The Taste of Effort: Consumer Response to the Disclosure of Generative Artificial Intelligence Content in Food Advertising

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Abstract:

Generative artificial intelligence (GenAI) has opened up new opportunities for advertising, such as text-to-image generation. Research on how disclosure of GenAI usage impacts consumer perceptions of the advertised brands and products is limited, although this topic is increasingly relevant due to (potential) introductions of regulatory measures (e.g. EU's AI Act). Thus, drawing from literature on algorithm aversion and the labour illusion effect, this research investigates the perceptions of GenAI disclosure in food advertising. To do this, we conducted a one-factor between-subjects online experiment among 220 participants. The present study finds a significant effect of GenAI disclosure (vs. non-disclosure) on purchase intention of novel food alternatives, fully mediated by perceptions of reduced brand effort and reduced taste expectations. This finding carries significant implications for both researchers and practitioners, which are further discussed and analysed in this paper.

Keywords: Generative Artificial Intelligence, Algorithm Aversion, Labour Illusion Effect

Track: Advertising & Marketing Communications

1. Introduction

Generative artificial intelligence (GenAI) models are transforming the marketing landscape (Kshetri, Dwivedi, Davenport, and Panteli, 2023). GenAI refers to "computational techniques that are capable of generating seemingly new, meaningful content such as text, images, or audio from training data" (Feuerriegel, Hartmann, Janiesch, and Zschech, 2024). Brands increasingly incorporate such synthetic content in their advertising messages (Campbell, Plangger, Sands, and Kietzmann, 2022). For instance, advertisers use text-to-image generators to craft engaging lifestyle imagery (Amazon, 2023). While such tools have opened up new avenues to enhance advertising content (Hartmann, Exner, and Domdey, 2024; Kshetri et al., 2023) and extend AI applications beyond analytical decision-making tasks (Feuerriegel et al., 2024), little is known about whether and how consumers' brand and product perceptions are influenced by the use and disclosure of GenAI content usage (GenAI disclosure) in advertising. This is particularly important, as policymakers increasingly seek to regulate the use and disclosure of AI, such as through the European Union's AI act (European Commission, 2024).

Marketing research has begun to explore the implications of new AI capabilities, focusing primarily on consumer responses to AI-driven product development and design (e.g. Xu & Mehta, 2022; Zhang, Bai, and Ma, 2022; Lee & Kim, 2024), consumer perceptions of AI-based brand voice (e.g. Kirkby, Baumgarth, and Henseler, 2023), or consumers' overall appreciation of AI-created advertisements (Wu & Wen, 2021).

Few studies have specifically examined GenAI disclosure, with existing work focusing on digital endorsers (e.g. Wang & Qiu, 2024), prosocial contexts such as charitable giving (e.g. Arango, Singaraju, and Niininen, 2023; Baek, Kim, and Kim, 2024), social media content creation (Brüns & Meißner, 2024), or Instagram advertising (Wortel, Vanwesenbeeck, and Tomas, 2024). These studies primarily investigate brand-related or endorser-related variables (e.g. brand attitude, source credibility) based on theoretical accounts such as the persuasion knowledge model or source credibility theory (e.g. Wortel et al., 2024; Wang & Qiu, 2024). However, there is a gap in understanding how GenAI disclosure impacts consumer responses to ads, especially for product-related outcomes.

This study seeks to contribute to this area of research by investigating the following research question: *Whether and how are consumers' brand and product perceptions influenced by disclosure of the use of GenAI content in advertising?* More precisely, this study aims at gaining a theoretically grounded initial understanding of consumers' reactions

to brands' GenAI disclosure in the context of ecologically sustainable food advertisements. An indirect mechanism explaining the effect of GenAI disclosure on purchase intentions through perceived brand effort and taste expectations is proposed. This research context was chosen for two main reasons: Firstly, food products create a specific sensory experience (e.g. through taste expectations) and significantly influence individuals even without actual consumption (Yang, Liu, Huang, and Wan, 2024). Secondly, focusing on relatively novel food alternatives is both practically and academically relevant, as brands increasingly introduce more sustainable food options like meat alternatives (Mannem, Tangari, and Baran, 2023).

2. Theoretical Background and Hypotheses Development

To investigate whether and how consumers respond to GenAI disclosure in food advertising, we develop a conceptual framework drawing from the literature on algorithm aversion and the labour illusion effect. People tend to prefer human decision-makers over automated systems, even when algorithms are shown to be more accurate or effective, a phenomenon known as "algorithm aversion" (e.g. Zhang & Gosline, 2023). Prior research has demonstrated that people often display general algorithm aversion (e.g. Magni, Park, and Chao, 2024; Zhang et al., 2022) or, at least, "human favouritism" (Zhang & Gosline, 2023). This aversion can lead to biases against AI-generated work, such as perceiving a product design as less creative when informed that it was produced by AI rather than humans (Magni et al., 2024). Similarly, research on the related phenomenon of "human favouritism" has shown that individuals prefer content created exclusively by human experts (Zhang & Gosline, 2023). In the context of social media content creation, recent research found that brands' GenAI adoption induces negative attitudinal and behavioural follower reactions, i.e. reduced perceptions of brand authenticity, post credibility, brand attitude, electronic word-of-mouth intentions, and brand loyalty (Brüns & Meißner, 2024). These effects may be driven by consumers' underlying inferences about the brand and the product itself. According to the labour illusion effect[1], consumers value brands' offers more favourably if they believe that more effort has gone into their creation (Buell & Norton, 2011). Since automation facilitates processes (Buell & Norton, 2011), the use of GenAI could be interpreted as a lack of effort. Thus, we offer the following prediction:

[1] Recent research has examined the impact of GenAI on the IKEA effect, which describes that people value products more highly when they have personally put effort into assembling them (i.e. Mehler, Ellenrieder, and Buxmann, 2024). Thus, in contrast to the labor illusion effect, this effect is tied to personal consumer involvement.

H_1: GenAI disclosure has a negative effect on perceived effort.

Effort has been found to be a signal of quality, influencing consumer judgments (Buell & Norton, 2011). This can apply to products, services, and even digital experiences like website design (Buell & Norton, 2011). For instance, prior studies have shown that when companies put extra effort into making or displaying their products, consumers respond by increasing their willingness to pay, choosing their stores, and rating products more favourably, even without an actual improvement in quality (Morales, 2005). Similarly, in a product packaging context, the positive effect of perceived effort on overall product evaluations was found to be mediated by product quality perceptions, underlining that effort signals quality (Söderlund et al., 2017). As taste is one of the most important qualities of food, we hypothesise the following in the context of food advertising:

H_2: Perceived brand effort has a positive effect on taste expectation.

H_3: Taste expectation has a positive effect on purchase intention.

Given our hypotheses that GenAI disclosure has a negative effect on perceived brand effort (H_1), which in turn lowers taste expectations (H_2) and ultimately reduces purchase intention (H_3), we hypothesise the following:

H_4: In a three-step, serial mediation process, GenAI disclosure has a negative indirect effect on purchase intention.

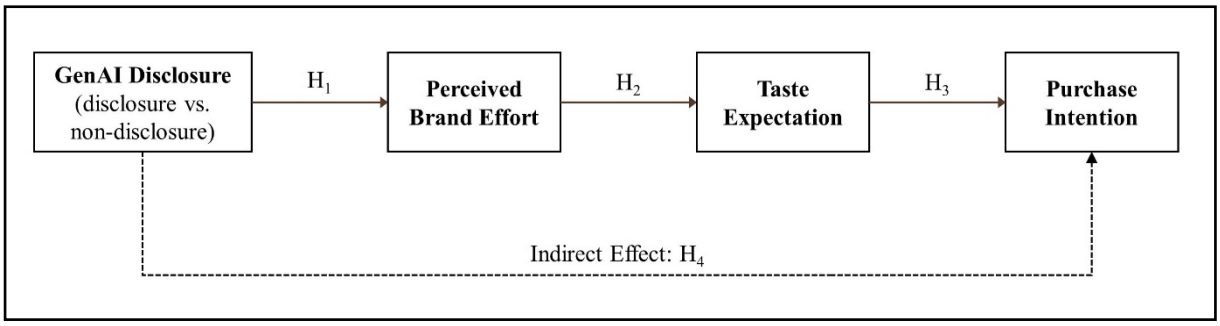

Figure 1. Research model

3. Method

3.1 Procedure, sample and measures

To test our hypotheses, a one factor between-subjects online-experiment with two randomly assigned groups was conducted. It was directed at consumers above 18 years who generally eat beef. All participants were asked to imagine that they would like to eat a burger at the Burger Blend branch that recently opened near their home. While researching Burger

Blends' offerings, they came across an ad for a plant-based burger as an ecologically sustainable alternative to a traditional beef burger. Participants in the experimental (vs. the control group) were told that the advertising image was created by Burger Blend using the text-to-image generator DALL-E 3 (vs. its own marketing department). The same AI-generated advertising image was shown to both groups, except being marked as AI-generated in the experimental condition. The sample includes 220 complete datasets (female = 57.3%, male = 42.7%, M_{age} = 30.45, SD_{age} = 11.46) with 112 participants in the experimental group.

To measure the research model's constructs, we adapted established single and multiple-item scales from previous research. For the dependent variable "purchase intention", participants answered the following question on a 7-point scale (1 = extremely unlikely, 7 = extremely likely): "If you were at Burger Blend to get a burger, how likely would you be to purchase the Plant Based Burger?" (Mannem et al., 2023). The first mediator "perceived effort" was assessed using a slightly modified single-item scale from Söderlund et al. (2017): "How much effort do you think Burger Blend has put into the creation of this product advertisement?" (1 = no effort at all, 7 = very high effort). The second mediator "taste expectations" was measured analogous to Florack et al. (2017) using three questions (1 = not at all, 7 = very much): "How tasty do you think this plant-based burger is?", "How delicate do you think this plant-based burger is?", and "How much would you enjoy eating this plant-based burger?" (α = .94).

We further measured the frequency of meat consumption as a covariate by asking participants to indicate how often they eat meat (Mannem et al., 2023). This is because more frequent meat consumption has been associated with a reduced preference for alternative protein sources (De Boer, Schösler, and Aiking, 2014; Mannem et al., 2023). Furthermore, green consumption values (α = .91) were measured to control for context-relevant individual differences in the expression of pro-environmental values through consumption choices using the following items: "It is important to me that the products I use do not harm the environment.", "I consider the potential environmental impact of my actions when making many of my decisions.", and "My purchase habits are affected by my concern for our environment." (Haws, Winterich, and Naylor, 2014; Mannem et al., 2023). Age and gender were further considered as covariates. As a manipulation check, participants indicated their brand awareness and their recognition of the ad containing a GenAI cue by selecting from two options, each representing one of the disclosure types.

4. Results

4.1 Manipulation checks

Across both groups, the AI-manipulation was successful ($\chi^2(1) = 116.4$, $p < .001$). The results show that 87% correctly classified non-disclosure, and 86% correctly recognised GenAI disclosure. Additionally, as intended by using a fictious brand name, both the participants in the disclosure and non-disclosure condition correctly indicated (each: 95%) that the brand is unknown ($\chi^2(1) = 0.06$, p = .805).

4.2 Model estimation

We predicted that GenAI disclosure (vs. non-disclosure) would decrease perceived brand effort, which would, in turn, lower taste expectations and ultimately reduce purchase intentions. We used PROCESS model 6 (version 4.2, Hayes, 2018) in IBM SPSS 26 to run a serial mediation model with perception of brand effort and taste perceptions as mediators and frequency of meat consumption, green consumption values, age and gender as covariates.

4.3 Main results

GenAI disclosure in food advertisements (vs. non-disclosure) exerts a significant negative effect on perceptions of brand effort (b = -0.816, $p < .001$), supporting H_1. Perceptions of brand effort are significantly positively related to taste expectations (b = .149, p = .016), in line with H_2. We also find that taste expectations relate positively to purchase intentions (b = .834, $p < .001$), as predicted by H_3. To estimate the indirect effect proposed in H_4, we use 5,000 bootstrap samples with a randomly set seed, and derive percentile bootstrap confidence intervals with a 95% confidence level. In support of H_4, we find that GenAI disclosure (vs. non-disclosure) in food advertisements for novel foods has a significant negative indirect effect on purchase intentions, mediated by perceptions that the brand puts lower effort into the creation of the advertisement and lower taste expectations (*Indirect effect* = −0.101, 95% CI [−0.213, −0.021]). As the analysis shows no direct effect of disclosure type on purchase intention, our results support a full mediation. Following prior research (e.g. Karagür, Becker, Klein, and Edeling, 2022), we conducted the same serial mediation analyses with the mediators in a reversed order. This analysis did not yield significant indirect or direct effects, providing additional support for the proposed mediation model. The results are displayed in Table 1.

Regression statistics	**Perceived Brand Effort (PE)**		**Taste Expectation (TE)**		**Purchase Intention (PI)**	
	Coefficient	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
Constant	**2.761*** **	.652	**4.152*** **	0.638	0.504	.497
Disclosure Group (DG)[1]	**-0.816*** **	.207	-0.081	-	-0.059	.176
Perceived Brand Effort (PE)	-	-	**0.149** **	.062	0.027	.050
Taste Expectation (TE)	-	-	-	-	**0.834*** **	.053
Green Consumption Values[2]	-0.052	.085	**0.300*** **	.074	**0.147** **	.069
Frequency of Meat Consumption[2]	0.102	.068	**-0.143** **	.0517	**-0.124** **	.050
Gender[2]	-0.317	.218	-0.174	.179	-0.161	.165
Age[2]	**0.028** **	.009	**-0.022***	.009	0.001	.008
Overall Model	$R^2 = .11$, $F(5, 214) = 6.34$, $p < .001$		$R^2 = .22$, $F(6, 213) = 10.86$, $p < .001$		$R^2 = .59$, $F(7, 212) = 65.78$, $p < .001$	

Relative indirect effects

	Purchase Intention (PI)		
	Effect	*BootSE*	*95%BootCI*
DG → PE → PI	-0.022	.042	[-0.108, 0.060]
DG → TE → PI	-0.067	.140	[-0.344, 0.202]
DG → PE → TE → PI	**-0.101**	**.048**	**[-0.213, -0.021]**

Table 1. Detailed results of regression and mediation analysis

Note: The table depicts unstandardised regression coefficients. We apply HC3 robust standard errors (*SE*) in our analysis, as it is recommended to routinely use *SE* in regression analysis, even if homogeneity appears to be present (Hayes & Cai, 2007). ***$p < .001$, **$p < .01$, *$p < 0.5$. $N = 220$. *95%BootCI* = 95% percentile confidence intervals using 5,000 bootstrap samples. [1] GenAI disclosure = 1 (non-disclosure = 0). [2] Included as covariates. 0 = female, 1 = male.

5. Discussion and Implications

The emergence of GenAI technologies has enabled marketers to create impactful content for creative purposes, expanding the capabilities of analytical AI traditionally used for decision-making (Feuerriegel et al., 2024). As policymakers continue to strengthen regulations on AI usage and disclosure (e.g. European Commission, 2024), it is essential for marketing researchers to examine respective consumer reactions. Against this background, this study aims to explore whether and how consumers respond to GenAI disclosure in the context of food advertisements. This addresses recent calls on gaining a more profound understanding of the usage of GenAI in marketing (e.g. Kshetri et al., 2023).

Two important contributions to the advertising literature are made. Firstly, the presence of algorithm aversion in a structurally different context (i.e. food advertisements) is confirmed for

brand-related and product-related outcomes. Prior marketing literature has mainly focused on brand-related outcomes (e.g. brand loyalty) in structurally different contexts (e.g. social media content creation, charitable giving). Secondly, the research on the labour illusion effect is expanded upon by illustrating that GenAI disclosure in food advertising can negatively impact consumers' evaluation of brand effort, which can translate to lower taste expectations and subsequently purchase intentions. Thus, marketing practitioners should be aware of potential backlash effects through this mechanism and explore ways that highlight brands efforts, e.g. through providing operational transparency (Buell & Norton, 2011), or highlighting human efforts in the content creation (Brüns & Meißner, 2024).

6. Limitations and Future Research

The findings of this study point to new directions for future research. It would be of value to test these results in different research settings to validate and expand upon the current conclusions. Future studies might identify other sources of lower brand effort perceptions and compare them with GenAI disclosure to check whether the causal chain shown in our study holds. Moreover, comparing the effects of GenAI disclosure in the contexts of relatively novel vs. conventional food alternatives would be interesting. In this instance, it could be explored whether the novelty disadvantage – where novel food products typically are perceived worse than conventional ones (Florack et al., 2017) – is affected by GenAI disclosure. Given that novel food alternatives are often perceived as artificial to varying degrees (Onwezen, Bouwman, Reinders, and Dagevos, 2021; Weinrich, 2018), a GenAI cue in advertising might amplify the related sense of discomfort, whereas this effect might not be as pronounced in the context of conventional food ads. Furthermore, future research could explore interventions that may mitigate the proposed negative effect, such as emphasising operational transparency to signal the effort involved. With the continuous advancement in GenAI and its increasing adoption, consumers reactions towards GenAI disclosure may become less negative over time. Therefore, future studies could use panel data to examine how respective consumer reactions evolve. Lastly, boundary conditions such as the disclosure design could be examined (Karagür et al., 2022).

References

Amazon (October 25,2023). *Amazon rolls out AI-powered image generation to help advertisers deliver a better ad experience for customers*. Retrieved from: https://www.aboutamazon.com/news/innovation-at-amazon/amazon-ads-ai-powered-image-generator. (Last accessed: December 1, 2024).

Arango, L., Singaraju, S. P., & Niininen, O. (2023). Consumer responses to AI-generated charitable giving ads. *Journal of Advertising*, 52(4), 486-503.

Baek, T. H., Kim, J., & Kim, J. H. (2024). Effect of disclosing AI-generated content on prosocial advertising evaluation. *International Journal of Advertising*, 1-22.

Buell, R. W., & Norton, M. I. (2011). The labor illusion: How operational transparency increases perceived value. *Management Science*, 57(9), 1564-1579.

Campbell, C., Plangger, K., Sands, S., & Kietzmann, J. (2022). Preparing for an era of deepfakes and AI-generated ads: A framework for understanding responses to manipulated advertising. *Journal of Advertising*, 51(1), 22-38.

De Boer, J., Schösler, H., & Aiking, H. (2014). "Meatless days" or "less but better"? Exploring strategies to adapt Western meat consumption to health and sustainability challenges. *Appetite*, 76, 120-128.

European Commission (October 14, 2024). *AI Act*. Retrieved from: https://digital strategy.ec.europa.eu/en/policies/regulatory-framework-ai. (Last accessed: December 1, 2024).

Feuerriegel, S., Hartmann, J., Janiesch, C., & Zschech, P. (2024). Generative AI. *Business & Information Systems Engineering,* 66(1), 111-126.

Florack, A., Koch, T., Haasova, S., Kunz, S., & Alves, H. (2021). The differentiation principle: why consumers often neglect positive attributes of novel food products. *Journal of Consumer Psychology*, 31(4), 684-705.

Hartmann, J., Y. Exner, Domdey, S. (2024). The power of generative marketing: Can generative AI create superhuman visual marketing content?, *International Journal of Research in Marketing*,

Haws, K. L., Winterich, K. P., & Naylor, R. W. (2014). Seeing the world through GREEN-tinted glasses: Green consumption values and responses to environmentally friendly products. *Journal of Consumer Psychology*, 24(3), 336-354.

Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach 2nd edition*. New York, NY: The Guilford Press.

Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods*, 39, 709-722.

Karagür, Z., Becker, J. M., Klein, K., & Edeling, A. (2022). How, why, and when disclosure type matters for influencer marketing. *International Journal of Research in Marketing*, *39*(2), 313-335.

Kirkby, A., Baumgarth, C., & Henseler, J. (2023). To disclose or not disclose, is no longer the question–effect of AI-disclosed brand voice on brand authenticity and attitude. *Journal of Product & Brand Management*, 32(7), 1108-1122.

Kshetri, N., Dwivedi, Y. K., Davenport, T. H., & Panteli, N. (2023). Generative artificial intelligence in marketing: Applications, opportunities, challenges, and research agenda. *International Journal of Information Management*, 102716.

Lee, G., & Kim, H. Y. (2024). Human vs. AI: The battle for authenticity in fashion design and consumer response. *Journal of Retailing and Consumer Services*, 77, 103690.

Magni, F., Park, J., & Chao, M. M. (2024). Humans as creativity gatekeepers: Are we biased against AI creativity?. *Journal of Business and Psychology*, 39(3), 643-656.

Mannem, A., Tangari, A. H., & Baran, M. J. (2023). I've got the power: Encouraging pro-environmental behavior through messaging. *Journal of Business Research*, 168, 114228.

Mehler, M., Ellenrieder, S., & Buxmann, P. (2024). The Influence of Effort on the Perceived Value of Generative AI: A Study of the IKEA Effect. *European Conference on Information Systems 2024 Proceedings*. Paphos, Cyprus.

Morales, A. C. (2005). Giving firms an "E" for effort: Consumer responses to high-effort firms. *Journal of Consumer Research*, 31(4), 806-812.

Onwezen, M. C., Bouwman, E. P., Reinders, M. J., & Dagevos, H. (2021). A systematic review on consumer acceptance of alternative proteins: Pulses, algae, insects, plant-based meat alternatives, and cultured meat. *Appetite*, 159, 105058.

Söderlund, M., Colliander, J., Karsberg, J., Liljedal, K. T., Modig, E., Rosengren, S., Sagfossen, S., Szugalski, S., & Åkestam, N. (2017). The allure of the bottle as a package: An assessment of perceived effort in a packaging context. *Journal of Product & Brand Management*, 26(1), 91-100.

Wang, X., & Qiu, X. (2024). The positive effect of artificial intelligence technology transparency on digital endorsers: Based on the theory of mind perception. *Journal of Retailing and Consumer Services*, 78, 103777.

Weinrich, R. (2018). Cross-cultural comparison between German, French and Dutch consumer preferences for meat substitutes. *Sustainability*, 10(6), 1819.

Wortel, C., Vanwesenbeeck, I., & Tomas, F. (2024). Made with Artificial Intelligence: The Effect of Artificial Intelligence Disclosures in Instagram Advertisements on Consumer Attitudes. *Emerging Media*, 27523543241292096.

Wu, L., & Wen, T. J. (2021). Understanding AI advertising from the consumer perspective: What factors determine consumer appreciation of AI-created advertisements?. *Journal of Advertising Research*, 61(2), 133-146.

Xu, L., & Mehta, R. (2022). Technology devalues luxury? Exploring consumer responses to AI-designed luxury products. *Journal of the Academy of Marketing Science*, 50(6), 1135-1152.

Yang, Y., Liu, M., Huang, J., & Wan, X. (2024). Making choices of food and non-food products: a comparison between virtual stores and online shopping. *International Journal of Food Science & Technology*, 59(3), 1644-1652.

Zhang, H., Bai, X., & Ma, Z. (2022). Consumer reactions to AI design: Exploring consumer willingness to pay for AI-designed products. *Psychology & Marketing*, 39(11), 2171-2183.

Zhang, Y., & Gosline, R. (2023). Human favoritism, not AI aversion: People's perceptions (and bias) toward generative AI, human experts, and human–GAI collaboration in persuasive content generation. *Judgment and Decision Making*, 18, e41.