

## **Financial Distress Prediction: The Influence of the Text of a Business Plan**

### **Abstract:**

Financial distress prediction is critical for banks, regulators, and stock market investors. Although attention has been paid to combining textual data when predicting companies' distress, the use of a company's business plans developed by its management team and whether the text of business plans influences the prediction have not been adequately discussed. This study constructs a financial distress prediction model by incorporating non-text variables together with sentiment word variables, such as 'overdue', 'violation', and 'accident' extracted from the text of business plans of listed companies' annual reports. Moreover, we propose a modified assignment method of tone variables according to the sentiment words' influence on distress prediction, which directly links the tone variables with the distress status. The empirical study shows that, among the top ten variables in terms of importance, three are sentiment word variables, namely, 'accident', 'leading', and 'violation', and two are tone variables, namely, 'positive tone variable POS' and 'negative tone variable NEG'. With sentiment word and redefined tone variables, the prediction performance in terms of AUC increases by 13.1%, 15.9%, 13.7%, 14.6%, 15.1%, and 19.0% for the prediction windows of 0, 1, 2, 3, 4, and 5 years, respectively.