

273. AI-GENERATED PICTURES IN DIGITAL MARKETING AND CONSUMER PERCEPTION

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This paper investigates consumer reactions to AI-generated versus authentic photographic imagery across three marketing sectors. A survey of 37 students revealed a consistent preference for authentic photography in terms of perceived realism and purchase intent. The study concludes that AI-generated visuals carry a measurable trust risk in advertising, while AI tools remain highly effective in supporting analytical and operational marketing functions.

The rapid growth of generative AI tools – including Midjourney, DALL·E, and Stable Diffusion – has made photorealistic image creation accessible to virtually any business. Whether AI-generated visuals can replace authentic photography without eroding consumer trust or conversion rates has therefore become a question of direct practical significance for marketing practitioners.

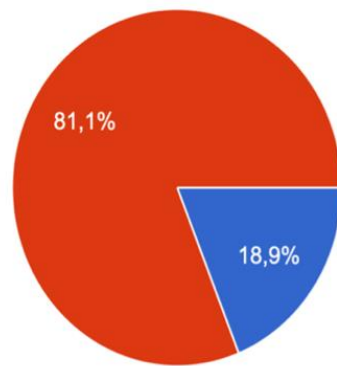
Research on the "uncanny valley" effect suggests that near-realistic but imperfect synthetic content can trigger scepticism in human observers [1]. In marketing, visual authenticity has been directly linked to brand credibility and purchase motivation. Despite this, few studies have tested consumer reactions to AI imagery across multiple product categories in a controlled setting. In addition, most prior research has focused on single images shown in isolation, whereas real purchasing decisions typically involve comparing multiple options simultaneously. This distinction matters because consumers may be more likely to notice subtle flaws in AI-generated visuals when a real photograph is placed next to them for direct comparison. The present study was therefore designed to test responses under paired conditions across several product categories to provide a more practically relevant picture of how AI imagery performs in a competitive advertising context.

To address this gap, a structured online survey was conducted among 37 university students in Belarus. Participants were shown paired images – one AI-generated, one authentic photograph – across three sectors: food and beverages (a café), hospitality (a hotel room), and retail (a pair of sneakers). The instrument included binary-choice questions on visit motivation and perceived realism, and Likert-scale items (1–5) measuring hotel booking likelihood and self-assessed AI detection ability.

Results were consistent across all three categories. In the café scenario, 81.1 % of respondents selected the authentic photograph as more likely to motivate a visit, as illustrated in Figure 1. In the product photography test, 94.6 % identified the authentic image as more realistic – a near-unanimous result reflecting the difficulty AI systems face when replicating fine material details that consumers scrutinise online. The hospitality sector produced the most commercially significant finding: booking intent for the AI-generated hotel room averaged 2.81 out of 5, compared to 4.24 for the authentic photograph – a gap of 1.43 points, representing a 34 % difference in booking likelihood. Additionally, 86.1 % of respondents rated their ability to detect AI-generated content as "very easy" (mean 4.83 / 5), indicating that digitally literate consumers apply active critical scrutiny to marketing visuals – consistent with experimental evidence demonstrating that audiences systematically assign higher trustworthiness ratings to images perceived as authentic rather than AI-synthesised [3]. The distribution of responses in the café scenario is presented in Figure 1.

Which image would make you MORE likely to visit this cafe?

37 answers



AI-generated

Human-photographed



● Image 1

● Image 2

Figure 1 – Respondent preference for authentic vs AI-generated imagery: café sector (n = 37).

These findings establish a clear credibility cost associated with AI-generated imagery in visual advertising. The effect is most pronounced in hospitality, where a photograph serves as the consumer's primary pre-purchase point of reference. Replacing authentic photography with AI-generated content in trust-sensitive sectors therefore introduces measurable commercial risk. The preference for authentic images was consistent across all three tested categories, suggesting that the trust gap is not limited to one particular industry but reflects a broader consumer tendency to favour visual content that is perceived as authentic and unmanipulated.

However, this does not imply that AI has no place in marketing. The results specifically concern one application – AI as a visual content creator. In other functions, AI tools deliver significant value without triggering consumer scepticism:

- 1) Customer data analysis – AI processes behavioural and transactional data at scale, enabling precise audience segmentation and demand forecasting [2];
- 2) Campaign optimisation – machine learning algorithms adjust targeting and budget allocation in real time, improving advertising ROI;
- 3) Content personalisation – language models assist in drafting message variants and scaling personalised communication across channels;
- 4) Market monitoring – AI tools track competitor activity and consumer sentiment continuously, providing timely competitive intelligence.

The findings yield a clear practical recommendation: AI-generated visuals should not replace authentic photography in trust-sensitive contexts such as hospitality, dining, or premium retail. At the same time, AI represents a powerful productivity tool in analytical and automation roles that do not depend on visual realism. Organisations that observe this distinction will be better positioned to capture the efficiency benefits of AI while preserving the consumer trust that drives conversion. In practical terms, this means investing in authentic photography for product pages and promotional campaigns, while using AI to handle background tasks such as data analysis, audience segmentation, and content scheduling – areas where it adds measurable value without putting brand credibility at risk.

These results also raise broader questions about transparency in digital advertising. Scholars argue that the growing indistinguishability of AI-generated content from authentic media increases the ethical responsibility of brands to disclose the origins of their visual materials [4]. Regulatory frameworks in several jurisdictions are beginning to address this issue, yet voluntary disclosure remains rare in practice – creating a gap between emerging norms and actual brand behaviour that warrants attention from both researchers and practitioners.

From a consumer behaviour perspective, the implications extend beyond individual purchase decisions. Research on brand trust suggests that repeated exposure to inauthentic or algorithmically generated content can erode the broader relationship between a brand and its audience over time [5]. This long-term dimension of credibility loss is not captured by single-exposure surveys and represents a significant direction for longitudinal research in digital marketing.

Several limitations of this study should be acknowledged. The sample consisted entirely of university students, who may not be representative of the general consumer population – particularly older age groups that tend to be less familiar with AI-generated content and may therefore respond to it differently. These

constraints do not invalidate the conclusions, but suggest that the findings should be interpreted as indicative rather than definitive.

Future research should extend the sample beyond university students, examine whether disclosure of AI imagery moderates the observed trust effects, and track how consumer attitudes evolve as generative technology continues to improve. Comparative studies across different countries would also be warranted, as attitudes toward AI-generated content may differ depending on local levels of digital literacy and media consumption habits. For instance, consumers in markets with higher exposure to social media advertising may already be more accustomed to digitally altered or synthetic visuals, which could reduce the trust gap observed in this study. Understanding these differences would help brands develop more targeted communication strategies when deciding where and how to use AI-generated imagery in their marketing.

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