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# Notice for the PhD Viva Voce Examination

Ms Alay P, Registration Number: 2070008, PhD Scholar at the Department of Commerce, School of Commerce, Finance and Accountancy, CHRIST (Deemed to be University) will defend her PhD thesis at the public viva-voce examination on Wednesday, 08 April 2026 at 10.30 am in Room No. 05, Ground Floor, R&D Block, CHRIST (Deemed to be University), Bengaluru - 560029, Karnataka, India.

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| **Title of the Thesis** | : | **Financial Distress Prediction in Indian Companies Using Machine Learning Models** |
| **Discipline** | : | **Commerce** |
| **External Examiner - I** | : | **Dr R Sarvamangala**<br>Professor and Dean<br>Department of Commerce<br>Jnanabharathi Campus<br>Bangalore University<br>Bengaluru – 560056<br>Karnataka |
| **External Examiner - II** | : | **Dr T V Raman**<br>Professor<br>Birla Institute of Management Technology (BIMTECH)<br>Greater Noida – 201306<br>Uttar Pradesh |
| **Supervisor** | : | **Dr Natchimuthu N**<br>Associate Professor<br>Department of Commerce<br>School of Commerce, Finance and Accountancy<br>CHRIST (Deemed to be University)<br>Bengaluru - 560029<br>Karnataka |

The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva–voce examination.

**Registrar (Academics)**

**Place:** Bengaluru
**Date:** 30 March 2026

# ABSTRACT

Financial distress (FD) remains a major concern for firms, shareholders, investors, regulators and the whole economy. If not addressed on time, FD can escalate into bankruptcy. Therefore, this study aims to predict FD among Indian firms in the post-Insolvency and Bankruptcy Code 2016 using machine learning (ML) models. A balanced sample of distressed firms and non-distressed firms was analysed over a five-year period preceding distress (Y-1 to Y-5), enabling the study to capture the gradual deterioration of financial and non-financial conditions over time. Multiple ML models are utilised for the prediction as there is no commonly accepted best model in the FD literature, and they are compared with the traditional benchmark model, logistic regression. The results indicate that ML models outperformed the traditional model, with the deep learning model demonstrating superior stability over a longer time frame for prediction. The feature importance results show that the key drivers of FD, including leverage, liquidity efficiency, profitability and capital productivity, continue to be significant predictors over the entire period and therefore confirm the cumulative nature of FD. However, while the model's predictive performance decreases as the horizon increases, it still provides early warning of companies likely to experience FD five years prior to distress. In order to take the classification beyond the simple binary classification, the study developed a financial distress severity index (FDSI). The FDSI was developed based on an ordinal framework for capturing both the degree and the progression of distress. The FDSI demonstrated excellent discriminatory ability, with most classification errors occurring between adjacent severity levels, indicating reliable severity ordering rather than extreme misclassification. Overall, the study provides a comprehensive, multi-horizon framework for FD prediction that integrates advanced analytics with severity-based risk assessment, offering practical relevance for early warning systems and financial risk monitoring in emerging market settings.



***Keywords:*** *Financial Distress Prediction, Machine Learning, Deep Learning, Early Warning Systems, Insolvency and Bankruptcy Code, India.*


**Publications:**


1. **Peralungal, A.**, & Natchimuthu, N. (2024). Machine Learning in Financial Distress: A Scoping Review. International Research Journal of Multidisciplinary Scope, 05(03), 457–474. https://doi.org/10.47857/irjms.2024.v05i03.0779
2. **Peralungal, A.**, & Natchimuthu, N. (2025). Predicting Financial Distress in India: A Deep Learning Approach. In A. Verma, J. Zhang, & A. Chandra Pandey (Eds.), Business Intelligence and Data Analytics. BIDA 2024.Smart Innovation, Systems and Technologies (Vol. 413, pp. 587–603). Springer, Singapore. https://doi.org/10.1007/978-981-97-7717-4_42