A Model for Analyzing the Proportion of One-Bedroom Units in Bangkok and the Metropolitan Area Using Gradient Boosted Tree Technique

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ABSTRACT

In the current situation where the real estate business is rapidly growing due to population expansion, which leads to an increased demand for housing (Grisdale & Walks, 2022), one of the popular businesses among developers is the residential condominium sector (Pawanacharurn et al., 2021). It has been observed that competition among operators in project development has continuously increased. A review of the literature reveals that one of the significant factors in project development is the proportion of condominium units within a building. It was found that the proportion of one-bedroom units is the most popular choice for residential purposes (Melesse, 2020) to be sold to residents within the project. This is because these units are relatively more affordable compared to other types with more rooms, higher prices, and greater difficulty in achieving sales. Therefore, the issue of study in this research focuses on identifying the factors that affect the optimal space for condominium projects with the highest proportion of one-bedroom units. The study applies Gradient Boosted Tree technique, as it has been found to be effective in analyzing complex factors in the real estate sector, particularly residential properties (Jun, 2021). However, it was observed that these techniques have rarely been applied to forecasting unit proportions in condominium projects. This gap has led to the development of a tool for analyzing the key issues in this research.

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