From Transcripts to Insights:

Uncovering Corporate Risks Using Generative AI

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1) What are the research questions (summarize in one or two sentences)?

The primary research question is: How can generative AI tools like GPT-3.5 help investors uncover and assess corporate risks related to political, climate, and AI influences from earnings call transcripts?

2) Why are the research questions interesting?

These questions are interesting because they address the emerging challenge of managing and interpreting vast amounts of textual data in corporate disclosures. Given the increasing relevance of AI in automating complex tasks, understanding its role in risk identification can greatly impact investment strategies and corporate governance.

3) What is the paper's contribution? (1. Find the literature; 2. Summarize the literature; 3. Summarize the marginal contributions to the literature)

A.Literature: This study builds upon existing research on risk assessment through corporate disclosures, particularly those utilizing textual analysis methods. For instance, ***Hassan et al. (2019)*** used bigram methods for measuring political risk, which forms a baseline for comparing the effectiveness of new AI-driven methods introduced in this paper.

B.Summarize Literature: Previous studies, such as those by ***Chava et al. (2022) and Sautner et al. (2023)***, primarily employed dictionary-based techniques to quantify risks, which often overlook the complexities and dynamism of context within textual data.

C.Marginal Contributions: Compared to existing approaches, this study highlights the advantages of using generative AI, specifically the OpenAI GPT-3.5 Turbo model, in integrating large datasets and providing nuanced, context-aware risk assessments. Furthermore, studies like ***Bernard et al. (2023) and Lopez-Lira and Tang (2023)*** have explored the potential of AI tools in interpreting complex texts and generating insights. This research further validates the practical application and effectiveness of these tools in corporate risk assessment, showing substantial improvements over traditional methods.

4) What hypotheses are tested in the paper? list them explicitly.

H1:AI-generated risk assessments from corporate transcripts provide more predictive power regarding firm volatility than traditional methods.

H2:AI tools can effectively detect and summarize emerging risks, such as those related to AI technologies themselves.

a) Do these hypotheses follow from and answer the research questions?

Yes, these hypotheses directly answer the primary research question by testing the effectiveness of AI in risk assessment tasks.

b) Do these hypotheses follow from theory or are they otherwise adequately developed ? Please explain the logic of the hypotheses (use

visualization if possible)

These hypotheses are developed based on the theoretical framework that generative AI, with its vast training on diverse datasets, should be able to synthesize complex information more effectively than simpler, dictionary-based methods.

5) Sample: comment on the appropriateness of the sample selection procedures.

The sample includes earnings call transcripts from U.S. firms over several years, providing a robust dataset for analyzing corporate communication.

6) Dependent and independent variables: comment on the appropriateness of variable definition and measurement (focus on the key dependent variables and independent variables).

Dependent Variables:Firm-level volatility and strategic decision-making (investment and innovation).

Independent Variables: AI-generated risk exposure measures, including political, climate, and AI-related risks.

The definitions and measurements are appropriately chosen to reflect the constructs they intend to measure.

7) Regression/prediction model specification: comment on the appropriateness of the regression/prediction model specification.

Regression models are used to compare the predictive capabilities of AI-generated risk measures against traditional methods. The specification is appropriate for addressing the hypotheses and utilizes state-of-the-art AI analysis techniques.

8) What difficulties arise in drawing inferences from the empirical work?

One difficulty is the potential bias introduced by AI models' training data, which may influence their ability to generalize to new, unseen datasets. The "out-of-sample" testing partially addresses this concern.

9) Describe at least one publishable and feasible extension of this research.

A publishable extension could explore the integration of AI tools with real-time data feeds to assess risks continuously. This could involve developing AI systems that dynamically update their risk assessments based on new financial disclosures and market data.