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Real Estate Investment and Analytical Model in Southeast Asian countries: Cambodia, Myanmar and Vietnam 東南亞國家房地產投資分析模型: 柬埔寨、緬甸和越南

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by

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Abstract

Major financial institutions and funds use real estate as their investment vehicle. Real estate investment was increased to US\$45.3 trillion in 2020. It is a multi-billion dollar decision. The traditional models such as financial model and cash flow model serve well in developed countries where economic growth, financial costs, and political risks are transparent. However, the lack of data in emerging countries in Southeast Asia needs a different decision model. In actual practice, most of the investment decisions were made by top management. They relied on intuitive judgement from experience. The researcher believes that there is a strong need for an analytical decision model for the developing Southeast Asian countries real estate investment which involves multi-billion dollar decision.

Multi-criteria decision-making (MCDM) presents a family of decisionmaking methods for the real estate investment in emerging countries. 25 criteria from literature review were filtered down to 15 criteria for the decision model. In modelling, the researcher experienced difficulties in using a single model to simulate the country factors and project factors together. Hence a novel two tiers decision model was proposed. The first tier model is for country selection. The second tier model is for project selection. Using model 1 for country selection and model 2 for project selection, a synthesis of country-project ranking is obtained. Using two separate models have the benefits of separating the regional-country factors from the project factors.

A decision model was built using SAW method. The relative weight vector multiples the value of each of the criteria (current value) to obtain the alternative ranking. Current value can be obtained objectively from reliable sources and reputable organizations from internet. This also reduced the works of the experts in making assessment in pairwise decision matrix. Research data was collected by two surveys and questionnaires. It is established in the base case that country ranking is Vietnam, Cambodia and Myanmar from high to low. This research also confirmed Triantaphyllou & Sánchez (1997) study that when the number of criteria exceeds 10, the sensitivity of change in alternatives reduces significantly, and it could be applied to real estate investment.

Four sensitivity cases were created for analysis. From Sensitivity Analysis 3, it confirms that intuitive decision making used in the industry is still a reliable method provided that the decision maker has vast experience in the field and can select the relevant and important criteria. In Sensitivity Analysis 4, when the relative weight of each criterion was increased in the model from low to high order, reverse of country ranking occurs both in country top (CT) and country anywhere (CA). This is because inexperienced managers might use less important criteria for country selection which led to decision with country ranking reversal. For project selection, changes in project criteria relative weight did not produce any reverse in project rankings. This is consistent with the country criteria sensitivity analysis 3. This also proved that the decision model is robust.

In case study, three projects with high, medium and low financial returns were applied to Cambodia, Myanmar and Vietnam, that is, a total of 9 project combination. The investment decisions were then compared with the results from the decision matrix. Three important findings were that Vietnam was selected as the most preferred country, Cambodia as the next preferred country and Myanmar as the least preferred country. These findings confirmed that the decision model was consistent with the experts' decision. This is an important result which indicated that the decision model can be used to assist investment decision. The fourth finding was that investors tend to tradeoff perceived country risk with financial return. This was confirmed and quantified by the two "what if" scenarios in case study. With higher perceived country risk, a higher financial return is required.

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Finally, application procedures and an implementation example were provided on how to use this research method. The significant contribution of this research is that a qualitative and yet quantifiable model was proposed. The criteria identified also proved to be relevant and important for the decision-making process. The decision model was proved to be robust and consistent with experts' preference. This model would assist in the decision making on real estate investment and would impact on the working practice in the real estate investment industry.

Keywords: Real Estate Investment, Southeast Asia, Cambodia, Myanmar & Vietnam, Multiple Criteria Decision Making (MCDM), Simple Additive Weighting (SAW), Analytic Hierarchy Process (AHP), Sensitivity Analysis