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Illusion or Persuasion: A Study on the Factuality of Generative Artificial Intelligence (GAI) Content and Rhetorical Communication Effects

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Abstract: (GAI)to investigate the role of rhetorical expressions on the trust of the public towards GAI-generated content, this paper utilizes control-group experiments. It is shown that intemperate rhetorical expressions in GAI-generated content are conducive to increasing the public's perception of trust towards it and increasing the likelihood of information sharing. At the same time, these intemperate rhetorical expressions can help to ease the credibility crisis caused by inaccuracies contained in the GAI-generated information to a certain extent, especially toward low-competent groups in terms of media literacy. In this way, GAI hallucinations cannot be just seen as a technological error; they are also a communicative effect, and such findings offer empirical evidence and actionable ways of how to counter the misleading mechanisms of AIGC and governance measures.

Keywords: Generative Artificial Intelligence; Rhetorical Style; Controlled Experiments.

1. Introduction

(GAI)online public opinion sphere under GAI has formed a new domain, which reflects large language models have intrinsic mistakes in operation, and opinion manipulators make use of them to abuse these large language models as instruments of spreading erroneous information. Currently, the applications of GAI cover text generation, news writing, knowledge Q&A systems, etc. [1] Current research on GAI hallucinations, research focusing mainly on computer science adopts model training, hallucination-detecting algorithms, or knowledge supplementation to ease them. But all the efforts made till now fail to solve the main problem of hallucinations for it is more than just a communication phenomenon from the viewpoint of communication studies. The strange case about GAI hallucinations can be treated as a reality intertwined with an official, neat, and refined rhetoric or an officially stylized work that can persuade the audience because they do not realize they have been misled. The chance in the hybrid of rhetoric and factual fallacies makes GAI hallucinations so changeable and unforecastable.

The dissemination of GAI-generated misinformation can adversely impact consumers, triggering market volatility and economic uncertainty. Such false information not only undermines brand credibility and leads to customer attrition and financial losses, but may also cause investors to make irrational market judgments based on fabricated content, destabilizing capital markets and resulting in economic losses. [2] When GAI gradually invades dangerous zones such as healthcare, journalism and legal industry, the responsibility of locating the style of rhetoric and the validation of truth in user cognition starts to matter more in this era. We must attach more importance to misleading information governance, platform responsibility, and media literacy education. From a theoretical perspective, we are addressing an essential question: In the user cognition process for AI-generated content, does the overall style of rhetoric ultimately become the leading factor guiding user judgments over concrete substantive information?

2. GAI Concept and Theoretical Framework

(1) The design has great power of appeal Rhetoric & Persuasion Classic Theories on Communication

(ELM)the laboration Likelihood Model (ELM) in modern persuasion theory is one of the core theories on how persuasion influences people's behaviors in the real world. It posits that the human psychological system contains 2 pathways: central route (deep processing and relying on factual reasoning and logical arguments) and peripheral route (rationality arising from cues). And when encountering high cognitive load, lacking resource and so forth, people will lean towards using the peripheral route in their decision-making process. [3] This explains why audiences may prioritize rhetorical style over factual accuracy when processing complex AI-generated content. The conclusion is that there needs to be higher levels of media literacy in AI consumption. This new media literacy encompasses the analytical, evaluative, and creative skills needed for effectively questioning media content. In comparison to traditional media literacy where critical debate revolved around media institutions, the new skills being sought from the AI age include having an understanding of AI's computational logic, assessing the quality of the information offered and the risks this poses, and being fluent in AI terminology.

(2) experimental design

According to the findings from the literature review, the research hypotheses of this paper are as follows.

H1:(a)compared with bland rhetoric, GAI content with inflamed rhetoric leads to higher perceived (a) credibility and (b) willingness to share.

H2:(a)if content contains factual errors, users will not only perceive a decrease in the credibility of the source, but will also be unwilling to share it.

H3:(a)there's an association between rhetorical styles and level of accuracy. When the content is inaccurate, inflammatory rhetoric has the most significant effect in decreasing (a) people's perceptions of credibility, and (b) willingness to share, which represents the exaggeration effect.

H4:(a)rs' m media literacy mitigates the harmful effect of factual error. As the readers' media literacy is greater, the more detrimental an error is perceived as being for (a) perceived credibility and (b) willingness to share (i. e., less prone to be identified).

H5:(a)The moderating effect of media literacy on the use of rhetoric: The lower the level of media literacy is, the higher the degree to which inflammatory rhetoric has on both (a) perceived credibility, and (b) willingness to share.

The study uses 2×2 Between-groups Design for truthfulness (Correct/Incorrect) ×Rhetorical Strategies (Naive/Parallel), with trust perceptions and sharing intentions as dependent variables, media literacy acting as a moderator, and demographic variables, AI experience, and event knowledge serving as covariates. The source material is an original story - "Health Benefits of the Novel Antioxidant PQQ". Four experimental drafts based on the same source text are produced.

1. Generate the material content with main GAI model like GPT-4 and DeepSeek to produce contents and maintain the uniformity of style.

2. Accuracy Control: All of the health claims that are correct are taken from reliable journals like the American Journal of Clinical Nutrition. Those that are incorrect contain 2-3 reasonable but false health claims buried within the correct claims.

3. Rhetorical style control—the plain version is impartial and objective, free of any emotional words or exaggerated expression; the invigorating version uses words of urgency, emotional appeal, as well as arguments from authority.

4. Control test: a pre-study (n = 40) assessed for possible rhetorical style manipulations using the Semantic Difference Scale (rational vs emotional, objective vs subjective, calm vs agitated). Nutritional fact accuracy was then verified by independent review from 3 nutritionists.

Table 1. Variable Type Table

Type of variable	Variable name	measuring method	Source of the scale
dependent variable	Credibility perception	5D 7 Likert scale	McCroskey reliability scale
dependent variable	Share intention	Single Likert scale of 7 points	Adapted from the Willingness to Share Scale
regulated variable	media literacy	15 AI literacy scales covering dimensions such as critical questioning, technical understanding, and content recognition	Adapted from the Digital Media Literacy Scale
controlled variable	prior knowledge	3 items 7 Likert scale	Self-development
controlled variable	AI Usage Experience	Frequency and breadth of use combination metrics	Develop yourself

The media literacy was measured with the use of the revised 15-item AI literacy scale (Cronbach's α = 0.84), which evaluated participants' skepticism towards media content, understanding about AI generation processes, and the awareness of media bias. Besides, the following variables were included as control factors: human traits, AI experience, and previous knowledge on nutrition and health.

3. Results and Discussion

(1) Main effect analysis

Rhetorical style significantly influenced the credibility perception of the test (F (1, 300) = 18.35, p <. 001, η ²= .058), in which the users of inciting rhetoric have significantly higher credibility perception (M=4.82, SD=1.21) compared to the users of plain rhetoric (M=4.12, SD=1.36). Test H1 confirms that there is a significant impact of the rhetorical style on the sharing intention (F(1,300) = 22.74, p<0.001, η ² = 0.070). It is found that users with inciting rhetoric exhibit higher sharing intention (M = 3.95, SD = 1.43) than those with plain rhetoric (M = 3.12, SD = 1.52). Thus, both H1a and H1b are supported.

The analysis of the H2 test revealed that factual accuracy had a highly significant main effect (F(1, 300)=35.62, p<0.001, η²=0.106): the mean credibility perception score under false information conditions (M=3.89, SD=1.32) was significantly lower than under correct information conditions (M=5.05, SD=1.18). The same held true for factual accuracy's main effect on sharing willingness (F(1, 300)=28.45, p<0.001, η²=0.087), as sharing willingness in the false information condition (M=2.98, SD=1.47) was significantly lower than sharing willingness in the correct information condition (M=4.09, SD=1.48), hence supporting Hypotheses H2a and H2b.

(2) Interaction effect analysis

(300)hypothesis H3 stated there would be an interaction between rhetorical style and factual accuracy on credibility perception (F(1, 300) = 9.28, p = 0.003, η ² = 0.030). Simple effects analyses showed that in the presence of factual errors, the differences in rhetorical style became more evident: that is, in the false-neutral condition (M = 3.25, SD = 1.28), credibility perception was the lowest, whereas in the false-salacious condition (M = 4.53, SD = 1.21), credibility perception was significantly higher (t(300) = 7.12, p < .001). This same pattern of findings was observed for sharing intent as well (F(1, 300) = 7.95, p = .005, η ² = .026); therefore, both H3a and H3b received support, as suggested by the effects of rhetorical masking.

Table 2. Mean and Standard Deviation of Dependent Variables under Different Experimental Conditions (N=304)

experiment condition	Credibility perception (M±SD)	Sharing intention (M±SD)
Correct-plain	4.99±1.05	4.06±1.39
Correct-incite	5.11±1.31	4.12±1.57
Error-Plain	3.25±1.28	2.18±1.21
Error-Incitement	4.53±1.21	3.78±1.45

(3) Interaction effect analysis

The mediation effect of media literacy on the relationship between factual accuracy and credibility perception was tested with ProcessModel1(regression model), the result is shown as follows (β = 0.24, SE = 0.08, t = 3.00, p = 0.003), also showing the existence of the mediational path. The simple slopes analysis indicates that for high media literacy individuals (at +1SD) fact errors cause greater damage to perceived credibility (-.52,-.11,-4.73,0.001), whereas fact errors barely affect perceived credibility for those in low

media literacy condition (-.18,.10,-1.80,.073).In addition, media literacy moderated the relationship between factual accuracy and sharing intention (β = .19, SE = .09, t = 2.11, p = .036), which supports Hypothesis H4a and H4b.

Meanwhile, media literacy significantly moderates the relationship between rhetorical style and perceived credibility (β = -0.21, SE = 0.08, t = -2.63, p < 0.001). The results of the simple slopes suggest that incendiary rhetoric has a stronger positive effect on credibility perception for people who have low media literacy (β = 0.48, SE = 0.11, t = 4.36, p < 0.001), while the effect is much weaker for individuals who have high media literacy (β = 0.14, SE = 0.10, t = 1.40, p = 0.163). Similar results occur for willingness to share (β = -0.18, SE = 0.09, t = -2.00, p = 0.046). These findings support Hypotheses H5a and H5b.

In conclusion, findings show that rhetorical styles will greatly influence the power of a factual error, especially in GAI, to be persuasive. Specifically, the rhetoric used by GAI content will impact how users perceive it and if they want to share it. The research demonstrates that when information sources use inflamed rhetoric, factual inaccuracy does not decrease user trust or sharing intent of the AI content; therefore, explaining how ELM predicted that audiences that possess less factual discernment in highly complex, technical mediums would rely on rhetoric to decipher persuasion effectiveness due to their lack of ability to unpack facts in order to understand significance.

4. Practical Implications and Governance Paths

(1) Technical Governance: Building an Immune System for GAI Content

The model layer utilizes anti-tracking design for developers to build fact verification and uncertainty labels on GAI, for example, requiring users to mark whether information provided by the model is completely sure. By inserting online hallucination detection tools in GAI framework, we are able to establish entity-level hallucination labeling and suppress hallucinations at their source.

The monitoring function must also be improved at the platform level. One idea is to create a digital fingerprint of all AI-generated content and apply blockchain technology to track the creator, algorithm parameters and routes of transmission to achieve instant tracing of origin. As generative AI expands in scope, platforms should start using a hybrid system integrating various technologies to monitor all news content swiftly, for instance combining traditional text-based solutions with graphic signals to catch any inappropriate content as soon as possible.

(2) Competency Enhancement: Cultivating Cognitive Immunity in the AI Era

Embedding AI literacy in universal education requires the creation of programs based on different ages including courses that develop critical habits for consuming GAIs, explain GAIs' technical skills, identify common types of GAIs' hallucinations, and conduct fact-checking practices. With this plan, all age groups—seniors, adults, and youth—will be equipped with skills to recognize and judge GAIs.

Thirdly, three types of social entities: community, enterprise, and university must independently shoulder their own social responsibility by offering their residents, employees, or students immersive opportunities to accept training with AI facial recognition technology. Making full use of GAI technology, we can fabricate some true errors and false rhetoric to allow trainees to get used to the recognition environment. Fourthly, implement tiered empowerment and adopt customized educational approaches targeted at people of various ranks and industries—adopt user-friendly versions based on simple tools, authentication paths, etc.; provide in-depth training on important stakeholders such as teachers and media personnel; cultivate possible talent; set up professional certification programs to enhance cross-domain GAI hallucination recognition capability.

(3) Institutional innovation: Building a collaborative governance ecosystem

Table 3. Multi-level approaches to GAI content governance

Governance level	Core measures	Responsible party
Government oversight	Formulate regulations on the dissemination of generated content, and clarify the rules of compulsory disclosure and accountability mechanism	Regulators, legislatures
Platform accountability	Content review, algorithmic transparency, and risk alerts	Tech companies, social platforms
self regulation	Formulate ethical norms for AI applications and establish a content review system	Trade associations, media organizations
Public monitoring	Provide a convenient reporting channel and establish a crowdsourcing verification network	Civil society organizations and the public

For the tiered governance model to function well, stakeholders need to make consistent effort. The government needs to establish rules and lay down some boundaries, including redlines, so as to create a legal environment. Platform enterprises should complete governance tasks according to the rules and make use of their technological advantages and managerial authorities to make control possible. Industry organizations fill regulatory gaps between government oversight and platform governance through professional standards and rules to regulate platform behavior. Public supervision sets up a powerfully integrated social "net," employs community resources and uses big data and AI, thus creating an omnipresent "sky net." While being relatively independent, all the governance entities are interlinked with clear responsibilities assigned to each other and jointly compose a strong synergy together. Together, they guarantee the safe and orderly development of generative artificial intelligence.

5. Conclusion

an experiment with a controlled design is employed in the present s study to examine the interactive effects of GA contents' factual accuracy and rhetoric persuasiveness on the users cognitive and behavioral responses. The principal results are that: (1) Persuasive rhetoric exerts a strong effect on increasing user trust and the willingness to share GA content regardless of the degree of factual accuracy; (2) rhetoric persuasiveness can mask the facts; (3) the user media literacy plays a moderated role. Users with high level of media literacy tend to be more resistant to rhetoric influences

and also able to figure out fact's inaccuracies.

The past shows that AI hallucinations are not errors in communications; rather, they are powerful communicative effects which exploit uniquely innovative affordances within intelligent media contexts in which form can occlude the essence of content creating risk particular to GAI communication.

When GAI of rapid technological advancement appears, we should always pay attention to the effects of rapid technological progress, as well as the social communication effects. And, we need technology to talk to humanity so that we can be both masters and treatment of this powerful force well so that it gives off positive energy without deteriorating our cognition ecology or cultural memory.

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