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Design Strategy in Architectural Parametric Prospect

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ABSTRACT

During recent decades, under the remarkable scientific revolution and limitless technological leaps, computational systems have evolved into an essential factor of architectural design. It is where design knowledge and generative principles come together. There is a clear gap between traditional design principles, methods, and algorithmic modeling rules. To understand this gap, there is an identification of algorithms along with parametric studies that can encode ideas in the textual and visual languages of programming. This is a critical factor in forming parametricism methodology, which facilitates multidisciplinary interaction and simulates a wide range of design alternatives based on the design parameters. As well as, a required method for design exploration. The word "parametricism" refers to an epoch-defining, universal style of architecture that encompasses all design disciplines. Also, it serves as a crucial standard for future architectural design. This study describes criteria, methodology, and application procedures for measuring the effectiveness of parametric modeling and design ideation.

A literature review emphasized the key aspects and effects of the parametric procedure on the architectural output. It introduced an approach that helps use the key vocabulary of **"Integrating Parametric Modeling into the Architectural Design Process"**, which aids in exploring and evaluating the applicability of parametric design through five contemporary international projects. For achieving the objective of the study, a theoretical framework was re-evaluated that supports creative practice. This defines the various aspects of parametric modeling in architectural design and serves as a practical framework for a concurrent case study. The developed framework may provide an alternative approach in which parametric design will be applied to address the multilingual aspects of the design process and design thinking. The relevance of parametric design in space design exploration in contemporary architecture is theoretically covered in this study.

Also, it defines the aims of exploration, the roles of exploration in a design process, and the sequence of exploration activities in a design process. The workflow is as follows: determining the solution space; generating parametric solution sets; exploring design iterations; followed by a comprehensive revision of the parametric model, which then goes back to either generating design sets again or returning to exploring design iterations, and finally, choosing the optimal solution. The outcome will be a systematic framework for parametric design thinking. To improve the contemporary discourse of architecture by bringing existing tools into the design procedure in architectural design. The results indicated that parametric prospect determinants must be conformed to add new layers at any time without compromising the model and to keep the design process up to date with contemporary advances dominated by technological and qualitative cognition and shifting paradigms.