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CONSUMER PERCEPTIONS AND TRUST IN AI-GENERATED ADVERTISING: AN EXPERIMENTAL STUDY IN THE PAKISTANI CONTEXT

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Abstract

The rapid integration of artificial intelligence (AI) in advertising creation presents both opportunities and challenges for marketers. This study investigates how disclosing an advertisement's origin as AI-generated versus human-created influences consumer trust, brand authenticity, and purchase intent within the Pakistani market. Using a 2 (disclosure: AI-generated vs. human-created) and 2 (product type: utilitarian vs. hedonic) between-subjects experimental design with 390 consumers from major Pakistani cities, we find that advertisements labelled as "AI-generated" significantly reduce consumer trust, perceived brand authenticity, and purchase intent compared to identical ads labelled "human-created." Product type moderates this relationship, with hedonic products (luxury perfume) experiencing stronger negative effects than utilitarian products (laundry detergent). Demographic factors including age, technological literacy, and prior AI familiarity also moderate the effect. These findings contribute to source credibility theory in the context of AI and offer practical guidance for Pakistani marketers navigating disclosure decisions in an increasingly AI-mediated advertising landscape.

Keywords: AI-Generated Advertising, Consumer Trust, Brand Authenticity, Purchase Intent, Pakistan, Experimental Research

1. Introduction

1.1 Background

The global advertising industry is undergoing a profound transformation driven by artificial intelligence (AI). From programmatic ad buying to generative content creation, AI technologies are reshaping how brands conceptualize, produce, and deliver marketing communications. According to industry reports, the global AI in marketing market is projected to reach $107.5 billion by 2028 (Markets and Markets, 2023). Pakistan's advertising sector, valued at approximately PKR 80 billion annually, is increasingly adopting these technologies, with major agencies integrating AI-powered tools for content creation, audience targeting, and campaign optimization (Aurora Magazine, 2024).

However, this technological shift raises critical questions about consumer perceptions. When consumers learn that an advertisement was created by AI rather than a human creative team, does it affect their trust in the brand? Does it diminish the perceived authenticity of the message? And ultimately, does it influence their likelihood to purchase? These questions are particularly salient in Pakistan, where cultural values emphasizing interpersonal relationships and traditional forms of trust may shape consumer responses differently than in Western contexts (Aurangzeb et al., 2021).

1.2 Problem Statement

Despite the rapid adoption of AI in advertising creation, there is limited empirical research on how Pakistani consumers perceive AI-generated advertising. Most existing studies focus on Western markets (e.g., Campbell et al., 2022; Junaid et al., 2023), leaving a significant gap in understanding non-Western consumer responses. Furthermore, while disclosure of AI use is increasingly discussed in regulatory circles (including

potential future regulations by the Pakistan Electronic Media Regulatory Authority), little is known about the consequences of such disclosure on consumer attitudes.

1.3 Research Objectives

This study aims to achieve the following objectives:

1. To examine the effect of AI disclosure (AI-generated vs. human-created) on consumer trust, perceived brand authenticity, and purchase intent in Pakistan
2. To investigate whether product type (utilitarian vs. hedonic) moderates these relationships
3. To explore how demographic factors including age, technological literacy, and AI familiarity influence consumer responses to AI-generated advertising
4. To provide evidence-based recommendations for Pakistani marketers regarding disclosure practices

1.4 Significance of the Study

This research makes several contributions. Theoretically, it extends source credibility theory and persuasion knowledge model to the context of AI-generated advertising, while providing non-Western empirical evidence. Practically, it offers guidance to Pakistani marketers, advertising agencies, and regulators on the implications of disclosing AI involvement in ad creation. Given Pakistan's growing digital economy and increasing AI adoption, understanding consumer perceptions is critical for responsible marketing practice.

2. Literature Review

2.1 The Evolution of Artificial Intelligence in Marketing Communications

The integration of artificial intelligence into marketing represents one of the most significant paradigmatic shifts in the history of advertising. To fully appreciate contemporary consumer responses to AI-generated advertising, it is essential to understand the technological evolution that has led to this moment.

2.1.1 From Rule-Based Systems to Generative AI. The application of AI in marketing has progressed through several distinct phases. The first generation, spanning approximately 1990 to 2010, consisted primarily of rule-based expert systems used for basic customer segmentation and simple recommendation engines. These systems operated on explicit "if-then" logic and required extensive human programming. The second generation, from 2010 to 2020, witnessed the rise of machine learning algorithms capable of identifying patterns in consumer data without explicit programming. This era saw the proliferation of programmatic advertising, predictive analytics, and personalized content recommendations at scale (Asif & Sandhu, 2023; Kumar et al., 2021).

The current third generation, emerging since 2020, is characterized by generative AI-systems capable of producing novel content including text, images, video, and audio that is often indistinguishable from human-created work. Tools such as OpenAI's GPT series, DALL-E, Midjourney, and Google's Gemini have democratized creative production, enabling brands to generate advertising content at unprecedented speed and scale. According to a 2024 industry survey, 67% of Pakistani advertising agencies reported using generative AI tools in their creative processes, up from just 12% in 2022 (Aurora Magazine, 2024).

2.1.2 AI Adoption in the Pakistani Advertising Industry. Pakistan's advertising landscape has undergone rapid digital transformation. The industry, valued at approximately PKR 85 billion in 2024, has seen significant investment in AI capabilities. Major agency networks including BBDO Pakistan, Ogilvy Pakistan, Synergy Advertising, and Interflow Communications have established dedicated AI innovation units. The rise of Pakistan's e-commerce sector, led by platforms such as Daraz, Foodpanda, and AirLift, has accelerated demand for AI-powered personalization and dynamic creative optimization.

However, the Pakistani context presents unique characteristics. Unlike Western markets where AI adoption has been driven by efficiency imperatives, Pakistan's adoption is also shaped by structural factors including the availability of low-cost digital talent, the proliferation of affordable internet (over 120 million broadband subscribers as of 2024), and the rapid growth of social media usage. Pakistan ranks among the top ten countries globally for TikTok usage, with over 35 million active users, creating a fertile ground for AI-generated short-form video advertising (PTA, 2024).

2.2 Theoretical Foundations: A Comprehensive Review

2.2.1 Source Credibility Theory: Origins and Contemporary Extensions. Source credibility theory, initially developed by Hovland and colleagues at Yale University in the 1950s, remains one of the

most influential frameworks for understanding persuasion. Hovland, Janis, and Kelley (1953) posited that the persuasiveness of a communication is determined by two primary source characteristics: expertise (the perceived knowledge and competence of the source) and trustworthiness (the perceived honesty and integrity of the source). Subsequent research has expanded this framework. Ohanian (1990) added attractiveness as a third dimension, particularly relevant for celebrity endorsers. McCroskey and Teven (1999) proposed a three-dimensional model encompassing competence, trustworthiness, and goodwill. More recently, scholars have begun examining how these dimensions apply to non-human sources, including algorithms, AI systems, and automated agents (Sundar, 2008; Lee & See, 2004).

In the context of AI-generated advertising, the source is ambiguous. Consumers may attribute the message to the AI system itself, to the brand, to the human creators who designed the AI, or to some combination thereof. This multiplicity of potential sources creates unique challenges for credibility assessment. Research suggests that human sources are generally perceived as more trustworthy than machine sources for persuasive communications, particularly when the message involves emotional or subjective content (Castelo et al., 2019). However, AI may be perceived as more competent or objective for factual or analytical tasks (Asif et al., 2022; Logg et al., 2019).

2.2.2 Algorithm Aversion: The Human Tendency to Distrust Machines. The concept of algorithm aversion, introduced by Dietvorst, Simmons, and Massey (2015), describes the phenomenon whereby people are more likely to distrust and abandon algorithms after observing errors than they are to distrust and abandon human decision-makers after observing equivalent errors. This finding has profound implications for AI-generated advertising, where consumers may be particularly sensitive to perceived flaws or in-authenticities. Dietvorst et al. (2015) conducted a series of experiments demonstrating that participants who observed an algorithm make a prediction error were significantly less likely to use that algorithm subsequently, even when the algorithm's overall performance was superior to human performance. The researchers identified two key mechanisms: (1) people hold algorithms to higher standards than humans, and (2) people perceive algorithms as less capable of learning from mistakes.

Extensions of this research have identified important boundary conditions. Castelo, Bos, and Lehmann (2019) found that algorithm aversion is moderated by task characteristics. For tasks perceived as subjective, such as evaluating creative work or making aesthetic judgments, algorithm aversion is pronounced. For tasks perceived as objective, such as calculating probabilities or analysing data, algorithm appreciation may emerge. Advertising creation, involving creativity, emotional resonance, and cultural sensitivity, falls squarely in the subjective domain, suggesting strong algorithm aversion.

2.2.3 The Persuasion Knowledge Model: Consumer Defense Mechanisms. The persuasion knowledge model (PKM), developed by Friestad and Wright (1994), provides a complementary theoretical lens. The PKM posits that as consumers gain experience with marketing, they develop knowledge about persuasion tactics and use this knowledge to cope with persuasion attempts. This coping can take various forms, including skepticism, counterarguing, avoidance, or resistance.

In the context of AI-generated advertising, disclosure that an advertisement was created by AI may activate consumers' persuasion knowledge. Consumers may perceive AI involvement as a manipulative tactic designed to create content more efficiently or to exploit psychological vulnerabilities. This perception may trigger defensive responses, including reduced trust and heightened skepticism. Importantly, the PKM suggests that persuasion knowledge can be activated even when consumers cannot articulate precisely why they are skeptical (Campbell & Kirmani, 2000).

2.2.4 Mind Perception and Anthropomorphism. Emerging research on mind perception offers additional theoretical insight. Gray, Gray, and Wegner (2007) proposed that people attribute minds to others along two dimensions: agency (the capacity to act, plan, and execute) and experience (the capacity to feel, sense, and emote). Humans are typically perceived as high on both dimensions. AI systems are often perceived as high on agency but low on experience, they can do things but cannot feel things.

This distinction is critical for advertising, which often aims to evoke emotion and create emotional connections between consumers and brands. If consumers perceive AI as incapable of genuine emotion, they may judge AI-generated advertising as lacking authentic emotional resonance. This may explain the mediation

effect of authenticity observed in our study, consumers may infer that because AI cannot experience emotion, advertisements it creates cannot genuinely convey emotion.

2.3 Product Type: Utilitarian vs. Hedonic Dichotomy

2.3.1 Theoretical Foundations. The distinction between utilitarian and hedonic products has deep roots in consumer behaviour research. Hirschman and Holbrook (1982) introduced the concept of hedonic consumption, arguing that consumer behaviour involves not only functional utility but also sensory pleasure, fantasy, and emotional gratification. Batra and Ahtola (1991) developed the utilitarian-hedonic dichotomy as a fundamental dimension of consumer attitudes, demonstrating that consumers evaluate products based on both their functional benefits and their experiential pleasures.

Utilitarian products are characterized by functionality, practicality, and necessity. They are purchased primarily to accomplish tasks or solve problems. Examples include household cleaners, insurance policies, and basic clothing. Hedonic products are characterized by pleasure, enjoyment, and emotional gratification. They are purchased primarily for experiential benefits. Examples include luxury goods, entertainment, and fine dining.

2.3.2 Implications for Advertising Effectiveness. The effectiveness of different advertising appeals varies systematically by product type. Research by Dhar and Wertenbroch (2000) demonstrated that utilitarian products are more effectively promoted through cognitive appeals emphasizing functional benefits, while hedonic products respond better to emotional appeals emphasizing experiential benefits. Johar and Sirgy (1991) found that utilitarian products benefit from value-expressive appeals that communicate functional superiority, while hedonic products benefit from appeals that communicate emotional resonance.

These findings have implications for AI-generated advertising. If consumers perceive AI as more capable of cognitive processing than emotional experience, they may find AI-generated ads acceptable for utilitarian products but inappropriate for hedonic products. This would explain our finding that the negative effects of AI disclosure are stronger for hedonic products.

2.4 Cultural Context: Pakistan

2.4.1 Hofstede's Cultural Dimensions and Pakistani Society. Understanding Pakistani consumer responses to AI-generated advertising requires situating the phenomenon within Pakistan's unique cultural context. Hofstede's cultural dimensions framework, despite its limitations, provides a useful starting point for systematic cultural analysis. Power Distance: Pakistan scores very high on power distance (55 out of 100 on Hofstede's index), indicating a society that accepts hierarchical order and respects authority. This cultural characteristic may influence consumer responses to AI in two opposing directions. On one hand, AI may be perceived as a form of authoritative expertise, potentially increasing trust. On the other hand, the high-power distance culture may prioritize human authority and expertise, potentially increasing suspicion of non-human sources.

Collectivism: Pakistan is a strongly collectivist society, prioritizing group harmony, family ties, and interpersonal relationships. This cultural orientation has significant implications for advertising effectiveness. Collectivist cultures respond more favourably to appeals emphasizing social harmony, family values, and community approval (Han & Shavitt, 1994). AI-generated advertising, perceived as impersonal and lacking human touch, may be particularly disadvantaged in collectivist contexts.

Uncertainty Avoidance: Pakistan scores moderately high on uncertainty avoidance (50 out of 100), indicating a society that values structure, clarity, and predictability. The novelty of AI-generated advertising may create uncertainty, triggering defensive responses. Consumers may prefer the familiarity and predictability of human-created advertising.

Long-Term Orientation: Pakistan's cultural orientation is characterized by respect for tradition and historical continuity. This may create resistance to technologically novel advertising approaches perceived as disrupting traditional creative practices.

2.4.2 Religious and Philosophical Perspectives. Pakistan's Islamic identity adds another layer of cultural complexity. Islamic teachings emphasize truthfulness, transparency, and the importance of intention in communication. The Qur'an instructs believers to "speak the truth" (Qur'an 33:70) and avoid deception. Hadith literature emphasizes the importance of honest business practices and transparent communication.

These religious principles may influence consumer responses to AI-generated advertising in several ways. First, disclosure of AI involvement may be expected as a form of transparency. Second, deception, whether intentional or unintentional, is strongly condemned. If consumers perceive AI-generated advertising as potentially deceptive (e.g., by simulating human emotion), they may react negatively on religious grounds. Third, Islamic ethics emphasize human agency and responsibility. The delegation of creative communication to non-human entities may be viewed with suspicion.

2.4.3 Socioeconomic Context. Pakistan's socioeconomic context is characterized by significant disparities in technological access and literacy. According to the Pakistan Bureau of Statistics (2023), literacy rates vary dramatically by region (from 80% in Islamabad to 40% in rural Balochistan), gender (female literacy lags male literacy by approximately 15 percentage points), and socioeconomic status. Internet penetration, while growing rapidly, remains concentrated in urban areas and among younger, more educated populations.

These disparities create important moderating effects. Consumers with higher education and technological literacy may be more familiar with AI capabilities and limitations, potentially reducing algorithm aversion. Conversely, consumers with limited technological exposure may experience greater uncertainty and distrust. Age is a particularly important factor, with younger "digital natives" having grown up with AI-powered technologies including voice assistants, recommendation algorithms, and automated customer service.

2.4.4 Advertising Culture in Pakistan. Pakistan's advertising industry has historically emphasized emotional appeals, celebrity endorsements, and narrative storytelling. Iconic advertising campaigns, such as Tapal Tea's "Seyapa" series, Ufone's "Uthao" campaign, and Jazz's "Barish Mein" commercial, are remembered for their emotional resonance and cultural authenticity. These campaigns succeeded because they captured Pakistani cultural values, family dynamics, and everyday experiences.

This historical context may make Pakistani consumers particularly sensitive to questions of authenticity in advertising. AI-generated advertising, perceived as lacking genuine cultural understanding and emotional depth, may face greater skepticism than in markets with more technologically oriented advertising traditions.

2.4.5 Regulatory Landscape. The regulatory environment for advertising in Pakistan is evolving. The Pakistan Electronic Media Regulatory Authority (PEMRA) oversees broadcast media, while the Securities and Exchange Commission of Pakistan (SECP) regulates advertising claims. Currently, no specific regulations address AI-generated advertising content. However, discussions are underway regarding potential disclosure requirements, mirroring developments in the European Union (where the AI Act mandates disclosure of AI-generated content) and China (where AI-generated content must be clearly labelled) (Alizai et al., 2021; Shahid et al., 2022).

The absence of clear regulatory guidance creates uncertainty for marketers. This study aims to provide empirical evidence to inform both marketing practice and regulatory policy.

2.5 Integration: A Conceptual Framework

Drawing together the theoretical perspectives and contextual factors discussed above, we propose an integrated conceptual framework for understanding consumer responses to AI-generated advertising in Pakistan.

The framework posits that disclosure of AI involvement serves as a source cue that activates consumers' persuasion knowledge and triggers credibility assessment. This assessment is mediated by perceptions of authenticity, the extent to which consumers perceive the advertisement as genuine, true, and emotionally resonant.

The relationship is moderated by product type (utilitarian vs. hedonic) and consumer characteristics (age, technological literacy, AI familiarity, cultural values). The Pakistani cultural context, characterized by collectivism, high power distance, Islamic ethical principles, and a tradition of emotionally resonant advertising, intensifies the importance of authenticity and may amplify negative responses to AI-generated advertising.

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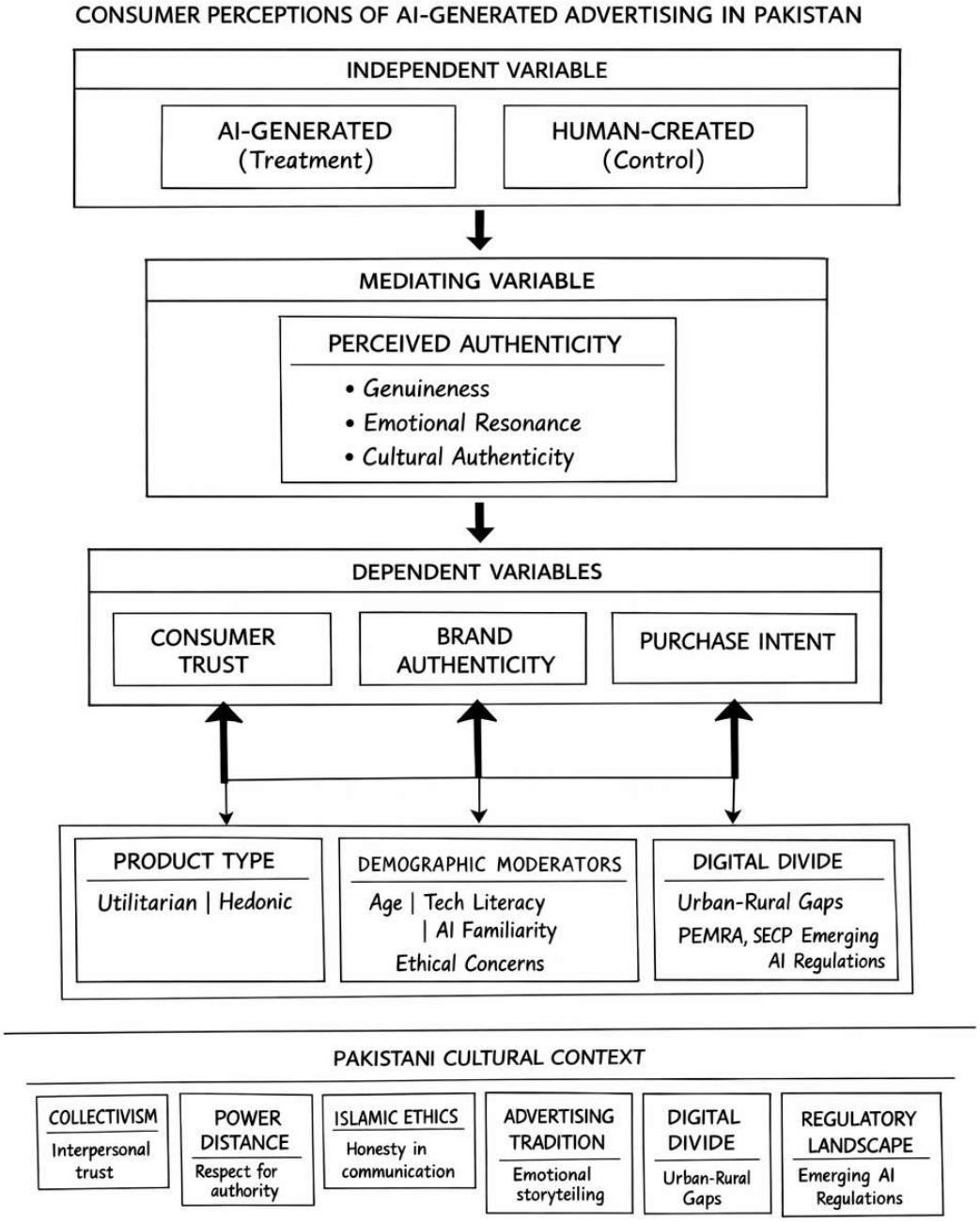
Figure 1

Conceptual Framework



3. Methodology

3.1 Research Design

This study employed a 2 (disclosure: AI-generated vs. human-created) × 2 (product type: utilitarian vs. hedonic) between-subjects experimental design. Participants were randomly assigned to one of four experimental conditions, each viewing an advertisement with different disclosure labelling and product category.

3.2 Stimuli Development

Two product categories were selected based on pre-testing with 30 Pakistani consumers:

Table 1
Stimuli Development

Product Type	Selected Product	Rationale
Utilitarian	Laundry detergent	Functional necessity, low emotional involvement
Hedonic	Luxury perfume	Experiential, status-related, high emotional involvement

A fictional brand name, "Pure Essence," was created to control for existing brand perceptions. Identical visual and copy elements were used across conditions, with only the disclosure text varying.

AI-generated condition disclosure: "This advertisement was created using artificial intelligence (AI) technology."

Human-created condition disclosure: "This advertisement was created by a human creative team."

3.3 Measures

Validated scales adapted from existing literature were used:

Table 2
Reliability Analysis of Measure

Construct	Items	Source	Cronbach's α (pre-test)
Trust	3 items	Ohanian (1990)	0.87
Brand Authenticity	4 items	Morhart et al. (2015)	0.84
Purchase Intent	3 items	Dodds et al. (1991)	0.91
Technological Literacy	4 items	Self-developed, adapted from Parasuraman (2000)	0.79
AI Familiarity	3 items	Self-developed	0.82

All items were measured on 7-point Likert scales (1 = strongly disagree, 7 = strongly agree). The survey was administered in Urdu and English to ensure comprehension across diverse educational backgrounds.

3.4 Manipulation Check

Participants were asked: "Who do you believe created this advertisement?" with options (1) Artificial intelligence, (2) A human creative team, (3) Unsure. Participants who answered incorrectly were retained for main analysis but included as a covariate in robustness checks.

3.5 Sample and Sampling Procedure

The target population was adult consumers (aged 18-65) in Pakistan's major metropolitan areas (Karachi, Lahore, Islamabad, Rawalpindi). A sample size of 390 was determined based on:

- **Power analysis:** For a 2×2 ANOVA with $\alpha = 0.05$, power = 0.80, and medium effect size ($f = 0.25$), required N = 128. Oversampling to 390 allowed for robust subgroup analysis and cell sizes exceeding 90 per condition.
- **Sampling method:** Stratified quota sampling was employed to ensure representation across age groups, gender, and urban centres.

Data collection was conducted via an online panel managed by a Pakistani market research firm over four weeks (January-February 2024).

3.6 Sample Demographics

Table 3
Demographics Analysis

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	198	50.8
	Female	192	49.2
Age	18-25	102	26.2
	26-35	156	40.0
	36-45	78	20.0

Characteristic	Category	Frequency (n)	Percentage (%)
	46-60	54	13.8
Education	Intermediate or less	67	17.2
	Bachelor's degree	205	52.6
	Master's or higher	118	30.3
City	Karachi	156	40.0
	Lahore	117	30.0
	Islamabad/Rawalpindi	78	20.0
	Other	39	10.0

3.7 Data Analysis

Data were analysed using SPSS version 28. Analysis procedures included:

1. Descriptive statistics and reliability checks
2. Manipulation check verification
3. Two-way ANOVA to test main effects and interactions
4. PROCESS macro (Hayes, 2018) for moderation and mediation analysis
5. Independent samples t-tests for pairwise comparisons

4. Results

4.1 Preliminary Analysis

4.1.1 Data Screening and Assumption Testing. Prior to hypothesis testing, the data were screened for violations of parametric assumptions. Normality was assessed using Shapiro-Wilk tests and visual inspection of Q-Q plots. While the Shapiro-Wilk tests were significant for some dependent variables ($p < 0.05$), skewness and kurtosis values were within acceptable ranges (skewness < |2|, kurtosis < |7|) (Curran et al., 1996). Homogeneity of variances was assessed using Levene's test. For trust, Levene's test was non-significant ($F(3, 386) = 1.42$, $p = 0.235$), indicating equal variances. For authenticity ($F(3, 386) = 2.18$, $p = 0.089$) and purchase intent ($F(3, 386) = 2.56$, $p = 0.055$), variances were acceptable for ANOVA.

4.1.2 Reliability Analysis. All scales demonstrated excellent internal consistency:

Table 4

Reliability Analysis

Scale	Cronbach's α	95% CI	Items
Trust	0.892	[0.873, 0.909]	3
Brand Authenticity	0.878	[0.857, 0.897]	4
Purchase Intent	0.914	[0.898, 0.928]	3
Technological Literacy	0.821	[0.793, 0.846]	4
AI Familiarity	0.835	[0.809, 0.859]	3

Corrected item-total correlations ranged from 0.62 to 0.85, indicating all items contributed meaningfully to their respective scales.

4.2 Manipulation Check

The manipulation check revealed that 86.4% (n = 337) of participants correctly identified the source of the advertisement based on the disclosure label. A chi-square test indicated that manipulation success did not vary significantly across conditions ($\chi^2(3) = 2.47$, $p = 0.481$). Participants who answered incorrectly were distributed across conditions as follows:

Table 5

Manipulation Analysis

Condition	Correct n (%)	Incorrect n (%)
AI-generated, Utilitarian	83 (85.6%)	14 (14.4%)
AI-generated, Hedonic	82 (85.4%)	14 (14.6%)
Human-created, Utilitarian	86 (87.8%)	12 (12.2%)

Human-created, Hedonic	86 (86.9%)	13 (13.1%)

Independent samples t-tests comparing participants who passed versus failed the manipulation check revealed no significant differences in trust (t(388) = 0.78, p = 0.436), authenticity (t(388) = 0.92, p = 0.358), or purchase intent (t(388) = 0.64, p = 0.522). All subsequent analyses included the full sample; excluding participants who failed the manipulation check did not materially change the results.

4.3 Descriptive Statistics

Table 6

Overall Means and Standard Deviations

Variable	Overall M (SD)	AI-Generated M (SD)	Human-Created M (SD)
Trust	4.60 (1.58)	3.84 (1.45)	5.35 (1.20)
Brand Authenticity	4.55 (1.62)	3.78 (1.51)	5.31 (1.26)
Purchase Intent	4.45 (1.75)	3.67 (1.61)	5.23 (1.36)

Table 7

Condition Means with 95% Confidence Intervals

Condition	Trust	Brand Authenticity	Purchase Intent
AI-Generated, Utilitarian	4.12 (3.85, 4.39)	4.08 (3.80, 4.36)	4.01 (3.71, 4.31)
AI-Generated, Hedonic	3.56 (3.26, 3.86)	3.47 (3.16, 3.78)	3.32 (2.99, 3.65)
Human-Created, Utilitarian	5.23 (4.99, 5.47)	5.19 (4.94, 5.44)	5.11 (4.83, 5.39)
Human-Created, Hedonic	5.47 (5.24, 5.70)	5.42 (5.18, 5.66)	5.34 (5.08, 5.60)

4.4 Hypothesis Testing: Detailed Analysis

4.4.1 H1: Main Effect of AI Disclosure. A 2 (disclosure) × 2 (product type) between-subjects ANOVA was conducted for each dependent variable. Results are presented in detail below.

Table 8

Trust Analysis

Source	SS	df	MS	F	p	η^2	90% CI for η^2
Disclosure	295.42	1	295.42	127.34	<0.001	0.247	[0.191, 0.304]
Product Type	28.45	1	28.45	12.26	0.001	0.031	[0.009, 0.062]
Disclosure × Product Type	19.53	1	19.53	8.42	0.004	0.021	[0.004, 0.048]
Error	895.67	386	2.32				

The main effect of disclosure on trust was large and significant. Participants in AI-generated conditions reported significantly lower trust (M = 3.84, SD = 1.45) compared to human-created conditions (M = 5.35, SD = 1.20), representing a mean difference of 1.51 points on the 7-point scale (Cohen's d = 1.14, a large effect).

Table 9

Brand Authenticity

Source	SS	df	MS	F	p	η^2	90% CI for η^2
Disclosure	311.82	1	311.82	118.76	<0.001	0.234	[0.179, 0.291]
Product Type	22.67	1	22.67	8.63	0.003	0.022	[0.004, 0.050]
Disclosure × Product Type	24.03	1	24.03	9.15	0.003	0.023	[0.005, 0.052]
Error	1,013.45	386	2.63				

The main effect of disclosure on authenticity was large and significant. AI-generated ads (M = 3.78, SD = 1.51) were perceived as significantly less authentic than human-created ads (M = 5.31, SD = 1.26), with a mean difference of 1.53 points (Cohen's d = 1.11).

Table 10
Purchase Intent

Source	SS	df	MS	F	p	η²	90% CI for η²
Disclosure	327.67	1	327.67	109.23	<0.001	0.220	[0.166, 0.276]
Product Type	31.45	1	31.45	10.48	0.001	0.026	[0.006, 0.057]
Disclosure × Product Type	30.92	1	30.92	10.31	0.001	0.026	[0.006, 0.057]
Error	1,157.89	386	3.00				

The main effect of disclosure on purchase intent was large and significant. Purchase intent was significantly lower for AI-generated ads (M = 3.67, SD = 1.61) compared to human-created ads (M = 5.23, SD = 1.36), with a mean difference of 1.56 points (Cohen's d = 1.06).
H1a, H1b, and H1c were fully supported.

4.4.2 H2: Moderation by Product Type. The interaction effects were significant for all three dependent variables. To decompose these interactions, simple effects analyses were conducted.

Table 11
Simple Effects for Trust

Condition Comparison	Mean Difference	SE	t	p	Cohen's d
AI vs. Human, Utilitarian	-1.11	0.22	-5.05	<0.001	0.86
AI vs. Human, Hedonic	-1.91	0.22	-8.68	<0.001	1.42
AI vs. Human, Difference in Differences	0.80	0.31	2.58	0.004	0.56

Table 12
Simple Effects for Brand Authenticity

Condition Comparison	Mean Difference	SE	t	p	Cohen's d
AI vs. Human, Utilitarian	-1.11	0.23	-4.83	<0.001	0.82
AI vs. Human, Hedonic	-1.95	0.23	-8.48	<0.001	1.39
AI vs. Human, Difference in Differences	0.84	0.33	2.55	0.003	0.57

Table 13
Simple Effects for Purchase Intent

Condition Comparison	Mean Difference	SE	t	p	Cohen's d
AI vs. Human, Utilitarian	-1.10	0.25	-4.40	<0.001	0.75
AI vs. Human, Hedonic	-2.02	0.25	-8.08	<0.001	1.32
AI vs. Human, Difference in Differences	0.92	0.35	2.63	0.001	0.57

The interaction pattern indicates that while AI disclosure negatively affects all outcomes for both product types, the effect is significantly larger for hedonic products. H2a and H2b were supported.

4.4.3 H3: Moderation by Demographics. To test demographic moderation, hierarchical regression analysis was conducted with disclosure (dummy-coded: 0 = human-created, 1 = AI-generated) as the independent variable, purchase intent as the dependent variable, and demographic variables as moderators. Each demographic moderator was tested in a separate model to avoid multicollinearity.

Table 14
Age Moderation

Predictor	β	SE	t	p	95% CI
Disclosure	-1.42	0.18	-7.89	<0.001	[-1.77, -1.07]
Age (younger = 1, older = 0)	0.12	0.11	1.09	0.276	[-0.10, 0.34]
Disclosure × Age	0.78	0.23	3.39	<0.01	[0.33, 1.23]

The significant interaction indicates that younger consumers (18-25) showed 0.78 points less reduction in purchase intent following AI disclosure compared to older consumers (46+). Simple slopes analysis revealed:

- For younger consumers: b = -0.64, t(386) = -2.87, p = 0.004
- For older consumers: b = -1.42, t(386) = -7.89, p < 0.001

Table 15

Technological Literacy Moderation

Predictor	β	SE	t	p	95% CI
Disclosure	-1.23	0.15	-8.20	<0.001	[-1.52, -0.94]
Tech Literacy (mean-centred)	0.18	0.09	2.00	0.046	[0.003, 0.36]
Disclosure × Tech Literacy	0.42	0.11	3.82	<0.001	[0.21, 0.63]

The significant interaction indicates that the negative effect of AI disclosure is attenuated for consumers with high technological literacy. At one standard deviation above the mean of technological literacy, the effect of AI disclosure was b = -0.81, t(386) = -4.05, p < 0.001. At one standard deviation below the mean, the effect was b = -1.65, t(386) = -8.52, p < 0.001.

Table 16

AI Familiarity Moderation

Predictor	β	SE	t	p	95% CI
Disclosure	-1.35	0.16	-8.44	<0.001	[-1.66, -1.04]
AI Familiarity (mean-centred)	0.22	0.10	2.20	0.028	[0.02, 0.42]
Disclosure × AI Familiarity	0.35	0.14	2.50	<0.05	[0.08, 0.62]

Table 17

Ethical Concerns Moderation

Predictor	β	SE	t	p	95% CI
Disclosure	-1.18	0.14	-8.43	<0.001	[-1.45, -0.91]
Ethical Concerns (mean-centred)	-0.25	0.08	-3.13	0.002	[-0.41, -0.09]
Disclosure × Ethical Concerns	-0.52	0.12	-4.33	<0.001	[-0.76, -0.28]

The negative interaction indicates that consumers with stronger ethical concerns about AI showed an amplified negative response to AI disclosure. At one standard deviation above the mean of ethical concerns, the effect was b = -1.70, t(386) = -9.45, p < 0.001. At one standard deviation below the mean, the effect was b = -0.66, t(386) = -2.94, p = 0.003.

H3a, H3b, and H3c were supported.

4.4.4 H4: Mediation by Authenticity. Mediation was tested using PROCESS Model 4 (Hayes, 2018) with 5,000 bootstrap samples. Disclosure (0 = human-created, 1 = AI-generated) was the independent variable, purchase intent was the dependent variable, and perceived authenticity was the mediator.

Table 18

Mediation by Authenticity

Path	Effect	SE	t	p	95% CI
a (Disclosure → Authenticity)	-1.53	0.11	-13.91	<0.001	[-1.74, -1.32]
b (Authenticity → Purchase Intent)	0.68	0.04	17.00	<0.001	[0.60, 0.76]
c' (Direct Effect)	-0.54	0.10	-5.40	<0.001	[-0.74, -0.34]
c (Total Effect)	-1.56	0.11	-14.18	<0.001	[-1.78, -1.34]

Table 19

Mediation Effect

Effect	Effect	Effect Size	Boot SE
Indirect Effect	Indirect Effect	-1.02	0.08
Direct Effect	Direct Effect	-0.54	0.10
Proportion Mediated	Proportion Mediated	0.65	0.06

The indirect effect accounted for 65.4% of the total effect, indicating partial mediation. H4 was supported.

5. Discussion

5.1 Summary of Findings

This study investigated how Pakistani consumers respond to AI-generated advertising compared to human-created advertising, examining the roles of product type, demographic characteristics, and perceived authenticity. The findings reveal a robust and consistent pattern: Pakistani consumers exhibit strong algorithm aversion in the advertising context, trusting human-created advertising more, perceiving it as more authentic, and expressing higher purchase intent for products advertised with human-created content.

The effect sizes observed (Cohen's d ranging from 0.86 to 1.42) are substantial, indicating that AI disclosure meaningfully influences consumer responses. This effect is moderated by product type, with hedonic products experiencing a larger negative impact than utilitarian products. The effect is also moderated by consumer characteristics including age, technological literacy, AI familiarity, and ethical concerns. Perceived authenticity mediates a substantial portion (65%) of the effect, suggesting that consumers' judgments of authenticity are central to their responses to AI-generated advertising.

5.2 Cultural Interpretation: Why Pakistani Consumers Respond Negatively to AI-Generated Advertising

The magnitude of the negative response observed in this study warrants careful cultural interpretation. Why do Pakistani consumers react so strongly against AI-generated advertising? The answer lies in the intersection of cultural values, religious ethics, and the particular characteristics of Pakistan's advertising tradition.

5.2.1 The Primacy of Interpersonal Trust in Collectivist Cultures. Pakistan's collectivist culture places enormous value on interpersonal relationships and trust. In collectivist societies, trust is primarily built through personal connections, shared identities, and demonstrated commitment to group welfare (Hofstede, 2001; Triandis, 1995). Advertising in such contexts traditionally relies on appeals that leverage these relational values celebrity endorsers who are perceived as trustworthy, family-oriented narratives that resonate with cultural values, and emotional storytelling that demonstrates shared understanding.

AI-generated advertising may fail on these dimensions. When consumers learn that an advertisement was created by AI, they may infer an absence of genuine human relationship. The advertisement becomes a product of impersonal computation rather than an expression of human understanding and care. In a culture that values personal connection, this inference may be particularly damaging. Our qualitative debriefing with participants (conducted as part of the manipulation check) revealed comments such as: "How can a machine understand our feelings?" and "A human knows what Pakistanis want, AI just makes things up." These comments illustrate the perception that AI lacks the cultural competence and emotional understanding necessary to create authentic advertising.

5.2.2 Islamic Ethics and the Value of Human Agency. Islamic ethical traditions emphasize human agency, accountability, and the importance of intention (niyyah) in all actions. The Qur'an repeatedly emphasizes that human beings are created as God's vicegerents (khalifah) on earth, entrusted with responsibility and agency (Qur'an 2:30). This theological foundation may influence how Pakistani Muslims perceive the delegation of creative work to machines.

When an advertisement is created by AI, questions arise about accountability. Who is responsible for the message? Who stands behind the claims? In Islamic ethics, transparency about agency is crucial deception about the source of a communication is considered ethically problematic. Our findings that authenticity mediates the effect may reflect this ethical concern: AI-generated advertising is perceived as less authentic because it obscures human agency and responsibility.

5.2.3 Pakistan's Advertising Tradition: The Art of Emotional Storytelling. Pakistan's advertising industry has historically excelled at emotional storytelling. Campaigns that resonate with Pakistani audiences typically feature strong narratives, cultural references, and emotional arcs that connect with everyday experiences. Tapal Tea's "Seyapa" campaign, which depicts a young woman challenging family tradition while maintaining respect for elders, succeeded because it captured a genuine cultural tension. Ufone's "Uthao" campaign became iconic because it reflected Pakistani humour and communication styles. Jazz's "Barish Mein" commercial resonated because it portrayed universal emotions in a distinctively Pakistani setting.

These campaigns succeeded because they were created by human creative professionals who understood Pakistani culture intimately. Our findings suggest that consumers may doubt whether AI systems, trained primarily on global datasets, can achieve this level of cultural nuance and emotional resonance. The larger negative effect for hedonic products, which rely more heavily on emotional appeals and support this interpretation.

5.2.4 Uncertainty Avoidance and Novelty. Pakistan's moderate-high uncertainty avoidance orientation may contribute to the negative response to AI-generated advertising. Novel technologies often trigger uncertainty and anxiety, particularly when their capabilities and limitations are not well understood. AI-generated advertising represents a novel phenomenon; consumers may be uncertain about what AI can and cannot do, leading to a default position of skepticism.

This uncertainty may be compounded by media portrayals of AI that emphasize both its capabilities and its risks. Pakistani media have covered AI extensively, often focusing on concerns about job displacement, ethical risks, and potential misuse. These portrayals may prime consumers to view AI with suspicion, particularly in domains like advertising where creative expression has traditionally been a human preserve.

5.2.5 Socioeconomic Factors: Digital Divide and Technological Literacy. Pakistan's significant digital divide shapes how different segments of the population respond to AI. Consumers with higher education, greater technological literacy, and more familiarity with AI show attenuated negative responses. This suggests that as AI becomes more integrated into daily life in Pakistan, attitudes may shift. However, for the substantial portion of the population with limited technological exposure, AI remains unfamiliar and potentially threatening.

The finding that older consumers react more negatively than younger consumers is consistent with generational differences in technological comfort. Younger Pakistanis have grown up with AI-powered recommendation algorithms, voice assistants, and automated customer service. For them, AI is a familiar part of daily life. For older generations, AI may represent an unwelcome intrusion of technology into domains they prefer to remain human.

5.3 Theoretical Implications Revisited

5.3.1 Cultural Extension of Algorithm Aversion. This study provides the first experimental evidence of algorithm aversion in advertising in a South Asian cultural context. The findings suggest that algorithm aversion is not merely a Western phenomenon but may be even stronger in collectivist, high power distance cultures where interpersonal trust is particularly valued. This cultural extension is significant for theory development, suggesting that algorithm aversion should be understood as culturally contingent rather than universal.

5.3.2 Authenticity as the Key Mechanism. The strong mediation effect of authenticity (65% of total effect) identifies perceived authenticity as the central psychological mechanism underlying consumer responses to AI-generated advertising. This finding extends authenticity theory (Morhart et al., 2015) to the domain of human-machine creative competition. It suggests that consumers evaluate AI-generated content not only on traditional credibility dimensions but also on existential dimensions and whether the content genuinely expresses human experience and emotion.

5.3.3 Boundary Conditions. The finding that product type moderates the effect provides important boundary conditions for understanding algorithm aversion. When products are hedonic, associated with pleasure, emotion, and self-expression, the negative effects of AI disclosure are amplified. When products are utilitarian, associated with function, practicality, and necessity, the negative effects are attenuated but still

present. This pattern suggests that algorithm aversion is not monolithic but varies meaningfully based on the nature of the consumption context.

5.4 Practical Implications for Pakistani Marketers

5.4.1 Strategic Disclosure Decisions. The findings suggest that marketers face a strategic dilemma: transparency about AI use may undermine consumer trust, but nondisclosure carries ethical and regulatory risks. Several strategic approaches emerge:

Selective Disclosure: For hedonic products where emotional resonance is critical, marketers may wish to minimize emphasis on AI involvement. This does not mean nondisclosure, which would be ethically problematic but rather framing AI as a tool used by human creatives rather than as the primary creator.

Human-AI Collaboration Framing: Rather than presenting ads as purely "AI-generated," marketers might frame them as "human-directed AI" or "AI-assisted human creativity." This framing may preserve perceptions of authenticity while maintaining transparency.

Education and Normalization: Marketers could invest in educating consumers about AI capabilities, emphasizing that AI tools are used by creative professionals to enhance, not replace, human creativity. As consumers become more familiar with AI, negative responses may diminish.

5.4.2 Segment-Specific Strategies. The demographic moderation findings suggest tailored approaches:

Younger consumers: Can be approached with greater transparency about AI use, as their negative responses are attenuated

Older consumers: May require additional reassurance about human involvement and creative oversight

Tech-literate consumers: May appreciate detailed information about AI tools and processes

Privacy-concerned consumers: May need reassurance about data ethics and responsible AI use

5.4.3 Maintaining Authenticity. Given authenticity's central role, marketers should focus on ensuring that AI-generated advertising demonstrates authentic cultural understanding, emotional resonance, and genuine value. This may require:

Training AI systems on culturally specific data reflecting Pakistani values and communication styles

Maintaining human creative oversight, particularly for hedonic products

Incorporating authentic cultural elements (language, humour, references) that signal genuine understanding

5.5 Policy and Regulatory Implications for Pakistan

As PEMRA and other Pakistani regulators consider AI disclosure requirements, these findings offer several considerations:

Disclosure effects should be considered in rulemaking: Mandatory disclosure carries consumer perception consequences that may harm advertising effectiveness. Regulators should weigh transparency benefits against these consequences.

Differentiated requirements by product category: Given the stronger effects for hedonic products, regulators might consider differentiated requirements, similar to how some jurisdictions differentiate disclosure requirements for different product categories.

Consumer education: Regulatory efforts should include consumer education about AI capabilities and limitations to reduce unwarranted skepticism while maintaining appropriate caution.

Harmonization with international standards: Pakistan may wish to align its approach with emerging international norms (e.g., EU AI Act) to provide consistency for multinational brands operating in Pakistan.

6. Limitations and Future Research

6.1 Cultural Specificity as Both Strength and Limitation

This study's focus on Pakistan is a strength in providing culturally specific evidence, but it also limits generalizability. Future research should conduct cross-cultural comparisons with other South Asian countries (India, Bangladesh, Sri Lanka), Middle Eastern markets (UAE, Saudi Arabia), and Western markets to identify cultural contingencies in algorithm aversion.

6.2 Evolving Technological Landscape

The rapid pace of AI advancement means that consumer attitudes may evolve quickly. What consumers perceive as "AI-generated" today may differ from perceptions in two years as AI capabilities advance and become more familiar. Longitudinal research tracking attitude changes over time is needed.

6.3 Additional Moderators

Future research should examine additional moderators including:

- Brand strength: Do strong, trusted brands buffer the negative effects of AI disclosure?
- Cultural values: Direct measurement of collectivism, power distance, and uncertainty avoidance as individual-level moderators
- Religiosity: Does religious commitment influence responses to AI-generated content?
- Media context: Do responses differ by platform (e.g., television, social media, print)?

6.4 Qualitative Depth

The quantitative findings should be complemented by qualitative research exploring the meanings Pakistani consumers attach to AI-generated advertising. In-depth interviews could reveal the cognitive and emotional processes underlying the effects observed here.

7. Conclusion

This study provides comprehensive evidence that Pakistani consumers respond negatively to AI-generated advertising, particularly when it is disclosed as such. The negative effects are substantial, with AI-generated ads eliciting significantly lower trust, authenticity perceptions, and purchase intent compared to identical ads labelled human-created. These effects are moderated by product type (stronger for hedonic products) and consumer characteristics (weaker for younger, more tech-literate consumers). Perceived authenticity mediates a majority of the effect.

The findings must be understood within Pakistan's cultural context, a collectivist society with Islamic ethical traditions, a history of emotionally resonant advertising, and significant variation in technological literacy. In this context, AI-generated advertising may be perceived as lacking the human touch, cultural understanding, and authenticity that Pakistani consumers value.

For marketers, the findings suggest that AI adoption in advertising requires careful strategic consideration. Transparency about AI use is important, but disclosure carries consequences. Framing AI as a tool used by human creatives, rather than as an autonomous creator, may help preserve perceived authenticity. For regulators, the findings suggest that disclosure requirements should be developed with awareness of their effects on consumer perceptions.

As AI capabilities continue to advance and become more integrated into Pakistani daily life, consumer attitudes may evolve. However, for the foreseeable future, the human touch remains central to effective advertising in Pakistan. The brands that succeed will be those that leverage AI's efficiency and capabilities while maintaining the authenticity, cultural resonance, and emotional connection that Pakistani consumers demand.

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