

Airport Investment Risk Assessment under Uncertainty

Authors : Elena M. Capitanul, Carlos A. Nunes Cosenza, Walid El Moudani, Felix Mora Camino

Abstract : The construction of a new airport or the extension of an existing one requires massive investments and many times public private partnerships were considered in order to make feasible such projects. One characteristic of these projects is uncertainty with respect to financial and environmental impacts on the medium to long term. Another one is the multistage nature of these types of projects. While many airport development projects have been a success, some others have turned into a nightmare for their promoters. This communication puts forward a new approach for airport investment risk assessment. The approach takes explicitly into account the degree of uncertainty in activity levels prediction and proposes milestones for the different stages of the project for minimizing risk. Uncertainty is represented through fuzzy dual theory and risk management is performed using dynamic programming. An illustration of the proposed approach is provided.

Keywords : airports, fuzzy logic, risk, uncertainty

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