

Be personal, but not too personal: Necessary condition analysis of young consumers' reactions to personalized Instagram ads

Abstract

Purpose: Nowadays, personalization is key to connecting with consumers. However, it comes with a caveat: privacy concerns, which lead to a personalization-privacy paradox. This study examines how young consumers respond to personalized digital advertising, considering both the benefits and potential downsides. It investigates how these perceptions shape affective ad involvement and how that, in turn, influences key online behaviours.

Methodology: Data from an online survey of Instagram consumers were analysed using necessary condition analysis.

Findings: Results show that achieving high affective involvement requires communication to be perceived as highly personalized, highly useful, and minimally intrusive. Affective involvement is a necessary but not sufficient condition for purchase intention. Similarly, positive eWOM is necessary to drive purchase intention, while negative eWOM does not significantly deter it.

Originality: The research examines both bright and dark sides of personalized advertising from the perspective of young consumers, offering a balanced view. By applying a necessary conditions analysis approach, it identifies the minimum levels of perceived benefits and concerns that must be met/avoided to trigger young consumers' emotional engagement, sharing behaviour, and purchase intentions. This approach provides more actionable and precise insights for designing digital marketing strategies that resonate with today's privacy-aware, tech-savvy youth.

Keywords: Personalization, Privacy, Digital marketing, NCA, Young consumers

Be personal, but not too personal: Young Consumers' Reactions to Personalized Instagram Ads

1. Introduction

The rise of data-driven marketing has revolutionized the consumer-brand relationship (Hoffman *et al.*, 2022). Today's consumers interact with marketing in dynamic, multilayered ways shaped by personalization, interactivity, and ubiquitous connectivity (Gao and Liu, 2023; Grewal *et al.*, 2020). Digital technologies such as social media, mobile apps, and AI-driven platforms have not only redefined how brands approach marketing and obtain valuable consumer purchase and profile insights but have also significantly altered how young consumers – typically early adopters of digital platforms – perceive, evaluate, and respond to marketing messages (Grewal *et al.*, 2020; Feijóo *et al.*, 2024; Labrecque *et al.*, 2013). The growing influence of such digital natives calls for further research to maintain the appeal, effectiveness, and relevance of online advertising (Lim *et al.*, 2024).

Among the strategies enabled by digital transformation, personalization has emerged as a particularly powerful tool for engaging contemporary consumers. Driven by consumer data, personalization provides convenience, relevance, and a sense of exclusivity, thereby fostering stronger affective connections with brands (e.g. Schreiner *et al.*, 2019). It involves the tailoring of messages, offers and experiences to individual preferences and behaviours, including segmented emails, interest-related ads, product recommendations and interface customization (Chandra *et al.*, 2022; Tyrväinen *et al.*, 2020).

However, increasing digital literacy and awareness of data misuse (e.g. Cambridge Analytica) have made young consumers more cautious and critical of how personal data is collected and used (Kim and Huh, 2017; Labrecque *et al.*, 2021; Zarouali *et al.*, 2020). Growing reports of cybercrime, including identity theft and hacking, have further heightened privacy concerns, inducing reluctance to disclose personal information (Cloarec, 2020). While personalization is intended to enhance engagement, it may evoke distrust or perceptions of intrusiveness, prompting resistance and reinforcing the “personalization-privacy paradox” (Awad and Krishnan, 2006; Edwards *et al.*, 2002). Research on young audiences further indicates that the effectiveness of personalization depends not only on its ability to deliver relevance and convenience, but also on how it is perceived in terms of transparency, intrusiveness, and the consumer's capacity to critically process advertising messages (Hudders *et al.*, 2017; Rozendaal and Buijzen, 2023; Rozendaal *et al.*, 2011). Taken together, these insights underscore the dual nature of personalization, suggesting that while it offers clear benefits, it simultaneously entails significant risks.

Although the marketing literature has predominantly emphasized the benefits of personalization (e.g. Huang and Zhou, 2018), an emerging body of research calls for further reflection on its potential drawbacks (e.g. Wang *et al.*, 2023). To advance the understanding of this issue, it is necessary to move beyond analyses of average effects and examine the underlying conditions that enable desired consumer outcomes. This is particularly relevant among younger consumers, who are both highly engaged with and sensitive to digital marketing practices. Rather than simply determining whether the positive and negative aspects of personalization influence consumer behaviours, it is critical to identify the necessary conditions that must be present to activate responses such as affective involvement, electronic word-of-mouth (eWOM), or purchase intention (Dul, 2016a). This approach enables the identification of the minimum thresholds of perceived benefits that should be achieved or the levels of perceived concerns that must be avoided to stimulate favourable consumer outcomes. By doing so, marketers can derive more

actionable insights for designing personalization strategies that do not only enhance effectiveness but also respect the privacy expectations of young consumers.

Building on the theory of planned behaviour (Ajzen, 1991) and the cognitive-affective-behavioural model (Lavidge and Steiner, 1961), this research examines how cognitive evaluations of personalized ads, captured through perceived benefits and fears of personalized ads, influence affective involvement as an attitudinal response, and subsequently shape two critical digital behaviours among youth: eWOM and purchase intention.

Using data from young Instagram consumers via an online questionnaire and from a necessary conditions analysis standpoint (NCA), this research provides pertinent insights for marketers, educators, and researchers focused on youth segments. Particularly, it sheds light on how to balance personalization with privacy sensitivity to effectively engage this generation. It also adds to the limited body of literature that critically examines the dark side of digital personalization in youth marketing (Xu *et al.*, 2011), offering practical insights for navigating an increasingly complex consumer landscape.

2. Conceptual model and hypothesis

The personalization-privacy paradox refers to the conflict between consumers' desire for personalized experiences and their concerns about privacy (Awad and Krishnan, 2006). On the one hand, consumers appreciate the convenience and relevance of customized offers and recommendations, which enhance their shopping experience. On the other hand, these same consumers often experience discomfort due to the privacy risks associated with data collection practices (Aguirre *et al.*, 2015). While personalization leads to perceived benefits such as time savings, enhanced shopping experiences, and emotional connection to brands (Bleier and Eisenbeiss, 2015), privacy concerns trigger anxiety, mistrust, and even aversion to brands that utilize such data (Dinev *et al.*, 2015). This tension is especially pronounced in digital platforms, where firms collect large volumes of user data to predict and influence consumer behaviour (Tucker, 2014).

The proposed conceptual model is based on the cognitive-affective-behavioural (CAB) framework (Lavidge and Steiner, 1961) and conceptually informed by the theory of planned behaviour (TPB; Ajzen, 1991). The combination of these frameworks offers a coherent structure for understanding how consumers process personalized advertising and how these processes shape behavioural outcomes. The TPB highlights the importance of behavioural dispositions, such as attitude, in predicting and explaining intentions and actions (Ajzen, 1991). The CAB framework complements this perspective by delineating a sequential mechanism in which cognitive evaluations contribute to affective responses, which in turn guide behavioural intentions and actions. Within the proposed model, the cognitive component encompasses consumers' beliefs, knowledge and perceptions regarding personalized ads, conceptualized through perceived benefits and fears associated with such ads (Lavidge and Steiner, 1961). The affective component, reflecting emotional responses and evaluative preferences, is operationalized as affective involvement (Ajzen, 1991; Lavidge and Steiner, 1961; Zajonc, 1980). The behavioural component, pertaining to conviction, predisposition toward an object, and the intention to act or actual behaviour, is represented by eWOM and purchase intention (Ajzen, 1991; Lavidge and Steiner, 1961).

Ad personalization refers to tailoring ads to match consumer preferences, behaviours, and demographics using data analytics (Chandra *et al.*, 2022). This personalization can take various forms, such as product recommendations, adaptive content, or segmented promotions based on consumer profiles and behaviours (e.g. Tyrväinen *et al.*, 2020).

Affective involvement, defined as the emotional, feeling-based engagement a consumer experiences toward a stimulus (Reychav and Wu, 2015), plays a key role in fostering deeper consumer-brand relationships (Barger *et al.*, 2016).

Personalized advertising enhances affective involvement by delivering content that feels more relevant, meaningful, and emotionally resonant (Brodie *et al.*, 2013). Ads that align closely with consumer interests and preferences are more likely to capture attention and be perceived as appealing as relevance reduces the likelihood of ad avoidance (Çelik *et al.*, 2023). Even when audiences are aware of advertising intent, engagement increases when messages are perceived as personally relevant and useful (Rozendaal and Buijzen, 2023). The emotional relevance created through personalization fosters stronger feelings toward the brand or ad, ultimately increasing involvement (Bleier and Eisenbeiss, 2015; Brodie *et al.*, 2013).

While personalization may not always guarantee affective involvement, it may serve as a necessary condition, in that without a sufficient level of personalization, affective involvement may be unlikely to occur.

H1: A minimum level of personalization is necessary for affective involvement to occur.

Social media platforms provide a mix of hedonic (e.g., entertainment and enjoyment) and utilitarian (e.g., communication, information exchange, and social interaction) benefits to users, making them central to how modern consumers engage with digital content (Kesari and Atulkar, 2016). Within this setting, ad utility plays a critical role. It refers to the extent to which consumers perceive an advertisement as valuable, relevant, and helpful in meeting their informational or purchasing needs (Bleier and Eisenbeiss, 2015). It relates to perceived meaningful product information, useful recommendations, promotional offers, or other content that supports decision-making and aligns with consumer goals.

Research has shown that perceived usefulness is a driver of consumer receptiveness to new approaches in mobile (Schultz and Kaiser, 2025) and SMS advertising (Dix *et al.*, 2017). When advertisements are seen as useful, by offering timely discounts, practical product insights, or tailored recommendations, consumers are more likely to engage, experience positive affective responses, and invest emotionally in the ad content (Rozendaal and Buijzen, 2023).

Although perceived ad utility may not be sufficient on its own to ensure affective involvement, it may function as a bottleneck condition that must be met for affective involvement to occur.

H2: A minimum level of utility is necessary for affective involvement to occur.

In social media environments, advertisements can take various forms, ranging from unsolicited banners to targeted messages (Wiese *et al.*, 2020). Ads that are perceived as intrusive, such as those appearing unexpectedly, interrupting user activities, or using personal data inappropriately, may trigger adverse reactions (Edwards *et al.*, 2002; McCoy *et al.*, 2008). Ad intrusiveness refers to consumers' perception that an ad is overly invasive or intrusive, disrupting their browsing experience, or encroaching on their privacy (McCoy *et al.*, 2008).

Such intrusiveness can interfere with consumers' psychological flow during social media use, causing disruptions in attention and increasing irritation or frustration (Riedel *et al.*, 2018). Furthermore, when consumers feel that their personal data is being misused or that their online behaviour is being monitored too closely, they may experience anxiety, anger, or discomfort (Jung and Park, 2018). As a result, they may be less willing to emotionally engage with the advertisement (Segijn *et al.*, 2024; White *et al.*, 2008).

Low ad intrusiveness may not assure affective involvement, but a high level of perceived intrusiveness may hamper it. Thus, affective involvement cannot occur unless a certain threshold of non-intrusiveness is met.

H3: A sufficiently low level of intrusiveness is necessary for affective involvement to occur.

Electronic word-of-mouth (eWOM) refers to digital statements shared by customers, current, former, or potential, about products, brands, or firms (Liu *et al.*, 2024). These statements are communicated through various channels, including blog posts, online reviews, ratings, social media comments, and video testimonials (Donthu *et al.*, 2021). EWOM can manifest as positive eWOM, including favourable endorsements or praise, or as negative eWOM, involving criticisms, complaints, or warnings (Donthu *et al.*, 2021; Relling *et al.*, 2016).

A growing body of research emphasizes the role of consumers' emotions and feelings in driving their willingness to share experiences (e.g. Tellis *et al.*, 2019; Wen *et al.*, 2022). This emotional engagement can range from joy and excitement to anger or frustration and has been shown to fuel both positive and negative forms of eWOM (Moon *et al.*, 2017; Quach *et al.*, 2021; Tellis *et al.*, 2019). Ads that evoke emotional reactions are more likely to be shared, as affective involvement often precedes the desire to publicly express opinions and evaluations (Kurtoğlu *et al.*, 2022).

Affective involvement may not guarantee that eWOM occurs, but a minimum level of emotional engagement could be a precondition for both positive and negative eWOM to emerge.

H4a. A minimum level of affective involvement is necessary for consumers to engage in positive eWOM.

H4b. A minimum level of affective involvement is necessary for consumers to engage in negative eWOM.

Purchase intention reflects a consumer's deliberate and conscious plan to purchase a specific product or brand in the future. While it does not always translate into actual buying behaviour, it is widely recognized in consumer research as a reliable proxy for behavioural tendencies (Hussain *et al.*, 2022). Consumer affective ad involvement refers to the emotional bond consumers experience with an advertisement (Brodie *et al.*, 2013). This form of involvement shapes how attentively and deeply consumers engage with ad content, often influencing how persuasive or memorable the message becomes (Sharma and Klein, 2020).

Emotionally engaged consumers are more likely to thoroughly process the content, evaluate its relevance, and integrate it into their decision-making processes, ultimately increasing the likelihood of forming purchase intentions (Cuesta-Valiño *et al.*, 2024). From a necessary condition perspective, a minimum level of affective involvement might be essential to trigger any degree of purchase intention. Hence, without enough emotional engagement with the advertisement, consumers may simply not consider a purchase, regardless of how persuasive or informative the ad is.

H5. A minimum level of affective involvement is necessary for consumers to develop purchase intention.

In the digital age, eWOM became a powerful form of peer-to-peer communication, allowing consumers to share their experiences, opinions, and evaluations of products, brands, or advertisements (Park *et al.*, 2021). As a non-brand-controlled information source, eWOM holds significant persuasive power in shaping consumer judgments and

behaviours (Chawdhary and Dall’Olmo Riley, 2015; López and Sicilia, 2014). Positive eWOM, such as recommendations, endorsements, and praise, has shown to enhance consumer confidence and increase the likelihood of purchase intention. Conversely, negative eWOM, such as complaints, warnings, or critical reviews, can discourage consumers, erode brand credibility, and significantly reduce the chances of purchasing behavior (East *et al.*, 2017; Kurtoğlu *et al.*, 2022). These effects are established in correlational and causal models; however, an NCA perspective shifts the analytical focus to what is essential, rather than what is merely influential (Dul, 2016a). From a necessity logic standpoint, a minimum level of positive eWOM may be required to enable the emergence of purchase intention. Similarly, low levels of negative eWOM may be a necessary condition for purchase intention to exist, meaning that the presence of too much negative eWOM may act as a critical barrier, preventing consumers from moving forward in their purchase journey.

H6a. A minimum level of positive eWOM is necessary for consumers to form purchase intention.

H6b. A sufficiently low level of negative eWOM is necessary for consumers to form purchase intention.

Figure 1 presents the proposed model.

Figure 1 here

3. Materials and methods

The research targeted young consumers using Instagram, one of the most used social media platforms worldwide, which is increasing the revenue generated from online advertising (We are social, 2025). Using purposive and snowball sampling, university students representing young consumers were surveyed. In this study, young consumers are defined as individuals aged 18-35 years from generations Z and millennial (e.g., Parker and Igielnik, 2020). These cohorts provide a representative sample of active social media users, and are suitable for investigating social media usage patterns, behaviours, and impacts, as they are recognized in the literature as frequent and digitally engaged users of social networks (Duffett, 2017; Riyat *et al.*, 2025; Sadana and Sharma, 2021).

Data were collected using an online questionnaire over a four-week period. Participants were invited via Instagram and university mailing lists. Participation was voluntary and confidential, with informed consent obtained before starting the survey. The questionnaire was developed in English and subjected to translation and back-translation to ensure accuracy. Items were adapted from prior studies, and a pilot test was conducted to ensure clarity, comprehension, and appropriate completion time. Only Instagram users were eligible to complete the questionnaire, ensuring relevance to social media engagement. The sample size was determined for a 95% confidence level, and after excluding responses with missing data, 201 valid responses were retained for analysis.

To ensure methodological rigor, the study first employed SEM to validate the measurement and structural models and confirm the theoretical relationships proposed in the conceptual model. Following this confirmatory factor analysis, Necessary Condition Analysis (NCA) was conducted to identify the necessary conditions for the outcomes of interest (Richter *et al.*, 2020; Sukhov *et al.*, 2023). The considered necessary conditions are essential, such that their absence prevents the outcome from occurring, regardless of the strength of other factors (Dul, 2016a). This sequential approach aligns with best practices, as SEM provides a rigorous confirmatory framework to validate theoretical

relationships, while NCA offers insights into condition-specific constraints (Sarstedt *et al.*, 2024).

3.1. Sample characterization

The final sample consists of 201 respondents, aged 25-29 (41%), mostly female (71%), single (77%), and from undergraduate studies (48%).

3.2. Measures

Variable measures were based on existing literature, namely personalization and utility on Baek and Morimoto (2012); intrusiveness on Li *et al.* (2002); affective involvement on Liu *et al.* (2018); positive and negative eWOM on Van Vaerenbergh *et al.* (2012) and purchase intention on Hong and Cho (2011). Five-point Likert scales were used, anchored in “not at all likely”/“very likely” for eWOM and “completely disagree”/“completely agree” for the remaining. Respondents’ age, gender, and educational qualifications were included as controls to minimize the distortion of results.

4. Results

4.1 SEM

A confirmatory factor analysis on AMOS 28 shows that the measurement model presents an adequate fit ($\chi^2_{(433)}=741.30$, $p=0.00$; CFI=0.94; IFI=0.94; TLI=0.93; RMSEA=0.06) (Hair *et al.*, 2022). All measures meet established standards for average variance extracted (AVE), composite reliability, and Cronbach’s alpha (Table I).

Table I here

Square roots of the AVE pass the Fornell and Larcker test, indicating acceptable discriminant validity (Table II). Further, all independent variables’ variance inflation factors comply with the recommended cutoff point (Hair *et al.*, 2022).

Table II here

Five models were run to test the proposed model, all presenting adequate fit (Table III).

Table III here

From the SEM viewpoint, there is a positive influence of personalization and utility, and a negative influence of intrusiveness on affective involvement, respectively; affective involvement contributes to both positive and negative eWOM, but not to purchase intention. Positive eWOM – but not negative eWOM – influences purchase intention.

4.2 NCA

NCA package on R (Dul, 2016b) was used to assess the necessary factors, following a sequence of steps: 1) chart analysis, 2) effect size analysis, and 3) bottleneck table construction (for perceived necessary conditions). Following NCA best practices (Dul *et al.*, 2023), we conducted an outlier check using visual inspection of scatterplots and the `nca_outliers()` function. No outliers were found to significantly distort the ceiling line or bottleneck results. As recommended, we retained all observations, given that they fall within the theoretical scope and represent valid data points. This approach aligns with the principle that outliers should only be removed when they are proven to be erroneous or when their influence compromises the validity of the analysis.

Additionally, given that the data were collected using 5-point Likert scales and that all latent variables allow for multiple response possibilities, the CR-FDH method (Ceiling Regression—Free Disposal Hull) was used as analytical approach (Dul *et al.*, 2016b; Richter *et al.*, 2023).

4.2.1 *Affective Involvement*

Beginning with the analysis of the essential characteristics of advertising for affective involvement, the analysis of the ceiling line charts (Figure 2) indicates that there is a need for both utility and personalization (corner 1), as well as the absence of intrusiveness (corner 2).

Figure 2 here

From the presented in Table IV, personalization and utility are necessary factors for affective involvement with a medium effect size, as is the absence of intrusiveness (Dul *et al.*, 2023).

Table IV here

The bottleneck analysis presented in Table V directly supports hypotheses H1 to H3, which posit that personalization, utility, and low intrusiveness are necessary conditions for affective involvement. Specifically, the table shows that to achieve full affective involvement (100%), a high level of personalization (88.9%), full utility (100%), and low intrusiveness (19.3%) are required. These thresholds confirm that none of these factors alone is sufficient, but each is necessary beyond a specific level, in line with the logic of NCA.

In other words, affective involvement cannot be maximized if consumers do not perceive the advertisement as useful, even when it is highly personalized and minimally intrusive. A similar rationale applies to intrusiveness: once intrusiveness exceeds 19.3%, full involvement cannot be attained, regardless of the levels of utility or personalization. By contrast, achieving complete involvement does not require absolute personalization; rather, it requires a threshold level above 88.9%. Thus, even when an ad is non-intrusive and fully useful, insufficient personalization (that is, below 88.9%) prevents the attainment of complete affective involvement.

Table V here

4.2.2 *Purchase Intention*

Prior to the purchase intention analysis, necessity analyses were conducted for affective involvement in relation to both positive and negative eWOM (H4a and H4b). The ceiling line charts (Figure 3) show that affective involvement is a necessary condition for positive eWOM (eWOM_P), but not for negative eWOM (eWOM_N), supporting H4a, but not H4b. Further, Table IV indicates that this necessary condition for positive eWOM has a medium effect size.

Figure 3 here

In the purchase intention necessity analysis, both affective involvement and positive eWOM emerge as necessary conditions (corner 1), whereas the absence of negative eWOM does not appear to be required (Figure 4).

Figure 4 here

The bottleneck analysis presented in Table V supports the hypothesis that affective involvement and positive eWOM are necessary conditions for high purchase intention. Specifically, a minimum level of positive eWOM is required to achieve a purchase intention of 60%. Higher purchase intention levels (e.g. 80%) demand at least 41% affective involvement and 44.9% positive eWOM. Furthermore, full purchase intention cannot be achieved without both conditions being present. Even when positive eWOM reaches 100%, full purchase intention will not occur unless affective involvement exceeds 49.5%. Similarly, full purchase intention does not occur when affective involvement is at 100% unless positive eWOM reaches at least 44.9%. These thresholds remain consistent at higher levels of purchase intention, indicating that both inputs are necessary but not sufficient on their own. This pattern aligns with the logic of NCA on that certain conditions must be met to enable a desired outcome. The results support hypotheses H5 and H6a, but not H6b.

The analysis also indicates a hierarchical relationship between affective involvement and positive eWOM. Specifically, affective involvement functions not only as a direct antecedent of purchase intention, but also as a necessary condition for generating positive eWOM. This finding suggests that consumers are unlikely to share favourable word-of-mouth unless they experience a minimum level of emotional engagement with the stimulus. Hence, affective involvement serves a dual role, facilitating positive eWOM and directly enhancing purchase intention, highlighting its pivotal influence within the consumer decision-making process.

5. Discussion

The digital revolution changed the business setting and how brands interact with consumers, introducing new consumer-approaching techniques such as personalization. However, as this research demonstrates, personalization has both benefits and downfalls. A discussion of the results follows.

The influence of personalization on affective involvement stems from the idea that consumers are more likely to engage with content that feels relevant and aligns with their personal interests (Brodie *et al.*, 2013). These research findings align with research showing that personalized and targeted ads enhance consumers' ability to relate to the content, thereby increasing engagement (e.g. Lee and Johar, 2025). Rozendaal and colleagues (Rozendaal and Buijzen, 2023; Rozendaal *et al.*, 2011) similarly emphasize that even when young consumers recognize the persuasive intent of advertising, engagement is influenced by the perceived relevance, usefulness, and intrusiveness of the message, highlighting the interplay between cognitive evaluations and affective responses.

The confirmation of utility's influence on affective involvement reinforces studies emphasizing the importance of ad relevance and contextual fit (e.g. Dix *et al.*, 2017). When consumers perceive the recommended ad brings useful insights, they are likelier to engage with it.

Nevertheless, presenting ads that are both personalized and informative can have a downside. Such ads may trigger privacy concerns or be considered intrusive (e.g. White *et al.*, 2008). This study echoes prior literature warnings about consumer discomfort with data usage and personalization practices (e.g. Jung and Park, 2018). Notably, the perception of intrusiveness is closely linked to irritation, which can undermine advertising effectiveness and harm brand-consumer relationships (McCoy *et al.*, 2008; Rozendaal *et*

al., 2011). This result underscores the importance of designing personalization strategies that balance relevance and usefulness with respect for consumer comfort and privacy. More interestingly, the findings demonstrate that, to achieve a moderate level of affective involvement, brands can be highly intrusive, have no personalization and the communication may not be perceived as useful; however, to achieve a high level of involvement, consumers need to perceive the communication is 100% usefulness, highly personalized and have lower (perceived) intrusiveness. In fact, from the NCA analysis one realizes that these respondents seem to accept intrusiveness up to a certain level. The confirmation of involvement's contribution to both positive and negative eWOM is in line with the literature that suggests that emotionally involved consumers are more willing to share their experiences and opinions (e.g. Moon *et al.*, 2017). The emotional attachment motivates consumers to talk, both positively and negatively, about ads. The findings further indicate that affective involvement alone does not directly lead consumers to make a purchase. Other factors, such as a cognitive commitment or attitudes toward the ad/brand may also play a role (e.g. Holmes, 2021; Punjani *et al.*, 2024). However, the NCA results reveal that affective involvement remains a necessary condition for achieve high levels of purchase intention. In other words, without affective involvement, purchase intention is unlikely to occur. This intricacy brings a fresh perspective on the relationship between affective involvement and purchase intention, emphasizing that emotional engagement, though not sufficient on its own, is essential for stronger purchase intention.

The same occurs when analysing the influence of eWOM on purchase intention. Unlike the usual perspective adopted on the literature regarding eWOM-purchase influence (considering other consumers' opinions, experience and recommendations sharing), this study focused on how own consumers' eWOM intention influenced their purchase intention. The study followed the line of, for instance, Chawdhary and Dall'Olmo Riley (2015) and confirmed this influence regarding positive eWOM. Consumers willing to talk about their experiences, opinions and feelings toward an ad will be more prone to purchase the advertised product. However, consumers who are keen on complaining about or criticizing it may not reflect that opinion by refraining from buying the advertised product. While others' (negative) opinions may be seen as warnings about potential risks and unfavourable experiences (e.g., Chevalier and Mayzlin, 2006), consumers' intentions to spread a bad word may be a way to "get it off their chest" rather than indicating an intention to act on it. Similar to East *et al.* (2008), positive eWOM effects are greater than negative eWOM ones. Interestingly, at least an average level of positive eWOM is needed to purchase intention, while the absence of negative eWOM makes no difference. As with affective involvement, to achieve 100% of purchase intention, positive eWOM must be present. Affective involvement presents a dual relevance, as it not only contributes directly to purchase intention but also facilitates the emergence of positive eWOM.

6. Conclusion

6.1. Theoretical implications

The research advances theory by integrating the cognitive-affective-behaviour model (Lavidge and Steiner, 1961) with conceptual insights from the theory of planned behaviour (Ajzen, 1991) to explain how young consumers respond to personalized digital advertising. By examining how cognitive evaluations influence affective involvement, which in turn shapes key digital behaviours, the research provides a structured, theory-driven understanding of the personalization-engagement-behaviour link. This approach moves beyond simplistic linear models by clarifying the pathways that drive behavioural outcomes such as eWOM and purchase intention.

This research also contributes to the conceptualization of personalization by incorporating both its bright and dark sides, addressing calls for interdisciplinary perspectives that combine (marketing and IT) literatures. Introducing NCA from a methodological and theoretical lens highlights conditions that are necessary but not sufficient for behavioural outcomes, offering insights that traditional linear models may overlook. This enhances theory by identifying the critical thresholds at which personalization becomes effective, deepening our understanding of engagement mechanisms in digital contexts.

Furthermore, the findings open several avenues for theoretical development. First, exploring the underlying psychological mechanisms that drive adverse consumer responses could refine models of privacy and perceived risk, drawing on frameworks such as privacy calculus (Wang *et al.*, 2016) or consumer empowerment (Zimmerman, 1990). Second, while affective involvement was considered, expanding the emotional dimension, incorporating a broader range of emotions, such as trust, fear, or anxiety, could elucidate how specific emotions mediate or moderate the impact of personalization on engagement, contributing to a more differentiated affective-cognitive framework. Third, considering individual differences, including demographic (e.g. age, gender) or psychographic (e.g. privacy sensitivity) factors, may uncover moderating effects that refine segmentation theory and inform models balancing personalization with ethical and psychological comfort.

Finally, the finding that consumers tolerate a certain degree of intrusiveness raises compelling theoretical questions about thresholds of acceptability. Understanding when and why personalization is perceived as invasive versus acceptable can refine boundary conditions within the cognitive-affective-behavioural framework and guide future theory development across diverse platforms and cultural contexts. Collectively, these insights strengthen the theoretical foundation of personalization research and offer a more precise model of digital consumer behaviour that integrated cognitive evaluations, affective involvement and behavioural outcomes.

6.2. Managerial implications

This study offers important insights for brand and marketing managers navigating the increasingly complex landscape of personalized advertising. The personalization–privacy paradox presents a strategic challenge that requires balancing the benefits of data-driven personalization with maintaining consumer trust. Brands can address this by adopting transparent and ethical data practices, such as clearly explaining how user data is collected and used, offering granular control over data sharing, and providing opt-in choices for personalized content. For example, a fashion brand could include an in-app note or story highlight explaining how a user’s past interactions with clothing posts inform personalized outfit suggestions. These actions not only reduce perceptions of intrusiveness but also strengthen trust-based relationships, differentiate the brand in privacy-conscious markets, and support compliance with evolving data regulations.

While emotional engagement through personalized communication enhances affective involvement, it may not automatically translate into purchase behaviour. Managers should therefore complement emotionally resonant content with informative and actionable messaging, such as highlighting product benefits, demonstrating brand credibility, or emphasizing value propositions. For instance, an Instagram ad for a skincare product could combine a visually engaging, personalized video with a swipe-up link highlighting ingredient benefits, user reviews, or limited-time discounts. Similarly, a tech gadget ad could pair personalized carousel images based on users’ previous interactions with concise “how-to” features or influencer endorsements. These combined

strategies help convert engagement into concrete consumer actions, ensuring that affective involvement serves as a baseline for driving purchase intent.

The insights also underscore the importance of fostering positive eWOM alongside personalized communication. Brands can encourage peer-to-peer sharing by designing campaigns that are visually appealing and emotionally engaging, creating shareable content, such as personalized stories, reels, or interactive polls that users are likely to repost or comment on. For example, a beverage brand could launch a personalized Instagram sticker campaign encouraging users to tag friends in posts, amplifying reach and advocacy without relying solely on data-driven targeting. This approach amplifies reach, enhances brand advocacy, and mitigates potential consumer discomfort with personalization practices.

Finally, although negative eWOM may not directly relate to purchase intent, it provides critical feedback to managers. Regularly monitoring and analysing negative sentiment enables managers to identify friction points, improve product features, or enhance service quality. Proactively addressing these issues strengthens customer experience and reinforces brand trust, a vital asset in digital environments where privacy and transparency are increasingly scrutinized.

6.3. Limitations and future research

While this research advances our understanding on digital communication, it has limitations. First, the perspective adopted in the data collection referred to Instagram ads in general, without specifying an ad, brand or product category. Future studies could focus on a particular campaign or brand to further understand the phenomenon. Secondly, the study focused exclusively on a single social network, Instagram. However, personalized advertising and content appear across a variety of platforms, which may differ significantly in terms of user experience and impact. As such, future research could investigate this phenomenon on other platforms or undertake comparative analyses between them. Future research could likewise replicate this study with a larger and more diverse sample to strengthen generalizability. Cross-country comparisons would be particularly valuable, as cultural and contextual factors, as well as varying platform preferences across countries (We Are Social, 2025) may shape how consumers perceive personalization, intrusiveness and usefulness in digital advertising. Future studies could also delve deeper into the personalization-privacy paradox, especially as digital technologies continue to evolve. The integration of emerging technologies such as artificial intelligence, big data, and the Internet of Things offers new possibilities for enhancing personalization strategies (e.g. Kaushik and Sharma, 2023). Further, considering the negative eWOM findings, suggest that this aspect is complex and warrants more in-depth exploration. Investigating potential moderating factors, as proposed by Sweeney *et al.* (2008), could provide useful insights for future research.

As digital marketing and communication continue to evolve, ongoing research is essential to support researchers, brand managers, and communication professionals in navigating this dynamic landscape and making informed strategic decisions.

The authors declare that they have no known competing interests.

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