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Examining the Effect of AI-Generated Advertising on Brand Authenticity and Consumer Trust

1. Javad. Soheili*: PhD student in Marketing, Department of Business Administration, Kish International Campus, University of Tehran, Kish Island, Iran

*corresponding author's email: javad.soheili@ut.ac.ir

ABSTRACT

This study aimed to examine the effect of AI-generated advertising on brand authenticity and consumer trust and to determine the mediating role of brand authenticity in the relationship between AI-generated advertising and consumer trust among consumers in Tehran. This quantitative experimental study was conducted among 400 adult consumers residing in Tehran who had previous experience with online shopping and digital advertising. Participants were randomly assigned to either an AI-generated advertising condition (n = 200) or a human-generated advertising condition (n = 200). A fictitious consumer brand was used to control for prior brand familiarity and attitudes. Data were collected using standardized multi-item measures of perceived brand authenticity and consumer trust. Construct validity was assessed through confirmatory factor analysis, while reliability was evaluated using Cronbach's alpha and composite reliability. Data were analyzed using independent-samples t tests, analysis of covariance, confirmatory factor analysis, structural equation modeling, and bias-corrected bootstrapping with 5,000 resamples. Participants exposed to AI-generated advertising reported significantly lower brand authenticity than those exposed to human-generated advertising, $t = -7.60$, $p < .001$, Cohen's $d = 0.76$, and significantly lower consumer trust, $t = -6.39$, $p < .001$, $d = 0.64$. Structural equation modeling showed that AI-generated advertising negatively predicted brand authenticity ($\beta = -0.42$, $p < .001$) and consumer trust ($\beta = -0.21$, $p < .001$), whereas brand authenticity positively predicted consumer trust ($\beta = 0.61$, $p < .001$). The indirect effect of AI-generated advertising on consumer trust through brand authenticity was also significant ($\beta = -0.26$, $p < .001$; 95% bootstrap CI [-0.34, -0.18]), confirming partial mediation. AI-generated advertising can reduce consumer trust both directly and indirectly by weakening perceptions of brand authenticity, indicating that brands should integrate generative AI with transparent, human-supervised, and authenticity-preserving communication strategies.

Keywords: Artificial Intelligence; AI-Generated Advertising; Brand Authenticity; Consumer Trust; Digital Advertising; Generative AI; Consumer Behavior

Introduction

The rapid diffusion of artificial intelligence across the digital marketing ecosystem has fundamentally altered the processes through which advertising content is conceived, produced, personalized, distributed, and evaluated. Generative artificial intelligence, in particular, has enabled firms to automate or semi-automate the production of advertising text, images, video, virtual spokespersons, and interactive brand communications at a speed and scale that were previously unattainable through conventional creative processes. This transformation has shifted AI from



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a supporting analytical technology toward a direct participant in creative communication, where algorithms increasingly generate consumer-facing brand narratives rather than merely assisting marketers in targeting or optimization. Contemporary research therefore treats artificial intelligence not simply as a productivity tool, but as a strategic actor capable of influencing consumer cognition, affect, engagement, and behavioral responses across digital platforms (1-3). At the same time, the growing incorporation of AI into advertising raises important questions regarding how consumers evaluate messages when they know, infer, or suspect that these messages were produced by nonhuman systems. The ability of generative AI to imitate human creativity, visual realism, linguistic fluency, and persuasive style has intensified the need to understand whether technologically produced content enhances advertising effectiveness or undermines the relational qualities through which brands establish authenticity and trust (4, 5). This issue is particularly important because digital marketing performance increasingly depends not only on attention and conversion efficiency but also on the credibility, legitimacy, and relational consistency that consumers attribute to brands over time (6, 7).

The growing strategic importance of AI-generated advertising is closely associated with its capacity to reduce production costs, accelerate content creation, generate multiple creative variants, adapt advertisements to specific audience segments, and support real-time optimization across digital channels. These capabilities can potentially improve marketing efficiency by enabling firms to create large volumes of personalized and context-sensitive content while allocating human creative resources to more strategic tasks. Systematic assessments of generative and predictive AI in advertising indicate that the technology is increasingly embedded in ideation, content production, personalization, campaign management, audience analytics, and co-creative processes (2, 8). The broader adoption of AI also corresponds with the transformation of marketing education and professional competencies, as practitioners are increasingly expected to combine strategic judgment with the ability to supervise, evaluate, and refine AI-supported communication outputs (9). However, efficiency gains do not automatically translate into favorable consumer responses. Critical perspectives on AI-assisted co-creation have emphasized that generative systems may alter perceptions of creative ownership, human agency, originality, and responsibility, particularly when the contribution of the technology becomes extensive or insufficiently transparent (10). Consequently, an advertisement that performs efficiently from a production perspective may produce unintended consumer reactions if audiences interpret AI involvement as evidence of diminished human intention, reduced sincerity, or excessive automation. This tension between technological efficiency and relational credibility represents a central challenge for contemporary digital marketing.

One of the most important constructs for understanding this tension is brand authenticity. Brand authenticity generally reflects consumers' perceptions that a brand is genuine, sincere, credible, internally consistent, and faithful to the identity and values it communicates. In digital environments characterized by persuasive saturation, algorithmic targeting, synthetic imagery, virtual influencers, and automated content generation, authenticity becomes increasingly valuable because it helps consumers distinguish communications they perceive as meaningful and credible from those they consider manufactured, manipulative, or strategically artificial. Recent research demonstrates that perceptions of authenticity are not determined solely by the objective source of a message but emerge through complex configurations involving source characteristics, message cues, contextual expectations, and consumer interpretations (11). The distinction between human and synthetic communication sources is therefore particularly consequential because consumers may associate human authorship with intentionality, emotional experience, creativity, and lived understanding, while associating algorithmic production

with efficiency, replication, optimization, and limited human presence. Experimental research on AI disclosure further suggests that informing consumers that content was generated by AI can activate authenticity-related evaluations, with the effect depending on how consumers interpret novelty, technological involvement, and perceived sincerity (12). Accordingly, the influence of AI-generated advertising is unlikely to operate merely through judgments of technical quality; it may also alter the deeper symbolic interpretation of whether the brand appears authentic.

The relationship between artificial intelligence and authenticity is nevertheless complex rather than uniformly negative. Emerging research suggests that AI-generated communication can sometimes strengthen perceptions of novelty, transparency, or strategic sophistication, particularly when the technological source is congruent with the advertising context or when brands openly acknowledge the nature and limitations of AI-generated content. For example, evidence concerning flaw disclosure in AI-generated advertising indicates that explicitly acknowledging imperfections can activate authenticity and novelty pathways rather than automatically weakening evaluations (13). Similarly, work on AI-enabled sustainability communication indicates that authenticity can function as an important signaling mechanism through which technologically mediated communication contributes to favorable brand perceptions and purchase intentions (14). In corporate social responsibility contexts, AI may also support perceptions of empathy and authenticity when its use is aligned with credible organizational values and communication practices rather than deployed as a purely instrumental automation mechanism (15). These findings indicate that consumers do not necessarily reject AI because it is artificial; instead, they evaluate whether the use of AI appears appropriate, transparent, believable, and consistent with the identity of the communicating brand. This distinction is critical because it suggests that AI-generated advertising can produce both authenticity benefits and authenticity penalties depending on the meaning consumers assign to technological participation.

Consumer trust constitutes another central outcome through which the implications of AI-generated advertising can be understood. Trust reflects consumers' willingness to rely on a brand based on expectations that it will act honestly, reliably, competently, and consistently with its promises. In digital commerce, trust is particularly important because consumers often interact with brands under conditions of incomplete information, limited physical contact, algorithmic mediation, and uncertainty regarding how promotional content is created or personalized. The increasing realism of AI-generated advertisements can intensify this uncertainty because consumers may have difficulty determining whether images, voices, testimonials, spokespersons, or claims correspond to real entities and human experiences. Research examining the relationship among AI realism, disclosure, deception, and AI literacy demonstrates that realistic synthetic advertising can operate as a double-edged mechanism: high realism may enhance persuasive quality while simultaneously creating stronger concerns about deception when consumers recognize that artificial content has been presented without adequate transparency (4). Correspondingly, empirical work on AI-generated advertising transparency shows that disclosure mechanisms can significantly shape user trust and engagement by influencing how consumers interpret the legitimacy and honesty of technologically produced content (16). These findings make trust especially relevant to the evaluation of AI-generated advertising because technological sophistication can increase persuasive power while also heightening suspicion concerning the origins and intentions of advertising messages.

The effects of AI-generated content on trust also appear to depend on source credibility, social presence, and the broader communicative context. Research in AI-supported corporate social responsibility communication indicates that credibility and social presence can help translate artificial intelligence into responsible consumption

outcomes, suggesting that consumers may respond positively when AI-mediated messages preserve relational and socially meaningful cues (17). Likewise, studies comparing AI and human endorsers in green advertising demonstrate that consumer trust and authenticity judgments interact with broader skepticism toward artificial intelligence and can subsequently influence purchase intentions (18). Research on AI endorsers further suggests that consumers engage in complex cognitive processing when evaluating artificial brand advocates, integrating perceptions of humanness, credibility, congruence, and communicative competence rather than merely reacting to the presence of technology itself (19). Such evidence highlights that trust in AI-mediated brand communication should not be conceptualized as a simple function of whether an advertisement is technologically produced. Rather, trust emerges through the interaction between the source of the message, the perceived authenticity of the communication, and consumers' expectations regarding the appropriate role of artificial intelligence in brand relationships.

The mediating role of brand authenticity is particularly important in this context because authenticity may explain how consumers translate information about AI involvement into trust-related judgments. When consumers encounter an AI-generated advertisement, they may initially evaluate whether the message reflects genuine brand values, meaningful creative intention, and credible communication. If AI involvement is interpreted as replacing rather than supporting genuine brand expression, perceived authenticity may decline, thereby reducing trust. In contrast, if AI is seen as an appropriate tool that assists the brand without compromising sincerity or identity, the negative effect may be limited or even reversed. Evidence from sustainable advertising illustrates this mechanism. Comparative research on AI-generated and human-created sustainability advertisements has shown that source disclosure and environmental claim strength can influence perceived greenwashing and green trust, demonstrating that the perceived origin of an advertisement interacts with judgments regarding the credibility of brand claims (20). Similarly, research on AI-generated agricultural-product advertising indicates that narrative cues such as an underdog brand biography can reduce skepticism toward artificial intelligence-generated content, suggesting that meaningful brand narratives may buffer adverse responses to synthetic communication (21). These findings imply that the influence of AI-generated advertising on trust is likely to be at least partly indirect, operating through consumers' interpretation of the authenticity of the brand behind the advertisement.

The expanding use of computer-generated imagery and synthetic visual communication further illustrates why authenticity and trust should be examined together. Computer-generated advertising can create visually compelling and highly controlled representations that may increase attention, memorability, and positive word-of-mouth, but it can also blur the boundary between representation and reality. Research on computer-generated imagery advertisements indicates that such content can facilitate favorable consumer advocacy under appropriate conditions, demonstrating that synthetic production does not inherently prevent positive marketplace outcomes (22). At the same time, neurophysiological and qualitative comparisons between AI-generated and human-produced video advertisements reveal that consumers may respond differently at both implicit and explicit levels, reinforcing the idea that technological source can shape processing even when surface-level quality appears comparable (5). These responses are likely to become increasingly consequential as generative AI systems improve and the visual distinction between synthetic and human-created content becomes more difficult to detect. As technical realism increases, consumers may rely less on visible production quality and more heavily on disclosure cues, brand reputation, perceived motives, and authenticity judgments when deciding whether an advertisement deserves trust.

Ethical considerations further strengthen the importance of investigating these relationships. The expansion of AI-generated marketing raises questions involving transparency, manipulation, disclosure, accountability, privacy, bias, deception, authorship, and consumer autonomy. A structured review of digital marketing ethics in the AI era identifies these issues as central challenges for firms that seek to use artificial intelligence responsibly while maintaining consumer legitimacy (23). These concerns are especially relevant when consumers are unaware that advertisements contain synthetic material or when AI-generated representations are sufficiently realistic to be mistaken for human-created evidence. At the same time, ethical AI use is not limited to disclosure alone. The broader governance of digital advertising increasingly involves responsible monetization practices, consumer protection, sustainable platform design, and alignment with environmental, social, and governance principles (7). Accordingly, brands face a strategic dilemma: while generative AI enables faster and potentially more efficient communication, excessive automation or opaque technological practices may undermine precisely the relational assets—authenticity and trust—that support long-term brand equity. Responsible implementation therefore requires understanding not only whether AI-generated advertisements achieve attention or engagement but also how they influence consumers' deeper evaluations of the brand.

The existing literature nevertheless remains fragmented. Systematic reviews of AI and consumer behavior in social media indicate that current research spans multiple outcomes, including attitudes, engagement, purchase intentions, emotions, behavioral responses, disclosure effects, and technology acceptance, but also reveal substantial heterogeneity in conceptual models and measurement approaches (3, 8). Much of the existing evidence examines specialized contexts such as sustainability claims, corporate social responsibility communication, green advertising, virtual endorsers, AI disclosure labels, or computer-generated imagery rather than the more general relationship between AI-generated advertising, brand authenticity, and consumer trust. Moreover, studies often focus on a single dependent variable or compare technological and human sources without simultaneously testing the psychological pathway through which source cues affect trust. The emerging literature on AI skepticism, authenticity, disclosure, and source evaluation strongly suggests that authenticity may serve as a critical explanatory mechanism, yet direct empirical examination of its mediating role remains limited (11, 12, 18). In addition, the rapid development of generative AI means that consumer expectations are evolving alongside the technology itself, requiring empirical evidence from contemporary markets rather than relying exclusively on assumptions formed during earlier stages of digital automation.

The need for context-specific evidence is also important because consumer reactions to AI-generated advertising may vary according to cultural expectations, digital literacy, familiarity with artificial intelligence, platform use, perceived technological competence, and established norms regarding brand communication. Studies emphasizing disclosure effects and AI literacy indicate that consumers differ substantially in their ability to identify, interpret, and evaluate synthetic advertising, which may alter the strength of skepticism or trust responses (4, 16). Likewise, the effectiveness of digital marketing strategies depends on how technological capabilities are integrated with consumer-oriented communication rather than implemented as isolated optimization tools (6). As AI becomes increasingly normalized within everyday advertising practice, marketers therefore require empirical evidence clarifying whether consumers interpret AI involvement as a signal of innovation and competence or as a signal of reduced human authenticity. This issue is especially significant in large urban consumer markets such as Tehran, where digital commerce, social media use, online advertising exposure, and familiarity with emerging technologies

create an appropriate environment for examining contemporary responses to artificial intelligence-mediated brand communication.

Taken together, the literature indicates that AI-generated advertising offers substantial opportunities for scalable, personalized, efficient, and innovative communication, but its consequences for consumer relationships remain theoretically and managerially ambiguous. AI can enhance creative productivity, enable more sophisticated digital marketing strategies, support new forms of brand advocacy, and strengthen certain forms of responsible communication (9, 19, 22). At the same time, it can activate skepticism, authenticity concerns, ethical questions, perceptions of deception, and uncertainty about whether brand communication reflects genuine human and organizational intention (10, 23). The coexistence of these opportunities and risks makes it insufficient to evaluate AI-generated advertising solely through conventional performance indicators such as clicks, engagement, or conversion. A more complete assessment requires examination of how AI-generated advertising affects perceptions of brand authenticity, how these perceptions contribute to consumer trust, and whether authenticity acts as a mediating mechanism connecting technological source with relational consumer outcomes. The present study therefore aimed to examine the effect of AI-generated advertising on brand authenticity and consumer trust and to determine the mediating role of brand authenticity in the relationship between AI-generated advertising and consumer trust among consumers in Tehran.

Findings and Results

The final sample consisted of 400 consumers residing in Tehran, of whom 200 participants were assigned to the AI-generated advertising condition and 200 participants were assigned to the human-generated advertising condition. Of the total respondents, 208 participants (52.0%) were male and 192 (48.0%) were female. Regarding age, 96 participants (24.0%) were between 18 and 25 years old, 142 (35.5%) were between 26 and 35 years old, 101 (25.3%) were between 36 and 45 years old, and 61 (15.3%) were 46 years of age or older. In terms of education, 54 participants (13.5%) had a high-school diploma or lower qualification, 62 (15.5%) held an associate degree, 176 (44.0%) held a bachelor’s degree, and 108 (27.0%) had a master’s degree or higher. With respect to online purchasing frequency, 74 respondents (18.5%) reported making online purchases less than once per month, 158 (39.5%) reported one to three online purchases per month, 104 (26.0%) reported four to six purchases per month, and 64 (16.0%) indicated more than six online purchases per month. Furthermore, 287 participants (71.8%) reported that they had previously encountered content that they believed was generated or assisted by artificial intelligence, whereas 113 participants (28.3%) reported little or no previous familiarity with such content. The distribution of demographic characteristics across the two experimental conditions was generally comparable, and no statistically significant differences were observed between the AI-generated and human-generated advertising groups in terms of gender, age, educational level, online purchasing frequency, or previous familiarity with AI-generated content ($p > .05$). These results indicated that random assignment produced two sufficiently equivalent groups and reduced the likelihood that subsequent differences in brand authenticity and consumer trust were attributable to systematic demographic differences between the experimental conditions.

Table 1. Descriptive Statistics, Reliability, and Convergent Validity of the Study Constructs

Construct	Number of Items	Mean	SD	Cronbach's Alpha	Composite Reliability	AVE
Perceived Brand Authenticity	6	3.57	0.74	0.91	0.92	0.66
Consumer Trust	5	3.69	0.71	0.90	0.91	0.67

As shown in Table 1, both principal constructs demonstrated satisfactory descriptive distributions and strong psychometric properties. The overall mean of perceived brand authenticity was 3.57 (SD = 0.74), indicating that participants, on average, evaluated the advertised brand somewhat positively in terms of genuineness, credibility, integrity, consistency, and sincerity. Consumer trust showed a slightly higher overall mean of 3.69 (SD = 0.71), suggesting a moderately favorable level of confidence in the brand's reliability, honesty, promise fulfillment, and expected behavior toward consumers. The internal consistency of both measurement scales was high, with Cronbach's alpha coefficients of 0.91 for perceived brand authenticity and 0.90 for consumer trust, both substantially exceeding the commonly accepted minimum threshold of 0.70. Composite reliability coefficients were also satisfactory, reaching 0.92 for perceived brand authenticity and 0.91 for consumer trust. In addition, average variance extracted values were 0.66 and 0.67, respectively, demonstrating that each latent construct explained more than half of the variance in its observed indicators. Taken together, these findings confirmed adequate internal consistency reliability and convergent validity and provided sufficient support for retaining both constructs in the subsequent confirmatory factor analysis and structural model.

Table 2. Comparison of Brand Authenticity and Consumer Trust between AI-Generated and Human-Generated Advertising Conditions

Variable	Advertising Condition	n	Mean	SD	Mean Difference	t	p	Cohen's d
Perceived Brand Authenticity	AI-Generated	200	3.31	0.70	-0.52	-7.60	< .001	0.76
	Human-Generated	200	3.83	0.67				
Consumer Trust	AI-Generated	200	3.47	0.69	-0.44	-6.39	< .001	0.64
	Human-Generated	200	3.91	0.69				

The independent-samples t-test results presented in Table 2 revealed statistically significant differences between participants exposed to AI-generated advertising and those exposed to human-generated advertising for both outcome variables. Participants who viewed the AI-generated advertisement reported significantly lower perceived brand authenticity ($M = 3.31$, $SD = 0.70$) than participants exposed to the human-generated advertisement ($M = 3.83$, $SD = 0.67$), $t = -7.60$, $p < .001$. The mean difference of -0.52 was accompanied by a Cohen's d of 0.76, representing a moderate-to-large effect and indicating that the source of advertisement production had a substantively meaningful influence on consumers' perceptions of brand authenticity. A similar pattern emerged for consumer trust. Participants in the AI-generated advertising condition reported a mean consumer trust score of 3.47 ($SD = 0.69$), whereas participants in the human-generated condition reported a significantly higher mean of 3.91 ($SD = 0.69$), $t = -6.39$, $p < .001$. The corresponding effect size was $d = 0.64$, which represented a moderate effect. These findings suggested that, under the experimental conditions employed in the present study, advertisements explicitly generated through artificial intelligence were associated with lower perceptions of brand authenticity and reduced consumer trust compared with advertisements produced through conventional human creative processes. The magnitude of the differences also indicated that the observed effects were not merely statistically significant as a consequence of sample size but were practically meaningful in the context of consumer responses to advertising source.

Table 3. Confirmatory Factor Analysis and Measurement Model Fit

Indicator	Standardized Factor Loading	Critical Ratio	p
Brand Authenticity Item 1	0.78	14.82	< .001
Brand Authenticity Item 2	0.84	16.34	< .001
Brand Authenticity Item 3	0.82	15.91	< .001
Brand Authenticity Item 4	0.79	15.07	< .001
Brand Authenticity Item 5	0.85	16.61	< .001
Brand Authenticity Item 6	0.80	15.36	< .001
Consumer Trust Item 1	0.81	15.47	< .001
Consumer Trust Item 2	0.86	16.88	< .001
Consumer Trust Item 3	0.83	16.11	< .001
Consumer Trust Item 4	0.79	14.96	< .001
Consumer Trust Item 5	0.84	16.39	< .001

Model Fit Index	Obtained Value	Recommended Criterion
χ^2/df	2.18	< 3.00
CFI	0.968	> 0.90
TLI	0.959	> 0.90
GFI	0.951	> 0.90
SRMR	0.041	< 0.08
RMSEA	0.054	< 0.08

The confirmatory factor analysis results in Table 3 provided strong support for the adequacy of the measurement model. Standardized factor loadings for the six perceived brand authenticity items ranged from 0.78 to 0.85, whereas loadings for the five consumer trust indicators ranged from 0.79 to 0.86. All standardized loadings were substantially higher than the minimum acceptable criterion of 0.50 and were statistically significant at $p < .001$, confirming that the observed items adequately represented their respective latent constructs. The overall measurement model also exhibited satisfactory goodness of fit. The chi-square to degrees-of-freedom ratio was 2.18, which was below the recommended maximum value of 3.00. The comparative fit index was 0.968, the Tucker–Lewis index was 0.959, and the goodness-of-fit index was 0.951, all exceeding the conventional threshold of 0.90. Furthermore, the standardized root mean square residual was 0.041 and the root mean square error of approximation was 0.054, both indicating low residual discrepancy and acceptable approximation of the observed covariance structure. Considered together with the reliability and average variance extracted coefficients reported in Table 1, these findings demonstrated that the measurement model possessed satisfactory factorial validity, convergent validity, and internal consistency, thereby supporting the use of the latent constructs in the structural equation model.

Table 4. Structural Model and Mediation Analysis

Hypothesized Relationship	Standardized β	SE	Critical Ratio	p	95% Bootstrap CI	Result
AI-Generated Advertising → Brand Authenticity	-0.42	0.05	-7.96	< .001	-0.51 to -0.32	Significant
AI-Generated Advertising → Consumer Trust	-0.21	0.05	-4.37	< .001	-0.30 to -0.11	Significant
Brand Authenticity → Consumer Trust	0.61	0.04	12.84	< .001	0.52 to 0.69	Significant
AI-Generated Advertising → Brand Authenticity → Consumer Trust	-0.26	0.04	—	< .001	-0.34 to -0.18	Significant indirect effect

Endogenous Variable	R^2
Brand Authenticity	0.18
Consumer Trust	0.52

Table 4 presents the structural equation modeling results and demonstrates that all hypothesized direct and indirect relationships were statistically significant. AI-generated advertising had a significant negative direct effect on perceived brand authenticity (β = -0.42, SE = 0.05, CR = -7.96, p < .001), indicating that exposure to an advertisement identified as AI-generated was associated with a substantial decline in the extent to which consumers perceived the advertised brand as sincere, genuine, credible, and authentic. The standardized magnitude of this relationship indicated a moderate negative effect, and the model explained 18% of the variance in perceived brand authenticity. AI-generated advertising also exerted a statistically significant negative direct effect on consumer trust (β = -0.21, SE = 0.05, CR = -4.37, p < .001), demonstrating that the use of AI-generated advertising reduced consumer confidence in the advertised brand even after perceived brand authenticity was included in the structural model. By contrast, perceived brand authenticity exerted a strong and positive effect on consumer trust (β = 0.61, SE = 0.04, CR = 12.84, p < .001), indicating that participants who evaluated the brand as more genuine and authentic were substantially more likely to report confidence in the brand's honesty, reliability, and willingness to fulfill its promises. The explanatory power of the model was particularly strong for consumer trust, for which the predictor variables jointly accounted for 52% of the observed variance. The bootstrap mediation analysis further demonstrated that perceived brand authenticity significantly mediated the relationship between AI-generated advertising and consumer trust. The standardized indirect effect was -0.26, and the bias-corrected 95% bootstrap confidence interval ranged from -0.34 to -0.18, excluding zero. Because the direct effect of AI-generated advertising on consumer trust remained statistically significant after inclusion of the mediator, the mediation pattern was classified as partial mediation. Accordingly, the adverse effect of AI-generated advertising on consumer trust occurred through two complementary mechanisms: a direct reduction in consumer trust and an indirect reduction operating through weakened perceptions of brand authenticity. This result identifies perceived brand authenticity as a central psychological mechanism explaining why the disclosure or recognition of AI involvement in advertising can influence consumers' trust-related responses.

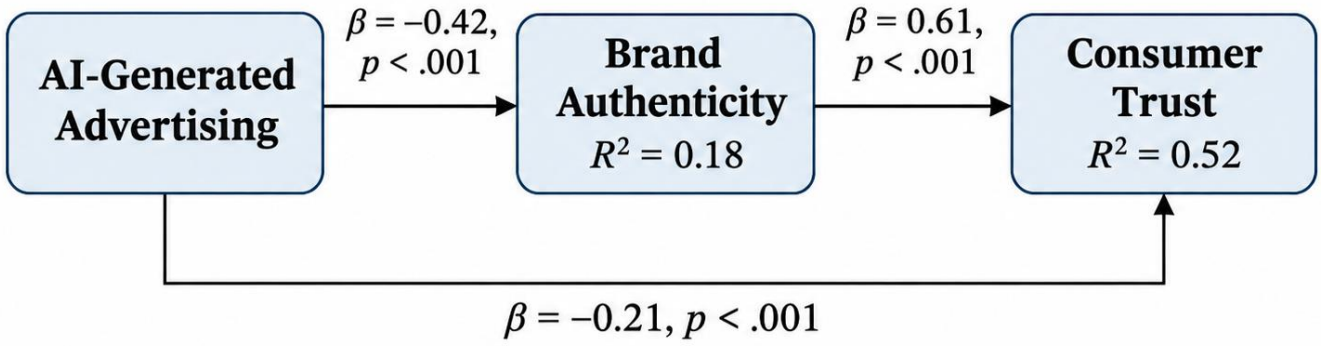


Figure 1. Structural Model of the Effects of AI-Generated Advertising on Brand Authenticity and Consumer Trust

The structural model illustrated in Figure 1 summarizes the relationships identified through the hypothesis-testing procedure. AI-generated advertising had a significant negative path to perceived brand authenticity (β = -0.42, p < .001) and a smaller but still significant negative direct path to consumer trust (β = -0.21, p < .001). Perceived brand authenticity, in turn, had the strongest structural relationship in the model, exerting a substantial positive effect on consumer trust (β = 0.61, p < .001). The indirect pathway from AI-generated advertising through perceived brand

authenticity to consumer trust was also statistically significant (β = -0.26, p < .001), confirming the mediating role of authenticity perceptions. Thus, the model indicates that the negative consumer response to AI-generated advertising cannot be explained solely by a general reluctance to trust technologically produced marketing content. Rather, a considerable proportion of the effect operates because AI involvement appears to alter consumers' interpretation of whether the brand is genuine, sincere, and personally meaningful. The combination of a significant direct effect and a significant mediated effect suggests partial mediation and demonstrates that both technological source cues and brand-level authenticity judgments contribute to the development of consumer trust. Overall, the findings consistently support the proposition that the use of AI-generated advertising, when recognized or disclosed as such, may create a measurable authenticity penalty that subsequently translates into lower trust toward the advertised brand.

Discussion and Conclusion

The findings of the present study demonstrated that AI-generated advertising had a significant negative effect on perceived brand authenticity and consumer trust, while perceived brand authenticity had a strong positive effect on consumer trust. In addition, brand authenticity significantly mediated the relationship between AI-generated advertising and consumer trust, indicating that the influence of AI-generated advertising on trust was not exclusively direct but also operated through consumers' judgments regarding whether the brand appeared genuine, sincere, credible, and consistent with its communicated identity. More specifically, exposure to AI-generated advertising significantly reduced perceived brand authenticity compared with exposure to human-generated advertising, with a moderate-to-large effect size. AI-generated advertising also produced significantly lower consumer trust, although the magnitude of this direct difference was somewhat smaller than that observed for authenticity. Within the structural model, AI-generated advertising negatively predicted brand authenticity and consumer trust, whereas brand authenticity emerged as the strongest predictor of trust. The significant indirect effect further confirmed partial mediation, showing that part of the trust reduction associated with AI-generated advertising resulted from weakened authenticity perceptions. These results are consistent with emerging evidence that consumers do not evaluate AI-generated advertising merely according to technical quality, visual sophistication, or novelty, but also according to the relational and symbolic meanings they attach to the use of artificial intelligence in brand communication (4, 12, 18).

The negative effect of AI-generated advertising on perceived brand authenticity can be explained by the way consumers infer intentionality and sincerity from advertising sources. Brand authenticity depends substantially on the perception that brand communication represents genuine values, deliberate identity expression, and meaningful commitment rather than mechanically optimized persuasion. When consumers recognize that advertising content has been generated primarily through artificial intelligence, they may infer a lower level of human creative involvement and therefore perceive the communication as less personally meaningful or less representative of genuine organizational intention. This interpretation is consistent with research showing that authenticity evaluations differ across human and synthetic communicators and depend on consumers' judgments of source characteristics, social influence, and perceived genuineness (11). Similarly, disclosure of AI involvement has been shown to activate authenticity-related judgments, suggesting that technological source cues may become salient evaluative information rather than remaining a neutral production detail (12). The present findings therefore suggest that AI generation may create what can be described as an authenticity penalty when consumers interpret

automation as substituting for rather than supporting genuine brand expression. This interpretation is also compatible with critical perspectives on generative AI co-creation, which emphasize concerns regarding the displacement of human agency, originality, and authorship when artificial systems assume an extensive creative role (10).

The present findings also correspond with recent evidence showing that the effects of AI-generated advertising are not inherently positive simply because AI can produce visually realistic, highly polished, or personalized content. The significant reduction in authenticity observed in this study suggests that consumers may distinguish between executional quality and perceived sincerity. An advertisement may appear technically competent while still being judged as less authentic because the consumer questions the human intention or emotional substance behind it. This distinction is supported by neurophysiological and qualitative evidence demonstrating that consumers process AI-generated and human-produced video advertisements differently even when the surface characteristics of the content are broadly comparable (5). Likewise, research on AI-generated advertising indicates that authenticity can be strengthened when technological limitations or imperfections are acknowledged, suggesting that perceived honesty surrounding AI use may sometimes matter more than flawless execution (13). Therefore, the negative authenticity effect identified in the present study should not be interpreted as evidence that AI-generated advertising is universally ineffective. Rather, it indicates that when AI involvement is recognized without additional relational or transparency cues, consumers may perceive a discrepancy between technological production and the human-centered qualities conventionally associated with authentic brand communication.

The significant negative effect of AI-generated advertising on consumer trust further indicates that AI involvement can alter consumers' willingness to rely on a brand. Trust requires consumers to believe that a brand behaves honestly, fulfills its promises, and communicates in a manner that does not intentionally mislead or manipulate. AI-generated advertising can complicate these judgments because consumers may become uncertain about the origin, truthfulness, and representational accuracy of the content they encounter. This explanation is consistent with evidence showing that AI realism can operate as a double-edged mechanism in advertising: realistic synthetic content may enhance persuasive appeal while also increasing perceived deception when consumers become aware that the content was artificially generated (4). The present finding is also supported by research demonstrating that transparency mechanisms in AI-generated advertising influence both trust and engagement, indicating that consumers treat disclosure practices as signals of communicative honesty (16). Consequently, the lower level of trust observed among participants exposed to AI-generated advertising may reflect not only skepticism toward the technology itself but also uncertainty regarding whether the advertisement accurately represents the brand, its product, or its intentions.

The strong positive relationship between brand authenticity and consumer trust was one of the most important findings of the study. The standardized path from authenticity to trust was considerably stronger than the direct path from AI-generated advertising to trust, indicating that consumers' interpretation of the brand was more influential than technological source alone in explaining trust. In practical terms, consumers who perceived the advertised brand as genuine, consistent, sincere, and credible were much more likely to trust it regardless of the technological context of the advertisement. This result closely aligns with studies showing that authenticity functions as a central mechanism through which AI-enabled brand communication influences consumer evaluations. Research on AI-enabled green brand communication, for example, indicates that authenticity serves as a sustainability signaling mechanism that shapes brand perceptions and purchase intentions (14). Similarly, research on CSR communication

suggests that artificial intelligence can contribute to favorable consumer responses when the communication preserves credibility, social presence, and a sense of responsible engagement (17). The present findings extend this logic beyond specialized sustainability or CSR contexts by demonstrating that authenticity is also a major determinant of general consumer trust in AI-mediated advertising.

The mediation result provides further insight into the psychological process underlying consumer responses. AI-generated advertising exerted a significant indirect negative effect on consumer trust through reduced brand authenticity, while the direct effect remained significant. This pattern of partial mediation indicates that consumers respond to AI-generated advertising through at least two related pathways. One pathway appears to involve a direct reaction to the technological source itself, potentially reflecting AI skepticism, concerns about deception, lack of human involvement, or uncertainty regarding message credibility. The second pathway operates through authenticity judgments: AI involvement weakens perceptions that the brand is genuine, and this decline in authenticity subsequently reduces trust. This interpretation is strongly consistent with research on AI and human endorsers showing that authenticity, trust, and AI skepticism are closely intertwined in consumer evaluation (18). It is also supported by research showing that source disclosure and environmental claim strength influence perceived greenwashing and green trust in AI-generated sustainable advertising (20). These studies suggest that consumers do not respond to AI as an isolated technological cue; rather, they incorporate AI involvement into broader judgments about whether brand claims are believable and whether the communicating organization deserves confidence.

The partial rather than complete mediation observed in the present study is theoretically meaningful because it indicates that improving authenticity alone may not fully eliminate the trust consequences of AI-generated advertising. Even after authenticity was included in the structural model, AI-generated advertising retained a significant negative direct effect on consumer trust. This residual effect may reflect broader concerns surrounding transparency, manipulation, ethical responsibility, or consumers' uncertainty about the boundaries between synthetic representation and reality. Ethical reviews of AI-based digital marketing have highlighted transparency, deception, accountability, bias, privacy, and manipulation as key areas of concern, all of which may influence consumer trust independently of authenticity (23). Furthermore, systematic reviews of generative AI in digital marketing indicate that disclosure effects and consumer responses vary across contexts and that affective and behavioral outcomes are influenced by both technology-related and human-in-the-loop factors (8). Accordingly, although authenticity constitutes a major explanatory mechanism, trust in AI-mediated advertising appears to be multidimensional and may also depend on consumers' broader beliefs regarding responsible technological use.

The results also help explain why some previous studies have reported more favorable responses to AI-generated or computer-generated advertising. AI-mediated content can support positive word-of-mouth, enhance novelty, improve personalization, and contribute to engagement when the technology is perceived as relevant and appropriate to the communication context (22). Similarly, AI-generated advertising does not invariably produce skepticism; narrative characteristics can moderate negative consumer reactions. Evidence from AI-generated agricultural-product advertising shows that an underdog brand biography can reduce consumer skepticism toward AIGC, suggesting that compelling brand narratives can humanize or contextualize technologically produced communication (21). Research on AI-generated advertisements that disclose their own imperfections similarly indicates that authenticity can emerge through openness rather than through the concealment of technological limitations (13). These findings suggest that the negative effects identified in the present study should be interpreted

as conditional rather than inevitable. AI-generated advertising appears particularly vulnerable when technological production becomes salient without sufficient cues of transparency, human oversight, brand identity, or meaningful narrative context.

The findings are also consistent with the growing argument that AI should function as a co-creative instrument rather than as an unrestricted substitute for human strategic judgment. Reviews of generative and predictive AI in advertising increasingly emphasize the importance of human-in-the-loop approaches in which artificial intelligence contributes speed, variation, personalization, and analytical capability while humans retain responsibility for strategic direction, cultural sensitivity, ethical judgment, and brand meaning (2, 8). The present results provide empirical support for this position because the most substantial negative consequence of AI-generated advertising occurred at the level of perceived authenticity rather than merely at the level of advertising preference. This implies that excessive automation may create relational costs that are not visible through short-term performance metrics such as production efficiency, impressions, or conversion optimization. Although AI can substantially improve the efficiency of digital marketing processes (6), efficiency alone does not guarantee relational effectiveness. Brands must therefore evaluate AI-generated content not only according to whether it attracts attention or reduces production costs but also according to whether it preserves the identity, sincerity, and credibility through which long-term trust is established.

The study further contributes to the literature by demonstrating that the relationship between AI use and consumer response should be interpreted through brand-level meaning rather than technology acceptance alone. Existing research has increasingly examined artificial intelligence in consumer behavior, but the literature remains dispersed across engagement, purchase intention, personalization, disclosure, affective response, and behavioral outcomes (3). The current findings suggest that brand authenticity provides a theoretically useful bridge between technological source characteristics and relational consumer outcomes. This is particularly relevant as artificial intelligence moves from the background of marketing analytics to the foreground of consumer-facing communication. AI is no longer merely selecting audiences or optimizing placements; it increasingly writes the message, creates the image, generates the spokesperson, and shapes the brand narrative itself (1, 19). As this transition continues, consumers may judge brands not only by what they communicate but also by how that communication is created. The ability of brands to maintain authenticity under conditions of extensive technological mediation may therefore become an increasingly important determinant of trust and long-term relationship quality.

The broader strategic implication of these results is that the adoption of generative AI in advertising should be governed by relational as well as operational criteria. Contemporary digital marketing increasingly operates within an ecosystem in which performance optimization, monetization, consumer behavior, and responsible governance are interconnected (7). At the same time, advertising professionals and educators are being required to reconsider strategic competencies in light of AI-enabled communication systems (9). The present results suggest that the relevant managerial question is not simply whether a brand should use artificial intelligence to produce advertising but how AI should be integrated without weakening consumer perceptions of authenticity and trust. Emerging research on AI-supported CSR authenticity demonstrates that technology can potentially contribute to empathy and authentic brand communication when it is embedded within an appropriate organizational and relational framework (15). Consequently, the challenge for brands is to design a hybrid communication architecture in which AI contributes efficiency and creative assistance while brand values, human judgment, transparency, and accountability remain visible to consumers.

The present study has several limitations that should be considered when interpreting the results. First, the participants were recruited from Tehran, and although the sample included consumers with diverse demographic characteristics, the findings cannot automatically be generalized to consumers in other cities, rural populations, or different national and cultural contexts. Second, the study used a fictitious brand to control for prior brand attitudes and familiarity; although this strengthened internal validity, responses to established brands with accumulated reputation, emotional attachment, and previous trust may differ. Third, the study examined short-term responses after exposure to a single advertisement, whereas consumer perceptions of authenticity and trust normally develop through repeated interactions over time. Fourth, self-report measures were used to assess both authenticity and trust, which may be affected by social desirability, response tendencies, or the discrepancy between stated attitudes and actual behavior. Fifth, the experimental manipulation primarily distinguished AI-generated from human-generated advertising and did not systematically vary the degree of AI involvement, disclosure wording, content quality, advertising format, product category, or level of human editing. Finally, although brand authenticity explained an important part of the relationship between AI-generated advertising and consumer trust, other psychological mechanisms such as perceived deception, perceived creativity, anthropomorphism, technological anxiety, AI skepticism, perceived manipulation, and advertising credibility were not incorporated into the structural model.

Future studies should extend the present model across different consumer populations, countries, cultures, and product categories to determine whether the observed authenticity penalty is stable across contexts. Researchers could compare utilitarian and hedonic products, high- and low-involvement purchases, services and physical goods, luxury and mass-market brands, and established versus unfamiliar brands. Longitudinal and repeated-exposure designs would be valuable for determining whether initial skepticism toward AI-generated advertising declines as consumers become more accustomed to generative technologies. Future experiments should also manipulate disclosure strategies, including no disclosure, minimal disclosure, detailed transparency statements, and explicit descriptions of human-AI collaboration. It would be useful to compare fully AI-generated content with human-created content, AI-assisted human content, and human-edited AI content in order to identify whether hybrid production reduces negative authenticity effects. Additional mediators and moderators should also be examined, including perceived creativity, perceived deception, AI literacy, technological readiness, skepticism, need for human interaction, brand familiarity, perceived social presence, advertising realism, and consumer involvement. Behavioral outcomes such as click-through rates, willingness to share, purchase behavior, brand choice, and actual spending should be incorporated alongside attitudinal measures. Experimental studies using eye tracking, facial coding, neurophysiological measures, or implicit association techniques could further clarify how consumers process AI-generated advertisements beyond consciously reported evaluations.

From a practical perspective, managers should avoid treating generative AI as a simple replacement for human advertising creativity and instead adopt a controlled human-AI co-creation approach. AI can be used effectively for ideation, rapid prototyping, copy variation, image generation, personalization, and campaign optimization, but final content should be reviewed by human professionals responsible for brand identity, emotional tone, ethical standards, factual accuracy, and cultural appropriateness. Brands should establish clear internal policies governing when and how AI-generated content is used and should ensure that efficiency gains do not come at the expense of authenticity. Transparency should be designed carefully: disclosures should communicate AI involvement clearly without making the brand appear detached or mechanically impersonal, and where appropriate they should

emphasize meaningful human supervision. Marketers should preserve recognizable brand narratives, consistent values, credible claims, and human-centered storytelling so that technological production does not weaken the perception of genuine organizational intention. Particular attention should be given to advertisements involving testimonials, sustainability claims, social responsibility, health-related information, or highly realistic synthetic people, because these contexts may generate stronger concerns regarding deception and trust. Regular consumer testing should also be conducted before large-scale deployment of AI-generated campaigns, with brand authenticity and trust measured alongside conventional performance indicators. In this way, organizations can benefit from the scalability and efficiency of generative AI while protecting the relational foundations that sustain consumer confidence and long-term brand value.

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Authors' Contributions

All authors equally contributed to this study.

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The authors of this article declared no conflict of interest.

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All ethical principles were adheried in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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