

Title: Green Building Technology Implementation in Malaysian Construction Projects: Barriers and Strategies

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Abstract: Green Building (GB) is a crucial building practice that minimizes environmental impact and promotes environmental benefits. Green Building Technologies (GBT) are essential for achieving comprehensive sustainability in the construction industry. Understanding the fundamental factors that influence the development and incorporation of GBT is crucial for maximizing its widespread use and effectiveness. Here, this study aims to analyze the barriers and strategies that affect GBT implementation in construction projects, using Malaysia as a case study. To achieve that aim, the study objectives: identify the critical barriers affecting GBT implementation, identify the key strategies for enhancing GBT implementation, and compare critical barriers and key strategies among construction organization types. A list of barriers and strategies associated with GBT implementation in construction projects was identified from a literature review. A questionnaire survey was then used to gather data from professionals in the construction industry. The data collected was subjected to thorough analysis using normalized mean analysis, Kruskal–Wallis H test, and overlap analysis. The study identified 4 critical barriers and 4 key strategies. Out of those, 2 critical barriers, “lack of availability of demonstration projects” and “unfamiliarity with GBT,” and 1 key strategy, “educational programs for developers, contractors, and policymakers related to GBT,” overlapped among the different organization types. The research findings provide valuable insights for researchers, practitioners, and decision-makers to enhance the adoption of GBT in the Malaysian construction industry.

Keywords: Green building, Green building technologies, Construction project, Building Materials, Construction Management

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