

# **Symbolic Framing Meets Diffusion Modeling: How Tariff Narratives Spread on Social Media**

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- The 2025 U.S. tariff expansion triggered widespread discussions across social media platforms.
- Social media users interpret policy events through narratives and symbolic cues embedded in posts, images, and videos.
- Symbols simplify complex economic and political issues and shape how people interpret and share information online.
- Symbolic framing is key to understanding narrative diffusion.



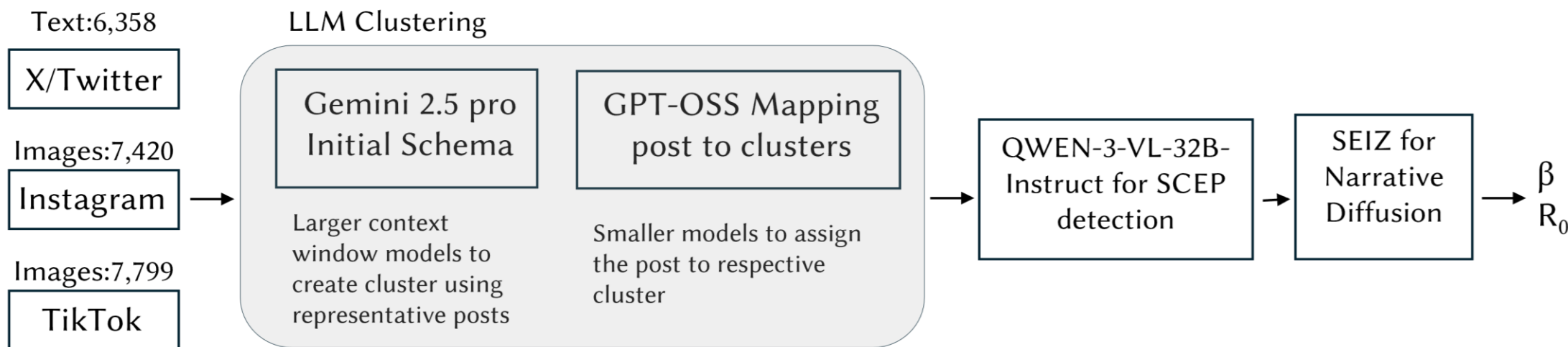
- Policy Context
  - 2025 U.S tariff increase (10-25%)
  - Triggered widespread discussions online
- Dataset Overview
  - Over 21,000 posts
  - January to May 2025

Platform	Total Unique Posts
X/Twitter	6,358
Instagram	7,420
TikTok	7,799

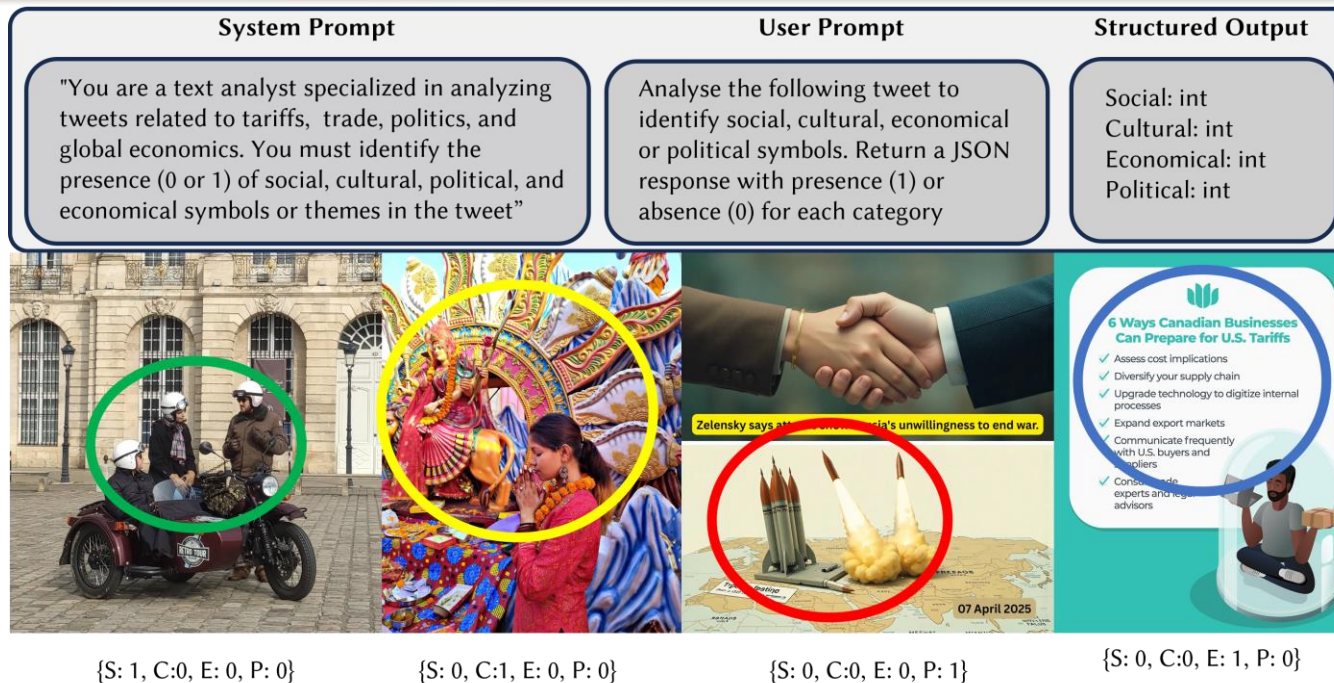
- **RQ1:** How do social, cultural, economic and political (SCEP) symbolic cues influence the diffusion of tariff-related discussions across different social media platforms?
- **RQ2:** Does the presence of multiple symbolic cues within a post contribute to faster diffusion of tariff-related discussions on social media?



- Schema Generation
  - Gemini 2.5 Pro to generate initial schema
  - Uses large context and multimodal input
- Post Assignment
  - GPT-OSS assigns posts to each clusters
  - Efficient batch processing

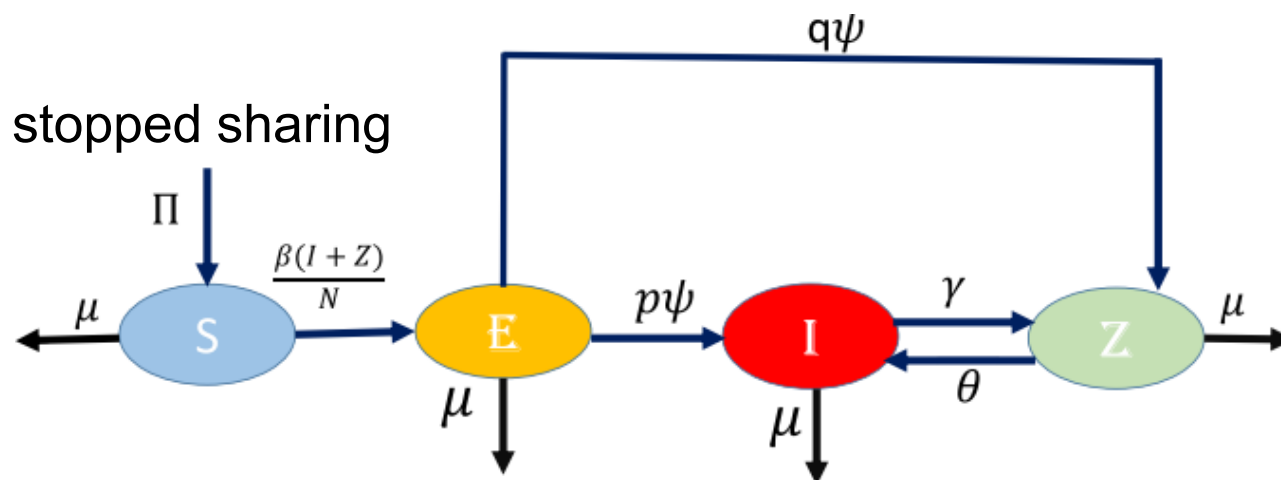


- Multimodal Symbol Detection
  - QWEN-3-VL-32B
- Symbol Categories (SCEP)
  - Social, Cultural, Economic, Political
- Model Performance
  - High accuracy across
  - most categories (>85%)



Symbols	Dataset (Images)	QWEN-3-VL-32B-Instruct (Images) (%)	Datasets (Text)	QWEN-3-VL-32B-Instruct (Text) (%)
Social	USED	100	Social-Chem-101	91
Cultural	Religious, Pilgrim, Temple	99.09	HateXplain	72
Economic	Coins, Currencies	87.72	Twitter-financial-news-sentiment	95
Political	Political Parties	96.39	Political tweets	82

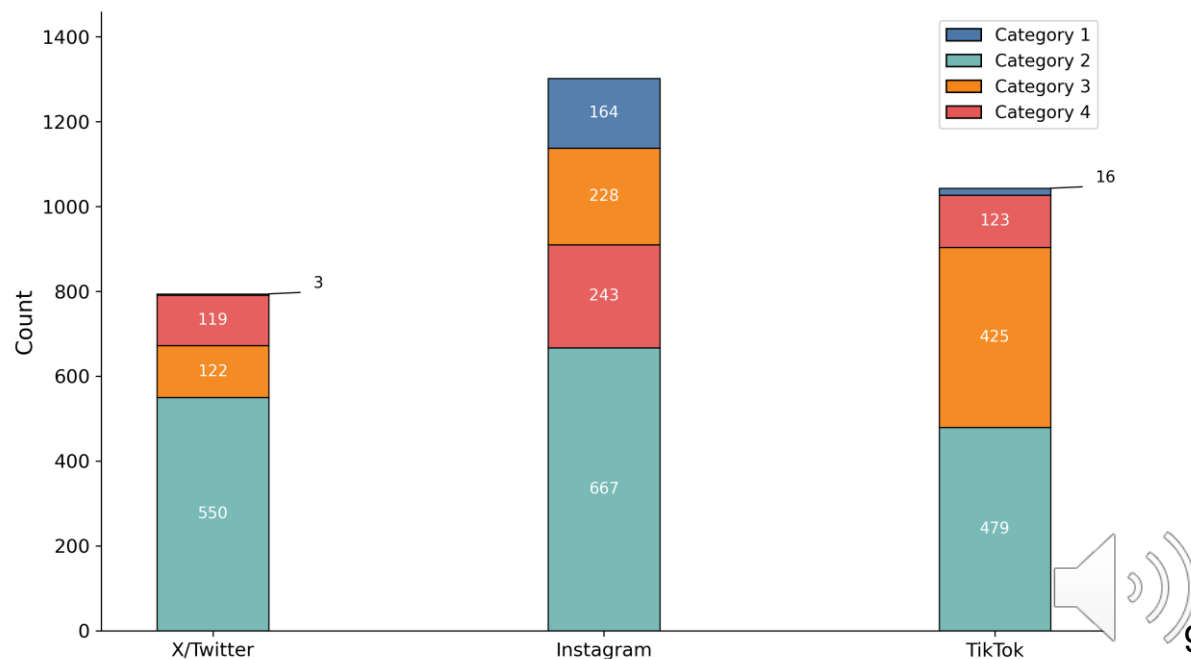
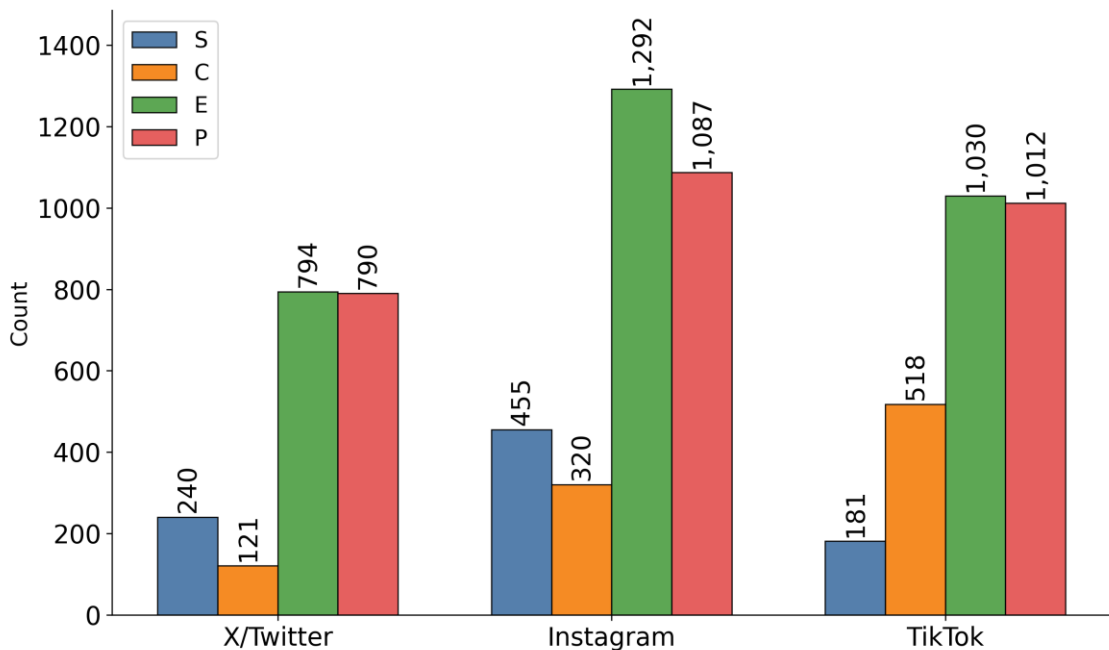
- User States
  - Susceptible (S) – have not seen the post yet
  - Exposed (E) – have encountered the post
  - Infected (I) – actively sharing the posts
  - Skeptical (Z) – chose not to share or have stopped sharing
- Key Metrics
  - Transmission rate ( $\beta$ )
  - Reproduction number ( $\mathcal{R}_0$ )



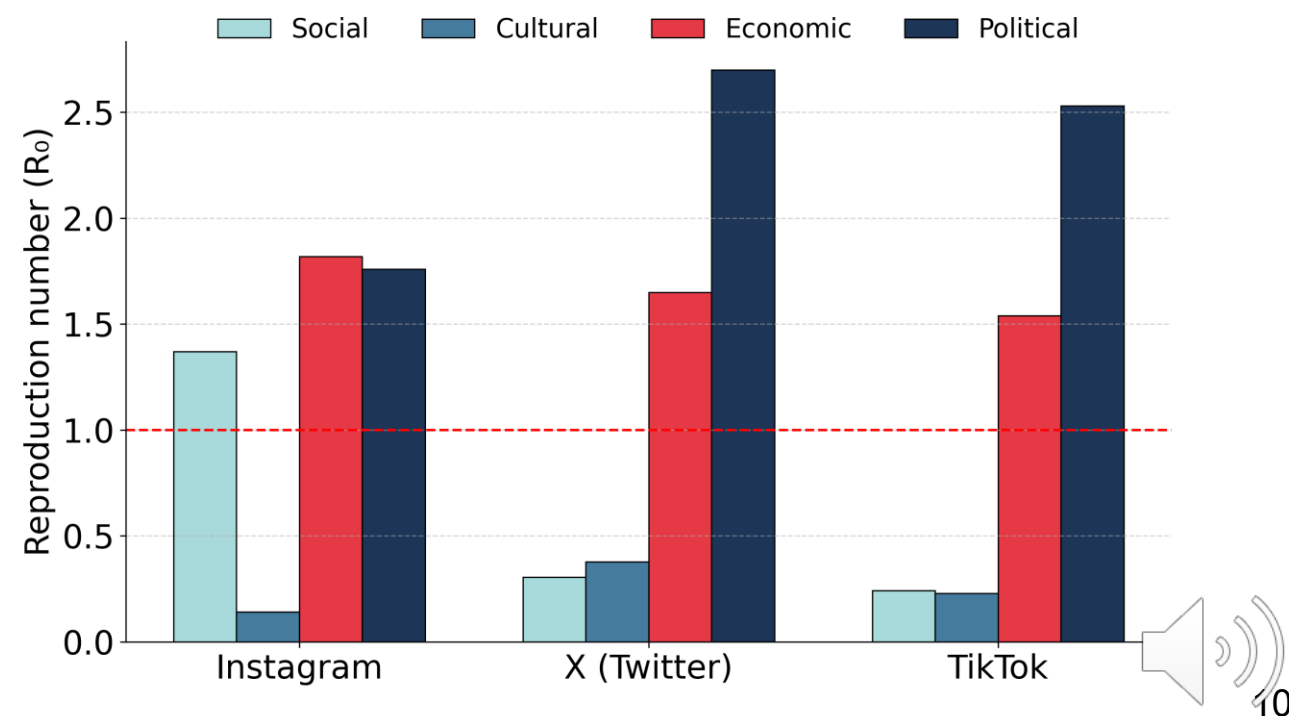
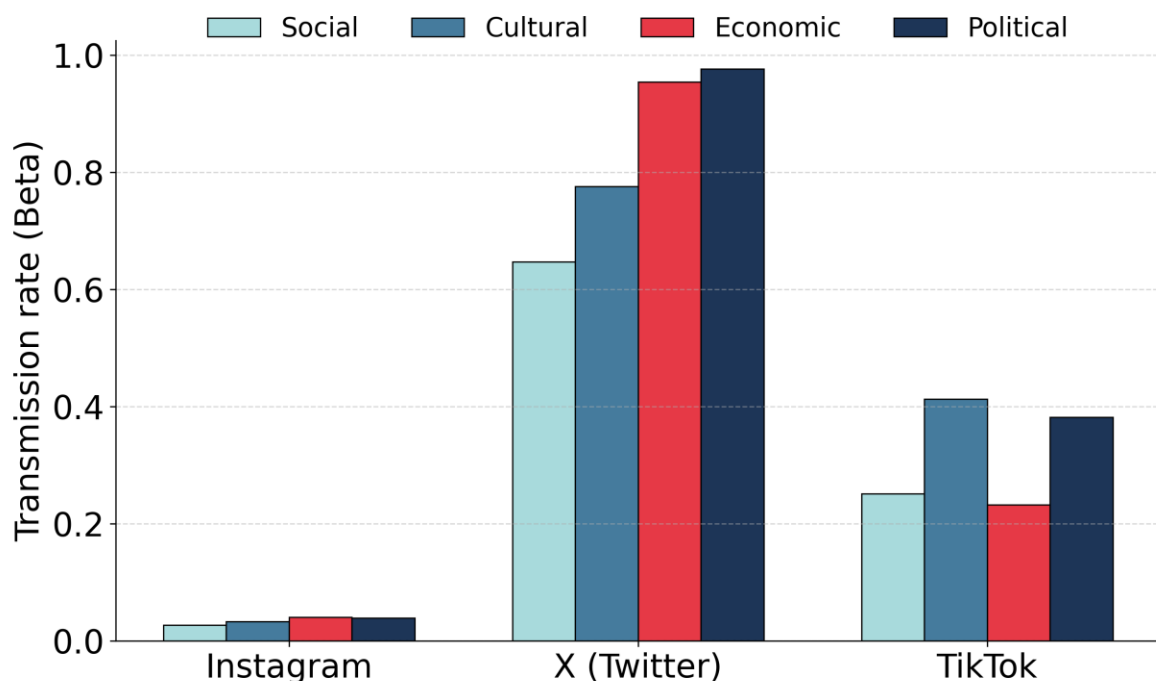
# Result: Distribution of Symbols in Dominant Narrative across Platforms

- Political and economic symbols presence high
- Posts with two symbols (category 2) were predominant

Platform	Dominant Cluster Size	Dominant Cluster Description
X/Twitter	794	Trade Negotiations, Deals and Truces
Instagram	1,302	Market and Financial Impact Analysis
TikTok	1,043	US-China Geopolitics and Trade War

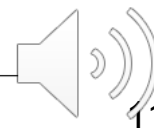
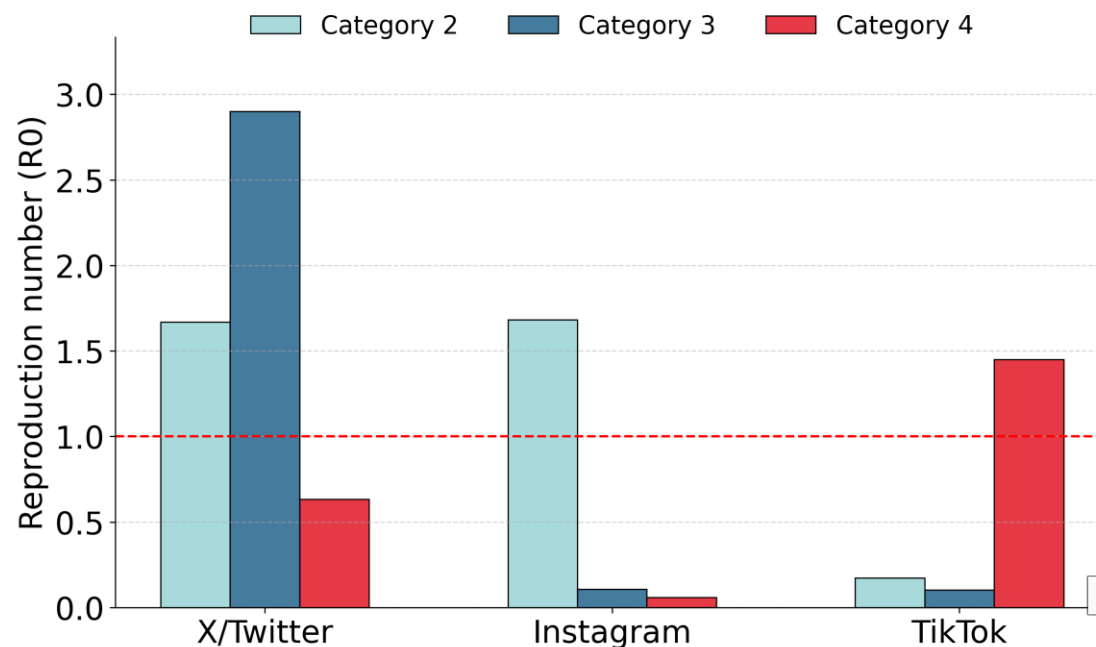
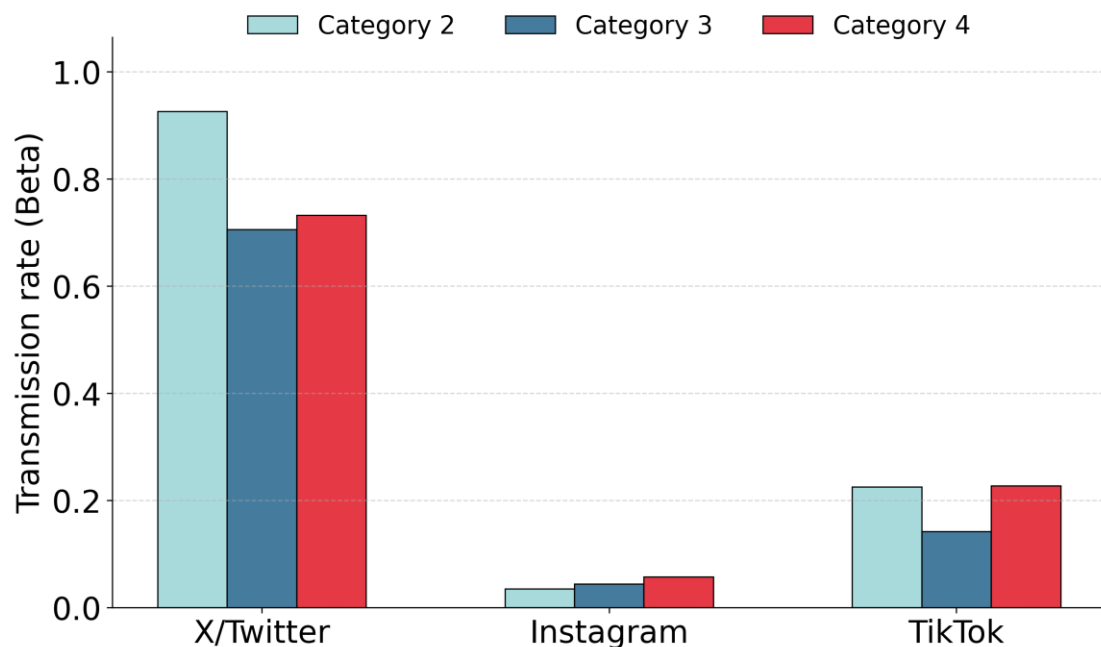


- Platform-Specific Symbol Effect
  - Instagram – Economic
  - X – Political
  - TikTok – Cultural (fast), Political (persistent)



# Result: Diffusion of Narratives across Symbol Categories

- Transmission and persistence varied across platforms
  - Instagram – Category (fast), category 2 (persistent)
  - X – Category 2 (fast), category 3 (persistent)
  - TikTok – Category 4 (fast and persistent)



- Key Findings
  - Symbolic framing shapes diffusion dynamics
  - Symbol effectiveness varies by platform
  - Multi-symbol narratives enhance diffusion rate
- Implications
  - Platforms influence how narratives are interpreted and spread
  - Symbolic cues play a critical role in shaping public discourse

- Limitations
  - Potential bias in LLM-based models
  - TikTok analysis limited to first video frame
  - Focused on dominant narratives only
- Future Work
  - Full video content analysis
  - Expand to additional narratives and platforms

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