Design methods in the application of fractal geometry in the interior design of tourist buildings.

Iman Ibrahim Badr Sarkan
Associate Professor of Interior Design and Furniture, King Abdulaziz University

Abstract:
Fractal Geometry has been credited with the systematic description of natural systems consisting of Complex Systems with details that can only be comprehended by understanding the dynamics of the relationship between them in the larger system that contains them completely and by examining the entire kidney system then the nature of Patterns and Fractal Geometry can play a big role in developing new shapes that add to the interior design aesthetics. Where this research provides a brief description of the theory of fractal engineering and provide an illustrative review of some of the case studies of fractal engineering in interior design and architecture, and the link of fractal engineering to the product of Islamic heritage, nature and the environment, and application in the field of interior design of tourism facilities. The study problem is determined by a number of research questions, such as how fractal engineering can be used in the interior design of tourist facilities at the level of application and practice. And how it is possible to develop elements and vocabulary from Islamic heritage and decoration from the perspective of fractal engineering in contemporary interior design. The study aimed to study fractal engineering in order to arrive at a methodological view that can be activated at the level of application and practice in the field of interior design for tourism facilities and use them in developing the spatial and intuitive sense of three-dimensional composition and algorithmic and dynamic design for the interior designer as well as the use of practical applications of fractal engineering in the development of the design process and in confirmation And enhancing the value of Islamic heritage and decoration in interior design from the perspective of fractal geometry and algorithm.

Keywords:
Fractal Geometry
Algorithms
Dynamic Design
Euclidean geometry
Geometrical Patterns
Automation
Sustainability

Paper received 19th May 2017, accepted 16th June 2017, published 1st of July 2017