

Original Article

The Impact of Digital Media on Consumer Behavior: A Social Media Perspective

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Abstract: Digital media plays a significant role in changing the individual behavior in the today's life companies and brands use social media marketing to figure out the purchasing decisions of people through social media marketing strategies and personalized data collecting tools. The purpose of this study is to examine the impact of social media and its personalized data used by companies and brands to effect the purchasing decisions of customers and challenges that are associated with the personal data of customers. Quantitative research method was used while survey was conducted based on the convenience sampling method data was collected from 100 respondents that resides in Karachi and were users of social media findings suggests that people believe that social media changes their purchasing decisions and shapes their behavior in selecting products of brands but majority people also believes that security issues of their personal data used by marketing companies also effect their confidence in online shopping.

Keywords: Social media, marketing, customer behavior, purchasing decisions, security challenges,

Introduction:

The extensive use of social media has fundamentally altered consumer behavior making social media a potent influencer in deciding brand interactions and purchase decisions. Social media platforms such as Facebook Instagram Twitter and TikTok have evolved beyond simple communication tools to become essential marketing tools for businesses hoping to engage with their clientele (Smith and Anderson 2020). Kaplan and Haenlein (2010) assert that social media has enabled consumers to interact with brands share personal narratives and peruse peer reviews—all of which influence their ultimate purchasing choices. Artificial intelligence (AI) and big data analytics-powered personalized marketing strategies have completely changed how businesses engage with their clientele by offering tailored advertisements and

recommendations based on user preferences and online activity (Grewal et al. 2020). Kumar (2021). asserted that there is a positive correlation between brand loyalty and social media activity including likes shares and comments (Dessart et al. (2015)). It is argued that consumers frequently view endorsements from social media influencers as more genuine and reliable than traditional advertisements making influencer marketing a potent tool in digital advertising (Lou and Yuan). Despite the many benefits of social media marketing algorithmic biases raise ethical questions about data security and privacy. Transparency and trust have become issues due to the misuse of customer data and the manipulation of targeted advertising (Acquisti et al. in the year 2019. Zubafoff (2019). High-profile events like the Cambridge Analytica scandal have brought attention to the weaknesses in data misuse and how they affect consumer confidence (Cadwalladr and Graham-Harrison 2018). Examining how digital media influences consumer behavior in the face of these uncertainties from a social media standpoint is the aim of this research. The study specifically seeks to: (1) evaluate how social media platforms affect brand loyalty and purchase decisions (2) look into how personalized marketing and cutting-edge technologies affect consumer behavior and (3) pinpoint the moral dilemmas and privacy issues related to social media marketing. Businesses aiming to maximize digital marketing tactics while preserving customer trust will find valuable insights from an understanding of these dynamics. Malhotra & Co. (2004).

Problem Statement

Consumers are turning more towards social media for decision-making, presenting businesses with threats and opportunities alike. While real-time communication and tailor-made marketing campaigns are made easy through social media, data security privacy and ethical implications are firing up with a growing concern. How much does social media impact consumer brand loyalty and purchase decisions still needs to be determined. Also, the use of advanced technologies like AI and big data present ethical issues for digital marketers and decrease customer trust. While social media marketing has become ubiquitous, businesses generally struggle to balance ethical guidelines for protecting consumer privacy with techniques for effective engagement. This study will fill these gaps by exploring how social media influences consumer behavior how personalized marketing works and how moral concerns influence trust. Companies can create more ethical and successful digital marketing strategies that meet regulatory requirements and customer demands by taking these factors into consideration.

Research Objectives

This research providing insight on how social media interactions including influencer endorsements user-generated content and brand engagement affect long-term brand loyalty and purchase intentions thus how consumer behavior materializes. It also explores how advanced technologies such as data analytics and artificial intelligence (AI) embedded in social media platforms impact customer trust, engagement, and follow-up decision-making behaviors, while enacting tailored marketing messages. Another aim of the research is to understand the potential challenges posed by social media marketing, e.g. Data privacy concerns, and how they can impact consumer attitudes towards brands and consumers' trust on such platforms. In light of these characteristics, the research delivers a detailed framework of the complex interactions between social media and consumer behavior.

1. To examine the influence of social media platforms on consumer purchasing decisions and brand loyalty.
2. To analyze the role of personalized marketing and advanced technologies (e.g., AI, big data) in shaping consumer behavior on social media.
3. To identify the challenges and ethical concerns associated with social media marketing, including privacy issues and data security, and their impact on consumer trust.

Research Questions

1. How do social media platforms influence consumer purchasing decisions?
2. How do consumer interactions with brands on social media impact their long-term loyalty and repeat purchase behavior?
3. How does personalized marketing on social media, driven by AI and big data analytics, affect consumer engagement and decision-making?
4. How do consumers perceive the use of advanced technologies in social media marketing, and does it enhance their trust in brands?
5. What are the primary ethical concerns and challenges associated with social media marketing, particularly regarding data privacy and security?
6. What measures can brands take to address ethical concerns and build consumer trust in the context of social media marketing?

Research Hypotheses

H₀1: The distribution of consumer responses regarding the influence of social media platforms on purchasing decisions will significantly differ from a uniform distribution.

H₀2: The distribution of consumer responses regarding the relationship between social media interactions with brands and brand loyalty will significantly differ from a uniform distribution.

H₀3: The distribution of consumer responses regarding the impact of personalized marketing strategies (enabled by AI and big data) on engagement and purchase intentions will significantly differ from a uniform distribution.

H₀4: The distribution of consumer responses regarding the perception of advanced technologies as a trust-enhancing factor will significantly differ from a uniform distribution.

H₀5: The distribution of consumer responses regarding the impact of ethical concerns (e.g., data privacy and security) on trust in brands will significantly differ from a uniform distribution.

Literature Review

Consumer behavior has undergone a significant transformation since the introduction of digital media, especially social media platforms. Examining the various ways that social media affects consumer behavior, this review of the literature focuses on important topics like influencers, brand perception, consumer engagement and purchasing decisions.

Through interactive content and community development, social media platforms have completely changed the way that customers engage with brands. Consumer engagement was divided into three categories by Muntinga Moorman and Smit (2011). Social media's ability to influence decisions about what to buy is well established. According to studies, when making decisions about what to buy, customers frequently rely on peer reviews and electronic word-of-mouth on websites like Facebook and Instagram. This dependence emphasizes how crucial social proof is in the digital era. SHARMA, T., & SHIVASTAVA, K. B. (2023). Social media has two sides when it comes to affecting how people perceive a brand. Brands are subject to public scrutiny even though it gives them the chance to establish authenticity and trust via open communication. The emergence of Mc Vulnerability in which influencers use staged emotions to engage audiences can cause consumers to become skeptical, which will reduce their faith in influencers and related brands. Eyal, M. (2025, January 28). Influencers are now crucial in determining the attitudes and actions of consumers. Particularly among younger demographics their recommendations have a substantial influence on how

consumers perceive brands and make decisions about what to buy. Influencer endorsements must be genuine though because consumers are becoming more discriminating when it comes to paid versus real promotions. Bhardwaj, S., Kumar, N., Gupta, R., Baber, H., & Venkatesh, A. (2024). Social media marketing is a field that is always changing. Recent patterns show a move away from wide impersonal outreach and toward more intimate small communities based on relationships and trust. These days brands are concentrating on developing individualized experiences and using tools like artificial intelligence to examine customer data and develop focused marketing campaigns. Wong, E. (2025, February 25). Social media integration into marketing strategies is fraught with difficulties such as concerns about data security, consumer privacy, and the morality of targeted advertising. To preserve customer trust and adhere to legal requirements, brands must carefully handle these issues. Singh, S., Kumar, M., Rawat, A., Khosla, R., & Mehendale, S. (2020).

Research Methodology

This section describes the research plan, data collection strategy and analysis plan of the data. A well-designed methodology enables the researcher to generalize the finding and effectively achieving the research objectives. To strengthen their quantitative design the researchers employed suitable sampling techniques and data analysis methodologies. Information about the study population, data source and ethical considerations are provided by the research design in order to boost transparency and reproducibility. This section explains the research methods that were laboring to bolster the selected strategies that increase the study's reliability.

1. Research Design

The quantitative research design that was chosen aids in the objective methodical and quantifiable analysis of the research problem. By gathering numerical data which identifies patterns relationships and trends within the dataset statistical analysis is made feasible. Surveys and experiments are among the structured instruments used in the study to ensure consistent and trustworthy data collection. Because it allows for the use of inferential statistical techniques and larger sample sizes the quantitative design facilitates the generalization of study findings. The chosen approach supports data interpretation through objective methodology aligns with research goals and lessens potential enlightenment biases in comprehension.

2. Population and Sample Size

Karachis population which is dynamic and diverse makes up the studys population. A sample of 100 responders was chosen to provide a manageable yet informative subset for analysis due to the enormous size of this population. This sample size is in line with statistical recommendations that in quantitative research a minimum of 100 participants is required to produce significant findings (Bullen 2022). Furthermore a sample size of 100 is categorized as small but within allowable bounds for structural equation modeling by (Rosseel 2020). In order to ensure that the results are both valid and generalizable to a larger population the sample was selected to strike a balance between practical limitations and the requirement for trustworthy data.

3. Sampling Technique

The researcher selected its study participants through convenience sampling from Karachi's population. The researchers implemented convenience sampling because it combines efficiency and practicality to acquire data rapidly using simple participant recruitment methods. The advantage of convenience sampling lies in its ability to let researchers acquire data rapidly and cheaply using available samples for their studies since

it provides quick access to research participants. Researchers commonly employ convenience sampling because it lets them easily reach participants regardless of possible bias effect on the findings.

4. Data Collection Method

The research used a self-developed questionnaire to collect data which had been customized specifically for this study to adhere to the research goals. The questionnaire achieved two main functions: demographic questions made up the initial section and the subsequent six sections measured the research hypotheses. The research hypotheses were measured through constructs which contained three questions designed to monitor their fundamental elements. The questionnaire contained questions which were rated on a five-point Likert scale that ran from Strongly Disagree (1) to Strongly Agree (5) to enable detailed evaluation of participant perception and attitude. The Likert scale structure strengthens response reliability and enables the comparison needed for statistical analysis of the collected data.

6. Data Analysis Techniques

Multiple statistical methods were employed to analyze the obtained data which enabled complete interpretation and validation of research results. Frequency tables presented both general population information and response frequency distributions. The researcher conducted a reliability analysis to check that the questionnaire constructs measured with reliability and consistency for hypothesis testing purposes. The Chi-Square Goodness-of-Fit test evaluated if observed data distribution deviated significantly from expected distribution which enabled the validation of hypotheses based on the data. The statistical analysis methods delivered an objective framework that strengthened both the research validity and numerous findings captured in the study.

8. Ethical Considerations

The research assessment followed ethical guidelines to protect participant rights and privacy together with their wellbeing throughout the study period. Every participant provided informed consent before participating in the study to demonstrate understanding of research goals and their free choice to participate along with their right to leave the research at their discretion. The research protected confidentiality using secure storage methods and by not gathering any personal information. The questionnaire contained no sensitive or harmful material while maintaining non-intrusive design. The research followed ethical guidelines for research integrity which required honest and transparent collection and analysis and reporting of data.

9. Limitations of the Study

This study along with its valuable findings contains several restrictions which need acknowledgment. The study sample selection using convenience sampling tends to produce biased results that restrict the ability to generalize findings throughout Karachi's population. The results external validity suffers because the survey with 100 participants does not represent the full diversity of population opinion and experiences. The data collection through self-reporting could be distorted by participant prejudice and wrong understanding. A self-constructed questionnaire presents limitations for established validity and reliability because standardized instruments show better measurement qualities. The study method of cross-sectional data collection doesn't allow tracking of response changes throughout time. Further research should use random probability sampling, larger participant numbers and extended time frame observation to overcome these research challenges.

Result and Discussion

Data Analysis

The analysis part demonstrates a statistical examination of gathered data to extract significant findings. The research examines demographic information about respondents through frequency tables to display variables including age range, gender distribution and educational background and professional choices as well as their social media engagement practices. Topic-oriented questions receive analysis through frequency tables for showing how participants distribute their opinions along with identifying emerging patterns within responses. Internal consistency alongside reliability for our survey instrument is measured by calculating Cronbach's alpha. The reliability coefficient demonstrates the questionnaire item consistency if it exceeds established thresholds. The Chi-square goodness-of-fit test determine whether observed data distributions differ significantly from expected values to validate the research hypothesis. Statistical assessments provide researchers with a complete data understanding that allows them to validate their research findings.

Demographics

Age	Less than 18 years	17%
	18-25	17%
	26-35	29%
	36-45	14%
	45 years and above	23%
Gender	Male	49%
	Female	41%
	Prefer not to say	10%
Education Level	High School	27%
	Bachelor's	27%
	Master's	20%
	Ph.D.	12%
	Others	14%
Occupation	Student	15%
	Self-employed	20%
	Employed	23%
	Business	25%
	Others	17%
Frequency of Social Media Usage	Rarely	10%
	Occasionally	10%
	Frequently	23%
	Daily	57%

Multiple demographics characterize the research participants who showed varied profiles. The study participants have a balanced population distribution by age because 17% are under 18 while 17% fall between 18 and 25 years and 29% belong to the 26–35 age group. The study population includes 23% participants who reach 45 years and above while the remaining group of 14% holds an age between 36 and 45.

For gender distribution the study shows males form 49% of survey participants alongside 41% female participants and 10% unidentified gender participants. Educational achievements of participants

demonstrate diversity because 27% finished high school while having identical numbers who earned bachelor's degrees. A significant portion of 20% have earned their master's degree while 12% of the participants hold a Ph.D. The group which categorizes others as their education level includes 14% of the total sample.

Students make up 15% of the total participants while self-employment accounts for 20% of the study group. The survey includes 23% employed in some organization and 25% business owners as the main occupational categories. The survey includes respondents from diverse other occupational backgrounds who make up 17% of the total participants.

The research indicates that respondents exhibit different patterns when it comes to social media use. The population shows that social media use occurs at low rates since 10% of participants rarely use it and another 10% engage in occasional usage. Among the respondent's frequent use of social media accounts for 23% whereas daily usage stands at 57%. The study results deliver key understanding about how study participants use their demographic features to help researchers evaluate social media behaviors in various population segments.

Responses for Subject Specific Questions

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Social media platforms significantly influence my purchasing decisions.	5%	8%	7%	41%	39%
I often discover new products or services through social media.	3%	6%	6%	42%	43%
Social media advertisements impact my buying preferences.	3%	9%	3%	53%	32%

The survey findings demonstrate how social media plays an essential role in how customers make their purchase choices. According to the survey results majorities of the respondents confirmed that social media shapes how they make buying choices through two separate questions where 41% agreed while another 39% strongly agreed. Most people recognize social media affects their purchasing behaviors because only 5% strongly disagreed and 8% disagreed and 7% remained neutral towards this statement.

The majority of participants have encountered new products or services when using social media platforms. The statement received widespread approval when 85% of people either agreed (42%) or strongly agreed (43%) with it. The rest of the participants (6%) remained neutral and 3% strongly disagreed and 6% disagreed.

Social media advertising demonstrates major influence on what consumers want to purchase. A large majority of 53% among participants admitted social media advertisements shape their shopping decisions whereas an additional 32% expressed strong agreement on this assessment. Most respondents accepted this statement as valid since strong disagreement amounted to 3% and disagreement reached 9% with 3% people remaining undecided.

Social media functions as a robust instrument to sway consumer choices through preference transformation and product or service presentation to users.

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Engaging with brands on social media increases my trust in them.	2%	2%	9%	44%	43%

I am more likely to remain loyal to brands that interact with me on social media.	3%	2%	14%	36%	45%
I prefer brands that actively respond to customer queries and feedback on social media.	2%	2%	3%	49%	44%

Survey results demonstrate that social media engagement produces major effects on consumer trust while boosting their brand loyalty and preference. The majority of survey participants showed that social media engagement with brands strengthens their faith in these brands because 44% agreed and another 43% strongly supported this belief. The survey reveals mild dissent regarding this matter because 9% maintained a neutral position and alongside 2% who strongly disagreed and 2% who disagreed.

Marketers found that social media brand interaction drives customers toward becoming loyal to their brand. Respondents showed a strong commitment to brand loyalty with social platform engagement as 36% agreed to this factor and 45% demonstrated strong agreement. According to survey results 3% strongly objected to the statement while both 2% and 14% remained indifferent. The research indicates that customer relationships develop sustainably when businesses engage their users proactively.

Consumer opinions show that response speed to customer questions and social media feedback represents an important value for buyers. Over half of the participants (49%) showed their support for brands that handle customer complaints actively beside the 44% who strongly affirmed their preference for responsive brands. Out of all respondents only 4% (2% strongly disagreeing and 2% disagreeing) held unfavorable opinions while the remaining 94% (either agreed or strongly agreed). The few neutral responses amounted to 3% of the total.

The research findings demonstrate why social media engagement produces trust alongside customer loyalty which results in improved brand preference. Successful consumer-brand relationships form when brands maintain active customer interactions combined with sincere concern resolution.

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Personalized recommendations on social media influence my purchasing decisions.	6%	13%	6%	44%	31%
AI-driven product suggestions improve my shopping experience.	6%	13%	6%	44%	31%
I am more likely to engage with brands that offer personalized marketing content	7%	13%	9%	43%	28%

The survey results indicate that personalized recommendations and AI-driven suggestions play a crucial role in shaping consumer behavior on social media. When asked whether personalized recommendations influence their purchasing decisions, 44% of respondents agreed, while 31% strongly agreed. However, a notable percentage of respondents expressed skepticism, with 6% strongly disagreeing, 13% disagreeing, and 6% remaining neutral.

Similarly, AI-driven product suggestions appear to enhance the shopping experience for many consumers. The response pattern closely mirrors the previous question, with 44% agreeing and 31% strongly agreeing that such recommendations improve their shopping experience. Meanwhile, 6% strongly disagreed, 13% disagreed, and 6% remained neutral, indicating that while most respondents find AI-based suggestions beneficial, some may have reservations about their effectiveness.

The findings also suggest that personalized marketing content contributes to consumer engagement with brands. When asked whether they are more likely to engage with brands offering personalized content, 43% agreed, and 28% strongly agreed. However, 7% strongly disagreed, 13% disagreed, and 9% remained neutral. This suggests that while a majority of consumers appreciate personalization, a smaller portion remains indifferent or resistant to such marketing strategies.

Overall, the results underscore the growing significance of personalization in digital marketing. Consumers generally respond positively to AI-driven recommendations and customized content, indicating that brands leveraging these strategies can enhance engagement, improve shopping experiences, and influence purchasing decisions.

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The use of AI and automation by brands enhances my trust in their services.	1%	3%	6%	53%	37%
I feel more confident purchasing from brands that use secure and advanced digital technologies.	1%	6%	7%	55%	31%
Augmented reality (AR) and virtual reality (VR) features increase my trust in online shopping experiences.	2%	0%	4%	57%	37%

Survey findings prove that employing modern digital technologies with components that include artificial intelligence (AI) together with automation and augmented and virtual reality systems substantially increase brand credibility and online shopping reliability for customers.

Most people who participated in the survey held a favorable opinion about AI and automation for improving trust in brand services since 53% agreed specifically and another 37% strongly agreed. The majority of respondents showed agreement about these statements while disapproval came from only 1% with strong disagreement and 3% disagreeing and 6% who stayed neutral. People view AI-driven processes favorably because they demonstrate reliability and provide benefits to consumers.

Secure advanced digital tech implementations help brands build stronger relationships of trust with their customers. The majority of respondents showed faith in purchasing from brands using advanced technologies since 55% agreed with this statement and an additional 31% strongly supported the idea. The research shows that digital security and technological advancements are vital factors which affect consumer decisions because 1% strongly disagreed while 6% disagreed with a neutral percentage of 7%.

Online shopping integrated with AR and VR produces positive effects that build consumer trust. The majority of 57% of participants showed agreement along with a further 37% who strongly supported the belief that immersive technologies boost their confidence in purchasing online. The survey revealed that none of the respondents expressed any disagreement toward this statement as 2% strongly disagreed and 4% kept a neutral position. The positive reaction from respondents indicates AR and VR features earn high marks for efficiently increasing e-commerce trust among consumers.

Consumer trust and purchasing decisions are strongly influenced by modern digital innovations based on research findings. Brand success through AI along with automation systems and immersive features creates confident customers who benefit from improved shopping engagements.

Questions	Strongly			Strongly	
	Disagree	Disagree	Neutral	Agree	Agree
I am not much concerned about how brands handle my personal data on social media.	2%	2%	6%	52%	38%
Brands that are transparent about data privacy policies earn my trust.	1%	4%	12%	48%	35%
Security issues on social media platforms affect my confidence in online shopping.	2%	2%	5%	42%	49%

The survey results deliver essential information that demonstrates how consumers see data privacy and security matters online. Results showed that most survey participants (52%) along with 38% of strong agreement demonstrated non-careful attitude about how brands manage their personal data through social media platforms. A minority group of respondents expressed sameness about data privacy since 2% strongly disagreed and 2% disagreed and 6% remained neutral towards the issue. A substantial portion of consumers display peaceful attitudes regarding data privacy yet a marginal minority maintains reservations about it.

Consumer trust develops primarily through clear disclosure about data privacy regulations. Consumer trust in brands grows significantly when these brands openly explain their data privacy practices according to 48% of respondents while 35% strongly stated their agreement. The results demonstrate that 1% of participants strongly disagreed while 4% disagreed and 12% were neither agree nor disagree about the significance of purchasing transparency in their decision process.

Security matters concerning social media platforms create substantial obstacles for consumer confidence regarding making purchases through the internet. Security issues impact online shopping trust levels according to 49% of respondents who strongly agreed together with 42% who agreed to such impact. The majority showed minimal resistance to this point as 2% strongly disagreed and another 2% disagreed alongside 5% who felt neutral about it. Consumer data protection practices by brands do not seem to be major factors influencing consumer confidence in digital transactions but broader security issues on social media platforms do.

The findings demonstrate how maintaining transparency together with security represents essential measures for current online environments. Markets flourish when brands guarantee transparent data protection policies while investing in advanced security systems which attracts users who trust these organizations.

Reliability Analysis

Reliability Statistics		
Scale	Cronbach's Alpha	N of Items
Influence of Social Media Platforms on Purchasing Decisions	0.88	3
Social Media Interactions and Brand Loyalty	0.81	3
Personalized Marketing and Purchase Intentions	0.95	3
Advanced Technologies and Consumer Trust	0.79	3
Ethical Concerns and Brand Trust	0.83	3

The reliability analysis was conducted using Cronbach's alpha to assess the internal consistency of the survey constructs. Cronbach's alpha values above 0.70 are generally considered acceptable, indicating good reliability, while values above 0.80 suggest strong reliability (Nunnally & Bernstein, 1994). The results reveal that all constructs exhibit acceptable to excellent reliability.

The reliability assessment of the purchasing decision influence scale reached 0.88 indicating solid internal consistency. A reliability test resulted in a Cronbach's alpha value of 0.81 for the Social Media Interactions and Brand Loyalty scale which showed good reliability standards. The Personalized Marketing and Purchase Intentions scale showed exceptional consistency with items because its Cronbach's alpha reached 0.95.

The Advanced Technologies and Consumer Trust measure displayed a Cronbach's alpha value of 0.79 which designates satisfactory reliability. The ethical concerns and brand trust scale achieved a reliability coefficient of 0.83 indicating solid internal consistency.

These results advocate that the survey instrument is reliable for measuring the projected constructs, confirming consistency in responses. The high Cronbach's alpha values align with previous research, emphasizing the robustness of scales used in consumer behavior studies (Hair et al., 2010). Therefore, the findings derived from these scales can be considered trustworthy for further statistical analysis and hypothesis testing.

Hypotheses Tests

To investigate how consumer perceptions vary across different constructs, we calculated the median responses for three Likert-scale questions associated with each construct. The Likert scale, ranging from Strongly Disagree to Strongly Agree, is widely used in survey research to measure attitudes and opinions (Likert, 1932). Since the median provides a robust measure of central tendency, it effectively summarizes respondent tendencies within each construct, minimizing the influence of extreme values (Field, 2018).

In order to assess if the observed consumer response distributions notably diverge from what one would anticipate in a uniform distribution, we utilized the Chi-square goodness-of-fit test. This nonparametric test is suitable for categorical data and is commonly used to determine whether observed frequencies differ from theoretical expectations (McHugh, 2013). A statistically significant outcome suggests that consumer responses exhibit uneven distribution, indicating that some response categories are more prevalent than others. This methodology yields important insights into how consumers view the impact of social media on their purchasing choices, brand loyalty, personalized marketing strategies, advanced technologies, and ethical considerations.

Hypothesis One	
Chi-Square	91.100 ^a
Df	4
Asymp. Sig.	0.00

A Chi-square goodness-of-fit test evaluated the statistical relevance between consumer responses about social media impact and a uniform distribution. The Chi-square outcome reached 91.100 when using 4 degrees of freedom ($df = 4$) while the Asymp. Sig. value equaled 0.000.

The test results show that the p-value of 0.000 falls below the standard significance threshold of 0.05 which leads to the rejection of the null hypothesis. The observed consumer response frequencies show evidence against equal distribution because particular response categories appear with higher frequency than others.

These research results show that social media impacts consumer buying behavior in different ways since particular response categories appear more prevalent.

Hypothesis Two	
Chi-Square	105.600 ^a
Df	4
Asymp. Sig.	0.00

To evaluate possible differences in consumer distribution patterns regarding relationships between social media brand interactions and brand loyalty a Chi-square goodness-of-fit test was performed. A Chi-square value reached 105.600 when applying 4 degrees of freedom ($df = 4$) to the analysis resulting in a p-value of 0.000.

The findings demonstrate that the null hypothesis must be rejected since the p-value ($p < 0.05$) crosses the standard 0.05 significance threshold. The customer responses follow a non-even pattern thus indicating different levels of social media interaction perceptions about brand loyalty between individuals. Research results demonstrate that customer loyalty forms through social media brand engagement because specific agreement or disagreement percentages exceed others.

Hypothesis Three	
Chi-Square	57.700 ^a
Df	4
Asymp. Sig.	0.00

The Chi-Square goodness-of-fit test results reveal a notable difference in how consumers respond to the effects of personalized marketing strategies, which are influenced by AI and big data, on their engagement and purchase intentions. The test produced a Chi-Square value of 57.700, accompanied by 4 degrees of freedom and a p-value of 0.00. Given that the p-value is substantially lower than the standard significance level of 0.05, we reject the null hypothesis, which posited a uniform distribution of consumer responses. This result reveals that consumer responses to personalized marketing are neither uniform nor random; rather, they exhibit considerable variability in terms of engagement and purchasing intentions. Such a skewed distribution implies that while some consumers might find AI-enhanced personalization extremely enticing, others could show diminished engagement or, in certain cases, even resistance. These observations underscore the importance for businesses to embrace a more nuanced approach, segmenting their audience according to the diverse reactions elicited by personalized marketing initiatives rather than relying on a generic, one-size-fits-all strategy.

Hypothesis Four	
Chi-Square	133.100 ^a
Df	4
Asymp. Sig.	0.00

For the hypothesis four, the Chi-Square goodness of fit test statistics value is 133.100 with the p-value of 0.000. As the p-value is not greater than the standard significant value of 0.05, the Null hypothesis of consumer perceptions regarding advanced technologies as a factor that enhances trust are evenly distributed was rejected. These results indicates that some individuals favor advanced technologies as a significant trust-enhancing factor, on the hand others may express doubt or indifference.

Hypothesis Five	
Chi-Square	108.800 ^a

Df	4
Asymp. Sig.	0.00

Results from Hypothesis Five indicate that consumer reactions toward ethical factors such as data privacy and security display non-random behavior regarding brand trust. A Chi-Square assessment produced a statistic of 108.800 with four degrees of freedom when analyzing p-values at 0.00. The test p-value demonstrates a low threshold that requires discarding the null hypothesis according to its established 0.05 threshold. Different ethical concerns between consumers regarding brand trust lead to inconsistent responses because people have various viewpoints about trust issues. The high Chi-Square value demonstrates significant evaluation differences since certain customers value security and privacy factors more than others do. Brands must establish open and actionable strategies for dealing with privacy and security matters because ethical standards form a critical foundation for consumer trust so brands need to protect their enhanced confidence levels.

Discussion

The study was conducted to examine the following research objectives.

To examine the influence of social media platforms on consumer purchasing decisions and brand loyalty.

The findings of the study reveals that 80% of the respondents agree that Social media platforms significantly influence their purchasing decisions. while 85% respondents also believe that social media advertisements impact their buying preferences.

To analyze the role of personalized marketing and advanced technologies (e.g., AI, big data) in shaping consumer behavior on social media.

Findings of the study reveals that 75% respondents believe that Personalized recommendations on social media influence their purchasing decisions. Moreover 75% respondents also agrees that AI-driven product suggestions improved their shopping experiences.

To identify the challenges and ethical concerns associated with social media marketing, including privacy issues and data security, and their impact on consumer trust.

Findings suggest that 90% of the respondents agreed that they felt not much concerned about how brands handle their personal data on social media. Whereas 83% people believes that Brands that are transparent about data privacy policies earn their trust. But 91% believes that Security issues on social media platforms affect their confidence in online shopping.

Conclusion

This study emphasizes how brands use individualized data to influence consumer behavior and shows how social media has a big impact on consumer purchasing decisions. The study reveals that social media marketing strategies have a significant influence on consumer choices the results show that data security concerns continue to be a major obstacle. The majority of respondents admit that their confidence in online shopping is impacted by privacy risks related to marketing companies use of personal data. To increase consumer trust in digital commerce these findings highlight the necessity of more stringent data protection regulations and ethical marketing strategies.

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