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Prioritization Assessment of Housing Development Risk Factors: A Fuzzy Hierarchical Process-Based Approach

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Abstract : The construction industry and housing subsector are fraught with risks that have the potential of negatively impacting on the achievement of project objectives. The success or otherwise of most construction projects depends to large extent on how well these risks have been managed. The recent paradigm shift by the subsector to use of formal risk management approach in contrast to hitherto developed rules of thumb means that risks must not only be identified but also properly assessed and responded to in a systematic manner. The study focused on identifying risks associated with housing development projects and prioritisation assessment of the identified risks in order to provide basis for informed decision. The study used a three-step identification framework: review of literature for similar projects, expert consultation and questionnaire based survey to identify potential risk factors. Delphi survey method was employed in carrying out the relative prioritization assessment of the risks factors using computer-based Analytical Hierarchical Process (AHP) software. The results show that 19 out of the 50 risks significantly impact on housing development projects. The study concludes that although significant numbers of risk factors have been identified as having relevance and impacting to housing construction projects, economic risk group and, in particular, ‘changes in demand for houses’ is prioritised by most developers as posing a threat to the achievement of their housing development objectives. Unless these risks are carefully managed, their effects will continue to impede success in these projects. The study recommends the adoption and use of the combination of multi-technique identification framework and AHP prioritization assessment methodology as a suitable model for the assessment of risks in housing development projects.

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