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Xibo Liu

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Investigating the Impact of AIGC Features on the Users' Perception of the Persuasiveness of AIGC: A Perspective of Two-dimensional Awe Emotions

Xibo Liu [1]
Bo Yang [2,*]
Haofei Cheng [3]
Yongqiang Sun [4]

*Corresponding author
[1] Postgraduate, Wuhan University, Wuhan, China, liuxibo@whu.edu.cn
[2] Doctoral Student, Wuhan University, Wuhan, China, yangboo@whu.edu.cn
[3] Postgraduate, Wuhan University, Wuhan, China, chenghf0509@163.com
[4] Professor, Wuhan University, Wuhan, China, sunyq@whu.edu.cn

ABSTRACT

The development of Artificial Intelligence (AI) continues to profoundly influence the human-intelligence interaction. As AI-Generated Content(AIGC) progressively approaches, and in some instances, even surpasses human-created content, it augments the natural human-intelligence interaction experience, offering users convenient and efficient information services. However, it also raises the issue of the users' perception of the persuasiveness of AIGC. Consequently, there is an imperative to empirically investigate the users' perception of the persuasiveness of AIGC. Drawing upon the Stimulus-Organism-Response (SOR) theory, this paper introduces two novel variables, namely positive and negative awe, to construct a comprehensive model that elucidates the factors influencing the users' perception of the persuasiveness of AIGC. To empirically test this model, we gathers a dataset comprising 298 valid responses through a web-based questionnaire. We employ the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique for rigorous statistical analysis. The findings of this study reveal that AIGC's cognitive and relational competencies exert a significantly positive impact on the elicitation of positive awe among users, while AIGC's cognitive and emotional competencies are associated with a significantly negative effect on the generation of negative awe among users. Furthermore, this study shows that positive awe has a notably favorable influence on the users' perception of the persuasiveness of AIGC, negative awe has a negative effect on the users' perception of the persuasiveness of AIGC. Innovatively, this paper introduces the concept of awe as a pivotal mechanism influencing the users' perceptions of the persuasiveness of AIGC. Through rigorous empirical analysis, this paper provides advice for technology companies on enhancing the users' perception of the persuasiveness of AIGC.

Keywords: AIGC, SOR theory, positive awe, negative awe, perception persuasiveness

INTRODUCTION

AI-Generated Content (AIGC) refers to the use of artificial intelligence technology to generate content automatically. AIGC has greatly changed the way of thinking, behavior and life of users in this era (Paul & Dennis, 2023). With the continuous progress of artificial intelligence technology, the generation mode of AIGC is constantly developing and widely applied. Categorized by their modes of generation, AIGC products include text generation, image generation, code generation, and audio generation. At the end of 2022, OpenAI launched a famous artificial intelligence text generation product: ChatGPT. ChatGPT garnered over a million registered users within a mere five days of its release, with active users exceeding 100 million within a month. ChatGPT facilitates high-quality text generation, including the creation of articles, summaries, translations, dialogues, and more. The emergence of AIGC simplifies the process of content creation and has been widely used in the field of art. ChatGPT is an AI Natural Language Processing (NLP) model-generating AI technology applied to provide algorithmic responses to question-prompted conversations (Van et al., 2023). Developed by OpenAI, ChatGPT boasts a rich feature set and is proficient in various tasks, such as chatbot services, language translation, text generation, and even automating the preparation of academic papers like dissertations and programming code, adapting to users' personalized needs in real-time and with flexibility.

When users use AI tools to generate content, they prioritize responses that are perception of persuasiveness (Chandra, Shirish& Srivastava, 2022). However, ChatGPT often lacks the ability to incorporate new knowledge dynamically and sometimes fails to learn its experiences. It makes occasional errors of basic logic that may not seem obvious in some specialized domains, or there may be excessive trust in obtaining false results from users (Zhang et al., 2023). These limitations of AIGC can lead users to perceive it as lacking persuasiveness, thereby eliciting resistance.

Consequently, the utilization of AIGC is a double-edged sword for users. The purpose of this paper is how to play the role of AIGC and enhance the users' perception of the persuasiveness of AIGC. Users' perception of the persuasiveness of AIGC and

their willingness to use it for problem-solving are inherently tied to their perceptions and evaluations of their interactions and dialogues with AIGC. However, previous research has the following shortcomings: Firstly, there is a lack of definitive research pinpointing the critical features of AIGC that impact the users' perception of the persuasiveness of AIGC. Hence, we pose Research Question 1 (RQ1): Which features of AIGC influence the users' perception of the persuasiveness of AIGC? Secondly, there is currently a gap in understanding the intermediary mechanisms through which AIGC affects the users' perception of the persuasiveness. Consequently, we pose Research Question 2 (RQ2): What is the intermediary mechanism by which AIGC shapes the users' perception of the persuasiveness of AIGC?

The purpose of this paper is to address the previously mentioned research inquiries utilizing the framework of the Stimulus-Organism-Response (SOR) theory. Firstly, it investigates the pathways through which AIGC affects the users' perceptions of persuasiveness, leveraging the three-dimensional features of AIGC. The three-dimensional interactive features of AIGC are AIGC cognitive competency, AIGC relational competency, and AIGC emotional competency. AI cognitive, relational, and emotional competency are the three-dimensional abilities for AI tools to interact with users (Chandra, Shirish& Srivastava, 2022). Secondly, this paper posits that awe is the key mechanism by which AIGC's three-dimensional features influence the users' perceptions of persuasiveness. Specifically, users are more likely to be awed by AIGC with heightened interaction competencies (Benbasat & Wang, 2005). When AIGC demonstrates creative, spontaneous, and open handling of information problems, as well as effectively addressing user needs, users perceive it as possessing cognitive competencies, thus altering their sense of awe towards AIGC. Conversely, when AIGC prioritizes collaboration with users and displays consideration for their needs and preferences, users perceive it as having relational competencies , further affecting their sense of awe. Finally, when AIGC demonstrates humanistic care and empathy in its interactions with users, users perceive it as possessing emotional competency, thereby impacting their sense of awe towards AIGC. Individuals who experience awe are more likely to perceive persuasiveness, with the sense of obedience induced by awe playing a mediating role (Fei, Huang, &Wang, 2021). Therefore, awe, as a key user psychological mechanism, can explain how the three-dimensional characteristics of AIGC affect the users' perception of the persuasiveness of AIGC.

In summary, this paper treats the three-dimensional interaction features of AIGC as the independent variable, the users' perception of the persuasiveness of AIGC as the dependent variable, and users' positive or negative awe experience as the mediating variable of the regulatory mechanism.

LITERATURE REVIEW

AIGC Interaction Features

Prior studies have initially explored the effects of AIGC features on user behavior. Based on the TAM model, Liu and Ma (2023) studied the extent to which ChatGPT is perceived and utilized by EFL learners outside the classroom and believed that learners who are positive about the usefulness of ChatGPT tend to show higher levels of behavioral intentions. Prasad (2023) aims to put forth and examine the influencing factors impacting the adoption of generative AI technology by utilizing the Technology-Organization-Environment framework in conjunction with the institutional theory and the diffusion of innovation theory. Schuetzler et al. (2018) created an interaction environment similar to the human social environment and observed the user's engagement with the AIGC product in this environment. Emmerling and Boyatzis (2012) argued that appropriate algorithms for training AIGC to interact with humans also affects user engagement with AIGC products. However, prior studies examining the influence of AIGC on users' conviction have often been limited to AIGC's one-dimensional features, neglecting a holistic exploration of the impact of AIGC's three-dimensional features. In addition, no research has highlighted how AI tools might evoke positive and negative awe in users. In this paper, we will conduct a study centered on the three-dimensional interaction features of AIGC.

Cognitive competency pertains to the ability to process, store, and extract information, encompassing the capacity to comprehend the composition of entities, the interplay between performance and external factors, the dynamics of development, the direction of progression, and fundamental principles. In the text generated by AI tools, cognitive competency signifies the AI's capacity to process information, solve problems, and fulfill assigned tasks (Eschenbrenner & Nah, 2014). For example, the cognitive competency of text-based AI products can be evident in tasks related to information processing, such as writing proficiency.

Relational competency involves the aptitude to communicate and collaborate with others to cultivate and sustain harmonious interpersonal connections. AIGC's relational competency embodies the capability of AI products to interact with users, including supporting cooperative engagement among users (Wang & Haggerty, 2011). For example, ChatGPT can engage with users to discern their preferences and cater to their individual requirements.

Emotional competency, as the third pivotal competency, pertains to the capacity to empathize with and interact effectively with others (Pittenger, 2015). AI emotional competency signifies the AI's ability to endeavor to understand users' emotions, feelings, and responses, regulate its own emotional expression, articulate its own emotions, and establish an appropriate emotional rapport with users. For example, certain voice recognition software can discern a customer's emotional state during a phone conversation, enabling real-time adjustment of its dialogue with the user.

Awe

Awe is a complex emotional experience characterized by wonder that arises when individuals encounter something magical or elusive, which cannot be fully comprehended within existing cognitive models (Griskevicius, Shiota, & Neufeld, 2010). In terms of the intensity of awe as an emotion, most scholars consider it to be a positive emotional state (Stellar et al., 2015). However, some scholars argue that awe may encompass negative attributes. They contend that latent fear is one of the four characteristics of awe, that the ten elements of the awe experience include elements of fear (Bonner & Friedman, 2011), and that awe can also be based on a sense of threat, referred to as "negative awe" (Gordon et al., 2017). Recent research has confirmed the existence of two types of awe emotions with varying intensities: positive and negative awe emotions (Vohs & Schmeichel, 2003). This paper maintains that the original concept of awe includes notions of relative status and the associated hierarchical relationships, which can assist individuals of lower status in adapting their cognitive and behavioral patterns to accommodate their subordinate positions and integrate into a group. Hence, the negative aspects of awe cannot be disregarded. From the perspective of both positive and negative awe, this paper explores the influence of awe on the perceived persuasiveness of AIGC.

Prior studies on the impact of positive and negative emotions on persuasiveness have suggested that individuals in positive emotional states are more susceptible to heuristic prompts, while those in negative states are less inclined to employ such cognitive shortcuts (Tiedens & Linton, 2001). Given that awe is a complex emotion with both positive and negative attributes, it warrants an in-depth examination of its impact on persuasiveness effects. Additionally, Ye and Zhou (2019) proposed that awe can induce systematic processing in individuals, but it also makes consumers more susceptible to advertising messages. The underlying mechanism by which awe influences persuasiveness remains unclear. Ye and Zhou (2019) suggested that awe positively impacts advertising effectiveness, but they did not explicitly elucidate the mediating mechanism of this effect.

Awe is not limited to domains like psychology and socialization, it also plays a significant role in explaining the acceptance of various AI domains, such as virtual and augmented reality (Chirico & Gaggioli, 2019). Users who choose to engage with automation in various forms (AI, voice assistants, virtual reality, mixed reality, etc.) often experience awe towards the technology. AI-enabled services are reshaping and enhancing the customer experience through emotional engagement (Huang, Rust & Maksimovic, 2019). Prior studies on the effects of awe on persuasiveness have often blurred the distinctions between different intensities of awe, thereby neglecting the differences in conclusions between positive and negative awe. Therefore, this paper will investigate the persuasiveness effects of both positive and negative awe.

Stimulus-Organism-Response (S-O-R) Model

Mehrabian and Russell (1974) introduced the Stimulus-Organism-Response (S-O-R) model, which posits that environmental signals, acting as stimuli, give rise to a multitude of emotional and cognitive responses. These responses, in turn, contribute to the formation of innovative user behavioral insights and evaluations. The S-O-R model has found widespread application across various online environments (Sharma et al., 2021). Within the S-O-R model framework, environmental cues function as external stimuli, while the anticipatory organism acts as a mediating structure between the stimulus and the response, emphasizing its impact on the user's mental processes. This paper adopts the S-O-R model to investigate the AIGC interaction features (stimuli) and their role in engendering awe-inspiring experiences (organisms), ultimately influencing the users' perception of the persuasiveness of AIGC (responses).

RESEARCH MODEL AND HYPOTHESIS

Based on the preceding analysis (refer to Figure 1), this paper presents the following research model: The independent variables consist of the three-dimensional interaction features of AIGC, namely, AIGC cognitive competency, AIGC relational competency, and AIGC emotional competency. The dependent variable is the users' perception of the persuasiveness of AIGC. The mediating variables, which play a crucial role in mediating the relationship between AIGC interaction features and the users' perception of the persuasiveness of AIGC, are the positive awe and negative awe experienced by users in response to AIGC. From a mediator perspective, it is suggested that AIGC interaction features impact the generation of both positive and negative awe among users in their interactions with AIGC. Consequently, this influence extends to the users' perception of the persuasiveness of AIGC. In summary, the central research question addressed in this paper pertains to how AIGC interaction features influence the users' perception of the persuasiveness of AIGC by shaping their experiences of positive awe and negative awe.

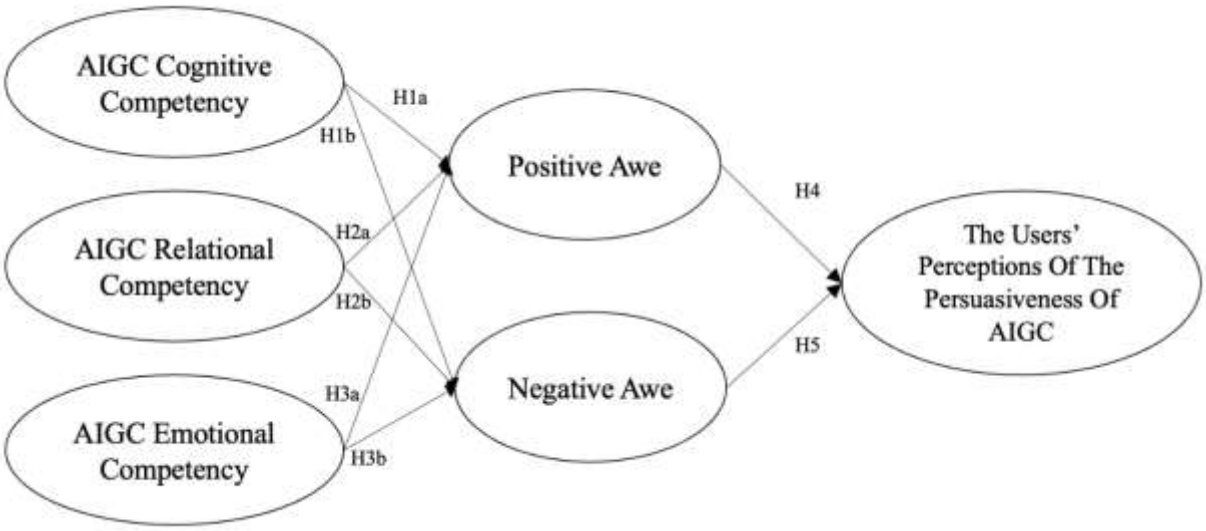


Figure 1: Research model.

AIGC Cognitive Competency

Cognitive competency pertains to the capacity for processing, storing, and extracting information. It encompasses the ability to comprehend the composition of objects, the interrelation of attributes, the dynamics of development, the direction of progress, and the fundamental principles governing phenomena. Within the context of an AIGC, cognitive competency denotes the capability to process information, resolve problems, and effectively carry out assigned tasks. Prior research has posited that the cognitive competency of AI can influence the user's sense of awe (Kautish et al., 2023). When an AIGC adeptly addresses information challenges, displays spontaneity in problem-solving, and operates transparently in meeting user needs, users perceive it as possessing cognitive prowess and adeptness in executing designated tasks, thereby altering their awe toward the AIGC.

The manifestation of cognitive competencies by AIGC enhances users' evaluations of its products and fosters user confidence in relying on AIGC. Consequently, this paper anticipates that AIGC's cognitive competencies will elevate users' positive awe experiences while diminishing negative awe sentiments. Users are inclined to cede control and delegate tasks to the AIGC, thereby reducing their cognitive exertion in overseeing AIGC performance. Accordingly, this paper formulates the following hypotheses:

H1a: AIGC cognitive competency significantly positively influences the generation of users' positive awe.

H1b: AIGC cognitive competency significantly negatively influences the generation of users' negative awe.

AIGC Relational Competency

Relational competency pertains to the aptitude for effective communication and collaboration with others to foster and sustain harmonious interpersonal relationships. In the context of AIGC, its relational competency denotes the capability of AI products to engage users in cooperative interactions, including supporting users in collaborating with one another (Wang & Haggerty, 2011). For instance, ChatGPT can engage users in conversations to discern their preferences and fulfill their individualized requirements. Kautish et al. (2023) argue that the relational competency of AI can significantly influence the user's experience of awe. When an AIGC prioritizes collaboration with users and demonstrates attentiveness to their needs and preferences, users perceive it as possessing interpersonal, or relational, competencies. This perception, in turn, alters their sense of awe toward the AIGC. To users, a relationally competent AIGC that exhibits qualities like attentiveness, cooperation, and fairness fosters a stronger bond between the AIGC and its interacting users. This increased intimacy helps reduce communication ambiguity and disconnection (Biocca, Harms & Burgoon, 2003). Consequently, this paper posits that AIGC's relational competency will amplify positive awe and diminish negative awe among users in relation to AIGC products. Therefore, this paper formulates the following hypotheses:

H2a: AIGC relational competency significantly positively influences the generation of positive awe in users.

H2b: AIGC relational competency significantly negatively influences the generation of negative awe in users.

AIGC Emotional Competency

Emotional competency, which ranks as the third most critical competence, pertains to the ability to empathize with and interact effectively with others (Pittenger, 2015). In the context of AI, emotional competency refers to AI's capacity to attempt understanding users' emotions, feelings, and reactions, to regulate its own emotional expression, to convey its emotions, and to establish an emotional connection with users in an appropriate manner. For instance, certain voice recognition software can discern a customer's emotional state during a phone call and subsequently adjust its dialogue with the user in real-time. AIGC systems endowed with emotional competencies provide a human-like sense of warmth and empathy, thereby creating a simulated interpersonal environment. This heightened sense of presence imparts a natural and realistic impression of the AIGC to the user, resulting in sustained emotional engagement and excitement. Kautish et al. (2023) contend that the emotional competencies of AI can significantly influence the user's experience of awe. When an AIGC demonstrates humanistic care and empathy during interactions with users, maintains real-time emotional connections, and satisfies users' emotional needs with human-like warmth

and sympathy, users perceive it as possessing emotional competencies. This, in turn, alters their sense of awe toward the AIGC. Consequently, this paper posits that AIGC's emotional competency leads to an increase in positive awe and a decrease in negative awe among users in relation to AIGC products. Therefore, this paper formulates the following hypotheses:
H3a: AIGC emotional competency significantly positively influences the generation of positive awe in users.
H3b: AIGC emotional competency significantly negatively influences the generation of negative awe in users.

Awe

Awe is an emotion, representing a complex emotional experience of wonder that emerges when an individual encounters something magical or elusive, beyond the grasp of existing cognitive models (Griskevicius, Shiota, & Neufeld, 2010). Recent scholarly work has confirmed the existence of two distinct types of awe emotions with varying intensities: positive awe emotions and negative awe emotions. Prior research on the influence of positive and negative emotions on persuasiveness has indicated that individuals in positive affective states are more amenable to persuasion through heuristic prompts, whereas those in negative states are less inclined to utilize such cognitive shortcuts (Tiedens & Linton, 2001). This paper posits that individuals experiencing positive awe are more susceptible to persuasion, while those in a state of negative awe are less so. The rationale behind this assertion is that research on the interplay of emotion and cognitive processing modes has shown that individuals in a negative mood tend to exhibit a more positive attitude when presented with a strong argument. Conversely, when confronted with a weak argument, they scrutinize it in search of its inadequacies (Bless et al., 1990). Individuals in a pleasant mood are more likely to be persuaded, regardless of the argument's strength. This is because individuals in a pleasurable mood tend to employ a simplified heuristic processing model, wherein the quantity of the argument suffices, regardless of its quality. This paper anticipates that individuals in a positive awe mood will display a heightened sense of compliance and will be more easily persuaded by AIGC. Conversely, individuals in a negative awe mood are expected to exhibit resistance and be less susceptible to persuasion by AIGC. Therefore, this paper formulates the following hypotheses:
H4: Positive user awe has a significant positive effect on the users' perception of the persuasiveness of AIGC.
H5: Negative user awe has a significant negative effect on the users' perception of the persuasiveness of AIGC.

METHOD

Data Collection

Online surveys have become a primary research tool in empirical studies within the social sciences. In recent years, the use of online survey methodologies has become increasingly prevalent in perception-related studies. Utilizing this research approach enables the prompt and efficient capture of user experiences with AIGC products. Given the nature of this research, the online survey method is highly suitable for testing the research model.

The questionnaire was distributed and collected using Credamo, an online data collection platform. A total of 359 questionnaires were randomly disseminated through the data mart. After filtering out erroneous and contradictory data from the bait questions, 298 valid questionnaires related to AIGC products were obtained, resulting in an effective response rate of 83.0%. This empirical study comprised 20 measurement items, and the quantity of valid questionnaire data satisfied the sample size requirements for the survey. Descriptive statistics of the valid samples are presented in Table 1. Among the randomly recruited adult users, 46.98% were male and 53.02% were female. The majority of respondents were aged 31 years and above, constituting 48.32% of the sample. The predominant educational background was undergraduate degrees from universities, accounting for 68.79%. Overall, usage frequency was relatively high, with 56.17% of users utilizing the platform at least once daily.

All constructs in this study were measured using scales established in previous studies and slightly adjusted to fit the research context. Specifically, AIGC cognitive competence (e.g., During my interaction with the AIGC tool, I found the AIGC tool to be myopic/open-minded) was measured with items adapted from (Chandra, Shirish& Srivastava, 2022). AIGC relational competence (e.g., During my interaction with the AIGC tool, I found the AIGC tool to be inconsiderate /considerate) was measured with items adapted from (Chandra, Shirish& Srivastava, 2022). AIGC relational competence (e.g., During my interaction with the AIGC tool, I found the AIGC tool to be insensitive/compassionate) was measured with items adapted from (Chandra, Shirish& Srivastava, 2022). Positive awe (e.g., This AIGC tool has thrilled me from the very beginning) was measured with items adapted from (Arghashi, 2022). Negative awe (e.g., This AIGC tool makes me fear for my job safety) was measured with items adapted from (Lv, Huang & Huang, 2023). The users' perceptions of the persuasiveness of AIGC (e.g., The contents generated by AIGC tool are convincing) was measured with items adapted from (O'Keefe, 2020). All items were rated on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Table 1: Demographics.

Variables	Category	Frequency	Percentage(%)
Gender	Male	140	46.98
	Female	158	53.02
Age	Under20	6	2.01
	21-25	47	15.77
	26-30	101	33.89

	Above31	144	48.32
Education	College and below	41	13.76
	Bachelor's degree	205	68.79
	Master's degree	49	16.44
	PhD degree	3	1.01
Frequency of AIGC utilization	Every few hours	57	19.13
	At least once a day	112	37.58
	At least once a week	108	36.24
	At least once a month	20	6.71

DATA ANALYSIS

Given the relatively small sample size and the data's departure from the normal distribution assumption of conventional statistical methods, we opted for the use of Partial Least Squares (PLS) as the statistical approach. Smart PLS offers a broad range of scalable causal modeling functions, making it particularly well-suited for handling small data samples. Therefore, PLS was chosen in this paper to assess the validity of the measures and test the research hypotheses, with Smart PLS 2.0 serving as the primary analytical tool.

Measurement Model

The mean value, standard deviation, reliability and validity tests of the measurement model are shown in Table 2. In this table, the Composite Reliability (CR) for each construct exceeds 0.7, indicating strong composite reliability for the scale. Additionally, the Average Variance Extracted (AVE) values for all variables are above 0.5, demonstrating robust convergent validity. Furthermore, as observed in Table 2, the square root of the AVE for each construct surpasses the corresponding correlation coefficients, providing evidence of excellent discriminant validity in the model.

Table 2: Descriptive statistics, reliabilities, and correlations.

Construct	MEAN	SD	AVE	CR	CC	RC	EC	PA	NA	PP
CC	5.554	1.407	0.561	0.834	**0.749**					
RC	5.916	0.888	0.535	0.775	0.409	**0.732**				
EC	5.744	1.107	0.536	0.77	0.5	0.54	**0.732**			
PA	5.914	0.907	0.535	0.775	0.476	0.515	0.385	**0.731**		
NA	2.900	1.806	0.813	0.956	-0.344	-0.314	-0.404	-0.157	**0.902**	
PP	6.001	0.856	0.529	0.768	0.417	0.517	0.533	0.394	-0.338	**0.728**

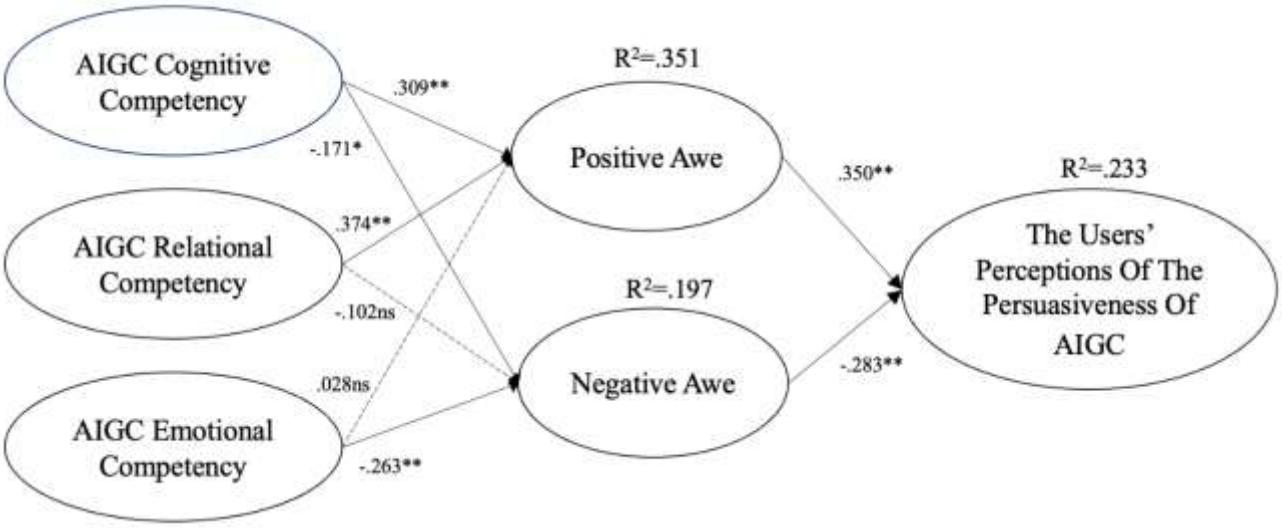
Notes: CC=AIGC Cognitive Competency; RC=AIGC Relational Competency; EC=AIGC Emotional Competency; PA=Positive Awe; NA=Negative Awe; PP= The Users' Perception Of The Persuasiveness of AIGC

Distinguishing validity, in essence, assesses whether there are low correlations and significant differences between constructs. This aspect of validity can be evaluated by comparing the correlation coefficients among the constructs with the square root of the Average Variance Extracted (AVE). As can be seen from the results in Table 3, the square root of the AVE value for each construct should be greater than the correlation between the particular and all other constructs.

Table 3: Cross-loadings.

	CC	RC	EC	PA	NA	PP
CC1	**0.836**	0.255	0.319	0.326	-0.298	0.308
CC2	**0.74**	0.243	0.452	0.29	-0.326	0.353
CC3	**0.818**	0.234	0.356	0.387	-0.232	0.308
CC4	**0.574**	0.486	0.361	0.412	-0.167	0.272
RC1	0.197	**0.758**	0.401	0.373	-0.238	0.412
RC2	0.393	**0.715**	0.424	0.389	-0.252	0.355
RC3	0.303	**0.721**	0.357	0.367	-0.195	0.369
EC1	0.35	0.448	**0.827**	0.278	-0.367	0.396

EC2	0.245	0.366	**0.524**	0.29	-0.149	0.387
EC3	0.48	0.376	**0.806**	0.29	-0.334	0.4
PA1	0.271	0.408	0.281	**0.696**	0.026	0.226
PA2	0.388	0.354	0.276	**0.712**	-0.215	0.338
PA3	0.375	0.374	0.287	**0.783**	-0.135	0.292
NA1	-0.33	-0.292	-0.323	-0.12	**0.895**	-0.322
NA2	-0.32	-0.26	-0.34	-0.172	**0.91**	-0.298
NA3	-0.319	-0.27	-0.387	-0.106	**0.908**	-0.287
NA4	-0.243	-0.287	-0.367	-0.134	**0.881**	-0.273
NA5	-0.333	-0.304	-0.4	-0.175	**0.916**	-0.339
PP1	0.332	0.453	0.455	0.336	-0.307	**0.83**
PP2	0.369	0.373	0.343	0.291	-0.241	**0.741**
PP3	0.187	0.282	0.366	0.219	-0.168	**0.592**



Notes : * : p<.05, ** : p<.01
Figure 2: Results of Structural Model.

STRUCTURAL MODEL

The PLS results of the structural model are presented in the figure 2. In this paper, model testing is conducted using Bootstrapping technique to validate the causal relationship between the variables, Bootstrapping test is used to determine the significance of the relationship based on the magnitude of the T Statistics value. AIGC cognitive competency has a significant positive effect on positive awe (β=0.309, t=3.821, p<0.01), while AIGC cognitive competency has a significant negative effect on negative awe (β=-0.171, t=2.188, p<0.05), supporting H1a and H1b. AIGC relational competency has a significant positive effect on positive awe (β=0.374, t=5.895, p<0.01), supporting H2a. AIGC relational competency has no significant negative effect on negative awe (β =-0.102, t=1.367), not supporting H2b. AIGC emotional competency has no significant positive effect on positive awe (β=0.028, t=0.400), not supporting H3a. AIGC emotional competency has a significant negative effect on negative awe (β=-0.263, t=3.305, p<0.01), supporting H3b. Furthermore, Positive awe has a significant positive effect on the users' perception of the persuasiveness of AIGC (β=0.350, t=5.325, p<0.01), supporting H4. Negative awe has a significant negative effect on the users' perception of the persuasiveness of AIGC (β =-0.283, t=5.585, p<0.01), supporting H5. Overall, this research model explains 35.1% of the variance in positive awe, 19.7% of the variance in negative awe, and 23.3% of the variance in the users' perception of the persuasiveness of AIGC.

DISCUSSION

This paper aims to explore the relationship between AIGC features, positive and negative awe, and the users' perception of the persuasiveness of AIGC. The paper also takes an innovative approach by incorporating awe as a significant factor influencing the users' perception of the persuasiveness of AIGC within the traditional S-O-R model. The conclusions drawn in this study are

based on a comprehensive process involving literature review, questionnaire design, data collection, statistical analysis, model fitting, and hypothesis testing.

First, both the cognitive and relational competencies of AIGC have a significant and positive impact on positive awe. This suggests that AIGC's cognitive and relational competencies can directly influence the positive awe experienced by users during interactions with AIGC. On one hand, AIGC's extensive data processing capabilities enable it to excel in handling general knowledge questions. On the other hand, some AIGC models exhibit satisfactory attitudes during interactions after model adjustments.

Second, both the cognitive and emotional competencies of AIGC significantly mitigate negative awe. This implies that the current state of AIGC modeling does not trigger concerns about the technology threatening human existence. For instance, AIGC occasionally provides incorrect answers to simple math questions, leading to doubts about its cognitive competence. Similarly, in everyday interactions with AIGC, it often fails to accurately gauge the user's mood from the context, which does not create a sense of threat for users.

Third, AIGC's relational competency does not significantly impact negative awe. This may be due to occasional weaknesses in AIGC's interpersonal skills during users' interactions, making it challenging for users to assess the human-like qualities of AIGC. Likewise, AIGC's emotional competency does not have a significant effect on positive awe, potentially because AIGC's ability to empathize is limited, making it difficult to accurately discern users' emotional fluctuations during conversations.

Fourth, positive awe significantly enhances the users' perception of the persuasiveness of AIGC, indicating that users' positive awe emotions during interactions with AIGC influence their behavior. In a relaxed state, users tend to accept certain ideas as correct, employing a simple heuristic processing model (Griskevicius, Shiota, & Neufeld, 2010). Conversely, negative awe significantly diminishes the users' perception of the persuasiveness of AIGC. When faced with AIGC that was clearly less competent, individuals tend to regard it as a way to acquire knowledge, rather than feel threatened by the right to know. However, some test participants did experience negative awe while interacting with AIGC, which altered their behavior. Confronted with AIGC possessing significantly superior knowledge abilities, users tended to scrutinize the dialogue provided by AIGC, reluctant to trust its extensive knowledge capabilities.

Theoretical Implications

This paper extends previous research around the users' perception of the persuasiveness of AIGC in the following ways. First, past studies by scholars on the users' perception of the persuasiveness of AIGC have often focused on the instrumental value of AIGC, while mostly ignoring the interaction between AIGC and users. This paper fills this gap by building on past research, investigating AIGC based on its three-dimensional interaction characteristics, adding awe as a mediating variable, and exploring its intrinsic mechanism using the S-O-R model. This paper motivates future research to further explore the mechanisms by which the interaction features of AIGC influence the users' perception of the persuasiveness of AIGC.

Second, the use of awe as a mediating factor influencing the users' perception of the persuasiveness of AIGC is a novel contribution of this paper, which categorizes awe factors into positive and negative awe and provides new insights into how the three-dimensional interaction characteristics of AIGC influence the users' perception of the persuasiveness of AIGC. Prior studies on persuasion effects have blurred the different potencies of awe, and the differences in conclusions under positive versus negative awe moods have not been examined. This paper fills this gap, and the results suggest that users' positive and negative awe of AIGC products have different effects on the users' perception of the persuasiveness of AIGC. This implies that future research could further discuss the effects of different awe emotions on persuasiveness.

Finally, this paper empirically examines the effect of AIGC's interaction features on the users' perception of the persuasiveness of AIGC, opening up a new direction for research on perception persuasiveness. Our study shows that the three-dimensional interaction features of AIGC affect the users' perception of the persuasiveness of AIGC by changing users' positive awe or negative awe of the AIGC product. This finding provides an insight for future researchers that the value of interaction with users and users' emotions of AIGC products, in addition to the instrumental value of the product itself, can have a significant impact on the users' perception of the persuasiveness of AIGC.

Practical Implications

With the increasingly fierce competition in the AIGC market, developers are striving to enhance the persuasive nature of AIGC by refining the way AIGC interacts with users. This effort aims to enhance the user experience, bolster the reputation of AIGC products, and increase user adoption intentions. Based on our survey and research, we propose two recommendations for the advancement of AIGC technology.

AIGC developers can enhance the emotional and relational competencies embedded within AIGC algorithms. Our empirical analysis reveals that users are positively influenced by AIGC when they clearly perceive its robust cognitive and relational competencies during interactions. This heightened perception of AIGC's competencies tends to evoke positive awe in users, making them perceive persuasiveness of AIGC.

AIGC developers can refine the tone and demeanor of AIGC models across diverse contexts as they undergo updates and iterations. When users find themselves in a more comfortable and positive emotional state, they become more inclined to embrace AIGC, thereby augmenting the users' perception of the persuasiveness of AIGC.

Limitations and Future Research

This paper has some limitations. Firstly, the data is derived from user self-reports collected by Credamo, which may introduce issues related to common methodology bias. Therefore, future studies could gather objective data from users of social network platforms to validate the research model. Secondly, this paper primarily examines how AIGC interaction features influence the users' perception of the persuasiveness of AIGC by affecting their positive or negative awe. Future research could explore the variations in users' awe responses and perception persuasiveness when using different AIGC products, taking into account potential differences among these products. Lastly, the sample size in this paper is relatively small, and the surveyed participant groups are not categorized. Subsequent investigations could target specific groups, such as scientific researchers or employees of internet-based enterprises.

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