

Report on the 7th Working Group Meeting of AG MARKETING

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Abstract This article reports on the 7th meeting of the working group AG MARKETING within the GfKI Data Science Society. The meeting was virtually held in three sessions on November 27, and 28, 2025, respectively. The presented talks included topics from a broad variety of fields from quantitative marketing, data analytics and influencer marketing.

1 Introduction

The 7th meeting of the AG MARKETING took place online on November 27, and 28, 2025, and brought together 25 participants from Europe, the USA, and Asia for a two-day online conference. The event featured three sessions with outstanding presentations and inspiring discussions, highlighting the group's growing international influence. The meeting was a testament to the AG MARKETING's commitment to promoting international collaboration and knowledge sharing in the field of quantitative marketing. The diversity of topics

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presented reflects the group's dedication to fostering innovative thinking and best practices. In addition to excellent presentations, the meeting also included the (re-)election of the board and a deputy chair. We are delighted that Prof. Dr. Friederike Paetz (Anhalt University of Applied Sciences) and Dr. Philipp Brüggemann (FernUniversität in Hagen) will take on these roles for the next three years, bringing fresh ideas and enthusiasm to the AG MARKETING.

The first session was chaired by Prof. Dr. Winfried J. Steiner and contained four talks from the areas of retailing (Zniva, R., Wagner, U., and Schleifer, V., see section 2), the designing of fair and sustainable leasing (Brîncoveanu, C., and Carl, K.V., see section 3), the designing of home appliances (Baier, D., Radazzo, D., and Unger, M., see section 4) as well as social micro-experiments (Bühler, F., see section 5).

The second session was chaired by Prof. Dr. Luis F. Martinez and featured three presentations with a focus on influencer marketing (Vishnu, P.V., Murthy, M.D.P., and Jain, R., see section 6 and Huang, T.-L., Hung, Y.-H., Huang, Y.-H., and Schultz, C.D., see section 7), and the hidden rhythm of buying (Vishnu, P.V., Murthy, M.D.P., and Jain, R., see section 8).

The third session was chaired by Prof. Dr. Hanna Schramm-Klein and included four talks on smart object's agency (Hakimi, M., see section 9), influencer marketing (Fota, A., Rollin, R. and Schramm-Klein, H., see section 10), online customer reviews (Karasenko, A., see section 11) and robot anthropomorphism (Beikverdi, L., Eriksson, N., and Biström, D., see section 12).

We thank the authors for their numerous high-quality and diverse submissions, as well as the session chairs for their excellent moderation of the three sessions. Their contributions once again made the 7th Meeting of the AG MARKETING a great success.

2 Dynamic Pricing in Grocery Retailing via Electronic Shelf Labels

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Electronic shelf labels (ESLs) are a technology that has recently gained adoption in retailing. Prior studies have confirmed several advantages of ESLs, including savings in operational costs and resolving mismatches between prices

for the same stock-keeping unit across physical and electronic locations (Boden et al, 2020). In addition, ESLs enable retailers to continuously adjust prices in response to changing market conditions. Research shows that the introduction of ESLs in grocery retailing leads to an increase in the number of price changes, a decrease in the average size of price adjustments, greater dispersion of price adjustments over time, and profit gains that go far beyond mere labor cost savings (Stamatopoulos et al, 2021). Whereas consumers accept dynamic pricing in e-commerce (for instance, in tourism), this is not the case for brick-and-mortar grocery stores. Therefore, the increased price flexibility made possible by ESLs can also lead to adverse side effects for retail businesses. Demand-based and economically motivated price changes may be perceived as unfair by customers, which can reduce their trust in the retailer's benevolence and potentially lead to higher complaint intentions or lower purchase intentions. These adverse effects are influenced by psychological reactance, as customers are forced to interact with the technology (Yang and Garnier, 2022). Such potential downsides have mainly remained unexplored so far. To contribute to closing this research gap, this article investigates the capacity of ESLs to facilitate dynamic pricing in stationary retail. It follows the call of existing literature to examine potential reactance effects induced by ESLs in this context. Based on thorough theoretical considerations, this research proposes three hypotheses:

- H1: Electronic price tags where prices (a) increase or (b) decrease lead to higher reactance than electronic price tags where prices remain constant.
- H2: Increasing levels of reactance induce (a) a negative attitude toward the retailer, (b) a negative evaluation of the ease of use of ESLs, and (c) a negative evaluation of the usefulness of ESLs.
- H3: A negative attitude toward the retailer or negative evaluations of the ease of use or usefulness of ESLs result in (a) decreased intention to recommend the retailer and (b) increased intention to switch.

We conducted a lab study with 186 subjects. They were randomly assigned to one of three experimental groups and were first exposed to a retail shelf of mineral water with specific price tags. After completing a filler task, subjects returned to the retail shelf, where members of EG1 were confronted with a price increase, those in EG2 with a price decrease, and those in the control group (CG) with no price change. Three findings are most relevant.

1. Reactance is a central construct for explaining customers' reluctance toward unexpected price changes on ESLs. Reactance arises because of customers' forced exposure to ESLs and complementary managerial actions.

2. The effects of a price increase and a price decrease are very similar, although the former is more pronounced. This more substantial effect is face-valid, but the similar effect of a price decrease might be even more striking.
3. Latent constructs borrowed from the Technology Acceptance Model turned out to be of minor importance. In any case, subjects clearly disliked ESLs' capacity to enable dynamic pricing but attributed this aversion to the retailer rather than to the usefulness of the technology itself.

3 Designing Fair and Sustainable Leasing: A Dual-Response Choice-Based Conjoint Analysis of the Fair-Wear Pricing Model

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The shift towards sustainable consumption and servitization is challenging traditional business models like automotive leasing, which often rely on fixed-rate contracts that do not account for individual usage intensity and wear. Data-driven, wear-based pricing models, such as the Fair-Wear Pricing Model (FWPM), offer a promising alternative by linking leasing rates to actual product degradation via IoT data. This approach aims to enhance fairness, incentivize resource-conscious behavior, and support circular economy principles. However, the optimal design of such complex contracts from a consumer perspective is unknown. Questions remain regarding how consumers trade off potential cost savings against significant data privacy concerns, and how they value different contract features.

Thus, we propose a study to quantify consumer preferences for the key attributes of a wear-based leasing model, providing actionable recommendations for its optimal design. We will employ a dual-response choice-based conjoint (dual-response CBC) analysis conducted with a representative sample of consumers ($n \approx 200 - 300$) via an online panel (e.g., Prolific). The experiment will test consumer preferences across five relevant attributes of an FWPM contract:

1. Pricing structure, i.e., the ratio of fixed vs. variable price components (e.g., 80% fixed/ 20%variable, 50/50, 20/80).
2. Data privacy, i.e., level of data shared (e.g., anonymous and aggregated vs. personalized and specific driving data).

3. Data handler, i.e., the entity managing the data, as a proxy for trust (e.g., car manufacturer, leasing company, or an independent certified third-party).
4. Sustainability incentive, i.e., the type of reward for sustainable driving (e.g., none, a non-financial CO₂ certificate, or a direct financial “green bonus”).
5. Information provision, i.e., the frequency and detail of feedback provided to the consumer (e.g., real-time dashboard vs. monthly reports).

We will utilize a dual-response format to measure both relative preference and purchase likelihood for each contract profile.

The study is expected to yield part-worth utilities for each attribute level, allowing us to calculate the relative importance of features like data privacy versus the pricing structure. Furthermore, we plan to conduct a consumer segmentation analysis, as we hypothesize that "one size does not fit all." We anticipate identifying distinct consumer segments based on differing preferences for risk (variable vs. fixed price components), sustainability consciousness, and data privacy concerns, analogous to preference patterns observed in telematics-based insurance tariffs. The results will provide actionable insights for designing and marketing fair and sustainable leasing contracts that align with consumer preferences. Furthermore, we expect to estimate consumers' willingness-to-pay for specific features, such as enhanced data privacy through an independent data handler or the inclusion of tangible sustainability bonuses. This research builds on literature in usage-based pricing, behavioral economics, and sustainable business models (e.g., Bocken et al (2018); Koschate-Fischer and Wüllner (2017); Stanula et al (2020)).

4 Choice-Based Conjoint for Designing Home Appliances: Human Versus Silicon Samples of Respondents

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Generative artificial intelligence based on GPT and similar large language models have the potential to augment or even replace traditional market research (see, e.g., Arora et al (2025); Brand et al (2023); Sarstedt et al (2024)). Possible enrichment areas range from secondary research (e.g., the analysis of publications, past studies, or recent user-generated content) to the design and

conduction of primary research (e.g., the generation, improvement, or pretest of questionnaires, the simulation of answers from a sample of respondents). In this paper, we explore whether GPT generated answers in a choice-based conjoint study lead to similar partworth estimates as human choices. GPT simulates potential home appliance buyers in Germany (a so-called silicon sample) and their choices among sets of multi-attributed home appliances. Estimated partworths from these choices are analyzed using hierarchical Bayes (HB) estimation and a multinomial logit model. The estimates are compared to estimates from choices of a human sample that follows the same distribution as the silicon sample regarding age, gender, household size, income, and innovativeness. As an experimental factor, GPT generates choices under a varying amount of information provided from past and preliminary home appliance studies. The results are encouraging: Partworth estimates from GPT choices come close to partworth estimates from human choices when past and/or preliminary studies are provided in the prompt. However, without these additions, GPT's choices are close to random choices and lead to partworth estimates that could be derived from random choices.

5 Rethinking Data in Marketing Research: Introducing Social Micro-Experiments as a Protocol for Ecologically Valid and Scalable Evidence

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Academic marketing and consumer research often relies on convenience or opt-in online samples (e.g. Amazon Mturk), which are fast to obtain but suffer from serious limitations in terms of representativeness and data quality (Wessling et al, 2017). One can even argue that this reliance has contributed to uneven managerial relevance and a widening gap between research and practice (cf. "knowledge production problem" by Schauerte et al (2023)). While much of the field aspires to provide actionable insight for managers, the foundations of our empirical evidence remain fragile and often built on samples and contexts that do not mirror real decision environments.

With the advent of generative artificial intelligence, new paths for marketing research are beginning to emerge. Large language models (LLMs) can support measurement, ideation, and data generation, for instance by serving as synthetic

respondents in early-stage research. Yet using LLMs as data sources introduces its own limitations. These so-called "AI surrogates" can create illusions of generalization: their apparent human-like reasoning may conceal biases, cultural overfitting, and decontextualized patterns that distort inference if not anchored in authentic human data (Crockett and Messeri, 2025). Consequently, both traditional and AI-based data sources remain imperfect reflections of human behavior, underscoring the need for complementary approaches that combine ecological validity with scalability and transparency.

A consequence of these limitations is the prevalence of malleable data-collection efforts and frequent compromises on ecological validity leading to nonrepresentative evidence (Wessling et al, 2017) and, ultimately, misunderstood managerial relevance (Schauerte et al, 2023).

To address this gap, the present work introduces the concept of Social Micro-Experiments (SMEs): Feed-native, one-minute quasi-surveys embedded directly into public social networks, such as LinkedIn polls, structured comment prompts, or single screen forms. SMEs are not mere polls but a defined protocol for ecologically valid, open, and analyzable data collection. The goal is to provide a practical yet methodologically sound framework for accessing publicly available behavioral data. Beyond one-shot insights, SMEs can also inform the development of LLM-based synthetic samples. The same micro-tasks that elicit human choices (binary or multinomial decisions, pairwise preferences, and short ordinal ratings) can produce structured labels to fine-tune audience-specific synthetic respondents. In this way, SMEs provide the empirical grounding that current synthetic-sample practices often lack.

Conceptually, this work aims to contribute in three ways. First, it consolidates existing evidence on sampling, identification, and ecological validity to motivate a shift toward more contextually grounded research. Second, it formalizes SMEs as a quasi-survey protocol for public feeds, offering design, calibration, and open-science guidance. Third, it integrates SMEs with synthetic respondents, outlining a closed loop (collect → calibrate → fine-tune → validate → iterate) to strengthen both traditional research workflows and emerging LLM-based insight generation. Together, these elements aim to open a broader discussion about alternative data sources and the future of evidence generation in marketing science.

6 Signal Interference in Influencer Marketing: How Authenticity and Brand Fit Moderate Disclosure Effects on Engagement

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Influencer marketing represents a multi-billion-dollar industry where commercial messages are embedded within social relationships, creating interpretive ambiguity for audiences. While regulatory bodies mandate sponsorship disclosures to ensure transparency, empirical evidence on disclosure effectiveness remains contradictory, some studies find positive effects on engagement, others document significant penalties. This research addresses this puzzle by extending signaling theory to multi-signal digital environments, proposing a signal interference framework where disclosure effects depend not on the disclosure alone, but on its interaction with concurrent signals of authenticity and brand-influencer fit.

We analyze 1.6 million Instagram posts using within-dyad fixed-effects models to overcome endogeneity challenges inherent in observational data. Our measurement approach operationalizes three key constructs:

1. Disclosure salience through a continuous index capturing prominence and placement rather than binary presence/absence.
2. Authenticity as persona consistency measured through linguistic deviations from an influencer's baseline communication style.
3. Dyadic fit as a composite of static category similarity and dynamic partnership history.

The econometric strategy leverages influencer-brand dyad fixed effects, exploiting variation within 51,270 "switcher" dyads who posted both disclosed and undisclosed content for the same brand partner. Results reveal that while low-salience disclosures show neutral-to-positive engagement effects ($\beta = 0.005, p < 0.05$), high-salience disclosures generate significant engagement penalties ($\beta = -0.010, p < 0.01$). Critically, these effects are systematically moderated by signal alignment. Under conditions of maximum signal conflict—high-salience disclosure with low authenticity and low brand fit, engagement penalties reach $-0.019 (p < 0.001)$. Conversely, when signals align, authentic content within high-fit partnerships, the penalty attenuates by 52.6% to $-0.009 (p < 0.001)$. This pattern confirms our signal interference hypothe-

sis: Audiences interpret multiple concurrent signals holistically, with alignment producing interpretive coherence and misalignment generating defensive processing.

The findings reconcile prior inconsistencies by demonstrating that disclosure outcomes are contingent on the broader signal environment. For platforms, this suggests context-sensitive disclosure requirements varying prominence based on observable alignment indicators. For brands, an alignment-first approach to influencer selection and creative development may prove more effective than optimizing reach alone. For creators, maintaining persona consistency across sponsored and organic content emerges as crucial for minimizing interference effects. This research contributes to marketing theory by extending signaling frameworks beyond single-signal assumptions to address contemporary multi-signal communication contexts, with implications for any domain where commercial and social signals intersect.

7 Humanizing the Artificial: Para-Friendship as a Relational Pathway to Brand Love in Virtual Influencer Marketing

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Virtual influencers have become influential players in today's digital marketing landscape, yet the psychological processes through which consumers develop relational and emotional bonds with these non-human entities are still not well understood. Recent work has begun to define virtual influencers and outline their strategic roles in branding contexts (Audrezet et al, 2025), and research has shown that virtual influencers can shape perceptions of symbolic value, especially within luxury settings (Bie et al, 2025). However, much of the existing research continues to emphasize realism, visual fidelity, or authenticity cues. Such approaches often frame consumer responses as primarily perceptual or aesthetic, while overlooking the social cognitive interpretations that allow virtual influencers to be experienced as socially meaningful partners. One form of parasocial relationship is parasocial friendship which refers to a one-sided

sense of companionship in influencer marketing between an influencer and its followers by showing self-disclosure and social support (Ki et al, 2020).

This study addresses this gap by examining how consumers' perceptions of AI control influence the humanization of virtual influencers and the subsequent formation of para-friendship, which then affects brand-related emotional attachment.

Drawing on metaphor theory and interpersonal relationship models, we propose that when consumers view a virtual influencer as guided by adaptive or intentional AI processes, they are more likely to attribute humanlike qualities such as agency, emotional capacity, and personality. This perceived humanness is expected to encourage the development of para-friendship, a relational state in which the virtual influencer is experienced more like a friend than a remote media figure. Prior research has shown that similar friend-like relational dynamics can emerge with intelligent digital agents (Ki et al, 2020). Para-friendship reflects a sense of closeness, familiarity, and relational warmth, and is positioned as a precursor to brand love, consistent with research showing that relational closeness enhances emotional attachment in brand contexts (Rauschnabel et al, 2024).

The study also considers the moderating role of self-disclosure, understood as the willingness to share personal thoughts, experiences, and feelings during interactions. Self-disclosure functions as an interpersonal mechanism that reduces psychological distance and enables social meaning to be constructed. Individuals who disclose more are expected to be more receptive to interpreting virtual influencers as relational partners, thereby strengthening the link from perceived AI control to perceived humanness and para-friendship.

To test these relationships, an online survey was conducted with 236 U.S. participants recruited through MTurk. Structural equation modeling using PLS-SEM was employed to examine the proposed framework. Results indicate that perceived AI control positively influences perceived humanness and para-friendship. Perceived humanness further contributes to para-friendship, which strongly predicts brand love. Additionally, self-disclosure moderates the pathways involving perceived AI control, suggesting that relational engagement is more likely when individuals are willing to share personal information.

Overall, this study clarifies how emotional and relational outcomes evolve when consumers interact with AI-generated personas. The findings suggest that successful virtual influencer marketing relies less on visual resemblance to humans and more on fostering conditions that support social interpretation and interpersonal involvement. For practitioners, this implies that brands should

focus on interaction design and narrative cues that encourage humanization and conversational openness. By cultivating environments that allow relational meaning to emerge, virtual influencers can function as emotionally resonant partners that strengthen consumer attachment to the brand.

8 The Hidden Rhythm of Buying: Why Consumers Shop in Streaks

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We investigate whether, when, and why consumers enter “hot streaks” of purchasing and quantify their short- and long-run effects using a multi-study design on $\approx 1\text{M}$ e-commerce transactions from 5,000+ users. We operationalize a Purchase Impact Score per transaction by combining a within-user spending z-score with inverse category frequency and, via a sliding-window algorithm, define a hot streak as ≥ 3 purchases above the user-specific 90th percentile within 14 days. Randomization tests confirm that detected clusters exceed chance (average 4.08 purchases over 11.96 days; 76% of users experience ≥ 1 streak; $p < 0.01$), while temporal decomposition and clustering show synchronization with external demand shocks (holiday peaks in November–December and summer promotions in July), with 54.6% of streaks overlapping across users. Sensitivity analyses show robustness to percentile and window choices.

To explain entry, we estimate

1. a demographic logit yielding high out-of-sample accuracy (0.9987) with education positively associated with entry ($\beta = 0.4626$) and multiple-account usage negatively associated ($\beta = -0.5267$), and
2. a behavior-first random-forest model achieving 88% onset prediction accuracy using precursors such as spending slope, short-horizon purchase frequency, and category-mix shifts

Feature importance spotlights spending upticks ($coef = 0.41$) and the first high-impact purchase ($coef = 0.33$) as early-warning signals.

To assess consequences, a phase analysis around streak boundaries indicates a sharp intensity spike, daily purchase frequency rises by $\approx 2,400\%$ ($0.07 \rightarrow 1.89$) while average ticket size declines by $\approx 1,373.6\%$, followed by a 30-day cool-off and gradual reversion to baseline within 90 – 180 days. Despite

the short-run "many-small-baskets" pattern, a propensity-score-matched comparison (1,216 pairs) shows durable value creation: Relative to matched non-streak users, streak consumers exhibit +386.2% total purchases, +340.4% total spend, +265.6% monthly frequency, +228.1% category diversity, -13.2% recency, +24.2% RFM, and +243.3% customer lifetime value.

Finally, to test mechanism, we examine exploration–exploitation dynamics: Category diversity contracts during streaks ($0.8168 \rightarrow 0.7976$; -2.3% ; $t = 21.1791$; $p < 0.01$), with 43.9% of streaks showing an initial broadening followed by concentration, consistent with shopping-momentum theory in which a salient, high-impact purchase reduces decision inertia and accelerates follow-on choices in narrower categories. Collectively, the studies contribute a validated detection algorithm, identify actionable precursors enabling just-in-time targeting, and reconcile the short-run surge/low-ticket paradox with long-run profitability. Managerially, our evidence suggests three tactics:

1. Monitor spending-slope and first-high-impact triggers to time interventions.
2. Favor frequency-oriented tactics (e.g., cadence-based offers, cart-continuation nudges) during streak phases.
3. Sequence recommendations to match the exploration-to-exploitation arc, broad discovery cues pre-streak, narrowing category guidance as intensity builds.

Conceptually, we reframe loyalty and engagement as episodic and bursty rather than smooth, integrating external shocks (seasonality, promotions) with intrinsic dynamics to yield a predictive, intervention-ready framework for managing consumer streaks (Garimella and West, 2019; Liu et al, 2018; Silverman and Barasch, 2023).

9 Smart Objects' Agency and Consumer Acceptance: An Interpersonal Perspective

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Consumers increasingly interact with smart and connected objects, creating new relationships and generating novel relational outcomes (Wang, 2024). Smart objects have gained agentic features that allow them to modify and actively shape user interactions (Rokonuzzaman et al, 2022). However, few studies have examined consumer perception of these emerging capacities before purchase (Querci

et al, 2024), partly because smart objects are still viewed through traditional adoption models (Basarir-Ozel et al, 2023).

Novak and Hoffman (2019) argue that consumer-smart object relationships are social and interpersonal in nature. From these interactions emerge social patterns that can be understood through interpersonal mechanisms structured by the expression of consumers' and smart objects' agencies (Novak and Hoffman, 2019; Schweitzer et al, 2019). Researchers have been invited to study how consumers perceive smart objects' agency to better understand its implications for consumer acceptance (Chouk and Mani, 2022; Attié and Meyer-Waarden, 2022), yet these implications remain underexplored (Querci et al, 2024).

This research fills this gap by exploring how consumers perceive smart objects' agentic capacities and how this perception influences acceptance. The study investigates three characteristics of smart objects' agency: (1) the level of agency, (2) the origin of agency, and (3) the principle of reciprocity of agency. Study 1 (N=450) examined a coffee machine with three agency levels (low, medium, high) to explore how agency level influences perceived usefulness, ease of use, and attitudes toward usage. Results indicated that high agency levels induced lower perceived usefulness, ease of use, and attitudes toward usage, suggesting that smarter is not always better. Lower and medium agency levels showed similar perceptions, inviting companies to question the necessity of racing to design objects with increasingly advanced agentic features.

Study 2 (N=300) investigated a connected bin with two origins of agency (native and device-enabled) to examine how origin influences perceived agency level, usefulness, ease of use, and attitudes toward usage. Results showed that native and device-enabled smart objects were perceived identically across all measures. This invites companies to consider developing device-enabled smart objects instead of native ones and questions the return on investment for native smart object development.

Study 3 (N=300) examined a highly agentic connected roller device for windows across two samples: mobility-reduced participants and those with no mobility issues. This study explored the reciprocity principle of agency, which posits that users engage in relationships considering both their own and the interactant's agency levels. Both samples perceived the same level of smart object agency. However, mobility-reduced participants (lower human agency) expressed lower perceived usefulness, ease of use, and attitudes toward usage, illustrating interpersonal dynamics in smart object perception. Paradoxically, consumers most in need of the device perceived it as too agentic to handle due to their reduced mobility.

This research invites researchers and managers to consider the implications of smart objects' agency through its three main characteristics (level, origin, and reciprocity) when designing and developing smart objects that meet not only functional needs but also the interpersonal and relational needs expressed by consumers.

10 The Future of Influence: How Virtual Influencers Shape Brand Attitudes and Purchase Intentions

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Virtual influencers are computer-generated character designed to engage with audiences on social media, often resembling real humans in appearance and behavior. Unlike human influencers, virtual influencers are entirely digital creations controlled by brands or marketing teams. Previous studies have concentrated on the impact of human influencers on a range of outcomes, including trust-building, brand loyalty and purchase intention (Franke et al, 2023; Özdemir et al, 2023; Sands et al, 2022). Nevertheless, there is a lack of research examining the role of virtual influencers in shaping consumer perceptions. As the prevalence of virtual influencers on social media continues to grow, it is imperative to investigate whether they can replicate or even surpass the influence of their human counterparts.

This research addresses this gap by examining whether virtual influencers exert the same effect on consumers' brand attitudes and purchase intentions as human influencers. In light of the growing prevalence of virtual influencers on social media, companies are increasingly contemplating the potential benefits they offer, including immunity to scandals and the capacity to be tailored to resonate with specific target audiences. Moreover, it is hypothesised that virtual influencers can enhance consumer engagement through their innovative and distinctive nature, while providing businesses with long-term cost-effectiveness.

This study employs a quantitative methodology with a 3x2 design to examine the impact of diverse influencer types (human, virtual, and disclosed virtual) on brand attitude and purchase intention. The research is based on the concepts of

source credibility, parasocial interaction theory, and the uncanny valley theory, which will be examined in detail.

The theory of source credibility posits that the trustworthiness and expertise of an influencer have a significant impact on consumer behaviour. Similarly, the parasocial interaction theory posits that consumers form one-sided relationships with influencers that can influence their attitudes and purchasing decisions. The uncanny valley theory, which addresses the discomfort experienced when artificial entities closely resemble humans, is particularly relevant in evaluating the impact of virtual influencers.

The study examines six discrete scenarios in which both male and female influencers promote two distinct product categories. This allows for a comprehensive analysis of the potential interactions between gender, product type and the nature of the influencer, and their influence on consumer responses. The analysis is based on three mediating variables: The variables under consideration are parasocial relationship, source credibility, and attitude towards the influencer. It is hypothesised that these factors act as mediators in the relationship between the type of influencer and the consumers' brand attitude and purchase intentions. The study makes a contribution to marketing research by expanding the understanding of how virtual influencers impact key consumer behaviours, such as brand attitude and purchase intention, through the application of theories such as source credibility and parasocial interaction. The study highlights the pivotal role of the uncanny valley effect in shaping consumer trust and engagement with AI-driven entities. For businesses, the practical insights demonstrate the potential of virtual influencers to enhance consumer engagement, mitigate the risks associated with human influencers, and provide cost-effective, customisable marketing strategies.

11 Automated Product Improvement from Online Customer Reviews using Large Language Models

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Recent advances in natural language processing have given rise to Large Language Models (LLMs) and generative AI (GenAI) models, such as ChatGPT. These models are capable of sentiment classification (Krugmann and Hartmann, 2024), technology acceptance model construct scoring from Online Customer

Reviews (OCR) (Baier et al, 2025), and can even help in the ideation phase of product development (Bouschery et al, 2023). In this paper we explore how a mix of conventional Machine Learning (ML) methods and LLMs can automatically identify product attribute based strengths and weaknesses across product categories using readily available OCRs. We find that open source LLMs are capable of identifying multiple product attribute sentiments for each OCR with little annotation effort, which would usually require specially trained ML models. Comparisons, with respect to strengths and weaknesses, can then be made at aggregate levels (e.g. mean sentiment score, or distributions), or by using LLMs as a summary agent to distill the main pain points for each attribute, or category.

In a case study we compare several conventional running shoes from Adidas with sustainable alternatives. We find systematic issues, irrespective of category, for attributes such as fit, as well as individual product and category specific issues for the sustainable alternatives, such as poor durability, or poor color quality. We find that LLMs provide a simple and intuitive way to detect pain points and summarize key issues from large review sources, which can then be used to dynamically inform potential buyers, and improve the quality of future products.

12 The Role of Robot Anthropomorphism and Perceived Social Presence in Promoting Sustainable Consumer Choices

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The increasing deployment of service robots in retail environments offers novel opportunities for promoting sustainable consumption. The upcoming implementation of the EU Digital Product Passport (DPP) will make detailed sustainability information available for every product, but its complexity may overwhelm consumers (European Commission, 2022). Anthropomorphic service robots, through human-like interaction, can translate this technical DPP data into engaging, socially meaningful messages that enhance understanding and motivate sustainable purchase decisions. Prior studies indicate that human-like appearance and conversational ability can enhance liking and trust

toward robots (Letheren et al, 2021) while moderate anthropomorphism increases satisfaction (Mende et al, 2019). At the same time, from the sustainable consumption perspective, research shows that the presence of others promotes pro-environmental choices by signalling moral and social status (McGuire and Beattie, 2016). Thus, social robots, by evoking perceived “presence,” may replicate such interpersonal influence effects in retail contexts. Drawing on this background, we propose that anthropomorphic design elements in social robots can act as social actors and foster greater engagement with sustainability messages. This study examines how robot anthropomorphism, expressed through the voice interaction of the humanoid robot, shapes consumers’ perceived social presence and purchase intentions for eco-friendly products. Specifically, the research aims to address the following questions: How does robot anthropomorphism influence consumers’ purchase intentions through perceived social presence in retail settings? To address this research question, we applied an experimental approach to investigate the role of robots’ anthropomorphism features, such as voice interaction, in the context of driving sustainable choices. An experiment was conducted in a controlled laboratory setting with 26 participants randomly allocated to one of two conditions: a robot presenting sustainable product information and offering both voice and visual interaction, or a visual-only robot. Participants were presented with a digital product display featuring a sustainable product and its environmental attributes (DPP simulation). Results revealed that the “voice and visual” condition generated higher perceptions of social presence and increased purchase intention compared to the “visual-only” condition. In addition, we found that perceived social presence significantly affects intention to buy a green product. These findings demonstrate that anthropomorphic cues in robots, particularly the combination of voice and visual interaction, can strengthen social presence and stimulate more favourable attitudes toward sustainable products. This extends prior work on social influence and human–robot interaction by showing that robots can simulate social facilitation effects traditionally associated with human audiences. Theoretically, the study bridges anthropomorphism research and sustainability communication by positioning social presence as a psychological mechanism connecting human-like robot design and pro-environmental decision-making. Practically, it suggests that retail environments can leverage socially engaging service robots to increase consumers’ attention to sustainability information and foster responsible purchasing behaviour.

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