rotation") and find others compatible with their efforts and interests ("matching process"). The partners' rotation and matching process mechanisms also amplified actor's' reputations.

As mentioned previously, actors preferred to interact both collaboratively and socially with their peers, and homophily helps explain network formation. For example, residents interacted mostly with others who shared their employment status, so start-ups entrepreneurs preferred other start-up entrepreneurs, and flexible, independent workers (e.g., self-employed laborers, professionals, and freelancers) chose to interact with people of a similar employment background.

Similarly, tenants collaborated and had conversations with others in their same sectors (business, cultural industries, creative industries, and others), and cultural scenes. These cultural scenes include management, bike enthusiasts, design and communication, fashion and crafts, film production, photography (including art photography), music, performance, visual arts, business, architecture and planning, and IT.

A few of D16's key actors increased their network's centrality (betweenness centralization or b-centralization) by working in two or more sectors, like the cultural or aesthetic and the commercial or business-oriented. These actors engaged equally with visual artists and start-up entrepreneurs. According to two network measures — betweenness centrality and the external-internal index (E-I Index) — by Stage 3, the most b-central actors were this kind of "hybrid" tenant.

The case of Department 16 contributes to the literature on the emergence processes of coworking spaces (CWS). Although Department 16 does not include "coworking space" in its name, the D16 is part of a trend of publicly and privately financed spaces, like incubators, fab labs, hackerspaces, creative hubs, and accelerators[50], that attract independent workers and young entrepreneurs with narratives about community and entrepreneurial synergies.

Additionally, this dissertation contributes to our understanding of independent and flexible workers' collaboration and socialization interactions with other freelancers and self-

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[50] For a classification of coworking spaces see: Capdevila, 2015; Scaillerez & Tremblay, 2017; Schmidt, 2019; Schmidt & Brinks, 2017; Waters-Lynch, Potts, Butcher, Dodson, & Hurley, 2016.

employed entrepreneurs, like start-ups. Research about self-employed workers, freelancers, and professionals in the CCIs working in CWSs is still scarce (Merkel, 2017).

Below, I situate my findings in the context of literature on CWSs from organizational and institutional perspectives. In the last 15 years, some researchers have argued that CWSs are a "complex and heterogeneous relational innovation landscape" (Suntje Schmidt, Brinks, & Brinkhoff, 2016, p. 245), even defining them the "third wave of knowledge work" (Bouncken & Reuschl, 2017). According to Bouncken, Ratzmann, Barwinski, and Kraus (2020), relationships in CWSs reflect a sense of community, members' autonomy and participation, multiplex linkages, and mutual knowledge creation.

I argue that the CWS is a new organizational form using Padgett and Powell's (2012) concept of organizational emergence, or the transformations of previous organizations' social networks to produce new ones (Padgett & Powell, 2012b, p. 3). Padgett and Powell understand emergence as a process; therefore, analyzing and interpreting emergence requires identifying genesis mechanisms. I used the netdom (White, 2008), which connects social networks to their relational meanings, to formulate these mechanisms.

After I elaborate on my theoretical contributions to the study of CWSs and discuss my findings in light of current literature, I reflect on the practical relevance of this investigation. Finally, I address its limitations and offer recommendations for future research projects.

## I.     What are emergence processes?

For Padgett and Powell (2012), understanding emergence processes resembles deciphering the puzzle of biological speciation in evolution. The question of how new species develop is analogous to how small and incremental changes that improve existing methods — what Padgett and Powell call "innovation" — become new ways of doing things ("organizational invention"). While innovation in organizational theory has largely focused on creating new ideas and products, Padgett and Powell's concept of organizational innovation attends to people's and organizations' social practices.

Social practices "are ways of doing and thinking that are often tacit, acquire meaning from widely shared presuppositions and underlying semiotic codes, and are tied to particular locations in the social structure and the collective history of groups" (Gross, 2009, p. 359). They condense actors' experiences and interactions as they produce, reproduce, and transform network structures (Berthod, Grothe-Hammer, and Sydow, 2017). Actors exercise organizational knowledge by undertaking social practices that connect activities and relationships (Berthod et al., 2017).

However, social practices by themselves can neither explain why a certain temporal sequence of events transpires nor mediate between cause and effect. Therefore, I explored social mechanisms that illustrate the intelligible and recurrent patterns of social interaction (Crossley and Edwards, 2016) that comprise emergence processes. Social mechanisms are situational and rooted in interaction (Norton, 2014), and they seek to explicate associations between events (Hedström and Swedberg, 1998).

Furthermore, I focused my analysis on individuals' interactions — collaborative exchanges and conversations — that were purposive, instrumental, and embedded in the construction of social networks (Tasselli, Kilduff, and Menges, 2015). Following Padgett and Powell's definition of emergence, interactions have a twofold effect: they reproduce organizational forms as people learn activities' rules and communication protocols, and they also modify actors' expectations and knowledge (Powell, Packalen, and Whittington, 2012). To understand social formations, scholars must focus on people's lived experience (Padgett and Ansell, 1993) because individuals catalyze evolution in organizations (Padgett and McLean, 2006).

## Coworking spaces as organizational actors

New organizational actors are a fresh and recognizable arena of social and economic activities (W. W. Powell, Koput, White, & Owen-Smith, 2005). The CWS is one example of a new organizational actor that brings heterogeneous and often complementary knowledge to individual coworkers, providing them with a structure that can spark entrepreneurial opportunities (Merkel, 2017). Coworkers' practices and interdependence create the coworking space. The identification is twofold: on the one hand, the individuals as producers of social micro-practices that shape the relational space become coworkers (or residents, tenants, or users), and on the other, the space itself as a relational setting informs the individuals' micro-practices.

Not all interactions and social practices in a coworking space are coworking practices. I have identified two social practices in coworking spaces that are not coworking practices. In the first case, coworkers partially reject the coworking model, selecting how they want to be part of the space and limiting their contributions to the community (e.g., restricting their interactions to some forms of collaboration and socialization and not others). The second case deals with the regularly absent and mostly isolated individuals. Scholars have not addressed absence as a problem for the development of CWS dynamics. However, CWSs that share Department 16's architectural and design traits (e.g., an old, repurposed building shared by two or three offices or music studios) suffer from long-term absences. These chronic social and physical vacuums (e.g., users without neighbors, empty offices) negatively affect networking processes.

My research contributions are in two areas: knowledge about coworking spaces and on the emergence and evolution of multiplex relationships. Other studies have traced the history of the beginning and proliferation of the CWS economic model. Some have even applied institutional theory to this context (see Bouncken, Kraus, & Martínez-Pérez, 2020; Foertsch & Cagnol, 2013; Waters-Lynch, Potts, Butcher, Dodson, & Hurley, 2016). Likewise, academic literature on coworking social practices in light of innovation, entrepreneurship, and agglomeration theories has proliferated in the last decade (see, for example, Boutillier, Capdevila, Dupont, & Morel, 2020; Capdevila, 2015; Spinuzzi, 2012; Spinuzzi, Bodrožić, Scaratti, & Ivaldi, 2019; Waters-Lynch et al., 2016). This case study's contribution is the analysis of the constitution and evolution of the coworking space and its collaborative and social practices across three periods, from its inception (Stage 0 in the case of collaboration and Stage 1 for socialization) to a more stable arrangement about three years later.

The second contribution of this dissertation is the theoretical elaboration of the emergence and evolution of multiplex relationships. In another study of a CWS, Bianchi, Casnici, and Squazzoni (2018) applied social network analysis (SNA) and ethnographic methods to investigate solidarity from economic exchanges. To my knowledge, all other studies addressing social networks in coworking spaces do not employ SNA techniques but rely on qualitative methods. By combining qualitative and quantitative methods, this dissertation helps explain network formation mechanisms in the context of the coworking space. I address the dynamics of multiplex relationships by identifying the relationships' structural similarities over time. The most important finding of this study is that actors form networks to build their reputation. The coworking space produces and reproduces information and knowledge that brings otherwise isolated workers together and improves workers' future prospects by boosting their reputation; in other words, workers expect an investment in social relationships to yield economic returns (Gandini, 2016b, 2016a).

### Coworking spaces' novelty

What makes the coworking space new as an organizational form is its combination of practices and the expectations that those practices generate. The practices fall into three categories: use of the CWS as a marketplace for collaboration and socialization; contribution to a community and subsequent tensions between competition and cooperation; and institutionalization.

How do coworkers reproduce the coworking model? Learning processes reproduce the practices in relational settings, and interaction is essential to this process. I have explicitly focused on physically co-located, face-to-face interactions and given less attention to other forms of proximity, like co-presence (e.g., awareness of others and imitation by observation without co-located, face-to-face interaction) and communities of practice (Wenger, 1998) (e.g., actors learning to share a professional identity by engaging in and contributing to their chosen community). I have only referred to these arrangements when the center's residents emphasized them as part of their experiences at Department 16.

Scholars generally accept that CWSs are places for learning. For example, Capdevila (2014) argues that a CWS is intrinsically different from merely shared offices because the CWS possesses a sense of community and knowledge-sharing dynamics. Likewise, Bilandzic underscores that CWSs' core challenge is to facilitate coworkers' learning and networking opportunities (Bilandzic 2013 in Waters-Lynch et al., 2016). Bilandzic describes CWSs as "organic forms of 'connected learning'…[where learning is] *interest-driven* and *socially embedded*" (Bilandzic in Waters-Lynch et al., 2016, p. 15).

In the following sections, I discuss my findings in light of current scholarly debates about learning in coworking spaces. I organize my contributions in the three categories mentioned above: the marketplace for coworking practices, the sense of community, and coworking spaces' institutions.

*A Marketplace for socialization and collaboration*

Coworking spaces are marketplaces for collaboration and socialization because users can showcase, network, and promote their services to other coworkers (Brown, 2017; Brings, 2012 in Tintiangko & Soriano, 2020). The rapid spread of coworking practices around the world has created expectations about collaborative and social interactions, including the idea that a CWS is an open-source community where collaborative practices enable communitarian relationships (Gandini, 2015).

Coworking practices guide and confer meaning to regular and frequent interactions in coworking settings. Although collaborative and social interactions are deeply intermingled, I have separated them for analytical purposes (i.e., investigating "working together" and "making friends" interactions separately).

Although coworking spaces host all sorts of professionals, I have demonstrated that coworkers pursue a twofold strategy to both specialize and diversify their networks. On the one hand, they collaborate with professionals attuned to their interests. On the other, they participate in work-related conversations with tenants who perform activities different from their own — though within their sector. However, these patterns of collaboration shifted during the three stages. In Stage 1, collaborative and social interactions were more exploratory than specialized. I argued that these exchanges reflect actors' pursuit of stability and social recognition in the recently opened center; tenants later reduced the scope of their interactions to niche collaborations guided by similar professional interests and motivations.

This dual-network strategy confirms previous findings about self-branding activities in CWSs. Self-branding follows a commodifying logic consistent with ideas popular among the CCIs' independent workers, like emancipation and self-improvement (Bandinelli, 2020; Gandini et al., 2017). The coworking space is, in addition to social media (e.g., Facebook, Instagram, and Twitter), a terrain for self-branding, where interactions are "investment opportunities" that can potentially offer economic or, more importantly, reputational gains (Gandini et al., 2017).

What triggers interactions? I have demonstrated that rationales vary even in a short period. In Stage 1, tenants wanted to collaborate in all forms, with an emphasis on help and non-paid work. Residents used conversations for self-promotion, and actors shared ideas to build relationships with others. In Stage 2, collaborations had for-profit motivations, while socialization became increasingly work-related. In Stage 3, a new wave of residents led to a resurgence of help-type collaborations, and economic transactions also continued to grow. Furthermore, as residents became emotionally closer to each other, the network structures of work-related and private conversations converged.

My research does not confirm whether sharing a work-related ethos facilitates the formation of collaborative teams. Work ethos refers to a consistent system of values, norms, group attitudes, and behavioral practices that provide a moral evaluation of an individual (Walczak-Duraj, 2016). Goermar, Barwinski, Bouncken, and Laudien (2020) explored the effects of a diverse environment on collaboration and found that a shared ethos among like-minded coworkers is crucial for the co-creation of value. Observable

attributes of this ethos include, for example, motivation, commitment, hard work, punctuality, efficiency, and flexibility.

In D16, actors exhibiting high work engagement, focus, commitment, and, most importantly, consistent attendance were positively regarded by coworkers, but they were not the most prolific collaborators or conversation partners. Only IT professionals reported that work ethos was a powerful bonding factor. The rest of D16's residents needed time to calibrate their attitudes and expectations before undertaking collaborations.

I did not measure the center's innovation in terms of new products and services, but rather by number of collaborations and social exchanges. However, collaborations increased over the course of the three stages. In a few cases, residents collaborated to co-create new services (for example, the e-commerce expansion of a start-up) or products (like the outdoor cushion collection). Coworkers collaborated with others who could complement them (e.g., collaborations between tenants in different branches) but who were mostly in the same sectors (e.g., in the creative industries working in advertising, design, and communication).

I found that diversity in the coworking space stimulates residents' interest in approaching other coworkers, especially when external agents like CWSs' managers facilitate and encourage interactions. Events, like the Open Doors Day annual festivals and the monthly start-up meetings, also generate interactions. Overall, the center's first members engaged in more frequent and intense interactions than all later cohorts. Abundant collaborative contacts (which I call "omnivore collaboration") helped residents establish a shared foundation for future exchanges. Omnivore collaboration created local arrangements — seen as obligations and expectations — among current tenants and affected future residents, as these unwritten norms became "house rules".

Echoing Capdevila's (2014) findings, I observed that collaborations reduced operational costs and complemented residents' resources. Synergistic collaborations (actors starting a new business idea or joining forces to provide a service) were less common. The art exhibition *Green* (discussed extensively in Chapter 3) is a good example of a synergistic collaboration between the center's cultural, creative, and business sectors. It reflects the collaborators' intention to share a work ethos (i.e., beliefs and ideas guiding artistic and cultural projects). This ephemeral project consolidated an artistic association's commitment to collective work. It included artists and non-artists and connected the center to the city and other relevant cultural associations. Collaboration in cultural and artistic projects occurred frequently. These collaborations created learning opportunities for their participants. For example, I observed that cultural producers were particularly interested in adopting practices from start-ups, and some even suggested adopting a start-up label (e.g., a "cultural start-up"). However, trained artists and city representatives did not accept this nomenclature.

On the other hand, my observations of community collaborations (activities for the benefit of the center or all tenants) differ from those reported in previous studies. For example, Mesquita, Pozzebon, and Petrini (2020) found that relationships in coworking spaces encompass community practices in addition to business activities and independent workers'

self-management. The community practices they describe include frequent and informal gatherings, like collective breakfast or lunch meetings, social coffee breaks, and participating in talks and presentations by other coworkers.

The community collaborations I observed were all joint efforts initiated by the residents and included plans to improve different areas of D16, ranging from its corporate design and external communications to the care of green areas and remodeling the buildings' façades. I found that these interactions were crucial at the beginning of the center's life in Stage 1, then receded in Stage 2, and resurfaced again in Stage 3. The tenants demonstrated commitment, motivation, and effort to shape the center's operations, which most coworking space models do not require or allow. My research suggests that this kind of independent workers' collaborations could benefit from management's engagement, as collective action creates opportunities to strengthen communities. These observations echo other studies on bottom-up coworking spaces (Simonelli, Scullica, Elgani, & Monna, 2018).

I also addressed the tensions between the cultural/creative industries and the commercial/business orientations in Department 16. I found that residents did not reconsider their orientations, but rather reinforced them. The culturally oriented residents expressed their desire to work together on collective projects with actors in other sectors; software developers, IT workers and commercially oriented residents showed no interest in such cooperation. Only a few actors switched domains (i.e., worked for profit on some projects and not-for-profit on others).

Although the goal of cultural and creative industries is the marketization of cultural products, the reality of independent cultural producers and micro-enterprises is that they have limited opportunities to access markets, even if they achieve artistic acclaim. For example, one of D16's media companies produced a low-budget feature film that won several prizes and nominations in international film festivals (e.g., best drama, director, lead actor, cinematography, and production). Nevertheless, and like many independent films, it did not have a theatrical release or any other distribution. Likewise, funding opportunities for off-space cultural projects (i.e., projects presented outside of art museums, art galleries, or similar) are also very limited. Therefore, cultural producers benefit greatly from networking opportunities in coworking spaces because they can capitalize on other coworkers' support and resources to help their projects materialize.

*Sense of community*
In this case study, I have used both community and organization perspectives to describe the social dynamics at D16. Although coworking spaces are an example of the conflation of both perspectives (Butcher, 2013), the concepts are theoretically distinct. As Butcher (2013) notes, coworking spaces rely on nostalgic symbols of community that serve commercial purposes. This sense of community links entrepreneurial practices to a socially conservative political agenda (Sennet, 2012). A CWS's community resembles an organized community, or what Butcher (2013) calls a "spray-on solution" — a superficial arrangement, a fake and masquerade sense of community — that stimulates organized solidarity. The community perspective relates to collective action, shared social values, and social class fights, while the organizational perspective focuses on entrepreneurial management, firms, and innovation.

Although some have found "pockets of resistance, adaptation, and innovation, including some new forms of collectivism and cooperation" in CWSs (Waters-Lynch et al., 2016, p. 2), others note that the coworking space model has weakened or broken collective action and even reinforced labor casualization (de Peuter et al., 2017; Gandini, 2015; Gandini & Gandini, 2016).

Coworking spaces emphasize values like "doing things well" and "work for its own sake" and value creation mechanisms, like shared attitudes, over efforts to maximize profits and pure pecuniary incentives (Chapain & Stryjakiewicz, 2017; McRobbie, 2016; Puchta, Schneider, Haigner, Wakolbinger, & Jenewein, 2010; Sennet, 2012). These attitudes toward work are extremely beneficial to entrepreneurs. For example, Clifton, Füzi, and Loudon (2019) found that the coworking space economic model promotes innovation, increases turnover, facilitates funding and business opportunities, and boosts firms' and workers' productivity significantly more than other traditional workspaces.

From the organizational perspective, the CWS format fosters co-location (physical proximity), co-presence (awareness of the others), and relational proximity (being part of a community of practice). The model combines attractive physical design settings[51], like open plans and common areas, to foster interaction and social dynamics that increase idea- and knowledge-sharing (Chapain & Stryjakiewicz, 2017; Pareja-Eastaway & Pradel i Miquel, 2017). Coworking spaces offer users "untraded interdependencies", or intangible advantages that cannot be priced or quantified (Storper, 1995). Many researchers argue that these benefits make coworking spaces suitable settings for entrepreneurship (Bacevice, Spreitzer, Hendricks, & Davis, 2019; Bouncken, Aslam, & Reuschl, 2018; Bouncken, Laudien, et al., 2018; Gandini, 2015).

However, I found that although CWSs can boost serendipitous interactions (Moriset, 2017), coworkers were not consistently open to interactions (collaborations or conversations) with others of different backgrounds or expertise. In Stage 1, residents were more open to interactions with coworkers in other sub-branches and sectors and with different employment statuses than in the following stages. Therefore, CWSs can enable physical closeness between actors already sharing professional and social spaces and contribute to specialization and fragmentation in professional niches and communities of the CCIs' sub-branches.

I also explored how coworking spaces can promote a sense of community. For example, D16's tenants exerted social pressure to ensure other members would contribute to the community's wellbeing by commissioning work within the center. Supporting its in-house freelancers fortified D16's image as the one-stop shop for creative services in the city. This behavior also fostered trust among D16's residents. According to Gandini:

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[51] The science behind coworking spaces' architectural design is an expanding field. See Balakrishnan, Muthaly, and Leenders, 2016; Brenn, Krzywinski, and Noennig, 2012; Cheah & Ho, 2019; Han, 2013; Mandeno and Baxter, 2020; Mendes and Duarte, 2015; Orel and Alonso Almeida, 2019; Paje, Boco, Gloria, Go, and Paje, 2020; Pohler, 2012; Uzunidis, Morel, Dupont, and Boudarel, 2018; Williamson, 2014.

*[In C]oworking spaces… the presence of a shared ethos reproduces a fictitious institutionalization of trust that translates into the perception of communitarian relations (Gandini, 2016b, p. 102).*

I found that collaboration in CWSs requires prevalent standards of community and trust. Feelings of trust and community membership stimulate exchanges between coworkers. However, D16 residents expressed feeling close to and trusting only a limited number of coworkers, such as their direct neighbors. Although the coworkers valued the center's sense of community, tenants' regular and frequent interactions (collaborations and conversations) involved, on average, only two or three other people.

Garrett, Spreitzer, and Bacevice (2017) explain that three types of collective actions contribute to a sense of community in a CWS: endorsing, encountering, and engaging. In interviews, D16 residents referred to endorsing each other by providing work referrals. Encountering conversation partners with whom tenants could exchange ideas, talk about work, and bolster friendships was a significant cause of work satisfaction at the center. Actors' engagement in activities for the center's benefit fluctuated between high expectations and commitment at the beginning and to apathy and disinterest during Stage 2. The new wave of tenants in Stage 3 revived interest in coordinating the center's activities, and they took control of planning the center's biggest event, the Open Doors Day. This tenants' initiative is an example of collective action, which had almost disappeared from the center with the dissolution of the tenants' council at the end of Stage 1.

Clifton et al., (2019) also studied interactions in CWSs. They focused on mutual support and informal knowledge exchanges and found that about 90 percent of the workers they surveyed engaged in small talk and shared knowledge, but collaboration (working for the same firm or on the same projects) was much less common. Likewise, I also found that collaborating on the same projects (Clifton et al.'s definition) does not describe how D16's tenants collaborated. However, I evaluated social interactions differently. My interviewees identified their conversation partners, and my results did not reflect a perception of workers' social life, but rather illustrated how the content and frequency of their exchanges varied across three stages. I found that coworkers were less inclined to have conversations about other issues (e.g., music, sports, hobbies, or small talk in general) than to talk about work-related topics, exchange ideas, and discuss private matters.

*The institutional hybridity of coworking spaces*
Several authors describe coworking spaces as "hybrid" but attend to different factors. For example, the coworking space as a business model combines organizational design, work logistics, and innovation management principles (Marchegiani & Arcese, 2018), or the model provides a "third space" (like cafés, libraries and other public workspaces) between home and office (Aguiton & Cardon, 2007; Waters-Lynch et al., 2016, p. 13). Others call CWSs' governance structures a "third way" because they either rely on hierarchies for incentives and control or depend on markets where actors collaborate to maximize profits (Capdevila, 2014; Waters-Lynch et al., 2016). Work studies researchers emphasize how CWSs interweave community feelings and economic interests (Clifton et al., 2019; Spinuzzi et al., 2019). Professional associations, like clubs and societies, are other examples of organizations characterized by hybridity (Manimala, 2009).

In a 1980s article, Powell (1987) argued that hybrid organizational arrangements would proliferate in the coming years because they would be better able than traditional structures to adapt to changing markets, overcome the burdens of large corporations' bureaucracy, and access diffuse know-how knowledge. Hybrid organizations, he observed, tended to form clans rather than rigid hierarchies and depended more on reputation and reciprocity than their non-hybrid counterparts. Whereas Powell formulated these observations based on firms, coworking spaces and their users reflect these hybrid organizational principles.

Although coworkers create and share explicit knowledge through in-person and electronic communication (Swaney, 2018), implicit knowledge-sharing is likely equally important (Bouncken, Ratzmann, et al., 2020). Implicit knowledge, co-presence, and co-location all contribute to the emergence of institutions, or contingent sets of social arrangements (Mohr, 2000) that stabilize over time through interaction patterns, such as rules and routines (Bathelt, 2003; Bathelt & Glückler, 2017). Power, politics, and other historical path dependencies also shape institutions (Mohr, 2000).

More than ten years ago, Greenwood, Magán Díaz, Li, and Céspedes Lorente, (2010) thought coworking spaces were on the path to becoming entrepreneurial institutions. Only recently, however, did Bouncken et al., (2020), apply institutional theory (DiMaggio & Powell, 1983) to explain the emergence and worldwide expansion of the entrepreneurial coworking space model. Bouncken et al., (2020) found that "the environmental changes of the digitalization and the sharing trend[s] trigger[ed] [the emergence of] coworking spaces" (Bouncken, Kraus, et al., 2020, p. 1470). They analyzed coworking practices and found that imitation was an important institutionalization mechanism:

> [N]ew fields [of] the coworking space area are in the process of developing and transforming institutions… Actors try to find and mimic institutions that fit their environment. Thus, managers and users of coworking spaces observe and mimic their environment, even adapt concepts from other backgrounds, [e.g.,] incubators or open-innovation and crowd [sourcing]… The emergence of the field comes with specific institutions and control of actors' behavior… [The] [a]ttractiveness of institutional models is affected by socialization processes which inform routines and taken-for-granted institutionalized practices (Bouncken, Kraus, et al., 2020, p. 1470).

Below I identify three practices in coworking spaces that are complementary, taken-for-granted, and routine.

### Omnivore collaboration

The first practice is "omnivore collaboration" or indiscriminate collaboration, which refers to the frequent, short, and diverse interactions that form abundant weak ties. CWSs' residents boost their social recognition, visibility, and prestige by adhering to this social practice. Social pressure for group solidarity is another component of the omnivore collaboration mechanism. Solidarity produces an environment of mutual aid that generates work referrals and paid work assignments. As the D16 grew, so did the social obligation to refer clients to coworkers and hire in-house service providers.

I used betweenness centrality to assess the degree of influence or control different actors exerted in the network. I found that actors who joined the center at an earlier stage were the most central. Actors who joined earlier and increased their reach to others who joined later on were central in all three stages. These central actors were not significantly different from their coworkers, although they had, on average, slightly more work experience than peripheral tenants.

The phrase "doing business, making friends" summarizes the expectations of a coworking space. While some argue that coworking spaces are for "working alone together" (Spinuzzi, 2012), I have emphasized processes of community formation that make use of social and economic interactions. Coworking spaces are agglomerations of commercial services where actors seek support from the community. Irrespective of actors' attitudes toward the community, collaborations were largely financially motivated. In other words, the tenants of D16 were not simply working together in parallel, but rather pursued short-term projects together.

## Coopetition

"Coopetition," or cooperating with competitors, is an important advantage that a CWS has over working from home or in an office with fewer networking opportunities. Bouncken, Laudien, et al., (2018) find that cooperation and competition improve entrepreneurship and innovation. My research identified a few examples of coopetition, mostly in the field of commercial photography. Photographers shared technical information, local market practices, and knowledge, like how to solve concrete problems in advertising photography. These exchanges probably helped the residents' commercial activities, but I could not establish a direct link between one tenant's discrete piece of advice to another business's growth. In my interviews, coworkers struggled to identify specific conversations that affected their commercial or business activities. The tenants' overall impression was that they benefitted from working at the center and learned from others without noticing.

Residents did not acknowledge in-house competition. Rese, Kopplin, and Nielebock (2020) find that a sense of community incentivizes cooperative attitudes, restrains competition, and has the highest positive impact on knowledge-sharing behavior. Likewise, Bianchi et al., (2018) demonstrate that social support, trust among business partners, and collaboration are positively correlated; economic transactions promote solidarity in professional relationships.

At D16, tenants cooperated with those physically close to them. Regular encounters foster trust, and trust eases frictionless alignment of individuals' behavior (Bachmann, 2003). Tenants less central in D16's network were not inclined to share knowledge or information, but they also had fewer opportunities to interact due to their physical distribution throughout the compound, their neighbors' absences, their own limited time at the center, and busy schedules. Conversely, being a pioneer meant greater collaborative and social opportunities. These early joiners held a powerful grip on D16's community development.

## Sharing ideas

Because tenants shared ideas informally, they often had trouble recalling critical conversations or moments, but sharing ideas and work-related information intensified

residents' connectivity and centrality. While knowledge-sharing might be motivated by residents' business and professional development (Soerjoatmodjo, Bagasworo, Joshua, Kalesaran, & Van Den Broek, 2015), I found that as exchanging ideas became a more routine behavior, it contributed to creating a sense of community. However, in later stages, sharing ideas was less important than personal relationships in building trust.

In Stage 1, tenants participated in meetings and events, spreading narratives about coworking spaces among D16's users. These narratives generated openness and mutual interest between residents. Tenants discussed ideas and gave each other advice on work-related issues, and these feelings and practices contributed to the formation of the center's community. Exchanging ideas first helped tenants to connect to one another and later fostered stronger bonds, like friendships.

Sharing ideas is one of the most important interactions in CWSs because it is crucial for collaborations and the exchange of work-related information. In Stage 1, exchanging ideas correlated highly with collaborations, but it was less significant in the following stages. Why? If a CWS reduces independent workers' social isolation and stress by increasing their social, cultural, and spatial integration (Oppen & Merkel, 2013), exchanging ideas, although relevant for new business ventures and collaborations, loses relevance compared to work-related conversations and private issues conversations. When would-be collaborators realistically assess the constraints on a shared venture, exchanges of ideas may become less frequent. Risk aversion may have nothing to do with a lack of talent or expertise; collaborative projects fail or succumb because of a combination of obstacles, like excessive workloads and financial pressures, insufficient economic resources to self-finance, limited access to other financing sources (e.g., venture capital, state funds, foundations' grants), and personal obligations. In Stage 3, actors operated by and shared more realistic expectations, evidenced by the correlation between collaborations and work-related conversations. Once tenants share their ideas and ambitions and discussed their strengths and limitations, exchanges of ideas can strengthen friendships and are not used as tokens in reputation games.

## II. Research limitations and avenues for future investigation

This case study highlights the importance of exchanging ideas in the early stages of a CWS's formation. I grouped the interactions in Department 16 into two types of relationships (collaborative and social) and then further subdivided them. Since no other studies analyze information exchanges in the same manner, it is impossible to know if exchanging ideas is more common than small talk at these formative stages in all contexts. One possible explanation is that Germans tend to avoid small talk and favor "authenticity."[52]

Another research limitation is that I focused my research on a coworking space without a community manager. At D16, a management agency oversaw the logistics and operations of the coworking space, but it did not fulfill the role of community facilitator and curator. Merkel (2017) explains that CWS managers usually aid innovative work by creating a social climate that fosters collaboration among users. They can also serve as mediators between outside companies and in-house independent laborers. As CWS curators, they can shape the membership by attracting tenants compatible with the space's mission. Community managers can facilitate and establish coworking practices, such as sharing short project presentations (pitches), hosting creativity sessions, and encouraging participation in open innovations projects. (Merkel, 2017). Several scholars suggest that collaboration and socialization in CWSs require managers' active mediation and curation (Capdevila, 2014; Merkel, 2014; Parrino, 2015). Bouncken and Aslam (2019) indicate that institutionalizing knowledge management services allows coworking spaces to increase positive outcomes, like tacit knowledge exchange, synthesizing domain-related knowledge-sharing, and promoting inter-domain learning. There is still much to learn about managers' impact on CWSs (Brown, 2017).

In the case of D16, I compensated for the diminished community manager role by directing my attention to the residents who partially undertook some managerial practices. I am not suggesting that Department 16 had weak management; quite the opposite. The management company attempted to exert top-down control over the center, particularly with regard to its corporate image, internal and external communications, and events.

The impact of coworking spaces on cities is another underexplored topic. In a recent study, Nakano et al., (2020) identified five roles that CWSs can play: infrastructure provider, community host, knowledge disseminator, local coupling point, and global pipeline connector. The size and profile of the city housing the CWS can influence the significance of these roles (and possibly others).

On the other hand, some companies have experimented with "corpo-coworking" in an attempt to capture the benefits that coworking spaces provide (Seet, 2018). In some cases,

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[52] I came across this possibility in an interview with the British-born, Berlin-based writer, publicist, and activist Sharon Dodua Otoo. In the interview, she compared British and German social exchanges. Her interviewer used the term "der deutsche Authentizitätsfuror" (the German authenticity furor) to describe what Otoo explained was the German tendency to engage in non-superficial conversations — even when disagreements might surface — and the British preference for small talk to avoid conflict. See interview in: https://www.zeit.de/2021/12/sharon-dodua-otoo-adas-raum-rassismus-seximus-kolonialismus (last visit: March 20, 2021).

these companies place salaried mobile workers in coworking spaces (Tremblay & Scaillerez, 2020). These arrangements are especially interesting topics in light of the Covid-19 pandemic, which has already upended work logistics. Today's work arrangements, like working from home and communicating exclusively via electronic means, could become the "new normal." Virtual collaboration matchmaking in coworking spaces could provide a temporary substitute for and extension of physically co-located face-to-face exchanges (Hofeditz, Mirbabaie, & Stieglitz, 2020). In Covid-19 context, studies that compare workers' satisfaction and productivity in coworking spaces and working from home offer important insight into the benefits and risks of these remote work arrangements (see Johri and Teo, 2018 study about free open source software developers).

Finally, Blagoev, Costas, and Kärreman (2019) argue that CWSs have the potential to frame and organize work in ways that can foster collective action. Research on collective action and bottom-up governance in coworking spaces is necessary. Although some activism and social entrepreneurship has occurred in the CCIs and the creative economy (Gandini et al., 2017), coworking spaces have triggered far fewer than in the creative economy examples of these social phenomena (see de Peuter 2014).

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