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EXPLORING FREE-STANDING STREET
BOOTH AS WORKPLACES

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EXPLORING FREE-STANDING STREET BOOTH AS WORKPLACES

A Master's Thesis

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EXPLORING FREE-STANDING STREET BOOTHS AS WORKPLACES

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by

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ANKARA

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I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Fine Arts in Interior Architecture and Environmental Design.

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ABSTRACT

EXPLORING FREE-STANDING STREET

BOOTHS AS WORKPLACES

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The main aim of this study is to explore the utilization of free-standing street booths as workplaces and examine their impact on employee satisfaction. Additionally, the study aims to create a typology of these booths and investigate the modifications and appropriations made by individuals to enhance their work experience. A diverse sample of eight taxi booths, eight carpark booths, eight buffet booths, and six security booths, totaling 30 booths situated in Tunalı Hilmi and Tunus Street, Ankara and surroundings are examined. The results contribute to the understanding of free-standing street booths as workplaces and offer valuable information to improve employee satisfaction by considering the specific needs and preferences of individuals in their work environments.

Keywords: Free-standing street booth, Workplace, Employee satisfaction, Booth typology

ÖZET

BAĞIMSIZ SOKAK KABİNLERİNİ

İŞ ALANLARI OLARAK KEŞFETMEK

Karacaoğlu, Zeynep

Master, İç Mimarlık ve Çevre Tasarımı Bölümü

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Bu çalışmanın temel amacı, bağımsız sokak kabinlerinin çalışma alanı olarak kullanımını araştırmak ve bunların çalışan memnuniyeti ve refahı üzerindeki etkilerini incelemektir. Ek olarak, çalışma bu kabinlerin tipolojisini oluşturmayı ve bireylerin iş deneyimlerini geliştirmek için yaptıkları değişiklikleri araştırmayı amaçlamaktadır. Ankara’da Tunalı Hilmi ve Tunus caddesi ve çevrelerinde yer alan seiz taksi kabini, sekiz otopark kabini, sekiz büfe kabini ve altı güvenlik kabininden oluşan toplam 30 farklı kabin incelenmiştir. Sonuçlar, bağımsız sokak kabinlerinin işyeri olarak incelenmesinde katkıda bulunmakta ve bireylerin çalışma ortamlarındaki özel ihtiyaç ve tercihlerini göz önünde bulundurarak çalışan memnuniyetinin artması için değerli bilgiler sunmaktadır.

Anahtar Kelimeler: Bağımsız Sokak Kabinleri, Çalışma Alanı, Çalışan Memnuniyeti, Stand Tipolojisi

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Chapter 1

INTRODUCTION



Free-standing street vendors, commonly known as kiosks or stalls, are defined as versatile structures that play a multifaceted role in urban environments. While traditionally used as retail or information outlets, these booths have witnessed a growing trend toward being utilized as alternative workplaces across various professions and industries. In order to optimize their design and functionality, it is imperative to focus on the typology, user satisfaction, and adaptations within these unique work environments (Brown et al., 2010).

Examining the typology of workplace use within free-standing street booths is essential for understanding the range of activities and professions that can be accommodated in these compact structures. By identifying the various work functions and occupations that can thrive in such environments, designers

and urban planners can optimize the layout and configuration of these booths to cater to specific professional needs.

In this study, a broader and more inclusive term, "street booths," is introduced to encompass a diverse range of free-standing structures found in urban environments. While street vendors have been extensively studied (Brown et al., 2010; Peimani & Kamalipour, 2022; Wongtada, 2013), certain structures, such as carpark booth and taxi booth, which serve as small-scale urban workplaces, have been overlooked. The term "street booths" allows for an inclusive examination of these structures and provides a more cohesive framework for analyzing their typology, user satisfaction, adaptations, and functionality. By using this term, this study aims to bridge the gap in existing literature and enhance our understanding of these versatile urban workplaces.

This study aims to comprehensively explore free-standing street booths as workplaces, shedding light on their diverse typology of workplaces use, user satisfaction based on physical ergonomic considerations, indoor environmental quality (IEQ), and aspects related to privacy and control. By thoroughly investigating these dimensions, the research seeks to enhance our understanding of street booths as workplaces, thereby contributing to the development of effective strategies to improve user satisfaction. The next section will focus on aims of this study.

1.1. Aim of the Study

This research is motivated by the absence of an inclusive terminology that encompasses various free-standing structures found within the urban landscape, including taxi booths, buffet booths, carpark booths, and security booths. Despite sharing commonalities in terms of structural design, function, and significance within the urban context, there has been a lack of a unified term to classify these structures. The common aspect of these workplaces is that all of them are free-standing small-scale structures on the street. As a result, the study embarked on a process of re-framing the term "street booths" to encompass this diverse range of subspaces.

The research focuses on analyzing the user's experience within these small-scale workplaces integrated into the urban fabric, as well as investigating the ergonomics of the work environment. Additionally, the study aimed to identify potential modifications and adaptations that enhanced user satisfaction in these work environments. By delving into these aspects, the research aim to provide valuable insights into the role and functionality of street booths and contribute to the improvement of work environment satisfaction. Below are the three main aims of the study:

Aim 1: Explore free-standing street booth typology in terms of workplace use.

The first aim of this study is to examine the typology of free-standing street booths in relation to their use as workplaces. Street booths serve as alternative work environments for various professions and industries. By exploring the typology of these booths, including their size, layout, amenities, and available

infrastructure, can be better understand how different occupations utilize them as functional workplaces. This analysis shed light on the diverse ways in which street booths accommodate workplace needs and contribute to the overall urban work ecosystem.

Aim 2: Explore the satisfaction level of free-standing street booths 'users according to physical ergonomics, Indoor Environmental Quality (IEQ), visual privacy and environmental control.

The second aim of this research is to investigate the satisfaction level of users who utilize free-standing street booths as their workplaces. This assessment focus on three key aspects: Physical ergonomics, IEQ, visual privacy and environmental control. Ergonomics considerations examine the design and arrangement of furniture, equipment, and space to optimize comfort and productivity. IEQ encompass factors such as air quality, lighting, temperature, and noise levels to explore the extent to which the spaces provide a healthy working environment. Privacy and control explore the degree of privacy, personalization, and autonomy users have within their booth workplace. By assessing user satisfaction in these areas, can be identified to enhance the overall user experience.

Aim 3: Specify the modifications and appropriations that, free-standing street booth users make in their workplace.

The third aim of this study is to identify and document the modifications and appropriations make by users within their free-standing street booth workplaces. Users often personalize their work environments to suit their specific

needs and preferences. This aim seeks to explore how users modify the physical space, customize the layout, or incorporate additional amenities to enhance their productivity and comfort. It also investigate any unconventional uses or innovative adaptations that users make to transform the booth beyond its original purpose. Understanding these adaptations and appropriations provide insights into how users interact with and optimize their booth workplaces, ultimately informing future designs and configurations.

By addressing these issues, this research aims to contribute to the understanding of free-standing street booths as workplaces, improve user satisfaction, and inspire innovative adaptations and appropriations for more effective and personalized work environments.

For this, free-standing street booths in Ankara, Tunalı Hilmi Street and Tunus street examined as a case. Research address through these two main streets and surroundings to explore booths as a workplace, analyze the satisfaction level of street booths users and determine the modifications and appropriation that user make in their workplace.

1.2. Structure of Thesis

This research follows an inclusive structure to investigate the typology, user satisfaction, and adaptations of free-standing street booths as workplaces. After the first introductory chapter, the second chapter focuses on the urban context, analyzing the relationship between street booths and the larger urban environment. Additionally, the chapter investigates city life and the role of street booths, considering their impact on urban dynamics and user experience by look

through past sources. The examination of street scale helps us to understand the physical aspects of street booths and their integration within the urban fabric. As street booths are defined as workplaces on the street, literature review continues with workplace research. Workplace types and workplace satisfaction conditions are investigated. Studies on physical ergonomics, IEQ and privacy and control conditions that affect employee satisfaction levels are explored. This review of the literature provides a contextual understanding of free-standing street booths as versatile structures workplaces in urban environments.

The third chapter outlines the methodology and research approach employed in this study. It presents the research questions that guide the investigation, highlighting the specific aspects of typology, user satisfaction, and adaptations. The chapter also discusses the pilot study conducted to refine the research methods and tools. Moreover, it provides details about the selection of the research site, considering factors such as accessibility, diversity of street booths, and relevance to the research aims. The participants and settings section describes the characteristics of the individuals involved in the study and the specific settings where the data was collected. Additionally, the chapter outlines the instruments used for data collection, including both qualitative and quantitative approaches. It also describes the data analysis methods employed to derive meaningful insights from the collected data. The procedure of the study section provides a step-by-step overview of how the research was conducted, ensuring transparency and reproducibility.

The fourth chapter presents the results obtained from the data analysis. It begins with the presentation of the demographic data, providing insights into the characteristics of the participants and their relationship to the use of street booths

as workplaces. The visual analysis of typological research offers a visual representation of the diverse ways in which street booths are utilized by different users. Furthermore, the chapter presents the quantitative analysis of user satisfaction, focusing on aspects such as physical ergonomics, IEQ, and privacy and control. These analyses provide a detailed understanding of the level of satisfaction experienced by users in their workplaces. The qualitative analysis explores the modifications and appropriations made by users in their workplaces, offering insights into the adaptive strategies employed to personalize and enhance their working environment by using content analysis method.

The fifth chapter discusses the findings in light of the research questions and objectives. It provides a discussion on the demographic data, considering how participant characteristics may influence their satisfaction level on workplace environment. The visual data analysis is interpreted to identify typology and patterns in the utilization of street booths as workplaces. The quantitative data analysis on user satisfaction is discussed in detail, addressing the factors influencing physical ergonomics, IEQ and privacy and control. Moreover, the qualitative data analysis sheds light on the modification and appropriations made by users, allowing for a deeper understanding of their needs and preferences. These discussions are further supported by relevant literature and theoretical frameworks.

In the sixth and final chapter, the study presents a concise summary of the research findings, emphasizing their significance and implications. It highlights the potential of free-standing street booths as viable workplaces and explores their implications for urban design and planning. The discussion delves into the practical implications of the study's results, taking into account the limitations and

constraints identified during the research process. By acknowledging the constraints and challenges faced by users, the study provides valuable insights into their specific needs and preferences.



Chapter 2

LITERATURE REVIEW



The literature review chapter of this research critically examines a range of scholarly works and theoretical perspectives that contribute to the understanding of free-standing street booths as workplaces. It encompasses an extensive analysis of literature related to public spaces with urban context, street scale, street booths as a workplace, workplaces, factors affecting the level of satisfaction in the workplace and modifications and appropriations within workplaces.

2.1. Public Spaces with Urban Context

Exploring the urban context leads us to delve into the broader dimension of urban life, encompassing a range of interconnected factors that shape the character and quality of public spaces (Montgomery, 1998). By examining the complexities of urban texture, researchers can gain valuable insights into the diverse fabric of urban life and its mixed relationship with the surrounding environment. This holistic understanding enhances our comprehension of the urban context as a whole, empowering us to make informed decisions and interventions that contribute to the improvement of public spaces and the overall urban experience (Carmona, 2021).

Urban context, as a multifaceted and dynamic entity, significantly influences the nature and functioning of public spaces. Inextricably linked to urban environments, public space represents the tangible manifestation of centuries of urban growth, rooted in an intuitive understanding of human senses and scale (Nissen, 2008). The gradual development of cities, particularly during the organic growth of medieval urban centers, fostered a building tradition that encapsulated generations of experiential knowledge. This tradition aimed to create cities with a well-functioning interaction between life and space, shaping the characteristics of public space within the urban context (Montgomery, 1998).

Public space, although not solely defined by spatial boundaries, is closely intertwined with the urban context (Gehl, 2010). The concept of public space extends beyond its physical manifestation and encompasses the social and cultural interactions that occur within urban environments. It represents a communal environment where citizens have open access and the freedom to utilize and

engage with their surroundings (Nissen, 2008). However, the privatization of public space introduces constraints on these rights, often through the transfer or sale of ownership. This process gives rise to hybrid spaces that blur the boundaries between public and private, forming transitional stages where the ownership and role of spaces fluctuate (Johnson & Glover, 2013).

Considering the importance of urban life and the significance of the urban environment in shaping people's experiences. The study conducted by Wey and Wei (2016) provides light on the aspects that contribute to the quality of urban life. By recognizing the significance of hard technical requirements within resource limitations, urban planners and designers can prioritize elements such as transportation planning, pedestrian facilities, and landscape design, which have a more tangible impact on the urban environment and the overall experience of city dwellers (Nissen, 2008; Pineda & Castiblanco, 2022).

Public space serves as more than just a shared resource or public good; it functions as a platform for social interaction and shared understanding. It is through the creation and shaping of space that societies both communicate and facilitate economic, social, and cultural exchanges and transformations. Pineda & Castiblanco (2022) refer to these spaces as conduits for communication and the "flows" of various transactions and transformations, contributing value to the network of interconnected elements. The aim of urban form research is to understand the complex dynamics and complexity inherent in the physical construction of cities. The physical and geographical expression of human activity inside urban environments, involving complex interactions among socioeconomic, technical, and environmental aspects, is characterized by urban form (Sharifi & Yamagata, 2018).

Building interiors historically provided individuals with a sense of security and solitude by giving them privacy and personal retreat (Gehl, 2010). In contrast, Johnson and Glover (2013) claim that exterior spaces, such as streets, parks, and plazas, form the backdrop for public life, facilitating social interactions and community engagement. Understanding the urban context requires a holistic and wide approach that encompasses the various dimensions and intricacies of public space. It entails examining the historical, social, cultural, and spatial factors that shape the urban fabric and influence the dynamics of public life (Carmona, 2021). Moreover, the socio-cultural aspects of the urban context contribute significantly to the character of public spaces. The diverse identities, activities, and behaviors of urban dwellers shape the liveliness of public spaces (Madanipour, 2003). Exploring the social practices, rituals, and traditions that unfold within these spaces provides valuable insights into the interactions and relationships among individuals and communities (Wey & Wei, 2016).

Additionally, the physical form and design of the built environment play a crucial role in the urban context (Johnson & Glover, 2013). The layout of streets, the arrangement of buildings, and the presence of amenities and infrastructure all influence the functionality and attractiveness of public spaces (Gehl, 2010). The relationship between urban design and public space usage is an important factor to examine when studying the urban environment since it impacts the accessibility, use, and general quality of these places (Pineda & Castiblanco., 2022).

The concept of urban form encompasses the physical structure and arrangement of elements within a city, influencing its character and functionality. Sharifi and Yamagata (2018) propose a categorization of urban form that spans

different scales, ranging from macro-level considerations to micro and meso-level design elements (see Figure 1).

Figure 1:

Table of constituent elements of urban form

Scale	Attributes	Sub-attributes
Macro-scale	Scale hierarchy	Regional connectivity, etc.
	City size	Population density City area
	Development type	Planned/unplanned; formal/informal Infill, sprawl, etc.
	Distribution pattern of population and employment	Degree of equal distribution
	Degree of clustering	Degree of compactness Centrality/uniformity/monocentricity/polycentricity
	Landscape/habitat connectivity	
Meso-scale	Structure and shape of neighborhoods/districts	Neighborhood size and shape, Sanctuary area, etc.
	Diversity/Heterogeneity	Land use mix; ratio of open and green space
	Typology of transportation network (both active and non-active transportation)	Route type (grid pattern, curvilinear, cul-de-sac, radial, organic, hybrid, etc.)
		Street width
		Street orientation (direction)
		Design and layout of streets, cycling, and pedestrian networks
		Centrality and spinally of street network segments Permeability/connectivity
	Access to amenities	
Micro-scale (building and block)	Open and green space	Size, shape (design), and distribution pattern of Vacant and open spaces
		Size, shape (design), and distribution pattern of green space
	Block type	Block size, Perimeter urban block and its permutations,
	Site layout	Layout configuration (uniform/random)
		Lot size and geometry
		Site coverage
	Building configuration/layout	Dwelling size
		Dimensions and compactness (surface to volume ratio, depth)
		Orientation
		Spacing between buildings
	Roof type	
	Glazing	Size and position of windows; window to wall ratio
	Building typology	courtyard, townhouse, detached, ...
	Density	Floor area ratio, etc.
	Street canyon geometry	aspect ratio,
	Design (street front/street edge)	Space between building façade and streets
		Front usage
	Design of emergency routes	

Note: From “Resilient urban form: A conceptual framework” by A. Sharifi,& Y.

Yamagata, 2018, *Resilience-Oriented Urban Planning*, p171-172,

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At the macro-level, urban form encompasses the overall framework and magnitude of the city, including factors such as the type of development, population and employment distribution patterns, and the extent of clustering. At the meso level, however, the emphasis is on the design and organization of individual features like buildings, open spaces, blocks, neighborhoods, and roadways. The next section will focus on street size, which is a component of urban setting.

2.1.1. Street Scale

At the street scale, the urban context takes on a more tangible form, particularly through the design and layout of streets. Streets are vital components of the urban fabric, serving as the lifelines that connect neighborhoods, enable pedestrian flow, and provide a stage for social interactions (Lynch, 1960). By examining street life within the broader urban context, it can be gained insights into the intricate dynamics of human activities, behaviors, and social rituals that occur along these alive corridors (Pineda & Castiblanco, 2022).

Rahman et al. (2015) suggest that streets are an important component of the urban form and the most public of the urban spaces in the city. Streets, as integral components of the urban fabric, serve as the connective tissue that weave together various urban spaces, facilitating movement, interaction, and the exchange of ideas (Lynch, 1960). Examining the design of streets and the experiences of their users becomes essential in understanding the dynamics of street life and its relationship to the broader urban scale (Gehl, 2012).

According to Sharifi and Yamagata (2018), streets and road networks play a critical role as the fundamental infrastructure and backbone of cities. They not only facilitate transportation but also shape the emergence, growth, and evolution of urban areas. In fact, streets have a remarkable longevity, often remaining in place for extended periods, spanning decades or even centuries. This longevity highlights the significance of their design and structure, as they have the potential to either restrict or enhance the development and functionality of urban networks (Buhl et al., 2006).

Understanding street life within the urban context allows us to delve into the complex web of interactions and experiences that shape public spaces. Streets become more than mere thoroughfares; they embody the essence of public life, reflecting the diversity, energy, and vitality of urban communities (Whyte, 1980). By comprehending the nuances of street life, it can be uncovered the factors that contribute to the liveliness of public spaces. Streets play a crucial role in facilitating connectivity and accessibility within cities, but they are not just utilitarian corridors. They also contribute significantly to the liveliness and experience of urban life, as highlighted by scholars such as Lynch (1992) and Gehl (2012). These scholars emphasize that streets are not mere transportation channels; they are alive spaces where people dwell, interact, and engage with their surroundings (Sevtstuk et al., 2021).

Examining the spatial design of streets becomes crucial in this context. The arrangement of buildings, the presence of amenities and infrastructure, and the overall accessibility and usability of streets all influence the functionality and attractiveness of public spaces (Gehl, 2010). Well-designed and properly organized streets can foster social interaction, community participation, and an

overall sense of place. Enclosure, human scale, transparency, intricacy, and imageability are urban design features that have a direct impact on a person's experience of a street area (Dubey et al., 2016).

Furthermore, the socio-cultural dynamics of the urban surroundings have a profound impact on street life. Urban inhabitants' different identities, interests, and behaviors contribute to the life and character of public places (Madanipour, 2003).

Exploring the social practices, rituals, and traditions that unfold within streets provides valuable insights into the interactions and relationships among individuals and communities (Wey & Wei, 2016). By understanding these social dynamics, streets that reflect and accommodate the needs and aspirations of the people who use them can be created.

Additionally, the economic dimensions of the urban context intersect with the street scale. Economic factors, such as land values, market forces, and development policies, can influence the allocation of space and potentially impact the accessibility and inclusivity of public spaces (Carmona, 2021). Understanding these economic dynamics sheds light on the power and social implications associated with the ownership, control, and distribution of public spaces. Gehl's research (1989) focuses on the changing patterns of consumption and their effects on street life. Gehl (1989) observes a shift from traditional markets to discount stores and supermarkets, accompanied by signs of growing overall consumption. However, he notes that these activities generate less street life (Gehl, 1989). The finding highlights the question of how large-scale retail settings affect the vibrancy of urban streetscapes. "The concentration of urban life in specific locations, during particular hours, and around limited categories of activities

further restricts the diversity and spontaneity of street life” (Gehl, 1989, p. 12). This concentration of activities and privatization of street life call for a critical examination of the balance between commercial functions and the social vibrancy of public spaces (Carmona, 2021). As a result, urban planners should consider improving economic activity and building density in locations with greater centrality values in order to increase efficiency and overall urban performance (Long & Huang, 2017). Street booth can be given as an example of the economic factor on the street. This factor affecting the vitality and use of the street are examined in detail in the next chapter.

2.1.2. Street Booths

A street vendor-booth is an individual or entity that sells goods and services in public locations, usually without a permanent built-up structure (Cross, 2006).

A vendor is a small, standalone booth used for advertising and selling or renting goods or items (Roever & Skinner, 2016). Street vendors operate in various urban settings, from bustling city centers to residential neighborhoods, offering a wide range of products, including food, clothing, handicrafts, and more (Cross, 2006; Skinner, 2012). Their activities often take place on sidewalks, marketplaces, or other open areas accessible to the public (Skinner, 2012). Sidewalk vendors' diversity and flexibility make them an essential element of the urban fabric, contributing to the cultural richness and economic vibrancy of communities worldwide (Carmona, 2021; Roever & Skinner, 2016; Skinner, 2012). However, the nature of street vending and its relationship with urban development, public

space design, and social well-being have been subjects of ongoing debate and investigation (Carmona et al., 2012; Cross, 2006).

Empirical research in Addis Abeba, Ethiopia, has revealed that the average density of pedestrians varies depending on factors such as pedestrian circulation, the number of customers engaging with street vendors, the size and placement of vending vendors, and the width of sidewalks (Hagos et al., 2020). These findings underscore the impact of street vending on urban space dynamics and the interaction between street activities and the surrounding built environment.

The success of street vendors is significantly influenced by their choice of location. Reid et al. (2010) emphasize that the most critical factor for the prosperity of sidewalk vendors is the presence of a large customer flow. Therefore, commercially viable places where city ordinances are not strictly enforced tend to attract a steady stream of street sellers (Tan 'G'-Ling & Aminuddin, 2019). This dynamic is driven by the desire to capitalize on the opportunities presented by high foot traffic and customer demand (Reid et al., 2010). The spatial distribution of street vendors in new sites is a direct consequence of their strategic pursuit of optimal locations for their trade.

Street vending, defined as the sale of goods and services without the use of permanent built-up structures, has received significant attention from a variety of disciplines, including anthropology, economics, and sociology, as one of the most prominent examples of the informal economy (Peimani & Kamalipour, 2022). This broad form of economic activity is deeply ingrained in many areas' social and economic fabric, with substantial research concentrating on its presence and dynamics in Africa, Asia, and Latin America (Peimani & Kamalipour, 2022; Wongtada, 2013; Cross, 2006).

Street vending, however, remains a subject of controversy, with debates surrounding its implications for urban environments and public space design. Wongtada (2013) discusses the differing perspectives on the influence of street vendors on the image of an "ordered" city, and informal street selling is considered an integral component of street life, adding to the diversity and vibrancy of urban environments. Concerns have been raised, however, concerning the apparent disorderliness and visual congestion associated with street businesses. These arguments are further complicated by conversations about spatial "recovery" measures, the politics of exclusion in public spaces, and the acknowledgment of street vendors' mixed backgrounds (Wongtada, 2013).

Several studies in today's body of literature on informal street vending investigate the notion of various sorts of street vendors. According to Dalwadi (2010), each type of street vending has particular geographical needs that should be carefully examined in any attempts to regulate street vending operations. Various street vendor typologies have been formed based on essential criteria such as mobility and flexibility within public places. For example, Adama (2020) divides street vending into two categories: highly mobile sellers capable of adjusting to spatial and temporal tactics, and less mobile merchants who shape informal ties and networks. Another research investigates the extent to which street vendors' use and occupation of public space become permanent, identifying four major types: permanent, semi-permanent, semi-mobile, and mobile (Israt & Adam, 2017). Yatmo (2008) clarified that some vendors-booths are stationary and operate in specific locations, with either fixed structures such as a warring or kiosk, or non-permanent structures that can be easily put together and separated, such as a gelaran or mat and a tenda or tent in Indonesian cities (see Figure 2).

Figure 2:

Various types of street vendors illustrated by Yatmo, 2008.

Figure 2 (a)

Warung or kiosk. (Made by Yatmo, 2008)



Figure 2 (b)

Gelaran or mat. (Made by Yatmo, 2008)



Figure 2 (c)

Tenda or tent. (Made by Yatmo, 2008)



*Note: From “Street vendors as ‘out of place ’urban elements.” By A. Yatmo, 2008, *Journal of Urban Design*, 13(3), 387–402. <https://doi.org/10.1080/13574800802320889>*

According to the findings of Peimani and Kamalipour (2022), neighboring forms of informal street vending may serve as short-term designs at the micro level, successfully improving the aliveness of open spaces by driving and regenerating the typically inaccessible edges that develop due to formal urban development processes. These sorts of street vending have the ability to substantially modify dormant connections between the public and private spheres through adaptive urban transformation strategies (Roever & Skinner, 2016). This supports Tan 'G'-Ling and Aminuddin's (2019) argument that street vending contributes to the dynamic sensory experience of the street by encouraging an alive outdoor environment in the public realm while providing opportunities for interaction and social encounters between vendors, merchants, and customers with diverse interests. Additionally, Peimani & Kamalipour (2022) demonstrate that appropriating the impermeable urban interface can increase the visibility of vendors, leveraging the capacity of public space edges to serve as a neutral backdrop. However, they caution that while adjacent informal street vending can possess adaptive qualities, excessive appropriation of the public realm and obstruction of pedestrian flows can generate adverse effects.

Beyond the economic dimension, the satisfaction of street vendors is a critical concern (Recchi, 2020). Studies have highlighted the social and physical factors that impact the satisfaction level of vendors (Peimani & Kamalipour, 2022; Yatmo, 2008). These factors include working conditions, access to healthcare, and the perception of street vending as a dignified lifestyle. Understanding the intricate connections between vendors' working environment and their quality of life is essential for addressing potential challenges and developing supportive policies and interventions (Peimani & Kamalipour, 2022).

In the literature (Peimani & Kamalipour, 2022), kiosk is mostly a similar unattended stand for the automatic dispensation of tickets, etc. is referred to as. Yatmo (2008) refers to the kiosk as structurally unstructured stands used for the sale of small products. Vendor, on the other hand, is mostly used for individuals who sell by walking on the street or with small stands (Recchi, 2020). These structures, which are commercially located on the street, can be called vendors, kiosks, stalls and booths, but the purpose of choosing the word booth in this research is that four different areas are examined and the sizes of these structures are different in terms of construction and square meter.

By employing the term "street booths," this study aims to address the diversity of free-standing structures that serve as workplaces in urban environments. While the term may not have been widely utilized in existing literature, its application allows for a more complex and wide range examination of the various structures and activities that fall within this environment. This inclusive approach acknowledges the significance of different types of street booths, such as carpark booths and taxi booths, as integral components of small-scale urban workplaces. These booths are permanent (see figure 2(a)) like Yatmo (2008) as he describe kiosk or warung, but more structural, defined and larger in square meters.

Recognizing the need for a more encompassing term, this study seeks to explore and analyze the typology, employee satisfaction, and adaptations within these diverse street booths. By broadening the scope of investigation beyond traditional street vendors, a more holistic understanding of the potential and functionality of these free-standing structures can be achieved. This approach contributes to a generic examination of the design and optimization of street

booths as workplaces, with the aim of improving user satisfaction and inspiring innovative adaptations for more effective and personalized urban work environments.

2.2. Workplace

Workplace, defined as the physical area where an individual carries out their work-related tasks, plays a crucial role in employee satisfaction and performance (Merriam-Webster, n.d.). According to Merriam-Webster (n.d.), a workplace refers to "an area with equipment for the performance of a specialized task." Oxford Dictionary (n.d.) defines workplace as "a place where a person can work, especially in a particular way."

The typical full-time employee devotes over 40% of their waking hours to work, with more than half of the Western workforce situated within workplaces (Larsson et al., 2014). Numerous studies have shown that the workplace environment has a major influence on employee happiness and satisfaction (Budie et al., 2018; De Raeve et al., 2008; Rioux & Pignault, 2013). A previous study has looked at the direct impacts of the work environment on employee happiness (Bodin-Danielsson & Bodin, 2008; De Been & Beijer, 2014). User happiness is an important consideration when assessing the performance and efficiency of any workplace (Rioux & Pignault, 2013). These studies show that the physical work setting has an important effect on overall job satisfaction.

Bangwal et al. (2017) claims that the satisfaction of employees is closely linked to their health and satisfaction. The satisfaction level of employees can be influenced by the facilities provided by organizations in the workplace (Robertson

et al., 2003; Roossien et al., 2017; Van Nieker et al., 2012). A conducive work environment, including a well-designed office and properly arranged furniture, can lead to increased productivity, improved employee satisfaction, and reduced stress levels (Roossien et al., 2017). This type of health-promoting workplace is closely tied to the science of ergonomics, which focuses on building workplaces that accommodate employees' requirements rather than pushing people to adjust to their physical needs (Zafir et al., 2007). Furthermore, lighting, temperature, air quality, and noise levels have a major influence on user experience and performance (Roumi et al., 2021). Another feature that has a substantial impact on user satisfaction and workplace performance is privacy and control (Buddy et al., 2019). Understanding how users appropriate and modify their workplaces to boost their level of satisfaction may give useful insights for designers looking to improve the user experience and build a sense of ownership inside workplaces (Hills & Levy, 2014).

A literature analysis on workplace contentment will be offered in the next section, analyzing the aspects that contribute to employees' general satisfaction in their work environment. Satisfaction at work is a multifaceted concept that includes physical ergonomics, psychological considerations, social connections, and organizational support (Bangwal et al., 2017).

2.2.1. Satisfaction Level of Workplaces

Thompson and Ackyord (1995) claim that the quality of indoor workplace environments significantly impacts people's mental state, behavior, skills, and overall performance, where they spend a large amount of their day. As work

dynamics evolve, there is a growing need for improved workplaces that have appealing physical assets and cater to the specific needs of creative knowledge workers. Another research (Alzahrani, 2019) focuses on the idea that numerous elements, such as colors surrounding, light combinations, and sitting configurations, might alter an employee's satisfaction level.

A well-designed workplace holds significant importance for an organization, as it serves as a visible representation of the organization's brand identity and values (Bangwal et al., 2017). It has the potential to convey messages of excellence, strength, authority, energy, and enjoyment to both employees and external stakeholders (Leder et al., 2017). Several studies have demonstrated that employees who express satisfaction with their workplace design and layout tend to exhibit improved performance, productivity, and overall satisfaction. These studies, conducted by Bangwal et al. (2017), Ferguson and Weisman (1986), Leather et al. (2003), as well as Van der Voordt (2004), consistently support the notion that a positive workplace environment positively influences employee motivation and satisfaction. The architecture of the workplace has a major influence on its inhabitants' satisfaction, attitudes, and preferences (Deuble & de Dear, 2012; Van der Voordt 2004). Carlopio (1996) discovered that employee satisfaction with the design of the workplace had a direct impact on job satisfaction and an indirect impact on organizational commitment. Employee satisfaction has been acknowledged as an important component in increasing worker efficiency and happiness (De Been & Beijer, 2014; Veitch et al., 2005).

Stallworth and Kleiner (1996) propose the Person-Environment fit theory, which highlights the significance of aligning the work environment with employee needs to foster satisfaction. The researcher in this study uses Vischer's

(2008) classification of requirements into bodily comfort, functional comfort, and psychological comfort. Physical comfort is concerned with the physiological requirements for environmental comfort, whereas functional comfort is concerned with work-related demands.

Employee satisfaction with indoor building conditions generally indicates that individuals perceive multiple physical factors to be within a comfortable or acceptable range (Kent et al., 2021). Thermal comfort, indoor air quality, lighting (both natural and artificial), and acoustics are all examples of these elements. Furthermore, the physical characteristics of the spaces, such as furniture and layout, contribute to occupant satisfaction (Schiavon et al., 2012).

These factors will be examined under three distinct headings: physical ergonomics, IEQ, and privacy and control.

Physical ergonomics pertains to the design and arrangement of furniture, equipment, and spatial layout to optimize comfort, efficiency, and satisfaction (Fernandez, 1995). Physical ergonomics in workplace is about the comfort of workspace and desk (Budie et al., 2018), seating (Ehrensberg et al., 2016), size&layout (Candido et al., 2020) and interaction (Park et al., 2018).

IEQ encompasses various aspects that contribute to a healthy and comfortable indoor environment (Cheung et al., 2021). Air quality, humidity, temperature, ventilation, lighting quality, and noise levels are all issues to consider. A high-quality indoor environment that supports occupant satisfaction and overall happiness requires adequate ventilation, regulated temperature, and humidity levels, access to natural light, and low noise disruptions (Boerstra et al., 2015).

The degree of autonomy and control that individuals have over their local work environment is referred to as privacy and control. Individual workplace privacy, noise control, visual distractions, and the opportunity to personalize one's workplace are all considerations to consider (Boerstra et al., 2015). Giving people the freedom to customize their surroundings to their liking develops a sense of ownership, autonomy, and psychological comfort (Hills & Levy, 2014).

2.2.1.1. Physical Ergonomics

The International Ergonomics Association (IEA) defines ergonomics, also known as human factors, as a multidisciplinary field that considers various factors, including physical, cognitive, social, organizational, and environmental elements, to understand the interactions between humans and systems. The IEA is interested in three areas: physical, cognitive, and organizational ergonomics. The investigation of human anatomical, anthropometric, physiological, and biomechanical characteristics in connection to physical activities is known as physical ergonomics (Ehrensberger et al., 2016).

The design of interior spaces encompasses various elements such as spatial layout, lighting, surface finishes, furnishings, and accessories, which are carefully chosen to achieve the desired functionality and visual appeal (Ching & Binggeli, 2018). In addition to this, another sub-effective is focused by Jayaratne and Fernando (2009) as, seating arrangement and comfortable furniture play a critical role in promoting employee health and should be prioritized in ergonomically designed workplaces. According to Gocer et al. (2019), the selection and placement of furniture are key factors in maintaining ergonomic comfort. A

suitable desk size, height adjustability, and enough legroom all help employees maintain good posture, lower their chance of developing musculoskeletal problems, and increase their general satisfaction with their work (Candido et al., 2020). According to Buddie et al. (2019), having enough pushback space provides comfort and minimizes discomfort from being too near to the desk or other items. Clean, well-maintained, and aesthetically pleasing facilities are vital for creating a positive work environment (Asmui et al., 2012). To establish a satisfying work environment, variables such as workplace functioning and furnishings must be considered (Hills & Levy, 2014). Adequate dimensions, storage space, and ergonomic design are essential for assisting with job tasks (Appel-Meulenbroek et al., 2011). The term "workplace" describes the area that may be used for carrying out duties and storing supplies. Employees may conveniently carry out their jobs, set up their tools, and access necessary papers in a roomy, well-organized workplace (Candido et al., 2020). According to Budie et al. (2018), a desk with the right size gives workers the room they need to spread out their work supplies without feeling crowded or constrained. Meeting employees' psychological demands for social connection, autonomy, and aesthetics also leads to job satisfaction (Ekstrand et al., 2015; Jahncke et al., 2011; Van der Voordt & Van Meel, 2002).

In Meidert et al. (2016) research done with 36 translators, works in Switzerland and Luxembourg, to examine their physical ergonomic workplace assessments. The set consist of 11 items specifically focused on the office desk, nine items pertaining to the office chair, and three items related to footrests (Meidert et al. 2016). Judging by the results of the research, merely having ergonomic office furniture and tools does not guarantee their proper utilization.

Despite the presence of ergonomic furniture and equipment in many designated work areas, they were frequently found to be inadequately adjusted for the translators who were using them (Meidert et al., 2016). Furthermore, translators reported that they made modifications in their workplaces, such as purchasing a new office chair or using a footrest, in response to the increasing severity of their complaints. As a result of these changes, the frequency and intensity of health complaints decreased or completely subsided (Meidert et al., 2016). In the Ehrensberger et al. (2016) research, their survey items pertaining to the physical ergonomics of the workplace encompassed aspects such as furniture, seating arrangement, control over the environment, and potential distractions from noise, lighting, or human presence. Another study related to workplace ergonomics held by Fernandez (1995) shows that ergonomics strives to ensure that tasks, equipment, information, and the overall environment are tailored to suit each individual worker. It involves creating the workplace, equipment, machinery, tools, goods, and systems while taking into account human physical and physiological capacities. The objective is to maximize the work system's efficacy and production while emphasizing worker satisfaction (Budie et al., 2018).

Overall, from these studies a basic categorization of physical ergonomics items can be made which encompass the four domains of workspace and desk, seating, size&layout and interaction. These items contains like desk size, desk height, pushback room, size of space for eating, visual interaction with outdoor which effect employees satisfaction on workplace.

2.2.1.2. IEQ

Several research studies have underlined the relevance of workplace IEQ for occupant satisfaction (Choi et al., 2012; Fisk et al., 2011; Loftness et al., 2018). About IEQ, Loftness et al. (2018) focuses on the idea that the workplace environment significantly affects employee satisfaction. Room temperature is a key factor, as it can impact productivity and reduce stress levels. High temperatures can impair the satisfaction of employees doing cognitive, physical, and perceptual duties (Ching & Binggelli, 2018).

Most of the work environment satisfaction research claim that (Ferguson & Weisman, 1986; Loftness et al., 2018; Zalesny et al., 1985; Fisk et al., 2011) poor workplace design, such as inadequate ventilation and lack of fresh air, can negatively impact employees' physical health, leading to respiratory problems. Furthermore, problems like inadequate lighting, excessive noise, and confined areas can have a negative impact on employees' satisfaction, creating stress and sadness.

Better air quality could improve employee satisfaction levels, according to research by Park et al. (2018) on post-occupancy evaluation and IEQ measurements from 64 office buildings. According to Candido et al. (2020), there is often a stronger link between overall workplace comfort and satisfaction and IEQ components. With regard to the IEQ components, specifically, all comfort and general satisfaction show a larger link ($r > 0.5$). An important discovery on the connection between IEQ and occupant satisfaction was made by the study done by Kent et al. (2021) on occupant workplace dissatisfaction. The study found that pleased occupants had a better association between all IEQ measures than do

dissatisfied occupants. This finding aligns with the consensus among many other research studies (Choi et al. 2012; Fisk et al., 2011; Loftness et al., 2018; Vischer, 2008) that suggest a positive effect of indoor air quality a thermal comfort factors on employee satisfaction.

Another important design feature is proper lighting in the workplace , since it enhances visibility, reduces eye strain, and positively affects employee satisfaction level (Fernandez, 1995). In this regard, Ching and Binggeli (2018) emphasize that in an office setting, both natural and artificial light play an important role and circulates through wall openings, clear materials, and surfaces that reflect to provide an appropriate quantity and quality of light in individual workplaces.

Related to noise, another IEQ factor, excessive noise in office environments can negatively impact performance (Candido et al., 2020). Noise levels above 85 dB are considered detrimental and should be addressed to create a productive work environment (Schiavon et al., 2012). Schiavon et al. (2012) discovered that the amount of space, noise level, and visual privacy had the greatest effect on workplace happiness when they evaluated individual IEQ items from a database. Similarly, Humphreys (2005) examined the total temperature ratings of 4655 inhabitants from five European nations with IEQ item assessments. Although all six evaluated items (heat, air movement, humidity, light, noise, and air quality) exhibited substantial associations with total thermal comfort scores.

Overall, from these studies a basic categorization of IEQ items can be made which encompass the three domains of indoor air quality and thermal comfort, noise distraction and visual comfort. These items contains like

temperature conditions, overall noise, access to daylight indicators which effect employees satisfaction on workplace.

2.2.1.3. Visual Privacy and Environmental Control

Employees who can change features such as privacy, contact, comfort, and access to work materials report better levels of environmental satisfaction and enhanced performance (Vischer, 2008; Samani et al., 2017). On the contrary, discontent has been connected to an inadequate level of control over the immediate work environment, namely the absence of personal enclosure and visual and auditory privacy prevalent in open space situations (Bodin-Danielsson & Bodin, 2014; Kim & de Dear, 2012). Additionally, a research by Samani et al. (2017) revealed that support for creativity positively affected job satisfaction and reduced stress levels. Privacy, in particular, was identified as a significant factor affecting job satisfaction.

Vischer (2008) suggests that "Environmental Comfort" consists of three interconnected comfort categories that form a hierarchy of demands in the workplace. These categories include physical, functional, and psychological comfort, with the latter emphasizing the importance of "territory" as a means to attain a sense of privacy, status, and control over one's environment.

Another study by Hills and Levy (2014) focuses on the concept of territoriality emerges from the need to exert control over limited resources, such as floor space and work surfaces, and is influenced by psychological ownership and attachment within the workplace. On the same subject, Brown et al. (2010) reflect upon the idea that territoriality offers employees a sense of personal

authority. A visible manifestation of territoriality is the act of personalizing and appropriating space. Brown (2009) also presents a complex analysis of research exploring territorial attachment, organization, occupation, and defense.

Existing literature on environmental control highlights the numerous positive effects associated with providing individuals with a sense of control in the workplace. Increased job satisfaction and performance through personalization, the flexibility of environmental factors such as temperature, noise, lighting, and air quality, and the capacity to personalize equipment, tools, and furnishings to meet particular requirements are a few of the advantages (Bodin-Danielsson & Bodin, 2014; Hill's & Levy 2014; Huang et al., 2004; Lee & Brand, 2005).

Interior space research and its influence on health also addresses concrete possibilities for office workers to modify their physical work environment (Boerstra et al., 2015; Joines et al., 2015; Toftum, 2010). Two types of control are emphasized. The first is adjusting the conditions of the workplace, which includes aspects like lighting, temperature, and airflow (Boerstra et al., 2015). The second is personalizing the workstation to meet individual preferences and needs (Wells, 2000). Both forms of control were discovered to have a beneficial link with mental and, to a lesser extent, physical satisfaction. Furthermore, studies show that when people have actual control over one part of their environment, they experience control over other areas as well (Boerstra et al., 2015; Toftum, 2010).

Overall, from these studies a basic categorization of privacy and control items can be made which encompass the two domains of visual privacy and environmental control. These items contains like visual privacy, personal control

of heating&cooling, degree of freedom to adapt which effect employees satisfaction on workplace.

2.2.2. Modification and Appropriation of Workplace

According to Horsanali et al. (2021), observing daily actions from the perspective of professionals helps designers to see their potential for a more placed and inclusive design approach. By incorporating these practices into their work, designers can gain a deeper understanding of local contexts and create designs that better serve the needs of the community (Horsanali et al., 2021). This approach is consistent with Manzini's (2015) idea of "diffuse design," which acknowledges that everyone has the ability to design but must be educated to expand their innate design capacity in order to become expert designers. Workplace modifications and appropriations can also be investigated in this context.

Rogers (2005) defines innovation as an idea, practice, or object that is perceived as novel by individuals or groups who adopt it. According to Rogers (2005), the perception of novelty determines whether something qualifies as an innovation. The process of appropriating and adopting an innovation involves several phases: first encounters, exploration, and stable phases (Babapour et al., 2018). During the first phase, individuals recognize the need for change, acquire knowledge about the innovation, and make a decision to acquire it (Rogers, 2005). This decision-making process entails dealing with uncertainties and selecting a new alternative (Rogers, 2005). In the exploration phase, users experiment with the innovation to understand its potential (Babapour et al., 2018). This phase often

introduces tensions into users' activities due to the combination of old and new routines (Babapour et al., 2018).

In Horsanalı et al. study (2021), they reframe that, in Istanbul, a practice called "halletmek" has emerged, which involves repairing, adapting, or modifying objects to address urgent problems or satisfy immediate needs. Halletmek represents a local approach to problem-solving, encompassing activities such as fixing and handling various situations (Halletmek n.d.). Designers may learn a lot from these practical and contextual solutions that have become a part of city life (Horsanalı et al., 2021). Exploring these practices has the potential to contribute to the design culture by diversifying design knowledge and critically examining non-disciplinary modes of production (Horsanalı et al., 2021).

Designers should approach these placed practices professionally, recognizing the potential for them to build a more participatory and situated design practice (Campbell, 2017). Designers might improve their techniques by recognizing and examining the improvisational acts and creativity expressed in common things (Ingold & Hallam, 2021). Everyday practices, often overshadowed by generalized strategies, offer valuable insights and skills for addressing novel and unforeseen situations (Gasson, 2015; Horsanalı et al., 2021). Incorporating improvisational creativity and situational sensitivity allows designers to effectively respond to unpredictable circumstances (Ingold & Hallam, 2021).

According to Gasson (2015), it is critical for designers to develop a repertory of designs that function in certain scenarios. This method, however, becomes troublesome when designers have to deal with new or exceptional conditions that they have never seen before (Gasson, 2015). To handle such

obstacles, spontaneous creativity developed through daily practices becomes critical. It gives designers the versatility and flexibility they need to respond successfully to the unforeseen (Gasson, 2015).

To critically examine these situated practices and their potential contributions to design culture, designers need to approach them from a perspective derived from their profession (Campbell, 2017). By doing so, they navigate the tension between these non-disciplinary modes of production and the established discourse of design. Such an investigation should be conducted with a genuine intention to understand and respect the activities and products that emerge from these practices (Campbell, 2017).

Huang et al. (2004) gathered 89 workers to explore whether environmental control mediates the connection between environmental satisfaction and job satisfaction. According to the findings, "environmental control does influence perceived environmental satisfaction" (Huang et al., 2004, p.631). Furthermore, Samani et al. (2015) contend that allowing individuals to adjust and customize the ambient circumstances of their workplace may be a very successful technique for accommodating their different demands and aspirations for flexibility inside the workplace. Allowing employees to adjust aspects like as lighting, temperature, noise levels, and spatial layout may build a sense of empowerment and ownership, resulting in increased employee happiness and engagement. This level of autonomy not only enhances individual satisfaction but also promotes a positive work culture that values employee preferences and promotes a sense of belonging and investment in the organization. Furthermore, it acknowledges people's distinct preferences and working styles, recognizing that an all-encompassing approach to the workplace may not be conducive to the best performance and job satisfaction.

Fostering an atmosphere that encourages individual adjustments and customization can therefore help employees' overall satisfaction, productivity, and retention (Rioux & Pignault, 2013).

The existing literature on free-standing street booths as workplaces is limited, with few studies specifically focusing on their design, layout, and employee satisfaction. This research addresses this gap in the literature by conducting an investigation into the typologies, physical ergonomics, IEQ, visual privacy and environmental control conditions of different booth types. The research also delves into the modifications made by booth employees to customize their workspaces, shedding light on the proactive role of employees in shaping their working environment. By examining these aspects, the thesis contributes to a deeper understanding of the potential and challenges of free-standing street booths as workplaces. Furthermore, the research on modifications made by employees offers insights into user-driven adaptations and customization, highlighting the significance of creating work environments that prioritize employee satisfaction. The next section describes the methodology of this research.

Chapter 3

METHODOLOGY



In this study, the chapter begins by presenting the research questions that define the study's objectives. Subsequently, detailed site information is provided to better understand the environmental context in which the study was conducted. The selection process for the settings and participants is then explained. Careful consideration was given to ensure a diverse range of street booth workplaces were included, capturing a variety of user perspectives. It then proceeds to describe a pilot study conducted prior to the main research, which aimed to refine the methodology and gain valuable insights. The instruments used in the study, along with the data collection and analysis methods, are discussed in detail. These instruments were chosen to gather relevant information on street booth typology,

user satisfaction levels, and user modifications and appropriations. Finally, the chapter outlines the procedural framework followed in this study, providing a clear roadmap of the steps taken. This transparent approach ensures that the research process can be replicated and enhances the credibility and rigor of the study.

3.1. Research Questions

The following research questions were asked with references to the literature review within the context of Ankara as a case study.

RQ1: What are the types of free-standing street booths in terms of workplace use?

RQ2: What is the satisfaction level of free-standing street booth users in terms of:

- i) Physical Ergonomics
- ii) Indoor Environmental Quality (IEQ)
- iii) Visual Privacy and Environmental Control

RQ3: What are the modifications and appropriations that free-standing street booth users make in their workplace to increase their satisfaction level?

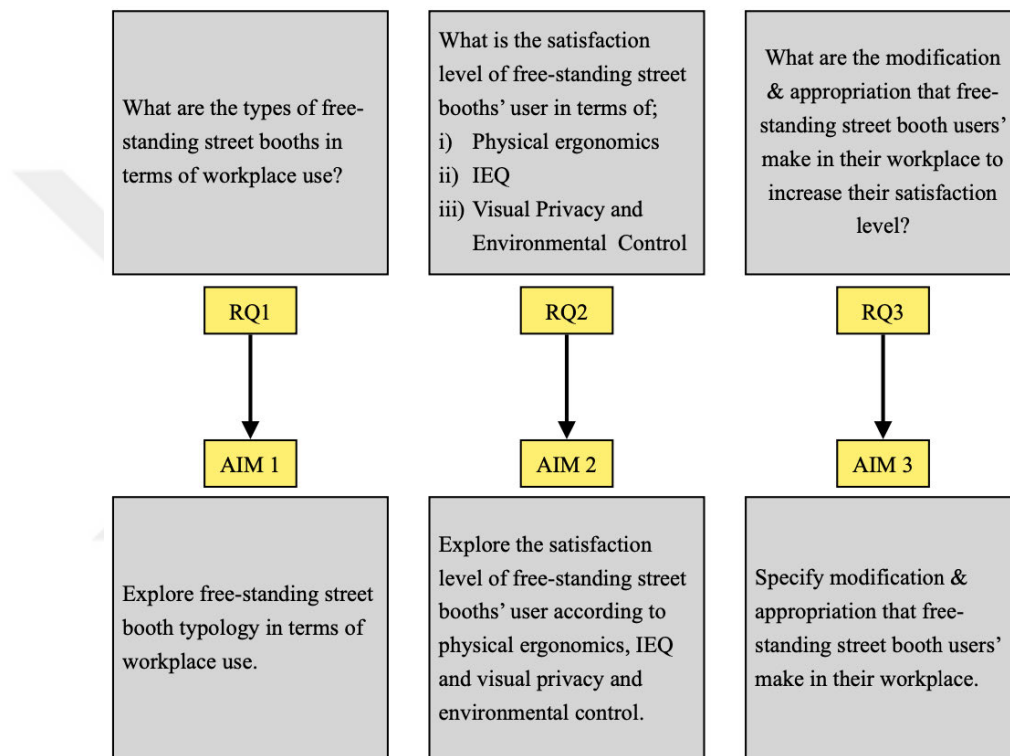
These research questions form the foundation for investigating the various types of free-standing street booths used as workplaces, examining user satisfaction in terms of physical ergonomics, IEQ, and privacy and control, as well as exploring the adaptations and modifications made by users to enhance their satisfaction. By addressing these questions, this study aims to shed light on

the characteristics and experiences associated with free-standing street booths (see Figure 3).

Figure 3

Interrelationship between the research questions and the overall aim of the study

(Source: The Author)



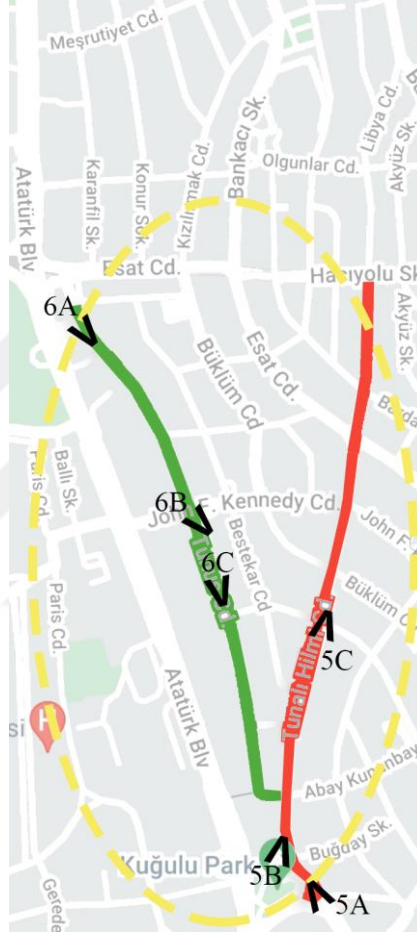
3.2. Site

The research location was chosen to be Tunal Hilmi Boulevard, Tunus Street and its surroundings (Figure 4). Tunalı Hilmi Street is located south of Kızılay, Ankara's company district. It is located in Kavaklıdere, a neighborhood in Ankara's Çankaya district. Tunalı Hilmi Street begins in the south with

Kuğulu Park and finishes in the north at Hacıoğlu Street and Akay Street (Erkip, 2020).

Figure 4

Research area mapped as focused lanes (Source: The Author)



Tunalı Hilmi Street (see Figure 5), situated in the Kavaklıdere neighborhood of Çankaya district in Ankara, is recognized as a significant high street within the city, attracting a diverse range of users and consumers (Anbari, 2022). This bustling street encompasses a variety of functions, including commercial establishments, office buildings, and residential units (Anbari, 2022). As Erkip (2020) suggests, understanding the activities taking place on Tunalı Hilmi Street

becomes crucial in categorizing and analyzing the observed activity patterns for this thesis.

Figure 5

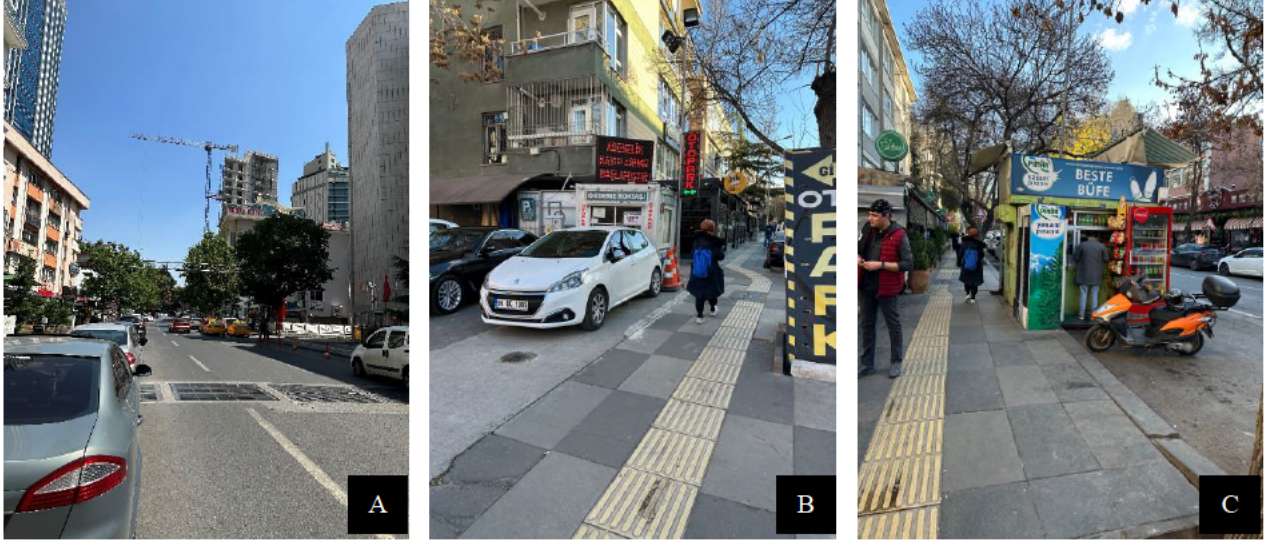
Tunali Hilmi Street views (Photos taken by The Author)



Tunalı Hilmi Street and Tunus Street (see Figure 6) are both significant streets with business and office uses. Tunus Street is home to notable landmarks like the Kavaklıdere Wines factory outlet, the Şinasi Theater, TUBITAK (The Scientific and Technological Research Council of Turkey), offices and office buildings, a hospital (Dünyagöz), and a five-star hotel (Rixos Hotel), in addition to cafes, restaurants, and bars on the ground floors (Anbari, 2022)

Figure 6

Tunus Street views (Photos taken by The Author)



The concept of street scale provides a lens through which can be explored the spatial dimensions and characteristics of Tunalı Hilmi Street. Extending from Kuğulu Park in the south to Hacıoğlu Street and Akay Street in the north, this urban thoroughfare is not only defined by its physical boundaries but also by the activities and interactions unfolding within it (Anbari, 2022). One aspect highlighted by Erkip (2020) is the changing image and resilience of Tunalı Hilmi Street. The diverse range of activities and functions accommodated within this street, including commercial, office, and residential uses, contribute to its vibrancy and popularity among the street dwellers (Anbari, 2022).

The relation between street booths and it's immediate surrounding is crucial for the activity patterns and interaction of the customers during their interaction with the booths, however for the main scope of the thesis the workplace environment is analyzed with respect to user's experience within their work environment. Therefore, the main designated setting of Tunalı Hilmi Street

and Tunus Street expanded respectively, the location acts as a starting core and developed around as the commercial center of Ankara.

3.3. Participants and Settings

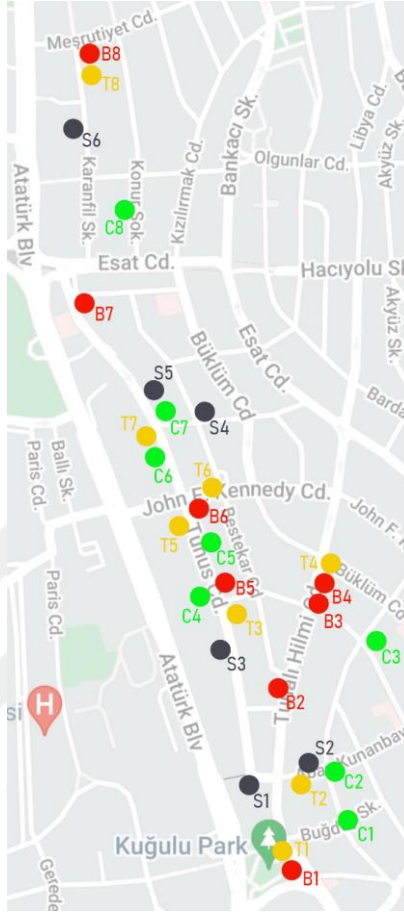
The primary target group of this study is users of street booths as a workplace.

The common points of the participants are that they use free-standing street booths. While selecting the employees of these areas, no age or gender selection was made and they were chosen only with respect to their role as the part of street booth work environment.

In this research total 30 street booths was analyzed and taken as the factors of the data set, as eight buffets, eight taxi booths, eight carpark booths and finally six security booths are studied (see Figure 7).

Figure 7

Researched booths (T:Taxi, B:Buffet, C:Carpark, S:Security). (Source: The Author)



Approval from the ethical committee, has been obtained for this study (see Appendix A). The research procedures and protocols strictly adhered to the ethical guidelines established by the committee to safeguard the rights, privacy, and confidentiality of the participants.

3.4. Pilot Study

The pilot study served as a valuable introduction to the main research, allowing for the identification of potential challenges and refining the research methodology. Conducted on Tunalı Hilmi Street in Ankara, the pilot study focused on the observation of various types of street booths, namely taxi booths, parking booths, security booths, and kiosk booths. Each category was represented by one booth, and the employees working in these booths were engaged in daily conversational interviews.

The purpose of the pilot study was to determine if the intended research would adequately cover the required themes. To gather preliminary information, observations were made from an external standpoint, allowing for an initial understanding of the context and dynamics within the research setting. Additionally, informal conversations were held with the employees to gain insights and gather general information. These preliminary activities served as a valuable foundation for refining the research design and ensuring that the upcoming study would comprehensively address the relevant aspects.

To better understand the participants, demographic information was gathered during the interviews, such as age and years of work experience. The employees were questioned about how well-organized their workplaces were overall, taking into account elements like design and functioning. Additionally, their perceptions of the physical conditions within their workplaces were assessed generally with open-ended questions. The interview did not have a general structure, it was made for the purpose of obtaining preliminary information.

One key aspect explored during the pilot study was the employees' discomfort with certain physical conditions in their workplaces. They were asked if they encountered any specific issues that made them uncomfortable, such as inadequate seating, poor ventilation, or insufficient lighting.

The pilot study provided valuable insights into the feasibility and effectiveness of the chosen research methods. It revealed certain challenges, such as the reluctance of security booth employees to respond openly due to concerns about potential consequences. This finding highlighted the need for sensitivity and alternative approaches when engaging with participants in the main study.

Overall, the pilot study was instrumental in refining the research questions, optimizing data collection methods, and anticipating potential limitations or biases that could arise in the main study. The insights gained from the pilot study served as a valuable basis for conducting a rigorous investigation into free-standing street booths as workplaces in the main research. The study areas interviewed as a pilot study were not used in the main study.

3.5. Procedure and Instruments

The study used a combination of methods. For the current study's research paradigm, mixed methods research was chosen for a number of reasons.

According to Leech and Onwuegbuzie (2007), the first point is that tackling some issues with a single paradigm is both challenging and inadequate. The how and why issues are addressed through qualitative research.

Second, the mixed method approach tries to combine diverse views, ideas, and circumstances from both qualitative and quantitative research (Johnson et al., 2007). As a result, the use of this method gives more powerful and accurate procedures, resulting in a better comprehension of the phenomenon (Creswell et al., 2009).

Quantitative investigations are useful in determining cause and effect, as well as numerical correlations and their magnitude (Sullivan and Sargeant, 2011). As a result, combining quantitative and qualitative methodologies yields fresh empirical discoveries (Malina et al., 2011). The goal of this study may be achieved by combining qualitative and quantitative approaches because it was difficult to respond to the study's topic with just one methodology.

In this sense, the use of mixed method as a part of the procedure of the thesis one of the most suitable methods of data collection is done through face to face interviews with the users of the subject free-standing street booths as workplaces. In this relation, the study has three parts of questions. The first part of the questions collects demographic data and workplace information with documentation. The second part of the questions collects free-standing street booth users 'satisfaction levels in terms of physical ergonomics, IEQ and privacy and control. Last part of the questions are combined with the second part analyze the adaptation and appropriation that user make in their workplace.

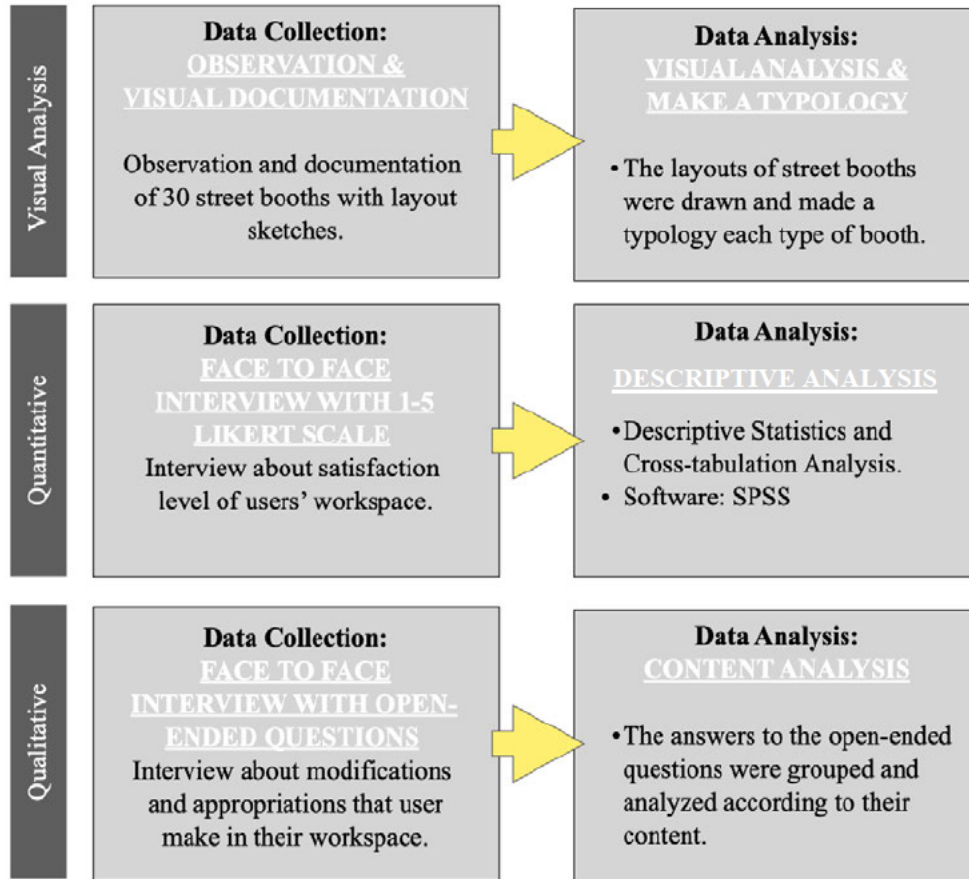
The data collection process commenced with the acquisition of demographic information and visual data. This initial step aimed to capture relevant demographic details of the participants and visually document the diverse utilization of free-standing street booths as workplaces. Subsequently, participants were presented with a series of questions utilizing a Likert scale ranging from 1 to

5 to gauge their satisfaction levels. Additionally, participants were encouraged to elaborate on the reasons behind their satisfaction levels and whether any changes had occurred in their perceived satisfaction over time. These responses were analyzed to examine the modifications and adaptations users made in their workplaces. The set of questions results were not shared with the personal information of the participants 'to respect the participants 'privacy. Before starting the data collection, researcher asked permission to get their personal data and daily life routine. After the researcher received the demographic and visual data about the user' workplace which is street booth, researcher asked the questions about workplace satisfaction level and wrote down the answers herself. After the questions, researcher also asked why and the changes made, and noted the answers for content analysis. All data were completed with face-to-face interviews and lasted between 15 and 20 minutes. The data collection process started in February and ended in mid-March. In terms of seasonal differences, it is important that the data collection process was carried out in Ankara during a cold period.

This study intended to obtain a comprehensive perspective of user experiences in free-standing street booths as workplaces by integrating both qualitative and quantitative data gathering approaches (Figure 8). The study design ensured that both the subjective perspectives of participants and objective measurements were considered, allowing for a more detailed understanding of user satisfaction and adaptations.

Figure 8

Data Collection and Analysis methods (Done by the author)



3.5.1. Data Collection Methods

The data collection methods employed in this research encompassed a range of techniques to gather exhaustive insights into the utilization of free-standing street booths as workplaces. The researcher employed observation and visual documentation as crucial data collection methods. By observing the workplaces firsthand and documenting their findings through sketches and visual representations, a typological research analysis was conducted. The social sciences frequently use typology development as a method of classification

(Ahlquist & Breunig, 2012). This approach facilitated the categorization and classification of different street booth usage patterns based on their design, layout, and functionality (Glegg, 2018). The combination of observation and visual documentation provided valuable insights into the spatial characteristics, user behaviors, and interactions within the workplaces, contributing to a broad understanding of the diverse ways in which these booths are utilized. According to Gehl (2012), public life studies primarily rely on direct observation as their main research method. Instead of actively engaging users through questioning, the focus is on observing their activities and behavior to gain insights into their needs and the utilization of urban spaces (Nissen, 2008).

Furthermore, face-to-face interviews were conducted with the participants, allowing for direct interaction and in-depth exploration of their experiences (see Appendix B). The set of questions was prepared by combining different research about satisfaction level of user in their workplaces (see Table 1) , utilizing a 1-5 Likert scale to measure the satisfaction levels of the users. The Likert scale responses provided a numerical representation of satisfaction levels, enabling further descriptive statistic and comparison (Joshi et al., 2015). This structured approach enabled the quantification and comparison of satisfaction across different aspects such as physical ergonomics, IEQ, and privacy and control.

Table 1

Instrument design for exploring free-standing street booths as a workplaces

Exploring Free-Standing Street Booth as a Workspace			
Question Title	Question Number	Theme	Reference
Physical Ergonomics	Q1, Q2, Q3, Q4, Q5, Q6	Workspace and Desk	Budie et. Al., 2018 Ehrensberg et. Al., 2016
	Q7, Q8, Q9	Seating	Ehrensberg et. Al., 2016
	Q10, Q11, Q12, Q13	Size and Layout	Budie et. Al., 2018 Candido et. Al., 2016
	Q14, Q15	Interaction	Park et. Al., 2018
IEQ	Q16, Q17, Q18, Q19, Q20, Q21, Q22	Indoor Air Quality and Thermal Comfort	Candido et. Al., 2016
		Noise Distraction	
		Visual Comfort	
Visual Privacy and Environmental Control	Q23, Q24, Q25, Q26, Q27	Control Over Space	Candido et. Al., 2016 Candido et. Al., 2015
	Q28, Q29, Q30, Q31	Visual Privacy	Candido et. Al., 2016

In addition to the Likert scale responses, participants were also prompted to provide reasons for their satisfaction levels and whether any changes had occurred in their perceived satisfaction over time. A better knowledge of the variables impacting user happiness and the modifications made by participants to improve their workplaces was made possible by the qualitative component of the data gathering procedure. The link between subjective sensations and objective measures was made possible by the integration of qualitative and quantitative data at this level. The integration with face-to-face interviews that included both Likert scale questions and open-ended questions, observation, and visual documentation ensured a multi-dimensional approach to data collection (Creswell et al., 2009).

3.5.2. Data Analysis Methods

The demographic data obtained from the participants were subjected to descriptive statistical analysis using the SPSS software. This involved the characteristics, distribution, and variability of demographic variables such as age, working experience, and other relevant factors.

For the analysis of the gathered visual data, a visual analysis approach was employed to conduct typological research on different street booth types, namely carpark, buffet, taxi, and security booths. According to Andranovich and Riposa (1998), an architectural type is a compilation (idea) of architectural designs that share certain traits. It could be the prototype for a model or a design. Using specialized software such as AutoCAD and Photoshop, the researcher meticulously drew plans and visual representations of each street booth type. This enabled the creation of a typology that captured the distinct characteristics, spatial configurations, and design features of each booth type. Typology studies use form and function categories. A type is referred to as a "function type" if the external functioning (function) is included in the characteristics of the type, as opposed to a "form type" if the characteristics are solely connected to the form (the layout distribution or the contour of this) (Andranovich & Riposa, 1998). The visual analysis facilitated a visual exploration and comparison of the various booth types, offering insights into their layouts, functionalities, and contextual integration within the urban fabric.

To analyze the satisfaction levels of users, descriptive statistics was used. Using the SPSS program, frequency, mean, and standard deviation analysis were performed on the data. This involved examining the frequency distributions of

responses and conducting cross-tabulations to explore relationships between satisfaction variables and other relevant factors. By employing these statistical analyses, the researcher gained insights into the levels of satisfaction across different aspects such as physical ergonomics, IEQ, and privacy and control.

In examining the modifications and appropriations made by users in their workplaces, a content analysis method was employed. Researchers can measure and assess the existence, meanings, and connections of certain words, themes, or concepts by using content analysis (Vaismoradi et al., 2013). The qualitative data obtained from the open-ended questions were systematically analyzed using a coding scheme developed based on recurring themes and concepts. The content analysis involved categorizing and coding the responses to identify patterns, key ideas, and strategies related to the adaptations made by users. This method allowed for a deeper exploration of the users' experiences, needs, and preferences, revealing the diverse ways in which users personalized and transformed their workplaces to suit their requirements.

Combining quantitative and qualitative methods made it possible to gain a complex picture of the users' experiences, preferences, and workplace modifications. These data analysis methods supported the generation of meaningful insights, facilitating a comprehensive examination of the typological variations, modifications, and satisfaction levels associated with different street booth types.

Chapter 4

RESULTS

The results of the research are organized into four distinct sections, each shedding light on different aspects of free-standing street booths as workplaces. The first section focuses on the participants who operate in these street booths' demographic makeup. The participant-collected demographic data, including details on age, gender, job experience, shared space, and activities, are presented through descriptive statistical analysis. This section provides an overview of the participants' profiles, enabling a better understanding of their backgrounds and contexts.

In the second section, the results from the visual analysis are presented. By employing AutoCAD and Photoshop software, plans and visual representations of street booths are created, capturing the diverse typological variations among carpark, buffet, taxi, and security booths. The visual analysis offers a deeper exploration of the physical features, spatial arrangements, and architectural

characteristics of each booth type. It provides insights into the layouts and design elements, facilitating the creation of a typology for street booths as workplaces. This section enhances the understanding of the physical configurations and spatial arrangements that contribute to the usability and functionality of these workplaces.

The third section presents the quantitative results of the user satisfaction assessment. Using a 1-5 Likert scale questionnaire, the satisfaction levels of street booth users regarding various aspects such as physical ergonomics, IEQ, and privacy and control were measured. To investigate the satisfaction rating distribution, the quantitative analysis comprises the computation of frequencies, means, and cross-tabulations.

Finally, the fourth section of the results focuses on the qualitative analysis of the modifications and appropriations made by users in their workplaces. This qualitative analysis provides a rich understanding of how users transform and customize their street booths to meet their specific needs and preferences.

4.1. Demographic Data

A total of 30 people participated in the study. The demographic analysis comprises age, gender, time spend in booth, work year and shared space info. These can be seen in Table 2. All of the participants are male and majorly between the ages of 32-49. When the workplaces are examined separately, the average age of the taxi booth employee is 44, while the average age of the parking booth employees is 35. The average age of the buffet booth employees is 46, and the average age of the security booth employees is 48.

While the majority of employees (28, 93,2%) spend more than eight hours at their workplaces, the rest (2, 6,8%) spend between 4-8 hours at workplaces.

Employees who spend between 4-8 hours are those who only works in the security booth.

While more than half of the employees (11, 37,4%) have been working at their workplace for ten to twelve years, while 9 employees (32%) have been working in their workplace for less than ten years. There are 3 employees (6,8%) working in the same workplace for more than 40 years and they work in the carpark booth. While the majority of employees (27, 89,9%) share their workplace with others, only 3 (10,1%) of them use the workplace alone, all of whom work at the buffet booth.

Table 2*Demographic characteristics of the participants of the study*

Participant characteristics (n=30)		Frequency	Percent %
Gender	Male	30	100
	Female	0	-
Age	18-32	5	16,8
	32-46	14	46,4
	46-60	8	26,7
	60+	3	10,1
	Total	30	100
Time spend in this booth	0-4 hours	0	-
	4-8 hours	2	6,8
	8+ hours	28	93,2
	Total	30	100
Work year	0-10 years	9	32
	10-20 years	11	37,4
	20-30 years	6	20,4
	30-40 years	1	3,4
	40-50 years	3	6,8
	50+ years	-	-
	Total	30	100
Shared space	Yes	27	89,9
	No	3	10,1
	Total	30	100

Table 3 presents researched booth characteristics. Eight of 30 participants are taxi booth employees, 8 carpark booth employees, 8 buffet booth employees and 6 security booth employees. Workplace square meters, eleven of them are between 0-5 m², fourteen of them are between 5-10 m², four of them are between 10-15 m² and only one of them is 15 m². When the average m² calculation is made, taxi booths are 9.5 m², carpark booths are 5.8 m², buffet booths are 7.8 m², and security booths are 5 m².

Table 3*Booth characteristics of the study*

Booth characteristics (n=30)		Frequency	Percent %
Booth type	Taxi booth	8	26,6
	Car-park booth	8	26,6
	Buffet booth	8	26,6
	Security booth	6	20,2
	Total	30	100
M2	0-5 m2	11	36,6
	5-10 m2	14	46,6
	10-15 m2	4	13,5
	15+ m2	1	3,3

Activities done at workplace information asked with demographic data but it will be provided in the next section as it relates to the typology.

4.2. Results on the Visual Analysis

Obviously, each booth type have a specific main work activity due to its specialty. As such, while buffet is for selling products, security is to make observations to ensure general security. The activities done at workplace question is for additional activities other than the main work of booths. When asked about the activities in the workplace under 3 main headings which are eating, resting and hygiene which is about ability to wash hands and use toilet at workplace, 28 out of 30 employees stated that they eat in the work area, one employee did not eat in the workplace, and one employee stated that can not eat in the workplace. When asked about rest in the workplace, eleven employees stated that they rest, one employee did not

rest, and 18 employees stated that they can not rest. Finally, five employees stated that they have ability to wash hand and use toilet in their workplace, while twenty five employees stated that they can not provide these in the workplace (see Table 4).

Table 4

Activities information done at workplaces

Activities done at workspace		Frequency	Percent %
Eating at workspace	Do	28	93,4
	Don't	1	3,3
	Can't	1	3,3
	Total	30	100
Resting at workspace	Do	11	36,3
	Don't	1	3,3
	Can't	18	60,4
	Total	30	100
Hygiene at workspace	Do	5	16,5
	Don't	-	-
	Can't	25	83,5
	Total	30	100

In order to understand the relation between the activities and the surrounding workplace environment, a visual analysis was conducted. 30 plans, including 8 taxi booths, 8 carpark booths, 8 buffet booths, and 6 security booths were drawn with the AutoCad software for analysis with the help of observation, sketch and visual documentation made during the interviews (see Appendix C).

Figures 9, 10, 11 and 12 shows the sample from each type, namely one taxi booth, one carpark booth, one buffet booth and one security booth.

Figure 9

*One of the examined Taxi Booth
(T1) (Taken by the author)*



Figure 10

*One of the examined Carpark Booth
(C6) (Taken by the author)*



Figure 11

*One of the examined Buffet Booth
(B3) (Taken by the author)*



Figure 12

*One of the examined Security
Booth (S6) (Taken by the author)*



Seven elements were marked on the layout in the plan drawings. Entrance, WC, kitchenette, circulation, seating, table and storage areas were determined as important elements of the plans. In addition, in the buffet drawings, the product shelves outside the buffet are added to the drawing and also marked). These 7 elements cover all the elements in the post-research study areas. After all the plan drawings were made, the seven items mentioned were marked where necessary with the Adobe Photoshop software. A schematic format was used in the drawings and construction information such as the wall thickness and the window opening of the workplace were not given. Only schematic information such as entrance, sitting area, circulation, table, storage, toilet and kitchenette are given.

After obtaining the four different groups of drawings based on booth type, each group was subject to an individual analysis. Focusing on the typological analysis of taxi booths four distinct typologies were identified (see Table 5). The most prevalent typology (as also obscene in Figure 11 from exterior) exhibited specific features, including the presence of toilets, a clearly demarcated kitchenette occupying an entire wall, and seating areas located on both the right and left sides. Furthermore, this typology demonstrated a characteristic circulation pattern, with a narrow pathway traversing through the central area. The second most seen booth has features such as the entrance from the side of the space and the seating arrangement being different from the others. The third one is look alike the most prevalent booth but it has no toilet. The last typology, of which only one example, has entrance from the side of the booth and it has smallest kitchenette.

Table 5

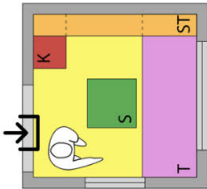
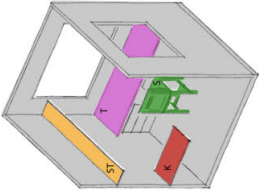
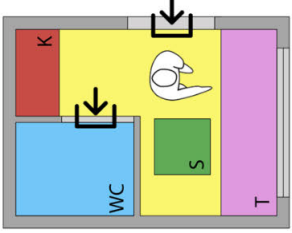
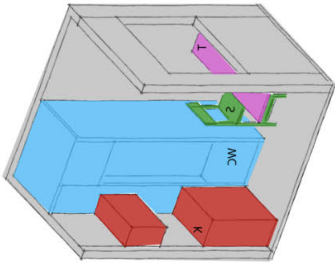
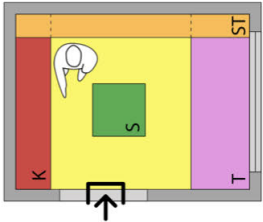
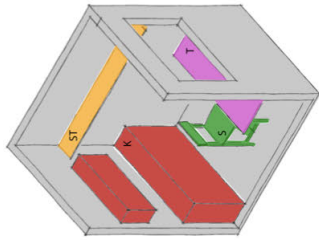
Taxi Booth types with plans and features (made by author)

Types	Code of booth	Schematic Plan	Illustrated 3D	Features	Legend
1	T1, T2 and T6			• There is a toilet. • Wall to wall kitchenette at the end of the workplace. • There are seatings on the right and left of the space.	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance
	Average 12 m ²				
2	T3 and T8			• Wall to wall kitchenette at the end of the workplace. • There is a seating opposite to the door. • One wall is reserved for the storage	
	Average 8,75 m ²				
3	T5 and T7			• Narrower than other types. • Continued seating along the wall.	
	Average 8 m ²				
4	T4			• The taxi booth with the smallest square meter. • Small worktop for kitchenette.	
	6 m ²				

Turning our attention to the typological analysis of carpark booths, three distinct typologies emerged (see Table 6). The most prevalent typology (as also obscene in Figure 12 from exterior) is characterized by its compact size, occupying a small square meter area. Notably, similar to other typologies, this common carpark booth design does not allocate a large worktop for the kitchenette. Another noteworthy feature of this typology is its rear entrance, which implies that the entrance is behind the employee, assuming seating position is in front of the table during work. This shared characteristic in the typology indicates a consistent approach to spatial arrangement and workflow optimization among carpark booths. The second most seen booth has toilet which is different feature from other types. Last booth typology has wall-to-wall kitchenette and entrance is from the side of space.

Table 6

Carpark booth types with plans and features (made by author)

Types	Code of booth	Schematic Plan	Illustrated 3D	Features	Legend
1	C2, C4, C6 and C8 Average 4 m ²			• Smallest type of booths. • The entrance is from the back of booth. • Small worktop for kitchenette	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance
2	C1 and C7 Average 12,75 m ²			• There is a toilet. • Larger kitchenette worktop. • The entrance is from the side of booth.	
3	C3 and C5 Average 5 m ²			• Wall to wall kitchenette at the end of the space. • The entrance is from the side of booth.	

In the analysis of the buffet booth typologies, two distinct typologies were identified, each offering unique features (see Table 7). The first typology (as also obscene in Figure 13 from exterior), which was observed in the majority of cases (6 booths), is characterized by its rear entrance, situated behind the booth. Additionally, this typology features seating arrangements designed for a single person, while the circulation area is primarily allocated for storage and display purposes. On the other hand, the second typology exhibits entrances located on the side of the booth. In this typology, seating arrangements are designed to accommodate two people, and the circulation area serves a similar function of display and storage as observed in the first typology. The second buffet typology has entrance from the side of space and seating is adjusted more than one person which is different from the mots prevalent type.

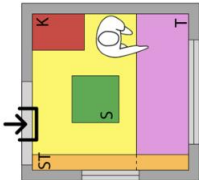
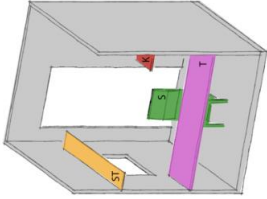
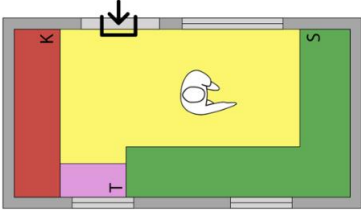
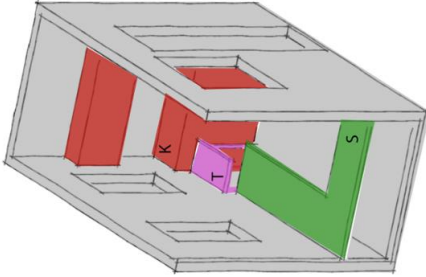
Table 7
Buffet booth types with plans and features (made by author)

Type	Code of booth	Schematic Plan	Illustrated 3D	Features	Legend
1	B2, B3, B4, B5, B6 and B7 Average 7,5 m2			• The entrance is from the back of booth. • Seating is adjusted for one person. • There are storage and display areas around the circulation.	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance
2	B1 and B8 Average 9,5 m2			• The entrance is from the side of booth. • Seating is adjusted for more than one person.	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance

Upon examining the typology of security booths, two distinct types were identified, revealing variations in their layout and characteristics (see Table 8). Among the six plan types observed, five of them shared significant similarities, while one type stood out in terms of both layout and size. The primary typology (as also obscure in Figure 14 from exterior), which was prevalent among the security booths, featured a rear entrance and seating arrangements designed for a single person. Additionally, this typology exhibited a standard-sized kitchenette worktop and a relatively narrower circulation area. In contrast, the second typology, found in only one booth, had multiple seating options despite having an entrance located on the side of the booth. Notably, this typology highlighted a larger kitchenette worktop compared to the primary typology, and the wider floor area influenced the overall circulation space but there is a functional difference between prevalent type and second one. Prevalent booths are used for ensuring general security, on the other hand, second booth type is reserved for gendarme and booth is used more than one employee at the same time.

Table 8

Security booth types with plans and features

Type	Code of booth	Schematic Plan	Illustrated 3D	Features	Legend
1	S2, S3, S4, S5 and S6			• The entrance is from the back of booth. • Seating is adjusted for one person.	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance
	Average 4 m2				
2	S1			• The entrance is from the side of booth. • Seating is adjusted for more than one person. • It has a bigger kitchenette worktop.	Circulation Seating Kitchenette Table Storage WC Outer Shelf Entrance
	10,5 m2				

4.3. Quantitative Analysis:

In the following section, research focus on the evaluation of the physical ergonomics, IEQ, and privacy and control conditions of the workplaces in free-standing street booths using a 1-5 Likert scale. According to Nunnally (1978, p. 245) instruments used in research preferred to have reliability value (Cronbach's alpha) of .70 or better. Interview data were entered to the SPSS software to test the reliability statistics, the Cronbach's alpha value was .934 when the reliability tests are done with 31 factors asked during interview. The consistency of all the satisfaction measurement factors asked was calculated with SPSS.

When examining the satisfaction levels of users regarding ergonomic conditions, it was found that carpark booths received the highest ratings (see Table 9). The employees working in carpark booths expressed the highest level of satisfaction with the ergonomic aspects of their workplaces. In all tables, the most highest levels are highlighted in bold.

Table 9

Means of four different type of free-standing street booths users' satisfaction level (1-5 likert scale)

Related Questions	Study Variables:	Taxi Booth N=8	Carpark Booth N=8	Buffet Booth N=8	Security Booth N=6	Total N=30
		<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M/SD</i>
Q1-Q15	Physical Ergonomics	3,24	3,86	3,02	3,45	3,39 / 1,19
Q16-Q22	IEQ	3,78	3,58	3,42	3,38	3,54 / 1,05
Q23-Q31	Privacy&Control	3,75	3,55	3,43	3,44	3,54 / 1,13

On the other hand, when evaluating the IEQ and privacy and control conditions of the working areas, it was the taxi booths that garnered the highest levels of satisfaction. Employees working in taxi booths expressed the greatest contentment with the IEQ and the degree of visual privacy and environmental control they experienced.

The variations in satisfaction levels among different booth types indicate the importance of considering specific design and functional elements tailored to each booth type. By understanding the unique requirements and preferences of employees in different booth types, it becomes possible to enhance their overall satisfaction within their respective work environments. About the general satisfaction levels, considering all booths, IEQ and visual privacy&environmental control has highest satisfaction level.

4.3.1. Users' Satisfaction Level on the Physical Ergonomics

During the analysis of physical ergonomics conditions, four main categories were considered: Workspace and Desk, Seating, Size and Layout, and Interaction. In face-to-face interviews, participants were asked to evaluate 15 different physical conditions related to these categories using a 1-5 rating scale (see Appendix B). These 15 conditions were then grouped under the four main headings and analyzed using statistical software as SPSS (see Table 10).

Table 10

Physical Ergonomics satisfaction level of street booths users'

Related Questions	Study Variables:	Taxi Booth N=8	Carpark Booth N=8	Buffet Booth N=8	Security Booth N=6	Total N=30
	Physical Ergonomics	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M/SD</i>
Q1-Q6	Workspace and Desk	3,29	3,97	3,06	3,44	3,44 / 1,23
Q7-Q9	Seating	2,95	3,58	2,83	3,22	3,14 / 1,26
Q10-Q13	Size and Layout	3,15	3,71	3,06	3,33	3,31 / 1,15
Q14-Q15	Interaction	3,68	4,25	3,12	4,08	3,77 / 1,06

Based on the results, it was found that the carpark booth type exhibited the highest level of satisfaction across these four physical conditions. Employees working in carpark booths expressed the greatest contentment with their workplace and desk setup, seating arrangements, size and layout of the booth, and interaction within the space. Following carpark booths, security booths were the second most satisfied booth type when it came to physical ergonomics. While taxi

booths ranked third in terms of satisfaction, buffet booths were found to have the lowest satisfaction level with their physical ergonomics conditions.

Overall, the analysis reveals that carpark booths generally have the highest mean satisfaction scores across the specific physical conditions evaluated. On the other hand, buffet booths exhibit the lowest satisfaction mean. Meanwhile considering all the booths, seating has lowest satisfaction level and interaction has highest level.

4.3.2. Users' Satisfaction Level on IEQ

In the analysis of IEQ conditions, three main categories were considered: Indoor Air Quality and Thermal Comfort, Noise Distraction, and Visual Comfort.

Participants in face-to-face interviews were asked to rate seven different physical conditions related to these categories on a scale of 1-5 (see Appendix B). These seven conditions were then grouped under the three main headings and analyzed using statistical software SPSS (see Table 11).

Table 11*IEQ satisfaction level of street booths users'*

Related Questions	Study Variables:	Taxi Booth N=8	Carpark Booth N=8	Buffet Booth N=8	Security Booth N=6	Total N=30
	IEQ	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M/SD</i>
Q16-Q18	Indoor Air Quality and Thermal Comf.	3,66	3,58	3,16	2,83	3,30 / 1,10
Q19-Q20	Noise Distract.	3,87	3,62	3,87	3,91	3,81 / 1,07
Q21-Q22	Visual Comfort	3,87	3,56	3,37	3,66	3,61 / 0,97

According to the results, the taxi booth type exhibited the highest level of satisfaction with Indoor Air Quality and Thermal Comfort. Employees working in taxi booths reported the greatest contentment with the air quality and thermal conditions of their workplace. On the other hand, security booth employees expressed the lowest satisfaction with indoor air quality and thermal comfort conditions.

When it comes to noise distraction, employees in security booths reported the highest level of satisfaction, indicating that the design and measures taken in these booths effectively minimize noise disturbances. Conversely, carpark booth employees were the least satisfied with the noise distraction condition in their work area.

In terms of visual comfort, taxi booth employees exhibited the highest satisfaction level. The design and arrangements in taxi booths seem to provide a visually comfortable working environment. In contrast, buffet booth employees were found to be the least satisfied with the visual comfort condition, indicating a potential need for improvements in this aspect of their workplace. Meanwhile

considering all the booths, indoor air quality and thermal comfort has lowest satisfaction level and noise distraction has highest level.

4.3.3. Users' Satisfaction Level on Visual Privacy and Environmental Control

In the analysis of visual privacy and environmental control conditions, two main categories were considered: Privacy and Control. Participants in face-to-face interviews were asked to rate nine different physical conditions related to these categories on a scale of 1-5 (see Appendix B). These nine conditions were then grouped under the two main headings and analyzed using statistical software SPSS (see Table 12).

Table 12

Privacy and Control satisfaction level of street booths users'

Related Questions	Study Variables:	Taxi Booth N=8	Carpark Booth N=8	Buffet Booth N=8	Security Booth N=6	Total N=30
	Privacy&Control	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M/SD</i>
Q23-28	Privacy	3,75	3,56	2,68	3,33	3,33 / 1,19
Q28-Q31	Control	3,75	3,55	3,64	3,47	3,60 / 1,11

According to the results, employees in taxi booths expressed the highest level of satisfaction with regards to privacy. This suggests that the design and layout of taxi booths provide a satisfactory level of privacy for employees, allowing them to work comfortably without feeling exposed or intruded upon. On

the other hand, buffet booth employees reported the lowest level of satisfaction with privacy conditions. This indicates that improvements may be needed in buffet booths to enhance privacy and create a more secluded and personal working environment.

When it comes to control, taxi booth employees exhibited the highest satisfaction level. This implies that employees in taxi booths have a greater sense of control over their working environment, allowing them to personalize and adjust their space according to their preferences and needs. In contrast, security booth employees expressed the lowest level of satisfaction with control conditions. This suggests that there may be limitations or restrictions in the design or policies of security booths that hinder employees' ability to have control over their workplace. Overall, considering all booths, control has highest score and privacy has lowest one.

These results highlight the importance of considering privacy and control factors when designing and organizing workplaces in street booths, and the need to address specific concerns in order to improve employee satisfaction and well-being in these environments.

4.4. Qualitative Analysis

During the analysis of modifications and appropriations made by employees in street booths, it was found that carpark booths and buffet booths exhibited the highest number of changes in terms of physical ergonomic improvements (see Table 13). Specifically, these booth types demonstrated modifications aimed at enhancing the physical ergonomic aspects of the workplace, indicating a focus on

creating a more comfortable workplace. On the other hand, when it came to IEQ, taxi booths stood out as the booth type requiring the most modifications and appropriations. Employees in taxi booths seemed to prioritize adjustments related to the IEQ factors, potentially indicating a need for better air quality, temperature control, and lighting conditions in their workplaces. Additionally, both taxi booths and buffet booths demonstrated a higher frequency of modifications and appropriations in the privacy and control aspect compared to other working areas. This suggests that employees in these booths sought to enhance privacy and exert more control over their immediate surroundings. Through content analysis, each factor was individually examined, and the specific changes implemented by employees were categorized and analyzed. This approach provides valuable insights into the specific areas of concern for employees and sheds light on the modifications and appropriations made to improve their overall workplace experience.

Table 13

The number of users who make modifications and appropriation for each factor in their workplaces

Study Variables:	Taxi Booth N=8	Carpark Booth N=8	Buffet Booth N=8	Security Booth N=6	Total N=30
Modification & Appropriation	N / %	N / %	N / %	N / %	N / %
Physical Ergonomics	4 / 50%	6 / 75%	6 / 75%	5 / 83,4%	21 / 70,85%
IEQ	7 / 87,5%	4 / 50%	6 / 75%	3 / 50%	20 / 65,62%
Privacy & Control	4 / 50%	2 / 25%	4 / 50%	2 / 33,4%	12 / 39,6%

4.4.1. Modifications of the Physical Ergonomics

When examining the changes made to improve physical ergonomics, the main focus was on solving the problem of limited storage space (see Table 14).

Employees took various actions to address this issue, such as adding more shelves, hanging hangers on the wall to create storage areas, and placing cabinets under the table to their workplaces. These adjustments were aimed at making the workplace more efficient and practical. By creating additional storage options, employees aimed to improve the organization and accessibility of their work materials, reducing clutter and improving workflow. These changes demonstrate the employees in optimizing their work environment and overcoming storage challenges. Through these modifications, their goal was to create a more comfortable and well-organized workplace that enhances satisfaction level of employee.

Table 14

Number of employees made modifications on the Physical Ergonomics

Types of Modifications	<i>N</i> <i>N=30</i>	% <i>100%</i>
Add shelves	15	50
Add hanger	12	40
Add backrest	12	40
Extra cabinets	5	16,6
Add footrest	4	13,3
Add tray	2	6,6

Another modification made in terms of physical ergonomics involved adding backrests to the seating. Considering that employees spend a significant amount of time sitting in the same chair, their focus was on ensuring physical comfort. To achieve this, they took the initiative to enhance the existing chair-seats by adding pillows as additional back support. By doing so, employees aimed to alleviate strain on their backs and promote better posture during prolonged periods of sitting. This modification highlights employee's need to creating a more comfortable and ergonomic seating arrangement that contributes to their overall well-being and reduces the risk of discomfort or fatigue.

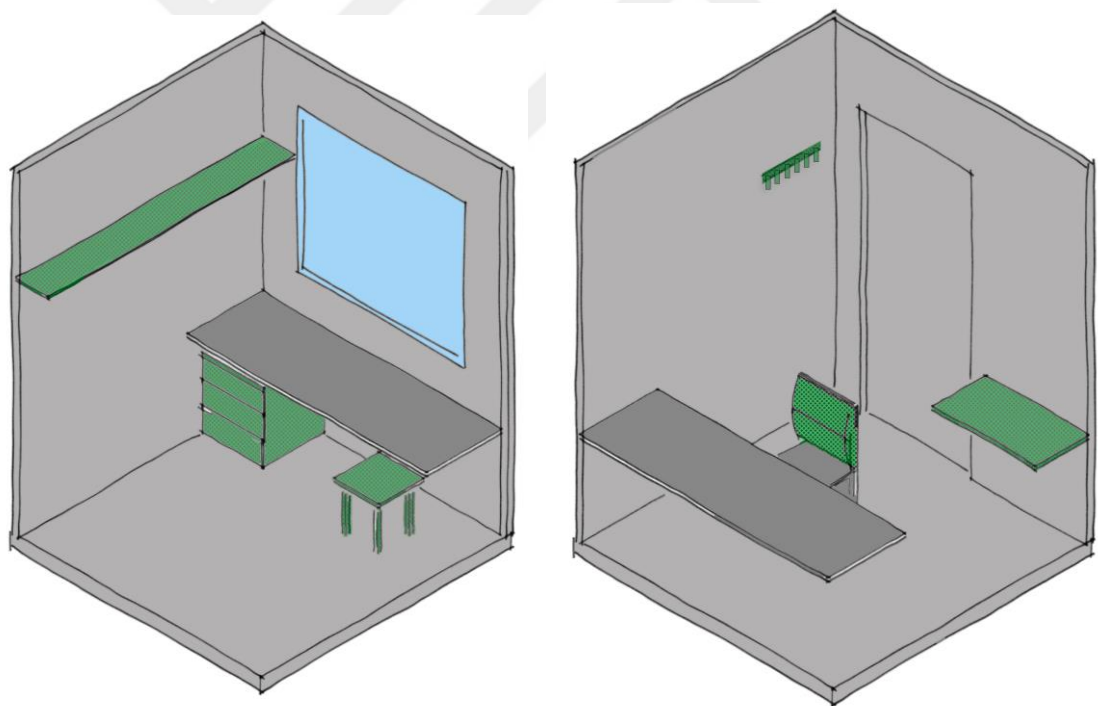
Another physical ergonomic modification involved the addition of a footrest, similar to the backrest. Recognizing that users often maintain the same seated position for extended periods, they sometimes experience the need to extend their feet for added comfort. As a result, some users mentioned incorporating a stool or similar object in their workplace to serve as a footrest, enhancing their overall comfort level. This adjustment allows them to find a more relaxed and natural posture, relieving any strain or discomfort associated with keeping their feet on the ground for prolonged periods.

Finally, in terms of physical ergonomic modifications and appropriations, attention was given to the eating area. Some users expressed dissatisfaction with the limited horizontal surfaces available for eating. They highlighted the need for separate spaces designated specifically for eating. To address this issue, these users introduced an additional horizontal level in their workplace, creating a dedicated surface for eating. Typically, this supplementary horizontal plane consisted of materials such as trays or similar hard surfaces. By incorporating this extra level, users aimed to establish a clear distinction between their working area

and eating area, ensuring a hygienic and comfortable space for meals. This modification enabled them to enjoy their meals without compromising the cleanliness or functionality of their work surfaces. By prioritizing their eating needs through these adaptations, users strive to maintain a healthy work-life balance and enhance their overall well-being during their time spent in the street booths. Illustrations of all changes made regarding physical ergonomics are shown in Figure 13.

Figure 13

Illustrated version of physical ergonomics modifications made by users (Made by author)



4.4.2. Modifications of the IEQ

Regarding IEQ, the feedback from booth employees reveals that maintaining a comfortable indoor temperature is a key concern, particularly during the winter season. To address this, a majority of users rely on air conditioning systems to bring the indoor temperature to their desired level, ensuring a more pleasant and conducive working environment (Table 15). By implementing this modification, employees can effectively regulate the temperature inside the booth, enabling them to work comfortably.

Table 15

Number of employees made modifications on the IEQ

Types of Modifications	<i>N</i> <i>N=30</i>	% <i>100</i>
Add heating device	20	66,6
Extra lighting	14	46,6
Add cooling device	3	10

When it comes to heating, most users reported utilizing air conditioners and small heaters as effective means to provide warmth. These heating devices contribute to maintaining a cozy atmosphere inside the booth, helping employees combat the cold weather and enhance their overall comfort. In contrast, fewer users mentioned the use of fans or other cooling devices compared to heating methods. The primary reason for this is the prevalence of natural ventilation methods in the booth structures. Many employees found that opening windows

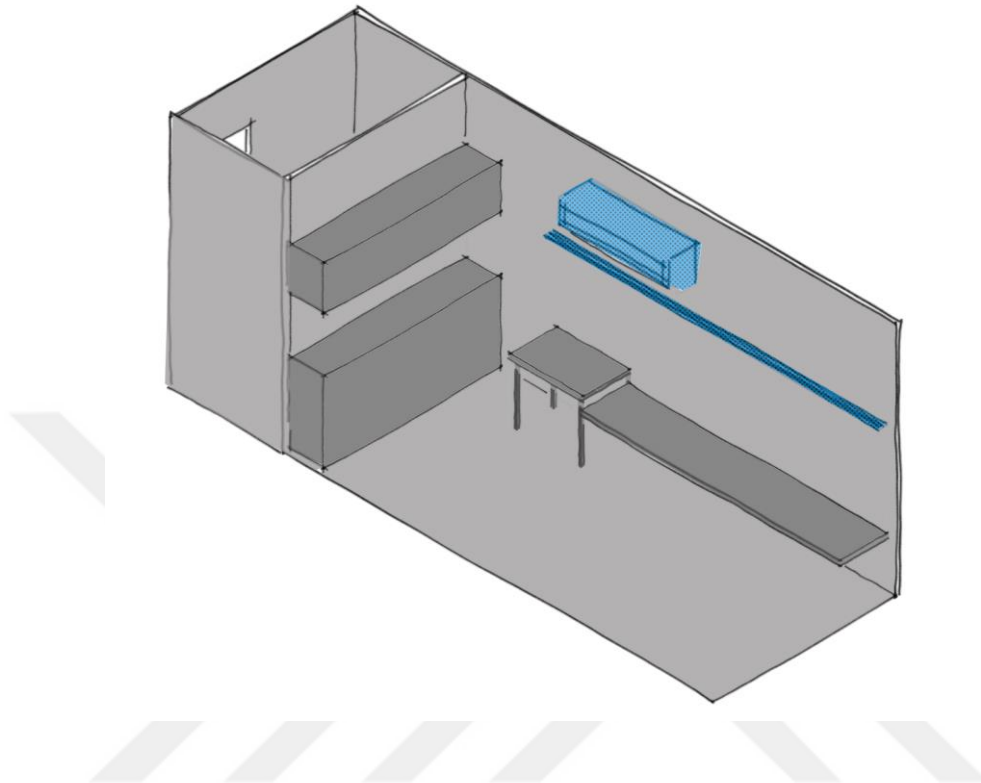
and doors was sufficient to achieve the desired cooling effect by allowing fresh air to circulate within the working area. This highlights the practicality and effectiveness of natural ventilation as an alternative cooling method, minimizing the reliance on additional cooling devices.

Another notable modification and appropriation related to IEQ is the integration of additional lighting fixtures. A significant number of booth employees expressed the need for improved lighting in their work areas. To address this issue, they implemented various modifications by adding extra light sources. Examples of these light sources include table lamps and under-shelf or under-ceiling LED lighting fixtures. There are no modifications related to sound were found in this study.

By incorporating these additional lighting elements, employees aimed to create a more illuminated and well-lit workplace. This modification proved particularly beneficial for those working during evening hours or in areas with limited access to natural daylight. The supplementary light source not only enhanced visibility and reduced eye strain but also contributed to a more comfortable and conducive working environment. Illustrated version of all changes made regarding IEQ are shown in Figure 14.

Figure 14

Illustrated version of IEQ modifications made by users (Made by author)



4.4.3. Modifications of the Visual Privacy and Environmental Control

Regarding privacy and control, the majority of booth employees acknowledged the need for modifications to address visual privacy concerns. Given that street booths are commercial service areas, achieving complete visual privacy may not be feasible. However, employees found that the application of film coverings on windows, which obscure the view from the outside while still allowing light to enter, significantly mitigated this issue and contributed to their satisfaction (Table 16). In addition to addressing visual privacy concerns, another notable modification and appropriation related to privacy and control was the personalization of the workplace. While some booth employees expressed

limitations in customizing their work areas, others embraced the opportunity to infuse their own personal touch and make changes according to their preferences. These modifications allowed them to create a sense of ownership and identity within their workplace, ultimately contributing to their happiness and satisfaction.

Table 16

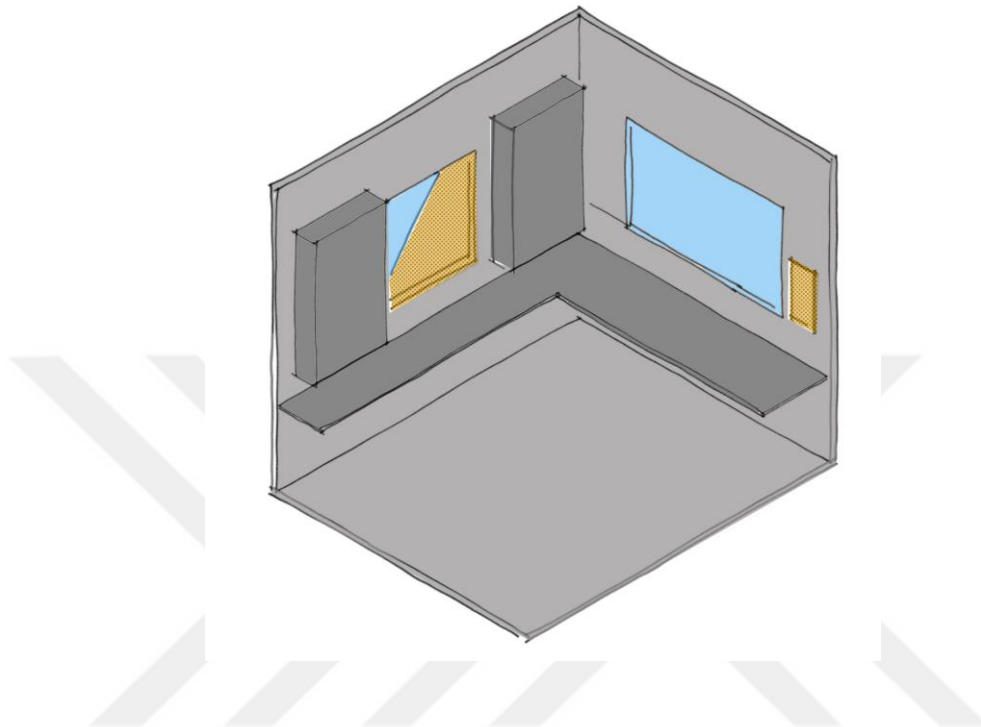
Number of employees made modifications on the Visual Privacy and Environmental Control

Types of Modifications	<i>N</i> <i>N=30</i>	% <i>100%</i>
Personalization of space	9	30
Film covering on window	4	13,3

While complete visual privacy may not be attainable due to the nature of their work, the implementation of film coverings represented a practical and effective solution. It provided a degree of control over their workplace, enabling employees to establish boundaries and create a sense of personal space. This privacy modification not only contributed to their overall satisfaction but also fostered a more secure and conducive work environment. Illustrations of all changes made regarding privacy and control are shown in Figure 15.

Figure 15

Illustrated version of privacy and control modifications made by users (Made by author)



Personalization efforts ranged from simple additions to more significant alterations. For instance, some employees chose to hang a mirror on the wall, not only for practical purposes but also to add a touch of familiarity and personal style. This small modification served as a reminder of their individuality and allowed them to take brief moments for self-care or grooming during their work hours. Others opted to hang posters or photographs that held personal significance to them. These visual elements not only added color and visual interest to the space but also acted as sources of motivation, inspiration, or sentimental value. By surrounding themselves with images that resonated with their interests, passions, or memories, employees were able to create a more engaging and personally meaningful environment .Furthermore; employees mentioned bringing their own glassware or

mugs to the workplace, which added a sense of familiarity and comfort. They expressed through the interviews that this small act allowed them to have a personal item that they could use for their beverages, fostering a sense of connection to their workplace and creating a more homely atmosphere.

In conclusion, the content analysis of participant responses revealed significant insights regarding the modifications made on the physical ergonomics, IEQ, and privacy and control aspects in the workplace. The results indicated that participants actively engaged in modifying their workplace to improve their physical comfort and ergonomic support. They made adjustments to seating arrangements, desk heights, and equipment placement to optimize their working postures and reduce physical strain. Additionally, participants emphasized the importance of IEQ factors such as lighting, temperature, and air quality, and reported making modifications to enhance these aspects to create a more conducive and comfortable work environment. Furthermore, the results highlighted the crucial role of privacy and control in shaping participants' satisfaction and well-being at work. Participants expressed the need for personal space, control over their surroundings, and privacy to minimize distractions and maximize their satisfaction level. Overall, these results underscore the active role of individuals in modifying their work environment to align with their ergonomic, IEQ, and privacy needs, emphasizing the importance of considering these factors in workplace design and management to promote employee satisfaction, well-being, and performance.

Chapter 5

DISCUSSION



The discussion section aims to investigate into the relationship between the results of this study on the use of free-standing street booths as workplace and previous research conducted in related areas. By comparing and contrasting the current findings with existing studies, an understanding of the implications and significance of the present research within the broader context is gained. In addition, the aim is to make sense of the different findings from the research areas (visual analysis, satisfaction survey & modification questions) to understand how one domain has impact on the next.

5.1. Discussion on the Demographic Data

For this study, the demographic information was taken into account for to present current characteristics of employees of the free-standing street booths. Yet, some studies focus on the idea that personal characteristics, including age and gender, have also been found to play a significant role in shaping employee satisfaction with the physical work environment (Bodin-Danielsson & Bodin, 2008; De Been & Beijer, 2014). However, according to the gathered data for this thesis, the factor of gender was not a variable to be considered since all the participants turned out to be male. Age, work year, time spend may have been a factor in modification and appropriation or satisfaction level but there was no focus in this study.

5.2. Discussion on the Visual Data

Previous studies on street vendors have primarily focused on categorizing them based on their structure, location, or specific characteristics such as mobility or visual identity (Bhowmik 2012; Peimani & Kamalipour, 2022). For example, Wongtada (2013) have classified street vendors into fixed-stall, mobile, or semi-mobile categories, highlighting the physical attributes of their stalls or carts. Alimin et al. (2021) have explored typologies based on the level of openness and visual identity elements of the vending setups.

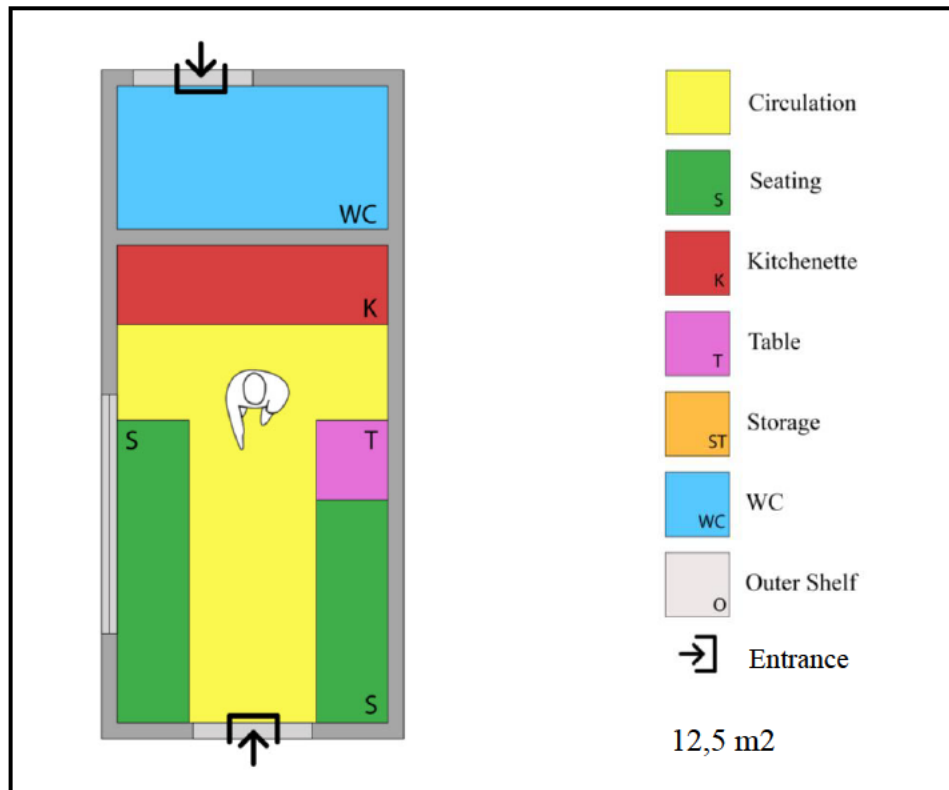
However, the typology sought to be created in this study takes a different approach. Instead of classifying street vendors based on their structural or locational features (Peimani & Kamalipour, 2022), the focus is on free-standing street booths that serve as workplaces for various professions. These booths are

distinct from other types of street vendors as they provide dedicated spaces for specific activities such as parking attendants, buffet services, security personnel, and taxi operators. These booths location and structures are important because they shapes the streets The most important finding is typology differs according to professions. For example taxi booth is served an area for taxi drivers to rest, carpark and security booth is served a space for employee to keep an eye on the environment, buffet booths is designed for selling goods.

Upon examining the results, it is evident that there is a common typology that emerges among the taxi booths based on the similar layout type. This common typology can be illustrated as Figure 16. The taxi booth typology stands out that provide the specific needs of taxi employees. One notable characteristic is the inclusion of a WC within the booth, providing convenience and accessibility for employees during their work hours. Additionally, the typology incorporates a wall-to-wall kitchen area, allowing employees to prepare meals and store food items within the booth itself. The sitting areas on both sides of the working area further enhances comfort and relaxation for employees during breaks. Another feature is use of the middle area for circulation, providing accessibility throughout the taxi booth.

Figure 16

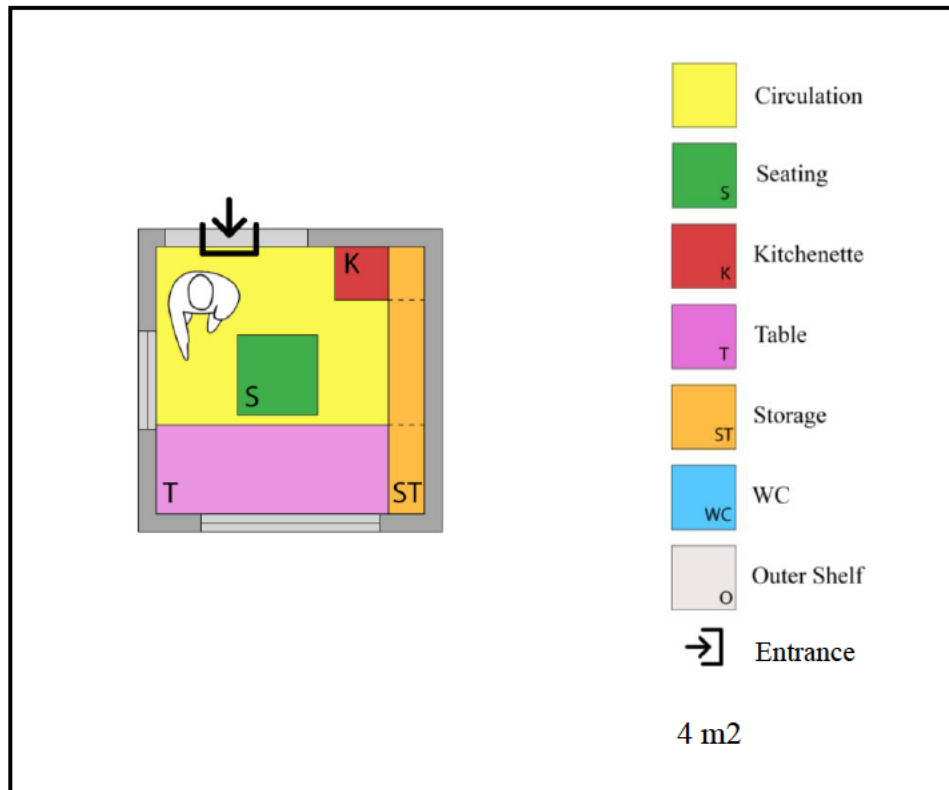
Predominant taxi booth typology as a result of the research



When examining the layouts of carpark booths, it becomes evident that a typology can be established based on the similarities observed among four booths of the same type (see Figure 17). One distinctive feature of this carpark booth typology is its compact size, with the smallest square meter area compared to other booth types. Another notable characteristic of this typology is the positioning of entrances at the back surface of the booth and it has small worktop for kitchenette.

Figure 17

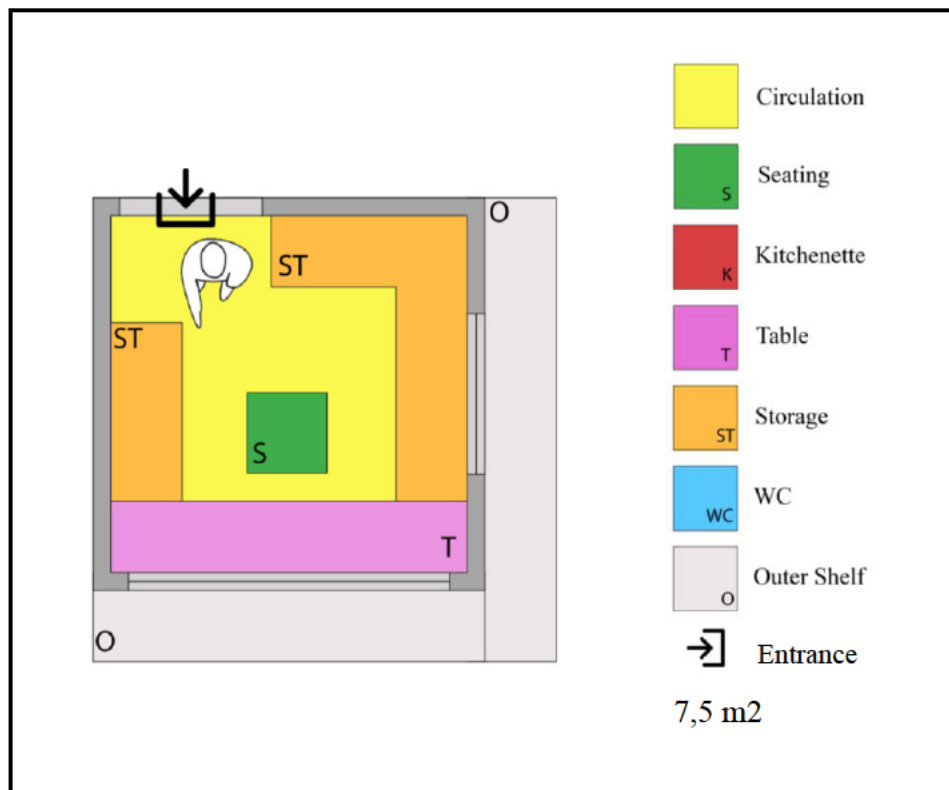
Predominant carpark booth typology as a result of the research



After analyzing the layouts of the buffet booths, a typology specific to this booth type can be identified, as six booths exhibited remarkable similarities (see Figure 18). One distinguishing feature of this buffet booth typology is the positioning of the entrance at the back of the booth. Furthermore, another characteristic of this typology is the seating arrangement, which is designed to accommodate only one person. Additionally, the circulation area within this buffet booth typology is specifically designated for storage and display purposes. This layout emphasizes the efficient organization and presentation of items or materials relevant to the buffet service.

Figure 18

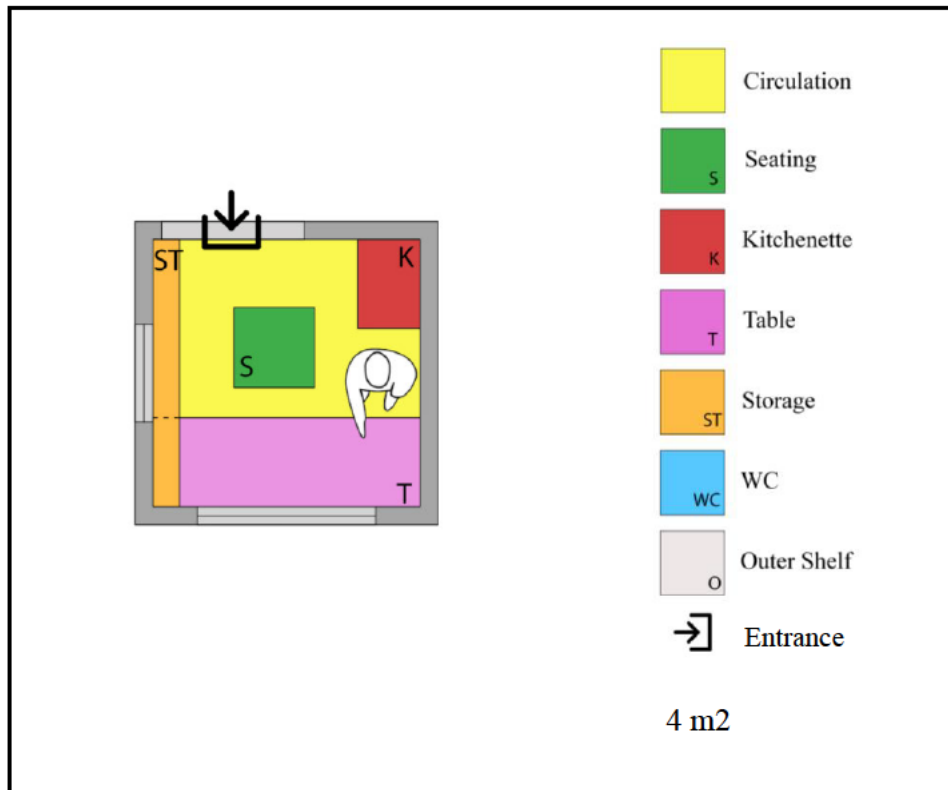
Predominant buffet booth typology as a result of the research



Upon analyzing the layouts of the security booths, it is evident that five out of six layouts share striking similarities, suggesting the presence of a distinct security booth typology (see Figure 19). One prominent feature of this typology is the placement of the entrance at the rear of the booth. Furthermore, another characteristic of this typology is the seating arrangement, which is designed to accommodate only one person.

Figure 19

Predominant security booth typology as a result of the research



One significant similarity between carpark booths and security booths is their comparable square footage. This similarity in size and layout, which can be considered as one typology joint for these two workplace, contributes to the feasibility of employing a similar typological framework for these distinct work areas. Additionally, the layout and positioning of physical features within carpark booths and security booths exhibit a high degree of resemblance. For instance, the placement of the entrance at the rear of the booth is a shared characteristic between these typologies.

In conclusion, the typological research conducted on free-standing street booths as workspaces has provided valuable insights into the diverse characteristics and layouts of different booth types. Through the examination of

taxi, carpark, buffet, and security booths, distinct typologies have emerged, each catering to the specific needs and requirements of different work environments. The identification of these typologies enhances our understanding of the potential of free-standing street booths as workspaces and informs urban design and planning (Glegg, 2018).

5.3. Discussion on the Physical Ergonomics

Research results emphasized that carpark booths emerged as the most satisfactory booth type in terms of physical ergonomics, while buffet booths were found to be the least satisfactory booth type. The study examined physical ergonomics through four main categories: workplace and desk, seating, size and layout, and interaction. By exploring into each of these aspects, a wide understanding of the factors contributing to the satisfaction of carpark booth employees in terms of physical ergonomics can be obtained.

Firstly, the workplace and desk play a crucial role in ensuring physical ergonomic comfort. Carpark booth employees expressed higher levels of satisfaction with their workplace and desk arrangements ($M= 3,97$). The buffet booth employees were found to be the booth type that was least satisfied with these conditions ($M= 3,06$). In the evaluation of physical ergonomics, six sub-conditions under the title of workplace and desk were assessed using a Likert scale ranging from 1 to 5. These sub-conditions provide insights into the factors that contribute to the overall satisfaction of taxi booth employees in terms of workplace and desk ergonomics. The positive effect of the physical configuration of the workplace on employee satisfaction and health aligns with the results of the

study conducted by Candido et al. (2020). In their research, which focused on designing a healthy workplace across nine different office settings, they recognized the significance of creating a conducive physical environment for employees.

- The first sub-condition, workplace, refers to the available surface area for performing tasks and organizing work materials. A spacious and well-organized workplace allows employees to have sufficient room to comfortably carry out their duties, arrange their tools, and access essential documents. According to Corlopio (1996), job satisfaction and workplace satisfaction are directly correlated. According to this research, it can be said that highest booth type on the job satisfaction is the carpark booths. A higher satisfaction rating in this sub-condition suggests that taxi booth employees found their workplace adequately sized and conducive to efficient work.
- The second sub-condition, desk size, pertains to the dimensions of the desk surface. A desk with an appropriate size ensures that employees have enough space to accommodate their work materials without feeling cramped or restricted (Budie et al., 2018). The results indicated a favorable level of satisfaction among taxi booth employees regarding the size of their desks, indicating that they were provided with an adequately sized work surface.
- The third sub-condition, desk height, focuses on the vertical dimension of the desk in relation to the employee's seated position. Gocer et al. (2019) point out that the choice and arrangement of furniture play a vital role in ensuring ergonomic comfort. Appropriate desk size, height adjustability,

and adequate legroom all contribute to maintaining a healthy posture, reducing the risk of musculoskeletal issues, and promoting overall satisfaction (Candido et al., 2020). Taxi booth employees expressed a higher level of satisfaction with the desk height, suggesting that their desks were adjustable to suit their individual ergonomic needs.

- Legroom under the desk, the fourth sub-condition, refers to the space available beneath the desk for the employee's legs and feet. Sufficient legroom is essential for promoting comfortable sitting positions and avoiding cramped or restricted postures (Candido et al., 2020). Taxi booth employees reported a favorable level of satisfaction with the legroom provided, indicating that their desks allowed for ample space to accommodate their legs and feet.
- The fifth sub-condition, pushback room, relates to the space behind the desk where employees can move their chairs backward without obstruction. Budie et al. (2018) suggest that sufficient pushback room ensures ease of movement and prevents discomfort caused by being too close to the desk or other objects. Taxi booth employees expressed higher satisfaction with the pushback room, indicating that they had enough space to maneuver their chairs without any hindrance. It can be said that, because the square meter, taxi booths are bigger than other booth types.
- Lastly, storage space refers to the availability of storage options within the workplace, allowing employees to organize and store their work materials effectively. Adequate storage space helps maintain an organized and clutter-free environment, reducing the risk of physical strain and enhance satisfaction level in workplace. Indeed, the content analysis conducted on

physical ergonomics highlights the importance of storage area modifications in enhancing employee satisfaction (Konnikova, 2014). The need for additional storage space is a common concern in many work environments, including booth settings. Lack of storage space is cited as a drawback of workplace happiness in a research by Wadu Mesthrige and Chiang (2019). Employees in taxi booths expressed a satisfactory degree of satisfaction with the available storage space, showing that they had enough alternatives to keep their work supplies well arranged. Since each booth type serves separate functions, storage is more important for the buffet booth, while circulation space, for example, may be necessary for a taxi booth. This can also be seen in layouts.

Secondly, seating arrangements have a significant impact on employee comfort and well-being. Carpark booth employees reported higher satisfaction with their seating options compared to other booth types ($M=3,58$) and buffet booth employees reported lower satisfaction with their seating conditions ($M=2,83$). Janneck et al. (2018) obtained in their ergonomics on workplace research that the presence of well-designed seats that offer proper support and adjustability can alleviate discomfort and prevent musculoskeletal issues associated with prolonged sitting. This contributes to a more comfortable and satisfied work environment for carpark booth employees. Chair height plays a vital role in ensuring optimal seating ergonomics.

According to Candido et al. (2020) one of the most important features of an office is the chair. Asmui et al. (2012) declare that an appropriately adjusted chair height is crucial for maintaining proper posture and reducing the risk of musculoskeletal discomfort. Achieving an optimal chair height and backrest

helps promote proper alignment of the body, reduces the strain on various body parts (Candido et al. 2020), and contributes to a healthier and satisfied work environment in the free-standing street booths. The content analysis conducted on physical ergonomics revealed an interesting finding: the addition of backrests emerged as a prevalent modification among users to enhance their satisfaction and comfort in the booth environment. The inclusion of backrests signifies a conscious effort by employees to address the ergonomic aspects of their seating arrangements (Asmui et al., 2012).

Furthermore, the size and layout of the booths were found to be factors influencing physical ergonomics. The U.S. Workplace Survey done by Gensler Design (2006) revealed that a significant majority of participants, nearly 90% of 2,035 professionals expressed the belief that improved workplace design and layout positively impact overall employee satisfaction in US. This highlights the crucial role that the physical environment plays in shaping job satisfaction, emphasizing the importance of creating well-designed and ergonomic workplaces to enhance employee well-being and satisfaction (Asmui et al., 2012). As a result of the results, it can be said that carpark booths typically exhibited a well-balanced size and layout, providing sufficient space for employees to move around and perform their tasks comfortably ($M=3,71$). Although carpark and security booths have the same typology, there may have been differences in satisfaction levels due to functional differences. On the other hand, the situation is the opposite in buffet booths, employees who are least satisfied with size and layout conditions ($M=3,06$) compared to other types of booth employees. The reason for this may also be due to the activity difference in the booth. The buffet

needs a lot of space for storage and it is important that it moves comfortably inside.

Lastly, the interaction between employees and their work environment was considered in the assessment of physical ergonomics. Carpark booth employees reported higher levels of satisfaction with the physical and visual interaction between workstations and outdoor ($M=4,25$) and buffet booth employees reported lower levels of satisfaction with the interaction between workstations and outdoor ($M=3,12$). Haynes (2008) reports that visual and physical interaction with outdoor having the greatest positive effect on the satisfaction level of employees.

5.4. Discussion on the IEQ

In the research on IEQ, three specific conditions were investigated to assess the quality of the working environment. The first condition analyzed was Indoor Air Quality and Thermal Comfort, which focused on the air circulation, temperature, and overall comfort within the workplace. The second condition examined was Noise Distraction, which evaluated the level of noise and unwanted interruptions. Finally, the third condition explored was Visual Comfort, which assessed the lighting and access to daylight of the work area.

By examining these three aspects of IEQ, the research aimed to gain insights into how these factors contribute to employee satisfaction and well-being. “Employee health and well-being have a strong relationship with employee satisfaction.” (Bangwal et al., 2017, p.1). IEQ and occupant satisfaction, perceived efficiency, and health have all been related (Asojo et al., 2020; Kim &

de Dear, 2012). The results offer important information on the perceived interior environment quality and how it affects workers' experiences as a whole.

When examining the evaluation of indoor air quality and thermal comfort conditions in the research, it became evident that taxi booth employees exhibited the highest level of satisfaction ($M=3,66$). This suggests that the indoor air quality and thermal comfort in their working environment met their expectations and contributed to their overall comfort and well-being. On the other hand, the results revealed that security booth employees were less satisfied with the general conditions of indoor air quality and thermal comfort ($M=2,83$). The content analysis conducted on IEQ shed light on a significant finding: a considerable number of user's implemented cooler and heater systems in their working areas to address thermal comfort conditions. This modification emerged because of the users' dissatisfaction with the temperatures experienced during the summer and winter periods. Indeed, the aforementioned modification play a crucial role in enhancing the user's satisfaction level in terms of venue control. By implementing adjustments that enable control over air quality, temperature, and lighting conditions, employees gain a sense of agency and control within their workplace (Bagwal et al., 2017).

In summary, the results of the research indicate that the indoor air conditions and thermal comfort in taxi booths are more effective in meeting and satisfying the demands of their employees compared to other booth types. This suggests that the management and maintenance of indoor air quality in taxi stands are prioritized, leading to a more favorable working environment for employees.

In the evaluation of IEQ, the aspect of noise distraction emerged as a crucial factor impacting the satisfaction of booth employees. When participants

were asked to evaluate the noise distraction condition of their work area, it was found that security booth and taxi booth employees expressed a higher level of satisfaction compared to other booth types ($M=3,87$). On the other hand, carpark booth employees reported being the least satisfied with the noise distraction conditions in their work environment ($M=3,62$). According to the previous studies (Appel-Moulenbroek et al., 2018; Lamb and Kwok, 2016; Seddigh et al., 2015), excessive background noise and speech intelligibility in the workplace have a detrimental impact on an employee's degree of physical and psychological pleasure. In this sense, it may be claimed that the security booth's users are dissatisfied with the general level of noise in their workplace.

In the assessment of IEQ, visual comfort conditions play a crucial role in determining the satisfaction of booth employees. Visual comfort includes factors like access to sunlight and general illumination, which may have a big influence on the overall atmosphere and satisfaction of the workplace (Candido et al., 2020).

When booth employees were asked to rate their satisfaction with general lighting and access to daylight on a likert scale, it was found that taxi booth employees reported the highest level of satisfaction with these conditions ($M=3,87$). Taxi booths seemed to provide a well-lit and visually comfortable environment for employees to carry out their work. This could be attributed to factors such as the booth's location, design, and use of lighting fixtures that enhance visibility and create a pleasant atmosphere.

On the other hand, buffet booth employees expressed the lowest level of satisfaction with visual comfort conditions ($M=3,56$). This indicates that there may be deficiencies in general lighting and access to daylight within buffet

booths, potentially leading to suboptimal working conditions. Insufficient lighting or limited access to natural daylight can negatively affect employees' visual clarity, mood, and overall comfort, which may contribute to lower satisfaction levels (Colenberg et al., 2020).

Improving visual comfort conditions in buffet booths can be crucial for enhancing employee satisfaction and well-being. The results of the studies indicate that good lighting conditions improve the satisfaction level of workers (Lamb & Kwok, 2016; Thayer et al., 2010; Veitch et al., 2003). During the content analysis, it was evident that booth employees took matters into their own hands to address the issue of inadequate lighting and visual comfort in their work areas. One of the strategies that emerged from the analysis was the application of extra desktop lighting and LED lighting add-ons.

By having the capability to modify and appropriate their working areas in terms of air quality, heat conditions, and lighting, employees exert control over crucial aspects that directly impact their comfort and satisfaction (Boerstra et al., 2015). This sense of control empowers individuals, creating a personalized and tailored working environment that aligns with their preferences and enhances their overall job satisfaction. The ability to adapt and optimize their workplaces according to their specific needs fosters a positive and empowering work experience, ultimately contributing to increased satisfaction and well-being among employees.

By incorporating additional lighting sources, such as desk lamps or LED strips, employees aimed to enhance the illumination levels within their booths. This modification allowed them to have greater control over the lighting conditions and create a more personalized and visually comfortable workplace

(Campbell, 2017). According to Boerstra et al. (2015), employee satisfaction levels are positively correlated with the ability to modify working circumstances.

5.5. Discussion on the Visual Privacy and Environmental Control

During the assessment of visual privacy and environmental control conditions, employees were asked to evaluate the extent to which they had control over the privacy features and the overall work area. Visual privacy is about whether adequate privacy is provided within the workspace, environmental control is about the ability to maintain the control of the environment. Control over the temperature, air movement, space and personalization.

The results indicated that taxi booth employees expressed higher levels of satisfaction with the privacy conditions compared to other booth types ($M=3,75$). On the other hand, employees working in buffet booths reported the lowest satisfaction levels regarding privacy ($M=2,68$). The results highlight the significance of privacy considerations in the design and configuration of workplaces, particularly in free-standing street booths. Providing employees with adequate control over their privacy preferences can contribute to their overall satisfaction and well-being (Veitch et al., 2004). Additionally, Schiavon et al. (2012) discovered that workplace satisfaction was most influenced by the quantity of space, the degree of noise, and visual privacy. Kent et al. (2021) emphasizes how important it is to have enough room and privacy; without these, individuals will not be satisfied, regardless of how well the other features work. In other words, it can be said that the satisfaction levels are high as the necessary privacy is provided to those who use the taxi booth as a workplace.

Employees in taxi booths reported greater levels of satisfaction than those in other types of booths, according to the evaluation of control conditions satisfaction in the working places ($M=3,75$). This suggests that those who operate in taxi stands have more control over their surroundings. Employees are more likely to feel engaged and satisfied when they have control over features like lighting, temperature, and workplace arrangement (Boerstra et al., 2015). This control can positively influence their comfort and overall job satisfaction. On the other hand, employees in security booths reported the lowest level of satisfaction with the control conditions in their working area ($M=3,46$). This suggests that security booth employees may perceive a lack of control over their workplace, which could impact their overall satisfaction and well-being.

In conclusion, the study results indicate that taxi booth employees experience higher satisfaction with control conditions in their working areas compared to other booth types. However, there is a need for improvement in the control conditions of security booths, as employees in these booths reported lower levels of satisfaction. By implementing design modifications that provide greater control and customization options, employers can enhance employee satisfaction (Rioux & Pignault, 2013).

As an outcome of this research findings, these context-specific design features can be considered for designing booth workplaces as a special case. Other workplace types may differ from street booths because of the function, size and layout. The points recommended to be considered in booth design are as follows:

- Functional Layout: Design for ergonomic comfort and efficient work with adequate space and customizable options.

- Privacy Considerations: Incorporate privacy elements without compromising the booth's nature, like film coverings on windows or partition screens.
- Control and Comfort: Provide systems for temperature, air quality, and lighting control to enhance employee comfort.
- Storage Solutions: Ensure ample and efficient storage options for organized work materials.
- Indoor Environmental Quality (IEQ): Maintain a comfortable temperature and good air circulation with natural daylight and appropriate lighting.
- Noise Reduction: Minimize external noise disturbances with sound-absorbing materials and strategic layout.
- Accessibility: Make the booth accessible to all, including employees with disabilities.
- Safety and Security: Prioritize safety features like fire extinguishers and emergency exits.
- User-Centered Design: Involve employees in the design process and gather feedback for continuous improvement.

By following these guidelines, street booths can become employee-friendly and satisfied workplaces, contributing positively to the urban environment.

Chapter 6

CONCLUSION



In conclusion, this thesis aimed to investigate the potential of free-standing street booths as a workplaces and explore their implications in terms of physical ergonomics, IEQ, privacy and control conditions. The study first delved into the specific contexts of 30 booths in Ankara streets of Tunalı Hilmi and Tunus, taxi, carpark, buffet, and security booths, examining their layouts, features, and the satisfaction levels of employees within these workplaces.

The study's results shed light on numerous crucial issues. Firstly, the study revealed the existence of distinct typologies within each booth type, according to their size and uses with respect to activities, highlighting their unique characteristics and layout configurations. These typologies, such as the taxi booth

typology with its toilet, wall-to-wall kitchen area, and sitting areas, provided insights into the specific needs and requirements of different work environments.

Furthermore, the evaluation of physical ergonomics indicated that modifications, such as the addition of storage space and backrests, were commonly made by booth users to enhance their satisfaction and comfort. Similarly, in the realm of IEQ, modifications such as the incorporation of cooler and heater systems were employed to address thermal comfort concerns. Visual privacy and control modifications such as adding film screens to windows and adding belongings to booth were commonly made by user. These results underline the significance of user-driven adaptations and customization to create favorable working conditions.

In general, this study advances our knowledge of the possibility for free-standing street booths to serve as workstations. It demonstrates the significance of considering physical ergonomics, IEQ, privacy, and control conditions to ensure employee satisfaction and well-being. The typologies identified within each booth type further inform urban design and planning, providing insights into the diverse range of work environments and their specific requirements.

In conclusion, this research offers valuable insights into the design and utilization of free-standing street booths as workplaces. It underscores the importance of creating environments that prioritize employee satisfaction. By considering the unique characteristics and needs of different booth types, urban design and planning can foster workplaces that enhance the overall urban experience and contribute to the quality of public spaces. Designing such small-scale workplaces to meet all the needs of the user both satisfies the employee and offers an alternative workplace proposal. Thus, not only traditional office

environments or open-plan offices, but also booth-type work areas can be included in this workplace categorization.

6.1. Limitations of the Study

The present research has shed light on the topic of free-standing street booths as workplaces. However, it is important to acknowledge certain limitations that may have influenced the results and interpretations. Firstly, the study had a limited sample size and scope, focusing on a specific geographical context and a restricted number of booth types. Consequently, the generalizability of the results to other regions or different types of workplaces may be limited. To address this, future research with a larger and more diverse sample is recommended.

Secondly, the evaluation of physical ergonomics, IEQ, and other factors relied on self-reported assessments by booth employees. These subjective evaluations may be influenced by individual perceptions and experiences, introducing the potential for bias or variation in the responses. A more objective and generic assessment, such as incorporating objective measurements or expert evaluations, could provide a more robust analysis.

Moreover, the cross-sectional design of the study captured a snapshot of the booth employees' experiences and satisfaction levels at a specific point in time. Longitudinal studies or repeated measurements would provide insights into the dynamics and changes in satisfaction levels over time, allowing for a deeper understanding of the stability and variability of these workplaces.

External factors, such as the surrounding urban environment, social dynamics, or organizational culture, were not extensively examined in this study.

However, these factors may influence the satisfaction and perceptions of booth employees.

Additionally, the study did not include a control group for comparison purposes. The inclusion of a control group consisting of employees working in traditional office settings or other types of workplaces would have provided a basis for comparing the unique advantages and disadvantages of free-standing street booths.

Despite these limitations, this research serves as a valuable starting point for understanding the potential of free-standing street booths as workplaces. By addressing these limitations in future studies, researchers can enhance the validity and generalizability of results, providing more deeper insights into the design, utilization, and impact of alternative workplaces.

6.2. Suggestions for Further Research

To expand upon the results of this study and explore the topic of free-standing street booths as workplaces further, there are several areas of research that can be considered. One potential avenue for further research is to conduct longitudinal studies. By following the same group of booth employees over an extended period, researchers can gain insights into the long-term effects of the work environment on employee satisfaction. This would provide a deeper understanding of how the booth design and layout impact employees over time, allowing for the identification of any emerging patterns or trends. Also seasons and climate conditions can change the findings of the research, this variable should take in consider.

Another direction for future research is to conduct comparative analyses. Comparing the results of this study with other types of work environments, such as traditional office spaces or co-working spaces, would provide a broader perspective on the advantages and disadvantages of free-standing street booths. Understanding the differences in employee satisfaction and well-being between these different workplaces can inform decision-making regarding workplace design and policy.

Incorporating user-centered design approaches can also be an area of focus for future research. Engaging booth employees in the design process and considering their input and feedback can lead to more tailored and effective workplaces that meet their specific needs and preferences. By involving employees in the design of their work environment, researchers can enhance user satisfaction and potentially improve overall productivity and well-being.

Additionally, conducting quantitative measurements of health and safety factors in free-standing street booths would provide valuable insights. Assessing factors such as air quality, lighting, acoustics, and ergonomic considerations can help identify areas for improvement and ensure a safe and healthy working environment for booth employees. This research can inform guidelines and standards for the design and operation of free-standing street booths, promoting employee well-being.

Finally, investigating the economic and social impact of free-standing street booths on local communities and urban environments can provide helpful knowledge. Assessing factors such as job creation, economic sustainability, community engagement, and the revitalization of public spaces can contribute to a more comprehensive understanding of the role and potential benefits of these

workplaces. This research can inform urban planning strategies and policy decisions that support the integration of free-standing street booths in urban contexts.

Pursuing further research in these areas can be understood at different scales (urban, architecture, interior architecture, industrial design) for a variety of stakeholders (street users, employees, institutions, etc.). This knowledge can inform policy decisions, design interventions, and create more inclusive and supportive workplaces in the future.



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APPENDICES

A. ETHICS COMMITTEE APPROVAL



Bilkent Üniversitesi
Akademik İşler Rektör Yardımcılığı

Tarih : 20 Mart 2023

Gönderilen : Zeynep Karacaoğlu

Danışman : Burçak Altay

Gönderen : H. Altay Güvenir
İnsan Araştırmaları Etik Kurulu Başkanı

Konu : “Exploring ...” çalışması etik kurul onayı

Üniversitemiz İnsan Araştırmaları Etik Kurulu, 20 Mart 2023 tarihli görüşme sonucu, “Exploring Free-Standing Street Booths as a Workspace” isimli çalışmanız kapsamında yapmayı önerdiğiniz etkinlik için etik onay vermiş bulunmaktadır. Onay, ekte verilmiş olan çalışma önerisi, çalışma yürütücüleri ve bilgilendirme formu için geçerlidir.

Bu onay, yapmayı önerdiğiniz çalışmanın genel bilim etiği açısından bir değerlendirmedir. Çalışmanızda, kurulumuzun değerlendirmesi dışında kalabilen özel etik ve yasal sınırlamalara uymakla ayrıca yükümlüsünüz.

Kovid-19 salgını nedeniyle konulmuş olan kısıtlamaların yürürlükte olduğu süre içinde, tüm komite toplantıları elektronik ortamda yapılmaktadır; aşağıda isimleri bulunan Bilkent Üniversitesi Etik Kurulu Üyeleri adına bu yazıyı imzalama yetkisi kurul başkanındadır.

Etik Kurul Üyeleri:

Ünvan / İsim	Bölüm / Uzmanlık	
Prof.Dr. H. Altay Güvenir	Bilgisayar Mühendisliği	Başkan
Prof.Dr. Erdal Onar	Hukuk	Üye
Prof.Dr. Haldun Özaktaş	Elektrik ve Elektronik Müh.	Üye
Doç.Dr. Işık Yuluğ	Moleküler Biyoloji ve Genetik	Üye
Dr. Öğr. Üyesi Burcu Ayşen Ürgen	Psikoloji	Üye
Dr. Öğr. Üyesi Didem Özkul McGeoch	İletişim ve Tasarımı	Yedek Üye
Dr. Öğr. Üyesi A.Bariş Özbilen	Hukuk	Yedek Üye

Kurul karar/toplantı No: 2023_03_20_01

B. INTERVIEW QUESTIONS-DEMOGRAPHIC

Demographic Data:

Taxi Booth / Carpark Booth / Buffet Booth / Security Booth
(Please select your workspace)

1) Age:

2) Sex: Male / Female

3) What is the amount of time you spend daily in your workspace?

0-2 hours 2-4 hours 4-6 hours 6-8 hours +8 hours

4) How long have you been working in this workspace?

.....

5) What are the daily activities you do in your workspace?

Activities	DO	DON'T	CAN'T	Time	Frequency
Eating					
Resting					
Hygiene					

6) Does anyone else use this workspace besides you? YES / NO

If answer is yes;

-How many people do you share your workspace?

-Are you using the workspace at the same time or shifted?

7) Who is employing this workspace?

.....

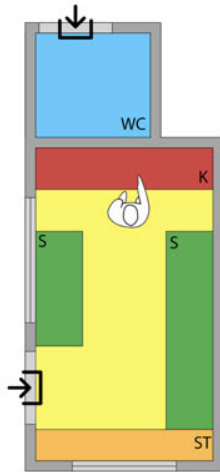
B. INTERVIEW QUESTIONS

(1=Dissatisfied, 2=Somewhat Dissatisfied, 3=Neutral, 4=Somewhat Satisfied, 5=Satisfied)

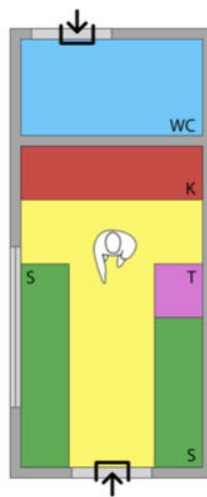
Dimensions and Indicators	To what extent are you satisfied with the following physical environment elements in your current work space?	1	2	3	4	5	WYH? (Positive&Negative)	Modification to the existing situation.
Ergonomics	Workspace							
	Desk size							
	Desk height							
	Legroom under desk							
	Pushback room							
	Storage space							
	Chair height							
	Backrest							
	Footrest							
	The size&layout of space for eating							
Indoor Environmental Quality (IEQ)	The size&layout of space for your relaxation							
	The size&layout of space for your working							
	Overall layout							
	Visual interaction with outdoor							
	Physical interaction with outdoor							
	Additional Activities							
	Air quality							
	Temperature in winter							
	Temperature in summer							
	Unwanted interruption							
Privacy and Control	Noise Distraction							
	Overall noise							
	Lighting							
	Access to daylight							
	Personal control of heating							
	Personal control of cooling							
	Personal control of air movement							
	Personal control of artificial lighting							
	Personal control of entry-exit							
	The control over required level of privacy and social interaction							
Privacy and Control	Visual privacy							
	Sound privacy							
	Degree of freedom to adapt							

C. SCHEMATIC PLANS OF BOOTHS –Taxi Booths (N=8)

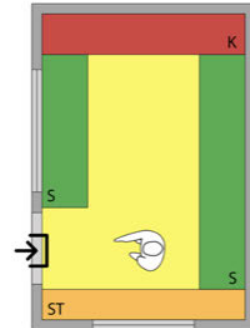
Taxi Booth 1 (T1): 12.5 m²



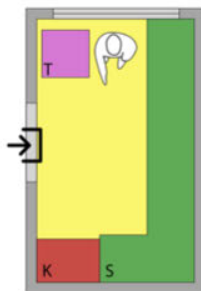
Taxi Booth 2 (T2): 14.5 m²



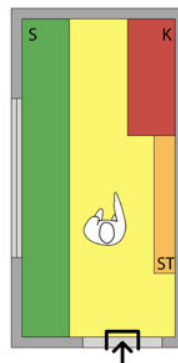
Taxi Booth 3 (T3): 8.5 m²



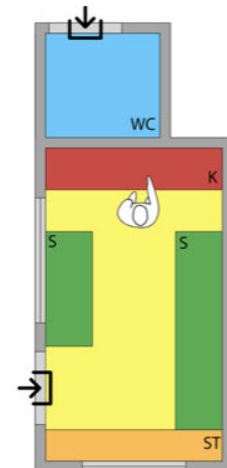
Taxi Booth 4 (T4): 6 m²



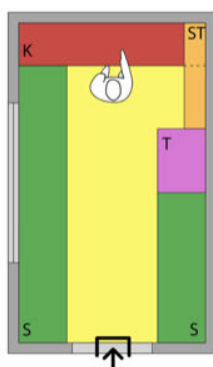
Taxi Booth 5 (T5): 7.5 m²



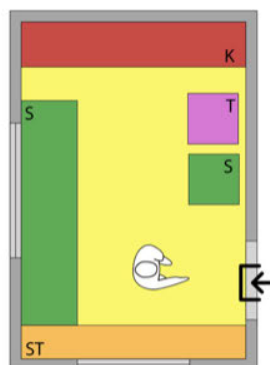
Taxi Booth 6 (T6): 12.5 m²



Taxi Booth 7 (T7): 8.5 m²

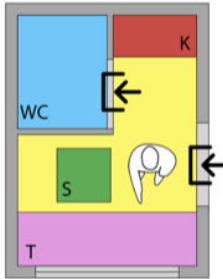


Taxi Booth 8 (T8): 9 m²

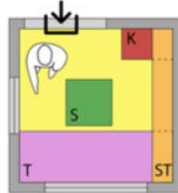


C. SCHEMATIC PLANS OF BOOTHS –Carpark Booths (N=8)

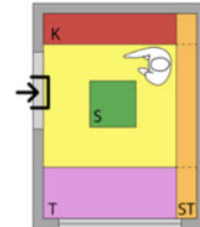
Carpark Booth 1 (C1): 10.5 m²



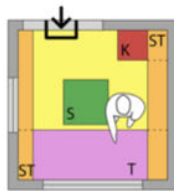
Carpark Booth 2 (C2): 4 m²



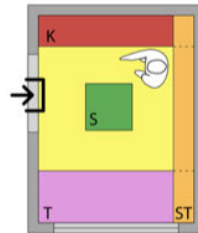
Carpark Booth 3 (C3): 5 m²



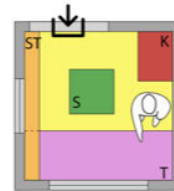
Carpark Booth 4 (C4): 4 m²



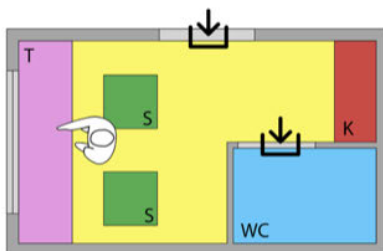
Carpark Booth 5 (C5): 5 m²



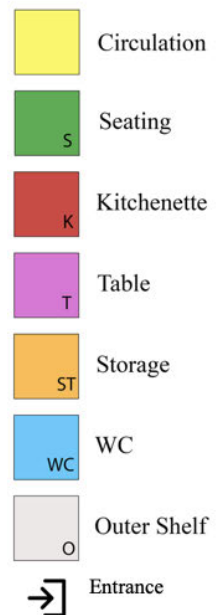
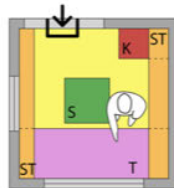
Carpark Booth 6 (C6): 4 m²



Carpark Booth 7 (C7): 15 m²

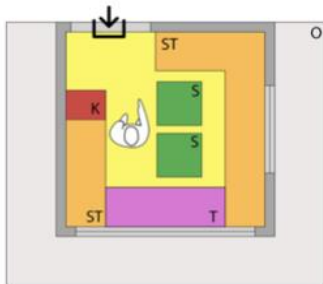


Carpark Booth 8 (C8): 4 m²

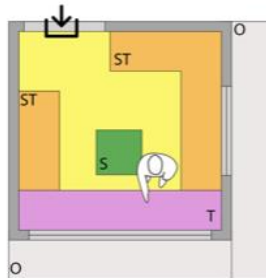


C. SCHEMATIC PLANS OF BOOTHS –Buffet Booths (N=8)

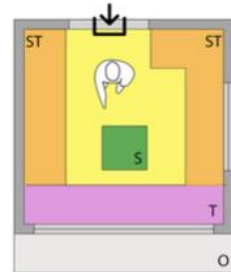
Buffet Booth 1 (B1): 9.5 m²



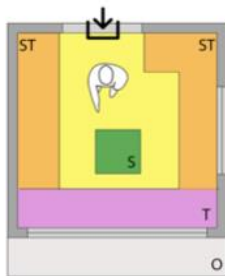
Buffet Booth 2 (B2): 8 m²



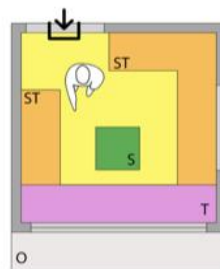
Buffet Booth 3 (B3): 7 m²



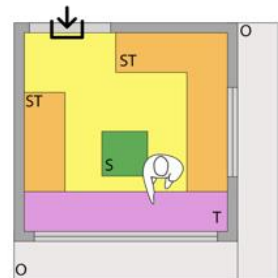
Buffet Booth 4 (B4): 7 m²



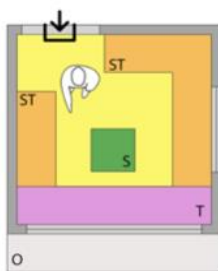
Buffet Booth 5 (B5): 7 m²



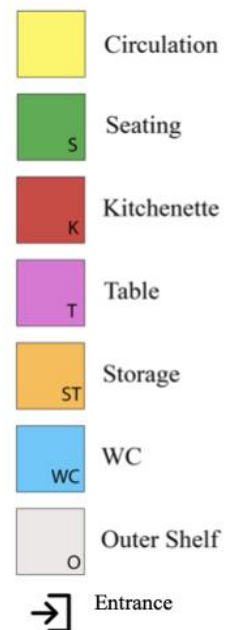
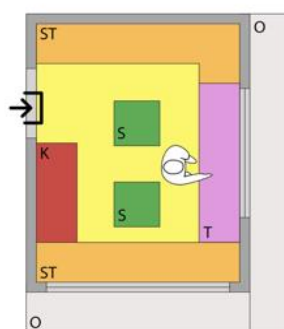
Buffet Booth 6 (B6): 8 m²



Buffet Booth 7 (B7): 7 m²

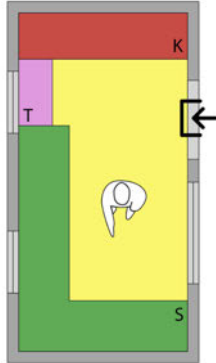


Buffet Booth 8 (B8): 9.5 m²

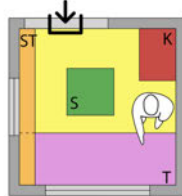


C. SCHEMATIC PLANS OF BOOTHS –Security Booths (N=6)

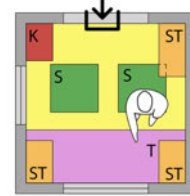
Security Booth 1 (S1): 10.5 m²



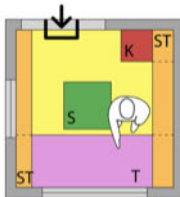
Security Booth 2 (S2): 4 m²



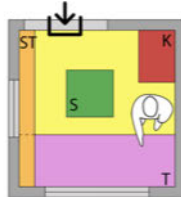
Security Booth 3 (S3): 4 m²



Security Booth 4 (S4): 4 m²



Security Booth 5 (S5): 4 m²



Security Booth 6 (S6): 4 m²

