

Words as Value: The Market Premium Behind AI Disclosure

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Background

- Since the surge of generative chatbots in 2022, AI technology has extended beyond public life and into the world of business, reshaping how companies operate, innovate, and compete.
- According to Stanford HAI's 2025 AI Index, 78% of organizations reported broad AI implementation in 2024, reflecting the tool's rapid and near-universal adoption.
- As AI integration deepens, corporate communication and external news coverage act as the bridge between internal AI activity and shareholders, global markets, and the broader financial industry.
- While a substantial body of research examines the operational benefits of AI adoption within a firm, this study instead turns to public perception, examining its response to AI signaling through market performance.

Research Questions

- How does AI usage in media coverage and corporate communication influence firm market performance?
- How does AI usage in media coverage and corporate communication influence firm market performance for different industry sectors?
- How does AI usage in media coverage and corporate communication influence firm market performance for varying company sizes?

Hypotheses

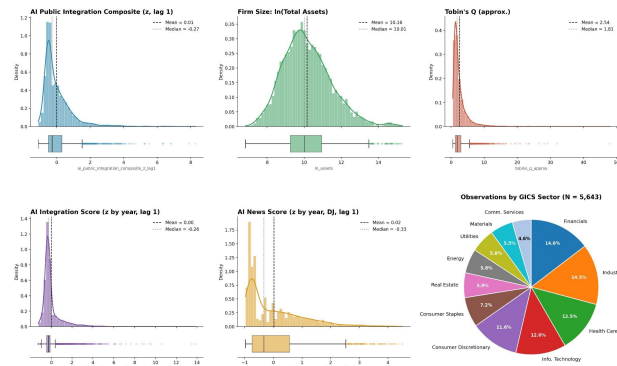
- H1:** Dual AI signaling (corporate communication + media coverage) is positively associated with a firm's market performance.
- H2:** The positive effect of AI signaling on market performance is the strongest in the Finance sector.
- H3:** The positive effect of AI signaling on market performance is most pronounced for firms of greater size.

Methods

- Dataset compiled from Wharton Research Data Services (WRDS)
 - Python code extracted AI language and calculated z-scores from 10-K reports (SEC EDGAR database) and news sources (RavenPack analytics database)
- Key variables: AI Composite Scores, Lag 1 Yr (X), Tobin's Q (Y), Sector & Company Size (total assets) (M), Years (C)
- PSPP software to provide insights through descriptive statistics, correlations, and regression models

Descriptive Statistics

Variable	Source	Mean	SD	Min	Max
AI Composite Score (Lagged 1 Year)	SEC EDGAR, RavenPack News Analytics	0.01	0.84	-1.098	8.276
10-K Report AI Intensity Score	SEC EDGAR Database	0.00	1.01	-1.244	13.83
AI News Score	RavenPack News Analytics	0.02	1.01	-0.974	4.51
Tobin's Q Approx.	WRDS	2.54	2.32	0.5042	47.92
Total Assets (log adjusted)	WRDS	10.16	1.20	6.834	15.30
GICS Sector	S&P 500 Constituent List	N/A	N/A	N/A	N/A



Regression Model

DV: Tobin's Q Approximation IVs: AI Comp, AI 10-K, and AI News Scores (all lagged 1 yr)

Controls: Year, Sector Fixed Effects, Revenue Growth, R&D Intensity, Leverage, Total News Count (log)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
AI Comp Score (1 yr lag)	0.62***	-1.97***	-0.30	-0.22	AI 10-K Score: 0.35***
Total Assets (log)	-0.77***	-0.78***	-0.79***	-0.78***	AI News Score: 0.25***
AI CS × Assets			0.09***	0.02	
AI CS × Cons. Disc.		1.17***		1.15***	
AI CS × Comm. Serv.		0.85***		0.80**	
AI CS × Financials		0.79***		0.76***	
N	4837	4837	4837	4837	4827
R ²	0.34	0.35	0.34	0.35	0.34

*p<0.1, **p<0.05, ***p<0.01 CS = Composite Score
Cons. Disc. = Consumer Discretionary Comm. Serv. = Communication Services

Results & Findings

- H1:** AI Comp Score → Tobin's Q: $\beta = 0.62***$, $p = .000$ — **H1 supported**
- H2:** AI Comp Score × GICS Sector: Consumer Discretionary $\beta = 1.17***$, Communication Services 0.85***, Financials 0.79***, $p = .000$ (all) — **H2 not supported**
- H3:** AI Comp Score × Total Assets: $\beta = 0.09***$, $p = .000$ — **H3 supported**
- Additional:** AI 10-K Score → Tobin's Q: $\beta = 0.35***$; AI News Score → Tobin's Q: $\beta = 0.25***$; $p = .000$ (both)

Conclusion

- Overall, greater communication on AI usage is significantly associated with better market performance and investor perception. Yet, AI communication implies different outcomes for companies of different shapes and sizes.
- The effect of dual AI signaling on Tobin's Q is strongest for the **Consumer Discretionary, Communication Services, and Financials** sectors. While the first two sectors are not traditionally expected to benefit most, consumer-facing AI products like Netflix's feeds or Amazon's recommendation are visible throughout daily life. While not the strongest, Financials still remains in the upper threshold.
- Total assets significantly moderate the relationship between AI communication and market performance; greater number of assets is positively associated with market performance. One plausible explanation is that investors believe companies with more assets actually have the capabilities to act on their signaling.
- AI communication through news forums is less effective than 10-K reports ($\beta = 0.25$ vs. 0.35). Serious investors and financial firms examine 10-K reports closely and tend to trust them more than third-party news, which can be skewed or biased.
- Limitation: while this data offers a comprehensive view of American companies (S&P 500), business environments differ across countries and AI usage is still concentrated in a handful of nations
- Limitation: this study does not distinguish between companies that develop and sell AI and those that simply use it; separating these groups could offer further insight

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