QUALITY MANAGEMENT IN RESIDENTIAL BUILDING CONSTRUCTION

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ABSTRACT

The real estate sector in India is a quickly expanding industry that is boosting the Indian economy through significant investment, employment, and revenue generation. The enactment of the Real Estate Regulatory Act is helping improve the performance of the residential building construction sector by instilling accountability and transparency in it. The industry is still in the process of becoming fully effective in safeguarding the homebuyer's interests. There exist many issues in the sector, especially pertaining to substandard construction quality. The associated repair and rework are consuming a lot of resources and creating distress for occupants, and they remain a barrier to achieving the Sustainable Development goals. There are not many studies in the area of the residential building sector in India that could comprehensively understand the existing problems in the sector. The research aims to present a roadmap to improve the quality of the construction and protect homebuyers.

The first objective focused on identifying the commonly occurring defects in newly constructed residential buildings. A comprehensive checklist was developed to assist in defect detection. By visual inspection of 110 homes, the defects were identified. Through structured interviews with experts, the reasons for the poor quality of construction in residential buildings were determined. Further, homeowner satisfaction surveys were conducted to assess the service quality provided by the builders and examine the defects from the homebuyer's perspective. The first two objectives gave an overview of the quality issues and the problems faced by the homebuyers, which necessitate the need for quality management in the industry.

A comprehensive quality assessment framework was developed to quantitatively evaluate the quality of construction of newly constructed multistoried residential buildings. It was developed by identifying the indicators and assigning weights through pairwise comparison by consulting 35 experts from the industry. The framework was validated by evaluating a multistoried building. Apart from quality issues, there are issues such as delayed delivery, misrepresentations, non-compliance with specifications, and false promises given by the builder during the purchase that persist in the sector. Hence, a benchmarking model was developed to assess the builder based on the performance of their past projects. Thus, the third and fourth objectives present actionable frameworks that the authorities can implement to enhance the quality of construction and the performance of the builders.

The final objective explored the policies and regulations implemented in developed countries for quality management in the residential sector and to protect the homebuyers. By conducting a questionnaire survey with experts from regulatory bodies, developers' organisations and homebuyers, strategies that can be implemented in the Indian scenario were determined. A factor analysis was done to group the strategies into broader factors.

The research thus substantiated the problems existing in the sector by determining defects and conducting a homeowner survey. Quality management techniques, such as a quality assessment framework and a model to benchmark builder performance, were then proposed. Finally, the study concluded by proposing strategies and reforms that may be adopted in the Indian scenario to enhance quality in the construction sector and safeguard homebuyers from prevalent issues.

Keywords: Quality management, defect, client satisfaction, assessment framework, benchmarking, improvement strategies.