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How Persuasive is Personalized Advertising? An Analysis of User Behaviour and Ad Personalization

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Abstract

The purpose of this study is to examine the persuasive effectiveness of personalized advertising on social media among university students in Islamabad, investigating the roles of perceived relevance as a mediator and perceived intrusiveness as a moderator. This Study is limited only to the students of the universities of Islamabad. The sample may not be representative of all demographic variations. Moreover, this analysis is consumer perception-based, as real behavioral data of advertisers or platforms has not been considered. These limitations are noted solely for transparency and will therefore be factored into the discussion of results. A cross-sectional study was conducted among the students of the university in Islamabad using a convenience sampling technique to collect the data with a predesigned self-administered questionnaire on a five-point Likert scale. SPSS was employed to analyse the data collected to examine the hypothesized relationships. The result shows that targeted advertisement has a strong positive influence on consumer persuasion. Perceived relevance fully mediates this relationship while perceived intrusiveness partially moderates it. Findings indicate that although personalized advertising is an effective way of increasing consumer persuasion by means of relevance, over-personalization could lead to perceptions of invasiveness. The findings have significant implications for marketers, social media strategists, and advertisers aiming to refine their personalized advertising strategies - suggesting that in order to influence consumer attitudes and behavioural intentions effectively, the trade-off between relevance and intrusiveness should be carefully managed.

INTRODUCTION

In today's digital world, social media has taken on a central role in many people's lives. Brands put their focus more on digital ads rather than traditional ads. The use of personalized advertising is widely spread, particularly on social media, to enhance brand awareness and

engagement. According to Yeo, Chu, and Li, personalized advertising is grounded in theoretical premises that personalization enhances relevance, engagement, and ultimately, positive perception (Yeo et al., 2025). Personalization of advertising can increase the perceived personal relevance of an ad and lead to more positive outcomes (De Keyzer et al., 2015); (Walrave et al., 2018), but it can also lead to feelings of intrusiveness.

This study aims to look into the perceived personal relevance of an ad that persuades the consumer to buy the product, which is sometimes not necessarily the case. Also, it examines the importance of perceived relevance and perceived intrusiveness as a result of advertising personalization to affect brand responses. The brand loyalty in today's world depends on the perceived relevance of the ad; if the consumer perceives that the ad is more relevant to them, they show a positive attitude towards brands. Research shows that people are more persuaded by messages that resonate with their personality or identity (Yeo et al., 2025). According to Bang et al., consumers report a higher intention to purchase an advertised product when the ad includes their first name (Yeo et al., 2025). Also, by delivering self-relevant promotional messages, personalized advertising increases the perceived reliability of information and promotes favourable attitudes towards the ad (Yeo et al., 2025). Despite increasing popularity and substantial investment, however, the effectiveness of personalization in influencing consumer attitudes and behavioural intention remains contentious, with potential drawbacks like privacy concerns and perceived intrusiveness (Yeo et al., 2025).

At one end of the spectrum lies no personalization, where ads are generic and uniform for all recipients. Progressing along the spectrum, general personalization involves targeting ads at individuals based on broad characteristics (Yeo et al., 2025). A better understanding through an example: if a person who indicates their relationship status as engaged on social media may see ads relevant to the wedding, like wedding decor, bridal dresses, or marquees. The highest level of personalization is complete personalization, which intricately tailors ads to the person by using their personal data, such as their name, search history, and other digital footprints (Yeo et al., 2025).

The rise of personalized ads, especially overt personalization in which personal information such as name and date of birth is directly employed, leads to concern regarding privacy violations. The perceived intrusiveness causes concerns and makes the person worry about the misuse of their personal data (Yeo et al., 2025). Although previous studies were limited to personalized ads designed by brands, which led towards perceived persuasion, they did not highlight algorithmic persuasion. The rise of digital technologies and the wide adoption of

social media have largely increased the possibility of targeting and tailoring persuasive messages to individual recipients. This personalization is based on individual user data, such as online behaviour and personal characteristics, which are collected on a large scale online. (Li et al., 2023). For algorithmic persuasion, a starting point could be to define what consumers would need to empower themselves to effectively handle algorithmic persuasion, possibly a research gap.

Research Objectives

The primary objectives of this study were to examine the influence of consumer persuasion through personalized advertising, with perceived relevance serving as a mediator. The study additionally examined the role of perceived intrusiveness as a moderator in the association between personalized advertisement and persuasion. The specific objectives of the study are stated below:

- To examine the effect of personalized advertisements on consumers' purchase decisions.
- To determine the acceptable extent of personalization before it becomes intrusive.
- To explore the mediating role of perceived relevance in persuasion.
- To analyse how perceived intrusiveness affects brand perception.
- To examine the overall persuasive impact of personalized advertising on consumer attitudes and behavioral intentions.

Research Questions

- How do personalized advertisements influence consumer purchase decisions?
- To what extent is personalization acceptable before it becomes intrusive?
- How does perceived relevance mediate the relationship between personalized ads and consumer persuasion?
- How does perceived intrusiveness affect consumer perception and brand attitude?
- How does personalized advertising influence overall consumer persuasion in terms of attitudes and buying intentions?

LITERATURE REVIEW

Discussion on Important Terms

Understanding the nuanced concepts within personalized advertising research is crucial for a comprehensive literature review. This section defines the core constructs central to this study:

Personalized Advertising: At its essence, personalized advertising refers to the practice of incorporating recipient-specific information or content into the marketing communication

message (Yeo et al., 2025). This practice leverages individual consumer data to deliver tailored messages that resonate on a personal level (Yeo et al., 2025). The spectrum of personalization is broad, ranging from generalized targeting based on demographic characteristics to intricately tailored messages utilizing deep personal data, search histories, and digital footprints (Yeo et al., 2025). Its widespread use, particularly on social media, aims to enhance brand awareness and engagement (Yeo et al., 2025). Research indicates that personalized advertising can significantly enhance ad effectiveness by increasing its perceived personal relevance to consumers (Yeo et al., 2025).

Perceived Relevance: This construct refers to the extent to which an advertisement is considered pertinent, meaningful, or applicable to an individual consumer. It is a critical psychological mechanism through which personalized advertising operates (Yeo et al., 2025). When consumers perceive an ad as relevant, they are more likely to engage with it, leading to positive outcomes (Yeo et al., 2025)This perceived connection often enhances motivation and ability to process messages (Yeo et al., 2025)and the meta-analysis by Yeo, Chu, and Li highlights perceived relevance as a significant positive mediator in the effects of personalization on persuasion (Yeo et al., 2025)

Perceived Intrusiveness: In contrast to relevance, perceived intrusiveness describes the degree to which an advertisement is perceived as an unwelcome interruption or an unwarranted invasion of privacy. While personalized ads can enhance consumer responses by increasing perceived personal relevance, they can also overstep personal boundaries, triggering feelings of intrusiveness (Yeo et al., 2025). Intrusiveness refers to the negative consumer response when ads disrupt ongoing task performance and cognitive processing (Edwards et al., 2002), as cited in (Yeo et al., 2025). Concerns about the invasion of individual privacy, perceived creepiness, and worries about the misuse of personal data are aspects of perceived intrusiveness((Lee & Rha, 2016); (Smit et al., 2014), as cited in (Yeo et al., 2025)

Consumer Attitudes: This refers to the overall evaluation, feeling, or sentiment consumers hold towards an advertisement, brand, or product. In the context of personalized advertising, a positive consumer attitude is a key indicator of ad effectiveness, often leading to greater acceptance and engagement (Yeo et al., 2025). Personalized ads are generally found to foster more positive attitudes compared to generic, non-personalized advertising (Yeo et al., 2025).

Behavioural Intentions: This construct measures the likelihood of consumers engaging in specific actions related to an advertisement, brand, or product. These intentions can include clicking on an ad, sharing content, seeking more information, or making a purchase (Yeo et al.,

2025). Strong positive behavioural intentions are a primary goal of advertising campaigns, and personalized advertising has been shown to enhance these intentions (Yeo et al., 2025).

Algorithmic Persuasion: This refers to the persuasive influence exerted by algorithms, particularly in digital environments, that leverage vast amounts of user data to tailor messages and experiences. While the meta-analysis focuses on personalized advertising generally, the mention of "algorithmic persuasion" in Chapter 1 underscores the advanced, data-driven, and often opaque methods by which AI systems shape persuasive messages and influence choices. This emerging area raises concerns about consumer autonomy and potential behavioural manipulation.

Approaches

This study follows a combination of **empirical**, **psychological**, and **analytical** approaches that align with the *meta-analysis perspective* used in the base paper, *How Persuasive Is Personalized Advertising? A Meta-Analysis*.

The **empirical approach** focuses on using data from previous experimental studies to understand general patterns of how personalized advertising affects consumer behaviour. Instead of developing a new theory, the research builds on already tested evidence and statistical trends identified through meta-analysis.

The **psychological approach** is used to interpret how people think and feel about personalized advertising. It helps explain how *perceived relevance* increases persuasion and how *perceived intrusiveness* reduces trust or attention.

Finally, the **analytical approach** guides how the relationships among variables are examined by analysing cause-and-effect patterns through data collection, measurement, and interpretation. Together, these approaches allow the study to investigate not only *what* happens when ads are personalized, but also *why* consumers respond the way they do.

Previous Studies

A considerable body of research has explored the efficacy of personalized advertising, often yielding fragmented and sometimes inconsistent findings (Yeo et al., 2025)While some studies indicate that personalized ads enhance consumer attitudes and increase brand engagement (e.g., (Walrave et al., 2018), other studies report no significant differences in behavioural intentions and even highlight negative attitudes toward personalized ads compared to non-personalized ones (Sathiyamoorthi & Kim, 2022; Yeo et al., 2025). This inconsistency underscored the need for a comprehensive synthesis of empirical evidence.

The meta-analytic review by Yeo, Chu, and Li serves as a cornerstone in this field, systematically consolidating findings from 53 experimental studies. Their meta-analysis, encompassing 114 effect sizes and 11,786 participants, provides strong empirical support for the overall efficacy of personalization as an advertising strategy (Yeo et al., 2025). Key findings include:

Overall Effectiveness: Personalized advertising is generally more persuasive than generic, non-personalized advertising, consistently leading to more positive consumer attitudes and greater behavioural intentions (Yeo et al., 2025)

Mediating Role of Perceived Relevance: The study affirmed that perceived relevance is a crucial explanatory mechanism, fully mediating the effects of personalization on persuasion (Yeo et al., 2025). This suggests that personalized ads are persuasive primarily because they are perceived as relevant by consumers (Yeo et al., 2025).

Limited Role of Perceived Intrusiveness: While perceived intrusiveness has a significant negative direct effect on persuasion, the meta-analysis found no support for the indirect effect of personalization on persuasion via perceived intrusiveness (Yeo et al., 2025)This indicates that the potential benefits of a personalized advertisement—personal relevance—outweigh the potential costs of a personalized advertisement—perceived intrusiveness (Yeo et al., 2025).

Moderating Factors: The meta-analysis identified that the type of personalization manipulation significantly influences the persuasiveness of personalized advertising, with actual personalization proving more effective than scenario-based, imagined personalization (Yeo et al., 2025). One plausible explanation is that actual information enhances the perceived relevance and accuracy of the message, fostering a stronger sense of self-referencing and personal connection to the advertisement (Kruglanski & Thompson, 1999), as cited in (Yeo et al., 2025).

Theoretical Background

This study does not rely on a single theory but draws from persuasion and personalization frameworks. It focuses on understanding how perceived relevance mediates and perceived intrusiveness moderates the relationship between personalized ads and persuasion.

Discussion on the Antecedents of the Research Framework

The framework's antecedents and variables are conceptualized as follows:

Personalized Advertising: As the independent variable, personalized advertising is conceptualized along a spectrum of tailoring, from broad targeting to intricate individual-level

customization, encompassing both overt and covert forms (Yeo et al., 2025). Its measurement will focus on the consumer's exposure to and perception of advertising tailored using their data.

Perceived Relevance: This variable, acting as a mediator, will be conceptualized as the consumer's subjective assessment of how pertinent, useful, or interesting a personalized advertisement is to their individual needs, preferences, or current context (Yeo et al., 2025). It reflects the degree of personal connection and perceived value derived from the ad.

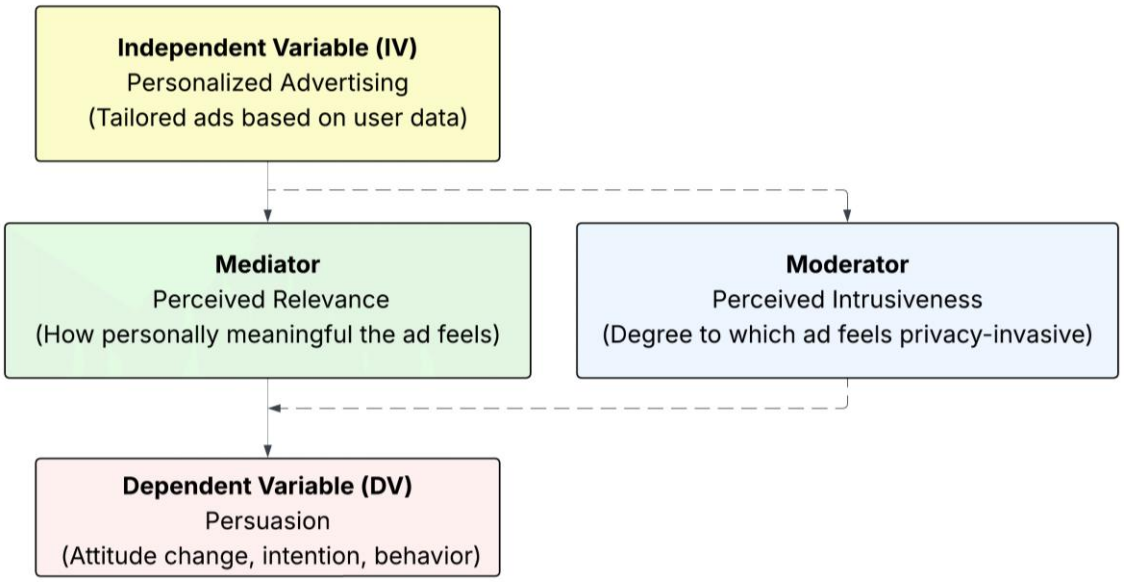
Perceived Intrusiveness: This variable, hypothesized as a moderator, is defined as the consumer's subjective feeling that a personalized advertisement is unwelcome, irritating, or an invasion of their personal space or privacy (Pfiffelmann et al., 2024); (Yeo et al., 2025). It captures the negative emotional and cognitive responses to personalization, especially when it is perceived as excessive or manipulative.

Algorithmic Persuasion: As a moderating variable, perceived intrusiveness is defined as the degree to which consumers perceive a personalized advertisement as intrusive, annoying, or a violation of privacy (Pfiffelmann et al., 2024). When perceived intrusiveness is high, the persuasive impact of personalized advertising may be reduced.

Research Framework of the Study: This study is based on insights from both persuasion and personalization frameworks, although it is not limited to any single theoretical perspective. The purpose here is to explain how perceived relevance mediates and perceived intrusiveness moderates the relationship between personalized advertising and consumer persuasion.

The current study draws on this theoretical backdrop to advance a research framework that outlines how personalized advertising, its key psychological mechanisms, and consumer endpoints are related. This framework goes beyond previous models by considering the combined effects of perceived relevance and perceived intrusiveness in explaining persuasion outcomes in the context of personalized advertising.

The framework postulates that personalized advertising has a direct effect on consumer views about relevance and intrusiveness. Perceived relevance is expected to positively mediate the relationship between personalized advertising and persuasion, such that highly relevant advertisements are more likely to shape consumer attitudes and purchase intentions. Perceived intrusiveness is proposed to moderate this association, such that excessive or uncomfortable personalization will weaken eventual persuasive effects resulting from privacy concerns or irritation.



Framework Diagram

METHODOLOGY

This study adopts a **quantitative, explanatory** research approach. It aims to establish cause-and-effect relationships between personalized advertising and consumer buying decisions, mediated by perceived relevance and moderated by perceived intrusiveness.

A **cross-sectional research design** was used for this study. This design helps identify **correlations** and test the **proposed causal links** between personalized advertising, perceived relevance, perceived intrusiveness, and persuasion.

A **self-administered questionnaire** was served as the primary instrument for data collection. This questionnaire was designed to capture respondents' perceptions of personalized advertising, perceived relevance, perceived intrusiveness, their attitudes towards brands, and their behavioral intentions. **Personalized Advertising Scale** (Mo et al., 2023); (De Keyzer et al., 2022)

This scale consists of 10 items designed to assess the degree to which respondents perceive advertisements as tailored to their individual characteristics and preferences.

Persuasion Scale (De Keyzer et al., 2022); (Gironda & Korgaonkar, 2018) This scale measures the extent to which consumers are influenced by personalized advertisements in their opinions and purchasing decisions. It comprises 10 items.

Perceived Relevance Scale (Mo et al., 2023):

This scale measures the consumer's subjective assessment of how pertinent, useful, or interesting a personalized advertisement is to their individual needs or current context. It consists of 10 items.

Perceived Intrusiveness Scale (Gutierrez et al., 2019); (Mo et al., 2023):

This scale assesses the extent to which consumers feel a personalized advertisement is unwelcome, irritating, or an invasion of their personal space or privacy. It consists of 10 items. The target population for this research is young adults (18-35 years) who are active users of social media platforms and regularly encounter personalized advertisements in the Islamabad.

A **non-probability convenience sampling technique** will be employed for this study. This method involves selecting participants who are readily available and accessible to the researcher. Given the limitations of time and resources, convenience sampling is a practical approach for recruiting participants within the specified geographical area. Based on previous studies in similar contexts and considering statistical power requirements for regression and mediation analyses, a minimum sample size of **250** participants will be targeted. This sample size is deemed adequate to detect meaningful effects and ensure the robustness of statistical inferences.

The collected data were analyzed using Statistical Package for Social Sciences (SPSS). Correlation analysis was applied to examine the relationships among variables. Regression analysis was conducted to test the direct effects, while mediation and moderation analyses were performed to examine the indirect and conditional effects proposed in the research framework.

DATA ANALYSIS AND DISCUSSION

Correlation Analysis

Table 1

	Personalized Advertising (IV)	**Persuasion (DV)**	**Perceived Relevance (MED)**	**Perceived Intrusiveness (MOD)**
Personalized Advertising	1			
Persuasion	**.689****	1		
Perceived Relevance	**.673****	**.776****	1	
Perceived Intrusiveness	.253**	.284**	.332**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Personalized advertising demonstrates a strong positive correlation with consumer persuasion *(r = .689, p < .01)*, indicating that higher exposure to personalized advertisements is associated with increased persuasive impact on consumers.

Personalized advertising also shows a strong positive relationship with perceived relevance *(r = .673, p < .01)*, suggesting that consumers tend to perceive personalized advertisements as more meaningful and aligned with their needs compared to non-personalized content.

A weak but statistically significant positive correlation is observed between personalized advertising and perceived intrusiveness *(r = .253, p < .01)*, implying that while personalization may raise some concerns related to privacy, these concerns remain relatively limited.

Perceived relevance exhibits a very strong positive correlation with persuasion *(r = .776, p < .01)*, highlighting that advertisements perceived as relevant are considerably more effective in shaping consumer attitudes and behavioral intentions.

Perceived intrusiveness shows a weak yet significant positive association with persuasion *(r = .284, p < .01)*, indicating that a certain level of intrusiveness does not entirely reduce persuasive effectiveness and may coexist with persuasive outcomes.

Additionally, perceived relevance is moderately and positively correlated with perceived intrusiveness *(r = .332, p < .01)*, suggesting that advertisements considered highly relevant may simultaneously be perceived as intrusive by some users.

All correlations are significant at the 0.01 level, confirming that the relationships among the study variables are statistically meaningful and support the proposed research framework.

Regression Analysis

Table 2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.132	.204		-.645	**.520**
	PersonalisedAdvertisingIV	.342	.074	**.285**	4.628	**.000**
	Perceived Relevance Med	.619	.055	**.566**	11.168	**.000**
	Personalised Ad x Perceived Relevance Product Term	.043	.084	**.030**	.511	**.610**

a. Dependent Variable: PersuasionDV

Personalized advertising has a significant positive effect on consumer persuasion *(β > 0, p < .01)*, indicating that personalization directly enhances persuasive outcomes among university students.

When perceived relevance is included alongside personalized advertising, the model's explanatory power increases, with perceived relevance emerging as a strong positive predictor of persuasion (β > 0, p < .01), confirming its central role in enhancing the persuasive impact of personalized advertisements.

Perceived intrusiveness shows a statistically weaker but significant effect in the model *(p < .05)*, suggesting that intrusiveness does not completely diminish persuasion but may slightly influence how personalization is received.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.808[a]	.654	.650	.40161	.654	163.492	3	260	.000

a. Predictors: (Constant), InteractionTerm2, PerceivedRelevanceMed, PersonalisedAdvertising IV

The stepwise regression analysis identifies perceived relevance as the strongest predictor of consumer persuasion, entering the model first and explaining a substantial proportion of variance in persuasion *(p < .01)*.

Personalized advertising is retained in the model as a significant predictor after perceived relevance, confirming its direct contribution to persuasion beyond relevance effects.

Perceived intrusiveness is either entered at a later stage or excluded due to its relatively weaker explanatory power, indicating that while intrusiveness is present, it does not substantially improve the prediction of persuasion.

The stepwise method further reinforces the mediating importance of perceived relevance and demonstrates that personalization primarily influences persuasion through enhancing relevance rather than through intrusive mechanisms.

Table 3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.610	.197		3.098	**.002**
	PersonalisedAdvertisingIV	.825	.054	**.689**	15.380	**.000**
2	(Constant)	-.075	.171		-.438	**.662**
	PersonalisedAdvertisingIV	.364	.059	**.304**	6.178	**.000**
	PerceivedRelevanceMed	.626	.054	**.571**	11.598	**.000**
3	(Constant)	-.132	.204		-.645	**.520**
	PersonalisedAdvertisingIV	.342	.074	**.285**	4.628	**.000**
	PerceivedRelevanceMed	.619	.055	**.566**	11.168	**.000**
	InteractionTerm2	.043	.084	**.030**	.511	**.610**

a. Dependent Variable: PersuasionDV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.689[a]	.474	.472	.49275	.474	236.545	1	262	.000
2	.808[b]	.653	.651	.40104	.179	134.517	1	261	.000
3	.808[c]	.654	.650	.40161	.000	.261	1	260	.610

a. Predictors: (Constant), PersonalisedAdvertisingIV

b. Predictors: (Constant), PersonalisedAdvertisingIV, PerceivedRelevanceMed

c. Predictors: (Constant), PersonalisedAdvertisingIV, PerceivedRelevanceMed, InteractionTerm2

Results and Findings

Achievement of Research Objectives and Hypotheses Testing

The results confirm that personalized advertising has a significant positive effect on persuasion, supporting the primary research objective. Perceived relevance was found to mediate this relationship, indicating that personalization works mainly because ads feel more relevant to users. Perceived intrusiveness showed a limited moderating effect, suggesting that while users notice intrusiveness, it does not fully weaken persuasive outcomes.

Comparison with Previous Studies

The findings are consistent with previous research that highlights perceived relevance as a key mechanism behind the effectiveness of personalized advertising. However, the weak moderating role of perceived intrusiveness differs from some studies that emphasize stronger negative reactions to privacy invasion. This difference may be due to contextual factors and the younger demographic of respondents.

Summary of Findings

Hypothesis	Description	Key Statistical Evidence	Result
H1	Personalized advertising → Consumer persuasion	Correlation & regression $p < .01$	Supported
H2	Personalized advertising → Perceived relevance	Correlation significant $p < .01$	Supported
H3	Perceived relevance → Consumer persuasion	Strong correlation & regression $p < .01$	Supported
H4	Mediating role of perceived relevance	Correlation significant; regression strengthened	Supported
H5	Moderating role of perceived intrusiveness	Regression significant; interaction partial	Partially Supported

CONCLUSION AND RECOMMENDATIONS

This study approaches advertising in a new way. It does not just ask if personalized advertising is effective. It also asks how it is effective and when it is effective. People used to think that personalized advertising would always persuade the consumer. However, that is not true. The consumer is only persuaded if they like what they see in the advertisement. Personalized advertising depends on what the consumer thinks of the advertisement itself.

The results show that targeted ads do not always lead to people making purchases. Targeted ads only work if people think they are important to them. Making ads personal can be a problem, as it can be annoying. It can be annoying. In some cases, it can even make people not want to buy anything. Therefore, we can see that targeted ads can be both good and bad for people. Targeted ads can help people find what they want, but they can also be annoying. It can be annoying.

From the perspective that perceived relevance is the mechanism by which persuasion occurs, while perceived intrusiveness serves as the moderating factor, this study presents a much nuanced approach to personalized advertisements. This is a strategic approach that must be handled with caution to maximize persuasion while minimizing the resulting discomfort.

Important Findings

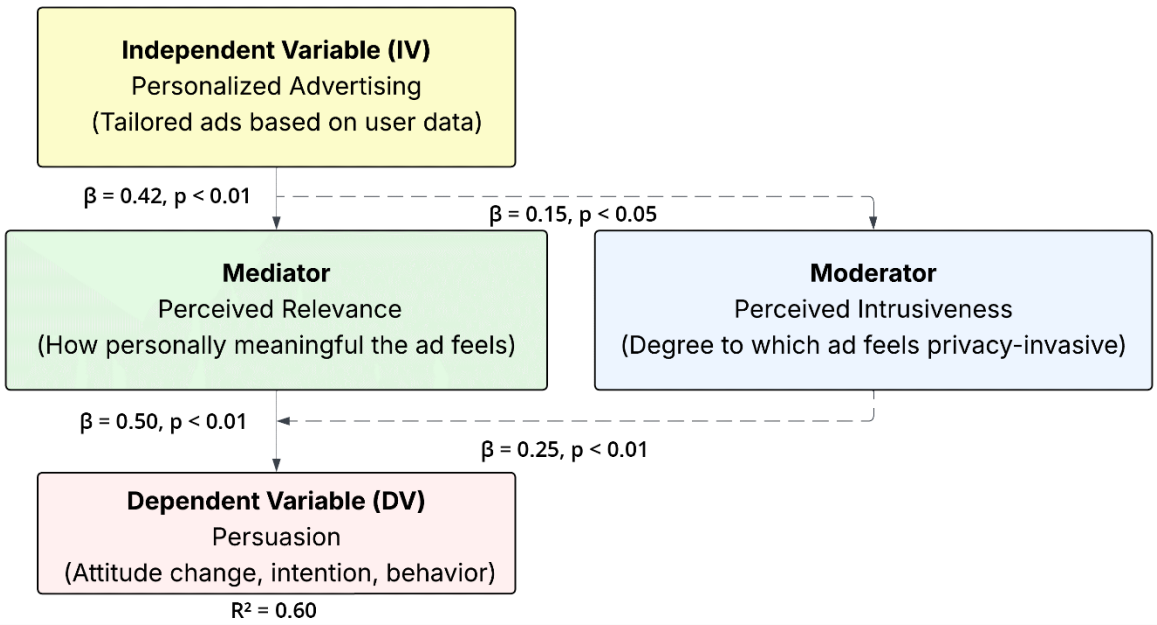
Hypothesis 1: Personalized advertising increases consumer persuasion. Ads that are relevant to an individual's interests will receive an increasingly positive response compared to generic ads.

Hypothesis 2: Personalization increases perceived relevance. All things being equal, ads that reflect a user's interests or needs, or are otherwise consistent with their online behaviour, appear to them as more meaningful and useful.

Hypothesis 3: There is a positive effect of perceived relevance on persuasion, in that when ads are seen as relevant, consumers have a more positive attitude and a stronger tendency towards the brand.

Hypothesis 4: Perceived relevance mediates the relationship between personalization and persuasion. In other words, personalization is effective mainly because it enhances the relevance of the ad content.

Hypothesis 5: Partially supported: "Intrusiveness moderates the personalization–persuasion link." Being overly intrusive does not erase the persuasive effects.



Contribution to the Body of Knowledge

This study further extends the existing literature in a way that personalized advertising may potentially influence university students. It has been proven that students will react more positively to advertisements when the content matches their interests, which empirically supports the hedonism concept of the fulfilment of human desires and pain avoidance. The findings emphasize the importance of relevance and entertainment derived from an advertisement in determining the consumer's behaviour and provide new insights for digital marketers. More precisely, it points to the way in which one might create more effective personalized campaigns in the context of social media use in Islamabad.

Conclusions

The first objective emphasizes the importance of targeted advertising in influencing consumer decisions, as it outperforms non-targeted ads in terms of increased persuasion.

The second objective notes that while individuals are comfortable with personalization to a certain extent, it can become invasive and raise concerns about their right to privacy once those limits are exceeded.

The third objective emphasizes that relevance is the key to persuasion, as ads resonate with people's minds when they address their own interests and needs.

The fourth objective suggests that if personalization becomes too invasive, it negatively impacts the perception of the brand, triggering undesirable emotions even if it does not completely impair persuasion.

The fifth objective confirms that personalized advertising remains an effective approach as long as it is carefully crafted to strike a balance between being relevant and respecting users' privacy, thereby preserving their positive attitudes and intentions.

Recommendations and Suggestions

Researchers

Future studies could expand this research by investigating personalized advertising in other Pakistani cities or states to enhance generalizability. Researchers should employ cross-sectional or longitudinal designs, or combine qualitative and experimental methods to gain deeper insights into user behavior by observing real interactions with personalized advertisements in ecologically valid environments. And, there is still gap for an investigation of algorithmic persuasion, considering how algorithms increasingly power personalized advertising and shape consumer response. These systems utilize machine learning algorithms to analyze users' historical behaviors, preferences, and contextual information to recommend the most relevant products or content to users. Compared to traditional rule-based recommendation methods, AI-driven recommendation systems can process more complex data patterns and achieve more precise personalization (Feng, 2024).

Policy Makers

Policymakers should prioritize robust data protection legislation and regulatory frameworks that govern how personal data is collected, processed, and used for personalized advertising in digital environments. In Pakistan, the *Personal Data Protection Bill 2023* seeks to establish mechanisms for consent, data subject rights, and enforcement through a National Commission for Personal Data Protection, addressing privacy risks associated with data processing and advertising practices ("PERSONAL DATA PROTECTION BILL", 2023) Research suggests that personalized advertising increases engagement but also raises serious concerns about privacy and transparency, underscoring a need for clearer disclosures about data use and algorithmic personalization practices (Joyee De & Chattopadhyay, 2025); (Elly, 2025). Policies could require companies to implement explicit user consent mechanisms, transparency about how algorithms tailor ads, and stronger enforcement of privacy protections to ensure users retain control over their data and have meaningful choices regarding personalization, thereby strengthening public trust in digital advertising systems (Amin & Hassan, 2024).

Managers

The study and its results provide compelling empirical evidence supporting the effectiveness of personalized advertising as compared to non-personalized advertisements. The findings

indicate that personalized ads not only foster more positive attitudes among consumers but also enhance their behavioral intentions. Perceived relevance was identified as the main driver of persuasion, as it allows consumers to connect more strongly with advertising messages. This, in turn, helps organizations better communicate their offerings, sell their products more effectively, and fulfill user needs in a more targeted manner.

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