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Digital Footprints and Personalized Advertising: How Consumer Informatics Shapes Buying Intentions

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KEYWORDS

Personalized Advertising, Informatics Transparency, Trust, Buying Intention

ABSTRACT

Digital consumers generate vast behavioral traces across platforms, enabling advertisers to deliver highly personalized messages. With personalization leaning more on data, the issue of transparency, trust, and perceived creeping is growing. The present paper investigates how informatics transparency, along with the relevance of personalization, affects consumer trust, perceived intrusiveness, and purchase intention. Based on Privacy Calculus Theory and the Stimulus-Organism-Response model, a conceptual model was created and examined through the answers of 428 digital consumers. The structural equation modeling (SEM) was adopted to evaluate the direct and mediated relations between significant constructs. The results support the idea that informativeness and transparency can highly increase consumer trust and, at the same time, reduce the perceived intrusiveness. Trust turned out to be the most relevant factor in predicting buying intention, which provides support to the significance of ethical perceptions in forming digital consumer behavior. Though the perceived intrusiveness influenced buying intention negatively, it did not affect the trust as much as the trusted. The existence of dual mediation routes shows that personalization strategies should be cognitively appealing and emotionally safe to work effectively. The research provides a theoretical contribution in conceptualizing informatics transparency as an independent construct and incorporates the positive and defensive user reactions into one comprehensive model. Managerially, the results point to the strategic importance of clear data practices, convenient consent systems, and credible interface design. Non-nefarious personalization conducted ethically and transparently, as opposed to data-driven targeting conducted in opaque ways, has a better chance of resulting in long-term consumer interest and brand loyalty.

1. INTRODUCTION

The modern marketing environment has been deeply altered by the process of digitalization, as it has allowed making the interactions between a brand and its audience as personalized. The phenomenal increase in the application of smartphones, tablets, and ubiquitous internet connections has transformed the patterns of consumer engagement. In platforms like e-commerce sites, social media apps, content streaming platforms, and mobile applications, transactions are not the only activities taking place in them, as they are also live points of behavioral data production. The interactions result in massive behavioral metadata flows - collectively known as digital footprints. That data consists of active signals, such as search queries, log-in information, and purchase history, and passive signals, such as click-through rates, dwell time, and geolocation tracking (Boerman et al., 2017).

Gathering and analyzing these footprints has now emerged as a competitive advantage to businesses in this fast-paced digital world. One of the forms of data-driven marketing, personalized advertising uses these digital footprints to generate hyper-personalized promo materials based on behavioral profiles of individual users, their contextual preferences, and situational variables (Bleier & Eisenbeiss, 2015). Firms are now able to deploy artificial intelligence (AI) and advanced analytics tools through which they can send relevant, dynamic and predictive messages. The ultimate goal is to achieve better engagement, conversion, and long-term brand loyalty. This shift has not come without complications, though. The questions of ethics, law, and emotions arise regarding the limits of data utilization, consumer agency, and control of algorithms. The issue of digital surveillance, privacy destruction, and manipulation has started to question the legality and acceptability of these methods. This perceived utility versus ethical concern makes the concept of consumer informatics the center of the debate (Zuboff, 2023).

Consumer informatics can be described as the sophisticated cycle of technological and analytical operations according to which consumer information is collected, processed, and used. These are behavioral tracking tools and platforms, data mining tools, profiling tools, and real-time recommendation engines that are the workhorse of automated personalization. In this sense, digital footprints are not objects at all but rather data streams that are actively managed and processed in real time in order to define user experiences. Such ambivalence of personalization as the technological progress and the ethical dilemma requires an in-depth examination of its consequences (Tucker, 2014; Vallabhaneni et al., 2024).

The deepening of personalized advertising raises basic perception, trust, and engagement questions to the users. With platforms getting increasingly better at anticipating consumer needs and preferences, platform users are often faced with a paradox. They appreciate relevant content but feel uneasy with regard to how such content is extracted. This tendency of personalization-privacy paradox highlights the values of transparency, user control, and ethical responsibility. With personalization built into mobile applications, smart television, and voice assistants, advertising ceases to be an occasional intrusion and becomes a constant, ubiquitous presence.

Consumers have stopped being the passive subjects of the marketing content they are exposed to, and they have grown more conscious with regard to how their data is gathered and utilized. The manifestation of the ever-increasing need for algorithmic explainability and data sovereignty is a cultural shift towards digital empowerment. Consumers demand to know more about the data that is being collected and afterwards, how it is being analyzed and what type of decisions it is affecting. Any personalization efforts falling short of these expectations run the risk of damaging user trust and could result in backlash, regulatory action, or brand disaffection. Sustainable digital marketing, in turn, cannot take place without ethical and transparent personalization.

The current research investigates the effect of two key variables, namely informatics transparency and perceived relevance of personalized content, on trust, perceived intrusiveness, and purchase intentions of consumers. These aspects play a critical role in developing moral and sensible personalization mechanisms that help in coupling the ability of technology with values-oriented users. It suggests a theoretical framework that indicates the psychological, behavioural, and systems-level complexity of digital advertising. This examination will help to foster a more responsible and knowledgeable attitude to personalization in the data economy by connecting the insights of marketing science, behavioral informatics, and ethics.

2. LITERATURE REVIEW

Existing literature highlights the benefits and the limitations of utilizing digital footprints in marketing. Although the use of digital footprints in marketing is beneficial and dangerous at the same time, the literature reveals all the advantages and threats. One of the issues is trust, which can determine human beings' perception toward automated decision-making systems, especially the ones dependent on artificial intelligence and algorithmic personalization (Araujo et al., 2020). These systems have the potential to promote efficiency and relevance to diminish user trust when applied without proper communication and ethics. Tailored advertising can contribute to its success, yet the consumers have to consider the perceptions of relevance and privacy (Kim & Huh, 2017). Irrespective of these misgivings, personalization remains of great importance to consumers. A great number of consumers state that they are pleased with the ads that are relevant to their interests and previous activities. Nevertheless, it is easy to kill this satisfaction when personalization crosses a psychological boundary into the perceived intrusiveness (Alhelaly et al., 2025).

Consumers might respond negatively when they start to feel that their autonomy is threatened, thus decreasing their platform usage and trust. Thus, the challenge faced by marketers is to raise or lower the degree of personalization and transparency according to the expectations of consumers. Personalized advertising has to be accepted depending on the situational factors like transparency, control, and perceived fairness. The personalized messages become more acceptable to the consumers as long as they possess some degree of agency and can comprehend how and why their data is being used (Zerilli et al., 2022). Ethical use of consumer informatics is not only a regulatory requirement, but it is also a success determinant in marketing. It was found that the privacy considerations can be more acceptable in cases when the mechanisms of personalization are transparent and put the control into the hands of users (Stevenson & Pasek, 2015). Theoretical frameworks provide further insights into consumer evaluations of data-driven personalization.

"Privacy Calculus Theory" suggests that individuals weigh the perceived benefits of sharing data, such as convenience and relevance, against the potential risks, like misuse and surveillance (Kokolakis, 2017). Concurrently, user engagement models indicate that trust in personalization systems is built through positive interaction and transparency (Kang et al., 2016). In online communities where perceived risks are higher, the relationship between personalization efforts and user behavior is mediated by trust. However, trust is not a straightforward concept; it interacts with various psychological and contextual factors, including perceived intrusiveness, the platform's reputation, and past user experiences (Martin & Murphy, 2017). When consumers perceive digital advertising as overly manipulative or obscure, they become less inclined to engage, even with appropriately personalized content. Political contexts also illustrate how personalization techniques affect user behavior, especially through microtargeted advertisements in election campaigns (Kruikemeier et al., 2016).

Personalized messages and notifications can enhance user engagement, but poorly executed personalization may lead to the so-called creepiness effect, where a consumer feels monitored or controlled (Aguirre et al., 2015). Such negative reactions not only diminish marketing effectiveness but can also harm brand equity and consumer loyalty in the long term. Therefore, companies are advised to make sure that their personalization efforts are ethical, compliant, and preferred by consumers. The technical competencies listed are difficult to develop due to the aim to go beyond the technical proficiency of completely developed consumer informatics systems and seek transparency, explanation, and alignment with consumer values (Jianming et al., 2021). Consumers are also pushing towards gaining more transparency on how their data is being used and getting a chance to control their online identities. The issue of algorithmic transparency is crucial in the setting where users demand to be more informed about data practices and have more control over their information.

By companies taking the initiative to reveal how they personalize their relationships with users and allowing them to modify their preferences, there is a higher chance of developing sustainable relationships (Li et al., 2011). On the contrary, vague or predatory practices may provoke regulatory fines and consumer backlash, especially in locations where data protection regulations are strict. Marketing theory and marketing practice implications are far-reaching. With the rise of digital footprints as a key aspect of contemporary marketing campaigns, the ability to ethically and adequately use consumer data has changed into a sought-after skill set and has become a requirement.

That is why there is an urgent necessity to go beyond the technical optimization and toward ethically founded frameworks, in which the purposes of personalization would be weighed against consumer autonomy and consumer trust (Schumann et al., 2014). The study also fills a sizable gap in the literature because it investigates the impacts of informatics transparency and perceived relevance of personalization on trust, perceived intrusiveness, and, eventually, purchase intention. Despite the fact that previous researchers have frequently addressed each of these variables separately, it is absolutely necessary to examine the complicated dynamics between transparency, engagement and psychology. The proposed study aims to advance theory and practice in digital advertising environment through synthesizing knowledge in marketing, information system and behavioral science.

3. METHODOLOGY

3.1 Research Design and Approach

This study adopted a quantitative research design using a structured survey and structural equation modeling (SEM) to empirically test the conceptual framework. The quantitative approach enabled a systematic evaluation of relationships among key constructs, informatics transparency, personalization relevance, trust, perceived intrusiveness, and buying intention. SEM was selected for its ability to simultaneously assess measurement validity and test hypothesized relationships within complex models involving mediators and multiple latent constructs. This method provides precise insights into how consumer perceptions of data use and advertising relevance shape their purchase intentions.

3.2 Sampling Strategy

The digital consumers who engage with personalized advertising often through the use of e-commerce websites, social media, mobile applications, and streaming services were considered the target population. Stratified random sampling was employed within the important demographics, such as age, gender, and frequency of use, to represent a wide population. The target sample size was 300-500 respondents, which would provide the minimum sample size SEM requirement, statistical power, and generalizability. Online survey panels were utilized to recruit participants, and screening questions were applied to confirm recent exposure to personalized digital advertisements.

3.3 Variables and Constructs

In this research, there were five main constructs, including two independent variables, two mediating variables, and one dependent variable. The independent variables included informatics transparency, perceived clarity and openness in the use of consumer data, and relevance of personalization, which is the content of ads matching personal interests and preferences.

The intermediaries were trust, indicating the belief in the fairness and security of data practices, and the perceived intrusiveness, which describes how intrusive or too targeted personalized content seems. The buying intention was the dependent variable and was used to denote the willingness of the consumer to buy products or services on the basis of personalised advertising. The multiple-item scales, each of which measured one construct on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). All the scales were taken with the existing validated tools to ensure reliability and conceptual consistency with the previous literature.

3.4 Instrument Development

The data was gathered using a structured online questionnaire. It comprised five pages, namely, informed consent, demographic information, digital behavioral patterns, construct-specific items of perception, and behavioral outcome measures. The instrument was pre-tested to ascertain relevance and clarity by administering it to a group comprising 25 digital consumers. Item wording and order had minor revisions based on pilot feedback. At that point, the questionnaire was refined, and it was conducted through a secure online survey.

Internal consistency of the instrument was pilot-tested with the help of reliability analysis. Only those constructs were kept where all the items had acceptable item-total correlations and the scale had excellent internal consistency (higher than minimum acceptable levels). The final version was easy to understand, limited the mental effort, and maximized the quality of the responses.

3.5 Data Analysis Tools and Techniques

Statistical software was used to carry out data cleaning and basic analysis. First, missing values were addressed, outliers identified and normality verified. Partial Least Squares Structural Equation Modeling (PLS-SEM) was appropriate when the study was prediction-oriented, included latent variables and mediated paths. Confirmatory Factor Analysis (CFA) was used to evaluate the reliability and validity of the measurement model. Reliability was confirmed by Cronbach alpha and Composite Reliability (CR), whereas convergent validity was established through Average Variance Extracted (AVE). The discriminant validity was assessed using Fornell-Larcker criterion and cross-loadings. The structural model was evaluated using path analysis, where hypothesis testing was based on path coefficients, significance values and t-statistics. The significance of direct and indirect effects was confirmed by bootstrapping with 5,000 resamples. The overall model adequacy was guaranteed by model fit indices such as Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA). Moreover, the explanatory power (R 2) and out-of-sample predictive power (Q 2) statistics were determined on the basis of R 2 and predictive relevance (Q 2) statistics.

4. RESULTS

4.1 Descriptive Analysis

Digital consumers who gave valid responses were 428. Male respondents were 54 percent and female respondents were 46 percent in the sample. The prevailing age category was 21-40 years (68%), then 41-60 years (24%), and the rest (8%). In the educational background, 72 percent of the participants had at least a bachelor's degree, and 18 percent had a postgraduate degree (Figure1). They were distributed occupation-wise as students (31%), working professionals (52%), and entrepreneurs/freelancers (17%). The level of digital activity was high among the participants: 91 percent of them used smartphones every day, and 76 percent regularly contacted personalized advertising, especially through social media and e-commerce sites. Nevertheless, few (32 percent) were certain of the way their data was being used, and almost two-thirds (61 percent) had privacy concerns. This implies that there is a significant difference between the exposure to personalization and the perception of informatics transparency.

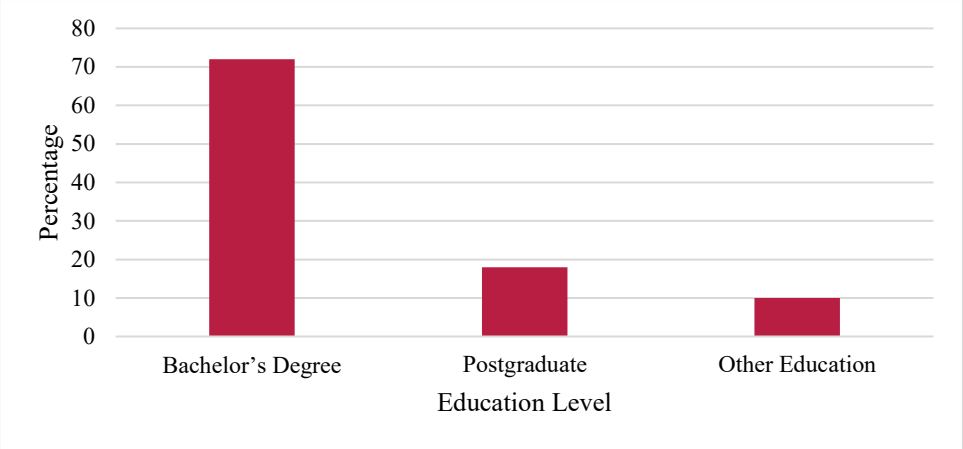


Figure 1: Distribution of Respondents by Education Level

4.2 Reliability and Validity

Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) were used to determine the reliability and validity of the measurement model. The reliability of all the constructs was high, with Cronbach Alpha ranging between 0.78 and 0.88. The CR values were between 0.91 and 0.84, which is above the recommended value of 0.70. The convergent validity was confirmed since all AVEs were greater than 0.50. The discriminant validity was achieved based on the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, where all the constructs were independent of each other. Table 1 demonstrates full reliability and validity measures.

Table 1. Construct Reliability and Validity

Construct	Cronbach's Alpha	CR	AVE	HTMT (Max)
Informatics Transparency	0.83	0.87	0.58	0.72
Relevance of Personalization	0.81	0.86	0.61	0.68
Trust	0.88	0.91	0.66	0.74
Perceived Intrusiveness	0.79	0.84	0.54	0.77
Buying Intention	0.85	0.88	0.63	0.71

4.3 Model Testing and Hypothesis Results

The structural model showed strong fit statistics: CFI = 0.948, TLI = 0.937, and RMSEA = 0.042. R^2 values indicated substantial explanatory power: Trust (0.64), Perceived Intrusiveness (0.51), and Buying Intention (0.72). All six hypotheses were statistically supported. Informatics transparency had a strong positive effect on trust ($\beta = 0.52$, $p < 0.001$) and a significant negative effect on perceived intrusiveness ($\beta = -0.41$, $p < 0.001$). Similarly, the relevance of personalization increased trust ($\beta = 0.48$, $p < 0.001$) and decreased intrusiveness ($\beta = -0.36$, $p < 0.01$). Trust positively influenced buying intention ($\beta = 0.59$, $p < 0.001$), while perceived intrusiveness negatively impacted it ($\beta = -0.27$, $p < 0.01$). Detailed path coefficients and significance values are provided in Table 2.

Table 2. Structural Model Path Coefficients and Hypothesis Testing

Hypothesis	Path	β	p-value	Supported
H1: Transparency → Trust	Informatics Transparency → Trust	0.52	<0.001	Yes
H2: Transparency → Intrusiveness	Informatics Transparency → Intrusiveness	-0.41	<0.001	Yes
H3: Relevance → Trust	Relevance → Trust	0.48	<0.001	Yes
H4: Relevance → Intrusiveness	Relevance → Intrusiveness	-0.36	<0.01	Yes
H5: Trust → Buying Intention	Trust → Buying Intention	0.59	<0.001	Yes

H6: Intrusiveness → Buying Intention	Intrusiveness → Buying Intention	-0.27	<0.01	Yes

Mediation analysis further revealed significant indirect effects through trust and perceived intrusiveness. Trust emerged as the stronger mediator, accounting for most of the indirect influence of both transparency and relevance on buying intention. Perceived intrusiveness had a more modest mediating role. Bootstrapped results for indirect paths are presented in Table 3.

Table 3. Mediation Analysis (Bootstrapping Results)

Mediation Path	Indirect Effect (β)	95% CI	p-value
Transparency → Trust → Buying Intention	0.31	[0.22, 0.39]	<0.01
Relevance → Trust → Buying Intention	0.28	[0.19, 0.36]	<0.01
Transparency → Intrusiveness → Buying Intention	0.11	[0.04, 0.19]	<0.05
Relevance → Intrusiveness → Buying Intention	0.09	[0.02, 0.17]	<0.05

4.4 Visualization

To provide further insight into the mediating mechanisms, Figure 2 presents a grouped bar graph showing the indirect effects of transparency and personalization relevance on buying intention, split across two mediators: trust and perceived intrusiveness. As shown in the figure, indirect effects via trust are consistently stronger than those via perceived intrusiveness for both predictor variables. This highlights the central role of trust in transforming transparent and relevant advertising into consumer engagement, while also acknowledging that perceived discomfort from intrusiveness has a smaller yet meaningful influence.

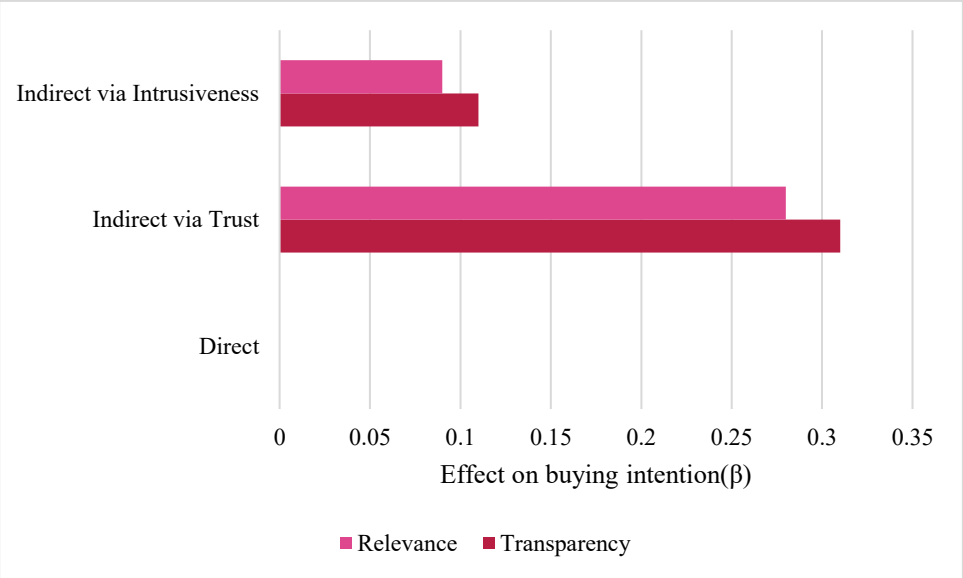


Figure 2. Decomposed Indirect Effects of Transparency and Relevance on Buying Intention

Bar graph showing the contribution of indirect mediation paths for both transparency and personalization relevance. Trust emerged as a stronger mediator than perceived intrusiveness.111

This visualization complements the statistical results and reinforces the interpretation that building trust is more influential than simply reducing privacy-related discomfort in driving digital consumers' purchase intentions.

5. DISCUSSION

The findings of the present research are essential for providing a sensible prediction of how digital consumers perceive and react to personalized advertising in an algorithmically mediated and behaviorally tracked environment. These data support the importance of informativeness and perceived relevance as the foundation of consumer trust. When perceived as enhanced by personalization mechanisms and relevant to the situation, there is a significant rise in trust toward the advertising system,

which, in turn, positively affects buying intentions. Here, trust serves as a stronger determinant of behavior than perceived intrusiveness, indicating that acceptance of data-driven targeting may be closely related to platform credibility and perceptions of ethical behavior. The results are also reliable with the theoretical postulations of Privacy Calculus Theory, which suggests consumers engage in a mental cost-benefit analysis before interacting with personalized services. The perceived benefits include informativeness and relevance, while the costs or risks are associated with perceived intrusiveness. This means consumers do not necessarily object to personalization but are cautious of the transparent and ethically presented nature of relevant strategies. The main issue is not data tracking itself, but the lack of transparency regarding the methods and purposes of data use, which is likely to reduce levels of user trust and behavioral participation.

These results can also be interpreted through the Stimulus-Organism-Response (S-O-R) framework, which posits that external stimuli (e.g., relevance and transparency) lead to internal cognitive and emotional responses (trust and intrusiveness), ultimately resulting in behavioral outcomes (buying intention). Through this two-path mediation model, the cognitive and emotional richness inherent in consumer-algorithmic system interactions becomes clear. As demonstrated, not only does the efficiency of the system contribute to the formation of behavioral intentions, but the perceptions of fairness, clarity, and psychological comfort play a mediating role. Notably, the data indicates that personalization efforts grounded solely in algorithmic relevance cannot generate positive behavioral effects. While messages may be timely and customized, if the personalization mechanism lacks integrity, the opposite effect can occur. This finding complements arguments from recent literature, indicating that algorithmic systems, especially in advertising, often function amid issues of transparency, surveillance, and the erosion of user autonomy and agency (Ruckenstein & Granroth, 2020).

The effectiveness of personalized advertising thus hinges not just on the precision of technologies but also on ethical perceptions. For long-term trust to be established, transparency must be ingrained in the logic, interface, and language of personalization tools. The findings contribute to various theoretical areas. First, the research enriches the literature on informatics-based personalization by providing empirical support that transparency is indeed an independent construct, not equivalent to general privacy concerns. When seen clearly, transparency can predict trust and involvement rather than being merely a tertiary component of conformity. This distinction enables a more nuanced modeling of personalization ethics and performance in future studies.

Second, the results advance existing discussions in the literature on trust and digital privacy, particularly those proposing that trust is not a fixed consumer attitude but a consequence shaped by system behavior, communication clarity, and the situational appropriateness of design. In this framework, trust is no longer just a byproduct of regulatory compliance but rather an operational resource that enhances perceived value and retains users over time. Third, the identification of two mediating pathways, through trust and perceived intrusiveness, underscores that the consumer decision-making process includes parallel cognitive processing and affective safeguards. While trust promotes interaction, intrusiveness operates like a protective barrier.

These findings suggest that personalization strategies should be designed to inspire confidence and minimize resistance. Most existing models have investigated these dimensions separately; the current framework integrates them into a cohesive account of consumer behavior in algorithmic contexts. Practically, the research holds several managerial implications for platform designers, digital marketers, and CX strategists. Organizations should recognize that effective personalization strategies cannot rely solely on efficient targeting algorithms. Instead, consumer acceptance must be complemented by perceived ethical legitimacy and transparency of control. Algorithmic transparency should not be viewed merely as a compliance element but as a strategic design choice that can strengthen brand trust.

Additionally, user-facing systems should be developed to include clear and expressive consent mechanisms, enabling users to understand and control how their information is used on a case-by-case basis. Dashboards, streamlined data flow charts, and interactive personalization settings can facilitate user autonomy while maintaining the personalization experience. Previous studies have shown that interface designs that incorporate the principles of active choice and user agency foster a greater degree of informed participation and reduce privacy fatigue (Murmann & Karegar, 2021). User experiences should prioritize interface clarity, control, and moral certainty. Micro-interactions, such as labeling an item with “Why am I seeing this?” or allowing real-time preference updates, are considerations that platforms should implement.

These features not only ensure a legally compliant environment for users, but they also provide the perceptual comfort that is recognized as a fundamental motivator of trust and behavioral intention. Value-driven content delivery, combined with transparency tools, can significantly alleviate perceived intrusiveness and enhance perceived brand integrity. On a policy level, the findings support the assertion that existing legal regulations, including GDPR and CCPA, are inadequate. While these frameworks establish important criteria for data protection, they tend to rely on abstract consent models that do not translate into actual user understanding and control. This study demonstrates that blanket opt-ins do not build user trust; rather, clear, context-specific user-centered disclosures do.

This finding reinforces the proposal to adopt choice architecture and ethical nudging strategies in policy formulation, where regulatory interventions aim to empower consumer choices rather than control them (Sunstein, 2015). Moreover, there is a strong case for creating uniform informatics dashboards that allow consumers to audit and control the data used in personalization. Such systems would enhance operational transparency and reduce knowledge asymmetries between

platforms and users. Third-party audits and algorithmic fairness certifications might also be a suitable solution to enhance system accountability and user trust. They may be used like food labeling or cybersecurity seals, to make verifiable claims regarding ethical practices, and thereby increase consumer confidence. In spite of the strength of these results, it is important to note boundary conditions that may influence generalizability. Particularly, cultural environments create a strong effect on ideas of transparency and personalization.

It may be that data sharing comes more naturally in high-context cultures or collectivist societies and that the building of trust depends on institutional or community indicators as opposed to individual acts of transparency. What is more, digital literacy inequalities may also influence the way users perceive transparency cues as personalization rationales. Such variations explain the need to have local personalization mechanisms that take into consideration user expectations, behavioral norms and technology awareness. Moreover, human comprehensibility of user-level data, in specific algorithmic uses, may degrade over time because of complexity in the system, noisy behavioral data, or unexpected correlations in the algorithms. The literature on digital data calls this risk a "bottom-of-the-barrel" effect and causes concern over both the reliability and the ethical soundness of models in long-term perspectives (Brown et al., 2015). These risks cause the need to have systems with mechanisms of continuous validation and human supervision. The final but definitely not the least issue that has to be brought up is the changing aspect of surveillance in algorithmic advertising. The intimacy of surveillance that more autonomous systems involve, coupled with their DP across platforms, mounts pressure on conventional concepts of personalization and intrusion. Such Lind named this form of intimacy, both practical and affective, which has been discovered to produce new tensions between user value and exposure (Ruckenstein & Granroth, 2020). Accordingly, future design must be both relevant and at the same time provide a respectful distance that allows the autonomy and dignity of consumers. Lastly, transparency and relevance not only serve as the functional characteristics of personalization, but they also imply the reliability of the platform. As algorithmic systems keep on driving consumer behavior, the future of such systems will be based on the capacity to balance the demands of strategic correctness and ethical confidence.

6. CONCLUSION

The current study focused on the transparency of informatics and personalization relevance in terms of their effects on consumer trust, perceived intrusiveness, and the purchase intention in algorithmically interceded advertising settings. The analysis based on a structured survey and structural equation modeling supported the stance that transparency, relevance, play a major role in consumer attitudes and behavioral intentions. The most significant of the findings is that trust was found to be the strongest mediator, which reaffirms that consumer engagement depends not only on the accuracy of the messages but also on the ethical framing of the idea of personalization. The relevance increased the ad receptivity, whereas informatics transparency decreased the perceived intrusiveness and reinforced trust. Such findings agree with Privacy Calculus Theory and the Stimulus-Organism-Response approach that proves, via digital consumers, that risks and benefits are cognitively or emotionally computed before responding to personalized content. In theoretical terms, the contribution of the study is that it was able to confirm transparency as a different construct and confirmed the dual mediation model with trust and intrusiveness. In practice, it highlights the importance of making organizations inculcate transparency, control, and ethical reassurance in the personalization systems. Personalization must be presented not as a performance capability, but also as a trust-building exercise. Nevertheless, future studies should be able to overcome the limitations, including the cross-sectional nature and the use of self-reported data. The generalizability of the model should be subjected to cross-cultural and longitudinal studies. Finally, personalized advertising cannot be as effective as it is targeting-wise if the responsibilities and clarity of platforms using data are lacking. Ethical transparency is no more a choice, as it is a strategic necessity.

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