

Empirical Assessment of Audience Attraction in Shopping Centres Based on the Notion of Social Sustainability

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Abstract: This study addresses the contemporary focus of commercial spaces on enhancing social, cultural, and economic experiences to attract individuals, prompting architects to align designs with audience objectives. It explores social sustainability dimensions, encompassing physical and social attributes, to create an appealing, human-centric shopping centre. Research involves gathering and analysing audience opinions through a distributed questionnaire, with SPSS software utilized for analysis. Findings reveal audience prioritization of social factors over physical ones, with interior decoration, spatial configuration, and proper lighting emerging as top physical preferences. In the social realm, satisfaction, social justice, and social security receive the most attention. Beyond theoretical implications, the study offers practical insights for designing sustainable shopping centres, emphasizing real-world applications based on social sustainability principles. The findings recommend a focus on creating vibrant, secure, and sociable atmospheres to attract a diverse audience, presenting a unique contribution to the field.

Keywords: shopping centre; social sustainability; spatial configuration; sustainable architecture; sustainable development

1 INTRODUCTION

As urban development progresses and society experiences an improvement in socio-cultural levels, small shopping centres no longer suffice to meet societal requirements. Consequently, shopping centres must re-evaluate their design processes, aligning them with the principles of social sustainability to cater to the contemporary needs of the populace. This necessitates a focused consideration of cultural, social, and economic aspects, ensuring these centres serve their functions effectively and capture community attention. Architects traditionally drew inspiration from existing markets and bazaars when designing shopping malls. However, what received less attention during this design phase were the social spaces within markets, encompassing a myriad of social, cultural, religious, and even political activities. Consequently, studies conducted by sociologists and psychologists revealed that visitors to shopping centres have motivations beyond mere shopping and they tend to be engaged in diverse activities [1].

Social sustainability, within the context of this study, is the facet of sustainable design that emphasizes the human dimension of the sustainability discourse. It focuses on creating schemes and environments that meet present-day needs without compromising resources for future generations, with a specific emphasis on the well-being of individuals and communities. Researchers have acknowledged the need to transform shopping malls from purely commercial spaces into multifunctional centres that accommodate both shopping and leisure activities [2]. Commercial centres play a crucial role in fostering the socio-cultural development of communities, contributing to their vibrancy and sociability. Given that shopping centres attract diverse audiences and serve as hubs for dynamic social interactions, integrating the principles of social sustainability during the planning phase enhances audience presence and continuity. Consequently, when designing shopping centres with a focus on social sustainability, careful attention is given

to human behaviours and requirements, establishing a lasting relationship between individuals and their environment. Implementing appropriate procedures in the design and construction of shopping malls creates favourable conditions for the advancement of social, environmental, and economic considerations.

Commerce plays a crucial role in promoting the economic growth of a city, and the commercial space is recognized as one of the city's most vital components. Beyond its economic function, it serves as a hub for social interactions. In the current era, characterized by growing population trends and heightened consumer expectations, the proliferation of shopping centres throughout the city is seen as a fitting response to the audience's needs. Consequently, the demand for commercial spaces and shopping centres that not only address consumer demands but also provide for their social needs is more pronounced than ever, particularly in developing countries. However, the haphazard distribution of commercial centres in the city, coupled with undesirable designs and a lack of awareness regarding accessible routes, has resulted in a significant waste of time and energy in Iran. Consequently, to meet the evolving demands of societies, the interplay between factors influencing social growth and physical quality becomes increasingly evident. In this study, the focus is on prioritizing factors that contribute to an appealing public space, aiming to meet the needs and optimize people's leisure time. Specifically, the dimensions of social sustainability, encompassing both the physical and social environment, are examined as part of the study's particular scope. To guide the investigation, the following questions are proposed, seeking appropriate answers.

- In designing a shopping centre with a social sustainability approach, which of the social and physical factors will have the greatest impact on attracting the audience?
- How can the social and physical components of sustainability be intermingled and applied in the design of a shopping centre?

In this study, it is hypothesized that certain social factors, such as liveability and security, will have a significant impact on attracting visitors to business centres. Additionally, the spatial configuration structure of shopping malls, assumed as a moderating variable, can establish a constructive interaction between social and physical factors. By recognizing and adopting indicators of social sustainability, encompassing both physical and social aspects, a more attractive business environment will be provided to the audiences. Historically, the majority of studies related to shopping centres have concentrated on either socio cultural aspects [3-5] or physical factors [6-8] so far. While studies on the combination of social and physical factors affecting shopping centres simultaneously have not been sufficiently addressed. Thus, the present study aimed to bridge the identified scientific gap. The implications of this study can be fruitful for policymakers, architects, urban designers, and planners.

2 LITERATURE REVIEW

To realize the multifaceted nature of social sustainability, it is indispensable to define its dimensions within the realm of shopping centres. The concept encompasses both physical and social elements, creating a dynamic framework for evaluating the factors that contribute to an attractive and sustainable shopping environment.

2.1 Physical Factors Affecting Audience Attraction

Creating an appealing shopping centre goes beyond aesthetics and involves careful consideration of various design elements. On the one hand, interior design, a critical aspect, not only triggers positive emotional responses but also fosters a connection between consumers and the retail space [9]. Aesthetically pleasing interiors encourage visitors to explore their surroundings, spending more time in the shopping centre [10]. On the other hand, spatial configuration plays a crucial role in shaping the overall customer experience to meet their socio-functional requirements [11]. Well-organized spatial configurations enhance navigation, reduce frustration, and create a sense of ease for shoppers [12]. Moreover, accessibility and convenient traffic flow contribute significantly to a positive perception of the shopping centre's functionality [13]. The choice of colour schemes and textures also profoundly impacts consumer behaviour and evokes specific emotions and influences purchasing decisions [14]. For instance, the choice of warm colours like red and orange in retail spaces, known to stimulate excitement and sociability, can enhance the shopping experience [15]. In addition, incorporating cool tones such as blue and green can create a calm and inviting atmosphere, encouraging relaxed browsing and increasing the time spent in the store [16]. Previous studies have emphasized that texture adds a tactile dimension, making the shopping environment more engaging [17]. Furthermore, noise pollution should be minimized for a serene shopping environment. A soundproof structure reduces distractions, enhancing the overall acoustic experience, and correlates

with increased customer satisfaction [18]. Additionally, optimal thermal comfort, maintained through proper heating, ventilation, and air conditioning systems, is integral to ensuring visitor satisfaction and building sustainability [19]. Considering the psychological impact of lighting is considered an indispensable factor in audience attraction of public spaces. On one hand, proper lighting not only serves a practical purpose but also enhances the mood and atmosphere within the shopping centre [20]. Strategic lighting design draws attention to specific areas, creating focal points that guide visitors and contribute to an aesthetically pleasing environment [21]. On the other hand, integrating greenery and natural elements aligns with the trend of environmentally conscious design [22]. Moreover, beyond visual appeal, green spaces contribute to a sustainable and pleasant environment [23] and positively influence visitors' psychological well-being [24]. Each of these elements contributes synergistically to create a shopping environment that not only appeals to the senses but also enhances the overall customer experience based on physical attributes (Fig. 1).

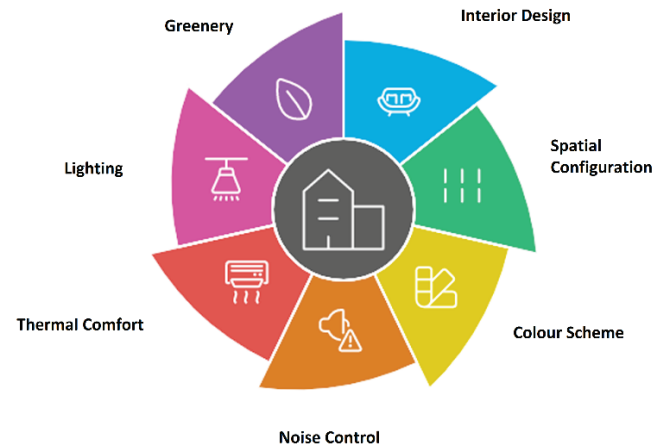


Figure 1 Influential physical factors on enhancing shopping centre appeals based on conducted literature [9-24]

2.2 Social Factors Affecting Audience Attraction

At the core of audience attraction in public spaces lies the concept of satisfaction. Research consistently highlights the link between overall satisfaction and the likelihood of repeat visits. Understanding and addressing the factors that contribute to customer satisfaction are paramount for the sustained success of a shopping centre [25]. In an era where consumers value socially responsible business practices, the concept of social justice becomes a key determinant of shopping centre attractiveness [26]. Infusing liveability into a shopping centre involves creating a dynamic and energetic atmosphere through initiatives such as cultural events, interactive activities, and entertainment programs. Successful strategies involve organizing events and activities that go beyond traditional retail, transforming the space into a lively and engaging environment [3]. Shopping centres are not merely transactional spaces; they are evolving into community hubs. Facilitating social interactions through

events and collaborative spaces contributes to a vibrant and lively atmosphere, attracting a diverse range of visitors [27]. Studies suggest that sustaining social interaction in urban environments extends beyond verbal communication, encompassing deeper emotional and cultural connections within individuals [28]. In addition, the perceived level of security within a shopping centre significantly influences consumer behaviour. Visible security measures create a sense of safety, fostering trust and positively impacting the overall shopping experience [5]. Empowering visitors through social participation initiatives, such as feedback mechanisms and community involvement, creates a sense of belonging and ownership [29]. This engagement contributes to the continuous improvement of the shopping centre based on the community's needs and preferences. Creating a sense of belonging through social participation initiatives fosters a deeper connection between visitors and the shopping centre, transforming it into a community-focused space [30]. The establishment of a community identity encourages shoppers to view the centre as more than just a commercial venue, but as a destination where they belong [31]. The articulated process of social factors influencing audience attraction in shopping centres is summarized in a graphical presentation, as shown in Fig. 2.

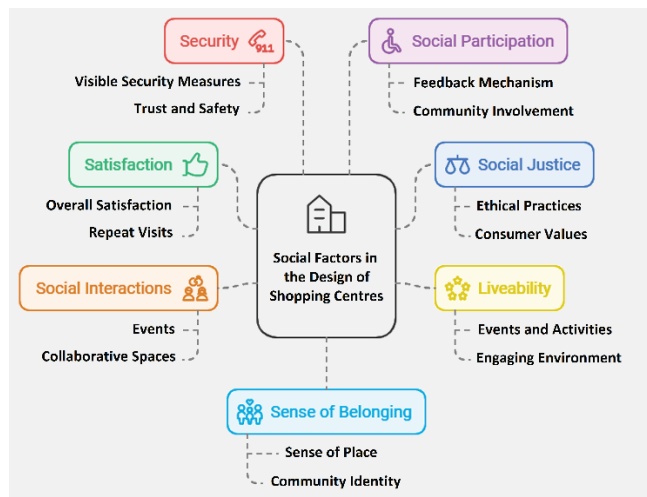


Figure 2 Graphical representation of the social factors affecting audience attraction in shopping centres based on conducted literature [25-31]

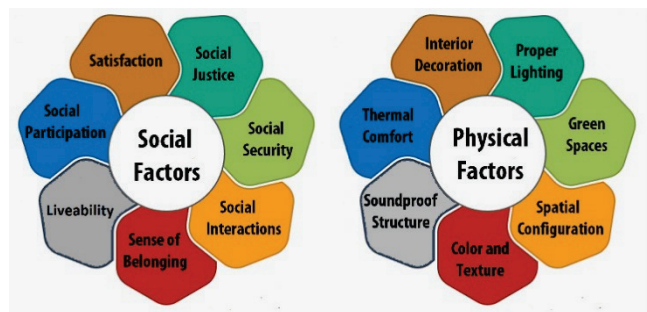


Figure 3 Factors influencing audience attractions towards shopping centres based on the notion of social sustainability based on the reviewed literature [9-31]

In sum, this reviewed literature outlines the theoretical framework for understanding the factors affecting audience

attraction in shopping centres based on the notion of social sustainability. By exploring both the physical and social dimensions, the research seeks to contribute to the creation of shopping environments that not only address functional and emotional needs but also resonate with the values and preferences of the contemporary consumer. A summary of influencing factors is also depicted in the following diagram (Fig. 3).

3 MATERIAL AND METHODS

The study adopted an empirical research design to evaluate audience attraction in shopping centres, with a specific focus on social sustainability. Data was gathered through a structured field survey, conducted across multiple shopping centres selected for their diverse demographics and visitor frequency across northern Iran. The questionnaire, developed in a comparative and quantitative manner, served as the primary tool for collecting data on audience preferences and perceptions. A pre-test study involving 17 participants was conducted to refine and validate the questionnaire, ensuring its reliability using Cronbach's Alpha. For data collection, a structured questionnaire was employed. Utilizing the Cochran formula, the study aimed for a sample size of 384 respondents, featuring demographic representation with 252 females and 132 males. Participant diversity included varying age groups: 72% young, 15% middle-aged, 8% teenagers, and 4% elderly. Rigorous efforts were made to ensure a well-balanced sample in terms of gender, age, and shopping frequency.

The applied methods included a step-by-step approach to measure audience preferences. First, the questionnaire was designed based on prior literature, focusing on both physical and social factors. It should be noted that the quality of the designated questionnaire was verified through three professors holding PhD in architecture. Second, pilot testing was performed to enhance clarity and consistency. Third, data collection was carried out using a variety of methods including online through google forms and on-site during peak visitor hours to capture a broad representation of responses. Fourth, statistical methods such as descriptive and inferential analysis were applied to identify key patterns and correlations.

Data analysis was carried out using SPSS statistical software. The reliability of the questionnaire was assessed through various statistical tests, including the Friedman test, with a significance level set below 0.05. Examined variables included physical factors, encompassing interior decoration, spatial configuration, proper lighting, provision of green space, colour and texture, soundproof structure, and thermal comfort within shopping centres. Social factors were also explored, covering satisfaction, social justice, social security, social interaction, sense of belonging, liveability, and social participation. Ethical considerations were paramount in the study. Participants were fully informed about the research, and their informed consent was obtained. Measures were implemented to guarantee the confidentiality of participants' responses. It is important to note that the questionnaire surveys were developed following the guidelines of the

Declaration of Helsinki. As the survey ensured participant anonymity, voluntariness, and refrained from collecting data for participant identification, Institutional Review Board approval was not required for this study. To improve clarity, we have depicted the process of applied methods in this study in the form of a chart, presented as Fig. 4.

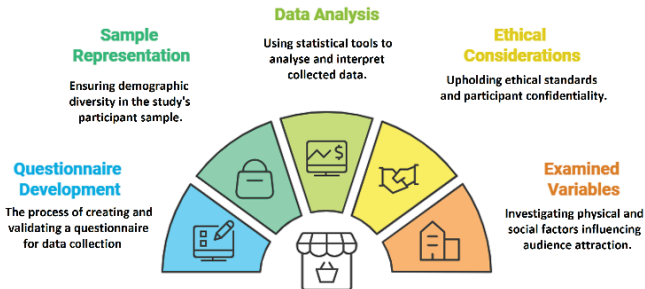


Figure 4 The step-by-step process of data collection and applied methods

4 RESULTS

In the present study, a questionnaire was utilized for data acquisition. The recorded demographic outcomes are reported as follows: 65% of the statistical population were women, and 34% were men. About 72% of the participants were young, 15% were middle-aged, 8% were teenagers, and 4% were elderly. The survey revealed significant patterns when analysing the correlation between demographic groups and usage duration. Young participants were the most frequent visitors, with 45% visiting once a week and 30% visiting once a month. In contrast, the middle-aged group primarily visited once a month (40%) or one to three times a year (25%). Similarly, teenagers showed a higher frequency of occasional visits, with 50% visiting once to three times a year. Elderly participants, representing a smaller portion of the statistical population, predominantly visited occasionally (40%) or once a month (30%). The results of the Friedman test, aimed at ranking the most influential priorities within physical factors affecting the design of shopping malls, indicated that interior decoration, with a mean rating of 5.11, was recognized as the most important physical factor. Subsequently, factors such as spatial configuration (4.61), proper lighting (4.28), and the provision of green space (3.79) were prioritized as the most important physical factors, respectively (Fig. 5). Findings obtained from the Friedman test also suggested that the most influential priority within social attributes was the satisfaction of the visitors, with a mean rating of 6.06. Following this, factors such as social justice (5.22), social security (4.69), and social interaction (4.25) were prioritized as the most important social attributes, respectively (Fig. 6).

In order to achieve the main objective established in this study concerning the most crucial priorities in terms of both physical and social attributes in the design of shopping centres, the Friedman test results revealed that satisfaction is a significant priority. Subsequently, factors such as social justice, interior decoration, social security, spatial configuration, proper lighting, social interaction, sense of belonging, liveability, and the provision of green space

within shopping centres are considered the most important attributes based on the notion of social sustainability (Fig. 7).

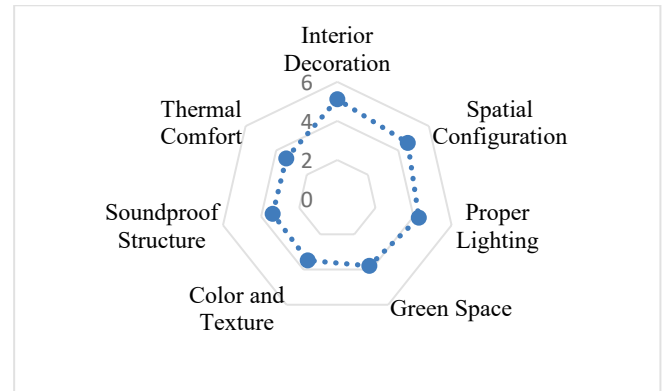


Figure 5 Friedman test results for prioritization of the physical attributes in the design of shopping centres

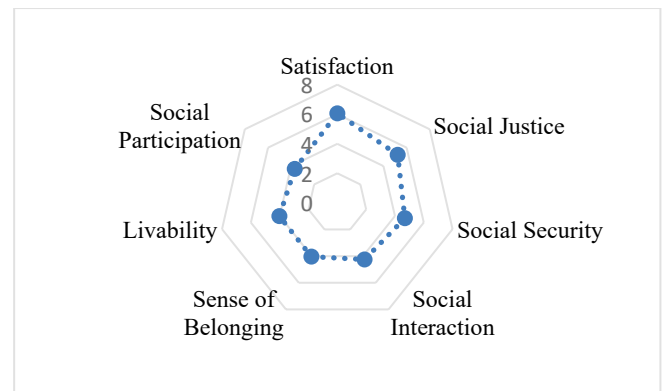


Figure 6 Friedman test results for prioritization of the social attributes in the design of shopping centres

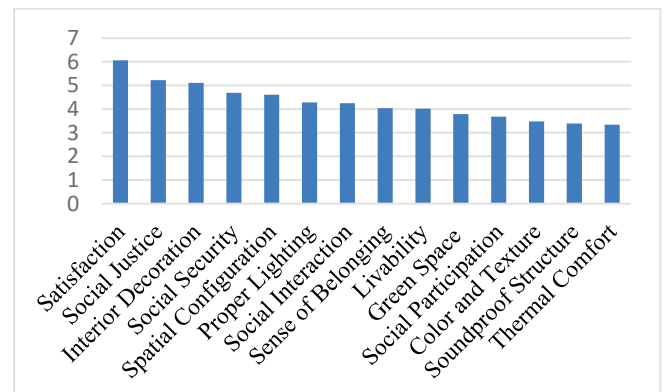


Figure 7 Friedman test results for prioritization of the social and physical attributes in the design of shopping centres

In summary, the findings have demonstrated that audiences prioritize social factors over physical ones. Demographic outcomes revealed notable trends, with a majority of the statistical population being women and a significant percentage representing the youth demographic. Findings related to usage duration underscored varying visit frequencies, with a substantial portion visiting monthly. The crucial aspect of visitor satisfaction emerged as a central theme, supported by a positive correlation between frequent visits and the prioritization of satisfaction. The Friedman test

ranked interior decoration as the foremost physical factor influencing shopping centre design, while social attributes were led by visitor satisfaction. The integration of both physical and social attributes as vital elements in the design, emphasizing social sustainability, emerged as a significant outcome.

5 DISCUSSION

The findings of this research are aligned with previously conducted studies with regard to the association between socialization and satisfaction as their primary priority [32]. In addition, previous studies have mainly focused on physical [10], social [33], and cultural [34] factors associated with the design of shopping centres. However, the current study adopts an incorporated approach to consider both physical and social factors that are interchangeably associated with each other to enhance the overall experience of the audiences within shopping centres. Consistent with previous studies that advocate the significant role of physical aspect of spatial configuration [35-37], this study broadened the vision towards incorporating social and physical attributes in architectural spaces. In contrast to preceding studies, our research uniquely contributes by emphasizing the practical implications of incorporating both social and physical factors into shopping centre design for sustainability. While previous studies predominantly rely on theoretical implications, our work provides valuable insights for designing sustainable shopping centres by emphasizing practical applications grounded in social sustainability principles. This novel approach enriches the existing literature, positioning our study as a noteworthy contribution to the field of shopping centre research. Accordingly, the following instructions for the pragmatic implications of shopping malls in terms of physical and social characteristics can be provided:

- Proper usage of natural and artificial lighting
- Utilization of collective and individual seating areas
- Appropriate spatial organization and configuration
- Adoption of resilient and flexible furniture arrangement
- Incorporation of vegetation, green space, and fountains
- Provision of platforms for attendance and interaction of people
- Playing relaxing and tranquil music
- Ensuring proper access to service spaces such as parking and restrooms
- Offering diverse products at reasonable prices
- Providing thermal and acoustic comfort in the interior space.

6 CONCLUSION

In this study, the main goal was to formulate a framework for enhancing audience attraction in shopping centers by incorporating social sustainability principles. Unlike many shopping malls in developing nations, which primarily cater to merchandise-related needs, there is a noticeable lack of infrastructure to address the broader social demands of contemporary shopping center audiences. Thus, the imperative to establish a framework emphasizing the interaction between social and physical attributes in shopping centers, grounded in the concept of social sustainability,

becomes evident. Our findings highlight that key physical attributes in shopping centers encompass interior decoration, spatial configuration, and proper lighting, while critical social attributes include satisfaction, social justice, and social security, with social aspects taking precedence over physical ones according to the statistical population's perspective.

One restriction of the present study is its concentration in a developing country (Iran). Exploring cross-cultural contexts or other geographical areas could strengthen the research outcomes. Regarding suggestions for future research on the interaction of physical and social attributes in shopping centres, space syntax analysis can be implemented to assess social behaviours by scrutinizing spatial configuration characteristics. Further research could also delve into the evolving relationship between physical and online shopping, examining how digital technologies are reshaping the role of shopping centres and the experiences of shoppers. Overall, a conclusive framework has been delineated as guidance for the principles of audience attraction to shopping centres based on the notion of social sustainability (Fig. 8).

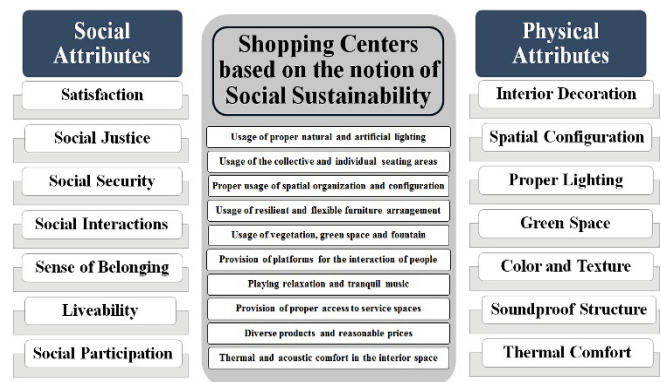


Figure 8 An instructional framework of the shopping centres based on the notion of social sustainability

In the context of shopping centres, the concept of social sustainability could be generalized by emphasizing the importance of meaningful and lasting connections among visitors. Beyond the transactional nature of shopping, creating an environment that fosters genuine social interactions and connections contributes to the sustained well-being of the community and the shopping centre itself. This could involve initiatives such as community events, social spaces within the centre, and engagement programs that go beyond the commercial aspect, promoting a sense of belonging and shared values among visitors. In conclusion, the main goal is to build a shopping centre atmosphere that goes beyond transactions and becomes a social hub, contributing to the overall social sustainability of the community it serves.

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