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Addressing the Dilema Between Collaboration and Privacy in Coworking Spaces

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ABSTRACT: This paper aims to inform design strategies for regulating privacy in coworking spaces. Coworking spaces are growing at a high rate, yet studies related to the social, psychological, behavioral and physical needs associated with these environments are limited. The growth of coworking spaces is in greater part facilitated by a drive towards greater interaction and collaboration among the workforce. With this apparent intent to promote collaboration and interaction, this study argues that there is need to focus on the conflict between interaction and privacy in coworking spaces. The paper synthesizes extensive environment and behavior literature and extends a conceptual argument of privacy regulation in coworking spaces. The article focuses on privacy regulation through the physical environment and behavioral mediums. The findings demonstrate that features of the physical environment comprising of barriers and fields are powerful tools that can be used to regulate users' privacy within coworking spaces. The findings also show that understanding behavioral mediums such as personal space and territoriality and their conscious consideration in the design of coworking spaces may allow supportive working environments that respond to a wider range of users' privacy needs. The ideas discussed in this paper seek to provide architects and interior designers with a guide to address numerous privacy issues, not only in coworking spaces but also other comparable innovation centers that may emerge in future economies.

Keywords: *Coworking space, Collaboration, Privacy regulation, Physical environment, Behavioral mediums.*

INTRODUCTION

In today's economy, many people can work from a greater variety of locations due to advances in internet communication technologies. This, together with changing user needs, has led to significant changes in physical environments for work and how work is carried out. New working environments, known as coworking spaces, have recently emerged worldwide to support more mobile and flexible workstyles. Coworking spaces can be defined as "membership-based workspaces where diverse groups of freelancers, remote workers, and other independent professionals work together in a shared, communal setting" (Spreitzer et al., 2015).

The rise of coworking spaces is in greater part encouraged by a drive towards greater collaboration and interaction of the workforce (Spinuzzi, 2012; Spreitzer, Bacevice, & Garrett, 2015). The benefits of coworking for collaboration and interactions has been acknowledged in a number of studies (Capdevila, 2013; Fuzi, 2015; Gerdenitsch, Scheel, Andorfer, & Korunka, 2016; Spinuzzi, 2012). However, there is limited research to guide the design of these spaces. One ignored area involves the dilemma between collaboration and privacy. Collaboration may not flourish if the occupants needs related to privacy are ignored. Research evidence shows the drawbacks faced by workplaces when they make design alterations to increase interaction without taking privacy needs into account. For instance, informal interactions won't flourish if people can't avoid interacting when they wish to (Fayard & Weeks, 2011); When people don't have control over their communication, they tend to communicate less (Bencivenga, 1998); And lack of control over accessibility can negatively affect task performance (Brill et al., 2001) . This study therefore argues that, as coworking spaces strive to facilitate collaboration and interaction, there is need to focus on the conflict between interaction and privacy.

Examining the conflict between interaction and privacy in

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coworking spaces is only a method of understanding how spatial requirements affect the relationships between the users. To understand how space affects relationships between the users, it is necessary to characterize key features of the physical environment. Zeisel (1984) categorizes features of the physical environment associated with regulation of interpersonal contact as barriers and fields. These design features are useful in managing privacy in work environments (Kupritz, 1998). However, we cannot single out the physical environment as a top priority in addressing the dilemma between interaction and privacy in coworking spaces. Privacy needs of individuals or groups rely on the conditions around them at a time. In one situation, the physical environment of the coworking space may support the users' privacy needs. In another situation, users may need to manage their privacy through behavioral mechanisms such as verbal, nonverbal and environmental behaviors, because the physical environment is not supportive. Based on this conceptual break down of privacy, this paper seeks to extend a conceptual argument for privacy regulation in coworking spaces through the physical environment and behavioral mechanisms. Among the behavioral mechanisms available for managing privacy, the study specifically concentrates on environmental behaviors that comprise of personal space and territoriality.

MATERIALS AND METHODS

This study draws upon the theoretical framework of Altman (1975) and studies related to privacy regulation and uses the synthesis to extend a conceptual argument for regulating privacy in coworking spaces.

Privacy regulation

Privacy has been defined consistently in relation to the ability of an individual or group to control their social interactions. For instance, Altman (1975, p. 18) defined it as the "selective control of access to the self or one's group". This definition has a central concern for control of one's environment. Privacy should therefore not simply be viewed as the physical withdrawal of a person from others in order to be alone (Schwartz, 1968).

According to Altman (1975), privacy operates as a boundary regulating process that is dialectic in nature. It involves the desire to be with or without others, with one desire dominating the other at a time. This implies that a coworking space that is static, permits either very little interaction or excessive interaction will not provide privacy. Altman (1975) proposes that to attain privacy, designed spaces should be responsive and able to meet peoples changing privacy needs. This allows an easy alteration for either being together with others or for being separated from others. In Altman's point of view, privacy is culturally universal. However, the way how privacy needs are met differs from culture to culture. In other words, the ability of individuals to regulate their privacy is universal, however, people use techniques and behaviors to regulate their privacy across different cultures.

In every activity people are engaged in, they strive to get an appropriate level of privacy (Lang, 1987). The efforts of individuals to obtain this level of privacy is defined as privacy regulation. According to Altman (1975), the process of regulating privacy is dynamic and dialectic. In other words, when time and conditions change, the degree of privacy desired by individuals and groups will also change. Altman (1977) postulates that privacy regulation involves much more than just the physical environment. He argued that people use a network of behavioral mechanisms to manage their social interactions. These mechanisms include verbal behaviors, nonverbal behaviors, environmental behaviors (that comprise of personal space and territoriality), and culturally defined styles of responding. Altman states that these mechanisms operate as a system. That is, individuals may use different mixes of behaviors to achieve a desired level of privacy (Altman, 1977). Altman's theoretical framework is the most applicable to the investigation of privacy regulation in the built environment (Sundstrom & Sundstrom, 1986).

RESULT AND DISCUSSION

The theoretical build in this study argues that privacy in coworking spaces may be regulated through the physical environment and behavioral mediums.

Physical environment

Sundstrom (1985, p. 174) describes the physical environment as the "layout and appearance of buildings, the arrangement and properties of rooms, characteristics of equipment and furniture, and the associated ambient conditions (sound, light, temperature, air)". The physical environment provides resources for regulating interpersonal contact, and for signaling desires for more or less social interaction (Sundstrom, 1985). Zeisel (1984) categorizes elements of the physical environment for regulating interpersonal contact as "barriers" and "fields". These physical elements maybe be employed in coworking spaces to create desired levels of privacy for the users. Fig.1. shows Conceptual diagram of privacy regulation through the physical environment.

Barriers

Barriers are the physical elements in an environment that keep people apart or joining them together, physically and symbolically (Zeisel, 1984). Zeisel (1984) describes barriers as walls, screens, objects, and symbols. According to Zeisel,

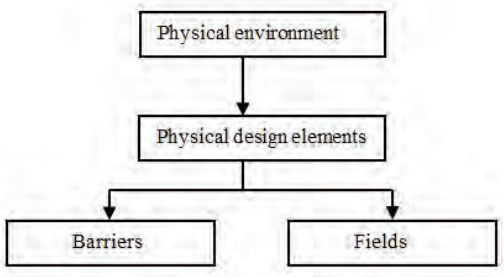

Fig.1: Conceptual diagram of privacy regulation through the physical environment.

walls are space dividers. Their presence separates people and their absence joins people. Zeisel argues that screens, which include doors, windows and glass panels are more selective in separating and joining people in a place than walls. Glass, for example, allows visual connection while physically separating people in a place. Zeisel asserts that objects placed in a space such as furniture may either facilitate separation or connection for the occupants in a space. Furthermore, Zeisel's study argues that symbols, which include floor level changes or color changes in a room may separate or join people perceptually. In other words, people may consider two places with varying floor level as separate places (Zeisel, 1984).

Several studies have acknowledged the role of barriers in regulation of privacy. A study by (Brill et al., 1985) demonstrates that individuals regulate their interpersonal contact most consistently through physical enclosure of the workspace, such as, walls and partitions.

Robson (2008) examined the use of architectural features to regulate privacy under hypothetical situations, he defined seats along the perimeter of the room as anchored positions, and those in the middle of the room as unanchored positions. The result indicated that people prefer anchored positions when they need more privacy. Corner tables offered the highest levels of privacy because they provide protection from invasion on two sides. Tables that were anchored on one side offered moderate privacy because they provide protection from invasion on one side. Tables that were not anchored provided no protection from invasion and offered the least privacy for the users.

Sundstrom et al., (1980) conducted a comprehensive research about the relationship between the degree of enclosure and visual and acoustical privacy in workplaces. The findings indicate that privacy is positively linked to the number of enclosed sides of the workplace and the existence of a door. Thus, a workplace enclosed with floor-to-ceiling walls and lockable doors represents a high level of privacy while a large undivided space occupied with number of people would embody less degree of privacy. Physical elements that provide visual and acoustical barriers are required when individuals and groups need to discuss confidential information (Sundstrom et al., 1980).

Archea (1977) found that individuals position themselves around physical elements like doors and partitions, in order to have control of visual access and exposure. This behavior enables individuals and groups to regulate their privacy by selectively facilitating or limiting the flow of interpersonal information.

Fields

Fields are the physical elements in an environment that perceptually separate or join people together by altering the physical context in which perceptual relationships occur (Zeisel, 1984). Zeisel (1984) asserts that field characteristics alter the physical context through shape, orientation, size and environmental conditions-Lighting, acoustics, and air quality. Zeisel states that the shape of a setting can perceptually separate or join people in a place. For example, corners in a square shape can easily be seen as separate from each other, unlike round shapes that join people. He argues that orientation joins or separates people perceptually through functional distance. For instance, two places oriented in such a way that people using them can easily encounter each other are considered functionally closure and those oriented in such a way that people using them cannot easily encounter one another are considered functionally distant. Zeisel's study further asserts that size of a setting can either give an opportunity for people to adjust their interpersonal distance or limit their options for separation. Environmental conditions, which includes loudness, light intensity and airflow perceptually separate or join people by facilitating or limiting their ability to see, smell and hear other people and activities in a place (Zeisel, 1984).

Numerous studies have consistently linked field characteristics to privacy management. A study by Kupritz (1998) found that orientation of the workspace, as a field characteristic, might be more important than physical enclosures like walls or partitions in regulating privacy. Orientation of the workspace stresses the importance of functional distance or the probability of individuals seeing or meeting one another (Zeisel, 1984). The investigation by Kupritz (1998) further argues that incidental meeting zones like exit doors, restroom facilities and coffee pots add to the acoustical and visual distractions users encounter from the main movement stream. Much as incidental meeting zones are critical for casual interactions, they likewise can create distractions and lack of privacy. Applied in the coworking context, designers need to distinguish incidental meeting areas to avoid when individuals need their personal space for privacy, and incidental areas to look for when serendipitous interaction is desired.

Goodrich (1982) gives an example of how light intensity, as an environmental condition, facilitates regulation of interpersonal contact in the workplace. Lighting systems that give higher light levels on the primary work areas and decrease general surrounding light levels make a varyingly lit workspace. This perceptually separates the primary work surface from other areas in the same space, thus creating a sense of privacy for the workers.

Sound, as another environmental condition, can facilitate privacy regulation in the workplace. Studies indicate that acoustical privacy in open plan layouts can be regulated through electronic sound masking systems (Haapakangas & Hongisto, 2008). Sound masking is the process of adding a low level, unobtrusive background sound (such as white noise, which sounds similar to the sound of airflow) to an environment to reduce the intelligibility of human speech and reduce noise distractions in that environment (Haapakangas & Hongisto, 2008). Applied in coworking spaces, sound masking can cover up the unwanted background noise and make confidential discussions not to be overheard, thereby improving users sense of acoustic privacy.

Air quality, as an environmental condition, has effects on the perception of olfactory privacy. Kleeman (1981) gives an

example of the relationship between olfactory privacy and the quality of air flow:

Some people are very conscious of another kind of privacy--olfactory privacy. Some individuals are allergic to tobacco smoke or maybe they do not like the body odors of the people nearest to them (Kleeman, 1981, p. 284).

The ventilation rate of an environment affects the air quality in it (Wargocki et al.,2002). Consequently, in coworking spaces, provision of appropriate ventilation systems may improve the level of air quality and sense of olfactory privacy for the occupants.

Behavioral Mediums

Besides the physical environment, individuals and groups may also use behavioral means to manage their privacy in the coworking space. Moore and Golledge (1976) maintains that the user's role in the environment is not passive. People actively anticipate events so they can make decisions about behavior. Altman (1977) argues that people use various behavioral techniques to regulate their privacy, such as verbal behaviors, nonverbal behaviors, environmental behaviors and culturally defined styles of responding. Among the mentioned behavioral techniques for managing privacy, this study focuses on environmental behaviors that are directly linked to the physical environment. People use environmental behaviors to modify the environment or modify themselves to the environment to meet their individual and group needs related to privacy (Altman, 1977). Environmental behaviors comprise of personal space and territoriality. Fig. 2 shows the Conceptual diagram of privacy regulation through behavioral mediums.

Personal space

Personal space is a behavioral mechanism for attaining privacy through opening and closing the self to others by means of increasing or decreasing interpersonal distance. (Sommer, 1969, p. 26) defines personal space as "an area with an invisible boundary surrounding the person's body into which intruders may not come". If an intruder enters an individual's personal space, they feel psychological discomfort and show displeasure (Goffman, 2009).

Accommodating users' ability to manipulate physical elements in the coworking space is very important in regulation of privacy through personal space. Kupritz (1998) recognized the significance of facilitating users' ability to manipulate physical elements in work environments. She argues that privacy might be achieved more using flexible and adoptable furniture than physical enclosure of the workspace. This flexibility gives the individuals and groups control over the environment. People feel more comfortable to interact informally in situations where they can move furniture around to adjust their interpersonal distances to meet their personal space needs. Sundstrom (1985) describes how individuals regulate their privacy through personal space in the workplace:

Partners in conversation seek an optimal psychological distance, which is adjusted through interpersonal proximity, eye contact, and other behaviors. Applied to the work environment, this theory implies that conversants are more comfortable in seating arrangements that allow them to adjust their distance (or other cues of immediacy) to suit their preferences (Sundstrom, 1985, p. 184).

The need for personal space is highly variable depending on factors such as cultural differences and personal experiences (Hall, 1973). Coworking environment should therefore respond to such different users. The information in this area could be examined to understand how people from different cultural backgrounds use personals space and how different spatial configurations evoke personal space relationships in the coworking space.

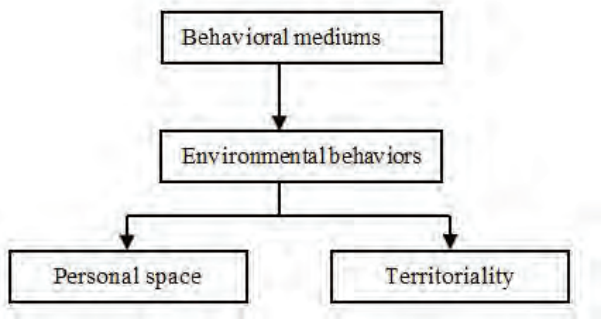

Fig. 2: Conceptual diagram of privacy regulation through behavioral mediums.

Territoriality

Territoriality is a mechanism used to regulate privacy through territorial behavior (Altman, 1975). Territorial behavior can be defined as "a self-other boundary regulation mechanism that involves personalization of or marking a place or object and communicating that it is owned by a person or group" (Altman, 1975, p. 107). Encroaching someone's territory may result in social conflict due to behavioral reactions to repel an undesired boundary crossing (Altman, 1975).

Altman and Chemers (1980) postulates that in order to regulate interpersonal accessibility, individuals and groups may display physical elements to define their territories. Creating territories enables users to have more control over their environment (Wollman et al., 1994). Applied in coworking environments, providing opportunities for users to personalize their workspace may raise their ability to control their level of social contact and consequently increasing their sense of privacy.

Altman (1975) classifies territories into three, primary, secondary and public territories. Primary territory is used almost exclusively by an individual or group, usually in the long term. It is where an individual or group spends a lot of time and have their personal psychological needs attached. Primary territory serves as a highly controlled privacy regulation mechanism and permission is required to exceed its boundaries. Secondary territory is used regularly by an individual or group but shared with others. It is where individuals or groups can set up a temporary territory to have a conversation. Finally, public territory is where everyone has right of access and use. It is

not owned or under restrictions of any individual or group. It does not, however, permit freedom of action. Therefore, people depend heavily on societal and institutional norms and customs rather than users' rules. Applied in coworking spaces, designers may focus on ways to clearly define primary, secondary, and public territories, such that the different levels of territories are viewed correctly by the users and are clearly defined according to their degree of ownership. If territories are not clearly defined, chances of intrusions would be high, leading to social conflicts as a result of behavioral reactions to repel an undesired boundary crossing.

CONCLUSION

Synthesizing an extensive environment and behavior literature, this study discussed how the physical environment and behavioral mediums may be used to regulate privacy in coworking spaces. Specific features of the physical environment discussed in this study comprised of barriers and fields. Behavioral mediums discussed comprised of personal space and territoriality. The findings show that physical environment features involving barriers and fields can be utilized to regulate privacy in coworking space. The findings likewise demonstrate that understanding and considering behavioral mechanisms, for example, personal space and territoriality in the planning of coworking spaces may allow supportive working environments that respond to a wider range of users' privacy needs. If privacy and its associated mechanisms are ignored or rigidly incorporated into design of coworking spaces, then the users will have to struggle against the environment to try and achieve what they consider as appropriate levels of social contact. Task performance might diminish, and collaboration might not flourish. The ideas presented in the study sheds some light on the process by which spatial design of coworking spaces can support users' needs related to privacy, which in turn, might lead to positive behavioral responses and outcomes.

Much as the conceptual arguments presented in this study may enable designers to tackle several privacy issues in coworking spaces, focused empirical research is recommended to obtain qualitative and quantitative information. Privacy needs of the users vary depending on the activities they are carrying out, their individual backgrounds and their cultural backgrounds. Designers must know about these differences. Cultural differences in privacy needs, such as varying sensorial responses to the environment from one culture to the other, present much needed area of research in coworking spaces.

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