Digital Media & Misinformation in the 2024 US Election: A Case Study with GPT Fact-Checking

Taehyeon Park*
devtaehyeon@gmail.com
Korean Advanced Institute of Science and Technology
Yuseong-gu, Daejeon, Republic of Korea

Doha Seon*
Korean Advanced Institute of Science and Technology
Yuseong-gu, Daejeon, Republic of Korea

Soomin Lee*
Korean Advanced Institute of Science and Technology
Yuseong-gu, Daejeon, Republic of Korea

Jiwon Lee*
Korean Advanced Institute of Science and Technology
Yuseong-gu, Daejeon, Republic of Korea

Jiho Lim*
Korean Advanced Institute of Science and Technology
Yuseong-gu, Daejeon, Republic of Korea

Abstract

This paper examines the impact of digital media on the 2024 U.S. presidential election, focusing on political expressions by celebrities and CEOs. Unlike in Korea, American public figures actively influence political discourse through social platforms. The study also analyzes Donald Trump's use of misinformation on X (formerly Twitter), showing that such posts gained more public engagement than factual ones. These findings highlight digital media's dual role in promoting civic engagement and spreading misinformation.

Keywords: U.S. Election 2024, Digital Media, Celebrity Politics, Misinformation, Social Media Influence, Fact-checking

1 Introduction

2024 US election is closely related to digital media. In US elections, digital media spreads political messages, like celebrities and CEO endorsements or candidate statements, influencing public opinion significantly. Unlike in Korea, American celebrities openly express their political views, often shaping political discourse. This report explores the background enabling such expressions, examples of political statements by celebrities and CEOs, and their impact. It is evident that digital media, while powerful in amplifying celebrities' opinions and drawing public attention, also significantly influences the spread of misinformation. This report analyzes the impact of misinformation disseminated by specific individuals compared to factual information, highlighting the role of digital media in shaping public discourse and perception.

2 Background

American celebrities frequently use their platforms to express political opinions and encourage civic participation,

particularly during elections. This phenomenon, amplified by social media, contrasts with the cautious stance taken by South Korean celebrities. The difference can be traced to historical, cultural, and societal factors.

2.1 Historical and Cultural Context of Political Expression

In mid-20th century America, celebrities were constrained by Hollywood's studio system, which discouraged political involvement to avoid controversy. The decline of this system and increasing social unrest in the United States granted celebrities greater autonomy to engage in political activism. Actor Paul Newman, for example, openly supported Democratic candidates and participated in social campaigns, reflecting this shift.

2.2 Digital Media and Celebrity Influence

Today, mediatization has amplified celebrity influence. Social media allows rapid information dissemination, enabling celebrities to mobilize audiences effectively. According to Time, Taylor Swift's 2018 Instagram post during the U.S. midterm elections led to a surge in voter registrations on Vote.org, reaching 105,000 within hours—a stark increase compared to 14,708 its average daily users.

2.3 South Korea's Restrictive Environment

In contrast, South Korean celebrities face significant risks when expressing political views. Public endorsements can lead to backlash, including being labeled as politically biased or placed on unofficial "cultural blacklists." Even if their preferred candidate wins, they risk alienating fans with differing political opinions, discouraging open participation in political discourse.

Ultimately, the greater freedom enjoyed by U.S. celebrities reflects a cultural and structural environment that tolerates political expression. In contrast, South Korea's restrictive

---

*Both authors contributed equally to this research

,

atmosphere highlights the societal pressures that constrain celebrity activism.

3 Influence of Celebrities

In the 2024 U.S. presidential election, celebrities played a significant role in shaping public perception and mobilizing voters. By leveraging their platforms and fame, public figures like Hulk Hogan, Amber Rose, Taylor Swift, and Oprah Winfrey aligned themselves with candidates Donald Trump and Kamala Harris, thereby amplifying political narratives and influencing the electorate.

3.1 Celebrity Endorsements for Donald Trump

On Trump's side, Hulk Hogan showcased his support for Trump at the 2024 Republican National Convention with a dramatic performance. Tearing off his shirt to reveal a tank top emblazoned with "Trump-Vance," Hogan called Trump a "warrior" and a "leader." This performance exemplifies how celebrities can energize political campaigns, using theatrical flair to galvanize voter enthusiasm.

Initially critical of Trump, model and influencer Amber Rose underwent a notable shift in perception, claiming that media narratives about Trump were misleading. At the convention, she passionately endorsed Trump, emphasizing messages of equality and love. Rose even created a parody song that portrayed Trump supporters as champions of unity, challenging stereotypes and reshaping public opinion.

3.2 Celebrity Endorsements for Kamala Harris

On Harris's side, Taylor Swift has long opposed his policies, particularly on issues such as voting rights and feminism. During the 2024 campaign, Swift highlighted Trump's perceived threats to democracy and mobilized young voters through her social media platforms. Her feminist stance further underscored her opposition, contrasting Trump's misogynistic remarks and policies. Her activism resonated strongly with socially conscious and progressive voters, showcasing the influence of celebrity advocacy in shaping political discourse.

3.3 Political Impact through Social Media

At the 2024 Democratic National Convention, Oprah Winfrey delivered a powerful speech supporting Kamala Harris. Drawing from her personal experiences with racism and sexism, Winfrey called for unity and cooperation among diverse communities. Winfrey's heartfelt message emphasized human rights and equality, inspiring voters to rally behind Harris's candidacy.

The 2024 U.S. presidential election showcased how digital media and social networks amplify influences in politics. Specifically, celebrities used platforms to shape public opinion, mobilize voters, and redefine political narratives. While this connectivity fosters civic engagement, it also risks

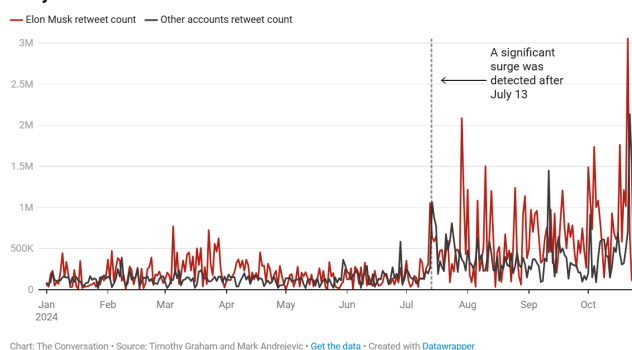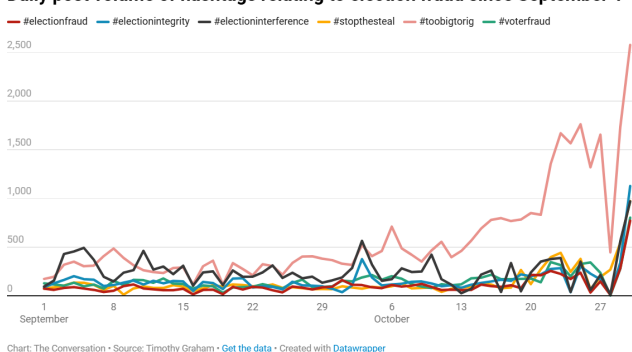**Figure 1.** Daily retweet count for Elon Musk vs other accounts

Figure 2. Daily post volume of hashtags relating to election fraud since September 1

spreading misinformation, highlighting the dual impact of digital media on modern political discourse.

4 Influence of CEOs

4.1 Elon Musk's Role and Twitter Dominance

CEOs played a significant role in the 2024 election, particularly in the realms of business and social media. Among them, Elon Musk was one of the most influential figures. As the CEO of Tesla and SpaceX and the owner and executive chairman of X (formerly Twitter), Musk holds the most-followed account on the platform with 206.5 million followers. His influence can be summarized as: "so many follows, so many posts."

One of his posts, stating "Trump/Vance must win," received 707,000 likes. Musk tweets frequently—often dozens of times per day—including many posts about the election. A graph by Timothy Graham (Queensland University of Technology) and Mark Andrejevic (Monash University) shows that Musk's retweet counts (in red) far surpassed those of other prominent political accounts (in black), indicating his dominant presence on the platform.
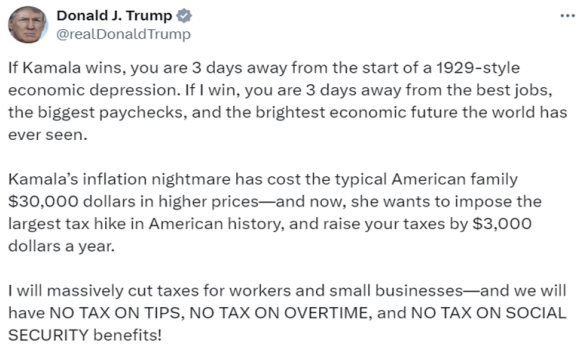
(a) Unused sample post

(b) Used sample post

Figure 3. Comparison of two sample posts

After July 13th, while other political accounts saw increases of 57% in views, 152% in retweets, and 130% in likes, Musk's posts experienced even larger jumps: 138% in views, 238% in retweets, and 186% in likes. Notably, Musk not only used X actively—he owned it. He restored Trump's banned account, giving Trump a renewed voice and platform. The hashtag #toobigtorig (meaning "Trump's win is inevitable") surged on October 27 when Trump himself used it. Timothy Graham remarked that Musk and Trump together "overwhelmed the information space and thereby managed attention."

4.2 Reid Hoffman's Support for Kamala Harris

In contrast, some CEOs supported Kamala Harris. One of the most prominent was Reid Hoffman, the co-founder of LinkedIn. With 737,000 followers on Twitter, Hoffman was among 88 corporate leaders who publicly endorsed Harris. Notably, he also funded Republican primary candidate Nikki Haley to block Trump's nomination, signaling his opposition to Trump's return.

Hoffman tweeted: "This election isn't about minor policy disagreements. It's about truth vs. fiction, the rule of law vs. chaos, and democracy vs. fascism. That's why I've backed Kamala Harris—and you should, too." While active among pro-Harris CEOs, Hoffman's influence on social media was limited due to his lower follower count and less frequent activity compared to Musk.

4.3 Comparison of Influence between CEO Endorsements

The contrast between Elon Musk and Reid Hoffman reveals the imbalance in digital influence among politically active CEOs. Musk's immense following, high activity, and control over the X platform granted him extraordinary power to shape discourse during the election. In contrast, Hoffman—despite his clear political stance and business credibility—had a more modest impact online.

Overall, CEOs supporting Trump had a dominant advantage in digital media reach and engagement. Musk's unprecedented control over X allowed for both personal advocacy and strategic platform changes, amplifying pro-Trump narratives and influencing public opinion at scale.

5 Effects of Misinformation: A Case Study of Donald Trump

In the US presidential election, Donald Trump's comments are always a hot topic. He leaves many posts on X, many of which include fake news, and is known to receive great attention from the public. His influence is so great, and it is good to see the public's reaction through misinformation by analyzing his tweets. In this paper, the tweets were divided into two groups, misinformation and non-misinformation, and investigation with some values such as view and reply respectively proceeded to quantitatively analyze the public's response.

5.1 Data Collection and Classification

The data used here are tweets Trump uploaded in the 2024 US presidential election. Not all tweets were collected, and only meaningful articles were selectively used. Specifically, only articles that did not contain images or videos were adopted. The reason is that most articles containing multimedia files contain simple contents like promotion or support. When there is only text, Trump's opinion comes out, and there is a possibility that fake news is included.

Trump began his campaign through tweets on August 13. Thus, Trump's tweets collected are from August 13 to November 5, until the election began. Specifically, the url, content, and date were recorded, and the public reactions such as view, reply, post, like and bookmark values were saved at

Table 1. Mann–Whitney U Test Results for Engagement Metrics

Metric	p-value (Scientific Notation)	Significance	Hypothesis Decision
View	5.852×10^{-1}	Not significant	Fail to reject H_0
Reply	3.013×10^{-2}	Significant	Reject H_0
Repost	6.347×10^{-3}	Significant	Reject H_0
Like	7.577×10^{-2}	Not significant	Fail to reject H_0
Bookmark	2.185×10^{-1}	Not significant	Fail to reject H_0

each post. Consequently, 59 posts were gathered during the 2024 US election. This number may seem small, but it was enough to analyze representative values on this report. Distinguishing whether the tweets were misinformation were conducted through GPT. The following two papers guarantee that Chat-GPT produces good results on fact-checking. E.Hoss(2023) [10] claims that they got 70% accuracy of fact-checking through the GPT 3.5 version. And D.Quelle(2024) [11] got significantly higher accuracy up to 90% by using proper prompt engineering. In this paper, fact-checking of tweets was conducted using GPT 4o. The prompt was written as follows with the reference to D.Quelle's prompt.

> **Prompt and LLM response**
>
> Prompt: "You're a fact-checking expert. Evaluate the truthfulness of this statement: <statement> written on <date>. Use google for research. Consider your sources, context, and date while assessing. To answer return 'Final Answer: verdict, reason. You must respond with a valid verdict ('pants-fire', 'false', 'mostly-false', 'half-true', 'mostly-true', or 'true') or 'uncertain', providing reasoning and citing sources by providing the domain of pertinent search results."
> Final Answer: true, the statement accurately details the launch schedule and participation requirements for World Liberty Financial's token sale.

A characteristic feature is that it gave an order to write the reason for determining true falsehood through Google search. As a result, the GPT's answer provides the verdict and reason as shown. All poses were classified into two groups; misinformation and non-misinformation.

5.2 Engagement Analysis of Misinformation vs Non-Misinformation

Consequently, 59 posts were gathered during the 2024 US presidential election. Among these, 34 posts were classified as misinformation and 21 as non-misinformation, while 4 posts were excluded as they could not be classified using GPT. Metrics such as views, replies, reposts, likes, and bookmarks were calculated for each group to uncover interesting results.

Table 2. Misinfo vs Non-misinfo Posts in Statistics

	View	Reply	Repost	Like	Bookmark
Misinfo	31.7m	20.3k	57.5k	296.2k	7.5k
Non-misinfo	29.1m	13.1k	40.3k	251.6k	6.1k

Table 3. No. of Characters of Top/Bottom6 Posts for Each Group sorted by No. of Views

Group (count)	Top 10% (6 posts)	Bottom 10% (6 posts)
All posts (59)	346.67	462.33
Misinformation (31)	413.17	267.0
Non-misinformation (24)	485	556.33

Surprisingly, the misinformation group, despite having a lower average number of views, achieved higher averages in replies, reposts, likes, and bookmarks compared to the non-misinformation group. The table below presents the average metrics for posts within each group, highlighting this unexpected trend.

misinformation posts vs non-misinformation posts in statistics The graph below illustrates the distribution of the number of posts for each metric in the misinformation posts and non-misinformation posts, which were used for statistical analysis.

5.3 Statistical Findings and Interpretation

As you can see, there is little difference between the groups, and each metric exhibits a similar distribution. From here, we sought to identify significant differences in the distributions of each metric using statistical methods after understanding the characteristics of the data. First, we examined whether the data followed a normal distribution. Since the sample size for each group was less than 50, we used the Shapiro-Wilk test, known for its robust performance with small sample sizes, to verify the normality of the data in both groups. The test results indicated that the data from both groups did not follow a normal distribution. Consequently, we employed the Mann-Whitney U test to investigate significant differences in the distributions of the data between the two groups.
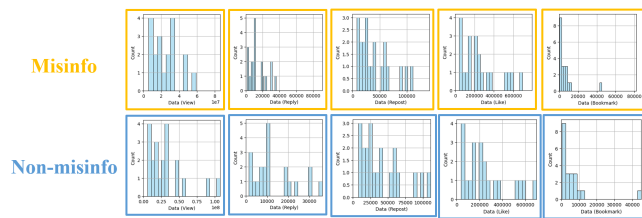
Figure 4. Distributions between Misinformation and Non-misinformation Posts

The p-value analysis revealed that there were significant differences in the distributions of Reply and Repost metrics. This indicates that Reply and Repost metrics highlight meaningful differences between misinformation posts and non-misinformation posts. In other words, Reply and Repost metrics can be considered as reflecting actual differences between the two groups.

When posts were sorted by the number of views, a very distinct trend was observed in the average word count of the top 6 (10%) and bottom 6 (10%) posts for all posts, misinformation posts, and non-misinformation posts. For all posts and non-misinformation posts, there was a tendency for higher view counts to be associated with shorter word counts. However, for misinformation posts, the opposite trend was observed, where higher view counts were associated with longer word counts.

6 Results and Limitations

Our experiment revealed several major findings. First, misinformation posts are more attractive to the public compared to non-misinformation posts. Second, replies and reposts were found to effectively distinguish misinformation posts from non-misinformation posts, highlighting significant differences in engagement levels. Third, we observed that longer misinformation posts tend to attract more views. However, the experiment also had its limitations. One major limitation is that this study focused exclusively on Donald Trump, making it difficult to generalize the findings to other individuals or contexts. Additionally, the sample size was relatively small, which could affect the accuracy and reliability of the results; a larger sample would likely provide more robust conclusions. Lastly, fact verification relied solely on GPT, and incorporating additional methods could enhance both the accuracy and the robustness of the findings.

7 Conclusion

In conclusion, in the United States, where celebrities freely express political opinions, digital media has become a tool for celebrities and CEOs to engage people with their preferred political stances. This has significantly influenced public opinion. However, as much information spreads rapidly and

influences people, the impact of misinformation is also significantly influential. We can confirm that Donald Trump's misinformation posts really attracts the public more than non-misinformation posts

References

References

[1] Cambridge University Press. (n.d.). *Celebrity and politics.* https://www.cambridge.org/core/journals/perspectives-on-politics/article/celebrity-and-politics/CDAD6C1D9B75195D1E4EDD1433C7203C

[2] Time. (2018, October 9). *Taylor Swift inspires spike in voter registration after Instagram post.* https://time.com/5419276/taylor-swift-instagram-post-voter-registration-spike/

[3] Ilyo News. (2023). *Comparing Celebrity Political Expression in the U.S. and South Korea* https://www.ilyo.co.kr/?ac=article_view&entry_id=479838

[4] Hulk Hogan Speaks at RNC 2024 Night Four. rev. https://www.rev.com/transcripts/hulk-hogan-speaks-at-rnc-2024-night-four

[5] Amber Rose Speaks at RNC 2024 Night One. rev. https://www.rev.com/transcripts/amber-rose-speaks-at-rnc-2024-night-one

[6] *Cringing With Amber Rose.* The Needle Drop. (2024, July 18). https://theneedledrop.com/opinion/cringing-with-amber-rose/

[7] *Taylor Swift's 'childless cat lady' remark tops list of 2024's most notable quotes.* (2024, Dec 5). https://www.kplctv.com/2024/12/04/taylor-swifts-childless-cat-lady-remark-tops-list-2024s-most-notable-quotes/

[8] Aguirre, A. (2019, Aug 8). *Taylor Swift on Sexism, Scrutiny, and Standing Up for Herself.* Vogue. https://www.vogue.com/article/taylor-swift-cover-september-2019

[9] *Read the Full Speech Oprah Winfrey Gave at the 2024 Democratic National Convention.* Time. (2024, Aug 22). https://time.com/7013825/read-oprah-winfrey-2024-dnc-speech-full-transcript/

[10] Hoes, E., Altay, S., & Bermeo, J. (2023). *Leveraging ChatGPT for efficient fact-checking.* PsyArXiv. https://doi.org/10.31234/osf.io/qnjkf

[11] Quelle, D., & Bovet, A. (2024). *The perils and promises of fact-checking with large language models.* Frontiers in Artificial Intelligence, 7, 1341697.

[12] *Why Is Elon Musk Supporting Donald Trump?* Newsweek. https://www.newsweek.com/why-elon-musk-supporting-donald-trump-1974146

[13] *The Elon Musk effect: How Donald Trump gained from billionaire's support.* Al Jazeera. https://www.aljazeera.com/features/2024/11/7/the-elon-musk-effect-how-donald-trump-gained-from-billionaires-support

[14] *Elon Musk's flood of US election tweets may look chaotic. My data reveals an alarming strategy.* The Conversation. https://theconversation.com/elon-musks-flood-of-us-election-tweets-may-look-chaotic-my-data-reveals-an-alarming-strategy-243021

[15] *Tech billionaire Elon Musk's social media posts have had a 'sudden boost' since July, new research reveals.* The Conversation. https://theconversation.com/tech-billionaire-elon-musks-social-media-posts-have-had-a-sudden-boost-since-july-new-research-reveals-242490

[16] *LinkedIn billionaire is going all-in on Kamala Harris. But he wants her to make a big change.* CNN. https://edition.cnn.com/2024/07/26/business/reid-hoffman-kamala-harris-ftc-khan/index.html

[17] *Eighty-eight corporate leaders endorse Harris in new letter, including CEOs of Yelp, Box.* CNBC. https://www.cnbc.com/2024/09/06/harris-endorsed-trump-murdoch-yelp-snap-ripple.html

[18] Park, T. (2024). *Misinfo-Public-Impact.* GitHub. https://github.com/TaehyeonPark/Misinfo-Public-Impact