

Automation Anxiety and AI Narratives Across News, Reddit, and Twitter (2017-2025)

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Introduction

AI is rapidly reshaping industries worldwide, promising efficiency but also fueling widespread anxiety about job loss and economic insecurity.



Context

Rapid AI adoption across industries.



Signal

Public conversations show persistent fear about job security.



Focus

Text mining social media to map themes and sentiment.

Problem

1

Problem 1

Public anxiety about job displacement dominates discourse

2

Problem 2

Influences inequality, education, and policy debates

3

Problem 3

Lack of understanding risks underestimating social impact of automation



Apply text mining to online discourse



Identify themes and sentiment patterns in automation anxiety



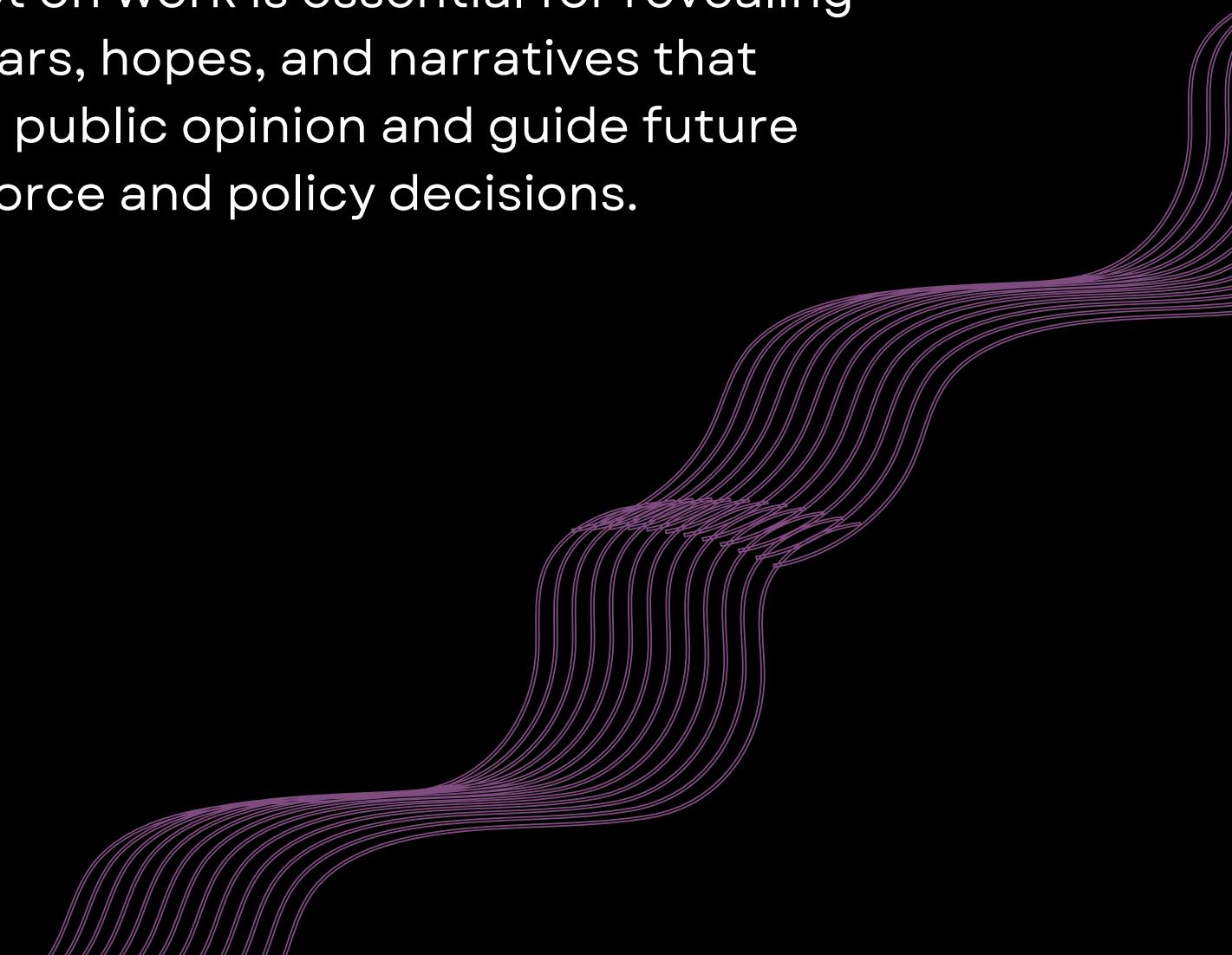
Explore narratives of “AI as opportunity” vs. “AI as threat”



Reveal how platforms differ in amplifying fear vs optimism

Purpose

Understanding how people frame AI's impact on work is essential for revealing the fears, hopes, and narratives that shape public opinion and guide future workforce and policy decisions.



Literature Review

Frey & Osborn (2017)

Estimated 47% of U.S. jobs at risk of automation

Sparked global debate on future of employment

Pew Research (2017):

Found widespread public worry about automation's impact

Majority expect greater inequality and fewer secure jobs

WEF (2023)

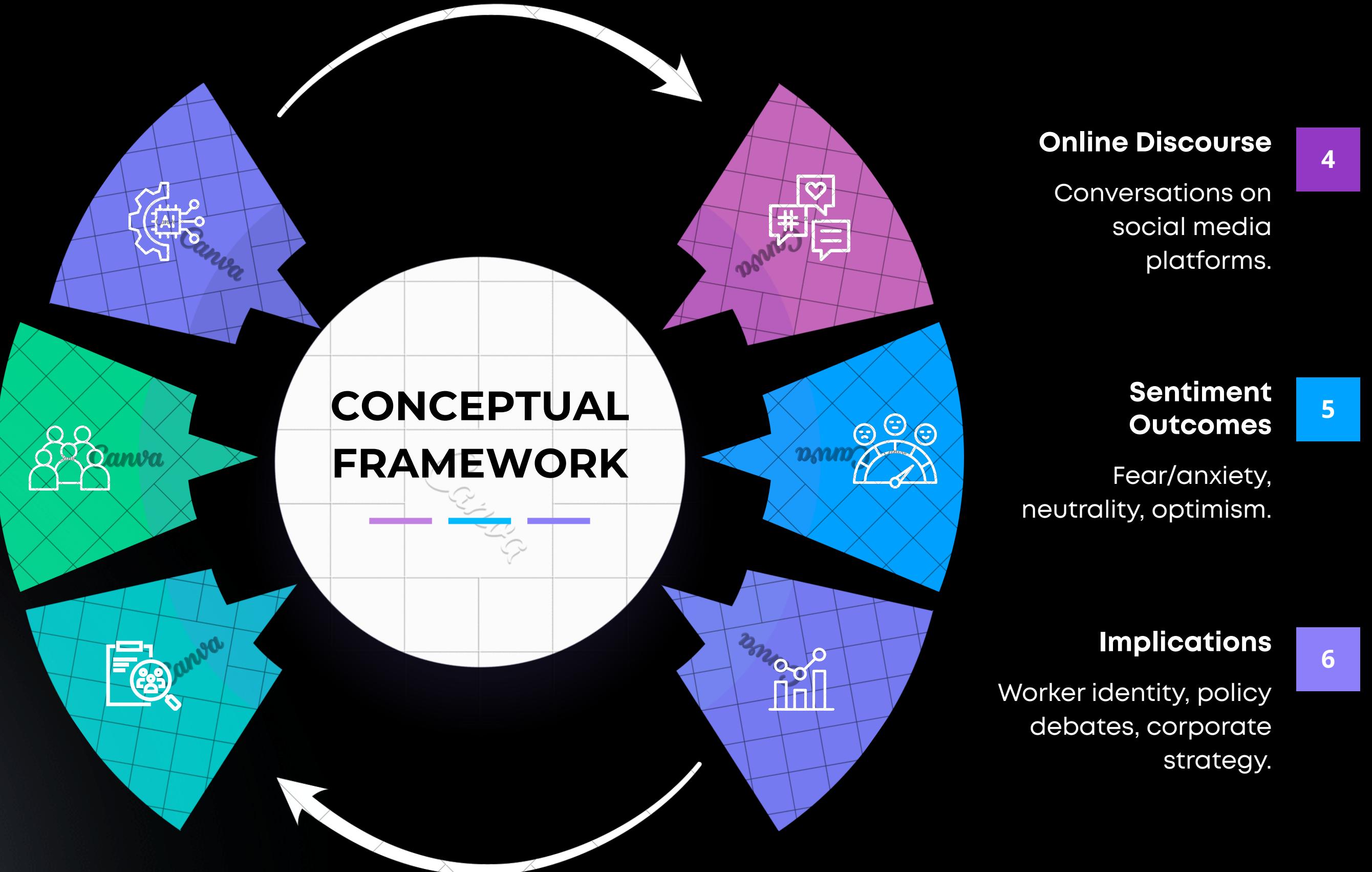
Projects 83M jobs lost but 69M created by 2027

Highlights workforce “churn” and reskilling urgency

Włoch, Słedziewska, & Roźynek (2024)

Examined demographic differences in fear of automation

Younger, less-educated workers express higher anxiety



1

AI Development & Automation

Technological advances driving change in work.

2

Public Perception (Job Risk)

Workers express anxiety about losing jobs.

3

Themes

Job loss, reskilling, inequality, insecurity.

4

Online Discourse

Conversations on social media platforms.

5

Sentiment Outcomes

Fear/anxiety, neutrality, optimism.

6

Implications

Worker identity, policy debates, corporate strategy.

Research Questions

1

What are the dominant themes in online discourse?

2

How is sentiment distributed across platforms?

3

Does tone (fear vs optimism) differ by platform?

4

How do 'AI as opportunity' and 'AI as threat' coexist?

Dataset & Methodology

Automation Anxiety Multiplatform Corpus (AAMC)

- 1 **Text cleaning & normalization**
- 2 **Sentiment analysis (VADER)**
- 3 **Topic modeling (LDA)**
- 4 **Tone classification (fear vs optimism)**
- 5 **Statistical testing - Chi Square (χ^2)**



Twitter / X

(2017-2021): 893,076 posts



Reddit

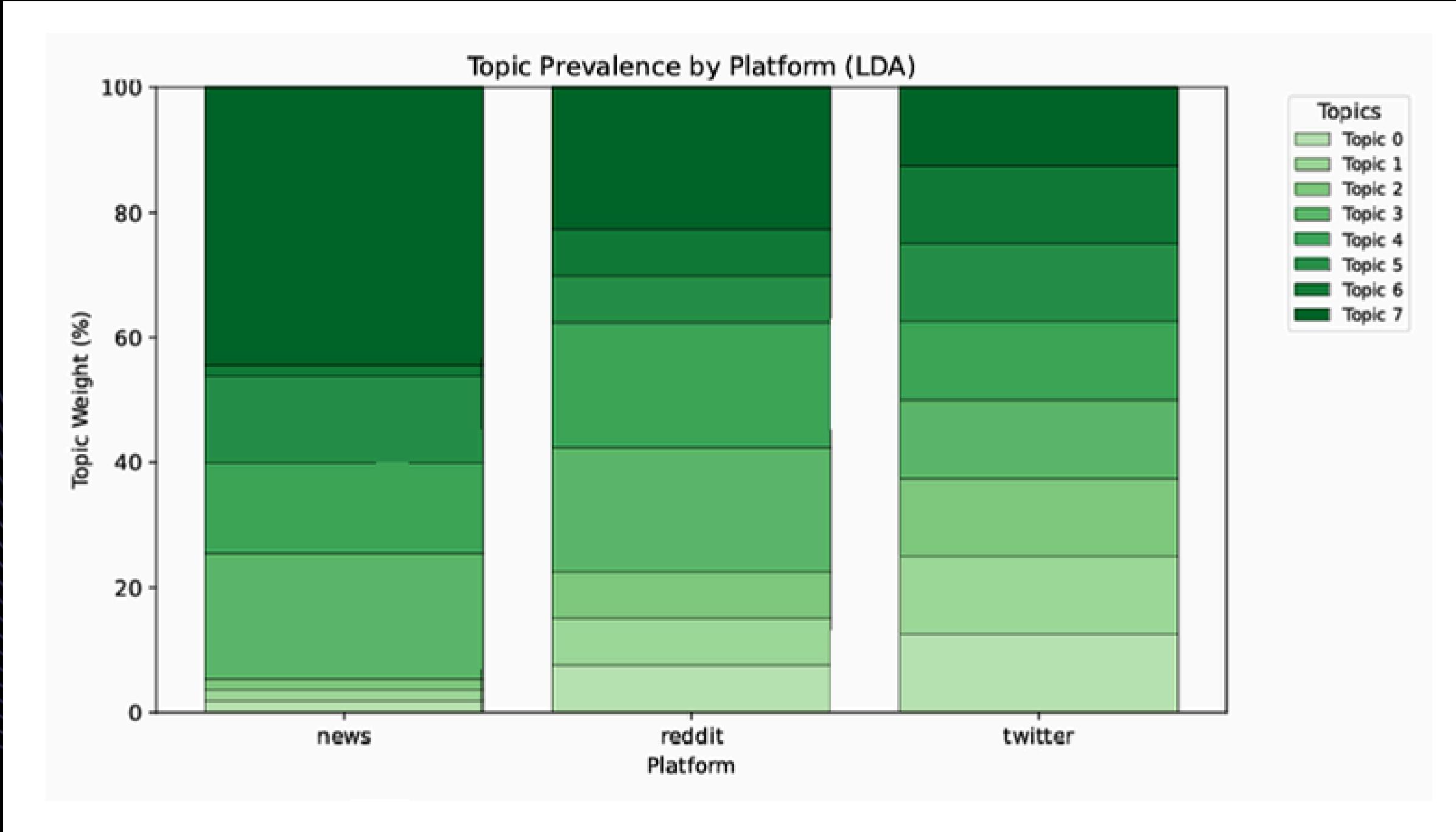
(2023-2024): 885 comments



News

News (2023-2025): 1,000 articles

Findings - Theme (LDA Topic Modeling)



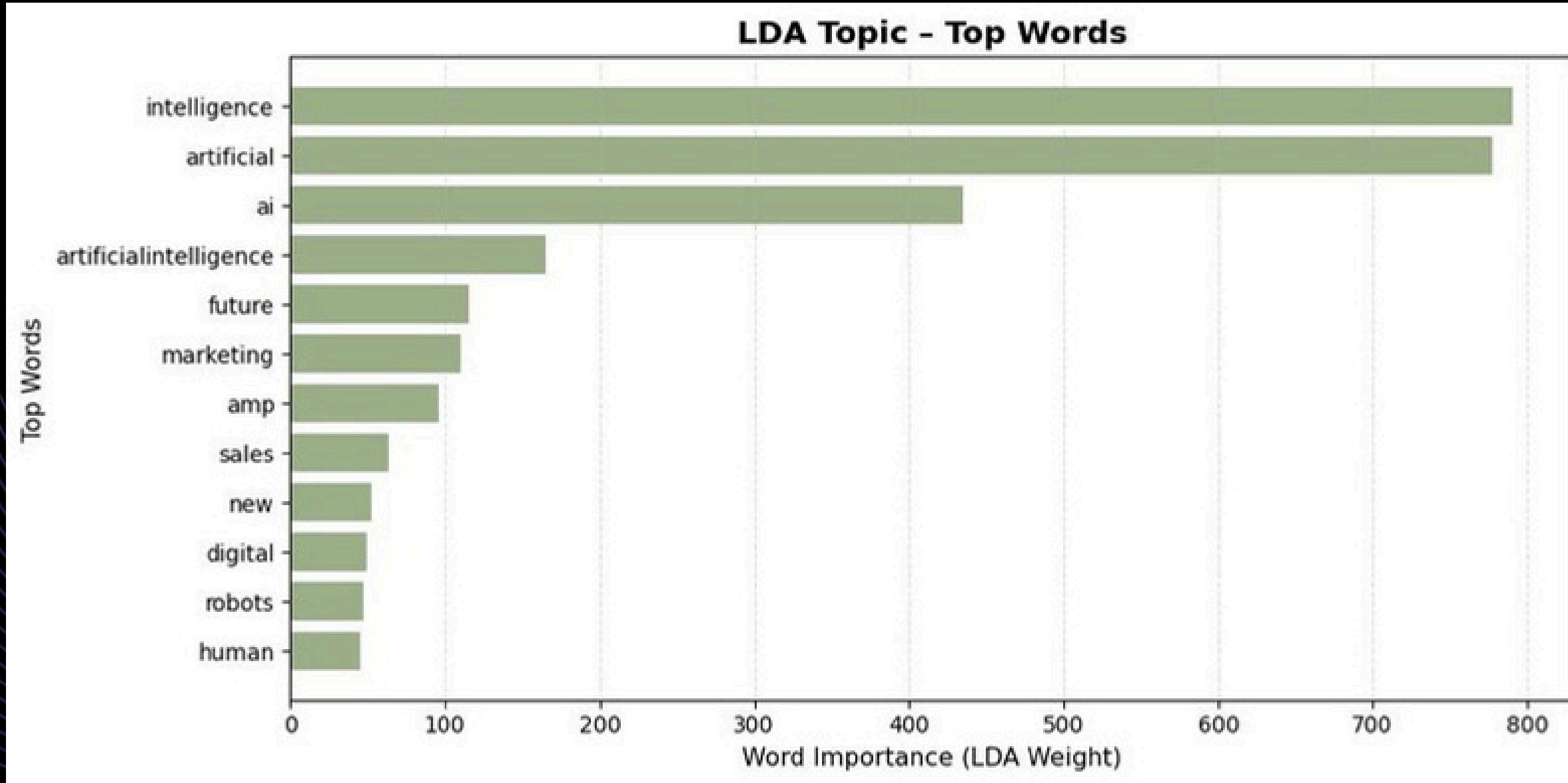
What it shows:

- Topic weights differ across News, Reddit, and Twitter.
- News → policy & innovation
- Reddit → risk & inequality
- Twitter → future & opportunity

Why it matters:

- Platforms emphasize different AI-jobs themes.
- Supports RQ1: themes vary by platform norms.

Findings - Theme (LDA Topic Modeling)



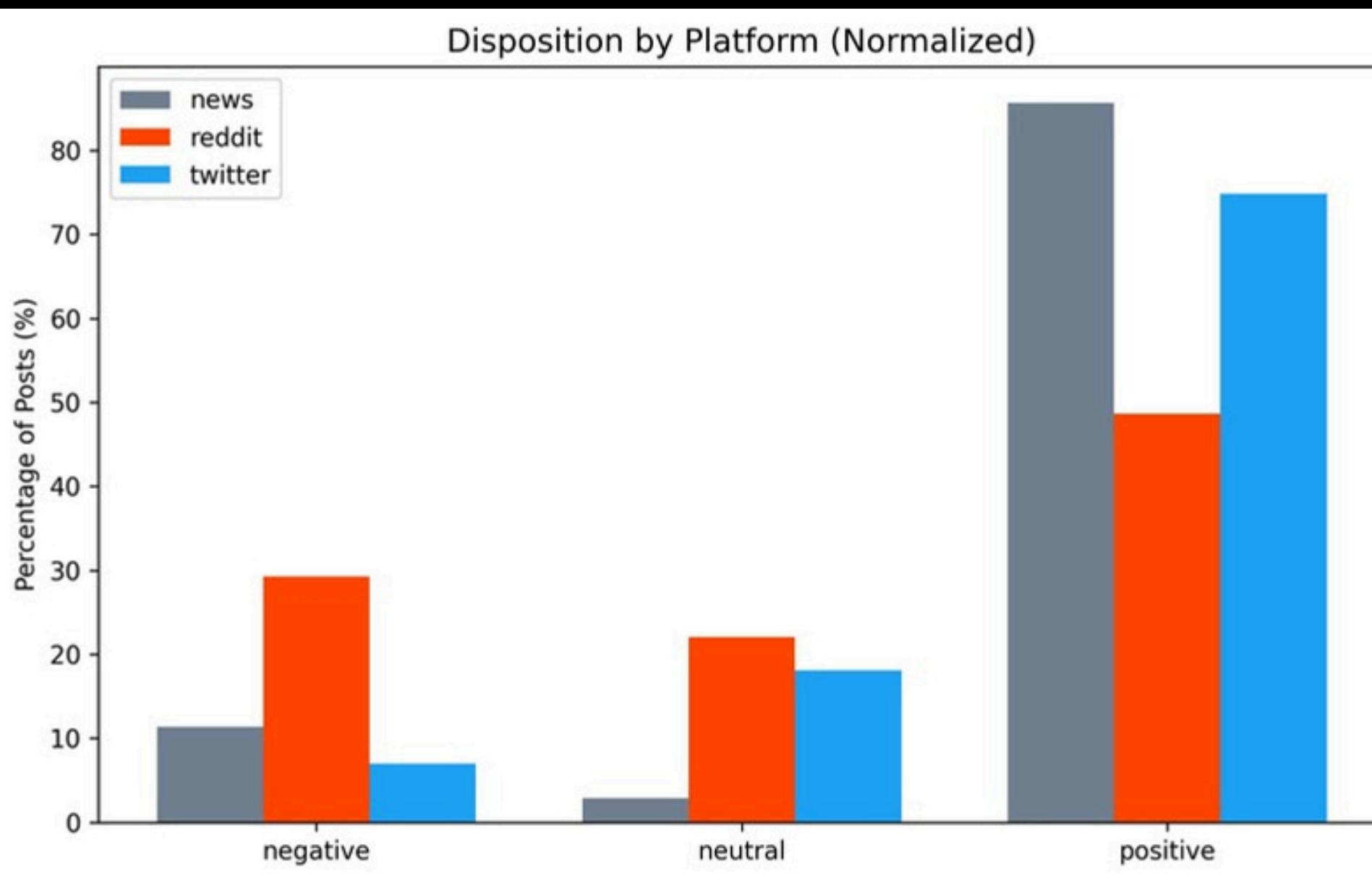
Key Themes

- 1 **AI Innovation & Intelligence** – Focus on “artificial,” “intelligence,” and “AI.”
- 2 **Future of Work & Automation** – Links between “future,” “robots,” and “human.”
- 3 **Digital Transformation** – Mentions of “digital,” “marketing,” and “sales.”

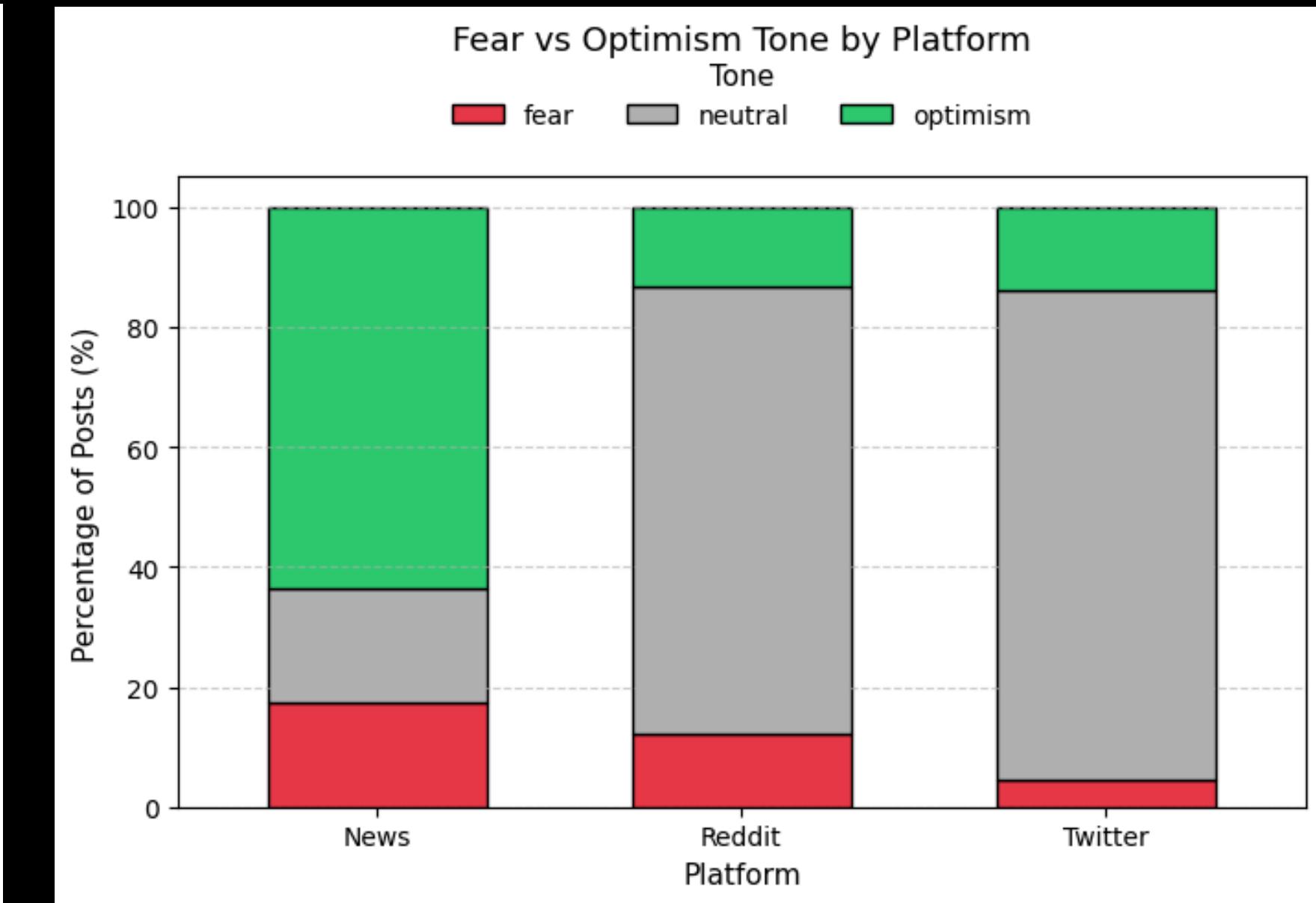
Insight:

AI is discussed as both a symbol of progress and a source of workplace disruption.

Sentiment & Tone

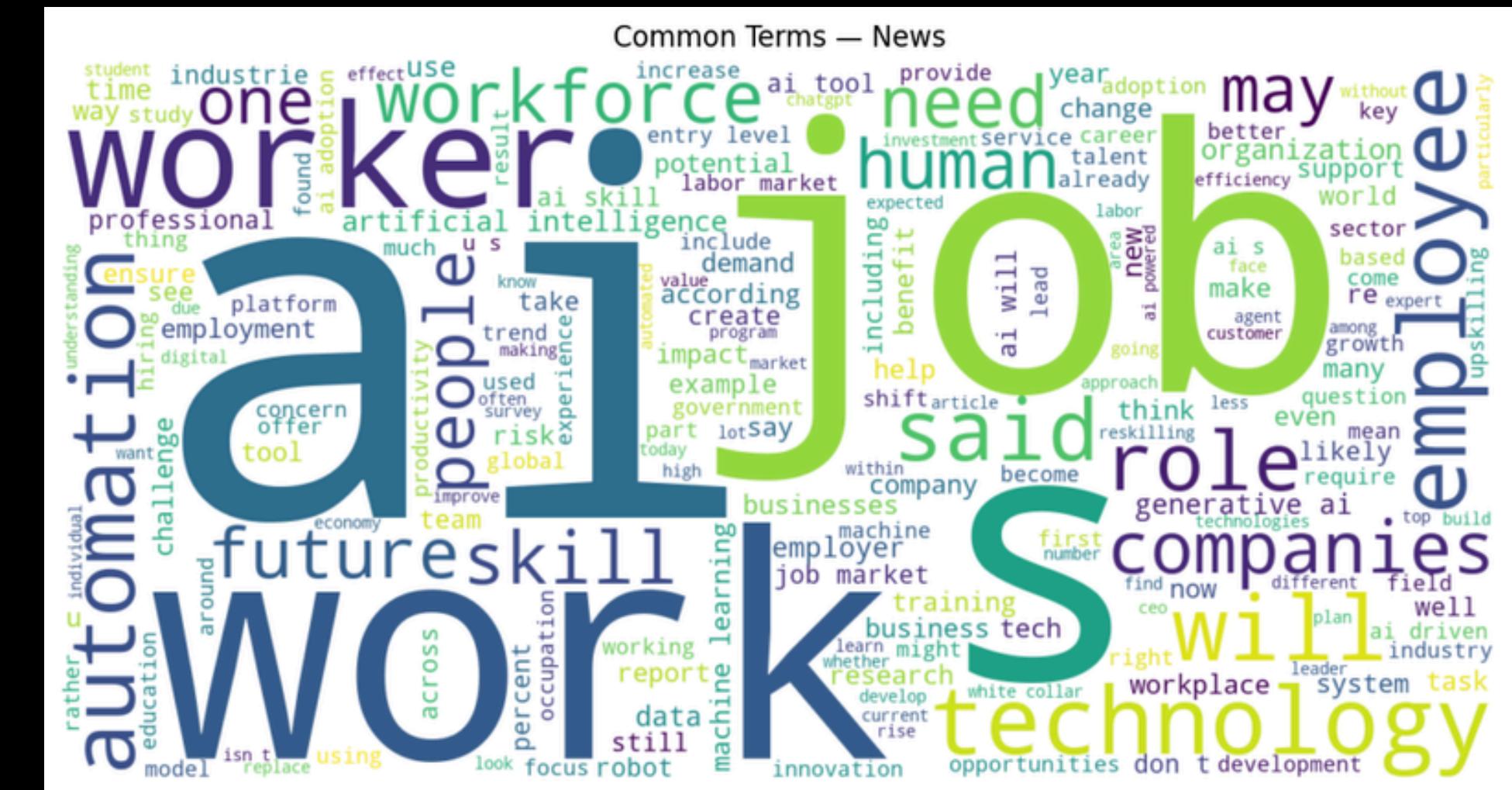
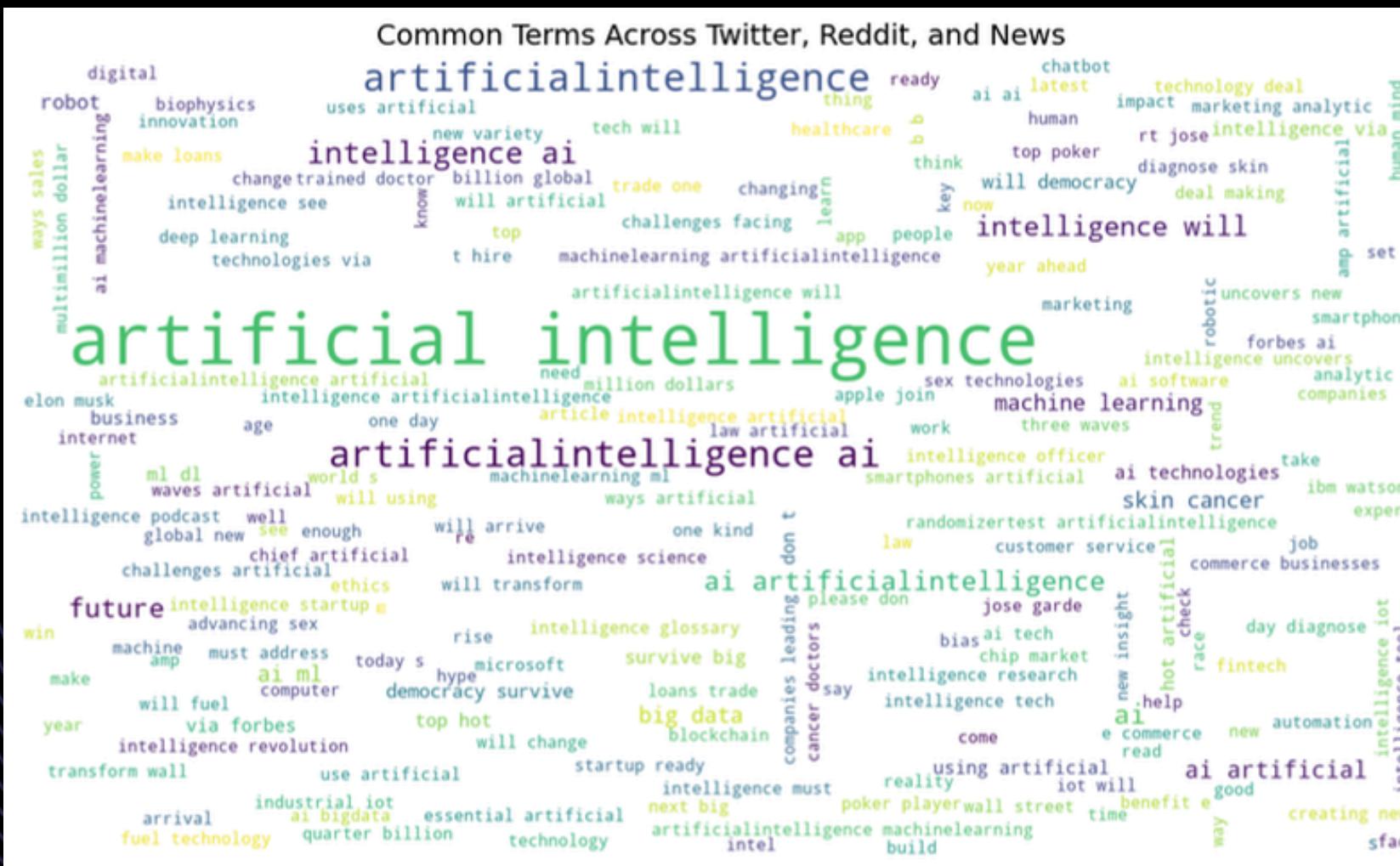


Sentiment Results
Twitter → Positive dominant
Reddit → Mixed tone



Twitter/News → Optimism; Reddit → Anxiety

Word Frequency



Common Vocabulary

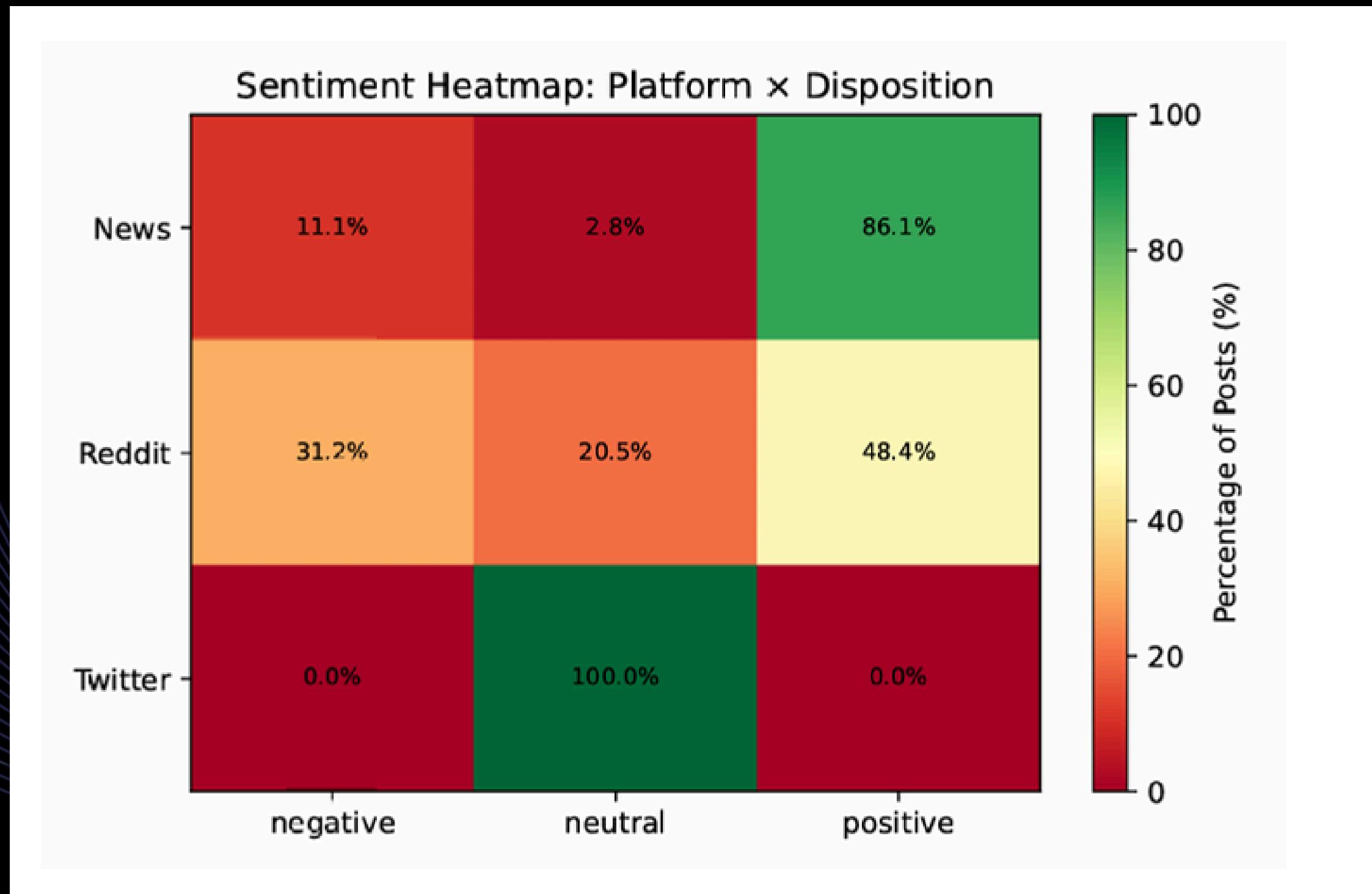
Twitter: AI, future, jobs, automation

Reddit: work, risk, people, replace

News: companies, growth, technology

Takeaway: Language frames AI through distinct community lenses.

Sentiment Heatmap: Platform × Disposition



What it shows:

- News → mostly positive
- Reddit → mixed sentiment
- Twitter → Neutral

Why it matters:

- Tone differs clearly across platforms (RQ2 & RQ3)
- χ^2 test confirms a significant platform-tone relationship.

Recommendations



For news organizations:

Emphasize balanced reporting that includes both innovation benefits and labor impacts.



For policymakers:

Emphasize balanced reporting that includes both innovation benefits and labor impacts.



For industry leaders:

Increase transparency about AI adoption and provide proactive guidance on job transitions.



For platforms & communicators:

Tailor messaging to platform norms—optimism on Twitter, risk concerns on Reddit, policy framing in news.

Conclusion

- Public discourse reveals both automation anxiety and AI optimism.
- Themes and emotional tone vary sharply across news, Reddit, and Twitter.
- AI is framed as both a disruptive threat and an innovative opportunity.
- Findings highlight the need for clear communication, policy guidance, and platform-aware engagement as AI adoption accelerates.

Further Research Potential

- Add LinkedIn + policy documents
- Expand temporal analysis (event-based)
- Explore demographic differences in tone expression

Thank You!