

THE IMPACT OF AI-DRIVEN PERSONALIZATION ON CONSUMER BEHAVIORAL INTENTION AND SATISFACTION IN DIGITAL ADVERTISING

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Abstract: *The contemporary marketing environment, shaped by dynamic technological development, positions artificial intelligence (AI) as one of the key factors transforming communication between companies and their consumers. As an integral component of digital marketing strategies, artificial intelligence enables the identification of target consumer segments, automated content creation, and personalized real-time communication. The aim of this paper is to analyze the impact of AI-driven personalization in digital marketing on consumer satisfaction through the framework of the extended Theory of Planned Behavior (TPB). The empirical part of the study examines the relationships between TPB variables - attitudes, subjective norms, perceived behavioral control and consumer satisfaction as an additional variable, within the context of AI personalization in digital advertising. The research is based on data collected from 205 respondents from Serbia and Bosnia and Herzegovina, with the analysis conducted on the full sample. The results indicate that respondents' attitudes, subjective norms, and perceived behavioral control regarding AI personalization have a statistically significant positive effect on both behavioral intention and consumer satisfaction. Furthermore, consumer satisfaction has a positive effect on behavioral intention, while education does not have a statistically significant impact on either behavioral intention or consumer satisfaction in digital advertising. The findings contribute to a better understanding of how the integration of AI-driven personalization and digital marketing influences consumer perceptions and loyalty.*

Keywords: *consumer satisfaction, digital marketing, artificial intelligence, personalization, theory of planned behavior*

JEL classification: *O33, Z11, M31, D83, L86*

INTRODUCTION

The era of digital transformation has motivated companies to adopt artificial intelligence (AI) based platforms in their operations to stimulate consumer behavior in online purchasing. The key to a company's success in the new digital environment is undoubtedly an understanding of consumer intentions within an ecosystem that employs AI tools. In addition to placing the consumer at the center of attention, contemporary marketing increasingly emphasizes the creation of personalized content tailored to users' individual interests (Milovanović, Miljanović, & Novaković, 2022). In the process of evaluating the application of AI tools in the digital environment and their impact on consumer behavior and marketing communications, brands must continuously adapt to the emerging conditions of a dynamic and evolving ecosystem (Mamula Nikolić, 2021). Brand promotion, persuading consumers to use a product or service, and influencing purchase intention represent some of the core objectives of a marketing campaign (Mamula Nikolić, Popović-Pantić, & Perčić, 2023). A 2024 McKinsey Global survey on the adoption of generative artificial intelligence revealed that, despite high employee enthusiasm and the fact that nine out of ten employees use AI in their work, only 21% of respondents are intensive users, while the formal adoption of AI tools remains lagging in most organizations. Practice indicates that we are living in an era marked by the emergence of AI natives (Mamula, Popović Pantić, & Muller, 2020) (Mamula Nikolić, Perčić, & Nećak, 2022), who are predominantly younger employees that use generative AI tools in their everyday work (e.g., for email writing, coding, and data analysis, as well as customer support teams employing AI chatbots to generate responses). The use of AI tools often results in a substantial increase in employee efficiency and productivity. However, some managers express concerns regarding security, governance, or the initial costs of the technology, while others focus on analyzing, refining, and facilitating the broader adoption of these tools (McKinsey, 2024). The application of the Theory of Planned Behavior has demonstrated strong predictive validity in explaining individual behavior across various fields, including psychology, marketing, and public relations. For this reason, the Theory of Planned Behavior is employed in this study to explain consumer behavior in the context of AI-driven personalization in digital marketing.

LITERATURE REVIEW

The Role of AI in Marketing

The adoption of AI tools by companies is motivated by the opportunity to provide consumers with highly personalized and optimized services (Wang, Wang, H., Li, Dai, Gu & Yu, 2024) (Reinartz, Wiegand, & Imschloss, 2019). Jiang, Sun, Fu, and Lv (2024) emphasize that the rapid development of artificial intelligence (AI) technology is one of the key factors influencing various aspects of human life, opening numerous opportunities for research in the field of human-AI interaction, and identifying four main research themes: human-AI collaboration, competition, conflict, and symbiosis. One of the advantages of AI lies in its consumer-centered orientation, as it enables well-informed purchase decision-making (Bhagat, Chauhan, & Bhagat, 2023) (Yoo, Lee, & Park, 2010). The results of multiple studies indicate that consumers experience a higher level of security and perceive lower risk in the online purchasing process when using websites that integrate AI (Arachchi & Samarasinghe, 2024) (Haenlein, Kaplan,

Tan, & Zhang, 2019) while the broad potential for AI application has contributed to its widespread adoption (Shankar, 2018). The automation of data analysis, content creation, and advertising optimization through AI tools enables increased efficiency and faster decision-making within marketing departments. Kotler, Kartajaya, and Setiawan (2023) emphasize that one of the key aspects of AI application in marketing is its continuous ability to acquire new knowledge and adapt to consumer and market behaviors. Sipos (2025) highlights that the use of AI tools allows consumers to gain virtual experiences from the comfort of their own homes, supporting informed decision-making prior to final purchase. The findings of Bhagat, Chauhan, and Bhagat (2023) show that consumers report higher satisfaction with online purchases from retailers that employ AI tools. Trust and consumer awareness play a crucial role in the online environment; accordingly, companies' adoption of AI platforms and tools has significantly influenced increased consumer trust and purchase intention (Bhagat, Chauhan, & Bhagat, 2023). The importance of emotions in digital campaigns was emphasized by Damasio (1994), who confirmed that emotions play a crucial role in the decision-making process (Novaković et al., 2020). The use of generative AI offers numerous opportunities for brands to enhance personalization strategies, improve the effectiveness of marketing campaigns, and achieve deeper connections with consumers. Augmented reality (AR) and virtual reality (VR) open new possibilities for creating emotionally engaging experiences. In this context, Zeng, Wang, and Zhou (2023) confirm that augmented and virtual reality have a strong impact on consumers' emotional brand experiences. In addition to content generation and the provision of personalized product recommendations and educational tutorials, artificial intelligence has enhanced the customer experience and increased consumer engagement (Miroslavljević & Milovanović, 2022). The findings of Ruiz, Calderón, Venecia, Santodomingo, and Forero (2025) point to emerging trends in marketing and advertising personalization, including e-commerce, chatbots, big data, and augmented reality. AI-based personalization strategies deliver highly relevant content to consumers, increase engagement and conversion rates, and improve the productivity and efficiency of marketing ecosystems. The use of chatbots and virtual assistants has enabled continuous interaction with consumers (Miroslavljević & Milovanović, 2022) (Milovanović & Novaković, 2025a). Furthermore, the integration of AI with augmented reality (AR) and virtual reality (VR) is transforming the way brands communicate and interact with consumers, laying the foundation for a new era of digital marketing grounded in artificial intelligence, intelligent automation, and real-time personalization (Milovanović & Novaković, 2025b). Consumer interaction with AI tools (chatbots and virtual assistants) that provide personalized product and service recommendations, information, and support during online shopping significantly enhances the customer experience (Perić, Milovanović, & Čudić, 2025). Message relevance is increased through targeted advertising algorithms, while brand visibility is enhanced by adapting search-related content through advertising. By conducting detailed analyses of consumer activities and behavior, AI enables the development of advanced loyalty programs and the effective management of customer relationships (CRM). In addition, considerable attention is devoted to strengthening emotional connections with consumers through the use of AI tools to understand user attitudes, monitor the emotional impact of campaigns, and adapt messages based on these insights to activate emotional triggers (Perić, Milovanović, & Čudić, 2025). The

use of AI in digital campaigns aims to adjust AI responses in a way that consumers perceive interactions as more “human-like” and feel that brands understand their needs. To achieve this, brands have access to several technologies, including affective computing (systems capable of detecting and interpreting emotions), natural language processing (NLP) (identifying whether a message is positive, negative, ironic, etc.), computer vision (analysis of facial expressions, body posture, and micro-movements), and speech emotion recognition (identifying emotions from voice signals). Emotional consumer engagement is particularly important as it increases trust and loyalty. From a customer experience perspective, emotional connection is often more influential than rational benefits, as it reduces user frustration (e.g., when AI detects frustration, it can adjust its tone and offer support before the user disengages) and personalizes the experience by adapting communication styles to users’ emotional preferences. However, several risks and dilemmas emerge, particularly those related to authenticity (AI does not experience genuine emotions, raising questions about whether “empathy” is sincere or merely simulated), privacy (ethical concerns and personal data protection), and manipulation (if AI detects vulnerability, it may be used to exert emotional pressure in marketing or political contexts) (Luttrell & Teeny, 2025). In this context, the development of critical thinking and the transparent articulation of viewpoints become increasingly important. Christian Rebernik emphasizes that critical thinking is based on the application of five specific skills (Figure 1): information analysis, evaluation of information sources, inference (drawing conclusions based on verified information), self-regulation (examining one’s own reasoning processes), and explanation (the transparent presentation of one’s standpoint).



Figure 1. Critical thinking skills

Source: Authors’ illustration based on: Christian Rebernik, https://www.linkedin.com/posts/crebernik_most-people-think-critical-thinking-means-activity-7360626126089527297-olvb/

Although AI has transformed marketing strategies through content automation, personalization, and emotional targeting, AI tools lack contextual sensitivity and emotional depth, which underscores the fundamental need to establish balance in AI development and to use AI as a complement rather than a replacement for core human attributes (Perić, Milovanović, & Čudić, 2025).

The role of influencers in the digital environment

In the era of digital transformation, the integration and interconnection of digital technologies, artificial intelligence, digital advertising, and influencers are indisputable. As an integral component of digital marketing strategies, influencers play a key role in shaping consumer behavior. AI tools significantly contribute to enhancing

influencer effectiveness by enabling personalized content creation (Kralj & Mamula Nikolić, 2024). The impact of artificial intelligence is further reflected in the increasing use of AI tools by brands, both in selecting individuals for influencer campaigns and in monitoring campaign performance (Liu, 2021). By employing advanced digital AI technologies and tools, influencers create authentic content and establish stronger connections with their audiences, thereby influencing purchase decision-making. Venciute, Mackeviciene, Kuslys, and Correia (2023) conclude that content generated by influencers on social media has a significant impact on consumer behavior, noting that 70% of teenage YouTube followers trust influencers' opinions more than those of traditional celebrities, while 40% of millennials report feeling better understood by their favorite YouTube influencer than by their friends. Based on an analysis of 52 scientific articles, Munaro, Barcelos, and Maffezzolli (2024) confirm the influence of influencers on followers' attitudes, sustainable behavior, and purchase intention through factors such as credibility, perceived expertise, environmental orientation, and the type of message appeal. A new trend within the influencer ecosystem is the emergence of AI-generated virtual influencers, which offer several advantages, including the absence of aging, reduced risk of scandals that could harm brand reputation, and the ability to communicate in multiple languages (Kralj & Mamula Nikolić, 2024). Conversely, another emerging trend is "de-influencing," which aims to promote more transparent and authentic brand communication (Plazibat & Marunica, 2024).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) consists of four main variables: attitude, subjective norms, perceived behavioral control, and purchase intention, and explains the causal relationships between different beliefs and behaviors. TPB posits that beliefs form the basis of the constructs of attitudes, subjective norms, and perceived behavioral control, which influence intention, while intention directly affects behavior (Roy, Arafin, & Ahmed, 2025) (Ajzen, 1991). In scholarly literature, TPB has been widely applied to predict and assess consumer preferences in online markets (Ajzen, 1991) (Hanaysha, 2022) (Rangsorn & Khan-Am, 2024). Attitude represents a key factor in consumer perception and can be described as a consumer's subjective evaluation of specific events or behaviors that directly influences behavior. Within the TPB framework, attitude refers to consumers' evaluations of behavior based on their underlying beliefs (Ajzen, 1991). A large body of research considers attitude to be a fundamental determinant of consumers' behavioral intentions (Ghufran & Ahmad, 2025) (Arachchi & Samarasinghe, 2024) and a crucial factor in decision-making processes (Fazio, Ledbetter, & Towles-Schwen, 2000). In this context, several studies have confirmed that, when AI platforms are used for online shopping, there is a significant relationship between consumer attitudes and purchase intention (Bhagat, Chauhan, & Bhagat, 2023) (Ghufran & Ahmad, 2025) (Patel, et al., 2023). Within TPB, subjective norms are defined as consumers' responses to social influences exerted by family, friends, and society, which affect purchase intention (Ajzen, 1991). In the context of online shopping and the use of AI-based platforms, empirical evidence indicates a significant association between subjective norms and consumers' purchase intentions (Ru, Kowang, Long, Fun, & Fei, 2021). Perceived behavioral control (PBC) can be explained as an individual's belief in their own ability to cope with and overcome a particular

challenge. According to TPB, PBC is defined as a consumer's subjective assessment of the ease or difficulty of performing a specific activity. In the purchasing context, PBC reflects an individual's perception of their capacity to control their behavior. In digital environments and online shopping contexts, PBC has been shown to exert a significant influence on consumers' purchase intentions (Rehman, Bhatti, Mohamed, & Ayoup, 2019). Intention is considered the strongest predictor of behavior, as it reflects an individual's readiness and decision to perform a behavior and serves as its direct antecedent. However, previous research (Fishbein & Ajzen, 1975) indicates that intention may also be influenced by various factors, including individual differences, variations in target characteristics, the nature of the planned behavior, and situational conditions under which the behavior occurs. Roy, Arafin and Ahmed (2025) examine the impact of motivational factors on university students' online purchase intentions by employing AI-based environments, the TPB, and the TAM, supplemented with two additional variables. The results indicate that attitude, subjective norms, perceived ease of use, perceived usefulness, self-efficacy, and perceived value are significantly correlated with undergraduate students' online purchase intentions on AI-based platforms. In contrast, perceived behavioral control is not significantly associated with purchase intention. Findings derived from artificial neural network (ANN) analysis further reveal that perceived ease of use exerts the strongest influence on students' online purchase intention (97.21%), while attitude (63.05%), subjective norms (50.58%), and perceived behavioral control (22.22%) rank as the three least influential predictors.

METHODOLOGY

Data were collected through an online questionnaire administered in Serbia and Bosnia and Herzegovina during the period from July to September 2025. The survey included items related to the core variables of the Theory of Planned Behavior (attitudes, subjective norms, perceived behavioral control, and behavioral intention), along with an additional variable measuring respondents' satisfaction with AI-driven personalization in digital marketing. All questionnaire items were measured using a five-point Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree." The research model includes the TPB variables: attitudes (ATT), subjective norms (SN), perceived behavioral control (PBC), and behavioral intention (INT), as well as respondents' satisfaction (SAT), and is presented in Figure 2.



Figure 2. Research model

Source: Authors' illustration

The aim of this study is to analyze the impact of AI-driven personalization on consumer satisfaction in digital marketing by applying an extended Theory of Planned Behavior (TPB). Based on the research objective, the following hypotheses are proposed:

H₀: Consumer attitudes, subjective norms, perceived behavioral control, and consumer satisfaction do not have a statistically significant effect on behavioral intention in the context of AI-personalized digital advertising.

H₁: Consumer attitudes, subjective norms, and perceived behavioral control toward AI-driven personalization have a positive effect on behavioral intention.

H₂: Consumer satisfaction has a positive effect on behavioral intention in digital advertising.

H₃: Consumer education has a positive effect on behavioral intention and respondent satisfaction in digital advertising.

The results of the study reflect consumers' perceptions in Serbia and Bosnia and Herzegovina regarding the use of AI tools in digital marketing content personalization and their influence on behavioral intention and respondent satisfaction.

RESULTS

The study was conducted in 2025 on a sample of 205 respondents ($N = 205$) from Serbia ($n = 104$) and Bosnia and Herzegovina ($n = 101$). Regarding the gender structure of the sample, 40.5% of respondents were male and 59.5% were female. In terms of educational attainment, 55 respondents reported having completed secondary education, 84 held undergraduate degrees, and 63 reported holding a master's or PhD degree. The majority of respondents were employed (73.2%), while 22% were students. To assess the internal consistency of the instrument based on the SERVQUAL model, Cronbach's alpha coefficients were calculated for each dimension. According to Nunnally and Bernstein (1994), a Cronbach's alpha value above 0.70 is considered acceptable for exploratory research, while values above 0.90 indicate excellent internal reliability. Cronbach's alpha values between 0.60 and 0.80 are acceptable in empirical research.

Due to low reliability of several attitude items (ATT3, ATT4, ATT5, and ATT6), the attitude construct (ATT) was reduced to two items. The results show that the Pearson correlation between the two items is $r = .601$, while the Spearman-Brown reliability coefficient is $r_{SB} = .751$, indicating good reliability of the two-item scale. In addition, the Guttman split-half coefficient (.747) confirms a similar level of internal consistency. The item-total correlation is 0.601, which is considered satisfactory. These findings are consistent with Eisinga et al. (2013), who argue that the Spearman-Brown coefficient is the most appropriate reliability statistic for two-item scales. Bisby et al. (2022) similarly employed a two-item scale with both Cronbach's alpha and Spearman-Brown coefficients (Patient Health Questionnaire -2; $\alpha = 0.79$; Spearman-Brown = 0.79). With regard to perceived behavioral control, one item (PBC6) was removed during the measurement process, after which Cronbach's alpha reached a marginally acceptable value of 0.695, in line with the criteria proposed by Wim et al. (2008). The results presented in Table 1 demonstrate the internal consistency of the measured variables.

Table 1. Internal consistency of variables

Reliability Statistics	Cronbach's Alpha	N of Items
attitudes (ATT)	.747	2
subjective norms (SN)	.826	7
perceived behavioral control (PBC)	.695	5
intention (INT)	.878	7
satisfaction (SAT)	.900	7

Source: Authors' calculation

The testing of the hypothetical framework was conducted using regression analysis within the SPSS software package. In addition, ANOVA, independent-samples t-tests, and Pearson correlation analysis were employed.

To test the first hypothesis, which states that “consumer attitudes, subjective norms, and perceived behavioral control toward AI-driven personalization have a positive effect on behavioral intention in the context of AI-personalized digital advertising,” a statistical regression analysis was performed.

Table 2. Respondents' attitudes toward AI personalization and behavioral intention

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.515 ^a	.265	.262	.70729	.265	72.252	1	200	.000
ANOVA	Sum of Squares	df	Mean Square	F	Sig.			
Regression	36.145	1	36.145	72.252	.000 ^b			
Residual	100.052	200	.500					
Total	136.198	201						

Source: Authors' calculation

The results of the regression analysis indicate a moderate positive relationship between respondents' attitudes toward AI personalization and their behavioral intention ($R = .515$). Based on the data presented in Table 2, the regression model is statistically significant, ($F(1, 200) = 72.25$, $p < .001$), indicating that respondents' attitudes have a significant effect on consumer intention. The model explains 26.5% of the variance in the dependent variable ($R^2 = .265$; Adjusted $R^2 = .262$), suggesting a moderate level of predictive power. Pearson correlation analysis further confirms a moderate, positive, and statistically significant relationship between attitudes and respondents' intention ($r = .515$, $p < .001$), indicating that higher levels of positive attitudes are associated with a greater intention to use AI-based services.

Table 3. Subjective norms toward AI personalization and respondents' behavioral intention

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.634 ^a	.402	.399	.63982	.402	133.702	1	199	.000
ANOVA	Sum of Squares	df	Mean Square	F	Sig.			
Regression	54.733	1	54.733	133.702	.000 ^b			
Residual	81.464	199	.409					
Total	136.198	200						

Source: Authors' calculation

The results of the regression analysis ($R = .634$) indicate a strong positive relationship between subjective norms and consumers' behavioral intention (Table 3). The F-test, ($F(1, 199) = 133.70, p < .001$), confirms that subjective norms have a statistically significant effect on behavioral intention. The coefficients of determination ($R^2 = .402$; Adjusted $R^2 = .399$) show that the model explains 40.2% of the variance in behavioral intention.

Pearson correlation analysis further reveals a strong, positive, and statistically significant relationship between subjective norms and respondents' intention ($r = .634, p < .001$). These findings suggest that higher levels of perceived social approval and expectations of significant others substantially influence respondents' intention to use AI-personalized services.

Table 4. Perceived behavioral control toward AI personalization and respondents' behavioral intention

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.277 ^a	.077	.072	.79294	.077	16.615	1	200	.000
ANOVA	Sum of Squares	df	Mean Square	F	Sig.			
Regression	10.447	1	10.447	16.615	.000 ^b			
Residual	125.751	200	.629					
Total	136.198	201						

Source: Authors' calculation

The results of the analysis indicate a weak but positive relationship between perceived behavioral control and consumers' behavioral intention ($R = .277$), suggesting that perceived behavioral control has a statistically significant, albeit weak, effect on behavioral intention ($F(1, 200) = 16.62, p < .001$) (Table 4). Although the model is statistically significant, it demonstrates limited predictive power, explaining only 7.7% of the variance in the dependent variable ($R^2 = .077$; Adjusted $R^2 = .072$).

According to Ozili (2023), in social science research, a coefficient of determination (R^2) ranging between 0.10 and 0.50 may be considered acceptable when predictors are statistically significant. The author argues that the primary objective of most social

science models is not to predict human behavior but to assess whether specific predictors exert a statistically significant influence on the dependent variable. However, very low coefficients of determination (R^2) between 0.00 and 0.09 are generally considered unacceptable in social science research and models yielding such results should be treated with caution or rejected (Ozili, 2023).

Although the coefficient of determination (R^2) in the present study is relatively low (e.g., $R^2 = .07$ for PBC), similar findings have been reported in previous research. In this context, Jonell et al. (2016) found that the level of concern was weak but statistically significant and positively associated with the recognition of eco-labels on seafood products ($R^2 = .06$, $p < .01$).

Pearson correlation analysis further indicates a weak but statistically significant positive relationship between perceived behavioral control and respondents' behavioral intention ($r = .277$, $p < .001$). Nevertheless, the influence of perceived behavioral control is considerably weaker compared to that of attitudes and subjective norms. Based on the obtained statistical results, Hypothesis H1 is supported.

The second hypothesis, which states that "consumer satisfaction has a positive effect on behavioral intention in digital advertising," was tested using regression analysis.

Table 5. Respondents' satisfaction and behavioral intention

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.712 ^a	.506	.504	.58121	.506	204.133	1	199	.000
ANOVA	Sum of Squares	df	Mean Square	F	Sig.			
Regression	68.956	1	68.956	204.133	.000 ^b			
Residual	67.222	199	.338					
Total	136.179	200						

Source: Authors' calculation

A strong positive relationship between satisfaction and behavioral intention ($R = .712$) indicates that higher levels of satisfaction increase the likelihood of respondents' positive behavioral intention. The results show that consumer satisfaction is a strong and statistically significant predictor of respondents' behavioral intention ($F(1, 199) = 204.133$, $p < .001$). The linear regression model explains 50.6% of the variance in behavioral intention ($R^2 = .506$). The findings confirm Hypothesis H2 (Table 5). In addition to examining the effects of TPB variables on behavioral intention, the study also analyzed the influence of TPB variables on respondents' satisfaction. The results of the regression analysis indicate a strong positive relationship between respondents' attitudes toward AI-driven personalization and satisfaction ($R = .667$). The model explains 44.4% of the variance in the dependent variable ($R^2 = .444$; Adjusted $R^2 = .442$), indicating high predictive power of the attitude construct. The F-test ($F(1, 202) = 161.55$, $p < .001$) confirms that respondents' attitudes have a statistically significant effect on consumer satisfaction. With respect to subjective norms, the results show a moderate positive relationship between subjective norms (SN) and consumer

satisfaction ($R = .590$), with the model explaining 34.8% of the variance in the dependent variable ($R^2 = .348$; Adjusted $R^2 = .345$). The F-test ($F(1, 201) = 107.41, p < .001$) confirms that subjective norms exert a statistically significant influence on consumer satisfaction. Perceived behavioral control (PBC) exhibits a weak but statistically significant effect on respondents' satisfaction ($R = .284, R^2 = .081, p < .001$), as confirmed by the F-test ($F(1, 202) = 17.77, p < .001$).

To test the third hypothesis, which states that “consumer education has a positive effect on behavioral intention and respondent satisfaction in digital advertising,” a one-way ANOVA was conducted.

Table 6. Respondents' level of education and behavioral intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.915	2	1.457	2.176	.116
Within Groups	133.283	199	.670		
Total	136.198	201			

Source: Authors' calculation

The results of the one-way ANOVA indicate that respondents' level of education does not have a statistically significant effect on behavioral intention ($F(2, 199) = 2.176, p = .116$). These findings suggest that there are no statistically significant differences in behavioral intention among respondents with different levels of education (Table 6). With regard to satisfaction, the ANOVA results show that respondents' education levels do not exert a statistically significant effect on their satisfaction ($F(3, 199) = 0.645, p = .587$). The Tukey HSD post hoc test ($p > .05$) further confirms that education is not a factor that significantly alters respondents' satisfaction perceptions. The results of the statistical analysis indicate that Hypothesis H3 is not supported, suggesting that other factors may exert a stronger influence. In response to the question regarding the frequency of use of AI-personalized services, 50.2% of respondents reported using such services daily, 27.3% weekly, 18.0% rarely, and only 4.4% never (Figure 3). ANOVA results further indicate that the frequency of respondents' use of



Figure 3. Frequency of use of AI-personalized services

Source: Authors' calculation

AI services does not have a statistically significant effect on behavioral intention ($F(3, 198) = 0.293, p = .830$).

Regarding technical competence in using AI tools, the largest proportion of respondents (37.1%) reported having basic skills (using simple AI tools with guidance), while 34.1% indicated good competence (independently using several different AI tools). A total of 19.5% of respondents reported very good competence (proficient in using advanced AI tools), whereas 9.3% reported having very limited or no competence. These results are presented in Figure 4. The results of the ANOVA analysis indicate that respondents' technical competence in using AI tools does not have a statistically significant effect on behavioral intention related to the use of AI services ($F(4, 197) = 1.383, p = .241$).

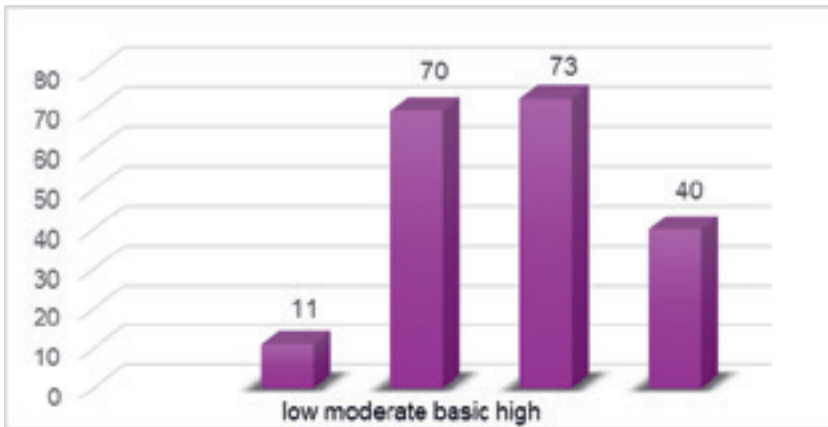


Figure 4. Respondents' technical competence in using AI tools

Source: Authors' calculation

In response to the question regarding negative experiences with AI recommendations, 48 respondents reported having such experiences, while 154 respondents reported no negative experiences. Levene's test confirmed the homogeneity of variances between respondents who reported negative experiences and those who did not ($F = 1.186, p = .277$). The results of the independent-samples t-test ($t = 0.312, df = 200, p = .755$) indicate that there is no statistically significant difference in behavioral intention between respondents who have experienced negative AI recommendations and those who have not. Furthermore, the findings confirm that respondents' experience with AI recommendations does not have a statistically significant effect on satisfaction ($t(202) = 0.064, p = .949$).

When considering respondents' country of residence, the independent-samples t-test reveals a statistically significant difference in satisfaction between respondents from Serbia and Bosnia and Herzegovina ($t(202) = 2.404, p = .017$). Respondents from Serbia report a higher mean level of satisfaction ($M = 3.35, SD = 0.81$) compared to respondents from Bosnia and Herzegovina ($M = 3.07, SD = 0.82$).

DISCUSSION

The results of the study indicate that AI-driven personalization in digital advertising has a significant impact on the formation of consumer intentions and satisfaction, thereby confirming the applicability of the extended Theory of Planned Behavior (TPB) in a digital environment. The findings demonstrate that positive consumer attitudes toward AI personalization enhance both behavioral intention and satisfaction, which is consistent with prior research. This implies that brands should offer transparent and value-adding AI solutions that facilitate information search and decision-making processes. Subjective norms also play a significant role in shaping behavioral intentions, as consumers increasingly rely on recommendations from influencers, online communities, and trends on social media platforms. The positive effect of consumer attitudes toward AI-driven personalization on both behavioral intention and satisfaction was confirmed. This finding is consistent with the results reported by Bhagat, Chauhan, and Bhagat (2023) and Ghufraan and Ahmad (2025), who indicate that users who perceive AI as a useful, relevant, and trustworthy technology exhibit a greater propensity to purchase. In the context of digital marketing, positive attitudes are primarily formed when personalized content aligns with individual needs and reduces effort in the information search and decision-making process. From a practical perspective, this implies that brands should invest in transparent, intuitive, and non-intrusive AI solutions that deliver genuine value to consumers rather than mere automation devoid of substantive benefits.

A statistically significant relationship between subjective norms and behavioral intention was also confirmed, suggesting that social pressures, the opinions of relevant stakeholders, and prevailing trends influence how consumers accept AI-driven personalization. This effect is particularly pronounced in digital environments, where consumers increasingly rely on influencer recommendations, community feedback, and content disseminated through social media platforms. This finding is consistent with the studies of Ru et al. (2021) and Munaro, Barcelos, and Maffezzolli (2024), which emphasize that the digital social environment shapes norms and influences perceptions of the legitimacy of specific technologies and practices (Homayoun et al., 2024).

Perceived behavioral control (PBC) exerts a strong effect on consumers' readiness to adopt AI-driven personalization. When users feel a sense of control over their data and over how AI systems operate, their trust increases, as does their willingness to use such technologies. Consumer satisfaction has also emerged as an important additional predictor of behavioral intention, as it reflects the extent to which AI successfully recognizes consumer needs and contributes to a positive user experience. At the same time, the level of education does not exert a significant influence on either intention or satisfaction, suggesting that AI-driven personalization has become widely accepted and intuitive to use.

The findings further demonstrate that perceived behavioral control (PBC) has a significant effect on consumers' intention to adopt AI-driven personalization. This result is particularly important, as it indicates that consumers feel more secure when they believe they can manage their interactions with artificial intelligence, whether through control over personal data, the ability to choose the level of personalization, or transparent explanations of algorithmic processes. In line with Ajzen (1991), a higher sense of personal capability and control increases the likelihood that individuals will

engage in the intended behavior. This provides an additional argument for companies to design user experiences and communication strategies that strengthen consumers' sense of autonomy. Moreover, the results show that respondent satisfaction is a significant predictor of behavioral intention, confirming its importance as an additional variable that extends the original TPB model. High satisfaction with personalization indicates that AI effectively identifies and addresses consumer needs by delivering relevant recommendations, reducing cognitive effort, and enhancing the positive emotional experience of interacting with a brand. These findings align with prior research emphasizing the central role of emotions and user experience in decision-making processes (Damasio, 1994) (Zeng, Wang, & Zhou, 2023).

The finding that education does not have a statistically significant effect on behavioral intention or consumer satisfaction may indicate that AI-driven personalization is perceived as intuitive and easy to use, regardless of educational level. This suggests that the application of AI tools in digital marketing has surpassed the "technological barrier" and become accessible to a broader population. Such a result may be attributed to the increasing presence of generative AI tools in everyday life, the emergence of AI natives, and the normalization of AI assistant usage in online environments. Overall, the findings indicate that AI-driven personalization can substantially contribute to consumer loyalty, but only if it is implemented in a balanced manner and in accordance with ethical standards, privacy protection, and transparency. The integration of technological sophistication with human values such as empathy, trust, and clarity of communication represents a key foundation for building long-term relationships between brands and consumers.

CONCLUSION

The conducted research confirms that the integration of innovation and technology with emotional branding is crucial for building competitiveness. Technologies such as artificial intelligence, AR/VR solutions, and advanced analytical models enable brands to personalize experiences, accelerate production cycles, and create stronger emotional connections with consumers. These findings are consistent with contemporary perspectives in the fields of branding, consumer behavior, and digital transformation. Nevertheless, authenticity, transparency, and a consistent brand identity remain essential prerequisites for sustaining long-term brand value.

In this context, the research results clearly demonstrate that the successful implementation of AI-driven personalization requires a balance between technological innovation and the preservation of ethical principles, particularly regarding data privacy and consumer trust. This confirms that the future development of emotional branding in digital environments will depend not only on advanced algorithms, but also on brands' ability to create meaningful, responsible, and value-aligned consumer experiences.

Research limitations should be acknowledged. Although the sample size was sufficient for basic statistical analyses, the geographical limitation to two countries and the use of a non-probabilistic sampling method (online survey) restrict the broader generalizability of the findings. Future studies may address these limitations by including larger and more representative samples.

Recommendations for future research include longitudinal analyses and the ex-

amination of immersive technologies, such as the long-term effects of AR/VR technologies on consumer loyalty, particularly among digital generations. Further research should also investigate whether algorithmically generated content influences brand creative identity and consumers' emotional attachment, as well as analyze the extent to which AI-based personalization affects consumer trust and perceived risk.

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