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Research Paper

Optimizing Coziness and Productivity: An All-Encompassing Ergonomic Investigation on Diners and Restaurant Operators in Dense Urban Living Environments

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Abstract

The purpose of this research is to ascertain and maximize the well-being of tourists and food vendors in crowded urban settings, particularly in the context of crowded residential neighborhoods in large cities. Its primary goal as an ergonomics study is to evaluate the mental and physical health of tourists and food stall operators in crowded urban settings. This research approach examines ergonomics in great depth, taking into consideration the special requirements of compact housing, and includes lighting, acoustics, furniture design, and room layout. Additionally, to learn more about the non-physical factors influencing visitors' well-being, in-depth interviews with food stall proprietors and behavioral observations were made. The Paseban neighborhood of Central Jakarta is the site of the research. The study's findings offer a thorough understanding of how environmental factors, as seen from the viewpoints of patrons and proprietors, might affect comfort and productivity at food stalls. The ultimate purpose of these studies is to improve the welfare of local communities by providing architects, designers, and policymakers with practical guidance for bettering the design of public spaces in densely populated urban contexts. Our knowledge of how ergonomics can be successfully used to enhance the quality of life while navigating the difficulties associated with dense housing in big cities has been greatly enhanced by this study.

Keywords: *High-Density Urban Living, Ergonomic, Comfortable, Efficient in A Restaurant*

INTRODUCTION

Living patterns in several large cities throughout the world have changed in the last few decades due to growing urbanization. In addition to resulting in a dense population, this phenomenon poses particular difficulties for the management of urban space. Large cities with dense populations frequently experience strain on their transportation, public space, and infrastructure. Urban design frequently ignores the impact that people's surroundings have on their health, particularly those who run and frequent food stands.

Food stalls are significant urban features that serve as hubs for social and commercial activity in addition to being food places. The surrounding environment, including the interior design and spatial layout, is directly influenced by both visitors and food stall operators. Thus, it's critical to comprehend and improve the ergonomics of food stands, particularly in crowded urban areas.

The thorough investigation of the effects of dense housing on the well-being of tourists and food stall operators is the driving force behind this study. We can comprehend how elements like lighting, acoustics, and interior design might affect a food stall's experience and productivity by applying an ergonomics method. The information gathered from this study can help architects, policymakers, and city planners better understand how to enhance living standards while addressing the difficulties associated with dense urban settings.

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Big cities' dense urban environments create a complicated web of opportunities and difficulties for achieving the best possible well-being for both food stall operators and tourists. There are several issues in this context that call for in-depth investigation to develop long-lasting and practical answers. Using a holistic ergonomics approach, this article will examine these issues and offer a comprehensive review of how to design food stalls that promote well-being in the middle of the dynamics of crowded urban environments in large cities.

LITERATURE REVIEW

The science of ergonomics examines people as the primary component of a work system. The following are a few definitions of ergonomics from various experts:

The International Association of Ergonomics Because the word ergonomics is derived from the Latin words ERGON (work) and NOMOS (natural law), it can be understood as a science that examines human factors in the workplace, including anatomy, physiology, psychology, engineering, management, and design to create a socially acceptable work environment.

Sutalaksana (2006) describes ergonomics as a systematic branch of science that uses knowledge about human characteristics, abilities, and limitations to design a working system so that humans can live and work in that system well, namely achieving the desired goals through effective, safe, and comfortable work. This is stated in his book "Work Procedure Techniques."

Occupational Safety and Health Act (OSHA): The goal of ergonomics is to prevent worker injuries by developing tools and task details based on worker capabilities.

"Ergonomics is a profession that applies theories, principles, data, and methods to design to optimize human welfare and overall system performance. It is a scientific discipline that studies the fundamentals of understanding interactions between humans and other elements of a system." Occupational et al., (2010)

It is clear from the definition above that people are at the core of ergonomics. The foundation of ergonomics is an understanding of the constraints of human talents and capacities. As such, harmony between the work environment, tasks, and individuals performing the work is necessary to reduce the risk of injuries and to enhance productivity, efficiency, and comfort.

Numerous dense housing developments are springing up as a result of the ongoing increase in urban population density and the persistent availability of land. Urban housing that is densely populated is highly dynamic, and the government and all of us should always be concerned about situations like this.

(Sujatini, 2019), (Puspita; Sujatini; Henni, 2020), (Sujatini; Puspita; Henni et al., 2023) stated that small open spaces in solid space residential communities are transformed into recreational areas and have great potential for various functions due to the limited land available, the existence of small corridors, and the existing culture. Enhancing the community's economy has the potential to have a significant positive impact on resident social interaction as well. Collaboration between different components is essential and must be maintained in terms of implementation, monitoring, and sustainability. According to (Nuri et al., 2023) people who live in densely populated areas utilize public space differently, using it for their interests as well as that of their neighbors. Sentul's economy can be strengthened by offering a variety of intelligent and sustainable tourism amenities (Dewi, Effendi, et al., 2022).

According to (Shelo & Liauw, 2020), a third location that offers leisure and relaxation program functions to relieve residents of dense settlements boredom can satisfy the social demands of people living in dense residential areas in Manggarai (Rubiantoro & Haryanto, 2013).

Depending on how we handle and perceive people' cultural behavior, this always produces discomfort, according to (Puspita, Sujatini, Henni, 2020), (Dewi, Sujatini, et al., 2022), (Baskoro, Fachry, Bimatukmaru, 2022). Their economy will benefit from this. It is vital to design furniture with

RESEARCH SYNERGY PRESS

ergonomics in mind because of the limited area and unique culture of apartment living (Purwantiasning, Baskoro, Fachry, 2023). One strategy to persuade customers to visit the restaurant is to make changes to the design of the food stalls. (Nurrofi, 2022) Enhancing or expanding ergonomic manufacturing equipment is necessary to boost output and financial gains in an indirect manner (Sugandi et al., 2021).

Restaurant patronage declines when there is discomfort with the ambiance, size, and furniture design (anthropometrics and ergonomics) (Laksitarini & Nugroho, 2021). The TMCK facilities' size disregards the anthropometry of its users, and the kitchen's organization and layout are ineffective (Bahantwelu & Mbake, 2022), (Sugiharto et al., 2019). The activities of the kiosk owner and the equipment modules that will be stored in the kiosk determine the shape, purpose, and size of the kiosk. Shape and size can be applied by using the kiosk owner's anthropometry and ergonomics (Asmarandani, 2018), (Himawan, 2019), (Dinata et al., 2023).

Combining the ideas of green ergonomics and green design, green ergonomic building is a more sophisticated concept that addresses human behavior as users of environmental systems and agents of appropriate action in addition to energy conservation and increased natural sustainability. The basic elements of interior space quality and safety; waste management and safety; management of water efficiency and artificial lighting; appropriateness of work area furniture and materials; application of sensory and health technology; comfort of interior space in the work area; and mechanical ventilation and supporting facilities are the seven indicators used to evaluate green ergonomic buildings (Kusuma, 2023).

This article is innovative because it uses an ergonomics method to significantly advance our understanding of the relationship between visitors' well-being, food stall owners' well-being, and the design of dense urban environments. The following are some elements that make this article new:

1. Integrating ergonomics in densely populated urban areas
2. Highlight Food Stalls as Hubs for Social Mixing
3. The Use of Professional Experts and Multidisciplinary Approach
4. Utilizing Research Results in Business Management and Design Practices

RESEARCH METHOD

A qualitative descriptive approach is the one that is employed. Both tangible and intangible data from interviews were used in the research and data collection. observation of food stall patrons' actions. The goal of this research approach was to offer a thorough understanding of the ergonomic elements that affect the well-being of tourists and food vendors in crowded areas of large cities.

FINDINGS AND DISCUSSION

Optimizing Welfare in Dense Urban Environments: A Discussion of the Article

1. The Function of Ergonomics in Increasing wellbeing: This article delves deeply into the ways that an ergonomics approach can help to increase the wellbeing of tourists and food stall operators in crowded metropolitan areas. A dedication to establishing an atmosphere that promotes comfort and productivity is demonstrated by a focus on space design, desk layout, lighting, and other ergonomic elements.
2. The article's interdisciplinary integration is a plus, as it features authors with backgrounds in industrial engineering, environmental science, and architecture. The utilisation of an interdisciplinary approach affords a range of viewpoints and guarantees a thorough comprehension of the obstacles and prospects encountered in enhancing well-being within densely populated urban settings.
3. Effect of Population Density on Food Stalls: The impact of population density on the success and day-to-day operations of food stalls is thoroughly covered in this article. Through a review

of recent literature, this study can shed light on how food stall layout and amenities can be modified to address particular issues that crop up in crowded urban settings.

4. Practical Implications and Recommendations: This article also offers policy makers, architects, and food stall entrepreneur practical implications and recommendations. This article offers specific recommendations for planning and operating food stands in crowded metropolitan areas in a way that complies with ergonomic principles and enhances well-being by outlining the research findings.
5. Restrictions and Potential Paths for Further Research: The article's analysis addresses the study's constraints, pointing out areas that remain unexplored. This paves the way for additional research and invites readers to contemplate certain areas that might require more study, such the effects of pandemic-related lifestyle modifications or tailoring designs to certain populations.

These components work together to give this study a comprehensive and in-depth understanding of the initiatives taken to maximize food stall welfare in the setting of densely populated large cities. The useful ramifications can significantly aid in the creation of sustainable and compassionate urban environments.

CONCLUSIONS AND FURTHER RESEARCH

Several key implications can be made from the research findings in the article "Optimizing Welfare in Dense Urban Environments: Ergonomic Study for Visitors and Food Stall Owners in Dense Residential Areas in Big Cities":

1. The Vital Role of Ergonomics in Enhancing Welfare: This study demonstrates the considerable benefits that applying ergonomic design concepts to food stall layouts confers on both patron and proprietor welfare. Environmental conditions, interior design, and table settings are a few examples of factors that might directly affect their experience.
2. Opportunities and issues in Dense Urban Environments: Managing food stalls in large cities presents special issues because to population density. However, this research also shows how suitable design principles may be used to create inclusive and sustainable ecosystems.
3. Beneficial Effects of Social Connection: Research indicates that promoting social connection in food stands through space design might benefit patrons' mental health by facilitating meetings and dialogues.
4. Environmental Sustainability: A significant contribution to environmental sustainability is made by using sustainable and green design principles. Food stalls can serve as an environmentally friendly business concept by considering these factors.

Suggestion

Recommendation: Taking into account the preceding conclusions, the following ideas can be proposed for more development:

1. More study: to better understand some elements, such as how the pandemic has affected visitor tastes and behavior, and to develop techniques that can improve food stall operating flexibility in the middle of complex urban dynamics, more study must be done. surroundings.
2. Stakeholder Involvement: When debating and putting study findings into practice, it is crucial to include policy makers, urban planners, and food stall proprietors. This partnership has the potential to expedite the adoption of well-being-promoting techniques in crowded urban settings and food stands.
3. The creation of ergonomic design standards is a useful tool for architects and designers to build ideal spaces that consider the needs of both visitors and owners. These guidelines are specifically intended for food stalls located in busy urban contexts.

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4. Education and Awareness: Educational initiatives can be used to try to raise people's knowledge and comprehension of ergonomics, both among food stall operators and customers. This may help ergonomic ideas to be applied more broadly.
5. Monitoring and Assessment: An assessment of the suggested measures' effects on well-being and visitor responses should be conducted regularly to track their implementation. Finding possible enhancements and additional improvements can be aided by this.

With adherence to these recommendations, it is anticipated that ergonomic research conducted in food stands can optimize welfare in dense urban environments and significantly enhance the standard of living in large cities.

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