

ENVIRONMENTAL PSYCHOLOGICAL CONSIDERATIONS FOR PEOPLE WORKING IN SHARED SPACES; A STUDY OF CO-WORKING SPACES *concerning Colombo, Sri Lanka*

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Abstract: While coworking has been a global trending topic since the new millennium, the Sri Lankan coworking industry starts with the economic boom at the war's end. As coworking is a new concept in the country, its adaptations and impacts need to study for future adjustments and growth. This study aims to provide a basis for space design fields to make sense of human behavior in co-working places by specializing in the context of "space." The layouts of two Colombo-based coworking environments were examined; Co-nnect and Likuid Spaces. The results showed that both the coworking environment layout arrangements and co-workers' attitudes should improve in being true to core working core values. While it gives a standard framework for future research, it sheds light on the Sri Lankan interior designers, business researchers, and venture capitalists towards new opportunities in the coworking industry.

Keywords: *Coworking, Interior Layout, Human Behaviour, Proxemics, Core Values*

1. Introduction

The interplay between people and their surroundings has been natural and inevitable from the dawn of humanity. As a branch of behavioral science that studies how environmental factors affect human behavior, environmental psychology has a rich theoretical foundation for comprehending how people interact with their surroundings.

From the beginning of humanity, the interaction between human beings and their environment has been spontaneous and unavoidable. Environmental Psychology, derived from the behavioral science field based on the impact of environmental conditions on human behavior, has developed an in-depth theoretical background for understanding the interaction between human beings and their environment as a research field (Robert Gifford et al, 2011). This study aims to provide a basis for space design fields to make sense of human behavior in such working conditions by specializing in the context of "space."

Coworking is a social working system, teamwork is always performed in interior spaces, and there is a vast dynamism. People were more ready to interact with one another than in typical working situations in the locations where the coworking concept first emerged (Gupta, 2009)). The adaptations of the coworking concept's fundamental notion in various sociocultural contexts would also provide a thorough understanding of the present-day form that it would take in the future. The interplay between human behavior and the interior, particularly as it relates to Sri Lanka's coworking spaces, is the topic of this research.

The modifications of the main concept of coworking in various socio-cultural contexts would provide a modern understanding of its future form as a novel notion with rapid expansion in the working world (Miller, I et al, 2016). The interplay between human behavior and the interior, particularly as it relates to Sri Lanka's coworking spaces, is the topic of this research.

2. Literature Review

Coworking is a novel idea in the nation; thus, it is essential to consider how Sri Lankan culture may affect future changes and expansion. The Theory of Proximity and the Five Coworking Core Value System provided the foundation for the study.

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 DOI: <https://doi.org/10.31705/FARU.2022.23>

2.1. BEGINNING OF COWORKING

The practice of the idea was first elaborated as hackerspaces in Germany in the mid-1990s. According to the ethics of the hackerspace concept, the places were community-operated physical places where people could meet and work on their projects. The exact functioning varied from place to place and was determined by its members. However, they generally followed a 'hacker ethic.' (Kostakis, Niaros, & Giotitsas, 2014) Germany's Berlin-located c-base e.V., established in 1995, is considered the first notable coworking space that influenced many spaces later. Then, due to the concept's many plus points, coworking became popular among many freelancers who share common values. (Weijs-Perrée et al., 2018)

Before coworking became commonplace (the 1950s through the 2000s), cubicles and harsh, devoid-of-vibe offices were the norms. When the notion of coworking was introduced, a change was unavoidable. Many businesses incorporate relevant new ideas into their working spaces to energize their workforces and get the most out of them. The open layout was the first significant transformation to work environments.

2.2. CONSIDERED ADVANTAGES AND DISADVANTAGES OF COWORKING SPACES

The key benefits of coworking spaces are increased pvariousivity, motivation from the various community, and adaptable culture.

The coworking environment's infrastructure and amenities, such as its location, community, culture, inviting space, facilities, flexibility, cost, and promotions, are crucial (Miller et al., 2016). Coworking is still in the process of growing and evolving. As a result, negative aspects like a lack of privacy, decreased productivity, tech-related hassles, a lack of usage, etc., are not covered.

In analyzing and systemizing the coworking concept toward shaping it into a global movement, initial contributors have identified five core values of coworking. According to Kwiatkowski A. & Buczynski B., 2011, those five are.

Community: Communities are not managed traditionally but by the people and the relationships they form.
Openness: Making coworking 'open' could evolve into something much more significant than any founders could control. It is about being more transparent, more expansive, more liberal, and more inclusive from both moral and economic perspectives.

Collaboration: Sharing values and common goals as a community and helping each other co-workers as a part of the daily routine are significant parts of the coworking concept.

Accessibility: Accessibility can be viewed in financial and physical dimensions. While the financial perspective aims to provide the necessary infrastructure for the early stages of a start-up, the physical view ensures the accessibility of the spaces for members at any time (24-hours-access).

Sustainability: Sustainability can be achieved through the collective use of resources on an economic and environmental level. In coworking spaces means ensuring businesses and communities related to co-workers are structured to create a continuous loop of giving and receiving.

2.3. COWORKING IN SRI LANKAN CONTEXT

With the end of the conflict, coworking became an emerging business concept in Sri Lanka (in 2009). The concept initially appealed to tech-savvy independent contractors and startup businesses who needed to see the value of having a 24/7 office in the expensive Colombo metropolitan center.

Here is a list of contemporary operating coworking spaces in Sri Lanka; Business Hubs, Agaya Holdings, HUB9, Coco-space, Cafe Sociale, HomeTree Coworking, Wehive, Likuid Ventures (Likuid Spaces), Colombo Cooperative, Loft 1024, John Keells X, Y Impact Hub, Shangri-La Hotel Chain (Co-nnect), Hatch, MAS (Catalyst HQ, The Hive, MAS Active), Orion City (NEST, Kitted Out, Warm Shell).

2.4. THEORETICAL BACKGROUND

Studies on relationships between human behaviors to their in-built interior spaces come under the subject area of behavioral science. As Bilgin defined it, the harmony between humans and the environment were studied at the beginning of environmental psychology studies. (Tan M. S., 2021)

The theories of American anthropologist Dr. Edward Twitchell Hall serve as the foundation for the research's theoretical framework. He was a renowned researcher for creating the concepts of proxemics and cultural-social cohesiveness creating the concepts of proxemics and cultural-social cohesiveness; he was a renowned researcher. Additionally, he looked at how people respond and react in cross-cultural settings when establishing personal space (Hall, 1982).

Dr. Hall coined the term proxemics in 1963, defining it as "the interrelated observations and theories of humans' use of space." In *The Hidden Dimension*, Hall emphasized the impact of proxemic behavior on interpersonal communication. According to Hall's theory, space, distance, and territory are the main three components of the study of proxemic behavior (Hall, 1963). According to Hall's theory, space, distance, and territory are the main three components of the study of proxemics.

2.4.1 Space

As a manifestation of microculture, Space Proxemics has three facets: Fixed, Semi-Fixed, and Informal.

2.4.2. Distance

When people engage, they have precise patterns for defining the distance, and the distance varies depending on the type of social connection. Space is divided into four categories: intimate, personal, social, and public.

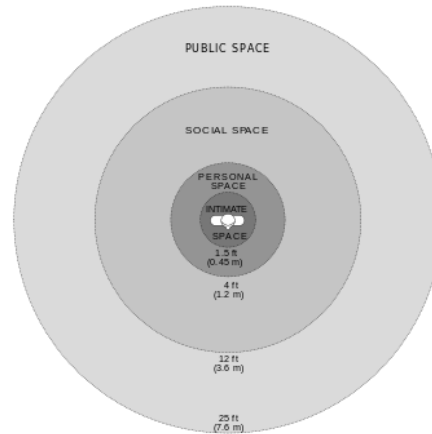


Figure 1: Intimate, Personal, Social, and public distances (Source: <https://www.livescience.com>)

2.4.3. Territory

The geographical area that denotes ownership is known as the territory. The line between public property, or the area of the group, and private property, or the territory of an individual, is carefully drawn.

2.4.4. Communal interactions in a space

A social gathering is described in the dictionary as "a meeting to foster fellowship." There are two kinds of gathering places: socio-fugal sorts of gathering places: socio-fugal spaces and socio-petal spaces.

3. Research Question

Coworking is a product of Europe and Western cultures, where its origins and development. Being a new formation of human arrangement foreign to their nature, most other regions faced some issues adapting to the concept. One focus of this article is identifying the qualities of Sri Lankan coworking culture, which are unique to its placement. According to Maslow's Hierarchy, human needs and how they are manifested in the built environment can be broken down into three main categories: GenGeneralphysiological, Psychological, and social. The relationships between these three factors are interconnected; hence, the relationship between individuals and their environments is inseparable. The other focus of this article is identifying the influence of human psychology and behavior on interior space design to improve the quality of life.

- Identifying the adaptations of the coworking concept to the Sri Lankan context.
- Deciding on the measuring methods optimized for the context.
- Identifying context-related factors that impact the adaptability of a co-worker.
- Identifying the interior environment affects people working in coworking spaces
- Producing materials for interior designers to optimize their coworking spaces' interior designs to be more convenient to the community.
- Identifying sustainable methods to develop the Sri Lankan coworking community and its standards.

4. Methodology

The three key areas to consider when assessing the effectiveness and productivity of any interrelated human process are social, psychological, and physiological. All three of them are being affected and affected by cultural variables. This domain system is mentioned by earlier scholars like Lyndon Garret, who used it as a framework for their work. (Garrett, Spreitzer, & Bacevice, 2014) The study was based on four resources in interlinking the three domains. They are:

- Layout drawings of the coworking space
- Frequency maps related to specific functions of coworking
- A questionnaire to the members of the coworking space
- Interviews with the coworking space managers

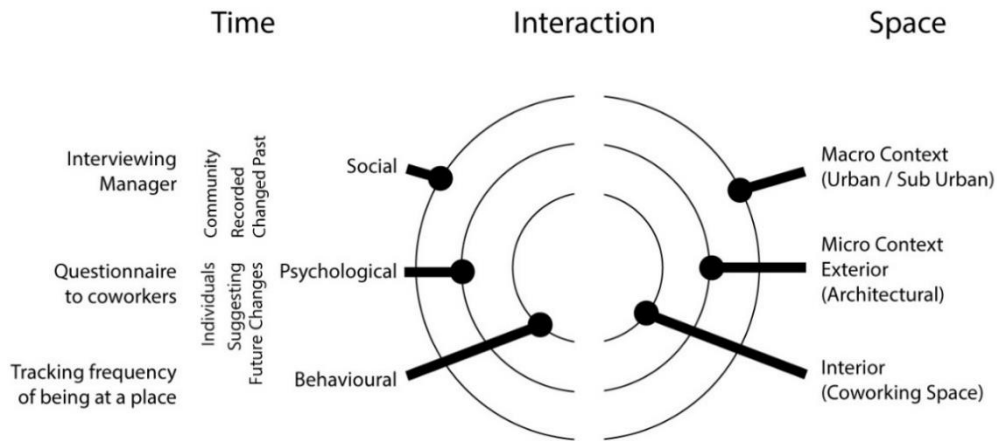


Figure 2: Identifying the Research Context

The entire process of coworking is identified as a practice of these four elements. Hence, we propose that any research methodology developed for researching the subject area of coworking would use this approach. However, the Layout element is somewhat static compared with the other three factors for the period in the research observations. Significant changes are not frequent, and when there are such changes, places are closed for customer coworkers for a specific period.

Hence, the other three components, which have various associated factors and time, were taken as the variables to observe. The Layout defines and interlinks the other three. The interrelatedness of these four is shown in the below image.

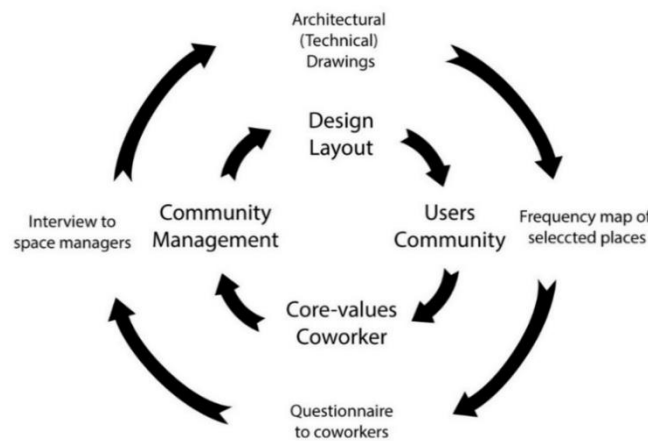


Figure 3: Coworking Process under Four Elements

Also, the below chart shows the three domains, data collecting methods related to each of them, and the traits intended to observe by each part.

Table 1: Coworking Process under Four Domains

Domains	Data Collecting Method	Traits
Layout	Architectural Drawings	Theories
Community	Frequency Map	Behavioral
Coworker	Questionnaire	Psychological
Management	Interview	Social

5. Finding and Analysis

Two coworking spaces were chosen to represent the various crowd capacities, amenities offered, hours of operation, daily and monthly fees, and characteristics of the coworking community, such as their level of skill and the type of business they engage in.

5.1 LAYOUT ANALYSIS

Layout analysis was performed by constructing space, distance, and territory layout maps based on Dr. Hall's Proximity Theory (Proxemics). Overall, findings concerning territory, distance, and space from both case studies that helped with comprehending the Layout domain were acknowledged to be equivalent. The implementation of Dr. Hall's Theory of Proximity in both case studies was also acknowledged since both coworking spaces provided and made efficient coworking spaces possible. However, not always have the close-ness assumptions made by Dr. Hall been applied to the design.

The lack of informal spaces in the Co-nnect and Likuid interior layouts, which would have offered more exciting material for the ongoing debate on the coworking concept, is one of the primary outcomes.



Figure 4: Co-nnect - Layout Analysis - Distance, Ground F.

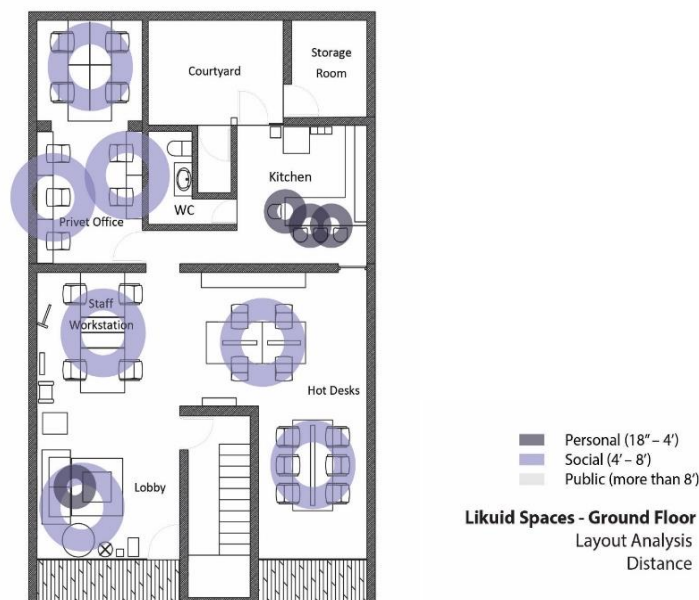


Figure 5: Likuid Spaces - Layout Analysis - Distance, Ground F.



Figure 6: Co-nnect & Likuid Spaces - Layout Analysis - Space. Ground F.

5.2 FREQUENCY MAP

According to the frequency maps, it was discovered that both natural and artificial factors, such as good lighting, tranquil surroundings, and adaptable furniture layouts, affected interactions among coworkers. In social gatherings, the food and users' personalities are vital factors.

Regular employees frequently encroach on one other's space by occupying the same area in both locations, despite the coworking model discouraging this. Additionally, it was discovered that despite the interior environment of the coworking space not encouraging users to establish their territories inside it, individuals intuitively tend to limit the regions where they would feel safe, secure, and comfortable.

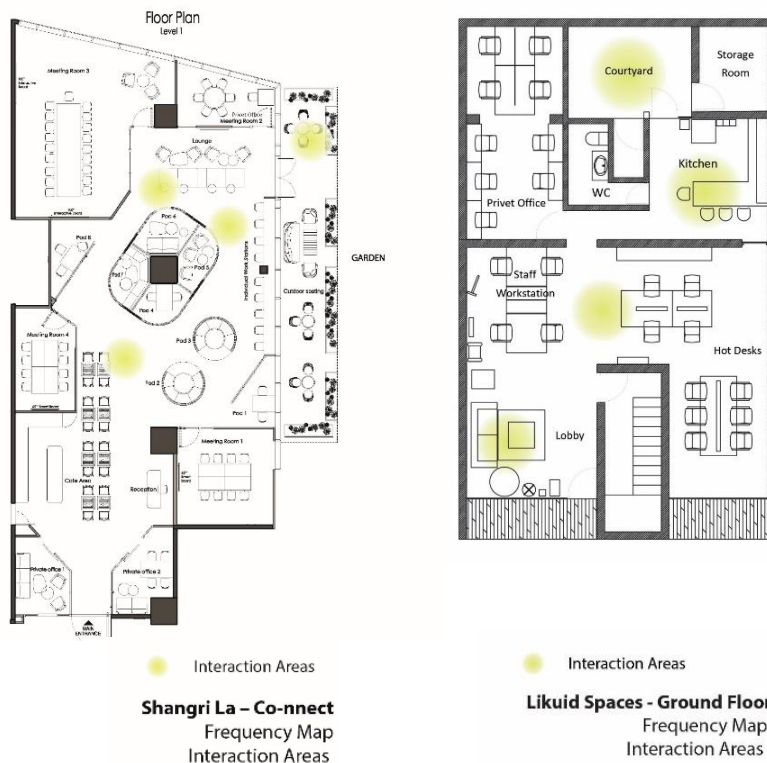


Figure 7: Co-nnect & Likuid Spaces - Frequency Map - Interaction Areas, Ground F.

5.3 QUESTIONNAIRE

The five fundamental ideals of coworking that emerged from the literature analysis were taken into account while creating the questionnaire.

Co-nnect and Likuid have both been able to draw people from various social backgrounds who are prepared to embrace the coworking concept by offering welcoming environments, according to findings from both situations regarding the community.

Ex: Question:

10. Events in coworking space

- None
- Sometimes
- Often

11. Working hours per week

- 00 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- above 40

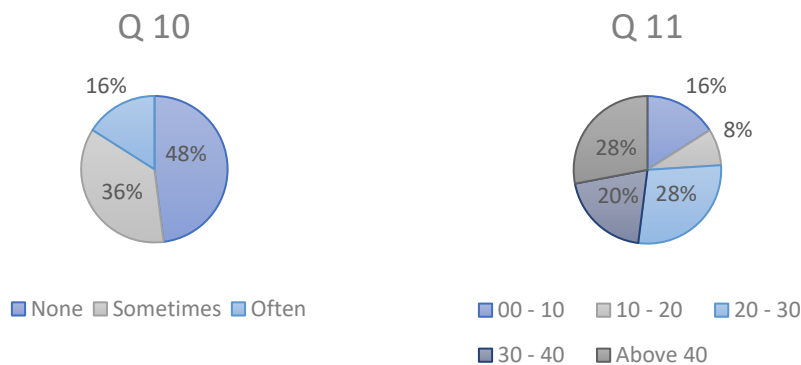


Figure 8: Questionnaire Analysis on Community (Co-nnect)

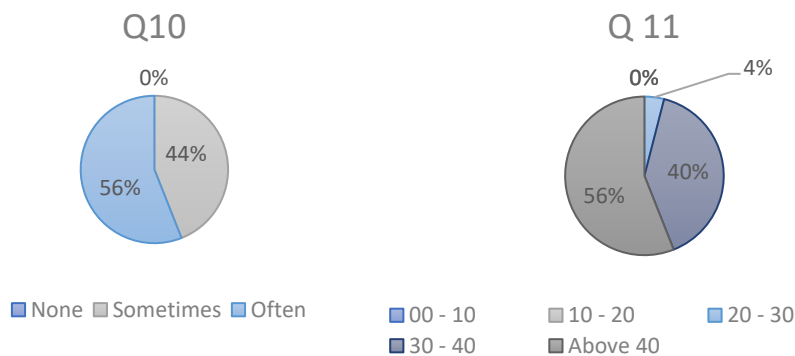


Figure 9: Questionnaire Analysis on Community (Likuid Spaces)

Openness - The findings from both examples indicate that the coworking communities at Co-nnect and Likuid are highly open and prefer to be open, expansive, liberal, and inclusive from both a moral and an economic standpoint.

Collaboration - According to the findings, the majority of colleagues attending both scenarios like interacting, working together, and developing as a team. Comparing Likuid Spaces to Co-nnect, more collaboration is evident.

Ex: Question:

17. Interaction with other coworkers (mark only one option)

No interaction 1 2 3 4 5 Frequent interactions

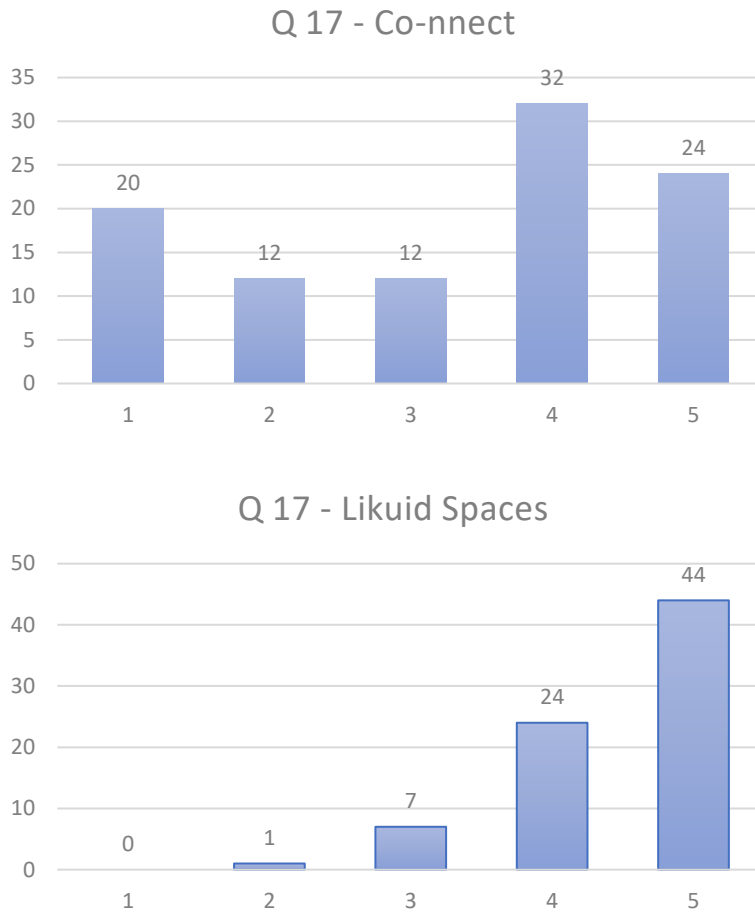


Figure 10: Interaction with other coworkers (Co-nnect & Likuid Spaces)

Accessibility - Co-nnect employees were more likely to have visited overseas coworking facilities. The results also revealed that most users in both situations prefer to work outside the home and believe coworking spaces to be more cost-effective since they have access to the tools they need.

Sustainability - Both situations indicated that by offering clean, adaptable, encouraging, amiable, and structured coworking spaces, coworkers might be encouraged to visit such locations.

5.4 MANAGER'S INTERVIEW

Managers' perspectives on coworking provide a broad overview of their opinions and ideas. It was highlighted that both managers are making their managerial debuts at a coworking space. Both, however, are qualified for this position based on their backgrounds.

It is noteworthy in the case of Co-nnect since it stated that following the Shangri-La hotel bombing event on April 21, Co-regular nnect's users and users of its private officers began returning. Following the attack, they immediately returned to the Co-nnect, demonstrating how the regular users had grown a feeling of place-based belonging.

Managers discovered that individuals tend to assemble or work near natural sunlight and that some prefer to work alone, while others want to cooperate with others. It said that the interior environment is not the only aspect influencing human behavior during encounters. However, people and the nature of the business also have an impact on trade. Furthermore, both management agreed that certain areas had been adjusted and new amenities had been added in response to the needs of a few consumers.

6. Conclusion

Coworking is a relatively recent concept that originated and evolved in Western nations. It is a component of the sharing economy idea, which is focused on sharing underused assets' such as places, information, and services in exchange for monetary or non-monetary advantages.

Collaborative areas are essential in coworking spaces since they allow members to engage and collaborate. However, according to the pilot study results of the pilot study, most coworking spaces in Sri Lanka have more fixed rentable spaces, such as private offices, where they may retain a stable income mode while having few collaborative areas.

When the Sri Lankan environment was investigated, it was discovered that the Sri Lankan coworking community has yet to embrace this notion entirely. Most coworkers do not adequately grasp the concept of information sharing and collaboration. It will take time for society to absorb this idea because it is a progressive process.

The decor should be designed to promote interaction inside the space. Regarding furniture layout, it should be adaptable and comfy so that users may create their own spaces inside the coworking space. It is best to design clusters within the interior environment while keeping circulation patterns, lighting, and interior aesthetics in mind.

This study was confined to two coworking spaces inside the municipal boundaries of Colombo to investigate the influence of human behavior on the interior environment. Additional coworking spaces of various sizes outside, and inside the city borders, such as Hatch and Business Hub, can be regarded as other brutal examples. As a result, it would be good to investigate such locations to understand coworking in Sri Lanka better.

Another significant research field discovered during this study is the 'co-living' idea, which is presently being adopted in a few localities in the south and Jaffna, Sri Lanka.

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