COWORKING
A CASE STUDY AT THE GROUND

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ABSTRACT

PURPOSE

The purpose of this study is to examine the effects of coworking space as it relates to meeting the common goals of collaboration, community, and creativity for its members. Through a case study of a coworking space, the study seeks answers to questions as: "How can coworking spaces enhance community, collaboration, and creativity to create a better experience for their members?" and "Are there any common goals or values of the chosen coworking company and its members?" The study will review the concepts of community, collaboration, and creativity, referred to as the three C's, as well as physical space. A case study narrative describes the background and history of the chosen coworking space for the case study, The Ground, located in Malmö, Sweden.

METHODOLOGY

This study relies on data from interviews, surveys, an observation, photographs, and a floor plan of The Ground's space. The three C's serve as the basis for the interview and survey questions. The open interviews and surveys are analyzed using a coding analysis. The observation is presented using a lived visual narrative approach. The spatial data, photographs and the floor plan, are evaluated using a spatial analysis methodology.

FINDINGS

The coworking case study location, The Ground, offers co-location and the space facilitates opportunities for social interactions, which its members value. The space is mostly open and full of life and fosters creativity, and members share ideas and inspiration. Organizations at The Ground reflect the theme of openness, and have open management styles with low hierarchies. Members collaborate within and outside of their organizations, including contractual and non-contractual work. The members have built relationships and co-constructed their community. Members have created a collective identity, referring to themselves as Groundlings. The Ground was built upon increasing diversity and inclusion, and members value this. Freedom to use and personalize The Ground's space allows for members to better meet their organization's needs. Additionally, the members value freedom, which is a key component to building The Ground's community. *Freedom* and *diversity and inclusion* are beneficial goals to create a successful coworking space.

LIMITATIONS

This case study did not seek to generalize all coworking spaces, and some of the results may be unique to The Ground and its culture. As the study relied on open interviews and surveys, it may have been influenced by subjective interpretations. The study was affected by the Covid-19 pandemic and did not include the type of observation originally planned.

PRACTICAL IMPLICATIONS

The findings of this study are applicable beyond coworking, as community, collaboration, and creativity are key management goals of any organization. The two main findings relating to coworking goals/values at The Ground, *freedom* and *diversity and inclusion*, warrant additional study at coworking spaces. Additionally, the study recommends that community, collaboration, and creativity should be studied further outside of physical space in regards to remote work and digital tools.

ACKNOWLEDGEMENTS

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1 INTRODUCTION

Recently, we have observed a growing interest in coworking and coworking spaces. Coworking has expanded to become a global phenomenon (Spreitzer et al., 2018). The dictionary definition of coworking is "an arrangement by which freelancers or employees working for various organizations share an office or other workspace" ("Coworking"). Coworking takes place in spaces that contain multiple office spaces, meeting rooms, common spaces, and amenities that can suit the many needs of different organizations and people (Sykes, 2014). The spaces are designed to provide more than the ordinary office (Spreitzer et al., 2018). Coworking can be seen as the working style of the future, a new way for communication, collaboration and creativity in the workplace. Coworking spaces provide an effective solution for new organizations that might not have the budget for an office of their own and an opportunity for organizations as they progress and grow (Hjertström, interview, March 27, 2020). Although some people consider coworking spaces as just start-up hubs, they can be so much more, offering solutions for many types and sizes of organizations (Spreitzer et al., 2018).

In this thesis we research a coworking space in Malmö, Sweden, *The Ground*. We seek to frame our research through the format of a case study in which we conduct interviews with the manager of The Ground and the individuals that work for the member organizations of the coworking space. We analyze data by comparing the responses for the interviews primarily through three methods: lived visual narrative, coding, and spatial analysis. We use the interview and survey responses to explore the use of the coworking space and how the members work together in the space. We also collect and analyze visual data provided by The Ground through a spatial analysis.

This study examines different effects of coworking space and how the members use the possibilities provided by the space. Throughout the study, it is important to note that coworking is often used as both an action or style of working and as a way to describe the physical space. We use the term *coworking space(s)* to refer to the physical space and the word *coworking* to describe the action, which most often takes place in a coworking space. Additionally, tenants of coworking spaces usually purchase a membership to use the spaces (Sykes, 2014) and are referred to as *members*.

1.1 PURPOSE

The purpose of this study is to examine the effects of coworking space as it relates to meeting the common goals of collaboration, community, and creativity for its members. Through these common goals, which we identified from coworking literature, we explore various outcomes and effects of coworking spaces on member organizations. Since all organizations function differently, we seek a variety of perspectives from organizations using the same coworking space.

Through our investigation, we look at how coworking spaces meet the diverse needs of members. We seek answers to the questions: *How can physical coworking spaces enhance community, collaboration, and creativity to create a better experience for their members? Are there any common goals or values of the chosen coworking company and its members?*

2 LITERATURE REVIEW
2.1 LITERATURE REVIEW PURPOSE AND APPROACH

The purpose of the following literature review is to gain theoretical knowledge to attain an understanding of coworking as it relates to space, where coworking activity occurs. We begin with an introduction to coworking and its history to gain a basic understanding of the concept. We then look at the advantages and disadvantages of coworking spaces to help us understand why organizations choose to become coworking members, so that we can better understand the needs of the members we interview and survey. Additionally, we believe this information would be useful to analyze any positive and negative comments made by coworking members. Next, we look at the physical space aspect of coworking. As *space* is a somewhat ubiquitous term, we sought knowledge in coworking space from experts in a broad array of disciplines and industries including business operations and management, real estate, property management, architecture, interior design, innovation, psychology, and more. Since the available knowledge is expansive, we focus on research that is highly relevant for the purpose of our study.

In a review of coworking concepts and characteristics Yang et al. (2019) found that community, collaboration, and creativity are key goals, motivators, and desired outcomes of coworkings spaces. After reviewing additional literature on coworking space, we continued to see these three concepts repeated, which we will refer to as *the three C's* or *the three goals of coworking* throughout this study. Because the three C's are central to coworking literature, we believe they are the best concepts to use to explore coworking. We believe that the three C's are interrelated because various research studies mention overlapping themes of each of the concepts. Additionally, each of the three C's are often listed as management goals for organizations and are popular topics in the news, at offices, and in academia. The three C's can be studied from a variety of disciplines. Based on this, we decided to explore the three C's as they relate to coworking space: coworking and *community*, coworking and *collaboration*, and coworking and *creativity*. The knowledge and analysis of the three C's will lay the groundwork to answer our research questions and provide the reasoning for our methodology of conducting this study and groundwork for our interview and survey questions.

2.2 ABOUT COWORKING
2.2.1 INTRODUCTION TO COWORKING

In this section, we explain the concept of coworking while providing the history of the emergence of coworking and its historical context. In current times, nearly everyone has an understanding of what coworking may entail, but few people know about its roots and history. The history of coworking began in 1995, when a group of computer engineers created a "hackerspace" for them to collaborate in Berlin, Germany (Nicorici, 2018). Although technically a coworking space, at this time it was not recognized as one. The term coworking was first introduced in 1999, referring to the way of working collaboratively, and not as a space to work in (Nicorici, 2018). The current understanding of the term coworking as a physical space was first introduced in 2005 by entrepreneur Brad Neuberg, who opened the first coworking space in San Francisco, California ("What is coworking?").

This space, the San Francisco Coworking Space, was empty during its first month of operation, however, it eventually grew and others followed with the trend, opening new coworking spaces ("What is coworking?").

The first coworking spaces were driven by the increasing independent workforce, disadvantages of office leases, and the human need for connection (Sykes, 2014). According to Orr, "coworking is about creating a better place to work, and, as a result, a better way to work. Coworking spaces provide more than just office space. They are community centers, friendly gathering places, think tanks... Coworking connects you to a global network of professional peer" (as cited in "What is coworking?," n.p.).

2.2.2 COWORKING SPACE DEMAND DRIVERS

Sargent describes a variety of the demand-side drivers of coworking spaces that have led to the growth of coworking including economic, societal, technological, and demographic factors. There has been a rise in the contingent workforce, a rift in employee-employer contracts, and an increase in freelancing and independent contractors. The growth of the sharing economy and interest in entrepreneurship and small business have also contributed to the trend. Business priorities have changed, with a focus on increasing productivity, employee engagement, and innovation. As the attitude of work has evolved, seeking ways to reduce work-life conflicts and to provide greater flexibility for employees, coworking spaces have provided solutions. (Sargent, 2016)

2.2.3 COWORKING SPACE MEMBERS

Members of coworking spaces are diverse and include startups, entrepreneurs, freelancers, small businesses, large corporations, and more (Spreitzer et al., 2018). It was not until around the early to mid-2010's that larger corporations started becoming members of coworking spaces (Nicorici, 2018). Some coworking spaces cater to different types of workers, including makerspaces, start-up incubators, design studios, and even coworking spaces for people working in the legal field ("What is coworking?"). Additionally, large coworking chains with several national and international locations have become popular, including the international coworking giant WeWork, which became the second largest private tenant in Manhattan, New York in 2018 (Nicorici, 2018).

In a comprehensive survey of coworking spaces and members, Deskmag (2019) estimates that at the end of 2019, around 2.2 million people worked at approximately 22,400 coworking spaces globally, which is trending upwards. Additionally, Deskmag tallied that the average coworking space contains 90 individuals, while only 11% of coworking spaces host over 300 members. Deskmag also estimates the average coworking location to contain 1,070 square meters. Based on a survey of employees working at coworking spaces, Sargent (2016) describes the typical coworker as a 37-year-old male working in a creative or professional service profession, who is an above-average wage earner.
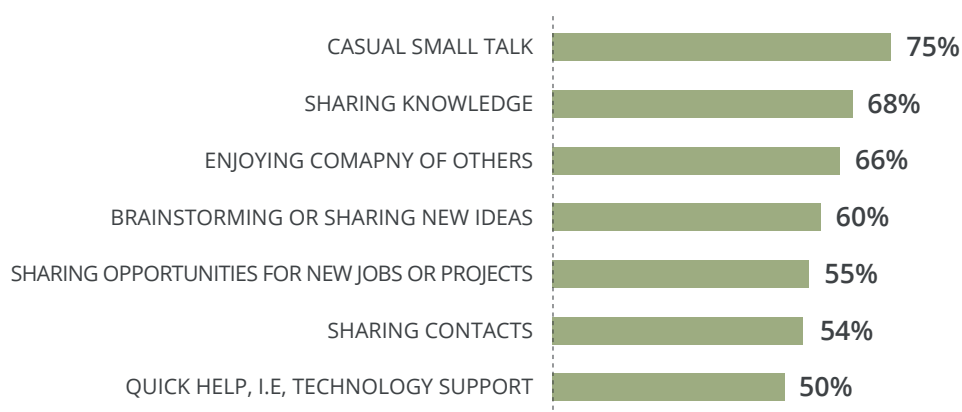
2.2.4 COWORKING MEMBERSHIP AND COWORKING SPACE DESIGN

Coworking space memberships are typically month-to-month and do not lock members into long-term agreements (Sykes, 2014). Yang et al. (2019) explain that coworking spaces usually feature cutting-edge workplace designs with open concept interiors that allow for collaborative and spontaneous interaction and can stimulate creativity. Coworking spaces typically contain open office layouts with kitchens, conference rooms, office suites, and amenities that can include event spaces, lounges, game rooms, and booths (Sykes, 2014). Furthermore, many offer various spaces for different kinds of work for members to utilize such as for collaboration or private conversations (Sykes, 2014). Some members may sit at private desks or private offices, while other members may use hot desks, which are unassigned first come, first serve seats (Ravindra, 2019).

2.2.5 COWORKING SPACE ADVANTAGES

In order to gain a better understanding of coworking space, we sought to learn about their potential advantages and disadvantages. We hoped that this research would help us understand the responses to positive and negative comments and of our respondents may make. These findings also show what is unique about coworking spaces as compared to traditional office spaces. Spreitzer et al. (2018) found that coworking spaces are often successful because "working amidst people doing different kinds of work can also make one's own work identity stronger" (n.p.). The authors found that people working at coworking spaces have more job accessibility and control and feel that they are a part of a community. Spreitzer et al. also found that coworking spaces provide opportunities for interactions with people and organizations and provide opportunities to collaborate and help each other out. What individuals want from coworking spaces, notably small talk and knowledge sharing, is shown in the survey results from Sargent (2016) in *Figure 1*. Peek (2019) explains how exposure to new perspectives from other coworking space members can give a boost to creativity and offer a variety of networking opportunities. Additionally, members of coworking spaces report higher levels of thriving than employees at regular offices (Garnett, 2012, as cited in Spreitzer et al., 2018).

CASUAL SMALL TALK	75%
SHARING KNOWLEDGE	68%
ENJOYING COMAPNY OF OTHERS	66%
BRAINSTORMING OR SHARING NEW IDEAS	60%
SHARING OPPORTUNITIES FOR NEW JOBS OR PROJECTS	55%
SHARING CONTACTS	54%
QUICK HELP, I.E, TECHNOLOGY SUPPORT	50%

FIGURE 1: RECREATION OF SARGEN, 2016, WHAT COWORKERS WANT FROM THE [COWORKING] COMMUNITY: TOP SEVEN ITEMS MEMBERS EXPECT FROM OTHER MEMBERS

According to Callahan (2019), one of the biggest draws for commercial office space users is that coworking spaces provide flexibility in terms of pricing and payment terms, the ability to add or reduce space, and other lease options. This makes

coworking spaces much more appealing to many potential tenants than traditional office leases (Callahan, 2019) and can reduce costs (Sykes, 2014). The various types of desking arrangements for different types of work also provide additional flexibility and can allow for increased productivity (Ravindra, 2019). The various amenities offered by coworking spaces are often greater than the amenities of traditional office space (Sykes, 2014). Coworking spaces are commonly designed with a high level of ergonomic adaptation to a workspace user's health and productivity that can be linked to positive behaviour towards other users (Green, 2014).

2.2.6 COWORKING SPACE DISADVANTAGES

Coworking spaces do not come without criticism and potential downsides. Carpenter (2015) believes that coworking spaces can be productivity killers, since the perks and bustle can make it harder to concentrate. The author also believes that coworking spaces should come with more productivity-geared environments. Chalupa (2016) explains how some coworking spaces, specifically those that offer hotdesking, do not allow for personalization and dedicated storage that can make an office feel like home. The author also notes that overbooked or overstayed conference rooms, or the overcapacity use of desks can lead to conflicts.

Pochepan (2018) explains how sometimes coworking spaces can lead to conflict for companies that are competitors, but also could offer an opportunity for collaboration. The author also notes that personality differences and other conflicts can occur at coworking spaces, which typically do not offer human resources services. Additionally, if an organization at a coworking space expands too fast, a coworking space may cause a cost disadvantage compared to if the organization rents a traditional office space (Pochepan, 2018).

2.2.7 EFFECTIVE COWORKING SPACE

Many disadvantages of coworking spaces can be mitigated or solved through thoughtful space design and operational policies by coworking space operators (Sargent, 2016). Sargent (2016) recommends that coworking space be designed for flexibility and people's changing needs and preferences to create dynamic spaces. Coworking spaces should offer communal and social spaces, various workspace types (open and private), meeting spaces, and expansion spaces for growing members (Sargent, 2016). Coworking spaces can consider lighting, temperature, air quality, access to transportation, cleanliness, connectivity and technology, and friendly staff (Sykes, 2014). Coworking operators can try to prevent conflicts through careful tenant selection (Sargent, 2016). Coworking space operators should understand members' business goals and objectives and advise members on managing their change management process (Sargent, 2016). We deduced that tenants can potentially avoid conflicts by carefully selecting the right coworking space to become a member of. Since coworking spaces typically operate using monthly memberships, tenants can also quickly switch to a new, more appropriate coworking space should their current space not work out.

2.3 COWORKING AND PHYSICAL SPACE

In order to gain an understanding of coworking space, we believe it is logical to first look at the physical space in which coworking takes place. Coworking is reliant on the use of physical spaces which are often planned, designed, and operated for commercial use by its members (Sykes, 2014). Bouncken and Aslam (2019) describe how coworking spaces offer spatial co-location, which promotes social interactions and a physical platform for a knowledge sharing process among professionals. Coworking spaces are designed for their members to interact and take part in this knowledge sharing process (Sykes, 2014).

In order to better understand the use of coworking spaces, Bounchen and Aslam (2019) conducted a sample study of 83 coworking space users throughout Germany by collecting demographic data, conducting interviews, taking part in informal discussions, and taking field notes. Bounchen and Aslam (2019) found that coworking spaces allow for tacit knowledge exchange, the disembodiment of ideas, and a domain for learning among members. The researchers also describe how spatial proximity allows for cognitive proximity through socialization. Additionally, their findings support evidence that coworking spaces make boundaries more permeable, allow the formation of socialization routines, and facilitate interpersonal relationships. However, the authors also note that these interactions and relationships can be negative or positive. Therefore, we found that coworking spaces are often very social in nature and are organized to purposefully create relationships that would not exist otherwise.

Coworking spaces can also be analyzed through observing the behaviors which take place in them. Orel and Almeida (2019) conducted a study to evaluate spatial elements of collaborative coworking spaces. The authors explain how the physical elements of a coworking space create workspace ambience, which "affects interactivity between individuals and increases or decreases their efficiency, morale, productivity and well-being" (Orel & Almeida, 2019, p. 278). Orel and Almeida (2019) used an ethnographic approach to study six spatially diverse coworking spaces across Europe in which they observed occupants with a focus on spatial elements (mostly layout) and member interactions and collaboration. The researchers focused on behaviors and conducted short interviews with the members. The authors found that the placement (or removal) of walls, furniture, and other physical elements and layouts can stimulate or restrict interactions between individuals. Orel and Almeida (2019) articulate the following:

> "Owing to the nature of their shared usage, coworking premises anticipate the use of an open, physically uncluttered environment, and the establishment of the open-plan workspace. Open workplaces are repeatedly mentioned in the context of promoting spontaneous communication and user interaction, resulting in more creative workflow and workplace satisfaction" (p 280).

Orel and Almeida's study (2019) connects physical space with positive benefits to creative processes. Their study highlights that coworking spaces are typically open in their layouts to allow for the types of interactions that lead to socialization and knowledge sharing

as described in Bounchen and Aslam's study (2019). Without providing proximity, we believe that coworking spaces may fail to meet their intended purpose or the needs of their members. Additionally, the layout of space is a key consideration to coworking operators that can have an immense effect on their members.
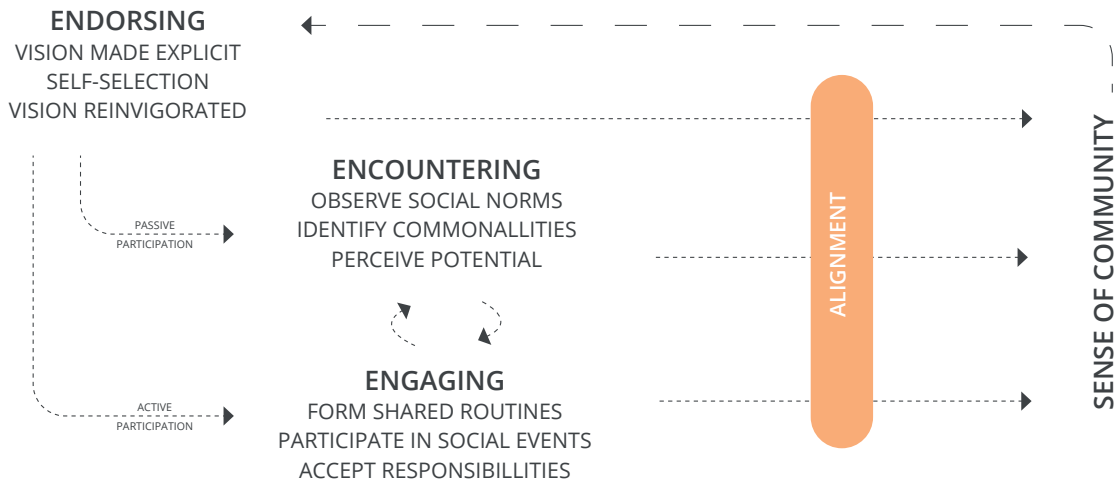
2.4 COWORKING AND COMMUNITY

As coworking spaces consist of a variety of individuals from different organizations, we believe it is important to consider how they create communities. Community at coworking spaces consists of "a group of people who are socially interdependent, who participate together in discussion and decision making, and who share certain practices that both define the community and are nurtured by it" (Bellah et al., 1985, p. 333 as cited by Garrett et al., 2017, p. 823). In a qualitative case study of coworking spaces throughout the United States, Garrett et al. (2017) analyzed how members of a coworking space co-construct a sense of community through daily interactions. Community includes (1) "structural community" (i.e. geography or function) and (2) community as the 'quality or character of human relationship" (Gusfield, 1975, p. xvi as cited by Garrett et al., 2017, p. 823). Garrett et al. (2017) believe that community is a broad concept that can be described as exhibiting both distinctions.

Through interviews and observation of members at a coworking case study location, Garrett's team (2017) found that community was the most important aspect of the coworking space and why organizations joined as members. Members' sense of community was predominantly social in nature, and correlated with McMillan and Chavis' (1986) dimensions of community: collective identity, filling a social void, sense of ownership, and genuine friendship (as cited by Garrett et al., 2017). We believe it is important to consider that community has a variety of complex social dimensions. Furthermore, Garrett et al. (2017) identified that both passive and active members of the coworking space sought a sense of community, and often existing members would nurture new members. The space's members shared routines, participated in social events, and accepted community responsibilities and chores (Garrett et al., 2017).

Garrett's team's findings demonstrate that everyday interactions of coworking members can be infused with community and can create bonds. Community bonds are created and maintained through frequent interactions, and community building required participation (Garrett et al., 2017). Coworking members both encounter and engage, which creates alignment and therefore a sense of community (Garrett et al., 2017). The authors' team created a diagram explaining these interactions and how coworking co-constructs a sense of community, as seen in *Figure 2*. Their findings highlight the importance of coworking spaces to create social connections and develop community bonds to fulfil members' social desires.

Community is an extensive concept, and we believe that it has different meanings to different individuals. Spinuzzi et al. (2018) sought to examine the concept of community at coworking spaces through how individuals at coworking spaces interact. Spinuzzi et al. (2018) conducted a case study of coworking space using six coworking spaces located throughout the United States and Europe. Through

ENDORSING
VISION MADE EXPLICIT
SELF-SELECTION
VISION REINVIGORATED

PASSIVE
PARTICIPATION

ENCOUNTERING
OBSERVE SOCIAL NORMS
IDENTIFY COMMONALLITIES
PERCEIVE POTENTIAL

ENGAGING
FORM SHARED ROUTINES
PARTICIPATE IN SOCIAL EVENTS
ACCEPT RESPONSIBILLITIES

ACTIVE
PARTICIPATION

ALIGNMENT

SENSE OF COMMUNITY

FIGURE 2: RECREATION OF CO-CONSTRUCTING A SENSE OF COMMUNITY (GARRETT ET AL., 2017, P 836)

interviews, the authors found that community is important to their respective coworking spaces and that sharing information was a common interaction. A key takeaway from the authors' study is that coworking is built on the promise of forming local communities that would not exist otherwise (Spinuzzi et al., 2018).

Spinuzzi et al. (2018) articulates the claim that "coworking is about community, specifically, the collaboration that takes place within communities" (p. 114). The authors noted that their interviewees used the term community inconsistently and that it is difficult to meaningfully use the word to characterize coworking spaces, often because different communities support different types of activities. In addition to knowledge sharing, sociality was often seen as an aspect of community that coworking spaces provide (Spinuzzi et al., 2018). Despite the theme of community throughout coworking literature, Spinuzzi et al. (2018) question the meaning and use of the term. We believe activities that enhance community may vary by individual or organization, especially since community is such a broad term. There are a variety of social interactions and collaborative activities that can help create a sense of community at coworkings spaces (Spinuzzi et al., 2018).

While different in approach, both Spinuzzi et al. (2018) and Garrett et al.'s (2017) studies highlight the importance of social interactions to build community at both a structural and human level. Their findings that collaboration is the key concept of community created at coworking spaces ties directly to the following analysis on collaboration.

2.5 COWORKING AND COLLABORATION

As seen in the previous findings on community, collaboration is integral to building relationships between two parties, and a key component of coworking spaces. Therefore, we sought to gain a better understanding of how collaboration takes place in coworking space. Castilho and Quandt (2017) describe collaboration as a capacity that allows organizations to quickly adapt to change, and in the context of coworking spaces, it allows organizations to build and manage relationships. They note that coworking space "promotes a *collaborative* capability, defined as

the ability to build and manage relationships, linked to a broader social complex phenomenon" (Blomqvist & Levy, 2006 as cited in Castilho & Quandt, 2017, p. 32). This emphasizes that collaboration is a key part of all coworking spaces. Through collaborative opportunities, coworking spaces can allow for relationship building.

Castiho and Quandt (2017) explored collaboration in coworking spaces from 31 individuals who founded, are employed by, or cowork at coworking spaces throughout countries in Asia. They conducted interviews and directly observed coworking spaces. Castilho and Quandt's study (2017) looked at factors that influence intra-organizational collaboration in the context of the 14 coworking spaces. The pair found that coworking spaces can be divided into two simplified types of coworking spaces: *convenience sharing* and *community building*. Convenience sharing spaces are based more on sharing resources and reducing cost, while community building spaces rely more on collaboration and a collective view (Castilho & Quandt, 2017). From their results, the authors created a simplified model, as seen in *Figure 3*. The two approaches provide four collaboration factors that are interconnected and can be summarized as:

> *Convenience sharing coworking spaces* (1) enable knowledge sharing and (2) support collective action to an effective solution, while *Community building coworking spaces* (3) enhance individual action for the collective and (4) enhance creativity (Castilho & Quandt, 2017).

CONVENIENCE SHARING   **COMMUNITY BUILDING**

ENABLING KNOWLEDGE SHARING

SUPPORTING A COLLECTIVE ACTION TO AN EFFECTIVE EXECUTION

ENHANCING AN INDIVIDUAL ACTION FOR THE COLLECTIVE

ENHANCING A CREATIVE FIELD
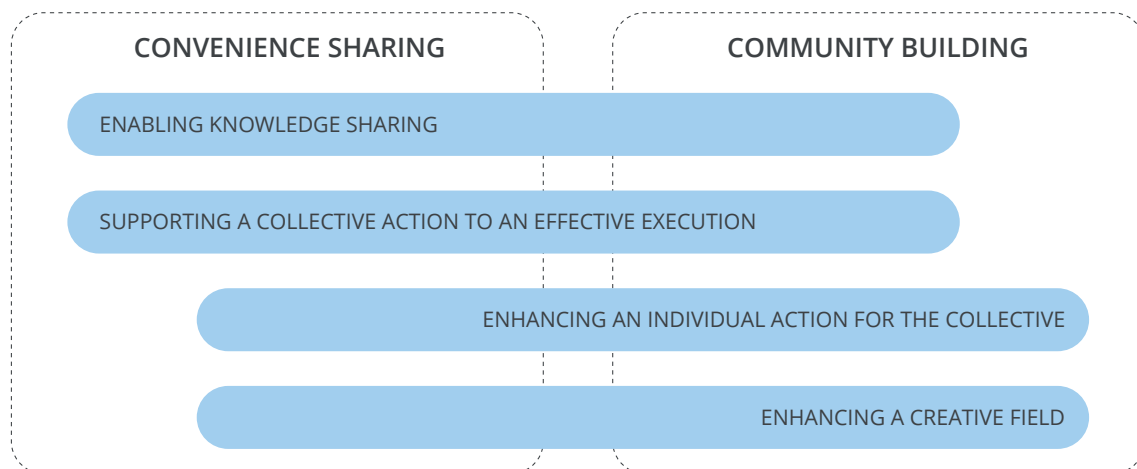
FIGURE 3: RECREATION OF PREVALENCE OF COLLABORATION FACTORS CONSIDERING THE CONVENIENCE SHARING AND COMMUNITY BUILDING APPROACHES (CASTILHO & QUANDT, 2017, P 40)

Castilho and Quandt (2017) see their study as a way for companies to take a perspective to help find a coworking space that will meet their specific collaboration needs. Collaboration factors and capacity can differ for different organizations (Castilho & Quandt, 2017). We believe organizations can work to figure out their appropriate collaboration style and which type of coworking space is fitting for them, by analyzing if sharing resources or enhancing a collective is more important to them. We recognize that it is likely that spaces are not specifically either a convenience sharing or a community building space, there is likely a spectrum between the two.

Different coworking members have different experiences with collaboration at each coworking space. Bianchi et al. (2018) conducted a case study at a coworking space in Italy that houses mostly freelancers and small companies. The researchers interviewed 29 tenants, collected surveys, and observed economic exchanges that occur outside of the constraints of organizational structures at the space. They focused their observations on professional collaboration between organizations. From their analysis, Bianchi et al. (2018) conclude that "economic exchanges, such as business relations or professional collaborations, can be a means of developing social relationships as byproducts of professional or economic interests" (p. 68). Bianchi et al. (2018) also found that professional collaboration at coworking spaces triggers behavioural patterns of solidarity, which suggest benefits extend beyond organizations and to individuals at coworking spaces. Therefore, the authors found a positive association between collaboration and professional support and social support.

Bianchi et al.'s conclusion (2018) is important because it ties collaboration to providing a fiscal benefit to organizations and individuals, suggesting a financial benefit for some organizations to locate at coworking spaces. Their results corroborate with the idea that opportunities for economic exchange through non-binding agreements further develop relationships between individuals. We believe that these opportunities would likely not occur if an organization located at a traditional office, as opposed to a coworking space in which they interact with other organizations.

In the study conducted by Spinuzzi et al. (2018), as explained in the Community section above, the research found collaboration on common projects was found at half of the coworking locations that they studied. Spinuzzi et al. (2018) defined collaboration as occurring in manager-coworker interactions and coworker-coworker interactions. Their analysis shows a variety of different relationships between different individuals that can be analyzed at coworking spaces. The studies conducted by Castilho & Quandt (2017), Bianchi et al. (2018), and Spinuzzi et al. (2018) share common results that coworking spaces build relationships between individuals and organizations and provide benefits to members. The studies also tie back to the concept of community, as presenting earlier, suggesting the two concepts are interconnected.

2.6 COWORKING AND CREATIVITY

We have already presented how physical space coworking can benefit creative processes, as highlighted in Orel and Almeida's study (2019), but want to understand more about creativity as it relates to individuals and organizations at coworking spaces. The concept of creativity primarily relies on the creation and implementation of ideas to create something, which in turn can benefit organizations (Brown, 2017). We presume that many organizations can benefit from creativity, whether or not they consider themselves to be in a so-called creative industry.

In a study of nine coworking spaces in Southeast England, Brown (2017) studied peer interactions to see how coworking supports creative workers through surveys, interviews, and observation. The author found that coworking spaces are motivated by 'production logics' of creative work, to have a productive, professional

environment separate from home. Brown (2017) also found that coworking spaces provide peer-learning and mentoring opportunities through social capital that would be lacking in distributed (non-coworking) creative production processes. Additionally, the author observed that some coworking members actively seek collaboration as an avenue to creative innovation. Creative work relies on the exchange of new knowledge or ideas (Brown, 2017). Brown (2017) notes that coworkers have diverse intentions and motivations, and seek different types of interaction for knowledge and idea sharing.

Brown (2017) found evidence that the physical co-location of members alone does not enhance knowledge creation and that coworking managers play a key role in curating knowledge sharing that can spark creativity. The author found that the physical configuration of coworking spaces is important to facilitate interactions and which affect social functions. Therefore, it is important for coworking operators to consider how their space can affect creative processes. During Brown's interviews, members gave examples of certain spaces at the coworking spaces that they found were useful for collaboration or creative work, and other spaces were suited for working alone or concentrating. Additionally, the physical co-location of members does not alone enhance knowledge creation and that coworking managers play a key role in curating knowledge sharing that can spark creativity (Brown, 2017). Brown also believes that a transdisciplinary approach is necessary to understand the nature of coworking. We believe that Brown's findings (2017) indicate that coworking operators should be active in sparking creativity at their coworking space in order to be successful.

It is important to link organizations' performance and goals to the space they occupy. In a study of coworking spaces in Singapore, Cheah and Ho (2019) evaluated the link between coworking spaces and innovation and creativity. Specifically, the researchers used a business model innovation for performance (BMI) to analyze this relationship between coworking spaces and innovation. Innovation is a key indicator to creativity (Cheah & Ho, 2019). Through quantitative surveys, the pair surveyed 258 members to measure space creativity and social climate. They measured coworking space creativity through three factors: the encouragement of creative thinking, the encouragement of playfulness, and the generation of ideas of higher quality.

The results of Cheah and Ho's survey (2019) demonstrate that space creativity has a significant indirect effect on BMI. However, coworkings space alone is not enough to foster BMI, the space must also be designed to encourage creativity to positively affect BMI (Cheah & Ho, 2019). Cheah & Ho (2019) conclude that "the physical design of the space is found to play a role in not only encouraging creative thinking and playfulness, but also generating ideas of higher quality, thereby helping tenant firms achieve greater levels of BMI" (p. 14). The authors believe coworking space operators should understand the physicality of their space beyond just providing co-location; spaces should be designed to promote generating ideas, while allowing for privacy and collaboration needs of organizations. Therefore, we believe coworking space operators need to be mindful of both the physical space and how it meets allows members to generate ideas, specifically through promoting collaboration.

2.7 ANALYSIS OF CONCEPTS

In this section, we present our analysis of the theoretical concepts, specifically relating to the important findings throughout the review of coworking literature. As the studies were mostly qualitative in nature, our analysis focuses on qualitative and thematic foundations of coworking spaces. It is important to note that there is a large amount of theoretical interlap of the previously mentioned studies. Throughout the various studies about each of the three C's, it is apparent that each concept overlaps significantly. Studies about collaboration mentioned community, studies on creativity mentioned collaboration, and so on. This exemplified how interrelated the three C's are in relation to coworking. From the literature we review, we have deduced that all concepts of the three C's are integral for an effective coworking space.

Although each study presented throughout this literature review uses a different methodology and focus, the results presented similar themes. Social interaction is the most important theme we found in relation to the purpose and function of coworking space. Although not always explicitly mentioned as the term *social interaction,* the concept is addressed in every study we reviewed. We believe that social interaction can be seen as a thread that binds community, collaboration, and creativity. Social interactions can occur in various forms, from greetings and informal chats to discussions on a product or business plan.

The most beneficial type of social interaction for organizations at coworking spaces that we found is knowledge or idea sharing. Spinuzzi et al.'s (2018) and Brown's (2017) studies show how integral knowledge sharing is to the positive benefits of coworking spaces. Furthermore, sharing information is a natural part of collaboration and many creative processes. Information sharing would not occur without communities. Sharing knowledge can build social capital through idea generation, peer mentoring, advice giving, innovation boosting, and more (Brown, 2017). Sharing information can lead to various interpersonal outcomes, including building camaraderie and relationships with other coworkers (Castilho and Quandt, 2017).

Both social interaction and knowledge sharing bring us to another important purpose to coworking spaces — building relationships. Castilho and Quandt's (2017) and Bianchi et al.'s (2018) results exemplify that social interactions and relationships are complex. Through various social interactions, over time, coworkers build personal and professional relationships, enhancing community. Garrett et al. (2017) explains how this process is a type co-creation, so it involves all coworking members. In turn, relationships create value to members on an individual and organizational level.

Lastly, the physical design of coworking spaces is a key component of building community, fostering collaboration, and sparking creativity. This is especially exemplified through Cheah and Ho's findings (2019) that the design of a coworking space encourages creative thinking and playfulness and Brown (2017) finding that the configuration of coworking spaces facilitate interactions. Orel and Almeida (2019) also show that it can boost productivity, well-being and other outcomes. Additionally, from Bounchen and Aslam (2019), we learn that the physical space of coworking acts as the platform for social interaction, the most important purpose of coworking spaces.

2.8 SUMMARY AND LIMITATIONS

In this section we address the practical limitations of the literature we reviewed. Most of the studies utilized research methods conducted at real coworking spaces, with the exception of Spinuzzi et al.'s typological analysis (2018). The studies are limited by the respective locations and geographies, so may be subject to various cultural and workforce differences. However, together the studies represent a large geographic area, with studies across several continents utilizing data from hundreds of coworking locations. Furthermore, the various studies at specific points in time, with most occurring the past eight years. However, the operations and design of coworking spaces are constantly evolving. We do not believe this affects the validity of the studies' findings, as the goals of coworking that we focus on through the C's remain the same.

The studies we reviewed typically used qualitative methods, with the exception of Cheah and Ho's (2019) BMI study which used quantitative surveys. Interviews were the most common research methodology and we believe these approaches provided highly descriptive information. Despite the different research approaches and of the studies, the same concepts and themes repeated throughout, as explained in the theoretical analysis presented above. As coworking evolves, results from additional studies on coworking spaces may reveal trends. However, we believe that coworking spaces will always serve the purpose of creating community, collaboration, and creativity.

3 METHODS

3.1 TECHNIQUES

3.1.1 CASE STUDY

In order to examine coworking space as it relates to meeting the goals of the three C's for its members, we believed it is logical to study coworking members interacting in the same space to gain specific and practical insights. Therefore, we pursued creating a case study at one coworking operator and location. McLeod (2019) described case studies as, "in-depth investigations of a single person, group, event or community. Typically, data is gathered from a variety of sources and by using several different methods" (n.p.). A case study would also allow for focus and depth needed in the limited time frame we had to conduct a study. Aaltio and Heilmann (2010) explain how case studies are a common and accepted methodology in the field of business, specifically to understand phenomena in a specific environment — in our case coworking space. Therefore, we believe that a case study is appropriate for our study.

Aaltio and Heilmann (2010) explain that it is important for case study research to be "connected to previous theories, which form a foundation for the analyses and interpretations in the conclusions" (p. 67). The authors also note that thematic interviews are an effective tool for case studies. This advice provides the basis for utilizing the three C's as the thematic groundwork for our case study methodologies. Lastly, Aaltio and Heilmann (2010) explain how case studies allow one to collect a variety of data using different methods and examine the data using a holistic approach. Through a case study, we are able to collect data from a variety of sources for our selected site, The Ground.

3.2 DATA COLLECTION AND ANALYSIS

Tracy (2010) notes that high quality qualitative research does not have any set of specific standards or specific types of data collection, but should be "relevant, timely, significant, interesting, or evocative" (p. 840). Therefore, we focus our study on meeting these criteria to collect contextual data we believe is the most significant to our study's purpose. We believe coworking is a relevant and timely subject, and sought to use appropriate methods. The coworking studies we reviewed mainly utilize interviews, observations, and spatial data, so we believed these methods would provide quality results for us as well. In our case study at The Ground, we were able to collect a variety of data relating to the coworking space using the following methodologies: observation, interviews, surveys, and spatial data collection, specifically photography and floor plan. In the following sections, we provide an overview of each method in our case study at The Ground. We explain our tools for analysis, which include a lived visual data narrative, coding analysis, and a spatial analysis.

3.3 OBSERVATION: LIVED VISUAL NARRATIVE

Originally, we planned to conduct a detailed in-person observation in which both researchers spent an entire day at The Ground. We planned on using a non-participative, semi-structured observation technique in which we recorded "basic

data about the characteristics, location and activities of groups and individuals within selected observation sites" as described by Clark et al. (2009, p. 4). Due to the onset of the Covid-19 pandemic in Sweden, we were unable to follow through with this planned observation technique. Luckily, Amanda had already visited The Ground on the 5th of December, prior to the pandemic. In keeping with the comprehensive approach to our case study, we decided to integrate her observations from this visit.

In describing Amanda's observations from this visit, we decided on a lived visual data technique using a narrative approach, as described by Emmison et al. (2014). The authors describe how this technique works well for ethnographic studies of organizations, which is fitting for our study. Emmison et al. (2014) also describe how locations are where people interact and consist of a social and cultural fabric. Locations also consist of zones, objects, and activities, which become central theses (Emmison et al, 2014). Descriptive and narrative writings can be used to decode or 'read' places (Emmison et al, 2014). In following this descriptive narrative approach, the Observation section consists of Amanada's lived experience of the zones, objects, and activities to the best ability of her memory. We realize limitations of presenting data from memories, however it is the best data available given the pandemic situation. We added a video-call walk-through of the empty space to refresh Amanda's memory and reduce this limitation. We also wish to minimize these limitations by supplementing the observation with interviews, surveys, and various spatial data, as explained next.

3.4 INTERVIEWS AND SURVEYS: CODING ANALYSIS

Alvesson (2013) suggests choosing thematic elements for interviews to focus the exploration of topics. When constructing the interview and survey questions, we relied on information from the Literature Review for the themes presented in the interviews and surveys. Specifically, we included a variety of questions about The Ground's physical coworking space and how it relates to the goals of the three C's. In the interviews and surveys we decided not to provide a definition of the words community, collaboration, or creativity. We decided to leave the three C's up for the interviewees' interpretation, since the three C's are broad subjects and because we wanted personal perspectives. We wanted to follow Alvesson's (2013) valuable principle, which is to keep interviews open and broad. Therefore, we also decided on sticking to a semi-structured format with open conversation. This approach tends to provide more rich and interesting results (Alvesson, 2013).

To analyze qualitative data from interviews, Christians and Carey (1989), suggest a data analysis tool known as coding, which breaks text down into recognizable units, such as words or phrases. The categorization of coding also reflects themes (Christians & Carey, 1989), so we believed that this method was appropriate for our thematic approach of exploring the goals of the three C's in our case study. Since the surveys are meant to act as abbreviated alternatives to interviews, we decided to analyze both the surveys and interviews using the same coding methodology. In conducting the coding, we followed the methodology of using the script from the interviews and text from the surveys to find codes as described by Christians and Carey (1989).

We used terminology from the Literature Review for some of the codes to keep our methodology grounded in theory. We also included codes that were not terminology used in the literature, as we wanted to explore all additional concepts mentioned in the responses, using many of the respondents' own words. We looked through each line of text to find codes and used a Google Spreadsheet to track each instance of each code. In following Christians and Carey's described coding methodology (1989), in the Results section, we will present the codes we identified and present the themes we found in the interviews and surveys.

3.5 PHOTOGRAPHY AND FLOOR PLAN: SPATIAL ANALYSIS

In addition to the narrative approach to lived visual data, O'Toole and Were (2009) suggest using photography, floor plans, and other spatial data to gain an understanding of workplaces (as cited by Emmison et al., 2014). Therefore, we sought to collect as much visual data as possible from The Ground's Manager. Emmison et al. (2014) also suggest observing individuals using and interacting in a space and documenting this data on a floor plan. Since we were unable to conduct the detailed observation that we originally planned due to the Covid-19 pandemic, we decided to spatially analyze the space. We did this by documenting the usage type of each room on the floor plan using color. When analyzing, we used a floor plan provided by The Ground. The floor plan could not be added to the results section due to security aspects. In the Results section, we will present data using both photography and an analysis of The Ground's floor plan by using a chart. We will also integrate insights into the space from the interviews, surveys, and literature.

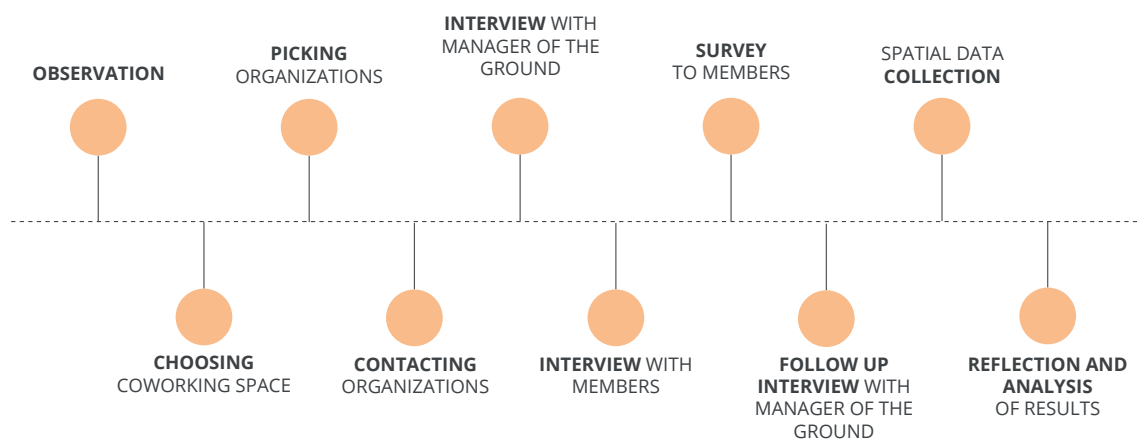## 3.6 REFLEXIVE ACCOUNT OF PROJECT TIMELINE

FIGURE 4: REFLEXIVE TIMELINE

The timeline, *Figure 4,* provides an overview of the chronological order of our methodological approach and data collection, with brief descriptions numbered below. The reasoning behind each methodology selected for our study is described next.

1. OBSERVATION

After selecting The Ground for the case study, the outbreak of Covid-19 in Sweden occurred. Luckily, Amanda had already been to The Ground and we could use that visit as an observation of the coworking space. Therefore, the step that was supposed to happen after step number five, instead became the first one to occur. A video-call walk-through of the now empty space was conducted to refresh our memories.

2. CHOOSING A COWORKING SPACE

We decided to find potential coworking spaces to conduct a case study located in Sweden or Denmark, due to geographic proximity. When choosing a coworking space, the location mattered since observation was one of the planned studies of the thesis. After reaching out to several coworking spaces, we chose The Ground in Malmö, because the manager was very receptive to our inquiry and was interested in supporting the study. We also immediately began researching The Ground and collecting information that serves as the basis for the Case Study section.

3. PICKING ORGANIZATIONS

To get a thorough overview of The Ground, we believed it was important to integrate various perspectives. By carrying out a case study, we saw the advantage of using different types of member organizations to get a broad overview of the coworking space.

4. CONTACTING ORGANIZATIONS

All initial contact with the organizations was conducted through email. We contacted each organization at The Ground with an email asking if they wanted to participate in a short interview, where their participation and answers could be treated anonymously. Three organizations reached back to us and wanted to take part. The participants that agreed to interviews chose to be identified.

5. INTERVIEW WITH MANAGER OF THE GROUND

To research the coworking space from different angles, we interviewed the manager of The Ground, Josefine Hjertström. We also believed her experience of interacting with the members and the space would provide a valuable perspective. Throughout the interview, we focused on how the members use the space as it relates to the goals of the three C's. We wanted to get an idea of how The Ground themselves assume the coworking space is used. We also asked questions about the history and functions of the Ground, which serve as the basis of the Case Study section.

6. INTERVIEW WITH MEMBERS

When interviewing the organizations, we wanted to get a deeper understanding of how the members use the coworking space, in relation to the goals of three C's. By using the understanding of the space by both our observation and the interview with the manager of The Ground, we asked questions to analyze how the members used the space themselves. Initially, three organizations that are members of The Ground agreed to interviews. However, one rescinded their offer to participate due to time constraints placed on their organization due to the current pandemic. We performed two 45 minute long interviews with two remaining organizations, Jämställd Utveckling Skåne and Panion, using the video conferencing software Skype.

7. SURVEY TO MEMBERS

Since we only had two member organizations to interview, we believed the amount of data we had acquired was insufficient. Since The Ground's members were not agreeing to interviews due to time limitations, we believed we would be able to get more participation through a method that requires less time commitment. Therefore, we devised an online survey that would act as an abbreviated version of the interviews. We also decided to keep the survey anonymous to increase responses.

This survey was online and text-based, with open-ended questions in which the respondents could answer in text boxes. Similar to the interview, the survey focused on how the members believe the coworking space relates to the three goals of the three C's at their organization. The Ground's manager sent out the survey to all individuals through email and Slack using a link to the Google Form version of the survey we created. We received six responses to the survey, for a total of eight responses between both interviews and survey. Since the responses were anonymous, we do not know if any of the survey respondents worked at the same organization.

8. FOLLOW UP INTERVIEW WITH MANAGER OF THE GROUND

After conducting the interviews with the organizations and reading through the responses on the survey, we once again interviewed the manager of The Ground. We asked reflective questions as well as asked questions regarding the information that we received from the members.

9. SPATIAL DATA COLLECTION

We collected visual data from The Ground's manager, including photographs and a floor plan of the coworking space. By using the floor plan and observation, we could create a new version of the floor plan to show the usage of the space. By dividing the space into six different space usages, we color-coded the plan and calculated how much of each usage the space consists of.

10. REFLECTION AND ANALYSIS OF RESULTS

After conducting the interviews and receiving the survey responses, we read through each response and analyzed the information through a coding methodology. We also conducted a spatial analysis of all of the visual data. By using interviews, surveys, and spatial analysis, we integrate data from the members and the space itself.

4 THE CASE STUDY

4.1 INTRODUCTION TO THE GROUND

The Ground is a coworking space owner with one location in Malmö, Sweden. The company, originally named The Jard, was founded in 2012. Entrepreneurs Karl-Anders Johansson and Hampus Jakobsson founded The Ground as a place for a group of friends employed by startups to work together. In 2015, the founders purchased a house located at Bredgatan 4 in Malmö. As The Ground grew with additional organizations and employees, the founders purchased the adjacent building, Bredgatan 6, to expand the space and create the coworking space that exists today, The Ground located at Bredgatan 4 and 6. ("Who We are")

The Ground describes their mission to, "contribute to Skånes startup community and city development. People at the Ground — *aka Groundlings* — are makers and world changers who take on the world's complex problems with scalable products that have a BIG impact" ("Who We are," n.p.) According to Wisterberg (2016), the company has had a goal to increase diversity among the companies that are members, especially companies with women in leadership roles. The Ground also notes that:

> "Everyone who sits at The Ground is involved in running it... We really encourage it because we want people to feel like The Ground is their space" (Who We are," n.p).

Gonzalez (2019a) highlights how involved Groundlings are by explaining how they crowdfunded an espresso machine and how one individual hosted their wife's birthday at the space.

The Ground's staff consists of Managing Director and CEO, Josefine Hjertström ("Who We are"). Additionally, Josefine is supported by a board consisting of the founders Karl-Anders Johansson and Hampus Jakobsson, in addition to Katarina Gerggren and Charlotta Falvin ("Who We are"). According to Hjertström (interview, March 27, 2020), she runs everything from day-to-day operations to special projects to communications and meets with the board every two months. She also noted that the board has a variety of expertise and acts as advisors that are able to make larger and more complex decisions, mostly related to finance. Additionally, Hjertström started a coworking network in which she meets with other coworking operators in the cities of Malmö, Lund, and Helsingborg in Sweden to discuss and help each other out with improving their coworking spaces.

4.2 THE GROUND'S LOCATION

The Ground's space consists of the two four-story buildings, Bredgatan 4 and 6, which are internally connected. The Ground is located in the Värnhem neighborhood of Malmö, and is an approximate 12 minute walk from Malmö Central Station. It has convenient access to major businesses in Skåne, Sweden by train, bus, foot, bike, or car as well as being located within a half-hour train ride to Copenhagen, Denmark. The Ground's office space consists of shared common spaces as well as various private office rooms that suit 1-20 people ("The space"). There are six meeting rooms that can host up to ten people as well as a canteen and shared community lounge that can be rented out for events ("The space").

4.3 THE GROUND'S MEMBERS

Hjertström (interview, March 27, 2020) describes how The Ground houses many "scale-up" companies, unlike competitors that tend to support start-ups. She also describes how The Ground, unlike other coworking space operators, wants many of its members to succeed, outgrow the space, and move on. She described how she hand-picks the organizations that are a good fit to become members, and how it is beneficial that there is a limit to The Ground's capacity. Hjertström sees The Ground as a way to support the city of Malmö. Although each organization is different, Hjertström describes the typical member at The Ground as a small organization working in the digital realm and working to create a better society. She also describes the typical management style of a member being a flat-hierarchy with open management where individuals lead themselves.

4.4 THE GROUND'S FUNCTIONALITY

Gonzalez (2019a) believes that The Ground has served as an example of "organic business growth." She also describes The Ground as being a democratic office space, which is the opposite of typical often authoritarian landlord-tenant relationships. Hjertström (interview, March 27, 2020) describes The Ground as a hub where everyone helps each other, often providing support and entrepreneurship. The Ground currently consists of approximately 20 organizations with 135 people and two dogs ("Who We are"). Based on these descriptions, we believe The Ground is a unique and creative coworking company that has created a close community and values its members.

5 RESULTS/FINDINGS
5.1 OBSERVATION RESULTS

The following results describe Amanda's visit to The Ground using the lived visual narrative approach:

When visiting The Ground, you have to pass through a quite inconspicuous door from the side street in a quite busy block in central Malmö. The door slides to the side, and you enter a calm and plant-filled backyard. There are a lot of bikes, and in the far corner, you can see a well-used grill. The area fills you with a feeling of home and recognition, as it just could have been your own backyard. I feel welcomed to look around and imbibe the essence of the flowers, the quietness embraces me. The fact that I just left a clamorous street in central Malmö, is beyond me.

When leaving the backyard and entering the ground floor at The Ground, the first thing you are asked to do is to take off your shoes. "This is a shoes free area, the whole building is," and I can understand why. The floors are filled with carpets and in the room, I can see people comfortably hunched up in sofas and armchairs socializing. It is a large room that consists of "hanging out" places, neatly organized by different sofas and tables to work at. I walk further in and realize that to my left, I can enter a big and open kitchen. There are different machines and kitchen inventories to help you cook some lunch or just warm whatever you might have brought with you, and at the far end, there is a fridge filled with beverages. The ground floor also has a few meeting rooms that members can book for themselves and visitors. They are, just like the main room, decorated, very relaxed and casual, and open, allowing for both easy conversations or more serious discussions. Since walking into The Ground, I still have not gotten the feeling that it is an office space in a typical sense, it is more a place where you can meet and discuss possible progress and ideas with like-minded people.

I walk up the staircase that is located at the far end of the room, straight up from the kitchen and beside the meeting rooms. Now the surroundings change a bit, as we leave the common spaces and enter the more traditional office area. The Ground consists of three floors of office spaces, filled with different types of organizations. The floors are built similarly, except for the top floor that is more open to have bigger office rooms, with a corridor that divides the floor into two different lines of office rooms. Every office room you pass looks different, as all the members of The Ground can decorate their room to be more personal and focused on their organization. Renee Gonzalez (2019b) describes the offices at The Ground as having embraced a do-it-yourself spirit with a variety of evolving "personalized spaces" and quirky additions including artwork from tenants' children, origami decorations, and mug holders to hold your coffee as you open the door. Most of the offices are painted white, but the decorations differentiate significantly depending on which organization that currently uses the room— everything from a poster on the wall, to the company name in lettering across the room. At The Ground everyone is welcome to decorate their office, and you are free to add decoration also to the shared space.

What is consistent throughout my visit is the openness from the people I meet. Walking through the building you meet different people both regarding background but also age and gender. Everyone says "hi" and greets me warmly, and some even ask questions about my visit. Even though I am just a visitor for a short time that precise day, people are interested and curious about who I am. I see the connection the different organizations have, and how their interactions are more friendly than just being the company located in the same space. The joy of being a part of something bigger is what strikes me as something mutual among the member organizations I talked to when visiting, and the feeling of belonging to something more than just an ordinary office space.

5.2 SPATIAL ANALYSIS: FLOOR PLAN SPACE USAGE

We received the floor plan from The Ground's Manager to better understand the space. We analyzed space by colorising the space by usage type. We calculated the percentage of each usage space and compared the amount of each space usage in comparison to the whole. The floor plan space usage calculations can be seen in *Figure 5*.

The most common space usage at The Ground is dedicated to private office space for its members, shown in blue at 31%, spread out over three of the four floors. Each space is separated by walls, so The Ground is not a truly open office concept like some other coworking spaces. However, once inside one of the office spaces, it is very open. Approximately 3% of the office space is currently vacant. The second most common space usage at The Ground is common and amenity space at 29%, which consists of two back yards, four phone booths, the shared kitchen, and more. Each of these spaces seem to be highly used and valued by the members. The phone booths provide a much needed space for private phone conversations that would not be available elsewhere in the space.

The next most common usage is circulation, which is displayed in grey and consists of 17% of the total space. The circulation spaces connect many other spaces and can spark impromptu social interactions. The next most common space usage is shared space, shown in orange at 14%. Based on the observation, these spaces can be used by members for a variety of uses, including socializing or getting work done outside of an office area. The main room is the largest common space and most trafficked area, which is a flexible space that is also sometimes used for events and presentations (Hjertström, interview, March 27, 2020). The ground floor also contains a shared space, The Basement, that is often used for ping pong. The ping pong tables provide a recreational activity, separate from the office areas, and reflects the playful nature of The Ground. There are also two lounges on two of the floors that consist mostly of private offices. These provide additional shared space that does not require traveling to the main floor. These areas are also more secluded, providing a more quiet space for members to use.

The last space usage is meeting rooms at 9%. These rooms are each named, such as "The Aquarium" and "The Cat Room," which suggests that the spaces are personalized and communified for Groundlings. Their creative "non-corporate" naming makes the rooms easy to remember and reflects the social and casual feel of

the community. The meeting rooms act as a supplement to the members' office spaces and shared spaces give the members extra rooms to use as their own. All of the meeting rooms are drop-in except one that can be booked beforehand by all of the members (Hjertström, interview, March 27, 2020).

This spatial analysis, including the floor plan space usage percentages, are not meant to analyze what the optimal amount of space usage is for a coworking space may be. It is meant for us to better understand the usage of the space by members. Considering that there are no set standards for space usage classification, we classified the spaces in a way that seemed most logical for an office space user. We realize that many spaces are flexible and could be seen as more than one usage category. Notably, there is more combined shared space and amenity space than there is of private office space. This illustrates that there is a large amount of space

3%
VACANT PRIVATE OFFICE SPACE
FOUR OFFICE ROOMS ARE EMPTY AND READY TO BE RENTED OUT TO NEW MEMBERS.

14%
MEETING SPACE
SIX MEETING ROOMS FOR MEMEBERS, ONE IS BOOKABLE AND THE REST IS DROP-IN.

29%
COMMON SPACES & AMENITIES
13 BATHROOMS, FIVE PHONE BOOTHS, TWO SHOWERS, A WASHER AND A DRYER, THE KITCHEN, AND THE GROUND'S MAIN OFFICE. WE ALSO INCLUDED THE TWO OUTDOOR PATIO SPACES.

14%
SHARED SPACE
THE MAIN ROOM AT THE GROUND FLOOR AND THE BASEMENT (WITH STORAGE AND PING-PING). WE ALSO INCLUDED SMALL LOUNGES/ HANG-OUT AREAS.

17%
CIRCULATION
HALLWAYS, CORRIDORS, STAIRCASES AND LOUNGES, THE SPACE IN BETWEEN.

28%
PRIVATE OFFICE SPACE
PRIVATE ROOMS TO RENT FOR MEMBERS. ALL OF THE ORGANIZATIONS HAVE AT LEAST ONE OFFICE SPACE FOR THEMSELVES.
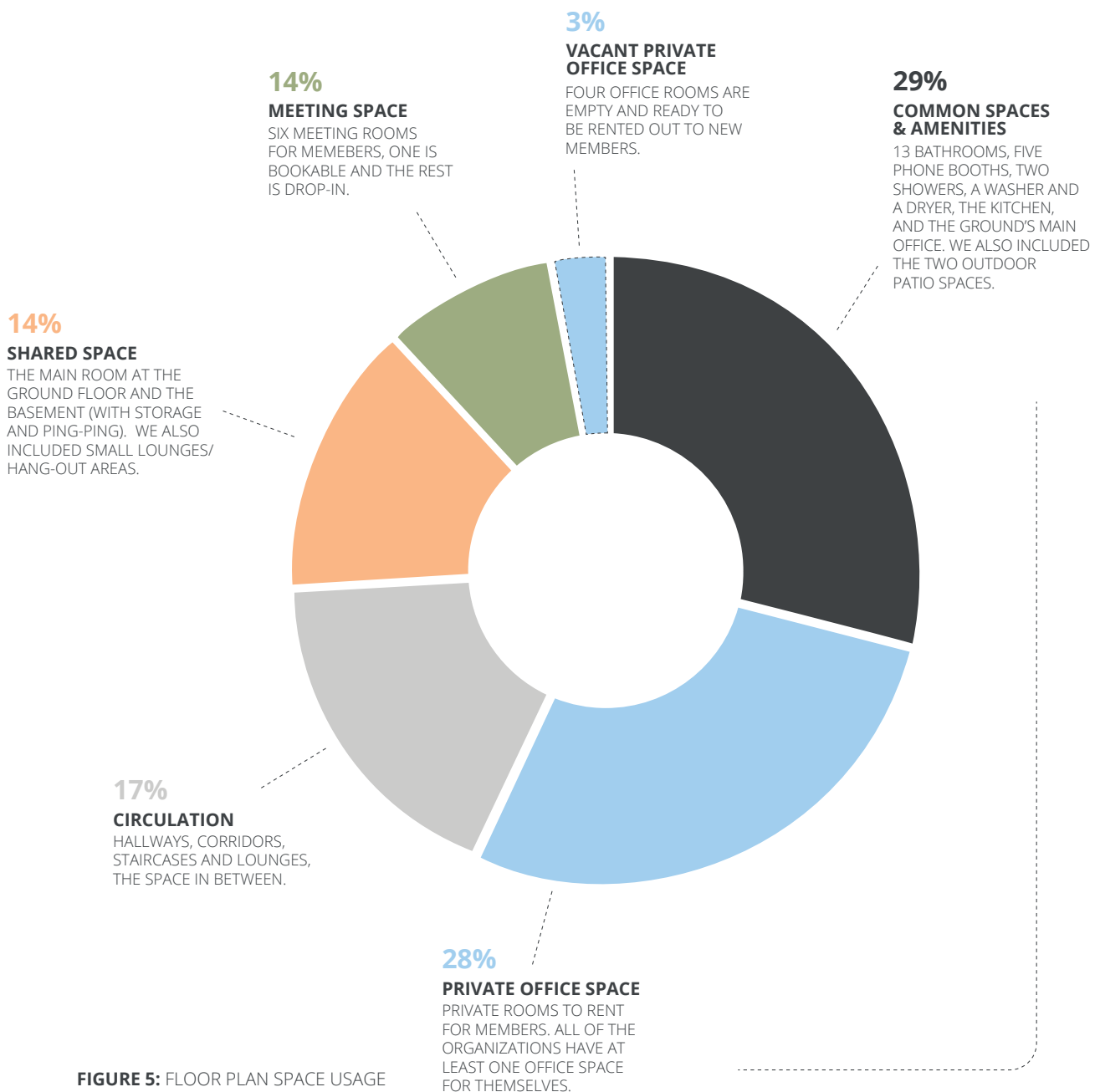
FIGURE 5: FLOOR PLAN SPACE USAGE

outside of offices that can be used for socialization and collaboration. The amount of space dedicated to meeting rooms also reinforces that collaboration is valued in the space. The floor plan indicates a clear separation of the office areas for work from the shared spaces, which we believe provides a unique balance of work to social areas. The lounges, located near offices, provide close, more intimate, rooms for socializing or collaboration outside of the ground floor.

5.3 SPATIAL ANALYSIS RESULTS: PHOTOGRAPHS
The following photographic results help visualize the space to supplement the floor plan space usage and observation results. All the photos descriptions use information obtained from the observation and interviews.

1. MAIN ROOM, **SHARED SPACE**
The Main room is often filled with movement. People are using the space to get some work done on the sofa, but it also acts as a transition from the backyard to the meeting rooms and corridor. The main room is decorated with color and wood, and plants provide a nature-like atmosphere.

2. MAIN ROOM, **SHARED SPACE**
The room is decorated with a lot of green elements. On one of the walls synthetic grass is used as wallcovering. On the grass, their name "The Ground" decorates the wall in large, white lettering. In the back, you can see an old clock, just like the one your grandmother used to have in her house. Two tenants are sitting in the room and working. One at a long table along the wall, the other one on the big and green sofa.

3. MAIN ROOM, **SHARED SPACE**
The main room is where you enter The Ground from Bredgatan, through the backyard. In the back of the picture, you can see people taking off their jackets and shoes to get ready for a day of work, or getting ready to leave for the day together.

4. MAIN ROOM, **SHARED SPACE**
The room is also used for small meetings and hang-out sessions at the table. In the picture, you can see a group of tenants in the back, eating some lunch, and maybe talking about the day. The room is filled with comfortable furniture and smart workplaces, which are easily accessed throughout the room. It is an open space with furnishing in calming and warm colors.

5. KITCHEN, **COMMON SPACE & AMENITIES**
The kitchen is surrounded by white tiles and the countertop is in light wood, it is a light and clean area. In the picture, you can see one tenant prepare some tea and the two coffee machines look like they were just used. On the kitchen island, you can see a bowl of bananas, and the fridge is decorated with childrens' drawings, probably one of the tenant's. It is a homey kitchen, which feels well used and cherished.

6. DOOR WITH STICKERS, **CIRCULATION**
One of the old doors in the building, just up the first staircase from the ground floor, is covered with stickers from different organizations. These stickers are

from many of the different members or past members of The Ground. This door works like a kind of "wall of fame;" members can see themselves and plenty of successful organizations. Not only is it a door of stickers, but a door of community and a place where all of the organizations at The Ground belong.

7. MEETING ROOM, MEETING SPACE
One of the meeting rooms on the ground floor, the green room, where all the members can have meetings or take private calls. In the picture, you can also see part of the big photo wall, where all the people of all member organizations are presented. Not only do you get to know the faces and the names of all the different people in the building, but also the organization that might be your neighbor.

8. BACKYARD, COMMON SPACE & AMENITIES
At The Ground, you have two outdoor spaces to use. The bigger one, in the picture, is where you can find the common grill. The backyard is neatly decorated in red and wood, which differ a bit from the green main room. During the summers, after work get togethers take place at the space, where you can enjoy a cold beverage together with other members.

9. MEETING ROOM, MEETING SPACE
One of the bigger meeting rooms with a digital screen. All the meeting rooms can be booked except one that is drop-in. Here you can use the space as you need, such as for more formal meetings with clients or for workshops with the team.

10. OFFICE ROOM, PRIVATE OFFICE SPACE
There are different sizes of offices at The Ground since they intend to have different types of organizations that might need different amounts of space. The organizations are welcome to decorate and furnish the room the way they like it and how it suits their needs. Therefore, the offices look different depending on the tenant renting it.

11. STAIRS DOWNSTAIRS, CIRCULATION
One of the things mentioned throughout the member interviews is the many stairs in the building. In the picture, we can also see one of the many dogs that are welcome to the office space. On the side of the door frame, you can see hand folded paper origami butterflies made by a Groundling.

12. PHONE BOOTH, COMMON SPACE & AMENITIES
The Ground has five small sound-proof rooms they call phone booths. Here Groundlings can take calls, or just work privately. In the picture, you can see how the rooms are placed wall-to-wall next to one of the private office spaces, easily accessible for whoever needs it.

13. CORRIDOR, CIRCULATION
The first and second floors are mainly private office spaces and one long corridor to enter the different rooms. The walls are covered with light wood and the carpet on the floor is light grey. The decorations at The Ground are either very colorful and in nature-tones, or light and simple.

14. OFFICE ROOM, **PRIVATE OFFICE SPACE**

All the office rooms are decorated by the organizations that rent the space. In this picture you can see three frames with digital art and a green plant. While some organizations use their own space to decorate and personalize a lot, some keep it quite simple. At The Ground you are also welcome to help decorate the common areas to make it feel more like home.

15. OFFICE ROOM, **PRIVATE OFFICE SPACE**

This is another office room that is a bit more personally decorated with a light strand and the organization's logotype on the wall. Here you can see how an organization can make a quite simple room into a personal office that shows the essence of the company.

16. MAIN ROOM, **SHARED SPACE**

On the back wall of the main room there is a television screen that Groundlings are welcome to use. On some occasions, members use the room for workshops and events, where other Groundlings often are welcome to join. Then the main room functions like a lecture hall rather than just a common space. The room is filled with green plants, lending to a healthy, nature-inspired environment.

17. MAIN ROOM, **SHARED SPACE**

The shared space has many different uses, but one of them is having lunches together with other members. In the picture, you can see a group of Groundlings chatting during their lunch meal.

18. FRIDGE, **COMMON SPACE & AMENITIES**

The large shared fridge is covered with drawings and paintings made by members' children. The drawings make the kitchen feel more like a home and not as sterile. By letting Groundlings decorate the common areas, the space itself becomes more personal and intimate.

19. OFFICE ROOM, **PRIVATE OFFICE SPACE**

Sometimes, the office is for more than only human Groundlings. Dogs are welcome throughout the building, depending on the private office door being open or not.

20. MAIN ROOM, **SHARED SPACE**

When there is an event or workshop at The Ground, the main room is often filled with people listening to the lecture. The room can easily be rearranged by moving the sofas, chairs and tables to the wall to fit more people. By having a common area like the main room, the organizations not only have their own space, but additional room to use when needed.
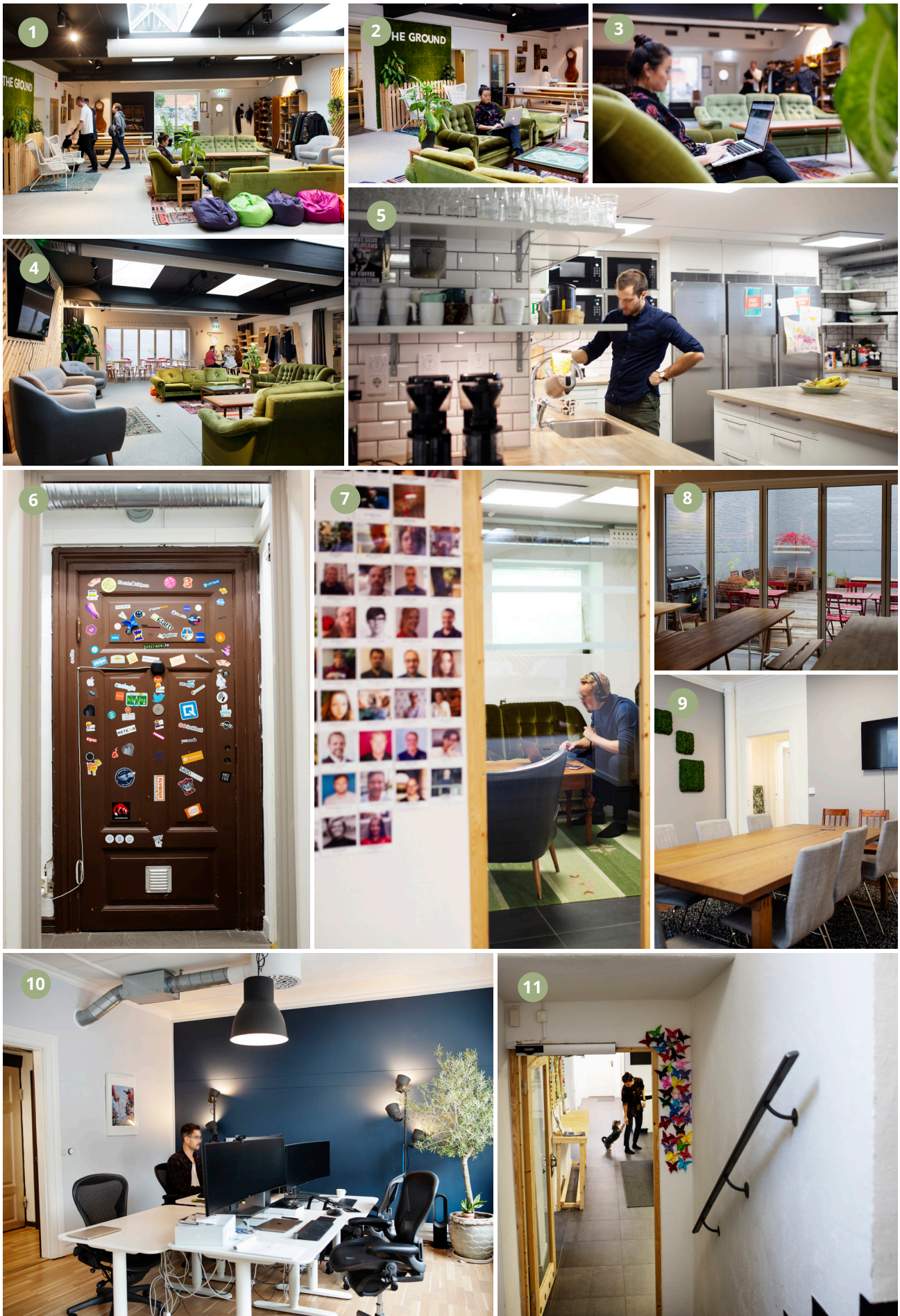
FIGURE 6: THE GROUND PHOTOS, PART 1 (RETRIVED FROM THE GROUND)
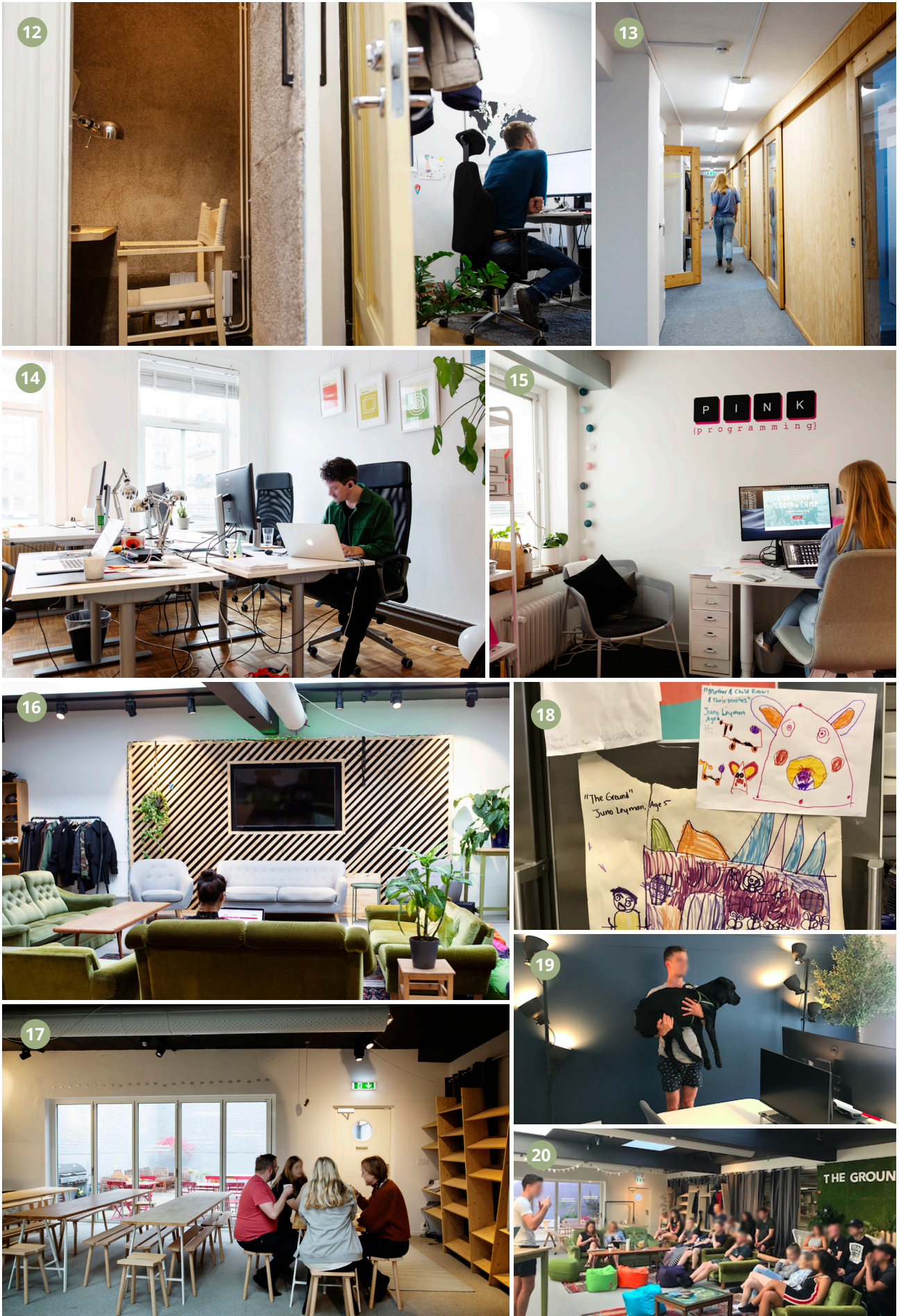
FIGURE 7: THE GROUND PHOTOS, PART 2 (RETRIVED FROM THE GROUND, EXCEPT FOR #18-20 GONZALEZ, 2019B)

5.4 SPATIAL ANALYSIS FINDINGS

In order to summarize our spatial analysis of the photographs and floor plan space usage, we decided to structure by theme, which we selected based on our Literature Review and data collection process. Our findings are organized by the themes of management, community, collaboration, creativity, and physical space. The findings also integrate some information from the Case Study section.

5.4.1 MANAGEMENT

When analyzing The Ground's space, we organized the spaces into six different space usage types. When adding the photographs to the floor plan space usage and observation, you get an even clearer idea of how the coworking space looks and functions. Consisting of multiple lounges, meeting rooms, patios, and shared spaces, The Ground is organized into areas that can both boost and engage people in a way that many traditional offices may not. There are common spaces and amenities, such as a large main room, phone booths, and a large kitchen, that many smaller organizations would likely not have if they chose to locate at a traditional office. The Ground is filled with color and nature, and has quite openly decorated rooms. The space's decorations are reminiscent of offices for creative industries and ping pong tables are located in the basement. It does not look like a traditional corporate office, and the fact that you are supposed to take your shoes off as you enter reflects this. This suggests that member organizations' management styles are likely creative, open in nature, and reflect Swedish culture.

Looking at the shared space as the *Main room,* you can see how it is very personal, open and warm (photos 1-4). Items like bean bags and long benching shows that the space is highly flexible to meet the current needs of individuals and organizations using the shared spaces. Whether you have two employees or a dozen employees, you are supposed to be able to use the space. Taking into account that members of coworking spaces are diverse in size, structure, and management (Spreitzer et al., 2018), The Ground manages to meet those expectations. Notably, The Ground does not have large offices or meeting rooms, so it seems to not be suited for larger organizations (over twenty employees) that would need abundant space. Based on this, we predict that members likely do not have a strong hierarchy at their organizations. We believe that the layout and the personalization of the space suggests the space is used by organizations that are consistent with Hjertström's description of the typical member, small organizations working in the digital realm (interview, March 27, 2020). By obtaining more information from the members through interviews and surveys, we hope to gain a further understanding of the management styles and structures of member organizations.

5.4.2 COMMUNITY

The everyday social activities observed at The Ground, such as members chatting while enjoying a beverage, demonstrate the community bonds created at The Ground. Without talking to a single person at the Ground, you can sense the collective identity just by observing the personal objects throughout the space, such as the photo wall of members and door of member organization stickers (photos 6&

7). Members of the Ground seem active in the community. Based on these personal objects and social interactions, The Ground demonstrates McMillan and Chavis' (1986) dimensions of community, specifically genuine friendships and collective identity (as cited by Garrett et al., 2017).

The organizations often tend to eat lunch together (photo 17) and members often sit with individuals that are not their colleagues. It is also common that some of the member organizations conduct workshops and events (photo 20), where other members of The Ground partake. The members share not only their workplace, but also a social interaction on a daily basis. Members chat at open benching (photo 17), demonstrating that sharing ideas is likely common, which Spinuzzi et al. (2018) lists as a key aspect of community. Furthermore, the open spaces lend to social interactions, which can help to build community bonds, according to Garrett et al. (2017). This reflects the argument that a sense of community is primarily social in nature (Garrett et al, 2017).

5.4.3 COLLABORATION

With 14% of The Ground's space dedicated to shared spaces, there are plenty of spaces that provide opportunities for collaboration. The six meeting rooms also provide areas for collaboration between and within organizations. These spaces reflect Spinuzzi et al.'s description (2018) that coworking is about the collaboration that takes place within communities. Various spaces, such as the main room being used for a workshop (photo 20), suggest that the space was designed with collaboration in mind. It also suggests that members help each other and that professional collaborations likely occur, which Bianchi et al. (2018) conclude as means of developing social relationships. The observation of members socializing in the main room (photo 17) and greeting visitors confirms that these social relationships take place. From the spatial analysis, we were unable to gain an understanding of any specific collaborative projects between members, but hope to find out more through the interviews and surveys.

5.4.4 CREATIVITY

The Ground's space is full of colorful decorations, casual yet eye-catching furniture, and green plants. The use of personalization throughout the space shows active participation in the creating the space, which we believe indicates the co-construction of The Ground's community and identity, as explained by Garrett et al. (2017). Personalizations, such as the origami art (photo 11) and childrens' drawings on the fridge (photo 18), indicate a creative atmosphere, which Cheah and Ho (2019) found can increase organizations' innovation. Groundlings are given a lot of freedom to personalize and use the space to meet their needs. The Ground allows for creative expressions of their members' brands as seen in the logo on the wall and decorative lights (photo 15). Brown's findings (2017) indicate that coworking operators should be active in sparking creativity at their coworking space, and we believe that by allowing members' the freedom to make these personalizations allows for more creative expression.

During the overservation, members move freely throughout the common spaces and can move some furniture to meet their needs, such as a workshop gathering, as seen with the use of bean bags in the main room (photos 1 & 15). The use of the main room for these events also suggests knowledge sharing, which Spinuzzi et al. (2018) explains builds community. Additional spaces, such as the lounges and various meeting rooms, allow for different places for idea formation.

5.4.5 PHYSICAL SPACE

Overall, The Ground offers a home-like feel and relaxed environment with abundant open space. The use of the color green and plants throughout private and shared spaces provide an earthy feel, and offer an allegory to The Ground's history of growth. The shared space is full of life and socialization. Based on our observation, The Ground provides spaces that provide co-location and promote social interactions, reflecting Bouncken and Aslam's (2019) findings that coworking spaces provide a platform for knowledge sharing. The meeting rooms, as well as lounges and other shared spaces, provide areas for collaboration. Notably, all offices are separated from the shared spaces, offering quiet places to work. This space layout allows for both spaces for productivity and spaces for spontaneous interactions, which Orel and Almeida (2019) describe as resulting in workplace satisfaction. Places for spontaneous interactions include the main room and various corridors, while spaces for productivity include the phone booths and private office spaces. The private office spaces are open, without internal walls/barriers, suggesting that social interactions and knowledge sharing are also promoted within organizations.

5.5 INTERVIEW AND SURVEY FINDINGS

We received a total of nine responses to the interviews and surveys, not including the second interview with The Ground's manager. Additionally, the interview with Panion included two individuals who contributed, which we counted as one response. Any respondent not listed by name in this section refers to one of the anonymous survey respondents. A summary of respondents, *Figure 8,* is below.
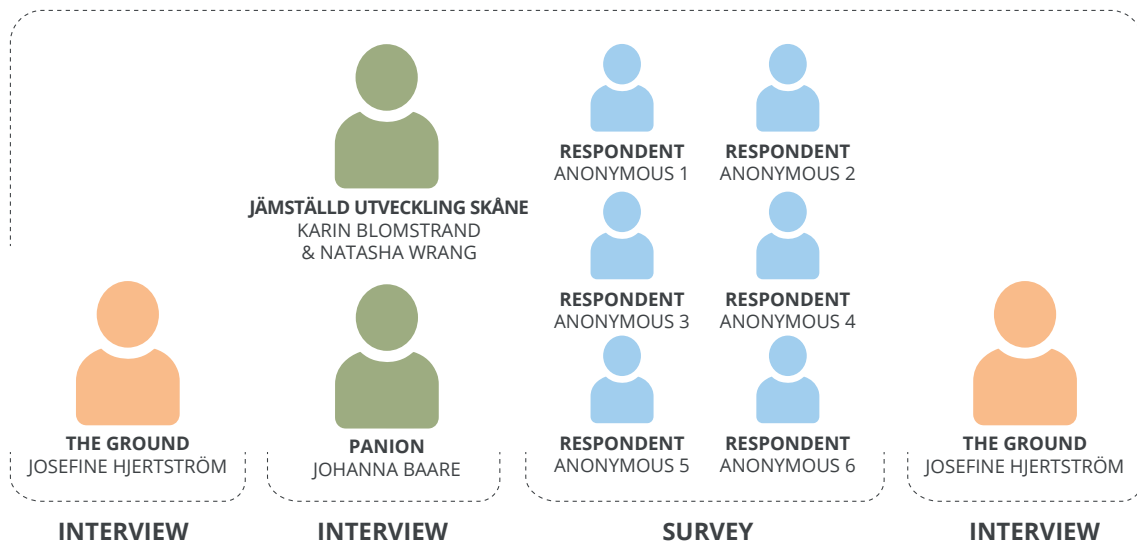

FIGURE 8: PARTICIPANT FLOWCHART

We analyzed the results from the interviews and surveys using coding. We identified and created a total of twenty codes. Some codes related to the terminology presented in the Literature Review, while others are additional concepts that we have identified in the results that were not previously discussed in the literature. We will further explore these additional concepts. Similar to the Spatial Analysis, we decided to structure these results using the same themes. We relate each code to one of these themes: management, community, collaboration, creativity, and physical space. Many codes relate to multiple themes, however, we grouped the codes by the theme that they relate the most closely to. Additionally, we counted codes each time they were mentioned, and manys respondents mentioned the same code more than once. These findings also integrate some observations from the Case Study and Spatial Analysis sections. A summary of these codes and the number of occurrences of each code throughout all interviews and surveys can be seen in *Figure 9* and is grouped by theme.

Notably, codes that we grouped in one theme were often found in responses to interview and survey questions focusing on another theme. For example, we grouped the code *Socialization opportunities* in the theme *Community*. However, this code also occurred once in responses to a question about collaboration and five times in responses to questions relating to physical space. This trend repeats itself throughout the responses, which we believe reaffirms our finding that the three C's are heavily interrelated.

5.5.1 MANAGEMENT

We identified three codes relating to management: *No/low hierarchy, Collectiveness,* and *Freedom*. Notably, there were no mentions from respondents that their organization had a strong hierarchy. This fits with The Ground's manager's description of a typical member organization's management style as "flat hierarchy" and as "open management, you lead yourselves" (Hjertström, interview, March 27, 2020). Panion, a mobile application to find friends, mentioned that their hierarchy is a "process hierarchy" (interview, March 24, 2020). Jämställd Utveckling Skåne, a nongovernmental organization, mentioned that they used to have more formal hierarchy, but have switched to a flat, less visual hierarchy (interview, March 24, 2020). *Collective* was another term used multiple times in describing the management style that we created code for, with one respondent describing theirs as "a shared house (kollektiv)." Their description of their collective management style also reflects the open nature of The Ground's space, and items like the shared fridge with beverages you can pay for.

Considering that members of coworking spaces are diverse in size, structure, and management (Spreitzer et al., 2018), we expected that the management style of organizations would vary. In light of our spatial analysis of The Ground, we did not expect to find large corporations, and therefore assumed members would not have a high level of hierarchy. The low hierarchy and collective management styles that are highly prevalent at The Ground are reflective of a curated community. The Ground's manager has interviewed and carefully selected each member based on their organizational needs and alignment with the community of Groundlings (Hjertström interview, March 27, 2020). Therefore, it is fitting that the members described their management style in a similar fashion.

THEMATIC CODE GROUP

TALLY OF CODE INSTANCES

CODE

MANAGEMENT

- **9** FREEDOM
- **5** NO/LOW HIERCHY
- **3** COLLECTIVE

COMMUNITY

- **13** SPECIALIZATION OPPORTUNITIES
- **11** SENSE OF BELONGING
- **7** COMMUNITY BUILDING
- **5** COMPANIONSHIP
- **5** DIVERSITY & EQUALITY

COLLABORATION

- **10** HELPING OTHER ORGANIZATIONS OUT WITH TASKS (NON-CONTRACTUAL)
- **3** INTRAORGANIZATIONAL COLLABORATION
- **3** CONTRACTUAL AGREEMENTS BETWEEN ORGANIZATIONS
- **1** DO NOT COLLABORATE WITH OTHER ORGANZATIONS

CREATIVITY

- **9** IDEA GENERATION
- **5** OUTSIDE INSPIRATION/ADVICE
- **2** LEARNING OPPORTUNITIES

COWORKING AND PHYSICAL SPACE

- **17** FLEXIBLE USE OF SPACE
- **8** ATMOSPHERE (POSITIVE)
- **7** CONVENIENCE SHARING
- **3** RELAXATION
- **2** LOCATION CONVENIENCE

FIGURE 9: CODING CHART

The identification of the code *Freedom*, which was mentioned nine times, was a surprise to us, especially since it was not a main theme in the coworking literature we reviewed. One respondent described their organizations' management style as "very little steering, with lots of freedom." Another anonymous respondent mentioned that "room for creativity" is key to their organization. One single-person company mentioned that freedom was one of the main reasons for becoming a member at The Ground. Another individual mentioned that they enjoy the freedom of being able to work from home or The Ground.

Therefore, we believe that freedom is a main management goal for many organizations at The Ground. The management of the space itself by The Ground allows for a lot of freedom, with one respondent not in that "almost everything is allowed." There are few rules, and organizations and individuals seem free to express themselves (Hjertström interview, March 27, 2020). This reflects The Ground's open space with the ability to move freely and the ability for members to add personalized items.

5.5.2 COMMUNITY

We identified six different codes relating primarily to community. *Socialization opportunities* were mentioned thirteen times for responses to various questions about all of the themes. These responses confirm our findings on socialization from the observation and floor plan analysis. Coworking spaces promote social interactions and socialization routines (Bouncken and Aslam, 2019), and The Ground exemplifies this. Hjertström mentioned that Groundlings tend to be small organizations with social employees, but "[they] do not have to be social, but [they] are very welcome to be" (interview, March 27, 2020). Among the respondents, socialization was mentioned frequently, and several mentioned meeting new people.

Sense of community is primarily social in nature (Garrett et al, 2017). The single-person company respondent highly valued socialization opportunities, which highlights the value of socialization offered by coworking spaces to small organizations that would not be afforded these opportunities in traditional offices. Socialization opportunities and access to a community can be especially valuable to small, in this case single-person, organizations. Our results show that members of the Ground value socialization opportunities and the community, which consists of new people members would not meet otherwise.

Closely related to socialization, *Sense of belonging* and *Companionship* were mentioned frequently with one respondent mentioning that "it's great to come here to work and feel some sort of belonging." Another noted that "there is a general sense of being able to share experiences" at The Ground, which demonstrates that social bonds have been created, which Garrett et al. (2017) see as key to community building. A few mentioned increased psychological safety, with one anonymous respondent describing a "sense of being in a safe haven where we can safely do what we need to do without worrying too much." We believe that this sense of belonging permeates past boundaries of organizations at The Ground.

We interpret The Groundlings' sense of belonging and companionship as deeper interpersonal relations than a simple sense of a social community, especially since members often gather for workshops and eat lunch together. We believe The Grounds' members' sense of belonging fits with McMillan and Chavis' description of the collective identity dimension of community (1986). During our interviews with members, we could sense a genuine sense of oneness in the community. Our findings on socialization and sense of belonging reflect Bounchen and Aslam's conclusions (2019) that coworking spaces offer socialization opportunities and facilitate interpersonal relationships.

Community Building is another notable code. Coworking co-constructs a sense of community, in which members take an active role in (Garrett et al., 2017). Each participant mentioned active participation in the community at The Ground, with many mentioning how other members have been integral to their organizations growth. As Panion has grown their business during their time at The Ground noted that they "feel a part of something bigger" at the space. Additionally, respondents mentioned how all Groundlings communicate with one another virtually using Slack, an instant messaging and collaboration application. Fitting with The Ground's name, Hjertström mentioned that during her selection of members, she looks for organizations that can *grow* as they become a part of the community (interview, March 27, 2020). Organic growth summarizes the history of The Ground, as mentioned in the Case Study section. Perhaps *community building* at The Ground is best described as *community growth*.

Diversity and equality were mentioned throughout the responses. From our observations, diversity at The Ground goes beyond just a diverse mix of organizations or economic diversity. We observed diversity can be found in gender, sex, nationality, age, and much more at The Ground. We assume there may be hidden diversity present at The Ground as well. Although not a common theme among the coworking literature we reviewed, diversity is a key goal of The Ground, which has worked to create diversity among members (Hjertström, interview, March 27, 2020). Hjertström noted that she wanted to have more women-led organizations at The Ground. Notably, one member, Jämställd Utveckling Skåne, deals with gender and equality (interview, March 24, 2020). Another member that was not interviewed, Pink Programming, "organizes code events for the female, transgender, and non-binary communities" (Pink Programming, 2020). When mentioning other organizations, respondents valued diversity and one believed it brings "new perspectives and inspiration."

5.5.3 COLLABORATION

Overwhelmingly, *Helping other organizations out with tasks* was the most common code relating closely to collaboration. This confirms that Groundlings are using the space's various common and collaboration spaces, including six meeting rooms. Helping other organizations refers to informal and non-contractual help between members. One respondent noted that "sometimes we help each other without any money involved." This demonstrates how members make very deliberate collaboration efforts. Some respondents noted that many instances of

collaboration are not highly visible, but rather "opportunities for inspiration" or an "exchange of common problems and solutions." Hjertström described how the typical Grounding is an "expert" in their field, and this allows them to utilize their expertise outside of their organization (interview, March 27, 2020).

We heard that Groundlings are often open to help others outside of their organization in specific projects. Notably, Hjertström noted that organizations have collaborated on contractual projects (interview, March 27, 2020) and one respondent has used fellow Groundings as subjects for conducting user testing. Another respondent mentioned contracting a User Experience (UX) designer from another member for a project. Intra-organizational collaboration was also mentioned, mostly in relation to opportunities that the coworking space offers that enable collaboration. One respondent valued the ability to "to switch rooms for what you need" to better collaborate with colleagues. This flexible use of space for collaboration shows that The Ground's space helps meet members' collaboration needs.

Our results relating to collaboration support Castilho and Quandt's (2017) conclusion that collaboration is a key component of coworking spaces. We found very specific instances of collaboration, but also found that collaboration is not always very explicit, and can be seen in instances of inspiration. During our follow-up interview with The Ground, we asked Hjertström if she would describe The Ground as Castilho and Quandt's (2017) description of either a convenience sharing or a community building coworking space (interview, April 2, 2020). She noted that she believes The Ground is overall a community building coworking space but with "a little bit of convenient sharing as well" (interview, April 2, 2020). Our survey and interview results corroborate with her description, as we found the members to be highly active in collaboration and focused on building their community.

5.5.4 CREATIVITY

Idea generation was the highest occurring code relating to the theme of creativity. Cheah and Ho's study (2019) showed that the generation of ideas is one of the main creative goals of coworking spaces. One respondent said that "there is a general sense of being able to share experiences and in some cases borrow and lend ideas" at The Ground. As mentioned before, members often exchange problems and solutions, bouncing ideas off one another. The environment of "experts" at The Ground likely allows for a diverse set of ideas and perspectives (Hjertström, interview, March 27, 2020). Notably, we did not refer to idea generation during our interview questioning, but multiple respondents used these words themselves.

Several respondents mentioned *Outside inspiration and advice*. One described how they often reach out to creative Groundlings for advice. Many respondents described the creative atmosphere and creative individuals at the Ground. Creative organizations at The Ground include an artificial intelligence (AI) company, an experience design agency, a computer vision consultancy, a digital design company, and more ("Who We are"). One individual said that "it's only positive to be around

creative and positive [people] from other companies." Some describe *Learning opportunities,* including one individual describing that they have "other designers that we can ask for feedback and who can teach us new tools." These descriptions exemplify Brown's findings (2017) that coworking spaces provide peer-learning and mentoring opportunities through social capital. We have seen that the mix of creative and skill individuals and organizations give Groundlings plenty of opportunities for inspiration and learning.

We found that the space and operations of The Ground affect creativity, confirming our observation of a creative atmosphere from the Spatial Analysis. This creative vibe in the space is exhibited by origami butterflies, company stickers, and photo wall displayed in the photographic findings. Panion noted that "we are creative people" and that "the space itself gives a positive effect" in regards to creativity (interview, March 24, 2020). Another respondent believes that the way The Ground is operated allows for a positive effect on creativity in their organization because "almost everything is allowed." This shows the high amount of freedom The Ground's operations and policies gives to its members.

5.5.5 PHYSICAL SPACE

Flexible use of space was mentioned the most out of all the codes, at seventeen instances. Many individuals described flexible ways to work in different spaces at The Ground, including in common spaces. The flexibility of the main room, with movable furniture and frequent workshops, can be seen in the photographic analysis. Groundlings have the freedom to use many spaces in a way that fits their needs. One noted that it is "very beneficial for small companies to access The Ground's common areas at breaks." The single-person company noted that it is beneficial to have their "own office as well as [spaces to] interact with others if you want to." Other respondents describe a *Positive atmosphere* at The Ground which provides "a calm quiet place to work," spaces for fika (the Swedish word describing a social coffee break), as well spaces for "having lunch together with new people." One individual described the mix of social spaces and quiet places to work as well-balanced. A few noted some downsides to the space, including that some common areas can be noisy at times. Furthermore, the space was described as providing opportunities for *Relaxation* three times, demonstrating that there is a mix of spaces for different uses.

The results from these three codes relating to physical space align with Bouncken and Aslam's description (2019) of how coworking spaces offer spatial co-location, which promotes social interactions and knowledge sharing. Instances of knowledge sharing The Ground's space have also been described in the analysis of the *Learning opportunities* and *Outside inspiration and advice* codes as well as in the examples on non-contractual and contractual collaboration. The shared spaces, primarily on the ground floor, are common spots for social interactions, and have high traffic. We believe the layout on the ground floor, with an open layout, stimulates interactions between individuals.

A few respondents also mentioned the *Location convenience* of The Ground's space, including Jämställd Utveckling Skåne, which is a regional nongovernmental organization that has to travel throughout the Skåne region and benefits from being close to public transit (interview, March 24, 2020). Panion enjoys the benefits of the location being close to public transit, that is easy to bike to, well as located next to a variety of amenities including restaurants, grocery stores, and other shops (interview, March 24, 2020). Panion noted the financial benefit The Ground's location offering provides their company, explaining that it "provides a nice area for everyone, [which] we wouldn't be possible to rent or buy ourselves" (interview, March 24, 2020). Notably, we did not mention anything relating to financial benefits of coworkings spaces. Panion's explanation affirms Bianchi et al.'s findings (2018) that coworking spaces provide a fiscal benefit to organizations.

As we wanted to gain an in-depth understanding of the physical space, we asked all the respondents about specific spaces they found effective or ineffective, and if they had any specific recommendations for improvements to the space. The meeting rooms, main room, kitchen and enclosed phone booths were popular and believed to be effective spaces. Notably, a few respondents wished for more audio and visual technology in the meeting rooms and Jämställd Utveckling Skåne wished there was another large meeting room (interview, March 24, 2020). The needs for audio and visual technology and meeting rooms infers a need for more tools for collaboration. One organization would like "larger spaces to test our products," illustrating the desire for additional spaces for creative and technical processes.

Panion believed it would be helpful if The Ground could offer legal experts, information technology (IT) technicians, and human resources professionals who could stop by the space to help start-ups and small companies working at The Ground (interview, March 24, 2020). Although The Ground is heavy in expertise in creative industries, it seems there is a need for expertise in these additional fields and a desire to build new relationships. This demonstrates a need for more knowledge sharing in order to increase collaborative capability at The Ground. These wish-list items also exemplify how coworking spaces can always be physically improved, and must balance their spaces to meet the needs of their members. Additionally, we observed that the spatial needs differ from organization to organization.

6 DISCUSSION AND CONCLUSION

The purpose of this study is to examine the effects of coworking space as it relates to meeting the common goals of collaboration, community, and creativity (the three C's) for its members. In conducting our analysis of physical coworking space, we conducted a case study at one coworking space, The Ground, which we will use to frame our discussion and conclusions. We examined the effects of the three C's through a case study at a coworking space by interviewing and surveying members, as well as the Manager of the space, and collecting spatial data. Afterwards, we analyzed the data through various means. We posed two interrelated research questions, which we will revisit below.

HOW CAN PHYSICAL COWORKING SPACES ENHANCE COMMUNITY, COLLABORATION, AND CREATIVITY TO CREATE A BETTER EXPERIENCE FOR THEIR MEMBERS?

The Ground's space is highly personalized with a creative flair, with members The Ground's space is highly personalized with a creative flair, with members making their own impact on both private office and shared space. We believe this makes The Ground unique. Coworking spaces that we have seen online or in person typically do not have much, if any, personalization. We believe this personalization increases the personal connection individuals have to the community. Upon additional research into personalization, we found additional studies that support these findings on personalization. Wells et al. (2007) found that workspace personalization benefits employees wellness and job satisfaction and improves organizational culture. Pro-personalization workplace policies increase employee commitment to their company (Wells et al., 2007). An additional study by Laurence et al. (2013) found that personalization at work reduces emotional exhaustion benefitting employees and their sense of community.

The Ground's space also balances practical office needs with an open and airy home-like feel, which we believe provides a positive environment for members. The space is full of life and the open layout provides opportunities for interaction. Collaboration is at the center of The Ground's community. Members of The Ground value opportunities for idea sharing and learning, and many collaborate with other members, as well as members of their own organization. These collaborative exchanges promote creativity among members, which Orel and Almeida's find to benefit organizations (2019). The Ground exemplifies Spinuzzi et al. (2018) claim that "coworking is about community, specifically, the collaboration that takes place within communities" (p. 114).

The coworking space that we conducted the case study, The Ground, consisted of a diverse mix of member organizations, including a single person company, a small non-governmental organization, a mobile application company, and much more. Although there is always room to improve physical space, The Ground's space is mostly successful in meeting its members' needs for conducting work and for socializing by balancing various spaces for different uses. The coworking space consists of various shared spaces that promote social interaction, and The Ground's members value socialization opportunities. Bounchen and Aslam (2019) found that co-location promotes social interactions, which increase knowledge

sharing, and we found a variety of these interactions and exchanges at The Ground. Opportunities for interactions have also allowed Groundlings to build relationships with individuals at other organizations. Common values, such as diversity, have allowed Groundlings to build community. The common efforts to build a strong community goes beyond the physical space and has created a collective identity for the members as Groundlings.

The Ground has a "you can do about anything" management style that allows for a lot of freedom. The flexible space, with an adaptable main room, allows Groundlings to freely use the space for their needs. We believe our results demonstrate that this freedom allows members to better meet their organizations' diverse needs. Members of The Ground value freedom in the way they work, and The Ground provides freedom in how they work as well as use space.Coworkings spaces provide opportunities for communication and socialization. The Grounds' space also provides areas for inter-organizational and intra-organizational collaboration, which Bianchi et al. (2018) note provide professional and often fiscal benefits. We believe that freedom, along with opportunities to interact, allow members to collaborate and be creative.

ARE THERE ANY COMMON GOALS OR VALUES OF THE CHOSEN COWORKING COMPANY AND ITS MEMBERS?

Through our research into the three C's as experience at The Ground, we identified two goals/values of The Ground and its members: *freedom* and *diversity/equality*. We believe our findings in relation to these two goals provide new insights to coworking knowledge and warrant additional research, which we will explain further.

6.1 FREEDOM

During our literature review, we found literature regarding freedom in coworking in regards to space, pricing, and payment terms as explained by Callahan (2019), but we do not believe this fully encompasses the concept of freedom that we found in our data at The Ground. Groundlings value freedom in the way they run their business, freedom in the ways they interact, and the freedom to make their space their own. We decided to look into the concept of freedom in relation to coworking, but did not find any academic publications or studies centered around the concept. We found various articles mentioning coworking and freedom, specifically in relation to freedom in the way people work, as exemplified in the following: "Freedom and independence are increasingly becoming important for the new generations of workers... A coworking community combines the best of both worlds" (English, 2019, n.p.). Furthermore, we found that the concept of freedom goes beyond just work:

> "Coworking-users have the freedom to pursue business and nonbusiness targets. Although the term coworking includes "work," users of coworking spaces might seek leisure and socio-cultural desires besides the professional work, possibly combining both elements. Thus, coworking allows autonomy and dynamic combinations of task-related and leisure targets as well as combinations of social and economic targets. The nexus of these can further drive creativity."
> (Bouncken & Reuschl, 2016, p. 320)

We believe that The Ground's coworking space allows members to meet business and nonbusiness targets, as it allows for social interactions that can build these relationships. The Ground also balances meeting business needs with a social environment and home-like feel. The person who introduced society's current understanding of coworking, Brad Neuberg, stated that coworking provides "the freedom and independence of working for myself [or my organization] along with the structure and community of working with others" (Franco, 2015, n.p). Neuberg also stated that "people creating coworking communities have always felt the freedom to remix the idea and take it in their own direction, which was something I wanted" (Franco, 2015, n.p.). His description of coworking as providing freedom and coworking managers having freedom in their direction to coworking shows that freedom is likely a central concept of coworking.

We believe that coworking space managers can likely enhance creativity and collaboration benefits provided to their members on a personal and organizational level by creating policies and spaces that allow for more freedom. This includes allowing members to contribute to the space, by being allowed to use the space flexibly and being able to personalize the space. Members can actively work to increase freedom by making the space reflective of their organization and collaborating more with others, both formally and informally. We believe freedom can be a key to successful coworking space, which adds a new insight to coworking. We recommend other researchers study if freedom is a common concept central to all coworking spaces by looking into how different organizations at coworking spaces value freedom. They can explore what freedoms coworking allows that would not be offered by other forms of work. Researchers can also compare the effectiveness of coworkings spaces that allow for broad freedom to coworkings spaces with more restrictions.

6.2 DIVERSITY/EQUALITY

The coworking literature we reviewed sometimes mentions diversity, but mainly in regards to diverse organizations. There was no mention of other forms or more individual diversity, or of concepts such as women-led businesses, as mentioned by The Ground's manager (Hjertström, interview, March 27, 2020). Therefore, we decided to look more into diversity as it relates to coworking. Similar to the concept of freedom and coworking, we did not find academic publications or studies centered around the concept of diversity and coworking, but found articles. Mendes and Duarte (2015) believe that diversity, including age, gender, culture, and more are behind the operational success of coworking spaces. The authors believe that diversity allows coworking space to be places of creativity and innovation. Davis (2019) notes that many coworking managers and leaders look to increase diversity in their members, including minority owned businesses. Davis (2019) suggests that coworking managers immerse themselves in minority communities that may not be familiar with coworking and its benefits.

Peek (2019) explains how new perspectives from other coworking space members can give a boost to creativity and offer a variety of networking opportunities. Therefore, increasing the diversity of individuals at a coworking space should further boost creativity and provide more networking opportunities. Our results at

The Ground indicated that diverse people and organizations increase the exchange of knowledge. Additionally, The Ground's manager has been very proactive in increasing member diversity (Hjertström, interview, March 27, 2020). While we observed diversity among individuals at The Ground, we did not conduct a detailed analysis, such as collecting specific data or statistics. Types of diversity statistics at coworking spaces can include age, sex, gender, cultural background, and more.

We believe that coworking space managers can likely enhance idea and knowledge sharing and increase the innovation created by collaboration by enhancing diversity at their coworking spaces. This includes both visible and hidden types diversity. Coworking members can share more of their diverse ideas, insights, and inspiration. We believe diversity and inclusion are highly beneficial goals for coworking space, which adds an additional insight for coworking spaces. We recommend others to study the various types of diversity present at coworking spaces to explore how diversity affects individuals and organizations at coworking spaces. Furthermore, researchers can study how diversity and inclusion can be increased at coworking spaces.

6.3 LIMITATIONS

We conducted our study at one coworking space, The Ground, which is a small snapshot of the vast amount of coworkings spaces throughout the world. The Ground's members have been carefully curated by the space's manager to fit their culture (Hjertström interview, March 27, 2020). The Ground, located in Sweden, offers a culture and atmosphere that may or may not be typical to other coworking spaces. We also acknowledge that our study might be influenced by subjective interpretations, however we have done our best to integrate quality coworking theory and case methodologies to minimize personal influence.

Our study was affected by the Covid-19 pandemic, as we were not able to conduct our observation as planned. We received less interview and survey responses that we had hoped for, due to resource limitations placed upon organizations during the pandemic. We did not have as much interview or survey content as we had hoped for. However, we increased our efforts to attain as much information as possible into the case and gain rich data, and believe our findings are substantial.

In using a case study format at The Ground, we did not seek to conduct a study that would generalize all coworking spaces. However, we see value in further exploring concepts of our results to see if they are representative of other coworking spaces. Therefore, we recommend that other researchers look further into our key findings, primarily relating to concepts of freedom and diversity and inclusion at coworking spaces, by conducting further studies at additional coworkings spaces.

6.4 IMPLICATIONS

We believe the findings in our study are applicable beyond the field of coworking, as the three C's are common management goals of any organization. We believe that all organizations, including those that work in traditional offices or work

remotely, can benefit from enhancing community, collaboration, and creativity through interactions both within and outside their organization. Organizations can also work to improve their workspace and management to increase these goals. Furthermore, organizations can work to increase freedom and diversity through their policies and space layout to increase socialization and knowledge sharing.

We also believe that communities can be enhanced outside of physical space through digital tools. This is especially relevant, as this study was conducted during the Covid-19 pandemic, when coworking members could not meet in their physical coworking space. We believe that perhaps some of the authors presented in our literature review overlooked the fact that socialization and collaboration can occur outside of physical space on digital platforms. Community, collaboration, and creativity should be studied further in regards to remote work and digital tools. Notably, members at The Ground tended to be highly digital and social, and we believe they will continue collaborating and creating within their community during the time of remote work in which they cannot meet physically.

6.5 OVERALL SUMMARY

We explored the effects of coworking at The Ground, as it relates to meeting the common goals of collaboration, community, and creativity for its members. Socialization is a common theme linking the three C's. The Ground's space is mostly open and facilitates opportunities for socialization, which its members value. The management style of organizations at The Ground reflect the theme of openness, and have low hierarchies. The Ground's space provides a flexible platform for collaboration. The space is open fosters creativity, and members share ideas and inspiration. Members collaborate within and outside of their organizations, including contractual and non-contractual work. The members have built relationships and co-constructed their community, they have created a collective identity as Groundlings. The Ground was built upon increasing diversity and inclusion. Members are free to use and personalize The Ground's space to meet their needs. Members value their freedom, which is a key component to building The Ground's community. Based on our findings at The Ground, we believe freedom and diversity and inclusion are beneficial goals to create a successful coworking space.

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APPENDIX

ONLINE SURVEY: MEMBERS
Open ended-text boxes, anonymous answers. Sent to members at The Ground by The Ground's manager via a link to Google Forms.

- In your own words, how would you describe the management style of the organization you work for (at the Ground)?
- How does The Ground affect the sense of community at your organization? If possible, can you give an example?
- How does The Ground affect collaboration at your organization? If possible, can you give an example?
- How does The Ground affect creativity at your organization? If possible, can you give an example?
- What effect do you believe that The Ground and it's space have on the psychological well-being of yourself and the other employees at your organization?
- Are there any specific common spaces at The Ground that you find effective or ineffective and why?
- Do you have any specific suggestions to improve The Ground's space to better meet the needs of yourself and your organization?
- Is there anything else you would like to mention about your coworking experience at The Ground's space?

INTERVIEW QUESTION GUIDE: MEMBERS
The following guide was used for interviews conducted via Skype with The Ground, Panion, and Jämställd Utveckling Skåne. The Ground's interviews contained additional background and follow-up questions.

- Company Stats (some information pulled from their website as well)
- What is the number of full time company employees, part time employees, and contractors (if applicable) that your company employs?
- Does your company have any locations outside of this coworking space? If so, please list each location and the approximate number of employees at each.
- Do any employees work remotely/from home or other circumstances, or are they all located at The Ground?

MANAGEMENT
- Can you introduce yourself and your role at your company?
- Can you describe a brief history of your company and its mission?
- How would you describe your company structure/organizational type? What is the hierarchy, if applicable?
- Do you have specific departments at your company?
- Is there an overall style of management at your company?
- How long have you been at your company, and how did you end up there?
- Please provide a brief overview of the jobs/roles of the staff your company employs.
- How did your company end up at the coworking space?

- Can you describe a typical day at the coworking space for your employees?
- What areas in The Ground's common spaces do you find effective or ineffective and why (repeat this question for various areas in the coworkings space)?
- How does your organization provide a learning environment?
- Something about innovation?

COWORKING
- How does The Ground affect the sense of community at your company? Can you give an example?
- How does The Ground affect collaboration at your company? Can you give an example?
- How does The Ground affect creativity at your company? Can you give an example?
- What effect do you believe that The Ground and it's space have on the psychological well-being of the employees at your company?
- What effect do you believe that The Ground and it's space have on the health of the employees at your company?

THE SPACE
- Within this city, what are any advantages and/or disadvantages of the location of this coworking space?
- Do you have any specific suggestions to improve the coworking space to better meet the needs of your company?
- Can you describe any instances of conflict created between a member of your company and a member of another company at the coworking space?
- Does your company plan to retain membership at the coworking space as their needs change?
- Has your company been involved in any way in the design of the space at the Ground, including any small changes? (even if it's just something simple like new kitchen equipment, hanging artwork, etc.)