

Servicescape in senior living accommodation: A conceptual paper

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ARTICLE INFO

Article history:

Received 30 September 2025

Revised 10 February 2026

Accepted 01 April 2026

Online first

Published 30 April 2026

Keywords:

Servicescape

Senior Living Accommodation

Person-Centred Environment

Place Attachment

Biophilic Design

Aged-Friendly Environment

ABSTRACT

The ageing population in Malaysia is projected to increase by 15% in 2030, leading to the growing demand for Senior Living Accommodations (SLA) that provide an inclusive, person-centred and age-friendly environment. Ensuring the quality of the operation and environment is vital, as today's residents prefer a welcoming, resident-friendly spaces that blend healthcare and enjoyable living experiences, highlighting the importance of servicescape in the SLA. This conceptual paper aims to offer a comprehensive review of the servicescape concept in the SLA context. Notably, 39 peer-reviewed articles published in reputable journals between 2010 and 2025 were reviewed and analysed. The analysis identifies five key elements of the servicescape relevant to the SLA context: physical environment, social environment, cultural and symbolic elements, flexibility and adaptability, and environmental quality. Findings suggest that the servicescape contributes to the physical and social elements, as well as psychological elements such as emotional well-being, comfort, autonomy, roles, and overall quality of life for elderly individuals. Overall, this paper makes a significant contribution to both practical and theoretical perspectives, offering useful guidelines for SLA operators to create a living environment that supports the well-being and quality of life. It also highlighted the need to conduct an empirical study to validate the conceptual findings in a real setting of SLA in Malaysia.

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1. INTRODUCTION

Servicescape, according to Bitner (1992), is the physical surroundings that influence customers' and employees' perceptions, behaviours, and interactions in service settings. This term is widely debated across marketing, business, hotels, tourism, food, restaurants, design, and architecture in the context of business positioning strategies (Han et al., 2018). However, there is growing interest in exploring the servicescape in healthcare settings, specifically in senior living accommodation (SLA), one of the hospitality segments that is underexplored (Pham et al., 2020). Senior living accommodation (SLA) refers to the living arrangements designed to meet the diverse needs of older adults (Swanger, 2024). Today, SLA is shifting towards a hybrid model that may encompass approximately two-thirds hospitality and one-third healthcare (Zhong & Zhang, 2023).

Globally, the ageing population is expected to increase from 761 million in 2021 to 1.6 billion by 2050 (United Nations, 2023). According to statistics from the Department of Statistics Malaysia (2023), the elderly population in Malaysia is projected to increase to 15% by 2030. This trajectory has spurred the development of SLAs in Malaysia (Julaihi et al., 2022; Chaulagain et al., 2022). Following this, Malaysia's SLAs are categorised into three types: i) elderly care centres, ii) specialised housing such as retirement villages, and iii) ageing in place (Malaysia Department of Town and Country Planning, 2018). There are about 365 registered SLAs in key states of Malaysia, including Klang Valley, Johor, and Penang, as well as unregistered SLAs scattered throughout the country (Phua et al., 2019). Therefore, the present study narrows its focus to the servicescape in elderly care centres and specialised retirement villages, as these SLAs represent the most prominent institutional and lifestyle-based model shaping the senior living sectors in Malaysia.

SLAs provide a vital solution for the needs of the ageing population. However, ensuring the quality of the environment in SLAs remains challenging (Kumar et al., 2023). For example, the ineffective management of SLA conditions can lead to various problems, such as communication barriers among residents, insufficient social support and mental health concerns (Hamid et al., 2021; Hoe et al., 2018). Additionally, several elderly individuals experience discomfort, feel unwelcome, and fear losing autonomy during relocation to SLAs (Kylén et al., 2019; Bohari et al., 2023). Note that poorly designed SLAs for elderly residents can contribute to feelings of isolation and stigma and lower their overall quality of life (Haniff et al., 2018; Ali & Yaacob et al., 2022). Meanwhile, Zhong and Zhang (2023) highlighted that many SLA operators today offer welcoming, resident-friendly spaces that blend healthcare and enjoyable living experiences. This shift underscored the role of servicescape in shaping the emotional experiences, satisfaction and well-being of elderly residents in SLAs.

Most studies of SLAs have focused on safety, physical design, and facility management in SLAs (Mohd Tobi et al., 2018; Ismail et al., 2021; Julaihi et al., 2022; Ismail et al., 2023). Nevertheless, limited attention has been given to how elderly residents and caregivers cognitively and emotionally experience related to the servicescape. Researchers have noted that the servicescape, encompassing both the physical setting and the overall atmosphere, plays a crucial role in enhancing residents' satisfaction and well-being (Ali@Yaacob et al., 2022; Khalid et al., 2020; Mari et al., 2023; Nik Nordin et al., 2019). At the same time, most servicescape studies focus on business or hospitality contexts, and few focus on senior living (Tasci & Pizam, 2020). Thus, there is a need for interdisciplinary research that incorporates design, psychology, and healthcare to understand how elderly individuals perceive the servicescape in their living environments. Moreover, there is a gap between available SLA facilities and seniors' personal preferences, which affects

their decision-making and overall quality of life (Kim et al., 2024; Hrast et al., 2020). On the other hand, addressing these gaps is essential to creating environments that meet physical care needs, support emotional security, and autonomy. As such, this paper aims to conduct a comprehensive review of the concept of servicescape in the SLA context.

2. CONCEPTUALISING SERVICESCAPE IN SENIOR LIVING ACCOMMODATION

Considering the various factors that contribute to the elderly's quality of life and well-being is essential for conceptualising servicescapes in SLAs. Accordingly, this section begins by laying out the servicescape dimensions proposed by Bitner (1992) and explores how these dimensions are applied to the design and functionality of SLAs. Next, the literature review highlights key elements of servicescape in SLAs that are essential in creating a supportive, comfortable, and engaging environment for the elderly. Subsequently, this paper describes the methodology used to identify the elements. It concludes with the implications and directions for future research.

2.1 An Overview of the Servicescape Model

Bitner (1992) has developed a servicescape model that analyses how the physical environment influences customers' and employees' behaviour in the service setting. The author outlined three core elements of the physical environment: ambient conditions, spatial layout and functionality, and signs, symbols, and artefacts. Bitner further explained that these three core elements affect three types of internal responses: cognitive, emotional, and psychological. For example, Rosenbaum et al. (2017) observed that incorporating natural elements, such as gardens and green spaces, can enhance both individual and societal well-being. In the hospitality industry, colour has the greatest influence on guest perception, followed by lighting and temperature, which, in turn, shape perceptions of warmth, comfort and luxury (Countryman & Jang, 2006; Mahmoud, 2023). In essence, these findings indicate that the physical environment in the service setting affects cognitive processes (e.g., perception, belief), emotions (e.g., satisfaction, happiness), and psychological states (e.g., comfort, well-being).

Bitner (1992) emphasised how servicescape influences both customers and employees. The author explained that the servicescape affects customer satisfaction, first impressions, service quality, and loyalty. Additionally, it enhances employee performance, motivation, and job satisfaction. In the same vein, a study by Tasci and Pizam (2020) argued that previous servicescape studies have neglected the outcomes for consumers and other stakeholders, such as employees, and have focused more on benefits to brands and firms. Hence, understanding both customers' and employees' perspectives is crucial to examining the servicescape in a service setting. The next section will discuss how Bitner's service-scape dimensions are applied in SLAs and explore other dimensions that comprise the service environment in SLAs.

2.2 Servicescape Dimensions in SLA Context

There is scarce direct exploration of servicescape in the context of SLAs, specifically in reference to Bitner's (1992) framework. Han et al. (2018) noted that servicescape studies are widely discussed across marketing, business, hotels, tourism, food, restaurants, design, and architecture. Similarly, Tasci and Pizam (2020) discovered that most servicescape studies focused on how servicescape helps firms with branding and service improvement. The authors suggest that future researchers focus on how servicescape affects people's feelings, thoughts, and development by integrating human-centred theories such as well-being and quality of life. Despite this, some studies indirectly discussed the themes and concepts associated with Bitner's servicescape model. For example, a study by Pham et al. (2020) highlighted the servicescape elements such as ambience, signage, layout and social interaction that examine the physical and social dimension of servicescape. Another example is Zheng et al. (2024), who examined environmental factors and depression among older adults, highlighting servicescape elements such as temperature, humidity, and green coverage to examine the impact of the physical environment on well-being. Overall, although there is limited exploration of servicescape in the SLA context, related studies across different areas have addressed its important aspects, underscoring the need for research focused on human-centricity and well-being. The following sub-topic will further discuss the physical component of Bitner's servicescape model, as well as other elements of the servicescape in the SLA setting.

Ambient condition

Ambient conditions are fundamental elements of the servicescape that influence how individuals perceive and respond to the service environment (Bitner, 1992). In her analysis, Bitner (1992) identified five elements in the servicescape, such as temperature, lighting, noise, music, and scent, affecting the five human senses. Previous researchers had widely discussed the impact of ambient conditions in hospitality studies. For instance, Agbenyegah et al. (2022) highlighted that restaurant managers should emphasise the importance of lighting and room temperature to satisfy the diners. This is supported by Suh et al. (2014), who revealed that temperature can influence overall hotel image, while scents in a five-star hotel could increase guest satisfaction. In the context of SLAs, Chee (2024) emphasised that thermal comfort is important for the well-being of the elderly, highlighting the need to create spaces that align with elderly thermal preferences. Additionally, Kumar et al. (2024) emphasised that ambience factors, such as indoor quality and acoustic, thermal, and visual comfort, can enhance satisfaction, stimulate environments, and minimise the risk of building-related health problems. Previous studies also underscored that music and game activities increase inner tranquillity, spirit and elevated optimism among elderly persons in SLAs (Huang et al., 2024; Krause & Davidson, 2021). In terms of noise level, senior adults with normal hearing are comfortable with music. In contrast, those with severe hearing impairment prefer entertainment sounds (Mu et al., 2022). Collectively, these studies underscore the multidimensional role of ambient conditions in shaping the physical environment in SLAs and the psychological capabilities of the elderly. In response, future researchers are encouraged to expand these elements to provide a more comprehensive understanding of ambient conditions within SLAs.

Spatial layout and functionality

Spatial layout and functionality in servicescapes refer to the arrangement and usability of physical elements, such as furniture, equipment, and pathways, that affect movement and interaction within the service environment (Bitner, 1992). In the hospitality industry, including hotels and restaurants, spatial

layout and functionality significantly influence customer loyalty and satisfaction (Chang & Lin, 2024; Eka et al., 2024). For example, in a fine-dining restaurant, a well-designed space and ambience are strategic tools to enhance the customer experience and satisfaction (Eka et al., 2024). Furthermore, Gronostajska-Kadecka (2025) asserted that the spatial layout of a spa and wellness zone in a hotel significantly affects the hotel's overall operations. In the context of SLAs, the spatial layout and functionality significantly impact both operations and residents' well-being. This supports wayfinding (Chee, 2024), physical and social well-being (Chee et al., 2022; Burton & Sheehan, 2010), impacts the caregivers' resilience (Rom et al., 2024), improves social engagement in a common area (Tyvimaa, 2011; Chen et al., 2019), and improves design principles that meet the person-environment fit in the SLAs (Chen et al., 2019; Friesen et al., 2016). Together, these studies highlighted that spatial layout and design contribute to a supportive environment for residents and caregivers, specifically in promoting a higher quality of life and operational efficiency in the SLAs.

Sign, symbols and artefacts

Bitner (1992) highlighted that signs, symbols, and artefacts provide information and guide customers and visitors in the service area. The author further explained that these elements make the overall service environment predictable and understandable. Generally, signs, symbols, and artefacts influence customers' satisfaction, perception, and behaviour in hospitality and business settings. Notably, these elements influence cognitive, affective, and behavioural responses, which, in turn, enhance customers' engagement through perceived wellness and functional value in the hotel servicescape (Li, 2021). Likewise, a well-designed aesthetic environment can influence guests' beliefs and expectations, thereby increasing their satisfaction levels (Simpong et al., 2022). In the context of SLA settings, Pham et al. (2020) studied an aged care centre in Texas. They observed that the presence of cultural symbols and artefacts can create a welcoming atmosphere and foster a sense of comfort and trust among residents. McGrath et al. (2021) highlighted that considering residents' cultural backgrounds when designing and implementing signs, symbols, and artefacts in SLAs can foster meaningful engagement among residents with dementia. Signs, symbols, and artefacts also enhance safety and comfort in SLAs through innovation in environmental design. This includes digital wayfinding systems and advanced monitoring systems that can detect anomalous behaviour of the residents, making the living environment in SLAs more comfortable, safe, and less stressful (Chee, 2024; Gibietz et al., 2024; Lousado et al., 2024). Consequently, well-designed signs, symbols, and artefacts improve satisfaction and offer a positive impression to current and potential residents, as well as caregivers in SLAs.

2.3 Emerging Key Design Elements of Servicescape in SLA

A large and growing body of literature has identified several key design elements of servicescapes that create a supportive, comfortable, and engaging environment in SLAs. Physical environments, such as ambient and layout (Pham et al., 2020), safety measures (Mesthrige & Cheung, 2019), and comfort and convenience (Lu et al., 2010), are important factors to consider when designing servicescapes in SLAs. In addition, social environments such as the design of interaction spaces (Pham et al., 2020) and community care services, including healthcare facilities, beauty salons, and wellness programs (Gagne et al., 2013), encourage social interactions and support the elderly's holistic well-being. Other emerging elements derived from the literature comprise the cultural and symbolic dimensions (Pham et al., 2020), flexibility and

adaptability (Nanda & Warner, 2023; Park et al., 2025), and environmental quality (Alhmoud & Ismail, 2024; Gagne et al., 2013). Table 1 summarises the emerging key design elements of servicescape in SLAs.

Table 1. Emerging key design elements of servicescape in SLAs.

Servicescape Elements in SLAs	Sub-element in SLAs	Description	Sources
Physical Environment	Ambience and layout	Appropriate lighting, quiet spaces, clear signage, comfort, and accessible layout.	Pham et al. (2020)
	Safety measures	Physical safety, emotional safety, and social safety.	Li et al. (2023)
	Comfort and Convenience	Considering the ergonomics, slip-resistant flooring, and thermal comfort.	Mohd Tobi et al. (2018) Khan et al. (2021)
	Biophilic Design	Incorporated natural elements to enhance well-being.	Chee (2024), Mari et al. (2023)
Social Environment	Social Interaction and Spaces	Create a family-like environment and positive employee-to-residents' interactions.	Feng et al. (2022)
	Community Care Services	Spaces that encourage social interaction and community engagement, with a 24-hour emergency call service.	Chuah and Tan (2025)
	Neighbourhood Quality and Accessibility	Safe and supportive neighbourhood.	Tan and Lee (2018)
	Private living spaces	Ensuring privacy and autonomy for residents.	Hanif et al. (2018)
Cultural and Symbolic Dimension	Cultural sensitivity	Letting the elderly use different cultural signs and symbols.	Pham et al. (2020)
	Symbolic Structure	Architectural design that makes the elderly feel at home.	Pham et al. (2020)
Flexibility and adaptability	Age-friendly Design	Universal design principles for accessibility.	Park et al. (2025)
	Versatile and Modifiable Spaces	Flexible spaces that can be modified and scaled.	Nanda and Warner (2023)
Environmental Quality	Interior Environmental Quality	Air quality, daylight access, acoustic comfort, control over lighting, and thermal conditions.	Alhmoud and Ismail (2024) Chee (2024)
	Outdoor Spaces	Space for outdoor activity.	Chuah and Tan (2025)

3. METHODOLOGY

The methodology used in this study involves a comprehensive review of articles collected through the search engine, aimed at exploring the concept of servicescape in the context of SLAs. This approach allows a detailed examination of the existing literature, facilitating a deeper understanding of how servicescape elements influence the perception and effectiveness of SLAs. Furthermore, the exploration allows for the identification of emerging key elements of servicescape, specifically in the SLA context. The articles were searched using two primary search engines: SCOPUS AI and Google Scholar. Accordingly, 39 articles were extracted, ranging from 2010 to 2025, except for foundation articles on Bitner's servicescape model, which were published in 1992. The articles are obtained from reputable journals such as the International Journal of Hospitality Management, the Journal of Design and the Built Environment, the Asia Pacific Journal of Health Management, and many more. However, the searches are limited to servicescape, built environment, physical environment, social environment, SLAs, senior living community, elderly care, well-

being, quality of life, and satisfaction. Based on a comprehensive review, several key emerging design elements of servicescape in the SLA context were identified and summarised in Table 1.

4. DISCUSSION, CONCLUSION AND FUTURE RESEARCH

Based on the summarised key design elements of servicescape in Table 1, five themes emerged from the conceptual exploration of servicescape in SLAs: physical environment, social environment, cultural and symbolic dimension, flexibility, and environmental quality. Two main criteria guided the development of the themes: 1) their relevance to the research context in SLAs and 2) the frequency with which the themes were discussed in the existing body of literature. The first theme is the physical environment, focusing on the comfort and safety of residents and employees in SLAs. For example, Pham et al. (2020) highlighted that elements such as lighting, quiet zones, an accessible layout, and clear signage are important for supporting residents' orientation and sense of control. Additionally, creating a secure atmosphere in SLAs is important for the elderly's mental health and well-being (J. Li et al., 2023). When designing common spaces or facilities in SLAs, operators should consider ergonomic furniture, slip-resistant flooring, and thermal comfort, including fabric choices, humidity, temperature, noise, and ventilation (Mohd Tobi et al., 2018; Khan et al., 2021; Chee, 2024). Concurrently, these elements are functional and reduce physical strain and injuries.

The second emerging theme from the conceptual exploration is the social environment. This element is crucial to the residents' psychological well-being. It is crucial to create a family-like setting and positive employee-to-resident interactions, which, in turn, will reduce feelings of isolation and loneliness (Feng et al., 2022). In line with this, community care spaces that facilitate interaction, engagement in meaningful activities and supportive neighbourhoods enhance social connections within SLA environments (Chuah & Tan, 2025; Tan & Lee, 2018). This underscores the significance of spatial layout and functionality in the servicescape, fostering nurturing relationships and alleviating social isolation in SLAs.

The third emerging theme is the cultural and symbolic dimension, and it is vital in multicultural countries such as Malaysia. Pham et al. (2020) emphasised that cultural sensitivity will reflect residents' cultural identity and sense of belonging through the choice of architectural elements, symbols and decorative items. Notably, designed spaces that "feel like home" enhance the elderly's emotional connection to the place and help them engage with it. Similarly, ensuring person-centred living arrangements will support residents' autonomy and dignity (Hanif et al., 2018).

The fourth emerging theme is flexibility and adaptability. The SLAs' design and layout need to be flexible and adaptable to meet the changing needs of the elderly individual. Nanda and Warner (2023) asserted the versatile layout that can accommodate changes of physical ability, medical condition, and personal preferences. Correspondingly, implementing universal design in SLAs helps ensure an inclusive and accessible environment for all levels of ability (Park et al., 2025).

The final theme is environmental quality. It comprises indoor and outdoor air quality, acoustic comfort, daylight access, and thermal control, and is essential for supporting elderly health and well-being (Chee, 2024; Alhmod & Ismail, 2024). Giving the residents control over their lighting and temperature preferences could support autonomy and reduce stress. Meanwhile, outdoor spaces could enhance physical activity and reinforce the connection between nature and psychological health (Chuan & Tan, 2025). Furthermore, incorporating biophilic design, such as natural elements, water features, green gardens, and

views of nature, could reduce anxiety, improve sleep, and enhance emotional resilience for residents (Mari et al., 2023). At the same time, it contributes to a healing environment that aligns with the concept of ageing in place.

To conclude, this conceptual paper highlighted the multiple dimensions of servicescape elements in the context of SLAs. Throughout the literature review, it can be concluded that the design of the living environment for the elderly must extend beyond the physical elements proposed by Bitner (1992). This includes incorporating social environments, meaningful cultural and symbolic elements, flexibility, adaptability, and the quality of the environment. In terms of theme development, themes such as cultural and symbolic dimensions (Pham et al., 2020) and environmental quality (Chee, 2024) align with Bitner's (1992) servicescape model. Despite this, these themes have been reinterpreted and renamed to reflect their applicability within the healthcare context. On the other hand, social environment (Chuah & Tan, 2025; Feng et al., 2022), flexibility, and adaptability (Park et al., 2025; Nanda & Warner, 2022) emerged as new themes in the context of SLA, as they are not represented in any of the elements of Bitner's (1992) servicescape model. In essence, this finding suggests that the original framework may not fully capture the dynamics of contemporary senior living environments. On a similar note, several aspects of the physical environment also surfaced as novel themes in this study. This includes biophilic design (Mari et al., 2023), safety measures (Li et al., 2023), and comfort and convenience (Khan et al., 2021; Chee et al., 2024), thereby extending the scope of the traditional servicescape model. Overall, these findings underscore the importance of holistic, inclusive design to ensure residents' comfort, safety, autonomy, emotional well-being, and overall well-being.

In practice, this paper will offer SLA operators a useful guideline for creating an environment that supports elderly well-being and improves quality of life. In theory, this paper will help expand the current understanding of servicescape elements in the hospitality industry. By contrast, the limitation of this paper is that the findings are based solely on a thorough review of secondary data. Nevertheless, future researchers are encouraged to validate and refine this framework through empirical studies that capture real-life experiences in SLA settings.

5. ACKNOWLEDGEMENTS/FUNDING

This study was made possible by the continuous support from the Fundamental Research Grant Scheme—Grant No. FRGS/1/2016/SS04/UITM/02/2

6. CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

7. AUTHORS' CONTRIBUTIONS

Suriati Osman: Conceptualisation, methodology, formal analysis, investigation and writing-original draft; **Norzuwana Sumarjan:** Conceptualisation, supervision, writing-review and editing, validation, and formal analysis; **Nur Zalikha Othman:** Conceptualisation, supervision, writing-review and editing, and

validation; **Mohd Aliff Abdul Majid**: Conceptualisation, supervision, writing- review and editing, and validation.

8. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this work, the author(s) used Scopus AI to assist in the literature synthesis process and improve the readability and linguistic clarity of the manuscript. After using this tool, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the publication.

9. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

10. ETHICS STATEMENT

The authors declare that this research did not involve human or animal subjects. All experimental procedures were performed following the institutional Safety, Health, and Environmental (HSE) protocols of Universiti Teknologi MARA.

11. ABOUT THE AUTHORS

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