

A Parsimonious-Cybernetic Fuzzy AHP Strategy to Overcoming Obstacles to the Practise of Sustainable Interior Architecture and Design for Interior Renovations

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Abstract

Although sustainability has long been a top priority in the built world, sustainable interior architecture and design still has room for improvement. This study set out to find and examine the obstacles that prevent sustainable interior architecture and design from being practised. In order to do this, 30 potential barriers were identified through a review of the literature; then, using a two-round Enhanced Fuzzy Delphi Method with 13 certified experts, 10 of the potential barriers were excluded, and one new one was added. A novel Parsimonious Cybernetic Fuzzy Analytic Hierarchy Process was devised to prioritise the remaining data, greatly lowering the amount of pairwise comparisons and doing away with the requirement for a challenging AHP questionnaire.

Keywords: Interior design; Architecture; Renovations

Introduction

The worldwide construction industry consumes over 40% of all energy, emits about 30% of all greenhouse gas emissions, and generates almost 40% of all trash. Implementing sustainability and sustainable development has received more attention globally due to rapid urbanisation and a rise in construction activity. The World Commission on Environment and Development describes the concept of sustainability as "filling the demands of the present without compromising the ability of future generations to fulfil their own needs." Since its inception, the concept of sustainability has permeated nearly all aspects of daily life, especially the physical environment and the discipline of interior architecture and design [1, 2].

Materials and Method

Examining the challenges to using SIAD

Some of the terms frequently used to describe the integration of sustainability with IAD include Environmentally Sustainable Interior Design, Green Interior Design, Sustainable Interior Design, and Sustainable Interior Architectural Design. It is noteworthy to note that different nations have distinct professional designations for those working in this industry. For instance, in Australia, where the term "architect" is legally protected, the term "interior designer" is used instead. Similar to this, the title "interior designer" is referred to professionally in Malaysia as "IDr". However, "interior architect" is the more typical term used in Turkey. As a result, these phrases are frequently used in the same [3].

The literature that is currently available contains a variety of definitions for SIAD. SIAD is defined as an approach that deals with three main aspects: environmental impact, economic implications and consequences, as well as considerations with regards to the social system (such as the psychological and physical comfort of the users) in a more comprehensive definition that is in line with the triple bottom line. The qualities of the interior environment actually have a substantial impact on occupants' performance, behaviour, level of comfort, emotions, and overall physical and psychological well-being, according to the available research. To put it another way. In other words, SIAD provides experiences that go above and beyond the needs of occupants in terms of function and aesthetics, while also taking into

account the wellbeing of the inhabitants and the stakeholders involved [4-6].

Identifying and removing obstacles to the use of SIAD in Malaysia

By conducting a semi-structured interview with the experts during the first round of the EFDM, it was discovered that one barrier—"the lack of sustainability modules in the curriculum of interior architects/designers"—must be added to the list of barriers that had already been identified. [7, 8].

Conclusion

In the recent years, the building industry has devoted more attention to integrating sustainability. However, it appears that sustainability in the field of IAD has gone too long unnoticed. Implementing SIAD principles for interior renovations is crucial given that individuals spend the majority of their time indoors. [9, 10].

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Potential Conflict of Interest

The authors declare that they have no known competing financial

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interests or personal relationships that could have appeared to influence the work reported in this paper.

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