

Predicting Bankruptcy: Ask the Employees

John Knopf, Professor Emeritus
University of Connecticut

Kristina Lalova, Fixed-Term Assistant Professor
Michigan State University

ABSTRACT

The purpose of the paper is to show how employees' attitudes predict bankruptcy throughout various years (phases) of the bankruptcy process – from two and three years before (1), one year before (2), and from the time of filing to the time of liquidation/reorganization (3). We find that our prediction model, inclusive of employees' attitudes, more accurately predicts bankruptcy two to three years before bankruptcy filings, while the other models are more accurate in the year prior to the bankruptcy. While already-established models' predictive power increases the closer we get to bankruptcy filings, our model's predictive power, compared to other models, is higher the further we move from bankruptcy filings. Moreover, the addition of employee satisfaction into already-established models improves their predictive performance. We create a machine learning model consisting of reviews and ratings separately and together in the same model and show that textual reviews provide additional predictive power for bankruptcy filings on top of rating and financial information. In survival analyses, we show that employee satisfaction (both in terms of aggregated and individual rating categories) one, two, and three years before bankruptcy filings is a strong predictor whether a company would emerge from bankruptcy successfully. Our paper is the first paper to show that not only is employee satisfaction a predictor of bankruptcy in addition to financial and market data, but that it also is a more powerful predictor of bankruptcy emergence than financial and market data.