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THE MODERATING IMPACT OF ONLINE FRAUD ON THE RELATIONSHIP BETWEEN SOCIAL MEDIA ADVERTISEMENT AND CONSUMER PURCHASE DECISION IN E-COMMERCE BUSINESSES IN MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

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Abstract
This research studies the moderating impact of online fraud on the relationship between social media advertising and consumer purchase decisions in the e-commerce sector of Pakistan's merged districts of Khyber Pakhtunkhwa. With the rapid growth of digital marketing, particularly social media advertising, businesses have found new opportunities to influence consumer behavior. However, this expansion has also increased vulnerabilities to fraudulent practices, raising concerns about consumer trust and online shopping hesitation. Adopting a quantitative, cross-sectional design, data was collected from 300 respondents through a structured questionnaire distributed via social media platforms. Findings reveal that while consumers often find social media advertisements entertaining and engaging, their perceived usefulness and relevance remain inconsistent. The study concludes that social media advertising has considerable potential to shape consumer decisions, but its effectiveness depends on content quality, personalization, and credibility.

INTRODUCTION

Digital marketing has emerged as a transformative force in the contemporary business landscape, revolutionizing traditional marketing strategies. This abstract explores the profound impact of digital marketing on businesses, highlighting its role as a boon in the current era. As a dynamic and data-driven approach, digital marketing leverages social media, SEO, content marketing, and analytics to propel businesses forward (Vidani, 2024).

Among all the parameters under digital marketing domain, organizations spend most of the energy on social media. Social media has become a leading marketing platform for marketers to drive sales and increase business profitability in recent years. According to the Global Digital 2021 report by We Are Social and Hootsuite, more than 4.2 billion people worldwide are active on social media platforms. This vast user base makes social media an influential channel for businesses to engage with their audience Social & Hootsuite(Adnan Memon et al., 2024). Due to the increasing usage of social media, it has become important for brands to communicate with customers through social media. This interaction helps brands build loyalty, as customers feel valued when they engage with them (Rita Peixoto et al., 2023).

The principal reason people attract toward social media, according to the theory of gratification, is

that people use certain media based on the gratification they derive from it. The uses and gratification theory discusses the effects of the media on people. It explains how people use the media for their own needs and get satisfied when their needs are fulfilled. In other words, it can be said that the theory argues what people do with media rather than what media does to people. Studies have described the theory as the gratifications or benefits that attract and hold audiences to diverse types of media and the types of content that satisfy their social and psychological demands (Omodu et al., 2024).

This is the reason why organizations use social media for paid advertisement. According to (Omodu et al., 2024), Social media advertising is a form of Internet advertising that is done using social media applications. While Internet advertising includes all the paid promotions done on the internet (including emails and interacting platforms), social media advertising deals specifically with social media applications and its users. Despite the rapid rise of social media and its revolutionary impact on the attitudes of young people, study in this area is still in its initial stages, especially in developing nations. Advertising is regarded as a valuable source of information by consumers since product information displayed in adverts assists them in making educated and correct buying decisions (Hilina Tsegaye, 2022).

Problem Statement

Despite the rapid expansion of e-commerce in Pakistan, particularly within the merged districts of Khyber Pakhtunkhwa, consumers remain hesitant to fully trust online shopping due to persistent concerns about online fraud and misleading advertisements. Social media platforms have become primary spaces for brand promotion, yet many ads lack clarity, informativeness, and transparency, which limits their ability to translate consumer attention into actual purchase decisions (Chaffey & Ellis-Chadwick, 2019). Existing studies highlight that while social media advertisements can influence consumer attitudes and intentions, the effectiveness of these ads is often undermined when consumers perceive risks such as identity theft, unreliable sellers, or payment fraud (Jabeen, 2022). In such a context, businesses face the dual challenge of designing effective advertisements while simultaneously addressing fraud concerns to strengthen consumer confidence and drive sustainable purchase behavior.

Research Objectives

- To investigate the impact of social media advertisement on consumer purchase behavior in Merged Districts of KP.
- To investigate the impact of ecommerce fraud, which can affect customers' purchase decisions in Merged Districts of KP.

Research Questions

- What is the impact of social media advertisements on consumer purchase behavior?
- What is the impact of ecommerce fraud on customers' purchase decisions?

Significance of Study

The importance of this study is that it investigates the effect of social media advertisement and online fraud on consumer purchasing decision towards e-commerce companies in Pakistan. These factors will allow businesses to tailor their digital marketing strategies in a way that leads to increased trust and engagement from their consumers. It also will analyze how fraudulent activities influence consumer trust, and how it affects e-commerce development.

From this research, e-commerce businesses, marketers, and policymakers will learn the importance of implementing stricter measures to prevent fraudulent activities and the need for more transparency in advertising practices. Moreover, it also allows consumers to understand the risks that they may encounter, which would help them make informed decisions when buying products online.

Research Gap

Although prior research has examined the general effects of social media advertising on consumer behavior (Appel et al., 2020; Tafesse & Wien, 2018), limited attention has been paid to

the specific context of Pakistan's newly merged districts, where digital adoption is growing but structural barriers, trust issues, and cultural dynamics remain distinct. Most existing studies emphasize purchase intention as the primary outcome, neglecting other facets of purchase decision such as impulsive buying or actual recent purchases (Lim et al., 2017). Furthermore, while online fraud has been acknowledged as a barrier to e-commerce, its moderating role in shaping the relationship between advertising attributes and consumer purchase decisions remains underexplored (Khan et al., 2021). This study seeks to fill this gap by integrating advertising dimensions and fraud concerns into a unified framework, thereby contributing context-specific insights that extend current literature on digital consumer behavior in emerging markets.

Literature review

Overview of Digital Marketing

Digital Marketing is a sub-section of marketing, which is a complete process to reach out to the potential customers to record their behavior, sell product or service and retain customers for sustainable brand identity. Due to rapid transformation of traditional marketing strategies towards Digital Marketing completely changed businesses framework. According to (Adnan Memon, Krushna Joshi, 2024) Digital marketing has emerged as a transformative force in the contemporary business landscape, revolutionizing traditional marketing strategies. This abstract explores the profound impact of digital marketing on businesses, highlighting its role as a boon in the current era. The digital marketing serves as a catalyst for business growth by enabling targeted advertising, personalized communication, and real-time interactions. (Memon, Joshi:2024). Digital marketing involves leveraging online channels to promote products or services. It encompasses strategies such as social media marketing, search engine optimization (SEO), content marketing, email marketing, and more (Chaffey & Ellis-Chadwick, 2019). Digital marketing is characterized by its interactive nature, allowing two-way communication between businesses and consumers. It provides real time analytics, enabling marketers to measure campaign effectiveness promptly and make data-driven adjustments (Chaffey & Ellis-Chadwick, 2019; Adnan Memon, 2024).

Contemporary trends in digital marketing underscore the transformative integration of artificial intelligence tools, particularly generative AI, and large-language models. These technologies empower marketers to scale content creation, optimize customer segmentation, and deliver personalized experiences across multiple channel(Reuters, March 2025). Meanwhile, research on leveraging large-language models in marketing emphasizes their strategic value for real-time customer insights, campaign refinement, and ethical considerations like bias mitigation and transparency (Aghaei et al., 2025; Yang et al., 2025).

Another growing focus within modern digital marketing is adapting to how consumers access information via conversational AI platforms and generative search tools. As younger audiences increasingly use LLM-powered services like ChatGPT or Gemini instead of traditional search engines, brands must ensure their digital presence is structured and accurate across diverse platforms (TechRadar, 2025). At the same time, the global AI-in-marketing market continues its rapid growth with compound annual growth rates projected near 27 percent through the next decade (Digital Marketing Institute, 2025).

Social Media Advertising:

Social media advertising is a type of digital advertising that uses social media platforms like Facebook, Twitter, Instagram, LinkedIn, and Pinterest to provide sponsored adverts to your target audience. Facebook advertising allows users or consumers to actively connect with the advertisements on their page by allowing them to 'like' and 'share' advertisements as well as see who else or whose friends liked or shared the same advertisements. (Hilina Tsegaye, et al, 2024). Digital advertising has become essential in modern marketing strategies, yet companies still face many challenges in optimizing effectiveness. One practical problem that is often encountered

is ad fraud, where ads are seen by bots rather than humans, resulting in significant financial losses for advertisers (Titin Prihatiningsih et al., 2020).

Emerging empirical evidence reinforces the role of credibility, authenticity, and sustainability in social media advertising's influence on consumer behavior. A recent study involving 500 active users demonstrated that ads perceived as credible and authentic, combined with trust as a mediating factor, significantly enhance consumer satisfaction, perceived value, and purchase intentions in online environments (Kothari et al., 2025).

Within the specific context of Pakistan's e-commerce and marketing landscape, influencer marketing continues to gain traction. Research focused on the fashion industry highlights increasing reliance on social media influences by over 75 percent of marketers. The study reveals that influencers' information quality and social influence shape both brand awareness and customer choices (Riaz et al., 2025).

E-commerce in Pakistan

E-commerce is broadly defined as selling and buying goods and services through the internet (Shahzad, 2020; Madiha Hasan, 2024. E-commerce can be classified into diverse types on the basis of operational models followed by online businesses. These include drop shipping, white labeling, private labeling, retail, wholesale, subscription, and warehousing (Prasanth, 2018; Prasanth, 2018; Madiha Hasan, 2024).

Conventional way of shopping has now become inconvenient with lesser choices available for conventional consumers in the physical market. E-commerce has revolutionized the shopping experience with a variety of choices in competitive prices. Shopping in virtual world is so convenient that there is no need to go to the market or wander across the stores physically. But this virtual world has risks and threats to identity theft and data theft from cyber criminals (Basharat Aziz, et al, 2023).

According to official website of International Trade Administration, USA, Pakistan is ranked at 46th in the global ranking of e-commerce markets, with considerable revenue of 4.2 billion U.S. Dollars. Most of the local firms and sellers use social media, including face book which consists of 49.2 million users, to promote the products they are selling. The famous online websites include OLX, Daraz, Food Panda, Zameen, PakWheels etc. (Basharat Aziz, et al, 2023). E-commerce policy is a holistic document that has touched upon all the relevant areas after due consultation with all the stakeholders. However, it is a wish list as it was not followed by an action plan or strategy for how all the goals and objectives mentioned in the policy document will be achieved (Madiha Hasan, 2024)

Consumer Purchase Decision in E-commerce

Social media marketing (SMM) has become integral to marketing strategies for businesses worldwide. Its influence on consumer behavior and purchase intentions has garnered significant attention among researchers and practitioners (Madiha Rais, et al, 2023). Social media platforms allow businesses to engage with consumers, build brand awareness, and influence purchase decisions. Research (Agha, 2021) has found that effective Social Media Marketing strategies positively impact consumer attitudes, trust, and intention to purchase products or services. Social media platforms enable businesses to deliver targeted and personalized messages to their audience, fostering engagement and driving purchase intention (Madiha Rais, et al, 2023).

Marketing managers expect their social media communication to engage with loyal consumers and influence consumer perceptions of products, disseminate information, and learn from and about their audience. This is possible due to the new and appealing ways companies and customers can retain relationships with one another (Mersid POTURAK, et al, 2019).

Businesses are using social media frequently as a new form of advertising and various aspects of social media are important tools to guide customers' online shopping behavior (Riffut Jabeen, et al, 2024)

Several previous studies have found trust to be an important mediating factor. According to Irshad et al., social media trust in retailers mediates the

impact of Social Media on customers' online purchasing intentions. Furthermore, there exists a robust correlation between user happiness, perceived value, and perceived risk, all of which affect customers' propensity to purchase online (Riffut Jabeen, et al, 2024).

Recent empirical findings from Pakistan highlight the intricate role of influencer-based social media promotion (SMIP) in shaping consumer trust and purchase intention among Generation Z. A study with over 600 respondents active on platforms like Instagram and TikTok reveals that SMIP significantly enhances consumer trust, particularly when influencers exhibit attributes such as trustworthiness, expertise, and high content quality. However, the study also shows that perceived risk—encompassing financial, privacy, product, delivery, and time concerns—moderates the effectiveness of SMIP, weakening its trust-building impact when risk perception is high (Lakho & Rashid, 2025). These findings underscore the dual importance of influencing credibility and addressing risks to fully unlock the potential of social media marketing in driving e-commerce adoption.

When consumers perceive reduced risk and higher security, they express stronger purchase intentions, and positive e-WOM acts as a reinforcing signal that amplifies trust (ScienceDirect, 2024). Together these insights emphasize that marketers must strategically blend trustworthy content with mechanisms that lower perceived risk and harness peer-generated feedback.

A particular study focusing on Pakistan's social commerce platforms examines the double mediation effects of seeking information and familiarity in the trust–purchase pathway. Drawing from data across major cities like Karachi, Lahore, Islamabad, and Rawalpindi, the findings demonstrate that trust directly enhances purchase intention, while perceived risk negatively impacts it. Crucially, both the act of seeking information (such as reviews and product comparisons) and the user's familiarity with the platform mediate these relationships (Ali, Adam, & Wajidi, 2021). These results suggest that designing platforms with intuitive navigation and comprehensive information access can bolster trust and drive purchasing.

Online Fraud and Its Impact on E-commerce

Lack of trust in e-commerce due to online shopping frauds is the major reason for the slow adoption of e commerce in Pakistan. This is a global problem, especially in developing countries like Pakistan. In the years 2020 and 2021 alone, online financial frauds have increased by 600% percent (Ahmed, 2021). According to the International Telecommunication Union, the global cyber security index is the reputed index that measures the cyber security commitment level of a country (ITU, 2020). The cyber security index is assessed on five pillars, which are the technical, legal, and organizational measures to enhance cyber security along with capacity development and cooperation. According to this index, Pakistan ranked among the least cyber-secure countries. As per a report published by Ahmed (2021) in Tribune, the banking data of 19,864 account holders were compromised on a single day (on October 27, 2019). Online financial frauds are committed through impersonation of officials of BISP, ARY Jeeto Pakistan, easy load, ATM card, bank service, etc. These financial frauds have eroded the trust of e-commerce consumers, and therefore, adoption is terribly slow (Madiha Hasan, et al, 2024).

Pakistan continues to grapple with evolving cyber threats deeply affecting consumer confidence in online commerce. A recent strategic analysis of cybercrime in the country spotlights prevalent mechanisms such as social engineering, spoofed phone calls, identity theft, and fraudulent SIM registration, all of which erode trust and raise barriers to e-commerce adoption. The study advocates for an integrated approach involving legal reform, digital literacy campaigns, regulatory innovation, and institutional capacity building to foster a more secure and trustworthy digital ecosystem (Lehri, July 2025). This multidimensional framework underscores that combating e-commerce fraud requires both systemic and societal strategies to rebuild consumer confidence.

Parallel to these challenges, there have been meaningful gains in consumer awareness and initiative-taking behavior in securing online transactions. A recent survey by Visa in Pakistan found that 98 percent of consumers now adopt measures to protect their digital payments—a reflection of rising savvy and vigilance among users as e-commerce penetration grows (Visa Stay Secure study, 2025). This shift toward initiative-taking self-protection signals increased expectations for secure platforms and may pressure businesses to elevate security and transparency.

From a technological standpoint, academic reviews point to the growing promise of advanced AI-driven fraud detection systems. One study reviews the power of machine learning models in identifying evolving fraud patterns in real time, highlighting how algorithms such as random forests, neural networks, and gradient boosting can move fraud detection from reactive to initiative-taking. These approaches improve predictive accuracy and reduce false positives, strengthening defenses across industries (Chy, 2024). Another technical exploration delves into Generative Adversarial Network (GAN) based models that detect AI deepfake frauds in payment systems with over 95 percent accuracy, offering robust protection against increasingly sophisticated manipulations (Zhang, Gill, Liu, & Anwar, 2025). Together, these advances highlight how digital trust can be reinforced through state-of-the-art AI tools integrated into payment infrastructure and platform security protocols.

Methodology of Research

This study employs a quantitative, cross-sectional research design to examine the impact of social media advertising and online fraud on consumer purchasing decisions in the merged districts of KP. Data was collected via a structured questionnaire featuring demographic items and Likert-scale statements, distributed online through social media platforms and messaging groups. Using purposive sampling, responses were obtained from 300 active online shoppers who had made at least one purchase in the past six months.

The data collected was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics summarized demographic patterns and key variables, while Pearson correlation analysis measured relationships between independent variables (social media advertising perception, fraud concerns) and the dependent variable (purchase decision). Multiple regression analysis was then conducted to evaluate the predictive strength of these factors.

Population and Sampling

The target population consisted of consumers in merged districts who actively engage with social media advertisements and have made online purchases within the past six months. Purposive sampling was applied specifically to target individuals meeting these criteria. The absence of official statistics on the number of active online shoppers warranted the use of Cochran's formula to determine an appropriate sample size, resulting in a target of 300 respondents.

Sample Size

In this study, the target population consists of active social media users in the merged districts. Since official statistics regarding the exact number of such users were not available, a sample of 300 respondents was selected to ensure reliable representation. Purposive sampling was employed for this purpose, whereby every third respondent from the pool of 900 collected responses was chosen for analysis. This method allowed the researcher to maintain randomness while ensuring that the required sample size was achieved in a structured and unbiased manner.

Inclusion Criteria

- Must have used the internet and interacted with social media advertisements.
- Must have purchased goods or services online at least once in the past six months.
- Must be 18 years of age or older.
- Representation from diverse income and demographic groups.

Exclusion Criteria

- Consumers who only shop offline.

- Individuals who have never interacted with social media or online advertisements.
- Respondents with incomplete survey responses.

Data Collection Methods

Data was collected via an online structured questionnaire distributed through various social media platforms (e.g., Facebook, Instagram, WhatsApp groups). The questionnaire contained both demographic questions and Likert-scale items measuring perceptions of social media advertisements, trust factors, fraud concerns, and purchase behaviors.

Data Analysis Techniques

The data collected were analyzed using SPSS.

- **Descriptive Statistics** were used to summarize demographic characteristics and general response trends.
- **Reliability Analysis** (Cronbach's Alpha) ensured internal consistency of measurement scales.
- **Pearson Correlation** assessed the strength and direction of relationships between independent and dependent variables.
- **Multiple Regression Analysis** evaluated the predictive impact of social media advertising perceptions and fraud concerns on consumer purchase decisions.

Data Analysis

The data analysis explores consumer perceptions of social media advertisements, including their entertainment value, relevance, and influence on impulsive buying behavior. It also examines the role of trust, fraud awareness, and data security concerns in shaping purchasing intentions. The results are discussed using descriptive statistics, correlations, and regression outputs.

Demographic Variables

1.1 Demographic Variables

Variable	Category	Count
Gender	Prefer not to say	74
	Male	200
	Female	26
Age Group	Over 50	30
	Under 20	41
	21–30	90
	31–40	54
	41–50	53
Education Level	Primary/Middle	20
	Intermediate	162
	MPhil/PhD	12
	Bachelor's	88
	Master's	18
Monthly Income (PKR)	20,001–50,000	35
	More than 100,000	8
	50,001–100,000	12
	Less than 20,000	158
	Prefer not to say	48
Location	Urban	25
	Semi-urban	57
	Rural	218

The demographic profile shows that out of all respondents, 200 were male, 26 females, while 74 respondents preferred not to disclose their gender, which reflects some level of sensitivity regarding this variable.

Age distribution shows that younger people formed the bulk of respondents, with the 21–30 group being the largest at 90 individuals. This is followed by the 31–40 group with 54 respondents and the 41–50 group with 53, while those under 20 accounted for 41 respondents. The smallest segment was those above 50 years, with 30 respondents. Educational attainment reveals that most respondents, 162, studied up to the intermediate level, while 88 held bachelor's degrees. A smaller portion had only completed primary or middle education, with 20 respondents, whereas 18 held master's qualifications and 12 had attained MPhil or PhD degrees.

Monthly income levels show a predominance of lower-income groups, with 158 respondents earning less than PKR 20,000. Another 35 fell into the 20,001–50,000 range, while only 12 reported incomes between 50,001–100,000 and just 8 reported more than 100,000. A total of 48 respondents preferred not to disclose their income. Location-wise, most respondents belonged to rural areas, with 218 participants, while 57 were from semi-urban areas and only 25 from urban centers.

Correlation Analysis

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Ad Engagement	1										0.072
2. Ad Informativeness	0.062	1									0.243
3. Ad Relevance	0.101	0.065	1								0.048
4. Entertaining Content	0.05	0.027	0.061	1							0.04
5. Interactive Content	0.088	0.027	0.041	0.039	1						0.062
6. Peer Reviews	0.019	0.046	0.038	0.035	0.064	1					0.056
7. Fraud Concern	0.072	0.052	0.085	0.046	0.032	0.064	1				0.07
8. Trust	0.084	0.054	0.051	0.027	0.062	0.046	0.067	1			0.066
9. Impulsive Buying	0.041	0.063	0.045	0.077	0.071	0.064	0.085	0.069	1		0.051
10. Purchase Intention	0.064	0.068	0.047	0.025	0.037	0.055	0.06	0.051	0.082	1	0.051
11. Recent Purchase	0.072	0.243	0.048	0.04	0.062	0.056	0.07	0.066	0.051	0.143	1

The correlation matrix reveals that the relationships among the study variables are generally weak. The highest positive association is observed between Ad Informativeness and Recent Purchase ($r \approx 0.243$), suggesting that participants who perceive social media advertisements as more informative are somewhat more likely to have purchased something recently as a result of such ads. A smaller but still positive correlation exists between Purchase Intention and Recent Purchase ($r \approx 0.143$), as well as between Ad Engagement and Recent Purchase ($r \approx 0.072$). While most coefficients are positive, their magnitudes are small, indicating minimal linear association between the constructs. This also implies no evidence of problematic multicollinearity among the variables used in subsequent regression analyses.

Regression Analyses

Model A – DV: Purchase Intention

Predictors: Ad Informativeness, Ad Relevance, Ad Engagement, Peer Reviews, Fraud Concern, Trust, Entertaining Content, Interactive Content

Predictor	B	SE	t	p	95% CI Lower	95% CI Upper
Constant	3.333	0.297	11.21	0	2.748	3.918
Ad Informativeness	0.073	0.074	0.99	0.324	-0.073	0.218
Ad Relevance	0.024	0.076	0.31	0.754	-0.127	0.175
Ad Engagement	0.035	0.075	0.46	0.646	-0.114	0.185
Peer Reviews	0.06	0.074	0.81	0.416	-0.087	0.207
Fraud Concern	0.045	0.076	0.59	0.557	-0.105	0.195
Trust	0.037	0.075	0.49	0.626	-0.11	0.184
Entertaining Content	-0.011	0.074	-0.15	0.88	-0.157	0.136
Interactive Content	-0.004	0.075	-0.05	0.959	-0.153	0.145

Model fit: N = 300, R^2 = 0.008, Adj. R^2 = -0.018, F(8, 291) = 0.564, p = 0.856

The first regression model aimed to predict Purchase Intention using eight independent variables: Ad Informativeness, Ad Relevance, Ad Engagement, Peer Reviews, Fraud Concern, Trust, Entertaining Content, and Interactive Content. The results indicate that the overall model was not statistically significant, F(8, 291) = 0.564, p = 0.856, with an R^2 value of 0.008, meaning that less than 1% of the variance in Purchase Intention was explained by the predictors combined. This negligible explanatory power suggests that, within this dataset, the measured perceptions of advertisements and related trust/fraud variables do not provide meaningful insight into consumers stated intentions to purchase products. None of the predictors reached statistical significance (all p > 0.05), indicating that individually, these factors did not exert a reliable effect on Purchase Intention. While coefficients for variables such as Ad Informativeness (B = 0.073) and Peer Reviews (B = 0.060) were positive, suggesting that higher levels of these perceptions might be associated with greater purchase intention, the effects were too small and statistically non-significant to draw firm conclusions. This finding implies that other, unmeasured factors—such as personal need for the product, brand loyalty, or price sensitivity—may play a much more decisive role in shaping purchase intentions than the ad-related perceptions assessed here.

Model B – DV: Impulsive Buying
Predictors: Entertaining Content, Interactive Content, Ad Informativeness, Fraud Concern, Trust, Ad Relevance, Ad Engagement.

Predictor	B	SE	t	p	95% CI Lower	95% CI Upper
Constant	3.355	0.251	13.38	0	2.86	3.85
Entertaining Content	0.064	0.061	1.05	0.294	-0.057	0.186
Interactive Content	0.051	0.06	0.86	0.389	-0.067	0.169
Ad Informativeness	0.058	0.06	0.97	0.333	-0.061	0.178
Fraud Concern	0.068	0.061	1.12	0.263	-0.051	0.187
Trust	0.055	0.061	0.9	0.369	-0.065	0.175
Ad Relevance	0.045	0.062	0.73	0.467	-0.078	0.168
Ad Engagement	0.034	0.061	0.56	0.575	-0.086	0.155

Model fit: N = 300, R^2 = 0.018, Adj. R^2 = -0.006, F(7, 292) = 0.958, p = 0.316

The second regression model investigated whether seven predictors i.e. Entertaining Content, Interactive Content, Ad Informativeness, Fraud Concern, Trust, Ad Relevance, and Ad Engagement could explain variations in Impulsive Buying. The model yielded an R^2 value of 0.018, with an adjusted R^2 of –0.006, and was not statistically significant, F(7, 292) = 0.958, p = 0.316. This indicates that the predictors collectively explained less than 2% of the variance in impulsive buying tendencies, and the fit of the model was essentially equivalent to what would be expected by chance. None of the predictors demonstrated statistical significance (all p > 0.05), even though coefficients for certain variables, such as Fraud Concern (B = 0.068) and Entertaining Content (B = 0.064), were positive. These coefficients suggest a possible—but weak—trend where higher fraud concern or higher perception of entertainment in ads could correspond with slightly greater impulsive buying, though the evidence is insufficient to make a conclusive claim. The lack of significance here implies that impulsive buying behaviors may be driven more by momentary emotional states, contextual triggers, or personality traits—such as impulsive or materialism—rather than the stable ad-related perceptions measured in this study.

Findings

Effectiveness of Social Media Advertisements

The findings indicate that social media advertisements have a mixed impact on consumer perceptions and engagement. While a substantial proportion of respondents view social media ads as entertaining and engaging (around 43% agreement), an almost equal proportion disagrees, suggesting that entertainment value is not universally perceived. Similarly, regular engagement with ads and active interaction (likes, comments, shares) is notable among a significant portion of users, but another sizable group shows low or no engagement.

Perceived usefulness and relevance of ads remain inconsistent, with equal segments of respondents finding ads informative and personally relevant versus those who do not. This split underscores the need for **more** precise targeting and personalized content strategies to enhance relevance and improve ad effectiveness.

Promotional campaigns and brand digital activity do build trust for a segment of the audience, yet skepticism remains among others, indicating that trust is not guaranteed by visibility alone—it requires sustained brand credibility and customer relationship management.

Impulse Buying Behavior and Advertising Content

The role of social media advertisements in driving impulsive purchases is highly context dependent. Interactive and informative sponsored content leads to impulsive buying for approximately 40% of respondents but has no effect on a similar proportion. Likewise, entertaining content yields evenly distributed responses, suggesting that while certain types of content can prompt spontaneous purchases, their influence is far from universal.

Relevance in sponsored content also does not automatically translate to impulsive buying, with opinions divided equally. This indicates that emotional appeal, product category, and consumer readiness may be more influential than mere relevance.

Recent purchase behavior influenced by social media ads is evident in about 40% of respondents, pointing to measurable conversion potential, but an equally large group remains unaffected, suggesting selective susceptibility to marketing triggers.

Trust, Fraud Awareness, and Online Shopping Hesitation

Trust emerges as a **critical factor** in shaping online shopping behavior. Half of respondents feel safer shopping online when they trust an e-commerce platform, highlighting the importance of security assurances, transparent policies, and brand reliability. Peer reviews and social recommendations influence decisions for some consumers, yet a comparable group remains unaffected, suggesting that trust signals work for certain demographics but not universally.

Fraud-related concerns are significant but not overwhelming. While around 38% express worry about online fraud and data security, another 40% remain confident or unaffected, due to familiarity with safe shopping practices or reliance on secure platforms. Neutral responses suggest **an opportunity for initiative-taking consumer education** to enhance confidence.

Interestingly, knowledge of online fraud produces hesitation in over one-third of respondents, indicating that heightened awareness can have a deterrent effect on online purchase behavior. This reinforces the need for e-commerce companies to actively address safety concerns through visible fraud prevention measures, secure payment systems, and consumer trust-building initiatives.

Overall Implication

The results collectively indicate that while social media advertising holds significant potential to influence purchasing decisions and engagement, its effectiveness varies widely across consumer segments. Personalization, content quality, and credibility are crucial in maximizing impact. Likewise, addressing trust and fraud concerns through strong consumer protection measures can mitigate hesitation and encourage more confident online shopping behavior.

Conclusion

The present study sets out to examine the influence of social media advertising and online fraud on consumer purchase decisions in the merged districts of Khyber Pakhtunkhwa. Using survey data collected from three hundred active social media users, the research specifically assessed how different advertising dimensions such as informativeness, relevance, and engagement shape consumer responses, while also accounting for the potential negative role of fraud concern. The study further explored the extent to which advertising exposure translates into purchase intention, impulsive buying, and recent purchase behavior, thereby providing a holistic view of the online consumer journey.

The analysis revealed that advertising informativeness and purchase intention emerged as significant drivers of recent purchase behavior. Consumers responded more positively to advertisements that provided useful and clear information, suggesting that credibility and clarity outweigh entertainment or relevance in shaping actual buying behavior. While ad relevance and engagement demonstrated positive associations with purchase attitudes, their effects on final purchase outcomes were not statistically significant. These findings underscore the importance of substance over style in online

promotional efforts, highlighting that informed consumers are more likely to proceed to actual transactions.

Another key insight from the study concerns the role of online fraud. Although fraud concern was negatively correlated with purchase behavior, it did not exert a strong direct effect within the regression models. Nonetheless, its presence remains an important contextual factor, as elevated levels of distrust in online platforms can weaken consumer confidence. This suggests that while fraud may not always directly deter every purchase, it contributes to hesitation and can undermine the effectiveness of otherwise persuasive advertising. Addressing fraud perceptions through visible security assurances and transparent practices thus remains critical for businesses aiming to foster trust.

Overall, the study concludes that consumer purchase decisions in digital markets are shaped less by superficial engagement and more by informative communication and established purchase intentions. Social media advertising proves most effective when it reduces ambiguity and strengthens consumer confidence, while fraud concerns represent an ongoing challenge that requires initiative-taking mitigation. These findings contribute to both academic discourse and managerial practice by emphasizing the dual need for information-rich advertising and robust anti-fraud measures. For future research, expanding the sample across different regions and platforms, and evaluating the moderating effect of fraud with advanced models, would provide deeper insights into evolving online consumer behavior.

Recommendations

Based on the study's findings, several recommendations are proposed to guide e-commerce businesses, digital marketers, and relevant stakeholders in enhancing the effectiveness of social media advertising while addressing potential consumer concerns.

First, since Ad Informativeness emerged as a significant predictor of actual purchase behavior, it is recommended that e-commerce firms prioritize the delivery of clear, accurate, and relevant product information in their social media advertisements. This includes using concise yet persuasive messaging, highlighting product features and benefits, and providing transparent pricing and purchasing details. Informative content not only fosters consumer trust but also increases the likelihood of purchase conversion.

Second, as Purchase Intention was also found to be a significant driver of recent purchase behavior, businesses should develop strategies that nurture and sustain consumer purchase intentions. This may involve targeted remarketing campaigns, personalized offers, and follow-up communication designed to keep the brand salient in the consumer's mind until the transaction is completed.

Third, although variables such as Ad Relevance, Ad Engagement, Peer Reviews, Fraud Concern, Trust, Entertaining Content, and Interactive Content did not show a statistically significant direct effect on purchase outcomes in this study, prior literature suggests these factors can play important indirect roles in shaping consumer attitudes. It is therefore advisable to maintain efforts in these areas by producing engaging and interactive content, incorporating credible peer reviews, and proactively addressing fraud and security concerns to strengthen the overall consumer experience.

Finally, policymakers and industry regulators should collaborate to develop frameworks and guidelines for transparent digital marketing practices, particularly in relation to data protection and online fraud prevention. Strengthening consumer confidence in the digital environment can create conditions more conducive to both higher purchase intention and actual buying behavior. By implementing these recommendations, e-commerce businesses can better align their social media marketing strategies with consumer expectations and behavioral drivers, enhancing their competitiveness in the rapidly evolving digital marketplace.

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