

## Mergers and Acquisitions Synergies Using Monte Carlo Simulation and Real Option Approach

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### Abstract

The purpose of this article is to model a synergistic valuation of integration and acquisition using Monte Carlo simulation and real option approach. Today, global competition has increased so much that relying on the firm's internal performance and strengths alone does not sustain and grow companies. With group synergy, they stand up against the threats of a competitive environment. In this paper, after describing the real discretion analysis method and its variants, we introduce the problem of stochastic optimization and Monte Carlo simulation in the period of 2009-2019. In this study, Monte Carlo simulation method is used to solve the problem numerically. The results of the estimation of the research model indicate that integration is a kind of growth in the activities and activities of the company that makes the activities of the company more diversified, including the strategies of companies to increase their competitive position and It is considered an important and strategic decision in financial management. The results indicated that both increased costs and revenue led to an increase in NPV of total synergies. The results also showed that the synergy of growth and improvement in corporate taxation led to an improvement in the synergy of borrowing, which increased the net present value of total synergy.

**Keywords:** Merger; Acquisition; Synergistic; Uncertainty; Real option; Monte Carlo Simulation.

**JEL Classification:** O55, N44, C33, T22.

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