

AI-Powered Music Personalization in Advertising and Its Effect on Sales: The Role of Emotion and Technology Acceptance

BUI MY DUYEN^{*1}, DO HOANG MINH HUONG²

*1 Corresponding author: *Faculty of Business Management, University of Greenwich, London, UK* Email: myduyenbui1306@gmail.com orcid: <https://orcid.org/0009-0002-3191-1598>

2 *Renaissance International School Saigon, Ho Chi Minh, Vietnam* Email: jennydo2007@yahoo.com

Abstract

This study investigates the impact of AI-based music personalization on sales performance, focusing on the relationship between algorithmic personalization (AIM), emotional resonance of customized music (ERM), and consumer openness to AI (COAI). Drawing on the Technology Acceptance Model and Affective Response Theory, the study reconceptualizes sales performance as a result of technological fidelity, emotional triggers, and acceptance of AI-based advertising. A quantitative survey (N = 385) was applied to digital marketing professionals, technologists, academics, and consumers in Vietnam. The result is that the appropriate and ethical implementation of AI-enhanced auditory design will be a strategic driver for consumer engagement and commercial performance. In practice, marketers play a vital role in ensuring emotional consistency, technological transparency, and preparing for AI-enabled digital campaigns. However, the study has limitations, notably the limited sample size of a single country and the reliance on self-reported data. Future research should attempt a cross-cultural approach combined with field experiments and use biometric data to better capture unconscious emotional responses. By providing an empirical framework for connecting emotional marketing with AI-based personalization, this research provides guiding value for algorithmic sound generation in advertising.

Key words: AI-based personalization, Emotional resonance, Consumer openness to AI, Sales performance, Digital marketing

1. INTRODUCTION

Customer attention in a fragmented digital ecosystem and the proliferation of personalization technologies, sales performance is the most important measurement tool for marketing effectiveness. As a research variable, sales performance encapsulates not only transactional outcomes but also reflects the strategic alignment between consumer engagement and market responsiveness (Seggie et al., 2007). Accurately attributing sales fluctuations to specific marketing interventions, such as AI-based background music personalization, remains a significant methodological challenge. Seasonality, brand loyalty, or macroeconomic impact in the analysis are extremely complex exogenous factors to control for, thus requiring more sophisticated approaches (Pansari and Kumar, 2017). Furthermore, traditional sales metrics risk missing the emotional or psychological impacts of personalized music if not analyzed in parallel with behavioral data (Raja et al., 2024). As personalization changes the consumer journey, the study emphasizes the necessity of integrated measurement frameworks to evaluate both short-term conversions and long-term customer value (Cain, 2022). This study approaches sales performance as a multidimensional construct, shaped by consumers' emotions, psychology, and attitudes toward AI.

Consumer behavior, especially shopping behavior, tends to be influenced by emotional stimuli through the brand recalling consumers' brand image. (Zander, 2006; Lantos & Craton, 2012). Many studies have shown that in today's digital marketing tactics, artificial intelligence (AI) is becoming increasingly important in driving personalization, thereby significantly increasing customer engagement and conversion rates (Kietzmann et al., 2018). However, AI-based music personalization has not been studied in depth in terms of its actual impact on sales, especially when consumers' emotions and technology readiness play a mediating role. Current models often treat music as a sensory stimulus (Vuust et al., 2022); rather than a dynamic factor driven by algorithms. However, few studies have comprehensively considered consumer emotional responses to specific sales outcomes. This paper proposes a model for integrating emotion and technology into sales marketing, aiming to systematically and quantitatively link emotional marketing theory with algorithmic personalization.

This study addresses the following research questions:

1. How does AI-based music personalization influence sales performance in advertising?
2. To what extent does the emotional resonance of customized music affect sales performance?
3. Does consumer openness to AI in marketing moderate the effect of AI-based music personalization on sales performance?

This study aims to investigate empirically how consumer psychological reactions and AI-driven content customization interact to influence quantifiable business outcomes. By combining psychological factors (e.g., emotional resonance) with technological variables (including AI-powered music personalization and technology acceptance), the study aims to explore causality in digital sales performance rather than simply describe the phenomenon. Empirically, many existing studies still consider the two dimensions of emotion and technology separately, thereby lacking an integrated conceptual model capable of explaining the link between consumer responses and algorithmically personalized advertising content. This paper proposes a calibrated general model to reflect the role of consumer attitudes toward AI in shaping the effectiveness of AI-mediated promotional music on sales outcomes, thereby contributing both to academic theory and to practical applications in digital marketing.

2. LITERATURE REVIEW

2.1. Sales performance

Sales performance is defined as the measurable results from marketing and sales activities, typically expressed through increased revenue, conversion rates, and customer engagement metrics. According to research in the advertising field, sales performance serves as an important indicator to evaluate the success of marketing strategies as well as the effectiveness of investments (Seggie et al., 2007). In addition to reflecting short-term business results, sales performance also represents the value of the evolution of the strategic connection between how brands communicate and how customers respond. Traditional sales metrics, however, seem to struggle to capture the emotional, trust-based level in the context of AI driving personalization to unprecedented levels, as they fail to adequately capture the psychological and emotional elements that actually motivate customers to make purchases (Pitardi & Marriott, 2021). Therefore, researchers are taking a fresh look at sales performance, exploring it from different perspectives. Combining how consumers feel when interacting with brands, those emotional connections, with how technology is used to be able to more accurately predict consumer purchasing behavior.

2.2. Theoretical Framework

2.2.1. Technology Acceptance Model (TAM)

According to Davis (1989), the technology acceptance model (TAM) is a theoretical foundation in information systems research; through the TAM model, the stages of users accepting and using new technologies are explained. Perceived usefulness (PU) and perceived ease of use (PEOU) are the two central perceptions of TAM. These perceptions influence consumers' attitudes towards technology and also shape their final adoption behavior. This study and TAM are closely related because this model allows for the exploration of the openness and personalization of music by AI in advertising of consumer purchasing behavior. This study highlights the predictive power of TAM on consumer responses to smart technologies, such as AI recommendation systems, voice assistants, and adaptive advertising platforms (Venkatesh & Davis, 2000; Gao & Huang, 2019). Consumer trust in AI-powered music personalization is shown to be more useful when the ads are truly relevant and emotionally engaging. Additionally, consumers demonstrate ease of use through the seamless integration of their browsing and shopping experiences. Consumer openness to AI can be understood as a broader concept that encompasses perceptions of AI. This is why this study applies TAM to explain differences in sales outcomes. Customers are more likely to find AI-powered personalized advertising beneficial and straightforward to utilize, contribute greater attention, feel more involved, and be more inclined to buy (Kumar et al. 2024). TAM is a powerful tool for understanding how AI-enabled personalization, especially in the emotional music space, can significantly improve marketing effectiveness and sales.

Based on the TAM model framework, users' perceived usefulness and ease of use will influence technology acceptance. These factors are in turn influenced by external factors such as system design and their personal experience of using the technology. The model assumes that these cognitive evaluations are the precursors to emotional or behavioral responses. This study proposes that consumers who are open to AI will view

AI-personalized music in advertising as more beneficial and less annoying. This facilitates the processing of the advertisement, thereby increasing purchase intention and improving sales performance.

2.2.2. Affective Response Theory

Affective response theory emphasizes the importance of emotional responses in shaping consumer behavior, especially in relation to advertising and the broader communication context. This theory extends from traditional psychological affective processing, which suggests that emotional responses occur both spontaneously and instantaneously, limiting the ability of an evaluation process to determine which attitudes are held and which decisions are made (Bagozzi et al., 1999). In the study, AI-personalized music served as emotional triggers embedded in advertising content to evoke nostalgia, excitement, or relaxation in consumers. Enabling these states would attract attention, facilitate information retention, support effective consumption, and drive sales performance. Through many studies, the role of music in regulating consumer emotions, states, recall, and purchasing behavior (Lantos & Craton, 2012; Zander, 2006). The strong development of artificial intelligence has fundamentally changed the way music is used in advertising, turning it from a static element to an emotional tool that can be adjusted in real time. Dynamically adjusted music is tailored to individual consumer profiles, thereby stimulating consumers' purchase decision processes. Emotional purchases and brand loyalty are no longer arbitrary decisions; rather, they are the outcome of emotional stimulation brought on by highly customized music (Murray & Howat, 2002). Incorporating Affective Response Theory, this study discusses how emotional resonance becomes a key factor influencing the effectiveness of AI-enhanced advertising methods as well as a consequence of customization.

Affective Response Theory assumes that emotional stimuli in advertising, such as music, can directly influence consumer attitudes and behavior, even in the absence of detailed cognitive elaboration. It posits that emotional reactions are swift, subconscious, and capable of priming consumers toward favorable or unfavorable behavioral responses. This study proposes that strong emotional resonance from AI-customized music creates a positive emotional context that increases attention and persuasiveness of the ad to consumers. Consumer acceptance and sales performance will be improved, especially when it is tailored to their preferences and emotional experiences.

2.3. Determinants of Sales performance

2.3.1. Conceptual Analysis of AI-Based Music Personalization and Its Impact on Sales Performance

Music personalization through artificial intelligence (AI) is understood as the process of adjusting algorithms to generate audio content, mainly music, based on user data such as behavior, context, psychological state, and demographic characteristics. The goal of this process is to enhance user experience and optimize marketing effectiveness (Gu, 2024). This approach not only brings practical value but also evokes deeper connections with listeners. Based on the Technology Acceptance Model (TAM), personalization has the potential to strongly influence users' perceptions of usefulness and satisfaction, as marketing elements are closely linked to individual preferences (Venkatesh & Davis, 2000). AI is reshaping the way music is integrated into advertising, moving from traditional forms to tailored emotional experiences.

In the economic and socio-cultural environment, music personalization through artificial intelligence is emerging as an important method. This tool helps to improve the effectiveness of advertising strategies, thereby improving the user experience. The fragmentation of digital media consumption across platforms has driven consumers to demand more personal and emotional brand interactions (Grewal et al., 2017). The use of AI rules to tailor music was first shown by sites like Spotify and TikTok, which also show how firms can use sound to make it personal. The goal is to increase emotional engagement, retain users, and drive commercial conversions (Duan et al., 2020). In economic terms, AI-based personalization is very focused and fluid so that firms can maximize their returns from advertising expenditure (ROAS); hence, resources get distributed much more effectively (Moon et al., 2022). When applied properly, AI-based music personalization can enrich the emotional experience conveyed by advertising, thereby making consumers more engaged, increasing brand recall, and improving business results. From the perspective of affective consumer behavior theories, including the Affective Response Theory, music acts as an involuntary processing signal that can trigger positive behavioral responses such as purchase intentions (Lantos & Craton, 2012). AI helps reinforce this role by selecting or generating music that matches the emotions and circumstances of the user during the consumption process, thereby enhancing emotional connection and improving

communication effectiveness (Zander, 2006). Empirical evidence has shown that customizing sensory experiences, especially through sound, can significantly increase the persuasiveness of advertising. For example, Murray and Howat (2002) found that when music with an appropriate emotional tone is included in an advertisement to promote purchase behavior, the appropriate musical tone soothes the mood and eases the resistance of the customer's cognitive mechanism. In AI applications, personalized content, such as product or media recommendations, has been shown to be effective in increasing users' click-through intent (Yin et al., 2025). Therefore, AI-tailored background music based on user data may influence engagement behavior. This finding supports the argument that AI-based music personalization has a clear positive effect on sales performance.

Despite its many positive effects, there is debate among researchers about the size and stability of this effect. Some scholars, such as Alipour et al. (2024), argue that when ads are accurately adjusted emotionally by AI, they can leave a deep and lasting impression, thereby enhancing conversion and encouraging consumers to return. Chen et al. (2019) state that excess personalization can lead to negative reactions, and, in particular, it will happen when the consumers feel that the marketing efforts are too much intervention or control. It is under this condition that marketing messages may lose their initial persuasiveness. Therefore, clarity and transparency in data collection and use to avoid undesirable ethical implications are core elements that researchers emphasize. From a philosophical perspective, there is a divide in views on the role of AI personalization in consumption. Technically, it is regarded as a means to maximize benefits for consumers by minimizing the costs of searching and better matching needs with products (Acemoglu & Restrepo, 2018). This view suggests that AI-based personalization can create broader social benefits by improving transaction efficiency. On the contrary, according to critical theorists, this process can undermine consumer autonomy when algorithms interfere too deeply with emotions and behaviors, thereby making human emotions objects of commodification (Zuboff, 2023). Both approaches contribute to explaining the complex and ethical nature of AI in the context of shaping current consumer behavior. In consideration of the theoretical underpinnings and empirical results, this study suggests that AI-Based Music Personalization improves contextual relevance and emotional engagement in advertising content, which in turn boosts sales performance. Real-time adaptive music reinforces affective associations with the brand by converting passive listening into active persuasion at consumer touchpoints.

Thus, the study hypothesizes:

H1: AI-Based Music Personalization positively impacts Sales Performance.

2.3.2. Conceptual Analysis of “Emotional Resonance of Customized Music” and Its Effect on Sales Performance

Personalized music can create emotional resonance when tailored melodies evoke responses that match the listener's intrinsic emotions, aesthetic preferences, and level of connection to the brand (North & Hargreaves, 2008). According to the Emotional Response Theory, sound—particularly music—influences not only mood but also physiological responses that influence consumer cognition and behavior (Juslin & Västfjäll, 2008). When personalized, music is no longer just a supporting element in the brand experience. Instead, it acts as an emotional trigger, helping listeners remember the message and feel a closer connection with the brand (Bruner, 1990). Based on this foundation, many recent studies show that in the increasingly personalized and AI-driven marketing environment, emotional music is being used as a way to create a unique brand identity and drive engagement on digital platforms (Ladhari et al., 2017). Music does more than just convey information; it also reflects emotional values, helping people regulate their moods, express their personalities (Juslin, 2013).

Personalized music has the ability to create strong emotional resonance, which directly impacts purchasing behavior. When listeners feel connected to the melody, they tend to remember the ad better, feel more interested in the product, and are more likely to make a purchase decision. The positive emotions brought about by music also make the brand more memorable and improve message retention (Fraser, 2014). In many cases, emotional congruence not only drives impulsive buying behavior but also contributes to the formation of a lasting relationship between consumers and brands, an important factor for both short-term sales and long-term benefits. From a phenomenological perspective, the emotional experience that music brings is not simply an immediate response to an external stimulus. It is more like an emotional flow that is shaped by dynamic interactions between the consumer and the brand context (Jain & Bagdare, 2011). If we turn to an economic perspective, especially in behavioral economics, it is argued that most purchasing decisions are not made rationally. Instead, emotions act as a shortcut – and music is one that naturally taps into that emotion (Kahneman, 2011). When a piece of music makes a listener

feel “right”, meaning they feel heard or understood, the perceived value of the product increases. It is then easier to understand why they are willing to pay more or respond positively to offers (Alpert & Alpert, 1990).

While many studies confirm that music has the ability to create a strong emotional impact on consumers, there is no absolute consensus in the academic community on the extent of its influence. On the one hand, music designed based on emotions has been shown to be effective in driving sales, especially in the retail industry—where fierce competition requires brands to create differentiated experiences (Fulberg, 2003). These findings support the view that music can be not only a supporting factor but also a competitive advantage. However, not everyone agrees with this perspective. Some researchers argue that the impact of music is conditional—that is, it is not always stable but depends on the specific context and implementation. For example, Craton & Lantos (2011). found that rhythm and melody can alter listeners’ mood, but that the effect is easily overshadowed by factors such as advertising imagery or message clarity. Furthermore, over-personalization of music can sometimes be counterproductive, causing consumers to feel “led,” which reduces trust and makes them more hesitant to make a purchase (Sundar & Marathe, 2010). This suggests that music is only effective when it fits the brand’s identity, tone of voice, and cultural context. If the focus is on music alone without a clear, consistent message, the emotional connection may be fragile—and not enough to translate into actual consumer behavior.

Based on the theoretical foundations and empirical evidence that have demonstrated its emotional and behavioral significance, the following hypothesis is proposed:

H2: Emotional Resonance of Customized Music has a positive impact on Sales Performance.

2.3.3. Conceptual Analysis of Consumer Openness to AI in Marketing and Its Moderating Effect

How consumers embrace technology as part of their modern consumer experience is measured by consumers’ openness to AI in marketing. Consumers’ willingness to engage with personalized AI content, trust, and proactive actions based on technology-driven recommendations (Grewal et al., 2020). This openness represents the intersection of cognition and emotion, reason and curiosity towards AI applications, rather than a purely technical response. The concept is built on two main elements. The initial key aspect centers on how users assess the worth and efficiency of AI tools in marketing. The second element focuses on emotional reactions, such as excitement, curiosity and comfort when individuals encounter new technologies. In an AI-driven marketing environment, this combination develops a complex psychological foundation that shapes consumer attitudes and behavior.

TAM suggests that consumer acceptance of a technology is based on its usefulness and ease of use. As consumers become more open to AI, they are more likely to perceive AI-enabled music personalization as more beneficial and seamless. This seamlessness contributes to their increased behavioral response (Davenport et al., 2020). The TRI enhances this aspect by emphasizing emotional and personality characteristics, like optimism and creativity, that encourage the uptake of new technology (Parasuraman & Colby, 2015). In marketing, receptiveness to AI is a key element, influencing the effectiveness of AI-created content among various customer segments (Raji et al., 2024).

In this study, consumer openness to AI technology is understood as a moderator that influences the strength and direction of the relationship between AI-powered music personalization and sales performance. When consumers have a positive attitude toward the use of AI in advertising, they are more likely to be attracted to audio cues that are tailored to their preferences, easily form emotional connections, and then translate emotions into specific purchase behaviors. Open individuals perceive the benefits of personalization more clearly, such as relevance, convenience, and ease of use in the consumption experience (Sindermann et al., 2020). As a result, the impact of AI-powered music personalization on sales tends to increase, leading to increased conversion rates and brand loyalty. Empirical evidence has reinforced the moderating role of this factor. People with positive attitudes toward AI tend to be more engaged when experiencing AI-powered personalization features due to the increased association between information quality, satisfaction, and engagement (Prentice et al., 2020). Customer retention through AI personalization was only improved among consumers who had previously expressed positive attitudes toward AI technology (Tulcanaza-Prieto et al., 2023). In contrast, for those who lacked trust in AI, personalization could be perceived as an invasion of privacy or psychological manipulation (Gursoy et al., 2019). This suggests that the impact of AI-tailored music on increasing sales depends largely on consumers’ emotional and cognitive acceptance of the technology itself. From a behavioral economics perspective, openness to AI reflects a preexisting cognitive bias. Some people tend to trust algorithmic systems to accept recommendations embedded in AI-generated content, thereby simplifying their decision-making and reducing their information processing burden (Kahneman, 2011). In contrast to the individual behavioral perspective, the critical technology theory approach argues that

openness to AI is influenced by social factors such as educational background, media exposure, and cultural norms. Furthermore, the technical perspective also raises concerns about algorithmic dominance and the erosion of consumer autonomy (Zuboff, 2023). This perspective implies that attitudes toward AI are related to deeper layers of cognitive frameworks and cultural systems.

Based on the theoretical foundations and empirical evidence, this study hypothesizes that the effectiveness of AI-based music personalization on sales varies across consumer groups. Instead, the effect depends on the level of willingness to accept AI-led marketing. People with a more open mind tend to be more likely to engage in specific emotional and behavioral experiences, thereby increasing the connection between personalized messages and actual purchase behavior.

Hence, the study proposes the following moderating hypothesis:

H3: Consumer Openness to AI in Marketing positively moderates the relationship between AI-Based Music Personalization and Sales Performance.

Built on strong theoretical underpinnings, this study strengthens its scholarly value by introducing the following conceptual framework.

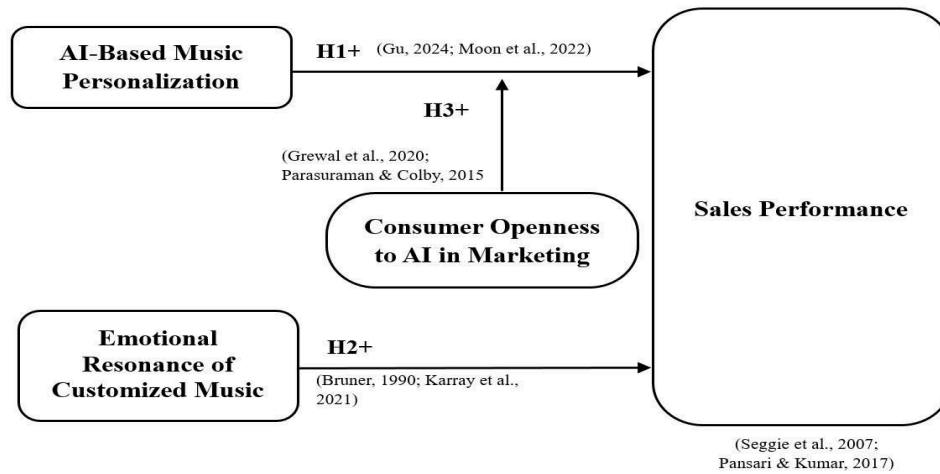


Figure 1: The Paper Conceptual Framework

3. Methods

The current study uses a quantitative approach to systematically collect and process data to explore and test core trends in the area of interest (Creswell & Creswell, 2017). This approach uses statistical tools to analyze data objectively and provide clear quantitative results (Babbie, 2020).

Stratified probability sampling is the technique chosen by the research team to ensure relevance and accuracy in the context of the Vietnamese market. Participants were selected from four groups directly involved in AI marketing, digital content personalization, and advertising strategy planning in Vietnam. The group includes digital marketing professionals and advertising managers (30%). This group is characterized by working in companies that implement advertising systems that integrate AI technology and music personalization. Their role is to analyze the commercial effectiveness of advertising systems using AI and music personalization. The group consists of audio engineers, AI developers, and technology consultants (26%). Designing user experiences and evaluating the development of customized music applications for advertising are their expertise. The group comprises researchers, instructors, and postgraduate students in academia (22%). These individuals possess knowledge in media psychology, advertising, and human-computer interaction. Their input reinforces the theoretical basis and scientific aspect of the research approach. Consumers and users of digital platforms (22%) have been

frequently targeted by personalized music advertisements on services like music applications, e-commerce sites, and social media. Feedback from this group helps assess emotional connection, AI acceptance, and impact on purchasing behavior.

The data collection process was conducted through a clearly structured questionnaire, with questions using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The survey was distributed both in person and online, through professional networks, academic forums, and digital communities such as “AI Marketing Vietnam” and “Music Advertising & Technology.” Of the 615 responses collected, only those that were fully informative and reliable were retained. As a result, 385 valid responses were selected to serve the analysis and hypothesis testing process of the study.

4. Results

4.1. Reliability analysis

Table 1: Reliability analysis of the dependent variable. Source: (The authors, 2025)

Reliability Statistics				
Cronbach's Alpha		N of Items		
.856		4		

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SP1	6.311	8.717	.683	.653
SP2	6.720	5.693	.617	.622
SP3	7.577	7.484	.681	.695
SP4	8.013	7.434	.730	.754

Where SP1 to SP4 are coded for survey questions 1 to 4 of Sales Performance respectively.

As shown in Table 1, all dependent sub-variables achieved adjusted item-total correlation coefficients of at least 0.3. The overall Cronbach's alpha was 0.856, exceeding the commonly accepted threshold of 0.7 and higher than the values that would have been obtained if any single item had been removed. Additionally, each dependent sub-variable displayed a Cronbach's alpha greater than its respective adjusted item-total correlation, even when items were hypothetically excluded. Therefore, all items were preserved for subsequent analysis. Similar reliability patterns were also observed in the Cronbach's alpha values of the other variables.

4.2. Exploratory factor analysis (EFA)

Table 2: Rotated Component Matrix. Source: (The authors, 2025)

Rotated Component Matrix ^a				
Component with loading factors				
1	2	3	4	
SP1 .714	AIM1 .639	CM1 .794	CO1 .630	
SP2 .765	AIM2 .690	CM2 .634	CO2 .748	
SP3 .786	AIM3 .750	CM3 .622	CO3 .648	
SP4 .699	AIM4 .700	CM4 .618	CO4 .701	
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				

a. Rotation converged in 7 iterations.

Where survey items CM1 to CM4, AIM1 to AIM4, and CO1 to CO4 correspond to questions 1–4 used to measure the moderator variable and the two independent variables, respectively.

As shown in Table 2, the rotated component matrix effectively grouped the 16 sub-variables into four distinct factors, representing the dependent variable, the two independent variables, and the moderator variable. All sub-variables exhibited factor loadings above 0.5, and no items were excluded during the factor analysis.

4.3. Multiple linear regression model

Table 3: Coefficients^a. Source: (The authors, 2025)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	7.515	.719		4.399	.000
1	AIM	.638	.809	.650	3.543	.000
	CM	.690	.775	.710	3.024	.016

a. Dependent Variable: SP

Where **SP**: mean of SP1 to SP4; **AIM**: mean of AIM1 to AIM4;
CM: mean of CO1 to CO4

As presented in Table 3, the significance (Sig.) values obtained from the t-tests are .000 and .016, both falling below the conventional alpha level of 0.05. These results indicate that the independent variables have a statistically significant effect on the dependent variable. Accordingly, both hypotheses are validated.

4.4. Moderator analysis

Table 4: Results analysis of “Consumer openness to AI in marketing”. Source: (The authors, 2025)

Model : 1

Y : SP

X : AIM

W : CO

Sample Size: 385

OUTCOME VARIABLE:

SP

Model Summary

R	R-sq	MSE	F	dl1	dl2	p
.768	.590	.646	6.303	3.000	381.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	7.811	.650	62.332	.000	7.524	7.419
AIM	.633	.556	4.339	.000	.737	.725
CO	.687	.636	4.957	.000	.616	.602
Int_1	.480	.825	4.847	.000	.600	.588

Where **CO**: mean of CO1 to CO4

As indicated in Table 4, the p-value for the interaction term (Int_1) is 0.000, well below the conventional significance threshold of 0.05. This confirms a statistically significant interaction between Consumer openness to AI in marketing and AI-based music personalization in shaping sales performance. The interaction coefficient of 0.480

suggests that stronger Consumer openness to AI in marketing amplify the positive impact of AI-based music personalization on sales performance. Therefore, hypothesis H3 is supported.

5. Discussion

5.1. Summary result

AI-based music personalization and the emotional resonance of customized music impact sales performance with coefficients of 0.65 and 0.71 respectively. Consumer openness to AI in marketing was found to moderate the relationship between AI-based music personalization and sales performance, with a moderation coefficient of 0.48.

5.2. Theoretical implication

The results of the study support the theoretical hypothesis that AI-driven music personalization can enhance sales performance by adding emotional depth to advertising. This finding is consistent with the views of Lantos and Craton (2012), as well as Zander (2006), who argued that music is an emotional agent capable of driving consumer behavior. With a significant coefficient ($\beta = 0.65$), the empirical evidence validates the argument of Alipour et al. (2024) about the role of AI-driven emotional regulation in driving conversions. However, unlike Chen et al. (2019), who expressed concerns about negative reactions due to over-personalization, this study did not record any resistance, suggesting that the algorithm was designed with an appropriate level of regulation. This finding therefore refutes the threshold hypothesis of inevitable negative consumer reactions, while affirming the assumption from TAM (Davis, 1989) about the role of personalization in enhancing perceived usefulness and driving engagement. When deployed appropriately in context, AI-driven music personalization becomes less of a passive background layer and more of an engaging listening experience—underscoring the increasingly essential role of adaptive sound design in digital marketing.”

This study confirms the central tenet of Emotional Response Theory that emotional resonance is a driver of consumer behavior. With a strong effect size ($\beta = 0.71$), this finding is consistent with Fraser (2014) and Juslin & Västfjäll’s (2008) argument that music has the power to create mood, reinforce memories, and motivate purchase behavior. The empirical data align with Fulberg’s (2003) argument that when the emotional element in background music is appropriate, brand recall is enhanced, and it also influences purchase behavior in both temporal dimensions. Contrary to Craton & Lantos’ (2011) skepticism that this effect might be masked by visuals, the present study found a distinct effect, especially when the melody was adjusted to the listener’s perception. On the other hand, the results do not support Sundar & Marathe’s (2010) warning about the negative risks of over-personalization; in this context, adjustment resulted in higher levels of engagement rather than aversion. Emotional resonance is not just a situation-dependent variable but plays a sustained role in increasing persuasive effects. This implies that music personalization, in the AI-driven marketing ecosystem, has moved beyond its background role and become a central tool for emotional branding.

The moderating effect of consumer openness to AI ($\beta = 0.48$) provides theoretical insight into the importance of technology acceptance in personalization. This finding validates the TAM extension model (Venkatesh & Davis, 2000), which suggests that users with higher perceptions of AI usefulness and usability are more likely to have positive behavioral responses. In addition, the data also support the view of Parasuraman & Colby (2015), according to which openness is associated with higher emotional and behavioral engagement. However, this is somewhat inconsistent with Gursoy et al. (2019), who cautioned that personalized AI can be perceived as intrusive. In contrast, the group of users with higher openness in this study showed stronger transfer effects, reflecting positive regulation. However, compared to the primary influence of emotional resonance or personalization itself, the role of openness is complementary, not a substitute. It can be inferred that to fully exploit the persuasive potential of personalized communications, marketers need to proactively promote AI readiness among their target audiences—not only to get them to accept the technology, but also to engage more deeply with the brand on an emotional level.

5.3. Practical Implications

Sales optimization is driving both digital marketers and technology developers to explore the potential of AI-powered auditory ad personalization. The significant impact ($\beta = 0.65$) from user behavior-adjusted mixes suggests that audio content can play a flexible role in the conversion process (Gu, 2024). With systems that can simultaneously generate melodies and respond in real time to emotional cues, the role of audio goes beyond illustration; instead, it contributes to guiding behavior—an approach consistent with the theory of emotional arousal (Zander, 2006; Lantos & Craton, 2012).

Instead of matching a user profile, algorithmic personalization should strive for emotional congruence since the effect of emotional resonance is strong ($\beta = 0.71$). It must elicit a positive response, thereby supporting message recall and driving consumer behavior. AI systems must adapt to the recipient's current mood and emotional state (Juslin & Västfjäll, 2008; Bruner, 1990). In an increasingly fragmented information landscape, the emotional congruence of auditory content becomes a clear competitive advantage (Fraser, 2014). Emotionally meaningful content can act as a psychological shortcut whereby brand attachment or impulsive buying is enabled because, as Kahneman (2011) observes, emotion more often drives behavior than does rationality.

Although consumers show great willingness to accept AI in marketing, personalized audio content using this technology shows signs of decreasing effectiveness ($\beta = 0.48$), suggesting that this factor should be carefully considered when segmenting audiences. Consumer attitudes toward technology should guide content customization strategies. Those who value the usefulness of AI and feel emotionally comfortable interacting with it are more receptive to algorithmic recommendations (Davis, 1989; Parasuraman & Colby, 2015). This finding is consistent with studies by Davenport et al. (2020) and Grewal et al. (2020), which found that the effectiveness of AI-based campaigns largely depends on users' technological readiness. For those who are hesitant, simplified or moderately personalized content can help reduce feelings of being controlled or monitored (Gursoy et al., 2019).

Instead of concentrating on putting AI in as a technical implement, marketers must see the interplay of feelings, trust, and technology adoption. Personalization only has commercial value when the content is contextually relevant, evokes positive emotions, and creates a sense of psychological safety for users.

5.4. Limitations

This study still has some weaknesses. The narrow survey sample only included Vietnamese consumers; therefore, the final generalization of conclusions becomes limited when applied to foreign markets. Variables such as emotions and attitudes toward technology are susceptible to cognitive biases or social biases, so the self-reported data method is not comprehensive. Visual or narrative elements that may interact with auditory content were not measured in this study. Finally, the use of a cross-sectional design makes it difficult to establish causal relationships definitively. Therefore, longitudinal or experimental studies would help to verify and clarify the observed associations.

5.5. Future Research Directions

Future research should consider how AI-personalized content combines with other elements such as images, voiceovers, or narration to create a unified emotional experience. Adding biometric feedback measures such as heart rate or facial expressions could provide a more direct and reliable indication of user emotion. Applying neuroscience methods could also open up a deeper understanding of unconscious decision-making processes under the influence of resonant sounds. Additionally, extending the research to different cultures would help to understand how local musical norms influence trust and emotional responses to AI. Direct comparisons between algorithm-generated melodies and human arrangements could also shed light on the unique role of personalization in driving marketing effectiveness.

5.6. Conclusion

Sales performance improved significantly when personalized music triggered emotions in listeners. This shows how important emotion is in marketing strategies that use algorithms. This effect was even stronger among consumers who viewed AI positively, which highlights how psychographic segmentation can help refine content. In this study, audio was not just an extra feature; it was a factor that influenced behavior when used properly.

Combining the technology acceptance model and emotion theory creates a foundation for connecting data to user experiences. The results show that AI investments need to take into account context, culture, and emotion. An emotional connection, trust, and agility need to be intimately connected to drive effective communications in the future marketing environment.

REFERENCE:

Acemoglu, D., & Restrepo, P. (2018). Artificial intelligence, automation, and work. *Economics of Artificial Intelligence: An Agenda*, NBER. <https://doi.org/10.3386/w24196>

Alipour, P., Gallegos, E. E., & Sridhar, S. (2024). Ai-driven marketing personalization: Deploying convolutional neural networks to decode consumer behavior. *International Journal of Human–Computer Interaction*, 1-19.

Alpert, J. I., & Alpert, M. I. (1990). Music influences on mood and purchase intentions. *Psychology & Marketing*, 7(2), 109–133. <https://doi.org/10.1002/mar.4220070204>

Babbie, E. R. (2020). *The practice of social research*. Cengage Au.

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science*, 27(2), 184–206. <https://doi.org/10.1177/0092070399272005>

Bruner, G. C. (1990). Music, mood, and marketing. *Journal of Marketing*, 54(4), 94–104. <https://doi.org/10.1177/002224299005400408>

Cain, P. M. (2022). Modelling short-and long-term marketing effects in the consumer purchase journey. *International Journal of Research in Marketing*, 39(1), 96-116. <https://doi.org/10.1016/j.ijresmar.2021.06.006>

Chen, Q., Feng, Y., Liu, L., & Tian, X. (2019). Understanding consumers' reactance of online personalized advertising: A new scheme of rational choice from a perspective of negative effects. *International Journal of Information Management*, 44, 53–64. <https://doi.org/10.1016/j.ijinfomgt.2018.09.001>

Craton, L. G., & Lantos, G. P. (2011). Attitude toward the advertising music: An overlooked potential pitfall in commercials. *Journal of Consumer Marketing*, 28(6), 396-411.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48, 24–42. <https://doi.org/10.1007/s11747-019-00696-0>

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>

Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of Big Data—evolution, challenges and research agenda. *International Journal of Information Management*, 48, 63–71. <https://doi.org/10.1016/j.ijinfomgt.2019.01.021>

Fraser, C. (2014). Music-evoked images: Music that inspires them and their influences on brand and message recall in the short and the longer term. *Psychology & Marketing*, 31(10), 813-827.

Fulberg, P. (2003). Using sonic branding in the retail environment—an easy and effective way to create consumer brand loyalty while enhancing the in-store experience. *Journal of Consumer Behaviour: An International Research Review*, 3(2), 193-198.

- Gao, B., & Huang, L. (2019). Understanding interactive user behavior in smart media content service: An integration of TAM and smart service belief factors. *Heliyon*, 5(12). <https://doi.org/10.1016/j.heliyon.2019.e02983>
- Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science*, 48, 1-8.
- Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing*, 97(1), 1–6.
- Gu, X. (2024). Enhancing social media engagement using AI-modified background music: examining the roles of event relevance, lyric resonance, AI-singer origins, audience interpretation, emotional resonance, and social media engagement. *Frontiers in Psychology*, 15, 1267516. <https://doi.org/10.3389/fpsyg.2024.1267516>
- Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers' acceptance of artificially intelligent (AI) device use in service delivery. *International Journal of Information Management*, 49, 157–169. <https://doi.org/10.1016/j.ijinfomgt.2019.03.008>
- Jain, R., & Bagdare, S. (2011). Music and consumption experience: a review. *International Journal of Retail & Distribution Management*, 39(4), 289-302.
- Juslin, P. N. (2013). What does music express? Basic emotions and beyond. *Frontiers in psychology*, 4, 596.
- Juslin, P. N., & Västfjäll, D. (2008). Emotional responses to music: The need to consider underlying mechanisms. *Behavioral and Brain Sciences*, 31(5), 559–575. <https://doi.org/10.1017/S0140525X08005293>
- Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux.
- Kietzmann, J., Paschen, J., & Treen, E. R. (2018). Artificial intelligence in advertising: How marketers can leverage AI. *Journal of Advertising Research*, 58(3), 263–267. <https://doi.org/10.2501/JAR-2018-035>
- Kumar, V., Ashraf, A. R., & Nadeem, W. (2024). AI-powered marketing: What, where, and how?. *International Journal of Information Management*, 77, 102783. <https://doi.org/10.1016/j.ijinfomgt.2024.102783>
- Lantos, G. P., & Craton, L. G. (2012). A model of consumer response to advertising music. *Journal of Consumer Marketing*, 29(1), 22–42. <https://doi.org/10.1108/07363761211193028>
- Moon, H., Lee, T., Seo, J., Park, C., Eo, S., Aiyanyo, I. D., ... & Park, K. (2022). Return on Advertising Spend Prediction with Task Decomposition-Based LSTM Model. *Mathematics*, 10(10), 1637.
- Murray, K. B., & Howat, G. (2002). The relationships among service quality, value, satisfaction, and future intentions of customers at an Australian sports and leisure centre. *Sport Management Review*, 5(1), 25–43.
- North, A. C., & Hargreaves, D. J. (2008). The social and applied psychology of music. *Oxford University Press*. <https://doi.org/10.1093/acprof:oso/9780198567424.001.0001>
- Pansari, A., & Kumar, V. (2017). Customer engagement: The construct, antecedents, and consequences. *Journal of the Academy of Marketing Science*, 45(3), 294–311. <https://doi.org/10.1007/s11747-016-0485-6>
- Parasuraman, A., & Colby, C. L. (2015). An updated and streamlined Technology Readiness Index: TRI 2.0. *Journal of Service Research*, 18(1), 59–74. <https://doi.org/10.1177/1094670514539730>
- Pitardi, V., & Marriott, H. R. (2021). Alexa, she's not human but... Unveiling the drivers of consumers' trust in voice-based artificial intelligence. *Psychology & Marketing*, 38(4), 626-642.
- Prentice, C., Weaven, S., & Wong, I. A. (2020). Linking AI quality performance and customer engagement: The moderating effect of AI preference. *International Journal of Hospitality Management*, 90, 102629.

- Raja, M. W., Allan, D., & Bandyopadhyay, C. (2024). Musical retail therapy: toward a conceptual framework on the impact of musical elements on consumer mood, attention, and decision-making. *Marketing Intelligence & Planning*, 42(4), 618-646. <https://doi.org/10.1108/MIP-11-2023-0624>
- Raji, M. A., Olodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). *E-commerce and consumer behavior: A review of AI-powered personalization and market trends*. GSC Advanced Research and Reviews, 18(3), 066–077. <https://doi.org/10.30574/gscarr.2024.18.3.0090>
- Seggie, S. H., Cavusgil, E., & Phelan, S. E. (2007). Measurement of return on marketing investment: A conceptual framework and the future of marketing metrics. *Industrial Marketing Management*, 36(6), 834–841. <https://doi.org/10.1016/j.indmarman.2006.11.001>
- Sindermann, C., Riedl, R., & Montag, C. (2020). Investigating the relationship between personality and technology acceptance with a focus on the smartphone from a gender perspective: results of an exploratory survey study. *Future Internet*, 12(7), 110.
- Sundar, S. S., & Marathe, S. S. (2010). Personalization versus customization: The importance of agency, privacy, and power usage. *Human communication research*, 36(3), 298-322.
- Tulcanaza-Prieto, A. B., Cortez-Ordoñez, A., & Lee, C. W. (2023). Influence of customer perception factors on AI-enabled customer experience in the Ecuadorian banking environment. *Sustainability*, 15(16), 12441. <https://doi.org/10.3390/su151612441>
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Vuust, P., Heggli, O. A., Friston, K. J., & Kringelbach, M. L. (2022). *Music in the brain*. *Nature Reviews Neuroscience*, 23(5), 287–305. <https://doi.org/10.1038/s41583-022-00578-5>
- Yin, J., Qiu, X., & Wang, Y. (2025). The Impact of AI-Personalized Recommendations on Clicking Intentions: Evidence from Chinese E-Commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(1), 21.
- Zander, M. F. (2006). Musical influences in advertising: How music modifies first impressions of product endorsers and brands. *Psychology of Music*, 34(4), 465–480. <https://doi.org/10.1177/0305735606067158>
- Zuboff, S. (2023). The age of surveillance capitalism. In *Social theory re-wired* (pp. 203-213). Routledge.

Appendix

**Table 6: Survey Questionnaire
Background information**

What is your current professional role?	Digital marketing specialist / Advertising manager	Audio engineer / AI developer / Technology consultant	Academic researcher / Instructor / Postgraduate student	General consumer / Digital platform user	Other
---	--	---	---	--	-------

	How familiar are you with AI applications in marketing and advertising?		Not familiar at all	Slightly familiar	Moderately familiar	Very familiar			Extremely familiar
	Have you experienced receiving advertisements with personalized music or audio on digital platforms (e.g., Spotify, TikTok, YouTube, e-commerce apps)?		Never	Rarely	Sometimes	Often			Always
	What is your age group?		Under 18	18–24	25–34	35–44			45 and above
No.	Variables	Coded Sub-variables	Content						
1.	Sales Performance	SP1	This advertisement made me more likely to consider purchasing the product (Seggie et al., 2007)						
		SP2	I believe the personalized music in this ad positively influenced my purchase behavior (Cain, 2022)						
		SP3	The ad encouraged me to engage with the brand more frequently (Pansari & Kumar, 2017)						
		SP4	I was more likely to make a quick purchase after watching this ad (Raja et al., 2024)						
2.	AI-Based Music Personalization	AIM1	The music in the advertisement felt uniquely tailored to my preferences (Gu, 2024)						
		AIM2	I recognized that the music in the ad was algorithmically generated (Lantos & Craton, 2012)						
		AIM3	I felt more emotionally connected due to the AI-personalized music (Kietzmann et al., 2018)						
		AIM4	The personalized music enhanced my experience of the advertisement (Moon et al., 2022)						
3.	Emotional Resonance of Customized Music	CM1	The music in the ad matched my emotional state (North & Hargreaves, 2008)						

4.		CM2	I felt emotionally moved by the music in this advertisement (Juslin & Västfjäll, 2008)
		CM3	The customized music made me remember the brand better (Bruner, 1990)
		CM4	The music increased my emotional connection with the product (Karray et al., 2021)
	Consumer Openness to AI in Marketing	CO1	I am comfortable with AI being used to personalize marketing content (Grewal et al., 2020)
		CO2	I find AI-generated music advertisements useful (Davenport et al., 2020)
		CO3	I enjoy interacting with advertisements that use AI personalization (Parasuraman & Colby, 2015)
		CO4	I trust AI systems to make relevant marketing decisions for me (Kumar et al., 2024)

Survey link: <https://forms.gle/52JKZhJrobWjhTqc8>