

Coworking Spaces

Just another place to work, or promising hubs for knowledge creation?

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ABSTRACT

Within recent years an increasing amount of knowledge workers that are (mostly) active in the field of the creative industries and new media have been starting to make use of shared urban office environments known as *coworking spaces*. While essentially these coworking spaces can simply be conceived of as places where urban knowledge workers can rent a desk and work alongside each other, these environments are increasingly being associated with high expectations concerning the future of knowledge work as they intend to foster interactive dynamics among individual and local communities of entrepreneurs, freelancers and startups that make use of these spaces. The local concentration of these knowledge workers within coworking spaces has in particular been suggested to be beneficial for *knowledge creation*, which involves the process by which new ideas, products and services are being developed, given that coworking spaces facilitate the physical platforms for these knowledge workers to identify new opportunities through networking practices, which consequently could lead to knowledge creation through the combination of the skills and talents of these *coworkers*.

As a result of these assumed benefits for knowledge creation, coworking spaces have been conceptualized as *microclusters* in analogy to *clusters* which can be understood as “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms from related industries, and associated institutions”, and which facilitate similar knowledge dynamics albeit on a different scale. Evidence of such dynamics however appeared to be lacking, which is why scholars started to cast their doubts on whether coworking spaces can actually redeem their promise of becoming promising platforms for knowledge creation. Moreover, despite that previous studies provided some useful indications of factors that could provoke knowledge creation dynamics among coworkers, none of these studies qualitatively assessed which of these factors are actually considered effective by the main actors related to coworking spaces. In order to address this gap in the literature, a qualitative inquiry by the means of eleven in-depth interviews was conducted with both coworkers and staff related to the management of seven Amsterdam-based coworking spaces, in order to find an answer to the following research question: “*How can coworking spaces effectively foster knowledge creation?*”

Cluster theory was first consulted in order to assess whether similar factors are of influence on knowledge creation dynamics within coworking spaces as the conceptualization of these environments as microclusters seems to suggest. The results of the thematic data analysis indicated four main factors that were considered as effective in their ability to foster knowledge creation dynamics within coworking spaces: *Selection, Connecting, Interactive Design* and *Educating*. The relevance of these factors however seemed to differ between coworking spaces that were either larger, or smaller in terms of size and populations. Consequently, these differences make it questionable whether the microcluster conceptualization of coworking spaces will remain sustainable as it only seems to cover one particular configuration of coworking.

KEYWORDS: *Coworking Spaces, Knowledge Creation, Creative Knowledge Workers, Clusters, Microclusters.*

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1. Introduction

This study investigates *coworking spaces* and the ways in which they can foster *knowledge creation*. In essence, coworking spaces can be conceived of as shared urban office environments that provide workspace to knowledge workers who formerly used to work from home, or public places such as coffee shops, and are (mostly) active in the field of the creative industries and new media (Foertsch, 2011; Moriset, 2013;). Coworking spaces are however increasingly being regarded as promising physical sites for knowledge creation given their focus on professional interaction between the actors that make use of these environments (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014). Knowledge creation involves the process by which new ideas, products and services are being developed, and should not be confounded with *innovation* as this entails the transformation of such creations into marketable products and services through a process of execution (Govindarajan & Trimble, 2010; Bathelt & Cohendet, 2014).

According to innovation studies the process of knowledge creation usually involves interaction between various actors that possess different types of knowledge, rather than resulting from the creative act of the ‘solitary genius’ (Hakansson, 1987; Von Hippel, 1988; Lundvall, 1992; Bathelt, Malmberg & Maskell, 2004). As studies on industrial clusters have shown, firms often locate their businesses close to each other to enable and benefit from such interaction (Malmberg & Power, 2005). Within recent studies coworking spaces have been conceptualized as *microclusters* (Capdevila, 2014) by which it is suggested that these environments can facilitate knowledge dynamics amongst local communities of individual entrepreneurs, freelancers, and small enterprises such as startups, similar to the dynamics taking place between firms located inside clusters.

Notably, as coworking spaces seek to establish communitarian non-competitive relationships among their members, which predominantly involves an open attitude towards networking practices and knowledge sharing, it is argued this can positively influence the innovative capabilities and competitiveness of the *coworkers* that make use of these environments as such dynamics enable them to learn from each other, and provide possibilities for collaboration and co-creation (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014; Gandini, 2015; Van de Vrande & Hynes, 2015; Merkel, 2015). As a result, the global emergence of coworking spaces has been associated with high expectations concerning the future of knowledge work ever since the first one opened its doors in 2005 (Gandini, 2015).

Some scholars however claim that empirical evidence of such benefits resulting from the assumed collaborative practices taking place among coworkers is scarce, and that the increasing popularity of coworking spaces can rather be explained from a practical sense which concerns

that these environments offer an affordable proposition for the rental of office space (Moriset, 2014; Gandini, 2015). Moreover, apart from a few exceptions current research has largely remained silent on the underlying factors that determine whether coworkers will engage into collaborative practices of knowledge creation. The aim of this study is therefore to provide an in-depth understanding on these factors by seeking an answer to the following research question: “*How can coworking spaces effectively foster knowledge creation?*”

As the findings of this study can contribute to a better understanding on how to foster processes of knowledge creation among coworkers by unraveling decisive factors, this study is scientifically relevant as previous research has mainly focused on studying knowledge dynamics of clusters at the level of formal organizations and institutions, while processes of knowledge creation within platforms such as coworking spaces, as well as the dynamics between the actors that make use of them have not yet received much attention in the literature (Bathelt & Cohendet, 2014).

Consequently, the societal relevance of this study is twofold. In the first place this research aims to strengthen the position of knowledge workers that are active in the field of the creative industries and new media, and which make up the majority of the coworking population as a result of trends such as outsourcing and the digitization of the economy (Foertsch, 2011; Moriset, 2013). As these creative professionals are increasingly being identified as key drivers of sustainable economic growth and prosperity within the contemporary knowledge economy, this urges for a better understanding on how to provide this emergent workforce with the best possible working environments that respond to their necessities (Foertsch, 2011; Moriset, 2013).

Secondly, this study aims for the advancement of coworking spaces themselves. As critics have started to question whether coworking spaces can fulfill their potential of becoming platforms for knowledge creation, or we rather are confronted with a ‘coworking bubble’ (Moriset, 2013; Gandini, 2015), the findings of this study might be useful to coworking space managers as they can use the insights to ensure their environments will not just remain ‘drop-in offices’ (Moriset, 2013; Gandini, 2015), but instead will encourage interaction between their members.

In order to answer the main research question of this study, eleven in-depth interviews were conducted with both coworkers and staff related to the management of seven Amsterdam-based coworking spaces. Although it must be noted that the results of this qualitative study do not provide hard empirical evidence (Silverman, 2006), the perspectives of these participants are nonetheless considered as valuable contributions for gaining an in-depth understanding concerning the focal interest of this study given their familiarity with coworking.

The remainder of this paper is structured as follows. Chapter two presents insights from previous research on coworking spaces and the theoretical framework which will demonstrate the usefulness of theories regarding clusters and networking for this study. Chapter three handles the research method. It provides an explanation and justification of how the research data was gathered, analyzed, and a thorough description of the research sample is given. Chapter four presents the results of the eleven in-depth interviews by the means of a thematic analysis in which the results are assessed against the theoretical assumptions of this study. The main research question of this study will finally be answered in the conclusion section and will also elaborate on the implications for theory and practice, the limitations of this study, and provides suggestions for further research.

2. Theory & Previous Research

This chapter is structured as follows. The first part elaborates on how this study will make use of insights from cluster theory and networking theory to investigate the circumstances under which knowledge creation can be fostered within coworking spaces. Subsequently, relevant insights concerning the focal interest of this study from previous research on coworking spaces are provided. The chapter ends by summarizing the findings from the theoretical discussion and previous research to demonstrate how these insights will be used for the empirical investigation.

2.1 Background on the Conceptualization of Coworking Spaces as ‘Microclusters’

Despite that most knowledge-based jobs today can be performed from basically anywhere due to technological advancements, then why is it that knowledge workers with workplace flexibility increasingly choose to work in the presence of others as the global increase of coworking spaces seems to suggest? Previous studies indicated that beyond somewhat obvious reasons, such as to escape from the distractions and loneliness when working alone from public spaces like coffee shops, these knowledge workers predominantly seek to share knowledge, deploy new production opportunities and expand their network of relations by accessing coworking spaces (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014; Gandini, 2015; Van de Vrande & Hynes, 2015; Merkel, 2015).

Considering that coworking spaces provide the physical territories for such dynamics to take place amongst local communities of individual entrepreneurs, freelancers, and small enterprises such as startups that are (mostly) active in the field of the creative industries and new media, it is precisely for that reason that these environments have been conceptualized as *microclusters* (Capdevila, 2014) in comparison to *clusters* which are defined as “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms from related industries, and associated institutions (such as universities) in particular fields that compete but also co-operate” (Porter, 1998, p.1). While scale thus appears to be the main difference between clusters and microclusters given the focus on the *macro* (nation, region, city) and *meso* (organization) level of analysis in cluster studies, compared to the micro-level focus on individual and communities of entrepreneurs, freelancers and small organizations such as startups in microcluster studies, it is argued that both configurations facilitate similar knowledge dynamics (Howells & Roberts, 2000; Capdevila, 2014).

According to Porter (1998) clusters promote both competition and cooperation. While competition involves the *horizontal* dimension of local rivals battling for the same customers

within a certain geographical area, cooperation mostly involves *vertical* relationships between complementary firms from related industries as is most clearly reflected in local *buyer-supplier* interactions (Porter, 1998; Malmberg & Power, 2005).

The conceptualization of coworking spaces as microclusters particularly seems to relate to the cooperative dimension of clusters given that the main philosophy behind coworking concerns a collaborative approach underpinned by a set of core values around *collaboration, openness, community, accessibility* and *sustainability* (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014; Gandini, 2015; Merkel, 2015). In practice this would maintain that coworkers rather engage in knowledge sharing and collaboration instead of competitive practices as complementarity is considered to be more important than competition (Capdevila, 2014). Since coworking spaces provide platforms for urban knowledge workers to meet each other, and potentially combine their skills and talents to work together on temporary projects, it has been argued that these environments promote a specific kind of configuration that has been characterized as an ‘open-source approach’ to work (Gandini, 2015), which appears to be an incoming trend within the contemporary knowledge economy as work has become more distributed (Gandini, 2015).

As derived from the literature, the cooperative dimension of clusters appears to involve much more than merely buyer-supplier interactions. It has been argued for instance that when knowledge is created within clusters, this interactive process between the interrelated firms sets in motion flows of specialized market, technical and competitive information to which all firms inside the cluster have preferred access, can benefit from, and which strengthens the overall competitiveness of the cluster (Porter, 1998). As such information is mostly *tacit*, meaning that it is embedded in the skills and experiences of people, and therefore is hard to transfer through information and communication technologies (Asheim, Coenen & Vang, 2007), cluster studies have emphasized the central role of *location* for generating such flows of information as it usually transfers through personal relationships and community ties that develop locally and require *face-to-face communication* (Bathelt et al., 2004; Malmberg & Power, 2005).

While in theory more open global markets and faster transportation and communication should diminish the role of location in competition as these developments have made it possible for companies to source all kinds of resources such as capital, goods, information and technology from around the world with a relative ease, Porter (1998) states that “the enduring competitive advantages in a global economy lie increasingly in local things such as knowledge, relationships and motivation that distant rivals cannot match” (Porter, 1998, p.1). The next section will

elaborate on the circumstances under which such advantages emerge within clusters by focusing in particular on the role of face-to-face communication.

2.2 Location, Face-to-Face Communication & Knowledge Base

The advantages of local dynamics for knowledge creation have been described in a vast body of literature in economic geography and social sciences (Bathelt et al., 2004; Malmberg & Power, 2005). Within cluster studies it is mainly argued that the local concentration of economic activity of similar and related firms and industries provides a myriad of opportunities for knowledge creation (Bathelt et al., 2004). As processes of knowledge creation within clusters regularly require face-to-face interaction, which is considered essential for the exchange of tacit knowledge, the general claim holds that clustered firms will outperform others since knowledge can easily be accessed from the local environment, which is increasingly believed to be a key advantage for firm competitiveness (Malmberg & Power, 2005).

Face-to-face interaction should be conceived literally here in the sense that two, or more persons are physically co-present and therefore can use both visual and physical means of communication for the interpretation and co-creation of complex tacit knowledge (Asheim et al., 2007). Such interactions are believed to be beneficial for clustered firms as they generate flows of information usually referred to as ‘buzz’ (Storper & Venables, 2004), or ‘noise’ (Grabher, 2002). It is argued that participating in the buzz does not require particular investments, but that clustered firms continuously contribute and benefit from the information, news, and rumors that are shared within the local communication network simply ‘by being there’ (Bathelt et al., 2004), and that such dynamics potentially could result in new knowledge creation through collaborations (Capdevila, 2014).

Face-to-face interactions especially seem to be of importance for knowledge creation processes within *creative industry* clusters. Creative industries are those involved in the creation of *symbolic goods* such as designs, images and narratives, which derive their value rather from aesthetics than their use-value (Lash & Urry, 1994; Banks, O’Connor & Raffo, 2000). Sectors involved in the production of symbolic goods for example include media, advertising, television, music, film and design (Scott, 1999; Florida, 2002; British Council, 2010). Knowledge creation processes within these sectors are typically organized in the form of projects in which a variety of actors with complementary skills and knowledge work together for a limited period of time (Grabher, 2002).

As innovations within these sectors are characterized by the aesthetic qualities of products, “they demand specialized abilities in interpreting and transmitting complex tacit knowledge, such as a deep understanding of everyday culture and habits and norms of specific social groups, into symbols and narratives rather than mere information processing” (Asheim et al., 2007, p. 664). It is claimed that face-to-face interactions are highly important for the exchange of such *individualized* tacit knowledge within projects directed towards the creation of symbolic goods, and that the actors involved can thus benefit from being co-located (Asheim et al., 2007).

In explaining why face-to-face interactions are so important for knowledge creation within creative clusters Asheim et al. (2007) reason from a *knowledge base* perspective. A knowledge base refers to the area of knowledge itself and defines the nature of interactions that take place within the knowledge creation process of specific industries (McKelvey, Rickne, & Laage-Hellman, 2004; Salavisa, Sousa & Fontes, 2012). While creative professions mainly rely on *synthetic* and *symbolic* knowledge, there are usually three types of knowledge bases being distinguished: *analytical*, *synthetic*, and *symbolic* (Asheim et al., 2007).

Within industries that rely on an analytical knowledge base, such as biotechnology and nanotechnology, scientific knowledge is considered highly important as the knowledge creation process is mainly directed towards the development of new knowledge (Asheim et al., 2007). Firms in such industries therefore usually have their own R&D departments, while links with universities and other research organizations are also common. As research outcomes such as formulas and formal models are often made available in scientific journals or codified in electronic files, local dynamics such as face-to-face interactions appear to be less relevant for firms that rely on an analytical knowledge base since access to knowledge can be obtained from distance (Asheim et al., 2007).

For industries that rely on a synthetic knowledge base however, such dynamics seem to be more important given the central role of tacit knowledge within the process of knowledge creation. These processes are often oriented towards developing solutions to specific (technical) problems such as the practical utility and user-friendliness of products (Von Hippel, 2005; Vang & Overby, 2006). As these problems are generally presented in interactions with clients and customers, it has been suggested that physical proximity to these actors offers the communicative advantage of transmitting complex tacit knowledge, such as feedback on the solution, instantaneous through face-to-face contact (Storper & Venables, 2004).

Moreover, given that these problem-solving activities mainly involve the application of existing knowledge, or new combinations of knowledge through an inductive process of testing

and experimentation (Salavisa et al., 2012), it is argued that firms can benefit from each other's co-presence when there is a certain degree of specialization and know-how available within the network since this provides possibilities for collaboration through re-combinations of knowledge.

As the majority of coworkers are active in the field of the creative industries and new media (Moriset, 2013; Deskmag, 2015) this indicates that the prevailing processes of knowledge creation within coworking spaces correspond with those of industries that rely on synthetic and symbolic knowledge. The tacit component to most creative professions also makes it that there are limited formal qualifications, such as university degrees, available on which firms can rely to identify relevant people for their projects (Asheim et al., 2007). For creative professionals, face-to-face interactions are therefore also considered important as they generate buzz which consequently facilitates opportunities for identifying valuable information on a range of relevant issues such as activities of other co-located firms from related industries, and information about talented individuals who might be available and interested to participate in projects (Asheim et al., 2007).

Despite that the literature emphasizes the importance of local dynamics such as face-to-face interactions and buzz for knowledge creation within creative clusters, very little is known about *where* such interactions take place. Asheim et al. (2007) however did indicate how networking activities, knowledge exchange and 'buzzing' between creative workers typically takes place at *informal meeting places* such as bars, cafes and nightclubs, but also during conferences and fairs (Asheim et al., 2007). According to network studies, such interactions are mainly beneficial for establishing relationships with *weak relational ties*, which are relationships that do not require much investments and maintenance, but can be important sources of novel information and job openings, and moreover seem to be the default type of relationships that are being established within clusters (Granovetter, 1973; Scott, 1998; Amin, 2004).

These insights are essential for this study as they provide indications of how knowledge creation potentially could be fostered within coworking spaces by establishing such informal atmospheres. The next section will discuss into more detail the implications that different network relationships can have for knowledge creation within clusters.

2.3 Clusters and Relational Ties: Weak vs Strong, Local vs Global

According to Granovetter (1973) one of the main advantages of clusters is that they are composed of many *weak relational ties*. Network theory maintains that relationships with weak ties, such as acquaintances, generally do not require much investments in the form of building close trust-based relationships, and can be important sources of novel information and job

openings (Granovetter, 1973; Scott, 1998; Amin, 2004). Weak ties are usually being established through the daily interactions between clustered firms, or during social gatherings such as events, which makes such relationships inherently local (Asheim et al., 2007). Because weak relational ties do not require much investments and maintenance, it has been argued that this allows for more of them to be established through networking activities, which can be positive when sourcing complementary sources for knowledge creation as it provides clustered firms with more options to choose from.

As each weak tie also relates to other social circles, this provides clustered firms with wider, more flexible and diverse networks. Bathelt & Cohendet (2014) therefore state that through weak ties clustered firms can gain access to knowledge pools that exist beyond easily local accessible ‘comfort zones’, which is considered crucial for firm competitiveness (Bathelt & Cohendet, 2014). Similarly, Bathelt et al. (2004) argue that connections with weak ties can support and strengthen local interaction as they allow for more information and knowledge residing from elsewhere to be ‘pumped’ into internal networks, which can result in more dynamic buzz from which clustered firms can benefit (Bathelt et al., 2004).

In spite of the assumed advantages of weak ties, recent studies have brought to the attention that there is in fact limited empirical evidence available that supports the influence of such relationships on local knowledge creation within most industries (Bathelt et al., 2004; Malmberg & Power, 2005; Ebbers, 2014). Malmberg & Power (2005) have therefore called for a rethinking of cluster theory as it currently builds on the implication of high levels of local interactions, while the empirical evidence suggests there are hardly any grounds for accepting the assumption “the more localized interaction, the better” (Malmberg & Power, 2005, p. 418).

Moreover, studies have also found that clustered firms often prefer *strong relational ties* for knowledge creation (Granovetter, 1973; Bathelt et al., 2004). Strong relational ties, which are characterized by a high sense of mutual trust, reciprocity and emotionally close relationships are considered to be crucial for gaining low-cost access to essential resources, especially for firms in their early-development given the high uncertainty they are confronted with, and have been found to result in activities such as joint problem-solving and exchange of fine-grained tacit knowledge and information (Granovetter, 1985; Uzzi, 1997; Salavisa et al., 2012; Ebbers, 2014).

Although it has generally been assumed that there is an inherently local component to the creation of strong ties, recent studies have demonstrated that such relationships are now also increasingly being established through virtual communication between spatially distanced agents (Asheim et al., 2007; Bathelt & Cohendet, 2014). Consequently, scholars argue that merely sharing the same values, or having a shared practice can be sufficient for

the creation of strong ties between distanced actors (Bathelt et al., 2004; Boschma, 2005; Asheim et al., 2007; Bathelt & Cohendet, 2014).

For gaining optimal access to critical resources Uzzi (1997) suggests that network relationships ideally should be established with both strong and weak ties. While the former enables low-cost access to fine-grained information and tacit knowledge, the latter can provide access to novel information (Uzzi, 1997). Although the literature does not provide an optimal ratio, Bathelt & Cohendet (2014) emphasize that too much reliance on strong ties tends to reinforce existing knowledge, which can be detrimental for firm's innovative capabilities and could provoke segmentation among local actors. On the other hand, Bathelt et al. (2004) argue that an overabundance of relationships with weak ties could also make it more difficult to identify and filter out important information.

With regards to the study of coworking spaces these insights are relevant as they indicate that the ways in which knowledge creation can be fostered will probably require different strategies depending on the type of network relationships that exist between coworkers. Following Granovetter's (1985) reasoning, it can for instance be assumed that coworkers in smaller environments will interact more often, and therefore will develop stronger ties with each other, which consequently would make it irrelevant to organize regular networking events to foster tie formations. Contrarily, such initiatives could be a successful strategy within larger coworking spaces where coworkers presumably have less meaningful interactions with each other consequential of the size of the space and population. The next section will elaborate more on such circumstances that could be of influence on knowledge creation dynamics among coworkers by discussing insights from previous studies on coworking spaces.

2.4 Insights from Previous Research on Coworking Spaces

Spinuzzi (2012) indicated that coworkers mainly seek benefits from each other in the form of *interaction, feedback, trust, learning, partnerships and referrals*, while other empirical studies also noted that coworkers expect to expand their network of potential collaborators and customers through the social interactions taking place within coworking spaces (Moriset, 2014; Van de Vrande & Hynes, 2015; Gandini, 2015; Merkel, 2015). Early studies emphasized that just providing space is often not sufficient for such dynamics to emerge among coworkers (Spinuzzi, 2012; Merkel, 2015).

As derived from previous studies, it was found that interaction among coworkers often lacks and there are several reasons to appoint for this. Spinuzzi (2012) for instance addressed that some assess coworking spaces primarily as an affordable place to work and therefore do not seek

to interact with others, but instead use these environments simply as ‘drop-in offices’ (Spinuzzi, 2012; Moriset, 2014; Gandini, 2015). Other literature indicated that as coworking spaces generally do not select members according to their fit with other coworkers, this resulted in a too large degree of diversity within the community with regards to the business activities, experience, and motivations for coworkers to interact with others, ultimately causing a lack of synergy (Merkel, 2015).

Nevertheless, previous studies have provided some useful indications of certain initiatives that can be deployed to foster knowledge creation dynamics among coworkers. In particular, these studies refer to the influence that coworking space managers can exert, as well as to how the physical environments of coworking spaces can provoke interaction and knowledge creation dynamics among coworkers. The empirical findings are however inconclusive, which makes it complicated to assess the effectiveness of these initiatives. The next sections will discuss more into detail potential factors of influence.

2.4.1 The Physical Environment of Coworking Spaces

According to several studies, the physical structure of buildings can have an influence on knowledge exchange by providing layouts that offer interaction between workers and a certain awareness of each other (Brager, Heerwagen, Bauman, Huizenga, Powell, Ruland & Ring, 2000; Heerwagen, Kampschroer, Powell & Loftness, 2004). It has been argued that *open-plan offices* have the ability to foster interaction and collaboration among workers (Appel-Meulenbroek, 2010; Davis, Leach & Clegg, 2011). As compared to traditional office space, open-plan offices are characterized by a lack of walls that separate workers from each other, resulting in building layouts where individuals all work together in one big open area (Brennan, Chugh, & Kline, 2002). By placing individuals close to one another, and by removing physical barriers to communication, open-plan offices are said to facilitate greater communication and interaction between workers as it allows them to share task-relevant information, promote feedback, and create friendship opportunities (Brookes & Kaplan, 1972; Allen, 1977; Pinto, Beth, Pinto & Prescott, 1993; Oldham & Brass, 1997).

Studies on the behavioral impact of open-plan offices also found that such structures have the capacity to foster *informal* interactions among workers (Allen & Gersteberger, 1973; Szilagyi & Holland, 1980, Fayard & Weeks, 2007). While primarily assessed as a source of inefficiency and distraction from real work, stimulating the amount of informal interactions between workers has become an important part of management work to increase cooperation within teams, and to influence the rate of innovations in organizations according to Fayard & Weeks (2007).

Consequently, with the recognition of the benefits of informal interactions has come interest among both researchers and practitioners in understanding how to foster them. Fayard & Weeks (2007) argue that “informal interactions cannot be planned or regulated, but the likelihood of their occurrence can be influenced through indirect means such as through physical architecture” (Fayard & Weeks, 2007, p. 605). In this respect, Appel-Meulenbroek (2010) found that new research buildings are increasingly being designed in such ways by architects that they specifically stimulate informal interactions through open areas and meeting spaces.

Appel-Meulenbroek (2010) claims that buildings should mainly provide three things to foster interaction among workers: *visual/aural accessibility*, *proximity* and *meeting areas*. The notion of visual/aural accessibility holds that buildings should refrain as much as possible from physical barriers such as stairs and walls, to make it as easy as possible for workers to communicate with each other. Proximity on the other hand can be achieved by placing workers closely together in open-plan offices as previously discussed.

Regarding the relationship between informal interaction and meeting areas Fayard & Weeks (2007) mention three important aspects: *physical architecture*, *geography* and *function*. Physical architecture refers to how enclosed or open/accessible a space is. There are two main strands regarding the relationship between informal interaction and the physical architecture of a space; theories of *privacy* and theories of *propinquity* (Fayard & Weeks, 2007). While theories of privacy posit that enclosed spaces foster informal interactions as they offer workers the comfort to control the boundaries of their conversations, theories of propinquity suggest that centrally located, open spaces foster informal interactions as they bring people physically closer to each other (Fayard & Weeks, 2007).

The notions of geography and function are interrelated as they both refer to dimensions of *centrality*. On the one hand there is *physical centrality*, which is simply a matter of geography. It has been theorized that meeting places that are central and easy to access generate more traffic, which in turn increases the chance of making spontaneous encounters with others. On the other hand, there is *functional centrality* which has to do with the function of the space itself (the reasons people have for visiting the place), and the location of the space in relation to other functionally important locations in the office that workers regularly visit throughout the day (Fayard & Weeks, 2007).

When interpreting how certain settings can afford informal interaction Fayard & Weeks (2007) emphasize to also include a social element into the theoretical reasoning. As they empirically found, some spaces which had ideal designs did not afford informal interaction until social norms were established that allowed workers to do so. Therefore, the scholars argue that

workers also must feel that it is socially acceptable to interact with each other in certain settings, otherwise no real interactions will take place. This social aspect of setting is what the scholars call *social designation*. Thus, as Fayard & Weeks (2007) state “settings must have the correct propinquity, privacy and social designation to afford informal interaction” (p. 611).

Based on these insights it can be assumed that coworking spaces which are refrained from physical barriers to communication such as stairs and walls, and that have included open-plan offices and sufficient meeting space, provide a greater chance for knowledge dynamics to take place among their members as it can result from the informal interactions that these environments facilitate.

2.4.2 Coworking Managers & Social Initiatives to Foster Knowledge Creation

Studies mainly refer to the social strategies coworking managers can use to foster synergies and knowledge creation dynamics among coworkers, and external actors (Merkel, 2015). It has been argued that managers can influence such dynamics by selecting coworkers according to their *fit* with other coworkers (Merkel, 2015). According to Merkel (2015) a growing number of coworking spaces are selecting coworkers based on their shared practice or similar knowledge background. This correlates with Moriset’s (2013) findings who noticed an increase of specialized coworking spaces dedicated to specific sectors such as media, design and high-tech. Moreover, as derived from studies on incubators, it might also be beneficial to select members based on the degree to which they tend to engage in a particular kind of networking behavior known as *TIO*, as studies found such behavior to have a positive influence on cross-fertilization among incubated firms (Ebbbers, 2013). *TIO*, or *tertius iungens orientation*, concerns a form of altruistic networking behavior of people that “have a tendency to facilitate tie formation among (disconnected) others in their network when they think these individuals might benefit from one another” (Ebbbers, 2013, p. 2). Other studies however indicated there is generally no filter done by coworking space management in order to select members (Moriset, 2013; Gandini, 2015).

Studies also appointed that managers can foster the formation and enhancement of relational ties between coworkers by organizing events (Capdevila, 2014; Merkel, 2015). Two types of events could be distinguished from the literature: *social* and *content* events. Social events such as after-work drinks are considered effective mechanisms to stimulate the local buzz, and enable coworkers to discover new opportunities and strengthen relationships with weak ties. On the other hand, content events such as workshops, seminars, and organized talks by members that cater to the interests and needs of coworkers are regarded to enable these co-located actors to

learn about each other's business practices (Capdevila, 2014; Merkel, 2015). As such events are usually open to the general public they also enable coworkers to get in contact with external sources of knowledge, which can be valuable sources for new knowledge creation (Capdevila, 2014).

2.5 Summary of Theory & Previous Research

The review of theory and previous research has provided this study with several insights. First, by discussing insights from clusters and microclusters, the central role of face-to-face communication for knowledge creation within the creative industries was highlighted. It was noted that beyond its value for the exchange of tacit knowledge, face-to-face communication is also important for creative workers as it generates buzz from which they can retrieve information about opportunities in their local surroundings. It was also derived from the literature how informal atmospheres can contribute to such flows of information. Throughout the discussion of clusters, the analogy with coworking spaces has consistently been made in support of the subsequent empirical research.

Second, distinctive network relationships were discussed and has provided the study with important insights for the empirical investigation as it indicated that the *size* of coworking spaces might determine the ways in which knowledge creation can be fostered across different coworking spaces. Another interesting finding which can be investigated during the empirical study concerned how strong relational ties not necessarily have to depend on strong local relationships, but can also result from virtual communication between spatially distanced with a shared practice. This suggests that coworking spaces possibly could foster knowledge creation dynamics by providing sufficient *technologies* for establishing such kinds of relationships.

Third, from previous studies on coworking spaces it was derived that managers are mainly perceived to be having an influence on knowledge creation dynamics between coworkers by several social initiatives they can employ, such as selecting coworkers based on their resemblance in background with other coworkers, and by organizing events that can foster the formation and enhancement of relational ties, as well as organizing content events that enable coworkers to learn from each other.

Lastly, the literature review highlighted some important ways in which knowledge creation could potentially be fostered by the means of certain material initiatives within the structure of a building. Aspects that are particularly interesting to use for the subsequent empirical investigation concern the notions of how open-plan designs, and central meeting

spaces can contribute to greater communication and informal interaction, and as such possibly could influence knowledge creation among coworkers.

In the methodology section which will follow next, the study will show how the obtained insights from the literature review will be made operational for the empirical investigation which is focused on finding an answer to the main research question of this study.

3. Methodology

This chapter presents the research design of this study. First, it will be substantiated why a qualitative research method was chosen, based on semi-structured in-depth interviews and thematic data analysis. The second part provides insights on the research units by discussing the sampling criteria and sampling strategy. The procedure section that follows will clarify how the data were collected. The fourth section elaborates on how the main theoretical concepts were made operational for the empirical research. Subsequently, the methods for data analysis are discussed. The last part of this chapter will deal with the reliability and validity of this study.

3.1 Choice of Method

3.1.1 Qualitative Research

Qualitative research seeks answers to questions by examining various social settings and the individuals who inhabit those settings (Berg, Lune & Lune, 2001), thereby aiming to provide an in-depth and interpreted understanding of the meanings that people attach to phenomena (actions, decisions, beliefs, values, etc.) in their social worlds (Ritchie, Lewis, Nicholls & Ormston, 2003). As the best possible answer to the main research question is considered to derive from an examination and interpretation of the perspectives and experiences of respondents familiar with the ways in which knowledge creation dynamics among coworkers are being fostered across the different coworking spaces of this study, this formed the main reason for conducting a qualitative research method. Qualitative research methods are also considered more suitable, compared to quantitative methods, for small-scale studies in which respondents are selected based on particular features that enable detailed exploration and understanding into the topic of interest (Ritchie et al., 2003). Accordingly, this study aims to provide an in-depth understanding of how knowledge creation can be fostered effectively within coworking spaces based on the perceptions of the respondents, rather than it intends to apply to a wider population which is more common for quantitative studies (Berg et al., 2001; Ritchie et al., 2003).

3.1.2 Semi-Structured In-Depth Interviews

To answer the main research question of this study, an interpretative and evaluative assessment of the respondents' perspectives and experiences with coworking was needed to determine how knowledge creation can effectively be fostered within a coworking context. The data gathering technique of *in-depth interviews* can provide access to such information,

and was therefore considered the right method to use for this study. As Ritchie et al. (2003) argue, whether data will be obtained successfully largely depends on the qualities of interviewers as they themselves can be regarded as research instruments, and therefore need to be provided with some key requirements. Specifically, since a *semi-structured approach* of interviewing was used for this study, which involves a mixture of predetermined topics/questions and a certain amount of flexibility regarding the way and sequence in which questions are asked, this required some interpersonal skills such as attentive listening, probing and the ability to establish comfort so to encourage the interviewees to talk freely in order to fully explore their perspectives and the factors that underpinned their answers (Berg et al., 2001; Ritchie et al., 2003).

3.1.3 Thematic Analysis

For the analysis of the interview data the qualitative method *thematic analysis* (Braun & Clarke, 2006) was chosen. Thematic analysis concerns an interpretative method for identifying, analyzing and reporting repeated patterns of meaning (themes) across a data set, and can be used to provide detailed accounts of particular areas of interest, such as experiences, meanings, perspectives and underlying ideas of research participants (Braun & Clarke, 2006). There are several advantages to thematic analysis which formed the basis for the choice of this method. First of all, thematic analysis can be performed by following a step-by-step guide of six phases which made it a relatively easy and quick method to learn and perform (Braun & Clarke, 2006).

Secondly, in contrast to many other qualitative methods, thematic analysis allows for a certain amount of flexibility in the way that data can be analyzed as it is not theoretically bounded to any pre-existing framework (Braun & Clarke, 2006). As the principles on which thematic analysis builds should be regarded as guidelines rather than rigid rules (Braun & Clarke, 2006), this makes it an accessible method for researchers such as students that have little or no experience in performing qualitative research. Braun & Clarke (2006) however emphasize that the flexibility of thematic analysis always should be accompanied by an explicit account of how the research was done, meaning that it should provide clarity around the research question and theoretical assumptions that have driven the interpretative data analysis, as it otherwise risks falling victim to critique that suggests that ‘anything goes’ for this method (Braun & Clarke, 2006).

3.2 Sampling

3.2.1 Sampling Criteria

The research units have deliberately been selected based on several criteria. In the first place, they had to be knowledgeable with the practice of coworking since the knowledge dynamics within these environments concern the principal interest of this study. Second, as the theoretical discussion informed this study that the *size* of coworking spaces can possibly influence the ways in which knowledge creation can be fostered, a selection of research units has been made based on this assumption, which is why the sample both consists of respondents belonging to coworking spaces that are *larger* in terms of size and population, as well as of research units that are part of coworking spaces which can be considered as *smaller* regarding those terms. Third, both coworkers and staff related to the management of coworking spaces have been selected as previous studies (Spinuzzi, 2012) indicated that these groups generally experience the practice of coworking differently, which suggests they presumably also have different perceptions concerning the ways in which knowledge creation can effectively be fostered. As both perspectives can be valuable for gaining an in-depth understanding into the central interest of this study, the selection of these research units both seemed logical and essential. Also, with regards to the selection of coworkers it was taken into account that they in the first place were active in the field of the creative industries, and that their products and/or services were still in the early stages of development as this may indicate a need for support on processes of knowledge creation.

3.2.2 Sampling Strategy

The sampling strategy that was used for this study concerns a mixture between *stratified purposive* sampling and *snowball* sampling (Berg et al., 2001; Patton, 1990; Ritchie et al., 2003; Palinkas, Green, Wisdom, Duan & Hoagwood, 2013). With stratified purposive sampling members of a sample are not only purposively chosen because they have particular features that enable detailed exploration into the central interest of the study, but rather it concerns an approach “in which the aim is to select groups that display variation on a particular phenomena but each of which is fairly homogeneous, so that subgroups can be compared” (Ritchie et al., 2003, p. 79). In reference to the reasons stated in the previous section, this strategy was used for the selection of both coworkers and managers from coworking spaces that have been categorized as distinctive within this study.

The second strategy that was used concerned snowball sampling. This strategy

involved asking the people that were interviewed to identify other persons they knew who fit the selection criteria, and could be of use to this study in their opinion (Ritchie et al., 2003). After the first research unit was identified through a referral from a personal friend of the researcher, the snowball strategy was repeated a number of times and in total provided the researcher with N=5 research units across different coworking spaces. Snowball sampling was especially useful to this study as the topic of coworking spaces was considerably popular among students at the time of investigation, which made it difficult to find people that were willing to participate, and who fitted the sampling criteria. As some research units were generated through existing ones, this provided the risk that the sample would become too homogeneous in terms of resembling characteristics. The researcher acknowledges that because of his inexperience with qualitative research, and due to the limited amount of time there was for conducting the interviews, this may have possibly had a negative influence on the quality of the sample.

3.2.3 Units of Analysis

In total N=11 research units from seven different Amsterdam-based coworking were interviewed for this study. N=5 were staff members directly related to the management of coworking spaces, N=2 were both coworker and founder of their coworking space, and N=4 were coworkers. N=4 research units were related to coworking spaces that have been categorized as *larger* in terms of size and population, while N=7 research units were related to coworking spaces that categorically could be considered as *smaller* regarding those terms. The reason why eventually only a small number of coworkers were interviewed for this study had to do with the fact that as an outsider it was considerably hard and time consuming to assess prior to the interviews whether coworkers would meet all the sampling criteria, even if a research unit was provided through a referral. As the researcher did manage to obtain valuable insights from the coworkers that have been interviewed, but also wanted to prevent the risk of collecting data that afterwards might turn out to be irrelevant for this study, the decision was made to sustain with this amount of data. An overview of the research units per relevant category can be found in *Table 1* and *Table 2*.

| <i>Respondent:</i> | <i>Name:</i> | <i>Coworking Space:</i> | <i>Management/Coworker:</i> |
|--------------------|---------------------|-------------------------|-----------------------------|
| 1 | Kurt Hamming | Starhub Overtoom | Both |
| 2 | Jasper Mutsaerts | Starhub Overtoom | Coworker |
| 3 | Irfan Fiets | Starhub Overtoom | Coworker |
| 4 | Jorn Van Lieshout | Bouncespace | Management |
| 5 | Daan Nederlof | Bouncespace | Both |
| 6 | Charlie Hu | WeWork | Coworker |
| 7 | Gijs Braakman | WeWork | Coworker |
| 8 | Alexander Overtoom | Rockstart Spaces | Management |
| 9 | Florien Smits | Spaces | Management |
| 10 | Joris Van Laerhoven | The Startup Orgy | Management |
| 11 | Tom Jacobs | B. Amsterdam | Management |

Table 1: Overview of Research Units

| | <i>Size of Coworking Space:</i> | <i>Number of Research Units:</i> | <i>Size of Coworking Space:</i> | <i>Number of Research Units:</i> |
|--------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|
| | Large | | Small | |
| | B. Amsterdam | N=1 | Bouncespace | N=2 |
| | Spaces | N=1 | Rockstart Spaces | N=1 |
| | WeWork | N=2 | Starhub | N=3 |
| | | | The Startup Orgy | N=1 |
| Total | | N=4 | | N=7 |

Table 2: Number of Research Units per Coworking Space

3.3 Procedure

The interviews were held between June 26th and July 10th, 2015 and all took place at the coworking spaces where the respondents worked. Appointments with respondents were made either face-to-face, or through email correspondence. Before each interview the respondents were told what the goal of the interview was, how long the interview would approximately take, how the data would be collected and processed, and that the data would solely be used for academic purposes.

The ways in which the interviews were introduced to the respondents was done in a consistent manner. Regardless whether the first contact with a respondent was face-to-face, or

by email, all the respondents were told why they were being approached for this study, and it was made clear to them what the purpose of the research was by introducing them to the main topics of interest. Subsequently, each respondent was asked to affirm whether they understood what the research was about, and if they believed they could provide a meaningful contribution to this study. Finally, the respondents who were willing to participate were asked for when it would suit them best for the interview to take place, and if they would appreciate it if the meeting could be held at the coworking space.

This last question was asked because the researcher wanted the interviews to take place in a setting where the participants would feel at ease, as this could benefit the data collection process (Berg et al., 2001; Ritchie et al., 2003). Also, as the researcher felt the respondents were doing him a favor by making time for the interview, it was considered righteous to come to them instead of meeting them at a coffee shop for instance. Moreover, by meeting at the coworking space this allowed the researcher to get a better sense of these environments and the dynamics taking place there by experiencing it in person.

The interviews were all recorded with a mobile device, and at the beginning of each interview the respondents were asked for their consent, as well as if they wished to stay anonymous. The interviews ranged between 30-60 minutes and all the respondents gave permission to include their names within this thesis. All the interview recordings were moreover completely transcribed into written form. Finally, all the full interview transcripts have been made digitally available.

3.4. Operationalization

3.4.1 Relationship Between Main Research Question and Core Concepts

By the means of a qualitative research method this study aims to answer the main research question “*How can coworking spaces effectively foster knowledge creation?*”. Throughout the previous chapter an analogy has been made between the ways in which firms in *clusters* create knowledge, and similar dynamics between knowledge workers within *coworking spaces*. The concept of *knowledge creation* has been defined as “the process by which new ideas, products and services are being developed”, and it has been described how this process usually involves *interaction* between various actors that possess different types of knowledge.

It was also explained why the conceptualization of coworking spaces as *microclusters*, by which previous studies suggested these environments can facilitate similar knowledge dynamics between coworkers as between firms located inside clusters, has turned out to be

problematic as these studies have largely remained silent on the circumstances that determine whether such dynamics will eventuate between coworkers.

This gap in understanding formed the basis for this study. By consulting theoretical and previous literature on coworking spaces, several factors have been indicated that potentially could influence knowledge creation among coworkers. The following section will make clear how the effectiveness of those factors in their ability to foster knowledge creation among coworkers will be determined by providing insights into the indicators.

3.4.2 Indicators

The literature review discussed several initiatives that could provoke knowledge creation dynamics among coworkers. These initiatives can mainly be divided into two categories: *social* and *material* initiatives. While social initiatives refer to the efforts that coworking managers can deploy to foster interactions among coworkers by organizing network events for instance, or by implementing selection criteria in favor of synergies between coworkers with a shared practice, material initiatives mostly refer to the ways in which the physical structure of coworking spaces can provoke interactions among coworkers, for example by the means of open space designs and central meeting places.

The effectiveness of these initiatives will be assessed by considering whether, and more importantly since this study seeks for an in-depth understanding, *why* the research units perceive these initiatives to have an influence on interactive processes of knowledge creation between coworkers. In reference to the way in which the concept of knowledge creation has been defined in this study, any given initiative could thus be regarded as effective when respondents repeatedly perceive it to have contributed to the interactive development of new ideas, products or services. Since there are countless activities that could underlie such dynamics, the estimation of effectiveness will ultimately derive from the researcher's interpretative assessment of the interview data.

3.4.3 Goals of the Interviews

There were three main goals to the semi-structured in-depth interviews. The first goal was to obtain access to the perspectives of the research units with regards to the main topics of this study. The second goal was to assess whether there were significant differences between the perspectives of respondents from coworking spaces that have been categorized as distinctive regarding their size and population in this study. Third, the interviews were intended to obtain

insights on potential differences between the perspectives of coworking managers and coworkers, as such insight could contribute to a deepened understanding regarding the central topic of this study.

3.4.4 Interview Structure

The interviews were structured into three parts: introduction, main part and ending. The introductory questions were specifically intended to establish comfort with the respondents by asking them to provide some information about topics they were familiar with, such as personal details, and contextual information about their experience with coworking spaces in general. It involved asking questions such as:

- (1) *What is your name?*
- (2) *What is your occupation?*
- (3) *How long have you been working at this coworking space?*
- (4) *What made you decide to come work at this coworking spaces instead of others?*

The main part was structured around the core theoretical concepts of interest to this study and assessed the perspectives of the respondents concerning the influence of social and material initiatives on knowledge creation among coworkers. *Content mapping* questions were used to guide the respondents through the main topics of interest, while *content mining* questions and *probes* were used to obtain an in-depth understanding on their responses (Ritchie et al., 2003).

Social Initiatives:

- (5) *What efforts do (you as) manager(s) make to foster interactions among coworkers?*

Material Initiatives:

- (6) *Where do the interactions between coworkers mainly take place inside here?*

The ending question was intended for the respondents to add any additional insights that could contribute to a more complete understanding of the subject and to discover new findings that have not been anticipated by current literature:

- (7) *Is there anything you would like to add that we have not discussed so far?*

The full *Interview Guide* with all the questions that were used for this research can be found in *Appendix A*.

3.5 Methods of Analysis

For the data analysis, the guidelines of Braun & Clarke's (2006) six-step thematic analysis

were followed. The first phase concerned familiarizing with the data. This process started with transcribing the verbal data into written form. This process could already be considered as an interpretative act as meanings were already being derived during transcription, rather than merely translating audio to text. By listening over the audio files multiple times, some initial patterns were already identified. Subsequently, all the transcripts were actively read and re-read. This process also contributed to finding some initial patterns in the data.

The second phase focused on generating some initial codes. Given the theory-driven nature of this study, parts of the data were coded that demonstrated a relationship with the main theoretical concepts. For the coding process the software program *Atlas.ti* was used. This software program allowed for resembling data extracts to be easily collated together by labeling them with tags. This contributed in finding some initial patterns that potentially could form the basis of larger themes within the dataset.

The third phase involved the sorting of coded groups of data into potential themes. By actively analyzing how codes related to each other, and how they possibly could be classified into overarching themes/sub-themes, this phase eventually led to forming some candidate themes that could be organized and interpreted in relation to the main research question of this study.

The fourth phase concerned the critical reviewing of the candidate themes. The reviewing was performed on two different levels. On the one hand, it was assessed whether all the collated data extracts for a specific candidate theme made up a coherent pattern. If not, then the theme itself was reviewed again, or a new place was sought for the extract that did not fit. The second level involved a similar process but now the validity of individual themes was compared. The data within the themes had to cohere meaningfully together (*internal homogeneity*), while there also had to be clear and identifiable distinctions between themes (*external heterogeneity*) (Braun & Clarke, 2006, p. 20). The second level of reviewing themes thus involved assessing whether they were distinctive enough by comparing them to each other, and against the entire dataset. This process also involved re-reading of the data, which was essential since it allowed for discovering additional data that could have been missed in earlier coding stages.

In the fifth phase the final refinements were made to the themes. This meant organizing the collated data extracts into a coherent story, and determining whether the different themes were interesting in relation to the main research question, and in comparison to other themes. This phase also involved determining whether there was a need for creating sub-themes. If the names that were given to the main themes were not clear enough to capture

the essence of the data it contained, this indicated that there was a need for establishing sub-themes that could explain parts of the themes' story.

The last phase involved the final analysis of the themes and producing the report in a concise, coherent and logical story. Moreover, since the study also aimed to assess whether there were significant differences between the perspectives of respondents from the categorically distinctive coworking spaces, and between the perspectives of coworkers and managers, this was considered in the structure of the report. The findings of the data analysis can be found in the next chapter.

3.6 Reliability

The reliability of a study is generally understood to concern the replicability of research findings, and whether or not they would be repeated if another study using the same or similar methods, was undertaken (Ritchie et al., 2003, p. 270). The reliability of a study thus depends on whether the researcher has been as meticulous as possible in describing all the steps that were taken during the research. Several measures were undertaken to ensure the reliability of this study. First, the study has been clear on the sampling criteria and sampling strategies that were used to gather the research units. The full names of these respondents have been provided, which makes it possible for other researchers to contact them and assess whether both the sampling process and the interviews were performed in a trustworthy way.

Second, all the interviews were fully recorded, transcribed and all structured around the same topics of interest which allowed for a set script of interview questions to be used during the interviews. Also, the probes that have been used in order to gain an in-depth understanding from the responses of the research units are included in the script. The recordings, transcriptions and interview guide will all be made available and largely be included into the appendix of this thesis.

Finally, the analysis of the interview data was systematically done by following the guidelines of Braun & Clarke's (2006) six-step thematic analysis.

3.7 Validity

Whether a study can be regarded as *valid* generally depends on the assessment of two main criteria. The first dimension, which is *internal validity* (Ritchie et al., 2003), concerns whether the study has sufficiently described how the research was done and how the interpretations have been made. In this respect, the study aimed to be as informative as possible about the

method, process of data collection and the analysis of the interview data. Also, the study has demonstrated how the core concepts as derived from the literature review have been made operational for the empirical research, and on what grounds the interpretations were made that would translate into ‘evidence’.

The second dimension on which the validity of a study can be assessed concerns *external validity* (Ritchie et al., 2003). External validity concerns whether the study provided the readers with sufficient information to judge whether similar results can be expected from studies with samples from the same population. As the selection of the research units was based on samples from earlier empirical studies, the sampling for this study aimed for an accurate reflection of the general coworking population. However, it must be noted that within the sample of coworkers the researcher could have opted for more diversity as it mostly contains coworkers that are related to startups, while a large number of coworkers are in fact freelancers (Foertsch, 2011; Moriset, 2013). If such research units also had been included into the sample this might have led to other interpretations of the data.

4. Results

The previous chapter provided the methodological guidelines for the thematic data analysis of the eleven in-depth interviews. This section presents the results of the thematic analysis and interprets them in relation to the main research question and the theoretical assumptions of this study. An important notion with regards to the results presented in this chapter is that they do not provide hard empirical evidence, but will rather help to gain a more in-depth understanding on how the respondents *perceive* that coworking spaces can effectively foster knowledge creation. Despite being separated into themes and sub-themes it is the synergy between the themes that collectively will provide an answer to the main research question of this study.

4.1 Thematic overview

The most important insights from the interview data, as interpreted by the researcher, have been collated into four main themes and are visually represented along together with their corresponding sub-themes in *Figure 1*. Each discussion of a theme or sub-theme will partly provide an answer to the main research question of this study. Moreover, considering that this study also aimed to determine whether there are significant differences between the perspectives of respondents from coworking spaces that have been categorized as distinctive regarding their size and population, and between the perspectives of coworking managers and coworkers, these considerations have been taken into account throughout the discussion of the findings.

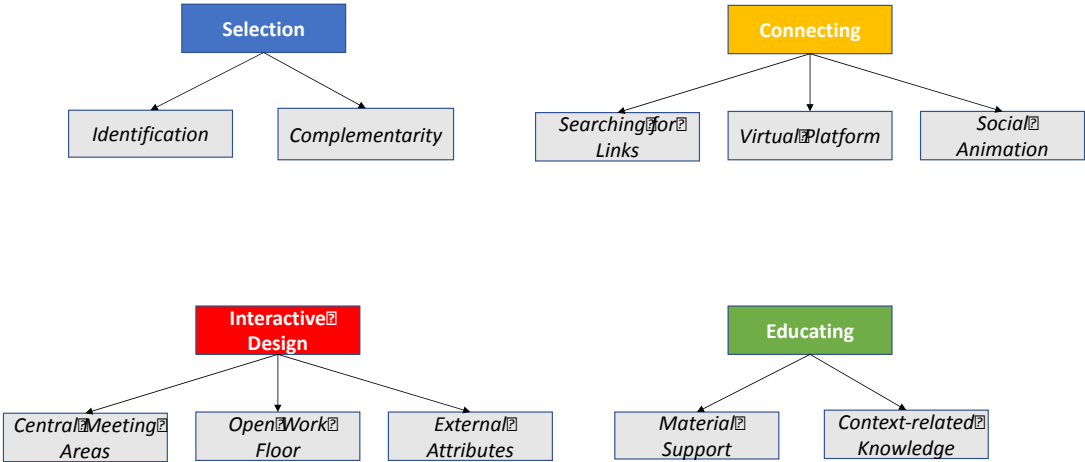


Figure 1: Thematic Overview

4.2 Selection

From the interview data it seemed clear that the respondents perceive selection to be an important way in which knowledge creation dynamics can be fostered among coworkers. While previous studies indicated that managers mainly select coworkers based on their shared practice or similar knowledge background (Moriset, 2013; Merkel, 2015), it was taken from the interview data that resemblance on characteristics such as *age*, *ambition level* and *similar challenges* also seemed to foster dynamics of knowledge creation among coworkers. In particular respondents from coworking spaces with smaller populations expressed how selection on such characteristics could influence knowledge creation, while respondents from larger coworking spaces, where generally no selection took place, indicated how such dynamics were mainly the result of the *quantity* and *diversity* of available resources within the coworking population. Hereby, the latter finding confirms the value of many available weak ties within clusters such as described in the theoretical discussion (Granovetter, 1973; Scott, 1998; Amin, 2004), while the former, as will be demonstrated in the next section, indicates that through selection coworkers may develop stronger ties when they can identify themselves with others, which consequently can have a positive influence on knowledge creation dynamics.

4.2.1 Identification

In line with previous studies (Moriset, 2013; Merkel, 2015), it was found that selection based on a shared practice was perceived as an effective way to foster knowledge creation dynamics among coworkers. In particular respondents from smaller coworking spaces, in terms of size and population, expressed how as a result of selection coworkers were found to connect with others that had similar characteristics, and engaged into collaborative practices such as knowledge exchange, and testing of each other's products and services:

“One of the things I haven't even organized myself, but which I do stimulate is the CTO breakfast where all the CTO's of the companies have breakfast together. In that way, they can get to know each other better, while it also provides an opportunity for them to exchange knowledge and make new contacts that potentially could be of use in the future.” (Respondent 8, own translation)

“For instance, we have pizza-night which is not organized by us, but by one of the start-ups. It is mostly the programmers and the marketers who then mutually discuss work-related matters and also attempt to improve each other's products and services by the means of repetitive testing.” (Respondent 10, own translation)

In addition to a shared practice, resemblance on characteristics such as age, life style, ambition level, and similar challenges were also perceived to enable interactions among

coworkers from smaller coworking spaces in particular. These findings correspond with the *similarity-attraction* paradigm (Byrne, 1997) which posits that in the small-scale settings of teams, individuals are usually attracted to others that have similar characteristics (Shanteau & Nagy, 1979) and therefore also are considered more trustworthy (DeBruine, 2002; Donath, 2007), which consequently could lead to enhanced team performances. In relation to this theory it can thus be suggested that selection for similar characteristics could foster knowledge creation dynamics among coworkers from coworking spaces with smaller populations, while it also indicates that strong ties resulting from resembling characteristics are considered more important for knowledge creation dynamics within microcluster contexts than within cluster settings:

“You see, gatekeeping is very important because when you only select for early-stage tech companies with good teams, good people, then you create the right ingredients for people to connect. Every tech startup will encounter the same kind of problems, they all need developers, they all need designers so the quest for talent is very important (...) and it is exactly those shared problems that enable people to connect with each other (...) by bringing together startups with the same mindset, the same ambition, the same background, that is what creates magic.” (Respondent 8, own translation)

“The guys from Ace & Tate mentioned how it had helped them that there were mainly people working here from the same age group, with similar ambitions. I can imagine that it is contagious when you see similar people working passionately every day, and that some form of competition arises among them to show who is growing the hardest. So yes, I do believe that it helps when people can identify themselves with each other. Because the people here have similar challenges you see them interact a lot with each other, which would be different I suppose when they would be surrounded with people from a whole different generation who have different challenges.” (Respondent 4, own translation)

In contrast, hardly any of the larger coworking spaces deployed selection procedures. Instead, respondents from these coworking spaces generally mentioned how the quantity and diversity of available resources within the populations of their coworking spaces seemed to provide possibilities for knowledge creation:

“There is great variety in what the coworkers do. And that is actually the power of B. Amsterdam because there are a lot of people with a different expertise. The idea of this place was to make a city in a building where you should be able to ask all the questions that you have. For instance, when you need a new website, you just walk up one floor and ask the designers or developers there to build one for you.” (Respondent 11, own translation)

In accordance with the theory on clusters (Granovetter, 1973; Scott, 1998; Amin, 2004), this data extract reflects how coworkers from larger coworking spaces can make use of the resources from locally available weak ties in favor of the development of their products and services. However, as will be demonstrated in the next section, due to the absence of selection procedures, such complementary resources are not always available to coworkers.

As derived from the interview data, respondents perceive this as a deficit and emphasize the relevance of selecting for coworkers with *complementary* features.

4.2.2 Complementarity

Especially respondents from the smaller coworking spaces emphasized how knowledge creation dynamics could be fostered by selecting for coworkers with complementary resources. The resources which the respondents referred to in this context mostly concerned the skills of freelance developers and designers who can deliver substantial contributions to the development of products and services from the startup companies based inside coworking spaces. Selecting for such complementary resources could result in the typical ‘project-based’ and ‘open-source approach’ to work such as described in previous literature (Gandini, 2015), and which appears to be the incoming trend for creative workers within the contemporary knowledge economy:

“The idea of this place is that it will become a community of early-stage startups surrounded by a small layer of freelancers, in the ratio 90%/10%. The freelancers have vast networks and can offer all kinds of services from which the startups here can benefit.” (Respondent 1, own translation)

“We only have freelancers here that add value to the startups. A lot of startups work with freelance designers and developers. But we do not rent out individual workplaces to freelancers if they do not directly add value to the community.” (Respondent 8, own translation)

Although most respondents from the smaller coworking spaces acknowledged how selection for a community with complementary resources can be beneficial for knowledge creation, some difficulties were also expressed. N=2 respondents for instance mentioned how the selection process always goes along with a consideration between *economic objectives* (e.g. optimal rental of workplaces), and the complementarity between the coworkers which defines the image to the outside, and is considered an important resource for attracting new high-quality knowledge workers:

“There are a lot of, and Kurt will not like me saying this, but a lot of people in here who just work for themselves and that do not really seem to contribute anything to the community. In the beginning they were also mainly focused on getting people in, but what you see now is that they are trying to attract the more interesting companies with scalable business models that can become very promising within a few years. However, there is no strict selection policy here, but with the new manager coming I believe that will change.” (Respondent 2, own translation)

The larger coworking spaces generally did not deploy selection procedures and consequently had a greater variety in the type of coworkers in terms of firm size, sector and knowledge backgrounds. Complementary dynamics among coworkers within such coworking spaces therefore rather seemed to operate as a consequence of variety, and in ways related to

the ‘interesting companies’ such as mentioned by Respondent 2. N=2 respondents from larger coworking spaces expressed how the presence of some of the more established and well-known companies contributed in attracting new coworkers, and how they presented opportunities for collaborations.

Similarly, cluster studies (Scott, 1992; Enright, 2000; Agrawal & Cockburn, 2003; Tötterman & Sten, 2005; Klepper, 2007) described how certain ‘anchor firms’ seem to enable inter-firm collaborations as they either are so innovative that they attract other firms which seek to obtain credibility by being associated with them, or so large that they have high demands for complementary and specialized resources, which presents opportunities in the form of sub-contracting relationships with smaller firms (Malmberg & Power, 2005).

Consequently, it can be assumed that comparable knowledge dynamics as between anchor and smaller firms within clusters could emerge between coworkers and the more established and well-known companies that have a presence within the larger coworking spaces, for instance in the form of the project-based and open-source approach to work such as described by previous literature (Gandini, 2015):

“We do not select for coworkers because we have plenty of desks. But we do select for the organizations that really want to rent office space because they will have a prominent presence in here which defines a large part of the culture. We have Red Bull, IBM, PostNL, and Heineken also has office space downstairs. Those big names work like a magnet and give us credibility and present major opportunities for the smaller companies and entrepreneurs working here.” (Respondent 11, own translation)

“I believe many companies are not only attracted to this place because we are located in the middle of the city and because it is such an high-end place, but also because we have companies like Über in here which of course contributes to the image of the other companies and coworkers that work here.” (Respondent 9, own translation)

Respondents also mentioned that because of the *flexible memberships* that many coworking spaces offer, there is a constant flow of new people coming in and leaving which makes the complementarity between coworkers difficult to manage. N=2 respondents moreover described how it can also become a disadvantage to have unique skills within a community that seeks for complementarity among their members:

“It works both ways. I am one of the few people in here with a legal background so people regularly ask me for advice on legal matters. Sometimes people constantly invoke on your knowledge, which consequently leaves you with less time to focus on your own work.” (Respondent 5, own translation)

“There are disadvantages of course. When you have a particular skill, it could be that people constantly ask for your time. But that is just how it goes in here, you should be able to deal with that.” (Respondent 2, own translation)

In comparison to coworking spaces with larger populations, these disadvantages appear to be typical for coworking spaces with smaller populations as the coworkers there usually have less options to choose from when sourcing for complementary resources.

One remarkable and deviating finding which was considerably unanticipated involved the respondents repeatedly describing how coworkers could benefit from available complementary resources regarding *business development* rather than *product development*. While previous studies mainly emphasized the influence of coworking spaces in support of knowledge creation (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014; Gandini, 2015; Van de Vrande & Hynes, 2015; Merkel, 2015), the respondents of this study regularly pointed out how through selection coworking spaces can enable inexperienced coworkers to learn about the specifics of doing business from other coworkers that are more experienced and knowledgeable concerning such matters:

“It really should become an accelerator. We seek for a mix between early-stage startups and entrepreneurs that have already gone through the first steps of setting up their businesses. Since we believe that a startup is kind of like a commodity, the more experienced entrepreneurs can help the inexperienced ones with setting up the infrastructure of their companies. By bringing them together we aim for the early-stage startups to get through the first phases of setting up their business as quick as possible so they can really start focusing on their core business. In doing so, we try to facilitate a large part of the business development.” (Respondent 1, own translation)

Respondents from coworking spaces with larger populations expressed how similar dynamics were taking place between inexperienced/experienced coworkers, although there it was not the result of a careful selection process, but rather of a more random consequence provided by the (again) many and diverse resources available within the coworking community:

“There are four or five freelancers working here that provide startups with advice on how they can do their crowdfunding, or how they can improve their business and grow faster. It may very well be possible that the person working next to you can help you with building up your business as he happens to have the experience and knowledge on how to do that. The fun thing is that you often see the older guys helping the younger entrepreneurs with building up their businesses.” (Respondent 11, own translation)

As will be discussed later on in this result chapter, there are many other ways next to selection by which coworking spaces attempt to provide inexperienced coworkers with learning possibilities regarding how to develop their businesses. Given the emphasis that coworking spaces place upon this, taken from the prevalence concerning this matter within the responses of the research units, these insights made the researcher question whether it is actually valid to assume that it is coworking spaces' main intend to foster knowledge creation

as previous studies seem to suggest (Spinuzzi, 2012; Moriset, 2013; Capdevila, 2014; Gandini, 2015; Van de Vrande & Hynes, 2015; Merkel, 2015), or that these environments rather should be understood as conducive platforms for business acceleration.

4.3 Connecting

Despite that the conceptualization of coworking spaces as ‘microclusters’ (Capdevila, 2014; Gandini, 2015; Merkel, 2015) makes suggest that the local concentration of creative knowledge workers kind of automatically leads to interactive dynamics of knowledge creation given the advantages that such local environments provide, the respondents of this study regularly mentioned, similar to Merkel’s (2015) findings, how merely providing space was often not sufficient to foster such dynamics among coworkers:

“What we noticed is that the people at first thought they were in here solely for themselves, even though I approached them and emphasized how we find it important that everyone actively participates and contributes something to the community. It may sound a bit like we try to impose a specific kind of social-cultural behavior, but that is actually what we aim for.” (Respondent 10, own translation)

Three main ways that were perceived by the respondents as effective regarding the making of connections between coworkers are discussed in the following sections.

4.3.1. Searching for Links

The theoretical discussion suggested that in order to provoke knowledge creation dynamics among coworkers, it could be beneficial for managers to select members based on the degree to which they tend to engage in a particular kind of networking behavior known as ‘TIO’ (Ebbers, 2013). To reiterate, TIO concerns a form of networking behavior attributed to individuals that have a tendency to facilitate tie formations among (disconnected) others in their network when they believe these individuals might benefit from one another (Ebbers, 2013). As derived from the analysis of the interview data, such networking behavior also appeared to be a very important attribute of managers themselves as they were regularly found to be actively seeking for connections among coworkers:

“What I do is, I make sure that I am some kind of ‘linking pin’ within the network. Because I know exactly what all the different startups are doing and what their needs are, it makes it really easy for me to make connections and introduce people to each other. So that is the main way in which I am trying to be helpful.” (Respondent 8, own translation)

“It is all about making connections here. When I receive an email from someone asking whether I might know a good front-end developer, then I will immediately make that link and introduce people to each other if that did not happen already. We do that for the people that work here, but we also set up

connections with the people from our network in Eindhoven, and other entrepreneurs which we have good relationships with.” (Respondent 5, own translation)

By positioning themselves as central figures within the coworking communities, and by making their networks available to coworkers, managers can enable their members to gain access to knowledge pools that exist beyond easily local accessible ‘comfort zones’, such as described by Bathelt & Cohendet (2014), and which is considered crucial for firm competitiveness. Remarkable however was that while managers perceived their own roles as considerably prominent with regards to establishing connections between coworkers, the responses of the coworkers made assume otherwise:

“WeWork facilitates many things, but I do not believe they actually have much knowledge about what the startups exactly are doing for business. It is not as if they are really occupied with the companies here. The community manager is regularly making his round, showing his face a lot, but he never asks for example how the business is going. I also do not believe that is entirely his job. I think he mainly needs to be available in case you need help with anything.” (Respondent 7, own translation)

“Here some people should take the lead, the community manager should take a lead. Maybe the community manager should work better. Now he is mostly helping with technical issues. So whenever there is something with the printer or the coffee machine he is helping out, and he is doing that quite well I must admit. But the culture/network thing, actually get to know different people, that is actually more important so I would like to see him work more on that.” (Respondent 6, original transcript)

Although these particular data extracts seem to refute the effectiveness of managers’ efforts in trying to establish connections, coworkers also mentioned how this lack of management involvement probably was something temporary given that managers at the time of data collection were mainly occupied with laying the foundations of the coworking space:

“Well at this point it is mainly that they facilitate the space in which people can come together. It really depends on the efforts of the people of WeWork if there will be a true community here eventually. But from the good stories I have heard from WeWork NYC and WeWork San Francisco, I expect that it will also grow here. But they are still experimenting here I guess, trying to find out how they can manage the coworkers here efficiently.” (Respondent 6, original transcript)

Nevertheless, as coworkers seem to assign the responsibility of establishing a ‘true community’ mostly to the management of coworking spaces as indicated by the data extract above, this reinforces the need for managers with networking skills corresponding with TIO (Ebbers, 2014) even more taken that coworkers apparently very much depend on their efforts in order to connect with others.

4.3.2. Virtual Platform

Another attempt in support of establishing connections between coworkers concerns the use of virtual platforms such as mobile applications. Contrary to the findings from previous

research (Asheim et al., 2007; Bathelt & Cohendet, 2014), virtual platforms were mainly perceived useful in their ability to provide additional ways to make connections with weak ties, rather than their use for developing strong ties with distanced actors. Mostly respondents from larger coworking spaces mentioned how virtual platforms could be useful to coworkers when sourcing for complementary skills or knowledge within the internal, as well as the external community formed by coworkers that are part of the same organization but who work at different locations:

“The app should become some kind of generator. Everyone will be requested to submit their expertise. So, when you need someone to make a design for you, that you can search for ‘design’ and that you are immediately presented with a list of persons that potentially could be of use to you. In that way, we try to provoke more interactions among the coworkers (...) some people only work here five days per month, so you hardly see them. But that does not mean they cannot be of value to other coworkers. With the app, which should really become a social platform, we try to resolve that.” (Respondent 11, own translation)

“We have an app. And if you are a Spaces member then you also get access to that app. You can find the entire community there if you search for companies, sectors and industries. So people have the access, but it is not being used that much, yet. And to be honest, I also believe more in offline than online interaction.” (Respondent 9, own translation)

The latter remark appeared to be exemplary for the general perception on the relevance of virtual platforms. Respondents of both smaller and larger coworking spaces repeatedly mentioned how they regarded in-person interaction to be more effective for establishing connections between coworkers, and moreover questioned whether the benefits of virtual interaction would outweigh the costs and efforts associated with implementing such technologies. Also, N=3 respondents questioned whether virtual platforms would actually offer such substantially distinctive functionalities that would make them more preferable in comparison to other technologies coworkers already used. Nevertheless, N=5 respondents mentioned how there either was already implemented some form of virtual platform at their coworking space, or one was being developed, which indicates that their value of additional feature for establishing connections between coworkers nonetheless was being exploited.

4.3.3 Social Animation

Similar to the findings from previous studies (Capdevila, 2014; Merkel, 2015; Van de Vrande & Hynes; 2015), the respondents of this study emphasized how certain social activities could provoke numerous forms of knowledge creation dynamics among coworkers. In particular, the respondents stressed the importance of a *shared lunch* and *after-work drinks* to have a positive influence on the expansion of network relations, and to the strengthening of relationships with weak ties. These findings thus complement the insights from the literature

on network relations as those studies mainly argued how interactions during informal gatherings were mostly beneficial for establishing relationships with weak ties (Asheim et al., 2007).

A shared lunch was considered slightly more important within coworking spaces with larger communities as it was perceived as an ideal moment to make new contacts and discover new opportunities, while respondents from smaller coworking spaces expressed how due to the small size of the population, coworkers often already knew each other well which made such initiatives less relevant. At one of the larger coworking spaces where they had stopped providing a shared lunch, the value of a shared lunch was denoted:

“I would actually suggest WeWork to reintroduce the lunch because food brings people together and offers more chances to speak with others (...) If the lunch would be provided, there would be more networking taking place. If I do not take the initiative to reach out to others and vice versa, then no connections will be made here. For example, at Rockstart we lunched together every day, and I made some good friends over there. Everyone had something to provide and something to share which was really great.” (Respondent 6, original transcript)

The notion of Respondent 6 regarding ‘making friends’ during lunch indicates that such social activities are thus not merely beneficial for establishing relationships with weak ties and discovering new opportunities, but also for strengthening such relationships. Through daily interactions such as a shared lunch, weak ties could thus be transformed into strong ties as coworkers can build up trust relationships with each other. While such relationships generally require more investments compared to weak ties as the theory suggests (Granovetter, 1985; Uzzi, 1997; Salavisa et al., 2012; Ebbbers, 2014), they can in fact deliver coworkers with low-cost access to essential resources, which is especially important for firms in their early-development given the high uncertainty they are confronted with, and has actually been found to result in activities such as joint problem-solving and exchange of fine-grained tacit knowledge and information:

“Personally, I would appreciate it if the lunch would be provided. In the first place because it would be convenient, and second because the lunch would also be another moment for coworkers to connect with each other and discuss things. So it would definitely be an excellent opportunity to get to know people from other companies and learn about what they are doing. For example, the other day I talked to a guy who works on the third floor and who advises startups. Later we met again to sit and discuss together what we could do to further improve Foodora.” (Respondent 7, own translation)

While the lunch at other large coworking spaces generally was being provided, at the smaller coworking spaces organizing a lunch appeared to be more complicated. Respondents for instance mentioned how the limited amount of available space made it impossible to bring all the coworkers together during lunch, and how managers did not want to impose such an

activity on their members as they perceived their members to be very well capable to make their own choices regarding lunch and their willingness to interact with other coworkers:

“We do not bring people together for lunch because we are in the middle of the city here and people have plenty of possibilities to make their own choices where they want to eat, and with whom. Because we are just a small coworking space, the people inside here mostly know each other very well already, which is why we do not see why we should also bring them together during lunch.” (Respondent 4, own translation)

While Respondent 4 mainly addressed how lunch is not essential for making new contacts at coworking spaces with smaller communities, Respondent 10 instead emphasized the usefulness of a shared lunch for the informal exchange of knowledge, and mentions how such an activity could properly be organized by making the lunch optional instead of imposing it on the coworkers as something mandatory:

“Lunch is super important. Every day we bring about 250 people together for lunch and in a very informal way they exchange knowledge with each other during eating. Lunch is also optional, it is not standard included into the memberships. We deliberately have made it very affordable to make it as easy as possible for people to decide to join. When we ask people what they most like about B. Amsterdam then it is mostly the lunch that they mention.” (Respondent 11, own translation)

Despite the advantages that a shared lunch seems to provide with regards to knowledge creation, there are nevertheless some circumstances that complicate the organization of it, and which apparently seem to be characteristic for coworking populations:

“We do not organize a lunch. We first thought about doing it, but on the one hand our small location is not fit for it, and maybe even more important, when you facilitate a shared lunch it is essential to do it right. Since we have members from so many different cultures and backgrounds, with all their different preferences and eating habits, it becomes hard to facilitate it in the right way. We do find it important to lunch together however, but we do not organize it ourselves, deliberately not.” (Respondent 10, own translation)

Similar to a shared lunch, social activities such as after-work drinks and social events were also perceived to positively influence the establishment and strengthening of network relationships among coworkers, and external actors. Respondents mostly expressed how such activities enabled coworkers to discover common interests, and how they lay the foundations for interaction on a more professional level:

“Every week WeWork organizes activities such as a hockey or football match. It is not just the people from Foodora participating, but also many others from the companies that are working here. We play against people from other coworking spaces, but also teams from Shell and other corporates. In that way we meet a lot of new people, and besides that it is just fun to play with others, it lowers the threshold to step up towards somebody else when you might want to connect on a professional level. Such activities are therefore really interesting, fun, and valuable to us.” (Respondent 7, own translation)

Managers from both smaller and larger coworking spaces furthermore mentioned how as a consequence of the social activities they organized, coworkers started to initiate activities themselves as a result of the stronger ties they developed. Managers expressed how such dynamics were perceived as the ultimate goal as it confirms that their own efforts concerning establishing connections between coworkers have been effective, and because it might hold that they themselves have to make less efforts to foster such dynamics:

“Recently they went to Italy together, and they also went to Texel just to hang out with each other. Of course, we attempted to elicit such dynamics by organizing several events, but the spin-off is that they are organizing a lot of things on their own now. The advantage of that is that we, but also the founders of the startups, do not longer have to think about how to bring the different teams closer to each other, and provoke dynamics on a professional level as they are doing that themselves now.” (Respondent 10, own translation)

4.4 Interactive Design

Respondents from both smaller and larger coworking spaces addressed how certain arrangements within the physical designs of coworking spaces have the ability to effectively foster knowledge creation dynamics among coworkers. In particular, *central meeting points*, *open work floors* and the ways in which coworking spaces can serve as interactive environments for connecting with *external* actors were considered important in this respect. As mentioned by the respondents, the main contribution of these design arrangements appears to be that they facilitate regular face-to-face interactions among coworkers which can lead to the discovery of new and unexpected opportunities. In contrast to cluster studies, these insights from a microscale not merely indicate how the local concentration of interconnected companies within a certain geographical area facilitate interactive dynamics that can lead to knowledge creation, but also designate which particular aspects of such environments seem to foster those dynamics. In the following sections these aspects will be discussed into more detail.

4.4.1 Central Meeting Areas

All respondents mentioned how they perceived that certain elements of their coworking space, such as the lunch room or the coffee place, were deliberately positioned in central areas of the coworking space in order to provoke interactions among coworkers. In most occasions coworkers either had to walk through these areas in order to reach their work place, or they would regularly stop by there to take a break for instance. These findings correspond with Fayard & Weeks (2007) notions regarding *physical* and *functional* centrality as these areas

were found to increase the chances of making spontaneous encounters with other coworkers as a result of their central positioning within the building, and also constituted important locations that coworkers would regularly visit throughout the day:

“We deliberately have not placed multiple coffee machines in the building so that real interactions can take place around one central point.” (Respondent 9, own translation)

“There is also a coffee place on the third floor but the coffee is not as good as here, and I actually believe WeWork did that on purpose so people can come together here and interact.” (Respondent 6, original transcript)

Moreover, the respondents addressed how such central meeting areas were mainly beneficial for discovering new opportunities through weak ties due to the coincidental nature of making encounters with other coworkers that simply happened to visit the same area at the same time. According to Moriset (2013) maximizing such ‘serendipitous’ interactions with the intent to increase “unexpected and pleasant discoveries entirely by chance” is one of the core principles that underpins coworking spaces (Moriset, 2013, p. 8):

“Yesterday I was talking to a guy at the lunch table on the roof terrace. I had actually never talked to him before, while in fact he has been working here for several months already. He builds websites, and I happen to need a new website. So for next week we have set a meeting. That is pure coincidence really, it is just how it goes, you can suddenly bump into someone that can be of great use to you.” (Respondent 3, own translation)

The central positioning of meeting areas within all the coworking spaces of this study also indicates that informal interactions within coworking contexts are generally being fostered in line with the notions related to theories of *propinquity* rather than *privacy* such as described by Fayard & Weeks (2007). This was also reflected by N=2 managers who mentioned how they find it more important that coworking spaces are provided with lively meeting areas where many interactions among coworkers can take place, instead of implementing them with a manifold of enclosed spaces where coworkers can work or discuss things in private:

“This area is specifically intended for people to have informal meetings and for lunch. If you want to discuss thing privately, or you want to focus on your work then you can always go upstairs. We really want this to be a vibrant place where you can easily approach other people and have these kinds of conversations.” (Respondent 8, own translation)

Nevertheless, five coworking spaces of this study also were provided with enclosed meeting areas that offered coworkers possibilities to hold private meetings. In contrast to centrally positioned meeting areas these environments were not perceived to be beneficial for

discovering new and unexpected opportunities through weak ties, but merely for interacting with already established network relations:

“We also have The Vault which is a place where you can really work separately and where things can be discussed in private. Yesterday for example one team was working there all day together with their investors. They had a whole program with different sessions and also lunch in between. The Vault is perfectly fit for such activities.” (Respondent 10, own translation)

4.4.2 Open Work Floor

From the interviews it seemed clear that the respondents from nearly all coworking spaces perceived the presence of open work floors to have a positive influence on knowledge creation dynamics among coworkers. In correspondence with the notions regarding *visual* and *aural accessibility* (Appel-Meulenbroek, 2010) the respondents addressed how through open work floor settings coworkers were made constantly aware of each other, which contributed in getting a sense of the local network, and also made it easier for coworkers to encounter and approach each other, thereby facilitating greater communication and interaction among them. As a result from the presence of open work floors respondents described how coworkers were found to actively interact with others around them, and it was mentioned how managers also perceived this as desirable dynamics within their communities:

“We don’t believe in enclosed office space. If you want that you can practically work anywhere else. We believe in one big open floor in which you are also expected to actively participate within the community. That is also characteristic to the people working for startups, they really seek to interact with others as they find that important, and so do we. Therefore, we also have designed our space like this, we really focused on facilitating such dynamics.” (Respondent 10, own translation)

“Although the coworking space isn’t much more than just a bunch of desks together on a large floor, what you see is that all those creative bright minds there are really helping each other out despite their differences in expertise. They are working together like colleagues even though they can be completely unrelated to each other in terms of their work.” (Respondent 11, own translation)

Having a desk in the open work space was especially perceived to be beneficial for newly established firms by the respondents as they mentioned how the open set-up, and its associated interaction patterns, can provide such firms with exposure to other coworkers, thereby enabling them to expand their network of relations and ‘overcome their liability of newness’ such as described by Ebbers (2014). Moreover, as one respondent described, another benefit of open work floors is that more people can work on it, which consequently can increase the amount of networking interactions among coworkers:

“I believe the unique thing about Starthub is that everybody works together here on the same large floor. It is a place where a lot of things are going on and the open space lowers the threshold for people to approach one another. Because it is all open we can rent out more desks per square meter, which not

only makes it cheaper but we also can bring more people closer to each other in that way.”
(Respondent 1, own translation)

“The fact that we work here in the open space enables us to constantly get in contact with people from other companies. Since we have just started setting up this business in Amsterdam, that really helps us because we really try to make use of every chance we get to promote ourselves, thereby aiming to increase awareness for our company and expand our customer base.” (Respondent 7, own translation)

While five out of seven coworking spaces of this study had implemented an open work floor in their building, respondents from the other two also recognized the benefits of such designs in support of interactive dynamics among coworkers. Moreover, the respondents reflected Appel-Meulenbroek’s (2010) theoretical insights on how physical barriers, such as buildings with multiple floors, could limit coworkers in their opportunities to interact with others:

“Eventually it would be much better to have a large open floor design like WeWork for example, which could be decorated with glass walls to make it ‘super transparent’. That would definitely help to activate the community when everybody can see each other at all times. You see, you are here right now but you have absolutely no idea which people are working on the upper floors. While when they are visible to you, it would make it much easier for you to make connections with them.” (Respondent 8, own translation)

“The place where I worked before had multiple floors, which resulted in a lack of interaction with the people from the other floors. Here at Starthub they have created this social ecosystem, you will meet others during the day because the way in which they have physically organized it here. So that is really important.” (Respondent 2, own translation)

4.4.3 External Attributes

Similar to how most coworking spaces integrated central meeting areas into their environments in order to foster interactive dynamics among coworkers, many of them also either had included meeting spaces specifically designed for interactions with external actors, or were situated in vibrant parts of the city center in the presence of lots of meeting places and a multitude of coworking spaces, thereby facilitating similar dynamics. The relevance of a location in the city center especially seemed to be of importance for smaller coworking spaces as they generally did not have the space to integrate meeting areas specifically dedicated to interactions with external actors, in contrast to the larger coworking spaces:

“On the fourth floor we want to make an investors lounge. It will probably become something like a ‘first-class’ environment where investors, but also other interested people who want to get an impression of what is going on inside here, can have a cup of coffee and meet with the people from the startups.” (Respondent 11, own translation).

“On the ground floor we created this informal/creative atmosphere with the shops in order to attract people from outside so that they easily can come in for a cup of coffee and interact, while it also serves as a place where our members can hold meetings with their clients and partners. We really want people to enjoy coming to this place and stick around, rather than that they have to set formal meetings and commute to other parts of the city.” (Respondent 4, own translation)

As derived from the interviews these *external attributes* of coworking spaces were mostly perceived to be beneficial for meeting with customers and partners, but also for networking and learning about the activities of other coworkers. The findings largely correspond with the ways in which Asheim et al. (2007) describe how networking, knowledge exchange, and ‘buzzing’ among creative workers typically takes place at informal meeting places such as bars and cafes, and how such interactions facilitate opportunities for identifying valuable information on issues such as activities of other co-located firms from related industries, and information about talented individuals who might be available and interested to participate in projects (Asheim et al., 2007):

“The Vijzelstraat could very well become the physical ‘startup hub’ of Amsterdam because many coworking spaces are situated here at the moment. If I have to go visit someone from Uber at Spaces, or a startup at WeWork it is only a few minutes walking from here. As we originally had the idea with TSO to bring the startups closer together, we are actually quite satisfied with this concentration of startup activity in this area. Moreover, this is also one of the hippest areas of Amsterdam with lots of bars, lunch rooms, and clubs which provides many opportunities for coworkers to connect with each other.” (Respondent 11, own translation)

In addition to these local dynamics, the respondents also emphasized how both coworking spaces with the best locations, and those that offer sufficient meeting space, can potentially become environments with national and even international attraction. Following Bathelt et al. (2004) their reasoning, connections with such external resources can be considered as enrichments to local knowledge flows given that more information and knowledge residing from elsewhere can be distributed within local networks, which consequently can have a positive influence on local dynamics of knowledge creation:

“The city center not only has a local attraction but also international. We attract many foreign startups that not only come here because of our good reputation, but they also come for everything good that Amsterdam has to offer (...) what is remarkable is that many foreign people from the startups that did not make it often stayed here, and in many occasions they even found work at one of the other startups here at Rockstart. To me that is an indication that a true community has developed here, and we also believe our central positioning and its associated social dynamics have contributed in preventing the loss of their skills. Therefore, we strongly believe that we should stay within the city center, despite the difficulties that such a location provides us with.” (Respondent 8, own translation)

Although managers acknowledged that there are disadvantages to being located in the city center, such as the renting prices and accessibility, six from the seven coworking spaces of this study were located there. N=5 respondents also mentioned that they perceived it as an obstacle for making connections with external actors when a coworking space is located out of the city center:

“I think you should not underestimate the importance of location, especially for our target group. When a larger company needs parking space for their employees I can imagine a location outside the city center has its advantages. But we repeatedly heard from people here that they found it annoying having to go out of town for appointments at B. Amsterdam.” (Respondent 1, own translation)

4.5 Educating

As Spinuzzi (2012) already indicated, *learning* belongs among the main benefits that coworkers seek from each other. Previous studies however did not provide in-depth understandings on the specific types of learning benefits that coworkers actually seek for. From the examined interviews it was derived that coworkers both seek to learn from each other as well as from experts on issues related to both knowledge creation and business development. The respondents provided several insights on how managers can foster these learning needs by providing educational support as will be discussed in the following sections.

4.5.1 Material Support

Respondents from both smaller and larger coworking spaces mentioned how managers regularly provided *material support* to coworkers in order to organize events that enable them to learn from each other. In practice this mostly concerned offering free space and necessary materials for organizing events such as (product) presentations, workshops, meet-ups and hackathons. Taken that all these events require physical presence of the actors involved, these efforts seem substantiate the importance of face-to-face communication for the exchange of tacit knowledge among creative knowledge workers as indicated by the cluster literature (Bathelt et al., 2004; Malmberg & Power, 2005; Asheim et al., 2007). As the coworker-initiated events were generally open to the public, the respondents mostly addressed the value of these events in their ability to temporarily unite, and foster interactive dynamics among local start-up networks. By providing material support, managers were perceived to enable coworkers to learn about each other’s business practices in similar ways as described in earlier studies (Spinuzzi, 2012; Capdevila, 2014; Merkel, 2015), while at the same time their support was also considered to contribute in generating exposure to external actors which can be valuable sources for new knowledge creation:

“Everything that is startup related and which is not commercial can take place here in our ballroom for free. We do that because we consider Rockstart as the epicenter of startup activity in Amsterdam. By making our event space available we have helped organizing many meet-ups, hackathons and startup weekends.” (Respondent 8, own translation)

“We also have the Living Room, the event space in which we can receive up to 100 people. When a startup has a product presentation, or organizes a hackathon they can make use of the beamer and

adjust the lights according to their preferences and present everything in a very nice way.” (Respondent 10, own translation)

“WeWork provides us with a good infrastructure, we organize a monthly meet-up about designing here on this first floor. And WeWork facilitates the drinks, and the space is for free. The community manager helps us with setting up the projectors so we have great techniques for the events. So far other companies haven’t done too many events yet, but in general the events are a nice way to get to know what others are doing so in that way we get some insights as well.” (Respondent 6, original transcript)

In addition to member-initiated events, managers were also found to organize events themselves in order to enable and support coworkers to learn from each other. From the analysis of the interview data it was indicated that managers from larger coworking spaces generally organize more of such events compared to managers from coworking space with smaller communities. A possible explanation for this might be that managers from larger coworking spaces generally have to make more efforts to provoke meaningful interactions among coworkers that are part of larger, and potentially more diverse populations in terms of knowledge backgrounds, and for that reason also can facilitate more learning opportunities for their coworkers compared to coworking spaces with smaller and less diverse populations, which can positively influence knowledge creation dynamics:

“We also have the Breakfast Club. We then invite B members to have breakfast together for €1,80 and when everybody is done eating three parties will pitch a relevant issue, or things they are really struggling with at that moment. For example, when they do not seem to make progress with their business, then it is very helpful that other entrepreneurs can assess their problems, provide solutions, and in that way really can be of value to each other. I always encourage new members to apply for the Breakfast Club because besides that it is a great way to introduce themselves to the community, they actually could learn valuable things from each other which subsequently could help them in their work.” (Respondent 11, own translation)

Lastly, while coworkers from smaller spaces generally perceived it as a task of management, rather than their own, to facilitate learning opportunities, managers at their turn mentioned how they deliberately limited themselves to merely providing material support as they perceived it to be coworkers’ own responsibility to seek for such opportunities. These contradicting findings suggest that problems could potentially arise on this point as they indicate inherent perceptual differences between coworkers and managers.

“Everyone can make free use of the space if they want, and if they need anything they can let me know and I will try to help. But I do not organize such events top-down because we have other priorities. Besides they are all entrepreneurs, so they should be capable to organize things themselves if they feel they need to do so.” (Respondent 1, own translation)

“The extra benefits of events, well at this point they expect us to do that all ourselves. I believe that is probably different at coworking spaces such as Spaces and WeWork, but there you also pay more if I am correct. The companies here are mainly trying to survive so they also don’t have the time to set up all sorts of events. And moreover, it doesn’t directly provide us with anything beneficial in return so I believe it’s a good thing that there will come a fulltime manager who can stimulate such things somewhat more.” (Respondent 2, own translation)

4.5.2 Context-related Knowledge

Next to coworker- and manager initiated events organized with the intent for coworkers to learn from each other, the respondents also highlighted the importance of events that were organized by managers with the direct purpose of educating coworkers on processes of knowledge creation, as well as on processes related to business development. Events related to knowledge creation for example featured topics concerning interactive processes such as co-creation, disruptive thinking, talent acquisition and team motivation, while events oriented on business development dealt with topics such as growth management, funding, marketing, sales and legal matters:

“We recently started hosting lectures and workshops in the evening hours. It is mostly external parties that organize it but our members can join for a reduced rate. Last week they did a three-hour session on disruptive mindset and from what I’ve heard people found it really interesting and educative.”

(Respondent 11, own translation)

“Rockstart Answers is a Q&A game in the form of an event format where we invite five startups at the time to pose their most urgent questions to a public of 40 to 50 experts. ‘Which niche should I focus on?’ ‘How should I do my digital marketing?’ There are many questions the startups here are coping with.” (Respondent 8, own translation)

While five coworking spaces regularly organized events in favor of business development, only three organized events in support of educating coworkers on processes of knowledge creation. Although this difference in prevalence seems to reinforce the earlier made assumption that coworking spaces should rather be conceived of as conducive environments for business development instead of platforms for knowledge creation as previous studies seem to imply, the repetitive assessment of theory and interview data has led to a more balanced interpretation as the contextual situation of creative startups, which make up the majority of the coworking population (Foertsch, 2011; Moriset, 2013), has been taken into account.

Taken that the products, services and/or ideas for improvement of these startups are usually still in ongoing development, this equally applies to those firms as a whole. It can therefore be assumed that startup companies continuously can benefit from knowledge related to business development, given that such knowledge can be applied to assure the survival of the firm, while knowledge in favor of product, service and idea development is equally important. Since most coworkers are active in the creative industries and usually combine their skills and talents to work together on temporary projects directed towards the creation of symbolic goods as indicated by the theory (Asheim et al., 2007), this for example means that startups in general could greatly benefit from events dedicated to team optimization, while this generally also would be the case for events dedicated to tax and legal regulations given

the volatile and essential nature of these matters for doing business. The effectiveness of such events will however always depend on the specific needs and characteristics of the coworkers:

“It depends on the startups and the kind of businesses they are in. The events can either be quite generic, who for example doesn't want to know how to motivate their team? But it can also be very specific things, such as an event or knowledge-session about a new law, or visualization and co-creation for example. It can be very broad to make sure that everyone can get something out of it.”
(Respondent 9, own translation)

5. Conclusion

This study focused on providing an in-depth understanding on the circumstances under which knowledge creation can effectively be fostered within coworking spaces by the means of a qualitative investigation. The concept of knowledge creation was defined as “an interactive process by which new ideas, products and services are being developed”, and the main interest of this study was thus to uncover the circumstances under which such interactive dynamics can effectively be influenced within the context of coworking spaces. By conceptualizing coworking spaces as *microclusters* (Capdevila, 2014), previous literature seemed to suggest that similar knowledge dynamics as between firms in *clusters* were taking place amongst individual, and communities of local entrepreneurs, freelancers, and small organizations such as startups that are active in the field of the creative industries and new media, and which make up the majority of the coworking population (Foertsch, 2011; Moriset, 2013)

Evidence of such dynamics however appeared to be lacking, which is why scholars started to cast their doubts on whether coworking spaces could actually redeem their promise of becoming promising platforms for knowledge creation (Moriset, 2013; Gandini, 2015). Moreover, despite that previous empirical studies provided some useful indications of factors that could provoke knowledge creation dynamics among coworkers, none of these studies qualitatively assessed which of these factors are actually considered effective by the main actors related to coworking spaces. In order to address this gap in the literature the study was guided by the following research question: “*How can coworking spaces effectively foster knowledge creation?*”

The research units that were selected for this study concerned both coworkers and staff related to the management of seven different Amsterdam-based coworking spaces. As previous literature indicated that managers employ several initiatives to provoke knowledge creation dynamics among coworkers, and coworkers on the other hand are subject to those efforts, the best possible answer to the main research question was considered to derive from a qualitative inquiry into the perspectives and experiences of these research units.

Cluster theory was consulted in order to assess whether similar factors are of influence on knowledge creation dynamics within coworking spaces as the conceptualization of these environments as *microclusters* seems to suggest. While for certain parts of the theory this definitely appeared to be the case, the findings of this study also indicated some important differences, which consequently makes it questionable whether the *microcluster* conceptualization of coworking spaces will remain sustainable as shall be discussed later on

in this chapter. The main factors of influence on knowledge creation dynamics within coworking spaces as perceived by the respondents of this study are discussed in the next section.

5.1 Factors Influencing Knowledge Creation

This study indicated four main factors that were considered as effective in their ability to foster knowledge creation dynamics within coworking spaces: *Selection*, *Connecting*, *Interactive Design* and *Educating*. First, much in line with the findings from previous studies, selection based on a shared practice, or similar knowledge background was perceived as an effective way to foster knowledge creation. Selection on such criteria was found to result in collaborative practices among coworkers such as knowledge exchange, and the mutual testing of each other's products and services with the intent of improvements.

Additional to the insights from previous literature, the findings of this study also indicated that resemblance on personal characteristics such as *age*, *life style*, *similar challenges* and *ambition* constitute important factors for coworkers to connect with each other, which is why selection on such criteria could contribute in fostering knowledge creation among coworkers. Selection on such specific criteria especially appears to be of importance at coworking spaces with smaller populations, which suggests that in a microcluster context knowledge creation greatly seems to depend on strong ties between coworkers resulting from resemblance on personal characteristics, whereas previous literature mostly argued that the availability of many weak ties provide for the knowledge creation advantages for firms located inside clusters (Granovetter, 1973).

The knowledge creation dynamics at the larger coworking spaces however appeared to resemble more with the ways such as described in the cluster literature. As such coworking spaces generally do not deploy selection procedures, knowledge creation there mainly appears to result from the many and diverse resources available within the coworking populations, much alike the ways in which the availability of many weak ties presents opportunities for firms in clusters. While this implies as if selection is less relevant for knowledge creation dynamics to emerge within the larger coworking spaces, it was found that by attracting 'anchor firms', the larger coworking spaces can also provide knowledge creation opportunities for coworkers similar to the project-based and open-source approach to work such as described by previous literature (Gandini, 2015).

In a similar vein, respondents from the smaller coworking spaces emphasized the importance of selection for complementary resources which mostly concern the skills of freelance knowledge workers that can deliver substantial contributions to the development the products and services of startup companies based inside coworking spaces.

Lastly, selection based on the criteria of *experience* can especially be beneficial for coworking spaces with many inexperienced coworkers as it can enable them to learn from others that are more experienced, particularly in relation to business development. While this finding initially raised doubts on whether it is actually coworking spaces' main intend to foster knowledge creation dynamics as previous studies seemed to suggest, it was conceived that for creative startups, which make up the majority of the coworking population, knowledge related to business development is equally important for the survival of such firms as the development of their products, services and/or ideas. Consequently, since they are interrelated, and selection based on experience can support inexperienced coworkers in learning how they can successfully develop their businesses, coworking spaces can indirectly contribute to knowledge creation by selecting for coworkers with complementary experience.

The second main factor which was considered effective in fostering knowledge creation dynamics within coworking spaces concerned *connecting*. In the first place, this refers to the networking capabilities of coworking managers in their ability to establish connections between coworkers by searching for links. As coworkers also expect managers to take the lead in such networking activities, this requires managers to have proficient knowledge about the businesses of startups in order to anticipate on their needs, while they also should be provided with networking skills known as 'TIO' (Ebbbers, 2014). Moreover, by presenting themselves as central figures within the coworking community, and by making their own networks available to coworkers, managers can enable coworkers to connect with both internal, as well as external actors.

By organizing daily shared lunches, or social activities such as after-work drinks that enable coworkers to informally interact with each other, coworking spaces can also considerably contribute to knowledge creation dynamics. Such social activities appeared not merely to be beneficial for networking purposes, but also for the informal exchange of tacit knowledge, and for receiving feedback from other coworkers concerning how to improve products and services. Thereby, this study indicated that through frequent informal interactions, initial weak relationships among coworkers can be transformed into strong ones with all the associated benefits, while previous studies mainly indicated how such informal interactions are beneficial for making new contacts.

Knowledge creation dynamics can also substantially be provoked by the *interactive designs* of coworking spaces. Corresponding with previous studies, the relevance of central meeting areas such as coffee places were especially considered to be effective design arrangements in their ability to provoke spontaneous and informal interactions among coworkers which can lead to the discovery of new opportunities. Furthermore, by making use of open work floors coworking spaces can also provide coworkers with a strategic benefit as the interaction patterns that such set-ups facilitate can generate exposure to other coworkers, which especially seems to be of importance for newly established firms in their needs to expand their network of relations. Moreover, in order to identify valuable information on the activities of other co-located firms from the local environment, and for meeting with clients, partners and external actors, it is important that coworking spaces either/both are located within the city center in the presence of many meeting places that facilitate informal interaction, or have meeting areas specifically designed for such purposes.

The last main factor that the respondents of this study considered as effective in its ability to foster knowledge creation dynamics among coworkers concerns *educating*. This both involved providing coworkers with support in the form of offering free space and materials for organizing events such as (product) presentations, workshops and hackathons themselves, as well as managers inviting experts to educate coworkers on issues related to both knowledge creation and business development. While previous studies merely indicated that learning possibilities are important to coworkers, this study also provided an in-depth understanding on the specific types of learning benefits that coworkers actually seek for.

5.2 Applicability of Cluster Theory

The main reason to consult cluster theory for this study was to assess whether similar factors as for firms located inside clusters would provide for knowledge creation dynamics among coworkers as the microcluster conceptualization of these environments appeared to suggest. In particular the notions concerning the ways in which informal atmospheres can contribute in providing possibilities for knowledge creation resonated with the findings of this study. Also, the relevance of face-to-face communication for the exchange of tacit knowledge between creative workers such as described in cluster theory seemed to apply to the context of coworking spaces.

However, especially with regards to the notions concerning relational ties there appeared to be significant differences between knowledge creation dynamics within clusters and coworking spaces. While cluster theory mainly argues that the availability of many weak

ties provide for the knowledge creation advantages for firms located inside clusters (Granovetter, 1973), the findings of this study indicated that such dynamics almost only seem to apply for the coworking spaces with larger, and more diverse populations due to the general absence of selection procedures within such environments.

Contrastingly, the relevance of selection, and the central role of managers in all their efforts to foster synergies among coworkers on both personal, as well as professional levels within the smaller coworking in terms of size and population, could not be explained by the notions of cluster theory as it currently stands, which makes it only partly useful for studies concerned with knowledge creation dynamics within the context coworking spaces. The conceptualization of coworking spaces as microclusters therefore mostly seems to apply to coworking spaces that are larger in terms of size and populations, which makes it questionable whether this conceptualization will remain sustainable given that it only seems to cover one particular configuration of coworking, while this study evidently demonstrated that the associated dynamics related to clusters are not entirely applicable to coworking spaces that are smaller in terms of size and populations.

5.3 Practical Implications

The social relevance of this study has been to obtain an in-depth understanding on the ways in which knowledge creation can effectively be fostered within the context of coworking spaces in order for these environments to be optimized for the main actors that make use of them, and to provide coworking managers with valuable insights on how to do that. Through the conduct of this qualitative research, this study has been able to successfully obtain some useful indications that could contribute to the improvement of coworking spaces, which consequently could benefit the main actors that make use of these environments. Additional to the insights from previous studies on coworking spaces, this study has for instance indicated that beyond selection for coworkers with a similar practice, or similar knowledge background it is also considered important in order for knowledge creation dynamics to emerge that coworkers can also relate on personal grounds, which suggests that especially coworking spaces with smaller populations should take this into account in their selection procedures as it could benefit coworkers in their needs.

The findings of this study also indicated that coworkers mainly expect managers to take the lead regarding establishing connections with other coworkers. Consequently, this means that the main executives of coworking spaces should thoroughly assess who they will

make responsible for managing the community as much of the potential dynamics of knowledge creation will depend on the efforts of these central figures.

Lastly, this study also indicated how coworking spaces can foster knowledge creation dynamics by the means of specific design arrangements, and by enabling coworkers to benefit from specific events that pertain to their needs. These insights can be used for improvements of both the physical, as well as the social and professional dynamics taking place within coworking spaces

5.4 Limitations

The limitations of this study mostly pertain to the quantity and quality of the sample. First, with regards to quantity, managers were overrepresented in the sample compared to coworkers. As mentioned earlier, this mainly had to do with the fact that it turned out considerably hard and time consuming to assess whether coworkers would meet all the sampling criteria, even if a research unit was provided through a referral. As a consequence, the results of this study arguably have been dominated by the perspectives of managers, which might have turned out into a somewhat one-sided image.

Second, as some of the research units were generated through referrals consequential of the snowball sampling technique, this possibly has had a negative influence on the quality of the sample in terms of research units with too much homogeneous characteristics regarding their experience of coworking, which possibly limited the diversity of the findings of this study.

Third, with regards to quality the researcher could have opted to only focus on one particular type of coworking space instead of both smaller and larger ones as this potentially could have yielded a more in-depth perspective on the circumstances that influence knowledge creation dynamics within one of such distinctive environments, while the comparative approach of this study might have limited the research to go much further beyond the surface level of understandings.

Fourth, there were no freelancers included into the sample of this research while in fact a large amount of the coworking population consists of such knowledge workers (Foertsch, 2011; Moriset, 2013). Especially with regards to the ‘project-based’ and ‘open-source’ way of working (Gandini, 2015) which is characteristic to the way in which freelancers operate, the perspectives of such research units could have been a valuable contribution for discovering how coworking spaces can foster freelancers in their particular ways of knowledge creation.

5.5 Suggestions for Further Research

Following from the findings and limitations of this study a few interesting avenues for further research can be proposed. First, taken both the difficulties and the advantages that were expressed concerning selection, future studies could investigate how coworking spaces can manage these complications properly in order to optimize their objectives. Second, as it was found that coworking spaces besides knowledge creation also intend to support coworkers on issues related to business development, future studies could explore literature on business incubators in order to assess whether practices from such environments could also be applicable for accelerating the businesses of startups working at coworking spaces. Third, as it was indicated that virtual platforms particularly could be of use for connecting coworkers from coworking spaces with larger populations, it could also be examined with which functionalities such technologies ideally should be provided with in order to become of added value for coworkers. Lastly, future studies could investigate the perspectives of freelancers regarding knowledge creation dynamics within coworking spaces given that the absence of such perspectives were conceived as a limitation to this study.

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Appendix A: Interview Guide

Introduction

1. What is your name?
2. What is your occupation?
3. How long have you been working at this coworking space?
4. What made you decide to come work at this coworking space instead of others?
5. How would you define this coworking space?
6. Would you argue that working here is supportive for your work? Why?
7. What kind of companies/people work here?
8. What do you like the most about working at this coworking space?

Main Part

Interactive dynamics:

9. In what ways do coworkers mainly connect with each other? Could you specify?
10. How would you describe the type of relationships that coworkers establish with each other, (formal/informal)?
11. Is working here beneficial for meeting potential partners/collaborators/mentors? Could you elaborate on that?
12. How do coworkers know from each other what resources (knowledge/skills) are present within the community?
13. From what does it appear that there is a true community in here?
14. Would you argue coworkers are approachable for each other?
15. (How) is knowledge sharing encouraged? Could you explain why this is important?

Social Initiatives:

16. Is there a selection procedure for coworkers? Why is this important?
17. How would you describe the role of the management in relation to the community?
18. What efforts do (you as) manager(s) make to foster interactions among coworkers?
19. Are coworkers provided with technologies in order to connect with each other? What are your thoughts on the usefulness of the technologies?
20. Are there any events organized in here? What are they good for?

Material Initiatives:

21. Where do the interactions among coworkers mainly take place? Why there do you think?

22. Is the way in which this coworking space is designed conducive for provoking interaction among coworkers? Why?
23. What kind of interaction does the design of this coworking space promote?
24. Does the design of this coworking space allow coworkers to easily make contact with others? Why/Why not?
25. Is it important to you that the coworking space is situated in this particular area? Why?
26. Are the design and the amenities supportive and sufficient for the tasks coworkers need to perform? Why?

Ending

27. Is there anything you would like to add that we have not discussed so far?

Appendix B: Overview of Respondents

| <i>Respondent:</i> | <i>Gender:</i> | <i>Nationality:</i> | <i>Name:</i> | <i>Coworking Space:</i> | <i>Company:</i> | <i>Management/Coworker:</i> |
|--------------------|----------------|---------------------|---------------------|-------------------------|-----------------|-----------------------------|
| 1 | M | Dutch | Kurt Hamming | Starthub Overtoom | BrownCow | Both |
| 2 | M | Dutch | Jasper Mutsaerts | Starthub Overtoom | Bohemian Birds | Coworker |
| 3 | M | Dutch | Irfan Fiets | Starthub Overtoom | CycleMedia | Coworker |
| 4 | M | Dutch | Jorn Van Lieshout | Bouncespace | x | Management |
| 5 | M | Dutch | Daan Nederlof | Bouncespace | Circle | Both |
| 6 | M | Chinese | Charlie Hu | WeWork | Triple3D | Coworker |
| 7 | M | Dutch | Gijs Braakman | WeWork | Foodora | Coworker |
| 8 | M | Dutch | Alexander Overtoom | Rockstart Spaces | x | Management |
| 9 | F | Dutch | Florien Smits | Spaces | x | Management |
| 10 | M | Dutch | Joris Van Laerhoven | The Startup Orgy | x | Management |
| 11 | M | Dutch | Tom Jacobs | B. Amsterdam | x | Management |