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Applying Information Technology to Financial Statement Analysis for Market Capitalization Prediction

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Author(s)

Hayden Wimmer, Roy Rada

ABSTRACT

Determining which attributes may be employed for predicting the market capitalization of a business firm is a challenging task which may benefit from research intersecting principles of accounting and finance with information technology. In our approach, information technology in the form of decision trees and genetic algorithms is applied to fundamental financial statement data in order to support the decision making process for predicting the direction of the value of a company with value defined as the market capitalization. The decision process differs from year to year; however, the amount of variation is crucial to a successful decision making process. The research question posed is " how much variation occurs between years?" We hypothesize the amount of variation is smaller than half the number of financial statement attributes that may be employed in the decision making process. We develop a system which tests the amount of variation between years measured as the amount of generations required to reach a target level of fitness. The hypothesis is tested using data filtered from Compustat' s global database. The results support the research hypothesis and advance us toward answering the research question. The implications of this research are the possibility to improve the decision process when employing financial statement analysis as applied to the market capitalization and financial valuation of business firms.

KEYWORDS

Fundamental Analysis; Market Capitalization; Accounting Information Systems

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