

Research Manuscript

Intelligent Modeling of Persian Vernacular Architecture Based on the Fuzzy Delphi Method (FDM)

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Abstract: By focusing on the fuzzy Delphi technique (FDM), the current research aims to introduce a novel approach to modeling Persian vernacular architecture. Fuzzy Delphi is a more advanced version of the Delphi Method, which utilizes triangulation statistics to determine the distance between the levels of consensus within the expert panel and deals with the measurement uncertainty of qualitative data. In this sense, the main objective of the Delphi method is to acquire the most reliable consensus of a group of expert opinions. This is an advantage for the present study when addressing the main question of the research, that is, determining the efficacy of the fuzzy Delphi technique in the intelligent modeling of Persian vernacular architecture. Therefore, in order to identify the main factors of the research model, systematic literature reviews as well as semi-structured interviews with experts were conducted. Then, with the usage of Qualitative Content Analysis (QCA), various themes were obtained and employed as the main factors of the research model. Finally, by utilizing the fuzzy Delphi technique, the present study examined the degree of certainty and accuracy of the factors in two stages and identified 28 factors in the modeling of Persian vernacular architecture.

Keywords: Intelligent modeling; Fuzzy Delphi; Vernacular architectural heritage; Sustainability awareness; Architectural education

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