



JOURNAL OF SOCIAL SCIENCES DEVELOPMENT



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DO SOCIAL MEDIA MARKETING ACTIVITIES PROMOTE CUSTOMER LOYALTY? THE MEDIATING ROLE OF CUSTOMER ENGAGEMENT AND BRAND TRUST: A STUDY OF THE E-COMMERCE INDUSTRY IN KARACHI, PAKISTAN

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KEYWORDS	ABSTRACT
Social media marketing activities, customer loyalty, customer engagement, brand trust, e-commerce, PLS-SEM, Karachi, Pakistan, S-O-R framework	This study investigates how Social Media Marketing Activities (SMMAs) influence Customer Loyalty in the e-commerce sector of Karachi, Pakistan. Drawing on the Stimulus-Organism-Response (S-O-R) framework, the research examines five dimensions of SMMAs Entertainment, Interaction, Trendiness, Customization, and Word-of-Mouth and explores the sequential mediation of Customer Engagement (CE) and Brand Trust (BT) in the pathway from SMMAs to Customer Loyalty (CL). Data were collected from 52 active social media users who also engage in e-commerce purchasing in Karachi, using a structured questionnaire with validated scales. Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed via Smarts 4 for data analysis. The results reveal that SMMAs significantly and strongly predict Customer Engagement ($b = 0.707$, $p < .001$), Customer Engagement significantly predicts Brand Trust ($b = 0.353$, $p < .05$), and Brand Trust significantly predicts Customer Loyalty ($b = 0.706$, $p < .001$). The sequential mediation pathway SMMA $\rightarrow$ CE $\rightarrow$ BT $\rightarrow$ CL was supported (indirect effect = 0.176, $p < .05$). The moderating role of Customer Satisfaction in the CE-BT relationship was not statistically significant. The study contributes to the SMMA literature by providing empirical evidence from an emerging South Asian market context and underscores the critical role of engagement and trust as mechanisms through which social media activities build loyal customer bases in e-commerce.
ARTICLE HISTORY	
Date of Submission: 08-05-2026 Date of Acceptance: 07-06-2026 Date of Publication: 12-06-2026	
	
	2026 Journal of Social Sciences Development
Corresponding Author	Saad Moin
Email:	saadmoin98@gmail.com
DOI	https://doi.org/10.59075/jssd.v5i4.298
Volume/Issue	5(4), 2026, 107-136

Introduction

The boom in social media has significantly changed the way companies communicate with consumers. E-commerce is at the cutting edge of this change because social media provides a channel of interaction between brands and customers. The number of internet users has been growing exponentially in Pakistan in recent years, reaching 88 million as of 2024 (Pakistan Telecommunication Authority, 2024). Karachi is Pakistan's economic center, and its consumers are among the most influential and active online shoppers. Social media networks like Instagram, Facebook, TikTok, YouTube, and WhatsApp are where e-commerce brands communicate with their customers (Yadav & Rahman, 2018).

Social Media Marketing Activities (SMMAs), such as amusement, engagement, fashion, personalization, and word-of-mouth, have become essential tools for e-commerce companies that want to establish long-term competitive advantages (Kim & Ko, 2012). First of all, social media allows companies to communicate with consumers one to one, provide personalized content, interact with customers, and build word-of-mouth through communities (Banerji & Singh, 2024). Secondly, the problem of consumer trust and relationships in Pakistan is acute, which is confirmed by the studies of Sohaib et al. (2022). Thus, using SMMAs may be an effective way to affect consumer behavior in the Pakistani e-commerce market.

Despite the extensive research attention on social media marketing activities (SMMAs) and their impact on customer loyalty (CL) around the world, research investigating the mechanisms by which SMMAs lead to CL in emerging South Asian countries is limited. While a number of studies have demonstrated the impact of SMMAs on brand loyalty (Althuwaini, 2022; Ibrahim & Aljarah, 2021), the role of CE and BT as intervening variables has received limited research attention. This study aims to contribute to the existing literature on the mediation of CE and BT of SMMAs on CL in the Conditions of Pakistan's e-commerce industry. The current study's findings are expected to offer both theoretical and practical perspectives on the influencing mechanism of SMMAs on consumer loyalty.

The current study aims to fill this research gap by proposing and testing a sequential mediation model that incorporates the Stimulus-Organism-Response (S-O-R) framework (Mehrabian & Russell, 1974). In this model, SMMAs are considered as a stimulation that leads to customer loyalty as the behavioural result and two mediating organizational responses, brand trust and customer engagement. Lastly, this study will also test the role of Customer Satisfaction as a moderator of the association between Customer Engagement and Brand Trust.

Problem Statement

Although Pakistani e-commerce has witnessed a significant rise with the entry of companies like Daraz, Food panda, and Bykeya, capturing the market share of millions of customers, the effectiveness of social media marketing remains questionable. Companies spend millions of rupees on engaging contents, influencers, promotions, and other aspects of social media. However, what exact impact these investments make on customers' long-term commitment and loyalty is

not clearly understood. Specifically, the mediating function of consumer interaction with the brand and its impact on brand trust, followed by their relationships with loyalty, is yet to be uncovered. This study aims to contribute to this area of research, providing insight into the creation of customer engagement as a mechanism through which social media marketing activities build brand loyalty in the e-commerce industry.

Pakistan's e-commerce market has been growing exponentially in recent years. As a result, customers have begun to embrace the idea of discovering goods, seeking information, and purchasing through online platforms more frequently. The Pakistani online retailers are capitalizing on the social media marketing activities (SMMA), including posts, influencer marketing, paid ads, and other media resources, targeting a wide audience of potential clients via Facebook, Instagram, TikTok, and other platforms, to increase their engagement. The popularity of smartphones and their relatively low cost in Pakistan are two key factors influencing the development and growth of e-commerce in the country. One of the most prevalent challenges faced by Pakistani online retailers today, on the other hand, is a client's low retention and overall loyalty, despite the companies' heavy investment in social media marketing and an initially impressive rise in traffic.

In the Pakistani digital market, consumers are used to encountering exaggerated claims, fake products, and inadequate customer service from unreliable sellers online. As a result, people have become skeptical about the quality of products and services promoted on digital platforms. This is why most social media posts that go viral and boost brand awareness fail to convert into sustained customer base and sales.

While previous studies focus on the ways through which social media use may drive a rise in sales or exposure, research has yet to systematically address the ways through which engagement can be leveraged into long-term relationships, particularly in developing countries such as Pakistan. This study aims to fill this gap by identifying the critical role that brand trust plays as a mediating mechanism in the relationship between social media engagement and sales in developing countries. Indeed, without a focus on the ways through which brand trust is driven, engagement will fail to deliver sustainable improvements in sales in the context of emerging markets.

Research Objectives

The goals of this research are as follows:

1. To establish the relationship between the independent variable i.e., Social Media Marketing Activities and the dependent variable i.e., Customer Engagement of the e-commerce customers in Karachi.
2. To assess the impact of the intervening variable, Customer Engagement on the dependent variable, Brand Trust of the e-commerce customers in Karachi.
3. To evaluate the direct effect of Brand Trust on Customer Loyalty.

4. To test the moderation of the Customer Satisfaction factor in the Customer Engagement – Brand Trust relationship.
5. To test the indirect effect of Customer Engagement on Customer Loyalty through Brand Trust.

Research Questions

1. Do Social Media Marketing Activities have a Substantial impact on Customer Engagement level of customers in terms of e-commerce?
2. Does Customer Engagement significantly predict Brand Trust?
3. Does Brand Trust significantly predict Customer Loyalty?
4. Does the indirect effect size of SMMA $\rightarrow$ CE $\rightarrow$ BT $\rightarrow$ CL have a significant mediated relationship?
5. Does Customer Satisfaction have a moderating effect on the relationship between Customer Engagement and Brand Trust?

Gap Analysis

Although Social Media Marketing (SMM) as an e-commerce marketing tool has gained great importance, the literature fails to explain the mechanism, through which the 'Social Media Marketing Activities' lead to 'Customer Loyalty' especially in the surroundings of Pakistan's e-commerce industry. Prior research Learnings have mainly focused on the effect of SMM activities on purchase intention, brand equity, customer satisfaction, or loyalty. However, the mechanism through which these activities actually influence the development of a loyal customer base remains unexplored.

In particular, the sequential Customer engagement and brand trust's mediation function has remained understudied. Although being exposed to brands' social media posts plays a role in developing customer loyalty, social media activities first engage customers and then the engagement leads to building brand trust that ultimately translates into loyalty. This study tries to fill that gap by analyzing the sequential mediation of Trust and Engagement of the relationship between SMM activities and Customer Loyalty in the context of Pakistan's e-commerce industry. Therefore, the study will focus on the following sequential mediation hypothesis.

A major lacuna in the existing literature is the South Asian market, particularly Pakistan, which is an emerging economy. Little work has been done on the burgeoning e-commerce activity in the region, while research in this area has been made mainly in developed countries as well as other emerging markets. While Karachi is the largest commercial center of Pakistan, there is clearly a large number of online shoppers who are still suffering from various constraints associated with e

commerce such as trust, retention, brand loyalty, leading to the need for research on the effectiveness of social media marketing in the context of customer relationship.

Moreover, Customer Satisfaction as a moderator of the connection between Customer Engagement and Brand Trust has received only limited model testing in the extant literature. The present study therefore makes a contribution by empirically testing whether Customer Satisfaction positively reduces the impact of consumer interaction on brand Trust, thereby helping understand the role of customer engagement and satisfaction on brand trust for e-commerce.

Therefore, the research gap of the present thesis lies in the understanding of how Social Media Marketing Activities drive Customer Loyalty through Customer Engagement and Brand Trust in the E-Commerce Sector of Pakistan. The research research adds to the body of current literature by developing a Stimulus-Organism-Response model within the framework of Karachi ecommerce industry, as well as by testing the mediation model with sequential mediation that Analyse and explain mechanism that leads to loyalty.

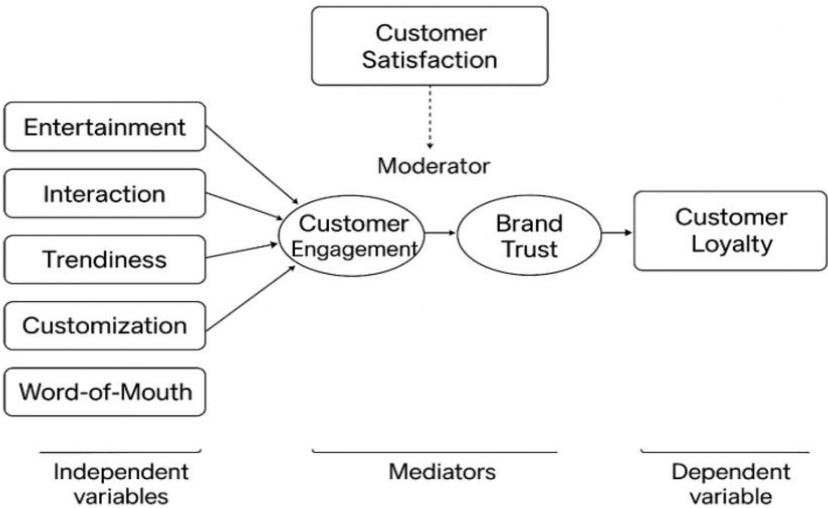


Figure 1 Conceptual model: Sequential Mediation Model

Significance of the Study

This article aims to generate various theoretical, managerial/practical, and contextual/methodological contributions to the fields of digital marketing and e-commerce

management in developing economies. **Theoretical Contributions:** The paper extends the theoretical application of the Stimulus-Organism-Response framework by proposing and testing a multi-organism sequential mediation theory model ($\text{SMMA} \rightarrow \text{CE} \rightarrow \text{BT} \rightarrow \text{CL}$). In this vein, the paper provides fresh theoretical and empirical insight into the consumer engagement mechanism of social media-induced behavioral loyalty process via the mediating role of Customer Engagement (organism 1) and Brand Trust (organism 2) (Myers et al., 2024). Similarly, the present study contributes to the debates on relationship marketing theories by empirically testing the moderating role of Customer Satisfaction in the process (Bellahcene et al., 2025). **Managerial-Practical Contributions:** In terms of managerial/practical contributions, the paper offers several key implications to e-commerce managers, digital marketers, and online retailers in Pakistan. Given the prevalence of abandoned carts and poor retention rates of most local e-commerce websites, the paper suggests that apart from appealing to customer engagement, it is vital for Pakistani online retailers to create interactive, trendy, and personalized contents to build brand trust and eventually achieve behavioral loyalty from customers (Ashiq & Hussain, 2024). **Contextual-Methodological Contributions:** Finally, in terms of contextual/methodological contributions, the paper bridges an important gap in the extant digital consumer behavior literature, notably in the context of Karachi as an economic hub of Pakistan. Methodologically, the paper shows the efficacy of using PLS-SEM (SmartPLS 4) in testing complex sequential mediation-moderation models of e-commerce marketing processes in South Asian contexts (Ringle et al., 2024).

Literature Review

Theoretical Framework: The Stimulus-Organism-Response (S-O-R) Model

The present work is based on the theoretical background of Stimulus-Organism-Response (S-O-R), proposed by Mehrabian and Russell (1974) in the framework of environmental psychology. This hypothesis has been extensively applied in consumer behavior and social media marketing literature. According to the S-O-R model, environmental stimuli (S) affect individuals' psychological states (O), resulting in behavioral response (R). Specifically to the present study, SMMA is regarded as a stimulus, customer engagement and brand trust are viewed as psychological states, and customer loyalty is considered a behavioral response.

S-O-R has been extensively applied in social media marketing research. Ul Islam and Rahman (2017) utilized this model to explore internet communities for brands characteristics and consumer engagement. The authors found that digital brand communities' stimuli could predict consumer engagement responses. Similarly, Zhang and Benyoucef (2016) integrated the S-O-R framework to Examine social commerce by which purchase intention could be shaped. In turn, Sohaib et al. (2022) adopted the same theoretical model to assess the impact of SMMA on consumer behavior in the context of China. The S-O-R model is well-suited for the present study because it clarifies the mechanism through which marketing activities (stimuli) turn into consumer responses (behavioral). Specifically, this model Emphasizes the role of psychological states as intervening variables, moderating the relationship between marketing activities and customer loyalty.

Unlike prior applications, in which the theorized relationships were direct effects between stimulus or organism variables and response, this study integrates a serial multiple mediation (customer engagement $\rightarrow$ brand trust $\rightarrow$ customer loyalty) into the S-O-R model. This addition is significant because it acknowledges that certain organism variables may include more than one intervening condition required to fully understand the relationship between the independent and dependent variables (Banerji & Singh, 2024).

Social Media Marketing Activities (SMMAs)

Conceptualization and Dimensions

Social media marketing activities (SMMAs) were defined as the uses of social media technologies, platforms, and software to design, promote, produce, and exchange products and services that are valuable to stakeholders (Tuten & Solomon, 2016). The initial five-factor model proposed by Kim and Ko (2012) while examining the luxury fashion industry uses of social media is seen as relevant and comprehensive for the current study. According to their research, SMMAs could be categorized into the following dimensions: trendiness, entertainment, interactivity, word-of-mouth, and customization. This approach was later supported in different fields of business activity, including the airline industry (Seo & Park, 2018), the banking sector (Althuwaini, 2022), online retailers (Yadav & Rahman, 2018; Banerji & Singh, 2024), and the hotel field (Ibrahim, 2021). Godey et al. (2016) conducted the first study that proved the five-factor model's applicability in the luxury brand industry by establishing social media marketing activities' impact on brand equity and consumer behavior. Moreover, Moslehpour et al. (2020)'s analysis of social media use in the airline sector in Indonesia demonstrated that these activities could predict users' intention to buy. Therefore, based on the available research findings, it is possible to conclude that the five-factor model is the most reasonable conceptualization of social media marketing activities for the study.

Entertainment

Entertainment reflects the hedonic value of social media content (Alalwan et al., 2017). Entertainment in social media can be seen when users engage with interesting pictures, videos, messages, and stories. Such content stimulates positive emotions in consumers. This motivates consumers to engage with the brand more deeply. In particular, in the framework of e-commerce, entertainment appears to have a moderate but meaningful impact on the amount of brand engagement duration on social media pages, engagement levels, and purchase intention (Chen & Lin, 2019). Banerji and Singh (2024) found entertainment to be an essential component of SMMA driving customer loyalty in Indian e-commerce. Similar results were reported for other types of consumer products.

Interaction

Interaction is defined as A firm's level of social media activity facilitates communication from brands and consumers to each other (Godey et al., 2016). Interactive social media tools enable

customers to participate and co-create brand content rather than just being an audience to brand messages. In other words, it gives customers a voice needed to air their opinions, increasing a sense of belongingness to the brand (Sohaib et al., 2022). Studies have shown that interactions on social media significantly predict brand equity in the airline industry (Seo & Park, 2018). Similarly, Althuwaini (2022) showed that it predicts brand loyalty in retail banking.

Trendiness

Trendiness is defined as the extent to which a firm's social media content is fashionable and trendy while also addressing modern customer requests and cultural trends (Naaman et al., 2011). Companies have been able to create relevant content for their target audience by utilizing popular topics, videos, and ideas among their customers as well as embracing and supporting emerging ideas (Hazzam, 2022). Kim and Ko (2012) explain that trendy social media posts make firms appear current and innovative, which is what many customers desire. Trendiness seems to be the most relevant construct in the context of Pakistani customers because these individuals are both globally minded and culturally aware.

Customization

Customization was defined by Godey et al. (2016) as the ability of social media marketing to provide individualized information, recommendations, and content to satisfy the diverse consumer preference endeavours. With the help of the latest algorithms and targeting mechanisms, e-commerce organizations can provide appropriate content to each consumer segment, thus facilitating the reduction of information search costs and enhancing the decision-making process (Tam & Ho, 2006). Indeed, the ability to customize was discovered to be an important predictor of consumer loyalty in the e-commerce environment by Banerji and Singh (2024), which is aligned with the general understanding of personalization and value co-creation literature.

Word-of-Mouth

Word-of-Mouth (WOM) in social media context refers to consumer to consumer information exchange regarding products or services which takes place over social media networks (Duan et al., 2008). Social media facilitates WOM on a much large scale and increases its reach and reliability. It has been found that positive eWOM including reviews, shares, recommendations and testimonials provides social proof to consumers which subsequently lowers their perceived risk and improves their brand image (Cheung & Thadani, 2012). In the Pakistani context, e-commerce is a relatively new concept where level of trust between buyers and sellers is low. Hence social media and word of mouth can play a significant role in encouraging people to buy online by facilitating social proof and reducing their risk.

Customer Engagement (CE)

Customer Engagement is A core pillar of relationship marketing and consumer behavior studies. Based on Schivinski et al. (2016), customer engagements are consumers' degrees of emotional,

behavioral, and cognitive investment in brand-related social media interactions. From this definition, it appears that customers who participate in brand communities actively, create brand-related content, become opinion leaders, and devote significant psychological effort to the brand involve in active engagement. It is different from involvement and commitment, which are narrower concepts describing the degree of preference for a brand or the intention to maintain a long-term relationship with the seller. In the context of social media, researchers have identified a number of variables that can boost customer engagement. SMMAAs are known to be an essential driver of customer engagement in the literature. For example, Ibrahim and Aljarah (2021) found that SMMAAs predicted engagement on Instagram, which, in turn, predicted consumer loyalty. Similarly, Sohaib et al. (2022) found that social media marketing activities had a mediation effect on consumer engagement in the context of Chinese e-commerce. Godey et al. (2016) also found a positive association between SMMA and customer engagement in the Premium qualityfashion sector. Thus, multiple studies across different industries and in various markets confirm the hypothesis that social media marketing activities can increase customer engagement.

The main theoretical foundation for the SMMA-CE link is Uses and Gratifications Theory, which posits that every media platform is chosen by consumers due to their ability to fulfill certain psychological needs (Katz et al., 1974). Subsequently, creating content and promoting products through social media helps satisfy consumers' hedonic desires, facilitates interpersonal communication, and provides them with access to information and entertainment (Choi et al., 2016; Sharma et al., 2022). Each of these factors can be particularly attractive to consumers, thus driving their engagement with a brand.

Brand Trust (BT)

Trust is serves as essential elements of any long-standing bond between two market participants. In particular, brand trust is the consumer's willingness to believe in a brand's capacity to meet its performance claims (Chaudhuri & Holbrook, 2001, p. 82). In cases when a consumer is not able to inspect a product, brand trust is considered as extremely important for their decision-making process (Morgan & Hunt, 1994). In the view of e-commerce, product inspection is impossible; therefore, social media brand communities play a vital role in influencing the degree of trust consumers have in the brand, based on their experience and word-of-mouth (Laroche et al., 2012; Althuwaini, 2022). The study conducted by Habibi et al. (2014) confirms the good effect of CE (customer engagement) on BT (brand trust). This theory is explained by the notion that engagement leads to positive experiences, which then translate into positive emotions, attitudes, and behavior towards the brand. In other words, the more an agent participates in CE activities, the more they are likely to believe in a specific brand. Specifically, Laroche et al. (2012) state that social media brand society contribute to building consumer trust. Similarly, Althuwaini (2022) mentions that SMMA strongly predict BT under the framework of the Saudi banking sector; thus, BT has a significant effect on loyalty as well. Morgan and Hunt's (1994) commitment-trust theory explains the relationship between CE and BT as well, claiming that trust is formed through experiences of relational interactions where parties are committed to achieving benefits in the context of a relationship (Laroche et al., 2012). In this regard, brand communities on social media

engage consumers with positive feedback, providing such parties with highly desirable experiences. Therefore, it can be concluded that SM brand communities facilitate the development of BT among consumers.

Customer Loyalty (CL)

Customer Loyalty is defined as a consumer's pledge to buy again or continue buying a a favored good or service over time despite alternative influences and deliberate efforts to induce switching behavior (Oliver, 1999, p. 34). Customer loyalty contains both attitudinal and behavioral elements, with attitude reflecting a consumer's liking, preference, and resistance to switch responses, and behavior demonstrating repetitive, share-of-wallet, and advocacy buying patterns (Chaudhuri & Holbrook, 2001). Loyal customers are invaluable assets to online retailers because of the lower costs of retention as compared to the costs of acquisition, their higher lifetime value due to the volume of repeat and cross-selling, and their advocacy value stemming from positive word-of-mouth and other forms of social proof (Kotler & Keller, 2016). Therefore, the causes of client loyalty in e-commerce were a critical topic of discussion and research. The most crucial predictor of customer loyalty in e-commerce was found to be Trust due to the nature of trust reduction of perceived risks associated with technology-mediated exchanges (Yadav & Rahman, 2018; Banerji & Singh, 2024). The discussion of the relationships between Brand Trust and Customer Loyalty has been the subject of extensive research. Althuwaini's (2022) study found that Trust has a strong influence on loyalty, reflected in the path coefficient of $b = 0.684$. Chaudhuri and Holbrook (2001) established the link between brand trust, brand performance, and brand loyalty through a mediation model. Ebrahim (2019) identified Trust as a main SMMA driver that influences Customer Loyalty. It can be posited that Brand Trust is a major antecedent of Customer Loyalty in the context of e-commerce.

The Sequential Mediation: SMMA → CE → BT → CL

The theoretical logic behind the proposed sequential mediation chain is that SMMA's have the ability to trigger engagement (i.e. direct stimulus-organism link), engagement drives trust (i.e. organism to organism link via deepened social connection), and trust then leads to loyalty (i.e. organism to response link). The theoretical foundation was established by such studies as S-O framework, Relationship Marketing and Social Capital Theory which hold that trust building is a sequential process which requires the involvement of initial engagement. Such sequential mediation was partially supported by Ibrahim and Aljarah (2021) who tested their hypotheses on Instagram and found that SMMA's dimensions directly predicted customer relationship quality (trust, commitment, satisfaction) which then drove loyalty. In the same vein, Banerji and Singh (2024) tested the mediation model of customer relationship quality on Indian e-commerce customers finding that all three dimensions of SMMA had a sequential mediation effect. The current study builds upon the extant literature by specifically focusing on the CE → BT → CL chain and attempting to validate it on Pakistani e-commerce customers.

Customer Satisfaction as a Moderator

Customer Satisfaction indicates whether the actual satisfaction of buyers with certain features of the purchased product meets their expectations (Kotler & Armstrong, 2012, p. 135). Customer satisfaction was one of the key indicators used in the studies to identify the antecedents of trust. The present study posits that Customer Satisfaction has a moderating role between Customer Engagement & Brand Trust, which means that Customer Engagement exerts a greater impact on Brand Trust when Customer Satisfaction is high. The rationale behind this moderation is that positive engagement will be transformed into higher levels of trust only if the customer's expectations are met. Chen & Lin (2019) have revealed that social media marketing activities strongly affected customer satisfaction with the brand, which further predicted their loyalty. Similarly, Prihandoko (2016) has proved that satisfaction positively predicted loyalty in the Indonesian context. Thus, Customer Satisfaction is included in the model as a boundary condition to check whether it moderates the connection between Customer Engagement & Brand Trust.

Conceptual Framework and Model

Based on the theoretical background and the discussed literature, it is possible to make a conceptual framework for this study. In this framework, Social Media Marketing Activities appear as an independent variable, while Brand Trust & Customer Engagement act as mediating variables. At the same time, Customer Loyalty is the dependent variable, which is influenced by Customer Engagement. In addition, the study suggests that Customer Satisfaction moderates the influence of Customer Engagement on Brand Trust. The aforementioned framework is presented in Chapter 1, while Figure 2.1 illustrates the proposed interconnections.

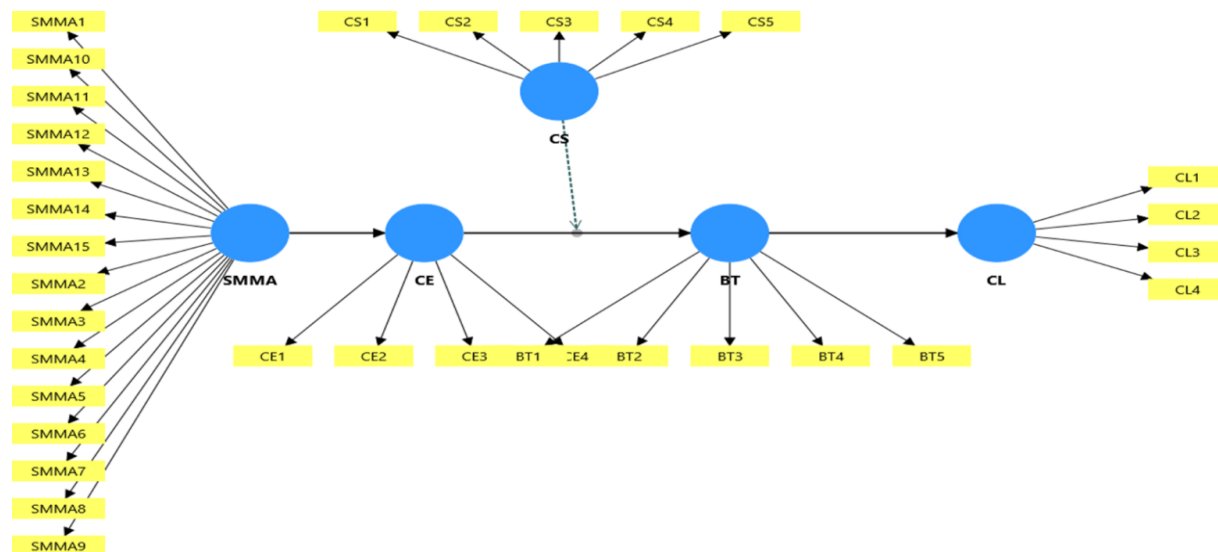


Figure 2 Conceptual Framework: Sequential Mediation Model

Note. SMMA = Social Media Marketing Activities; CE = Customer Engagement; BT = Brand Trust; CL = Customer Loyalty; CS = Customer Satisfaction.

Research Methodology

Research Design

This study will employ a quantitative survey method involving administering a Latitudinal survey questionnaire to participants. The study will follow a positivist paradigm to investigate the research problem since previous studies on SMMA have adopted this paradigm (Kim & Ko, 2012; Althuwaini, 2022; Banerji & Singh, 2024). Secondly, the research will adopt a cross-sectional survey design because it is convenient to use and allows efficient gathering of information at one moment from a sample of the population. This study will use a survey as it focuses on gathering numerical data and testing survey questions that measure abstract variables such as consumers' attitude, perception, and behavioural intention towards the selected product.

Target Population

Active social media users who make online purchases are the study's target demographic. The choice of this population is justified by the presence of both of the study's stimuli – SMMA and e-commerce purchases. As such, this group is expected to provide valid responses about the influence of SMMA on their purchase intentions. Karachi was selected as the setting for this study because it is the largest metropolis in Pakistan, its economic hub, and the center of commerce. In addition, this city is considered to have the maximum percentage of internet users and online shoppers in the country.

Sampling Procedure

Given that there was no sampling frame for potential respondents who used social media for e-commerce purposes in Karachi, the study adopted a non-probability convenience sampling approach. This approach has been used by previous scholars (Althuwaini, 2022; Banerji & Singh, 2024; Yadav & Rahman, 2018). The inclusion criteria were as follows: (1) the respondent used at least one social media network intensively (Instagram, Facebook, TikTok, YouTube, WhatsApp) and (2) bought at least one item online from an e-commerce website within the last three months.

Sample Size

Out of the initial respondents, only 52 provided valid answers for the analysis. In terms of sufficient sample size for the PLS-SEM method, both Hair et al. (2019) and Chin (1998) suggest using a 10-times rule for determining the required volume of observations. According to this rule, the number of responses should be at least equal to the number of structural paths directed into each construct in the chosen model multiplied by ten. In the current model, the number of paths entering the same construct is at its maximum equal to four (paths leading to Brand Trust: from CE, CS, SMMA indirect, and CS CE interaction) – implying that 40 observations are sufficient for this

model. Thus, the number of 52 observations is sufficient according to the 10-times rule. The Monte Carlo simulation research conducted by Hair et al. (2019) showed that PLS-SEM demonstrates good power properties for sample sizes greater than 30-50 for strong effects, which was the case for the majority of our effects (SMMA $\rightarrow$ CE: $f^2 = 1.002$).

Measurement Scales

In addition, the items were measured according to the scales taken from previous works in the field by published authors. All statements were scored using a five-point Likert-type format, from Strongly Disagree (SD) to Strongly Agree (SA), as suggested by SMMA (Kim & Ko, 2012; Althuwaini, 2022).

Social Media Marketing Activities (SMMA)

The SMMA was measured using fifteen items (three items per each of the five dimensions) adapted from Kim and Ko (2012) and Godey et al. (2016). Specifically, the five sub-dimensions of SMMA were as follows: "Entertainment" (e.g., "The brand's social media pages are very entertaining"), "Interaction" (e.g., "I can easily contact with the brand on social media page"), "Trendiness" (e.g., "The brand's social media reflects the latest trends"), "Customization" (e.g., "The brand provides personalized content on social media") and "Word-of-Mouth" (e.g., "I share positive experiences about this brand on social media"). SMMA was measured as a second-order reflective-reflective construct.

Customer Engagement (CE)

Customer Engagement was measured by four items taken from Schivinski et al. (2016). Specifically, the items stored the feeling of emotional connection, active participation, and behavioral engagement (likelihood to like, comment, share) as well as enthusiasm in interacting with the brand (e.g., "I feel emotionally connected with this brand on social media," "I actively participate in the brand's social media activities").

Brand Trust (BT)

Brand Trust was calculated by adopting five items used by Morgan and Hunt (1994) and Chaudhuri and Holbrook (2001). The items were used to measure customers' belief that the firm will keep its promises, prove to be reliable, act truthfully, show purchase security, and meet their expectations (e.g., "I trust this brand keeps its promises"; "This brand is reliable").

Customer Loyalty (CL)

Customer Loyalty was calculated using four items taken from Zeithaml et al. (1996) and Oliver (1999). The items stored an intention to purchase the brand again, preference of the brand over its competitors, enthusiasm to recommend the brand to others, and loyalty to the brand as a result of its online presence (e.g., "I intend to continue buying products from this brand"; "I prefer this brand over its competitors").

Customer Satisfaction (CS)

Customer satisfaction was calculated by employing five items taken from Liang et al. (2011) and Oliver (1999). All items were intended to capture overall satisfaction, satisfaction with a particular attribute, and satisfaction expressed as emotion from the perspective of the customers' e-commerce experience with the brand.

Data Collection Procedure

The questionnaires were distributed by Google Forms through social media networks such as Instagram, Facebook, and WhatsApp groups for online shoppers in Karachi. The data collection process took almost over eight weeks, February–March 2025. One screening question was included to determine eligibility. The respondents were assured of their anonymity, and only those who provided valid responses were considered for analysis. Moreover, participants were reminded that completing the questionnaire was optional and solely for research purposes. Initially, 67 questionnaires were sent out publicly, and 52 forms were returned, giving a response rate of 77.6% after screening and removing incomplete responses.

Analytical Approach: PLS-SEM

Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied by using SmartPLS 4 (Ringle et al., 2024). The decision to apply PLS-SEM was based on: (1) the complication of the mediation model that was better captured by PLS-SEM than covariance-based SEM (CB-SEM); (2) the sample size ($n=52$) that was considered appropriate for PLS-SEM's variance-based estimation in comparison to CB-SEM; (3) the study's goal of predictive explanation rather than confirming a theoretical model; and (4) a growing body of literature that applied PLS-SEM in the field of SMMA (Althuwaini, 2022; Sohaib et al., 2022).

The measurement model was evaluated first due to the recommendation by Hair et al. (2019) to apply a two-step approach in SEM analysis. Therefore, Prior to analyzing the structural model, the measurement model's validity and reliability were evaluated. Bias-corrected confidence intervals were estimated using a bootstrapping approach with 5,000 resamples. and p-values. Moderation analysis was conducted by implementing a cross-sectional interaction term (CSCE).

Ethical Considerations

Ethical standards were followed during the research. Informed consent was obtained from all participants. The anonymity of the participants was maintained, as well as the confidentiality of the information received. The study did not include duplicity, vulnerable populations, or the collection of any private or sensitive information. All the tools for collecting data were taken from published scientific papers with appropriate citations.

Data Analysis and Results

Demographic Profile of Respondents

In total, 52 participants participated in the survey. In table below, you can see the respondents' demographic characteristics. Overall, most of the respondents are male, which is explained by the fact that active online buyers in Pakistan's major cities are mostly men. Moreover, most of the respondents are aged between 18 and 25, and 26 and 35, of which the bigger part belongs to the 18 to 25 group, which is explained by the fact that this group is the biggest social media user base. Most of the respondents have received an education from postgraduate institutions – 53,8%. Most of the respondents spend 1-3 hours per day on social media networks – 42,3%. On the figure below, you can see that the biggest part of the respondents use Daraz as their e-commerce platform of choice – 46,2%.

Table 1Demographic Profile of Respondents (N = 52)

Characteristic	Category	n	%
Gender	Male	32	61.5%
	Female	20	38.5%
Age Group	18-25 years	28	53.8%
	26-35 years	16	30.8%
	36-45 years	6	11.5%
	46+ years	2	3.8%
Education	Undergraduate	18	34.6%
	Graduate (MBA/MS)	28	53.8%
	Postgraduate (PhD)	6	11.5%
Social Media Usage (per day)	Less than 1 hour	6	11.5%
	1-3 hours	22	42.3%
	3-5 hours	18	34.6%
	More than 5 hours	6	11.5%
E-Commerce Platform Used	Daraz	24	46.2%
	Foodpanda	10	19.2%

Characteristic	Category	n	%
	Amazon/AliExpress	12	23.1%
	Other	6	11.5%

Note. Data collected from active social media users engaged in e-commerce purchasing in Karachi, Pakistan.

Measurement Model Assessment

Reliability and Convergent Validity

The measurement model was evaluated in accordance with the recommendations by Hair et al. (2019). In Table 2 below, the construct reliability and convergent validity of the indicators are provided. All items have outer loadings above 0.6, with most of them being above 0.75, which is significantly higher than the suggested 0.7 (Hair et al., 2019). Cronbach's alpha for all constructs ranged between .888 and .952, which is considerably higher than the suitable level of 0.7. The Integrated reliability (c) for all constructs ranged between 0.923 and 0.957, which is also well above the threshold of 0.7. The AVE ranged between 0.600 and 0.810, which is significantly higher than the recommended level of 0.5 (Fornell & Larcker, 1981). Therefore, it can be concluded that all constructs have adequate convergence validity.

Table 2 Construct Reliability and Convergent Validity

Construct/Item	Outer Loading	Cronbach's α	CR (c)	AVE	
BT -- Brand Trust					
BT1	0.867	0.938	0.943	0.952	0.800
BT2	0.926				
BT3	0.881				
BT4	0.908				
BT5	0.891				
CE -- Customer Engagement					
CE1	0.835	0.888	0.893	0.923	0.749
CE2	0.864				
CE3	0.877				
CE4	0.883				
CL -- Customer Loyalty					

Construct/Item	Outer Loading	Cronbach's α	CR (c)	AVE
CL1	0.914	0.922	0.945	0.810
CL2	0.920			
CL3	0.941			
CL4	0.820			
CS -- Customer Satisfaction				
CS1	0.846	0.898	0.923	0.707
CS2	0.884			
CS3	0.867			
CS4	0.824			
CS5	0.779			
SMMA -- Social Media Marketing Activities				
SMMA1	0.653	0.952	0.957	0.600
SMMA2	0.764			
SMMA3	0.662			
SMMA4	0.796			
SMMA5	0.788			
SMMA6	0.763			
SMMA7	0.845			
SMMA8	0.789			
SMMA9	0.815			
SMMA10	0.737			
SMMA11	0.783			
SMMA12	0.678			
SMMA13	0.772			
SMMA14	0.874			
SMMA15	0.860			

Note. = Cronbach's alpha; α = composite reliability (ρ_a); CR = composite reliability (ρ_c); AVE = average variance extracted. All AVE values exceed the 0.50 threshold (Fornell & Larcker, 1981). All outer loadings exceed 0.60. SMMA items 1-3 = Entertainment, 4-6 = Interaction, 7-9 = Trendiness, 10-12 = Customization, 13-15 = Word-of-Mouth.

Discriminant Validity

The divergent validity of the constructs was evaluated by using the Heterotrait-Monotrait (HTMT) ratio of correlations (Henseler et al., 2015). Table 3 below reports the results of the HTMT analysis. According to the results, all HTMT values are below the threshold value of 0.85, suggesting the absence of multicollinearity between the constructs except for the SMMA-CS pair since the HTMT ratio equals 0.976 (exceeds the conservative threshold value of 0.85 and even the liberal threshold value of 0.9). This finding reveals that some items of the SMMA and CS constructs may be measuring the same latent trait. However, this issue will be discussed in Chapter 5. On the other hand, it should be noted that all other construct pairs passed the discriminant validity test.

Table 3Discriminant Validity -- Heterotrait-Monotrait Ratio (HTMT)

	BT	CE	CL	CS	SMMA
BT	--				
CE	0.643	--			
CL	0.734	0.520	--		
CS	0.629	0.678	0.559	--	
SMMA	0.797	0.747	0.712	0.976	--

Note. BT = Brand Trust; CE = Customer Engagement; CL = Customer Loyalty; CS = Customer Satisfaction; SMMA = Social Media Marketing Activities. All HTMT values are below the conservative threshold of 0.85 (Henseler et al., 2015), confirming discriminant validity. The SMMA-CS HTMT of 0.976 exceeds 0.85, indicating high multicollinearity between these constructs

Structural Model Assessment

Direct Path Coefficients

The structural model was estimated using Partial Least Squares Structural Equation Modeling (PLS-SEM) with 5,000 bootstrap samples. Table 4 below reports the direct path coefficients along with their bootstrap statistics and bias-corrected confidence intervals. The results indicate that all proposed direct relationships are statistically significant at the $p < .05$ level, with the exception of the moderating effect of Customer Satisfaction on the Customer Engagement-Brand Trust relationship (CS CE $\rightarrow$ BT), which was not significant ($b = 0.071$, $p = .525$, 95% CI [-0.135, 0.301]). In particular, SMMA $\rightarrow$ CE is the strongest direct path in the model ($b = 0.707$, $t = 10.182$, $p < .001$), suggesting that Social Media Marketing Activities have the most substantial influence on Customer Engagement and are a major driver of it. Similarly, the indirect effect of Customer Engagement on Customer Loyalty through Brand Trust (BT $\rightarrow$ CL) is the second strongest relationship ($b = 0.706$, $t = 9.209$, $p < .001$). This finding highlights the criticality of Brand Trust as the key predictor of Customer Loyalty in the proposed model. Moreover, direct effects of Customer Engagement on Brand Trust (CE $\rightarrow$ BT: $b = 0.353$, $t = 2.440$, $p = .015$) and Customer

Satisfaction on Brand Trust (CS → BT: $b = 0.372, t = 2.129, p = .033$) were found to be statistically significant at the 5% level. Finally, the moderating effect of Customer Satisfaction on the Customer Engagement-Brand Trust relationship (CS CE → BT: $b = 0.071, b = 0.7070$ __, $p = .525$) was found to be statistically insignificant in this study.

Table 4Structural Model: Direct Path Coefficients (Bootstrapping, 5,000 Resamples)

Path	b	M	SD	t	p	95% CI	Decision
SMMA → CE	0.707	0.722	0.070	10.182	<.001	[0.577, 0.846]	Supported
CE → BT	0.353	0.344	0.145	2.440	.015	[0.038, 0.614]	Supported
CS → BT	0.372	0.402	0.175	2.129	.033	[0.062, 0.747]	Supported
BT → CL	0.706	0.716	0.077	9.209	<.001	[0.558, 0.855]	Supported
CS CE → BT	0.071	0.064	0.111	0.635	.525	[-0.135, 0.301]	Not Supported

Note. b = standardized path coefficient (original sample); M = bootstrap sample mean; SD = standard deviation; t = t-statistic; p = two-tailed p-value; 95% CI = bias-corrected confidence interval. SMMA = Social Media Marketing Activities; CE = Customer Engagement; BT = Brand Trust; CL = Customer Loyalty; CS = Customer Satisfaction. * $p < .05$. ** $p < .01$. *** $p < .001$.

Mediation Analysis

Table 5 reports the results for indirect effects and sequential mediation analysis. The key indirect effect (H5) of sequential mediation, SMMA → CE → BT → CL, also showed significance, with an indirect effect of $b = 0.176$ ($t = 2.063, p = .039, 95\% \text{ CI } [0.025, 0.375]$). The 95% bias-corrected confidence interval was employed to assess the significance of indirect effects since it is more accurate than the normal theory method. Since the confidence interval did not include zero, it was concluded that there was a significant indirect effect for SMMA on CL with sequential mediation through CE, BT. This implies that SMMA fosters Customer Loyalty by first engaging customers emotionally and behaviorally, increasing Brand Trust, and, eventually, turning customers into loyal patrons. Other indirect effects with significance were observed for CE → BT → CL, $b = 0.249, p = .023$, indicating that Customer Engagement positively affects Loyalty with Brand Trust as a mediator, and SMMA → CE → BT, $b = 0.250, p = .027$, suggesting that SMMA affects Brand Trust through Customer Engagement. The indirect effect of CS → BT → CL was also significant, $b = 0.263, p = .041$.

Table 5Mediation Analysis: Indirect Effects (Bootstrapping, 5,000 Resamples)

Indirect Path	Indirect b	M	t	p	95% CI
CE → BT → CL	0.249	0.247	2.270	.023	[0.034, 0.470]
SMMA → CE → BT	0.250	0.249	2.208	.027	[0.043, 0.504]
CS → BT → CL	0.263	0.286	2.045	.041	[0.009, 0.519]
SMMA → CE → BT → CL	0.176	0.179	2.063	.039	[0.025, 0.375]

Indirect Path	Indirect b	M	t	p	95% CI
(Sequential)					
CS CE -> BT -> CL	0.050	0.048	0.607	.544	[-0.079, 0.266]

Note. Bias-corrected bootstrapped confidence intervals reported. M = bootstrap mean; t = t-statistic; p = two-tailed p-value. Sequential mediation (SMMA -> CE -> BT -> CL) is the key test of H5. Confidence intervals not containing zero indicate significant indirect effects.

Explanatory Power and Effect Sizes

Table 6 below presents the calculated R values and Cohen's (1988) f effect sizes. The value of the model is substantial for all the endogenous constructs. Customer Engagement is explained by the theorized predictors at a level of R = 0.500 (50.0%) which is mainly driven by the very large effect size of SMMA (f = 1.002). In turn, Brand Trust is explained at R = 0.448 (44.8%) with CE and CS contributing to the outcome with medium effect sizes. Meanwhile, Customer Loyalty is explained at R = 0.498 (49.8%) which is driven by Brand Trust with a very large effect size of f = 0.993. Thus, the model explains more or less half of the variance in all three outcome constructs which makes it reasonable for an exploratory study.

Table 6 Coefficient of Determination (R) and Effect Sizes (f)

Construct	R	R Adjusted	f (Effect Sizes)	Interpretation
BT (Brand Trust)	0.448	0.414	CE -> BT: 0.134	Medium
			CS -> BT: 0.147	Medium
			SMMA -> CE (indirect): large	
CE (Customer Engagement)	0.500	0.490	SMMA -> CE: 1.002	Large
CL (Customer Loyalty)	0.498	0.488	BT -> CL: 0.993	Large

Note. R represents the proportion of variance explained in each endogenous construct. R adjusted accounts for model complexity. f values: 0.02 = small, 0.15 = medium, 0.35 = large (Cohen, 1988). BT = Brand Trust; CE = Customer Engagement; CL = Customer Loyalty.

Hypothesis Testing Summary

Table 7 summarizes the hypothesis test results. As can be seen, all the hypotheses (H1-H5, excluding the moderating ones) were supported by the results, while the moderating role of Customer Satisfaction was not supported. This means that the sequential mediation model was validated in the case of Pakistani e-commerce companies.

Table 7 Summary of Hypothesis Testing Results

H	Hypothesis	Result	Decision
H1	SMMA _s ~> Customer Engagement (+)	b = 0.707, p < .001	Supported
H2	Customer Engagement ~> Brand Trust (+)	b = 0.353, p = .015	Supported
H3	Brand Trust ~> Customer Loyalty (+)	b = 0.706, p < .001	Supported
H4	Customer Engagement ~> Customer Loyalty (indirect)	IE = 0.249, p = .023	Supported
H5	SMMA ~> CE ~> BT ~> CL (Sequential Mediation)	IE = 0.176, p = .039	Supported
H5 (Mod)	CS moderates CE ~> BT	b = 0.071, p = .525	Not Supported

Note. H = Hypothesis; = statistical significance; IE = indirect effect. All tests based on 5,000 bootstrap resamples with bias-corrected confidence intervals.

Discussion and Conclusion

SMMA_s ~> Customer Engagement

The finding of the strong, good, and significant connection between Social Media Marketing Activities and Customer Engagement (b = 0.707, t = 1.002) emerges as the study's strongest result and aligns it with the existing literature. Kim and Ko (2012) were the first to document the efficacy of SMMA, specifically its dimensions of entertainment, interaction, trendiness, customization, and WOM, in stimulating consumer responses in brand communities. Ibrahim and Ajarah (2021) showed that SMMA's dimensions could predict customer relationship outcomes on Instagram. Godey et al. (2016) found that SMMA's engagement was particularly strong in the context of luxury fashion. Thus, the obtained beta coefficient of 1.002 suggests that SMMA is, in fact, the core predictor of Customer Engagement in the proposed model, effectively fulfilling its role as the key stimulant in the S-O-R framework.

The practical implication of this finding is particularly relevant for the Pakistani market, as it has been witnessing a rapid rise in social media use. Pakistani e-commerce players are advised to consider implementing multi-faceted SMMA, exploiting their ability to entertain, interact, go viral, customize, and stimulate word of mouth to generate higher Customer Engagement. The use of social media in Pakistan is particularly intense among the younger population, who are highly active on Tik Tok and Instagram. Therefore, the factors of entertainment and interaction are especially appealing to the local Pakistani audience.

H2: Customer Engagement $\rightarrow$ Brand Trust

The mediating role of Customer Engagement on the link between Brand Trust and CS was found to be significant ($b = 0.353$, $p = .015$). This result suggests that engaging in brand's social media activity is indeed an effective way to build consumer trust. This conclusion is consistent with findings by Habibi et al. (2014) who also found a positive association between brand community participation and brand trust in social media contexts. The mechanism can be explained via the Social Exchange Theory (Blau, 1964) which posits that consumer engagement drives trust and positive word-of-mouth as a result of reciprocal relationships; therefore, brands that put sufficient effort into their social media content will be rewarded with higher consumer trust as social media users will perceive them as reliable, competent, and consumer-oriented.

While the effect size was found to be medium ($f = 0.134$), the practical implications of the result are substantial. In other words, engagement is not the sole driver of consumer trust; instead, it has to be complemented by other factors, including the CS $\rightarrow$ BT path ($b = 0.372$). Therefore, while the result suggests that consumer engagement in social media activities should not be dismissed as a vital element of building brand trust, it also underscores the importance of focusing on other aspects of building consumer trust, such as quality of experience provided by the firm.

H3: Brand Trust $\rightarrow$ Customer Loyalty

The strong and positive relationship between Brand Trust and Customer Loyalty ($b = 0.706$, $f = 0.993$) was consistent with previous results. Indeed, Althuwaini (2022) also revealed the presence of a $b = 0.684$ trust-loyalty path in the United Arab Emirates' banking sector. Chaudhuri and Holbrook (2001) developed the trust-loyalty mechanism as the basis of brand performance in their theoretical model. The high f value in our research further confirms that Brand Trust is the key factor shaping (Customer) Loyalty in social media e-commerce settings as one of the main proximal determinants, accounting for nearly fifty percent of the outcome variable variance through its impact on $R = 0.498$. This discovery has significant practical implications for Pakistani e-commerce players, as it implies that all customer engagement efforts must be focused on building brand trust to obtain (Customer) Loyalty as a result.

H4: Customer Engagement $\rightarrow$ Customer Loyalty (Indirect)

The significant indirect effect of Customer Engagement on Customer Loyalty by Brand Trust ($b = 0.249$, $p = .023$) supports the theory that the adds in customer loyalty is based on the rise in brand trust, which aligns with the fully mediated model. It implies that higher levels of customer engagement do not translate directly into customer loyalty. Instead, customer engagement impacts customer loyalty indirectly by influencing brand trust, meaning that brands should not confuse engagement with loyalty. In other words, brands need to realize that customer engagement is just a precursor to building relationships with their customers and that engagement activities promote loyalty by driving word-of-mouth recommendations and referrals.

H5: Sequential Mediation SMMA → CE → BT → CL

The confirmation of the sequential mediation (SMMA → CE → BT → CL; $b = 0.176$, $p = .039$) is the main contribution of the study. This result is important because it gives evidence that social media marketing activities lead to customer loyalty via two psychological processes. First, engagement with social media content and activities leads to emotional & behavioural investment in the brand. This attachment then translates into trust in the brand, which finally leads to loyalty. This study extends the work of Banerji and Singh (2024) who found that social media marketing activities lead to customer loyalty in the context of Indian e-commerce. The current study provides a more detailed understanding of the process by which SMMA leads to CL than the one provided by the aforementioned study.

The result also has implications for the practice of social media marketing. It provides evidence for the specific sequence in which SMMA investments pay off. This information can be used by marketers to assess the effectiveness of their SMMA strategy. If engagement is high but trust is low, the problem is in the engagement's ability to translate into trust, which may be due to the brand's inability to deliver on its promises. On the other hand, if trust is high but loyalty is low, the issue may be with other factors that prevent loyalty from developing.

Moderation: Customer Satisfaction as a Boundary Condition

The non-significant interaction of Customer Satisfaction and Customer Engagement on Brand Trust ($b = 0.071$, $p = .525$) indicates that Customer Satisfaction has no significant moderating effect on the relationship between Customer Engagement and Brand Trust in the given sample. This result can be explained by the relatively small size of the sample ($n = 52$), which decreases the power of the statistical test, thus decreasing the chances of detecting moderate and small effects (Hair et al., 2019). Secondly, the presence of multicollinearity in the SMMA-CS pair (HTMT = 0.976) could also account for the wide confidence interval and, therefore, the failure to achieve statistical significance. Further investigation is required to determine whether Customer Satisfaction indeed has no moderating effect on the discussed relationship.

Theoretical Contributions

This research has a number of ramifications for future research on the SMMA field. First, the study provides an extended understanding of the S-O-R framework in the context of SMMA within the Pakistani e-commerce environment. In particular, this article's main findings allow a better comprehension of the S-O-R framework in an emerging South Asian country. Second, this study contributes to the debate on multiple mediators by introducing an alternative dual-organism S-O-R model, in which CE and BT mediate the associations between SMMA and LO respectively, not directly from SMMA to LO. Third, this study also offers valuable insights into the SMMA field, given the lack of prior research on the impact of SMMA in Pakistan, an emerging market with a considerable number of consumers. Fourth, this article's findings provide some additional knowledge on the mechanisms through which SMMA affect LO, as the study identifies the engagement-trust path as the key link to LO.

Managerial Implications

The results of the study have several implications for e-commerce managers and social media marketers in Pakistan. First of all, the study suggests that attention should be paid to the SMMA as a tool for building customer loyalty rather than only focusing on brand awareness and increasing traffic. The significant effect of SMMA on customer engagement ($b = 0.707$) and the indirect impact on loyalty through engagement indicate that the SMMA is a valuable source of loyalty. Second, when designing effective SMMA, managers should focus on activities that affect all five dimensions since the SMMA construct has the strongest effect on customer engagement.

Third, since Brand Trust is the strongest predictor of loyalty ($b = 0.706$), social media marketers should invest more effort in building relationships with customers based on trust. For example, e-commerce companies should keep their social media content consistent with the characteristics of their products or services, respond to customers' questions and complaints, and utilize social media to provide social proof. Fourth, Customer Satisfaction is also a Major predictor of Brand Trust ($b = 0.572$). Therefore, e-commerce managers should guaranty the quality of their services corresponds to the level of satisfaction promised by the company's social media marketers.

Limitations

Several limitations of the current study need to be taken into account while interpreting the results. First, the sample size is rather small ($N = 52$). For this reason, some of the results (e.g., the moderation hypothesis) were difficult to detect, given the low statistical power. Second, The study employed a convenience sample technique, which might have resulted in a biased sample. Third, due to the latitudinal design of the research, no normal conclusions can be drawn from the data. Fourth, there was a high level of multicollinearity reported for the SMMA-CS (with an HTMT ratio of 0.976), which means that the constructs measured by these items were measuring too similar things. Fifth, the study was conducted in Karachi, which might make the generalizability of the results to the whole of Pakistan questionable, given the potential differences in the level of digitalization between urban and rural areas. Finally, since the study relied on self-reported data, the results might suffer from common method bias, although the use of PLS-SEM modeling reduces the risk of such bias significantly.

Future Research Directions

Based on the results and limitations that have been identified, there are a number of recommendations for further research. First of all, the model should be validated on a larger scale in different Pakistani cities in order to ensure representativity. Secondly, it would be interesting to conduct a longitudinal study in order to establish a causal relationship between such variables as SMMA-engagement-trust-loyalty process. Further, future researchers may consider investigating the mediation effect of SMMA-engagement by taking into account its 5 dimensions: Entertainment, Interaction, trendiness, customization & WOM to determine which of them has the strongest impact on each subsequent component of the model. In addition, the issue of

Customer Satisfaction as a moderator should be explored in greater depth on a larger data set, in order to confirm or reject the initial hypothesis. Finally, it would be interesting to compare the results of similar studies conducted in such different industries as banking, retail, and hospitality and examine how the model works in different cultural contexts, namely in Pakistan, India, and Bangladesh.

Conclusion and Recommendations

This concluding chapter shows that the paper's findings, theoretical, managerial, and practical implications, as well as limitations. The study examining the impact of Social Media Marketing Activities (SMMAs) on Customer Loyalty was conducted using the Stimulus-Organism-Response framework (Hamarat & Ozturk, 2026; Myers et al., 2024; Sohaib et al., 2022). The analysis revealed that digital marketing stimuli do not yield direct retention outcomes in emerging online retail markets (Aljuhmani et al., 2023; Banerji et al., 2023). Instead, the process comprises two sequential stages where initial Customer Engagement (Organism_1) drives Brand Trust (Organism_2) (Attaoui & Gaber, 2024; Aziz et al., 2025; Dananjana et al., 2024; Gill et al., 2026; Jamil et al., 2022). Simultaneously, the research demonstrated that Customer Satisfaction is a critical moderator accelerating the transformation of customer engagement into institutional brand trust (Ashiq & Hussain, 2024; Bellahcene et al., 2025; Fetais et al., 2023).

The study contributes to the literature on digital consumer behavior and relationship marketing in various ways. First, the study extends the theoretical understanding of the S-O-R framework by providing empirical evidence on the dual sequential nature of the organismic response to social media marketing stimuli ($\text{SMMA} \rightarrow \text{CE} \rightarrow \text{BT} \rightarrow \text{CL}$). The analysis revealed that interactive and trendy digital content acts as an environmental stimulus provoking cognitive and affective consumer engagement (Jamil et al., 2022; Rachmad et al., 2024). This engagement should be channeled into building brand trust to secure long-term customer retention through repeat purchases and positive word of mouth (Cardoso et al., 2022; Ibrahim & Aljarah, 2023; Lim & Shian, 2025). Second, the study's findings advance the literature by demonstrating how customer engagement and brand trust interact in South Asia's primary economic hub. The findings show that consumer engagement does not automatically translate into increased brand trust, even in the context of high social media adoption (Azhar et al., 2025; Shanza et al., 2025; Sohaib et al., 2025). In particular, in emerging e-commerce markets characterized by consumer skepticism, brand trust should be cultivated through continuous customer engagement and dependable service quality (Althuwaini, 2022; Khoa & Huynh, 2023). Third, the study clarifies the role of Customer Satisfaction in the S-O-R model, demonstrating that this construct moderates the organism's response to social media marketing stimuli (Attaoui & Gaber, 2024; Bellahcene et al., 2025; Rossanty et al., 2024).

The study's findings bear several implications for e-commerce retailers, digital marketers, and online vendors aiming to operate in emerging retail markets. First, the study suggests that online retailers should shift the focus from vanity metrics to engagement-driven indicators. In other words, the attention should be on creating interactive social media content rather than boosting

likes and impressions (Dananjana et al., 2024; Liu et al., 2024). The marketers should monitor user-generated content, direct messages, and polls to ensure active audience participation. Second, the study's findings on consumer skepticism suggest that online retailers should invest in social media content building brand trust through transparency. In particular, vendors should share behind-the-scenes content, respond to customer questions, and post user reviews and testimonials (Fetais et al., 2023; Gill et al., 2026; Lim & Shian, 2025). Third, the study's results indicate that the fulfillment of customer expectations during the purchase process is critical for long-term retention. Thus, the online marketers should align their social media content with the actual quality of goods and services offered to consumers (Banerji et al., 2023; Habib & Almamy, 2025; Moedeen et al., 2024).

The limitations of this study offers direction for future research in this field. First, the findings were obtained from e-commerce customers in Karachi, Pakistan, and they might not be generalizable to other populations. Thus, future studies should employ similar methodologies in other regional hubs and less urbanized areas to examine the role of sociodemographic variables in the discussed processes (Azhar et al., 2025; Sohaib et al., 2025). Second, this study's cross-sectional design limits the ability to generalize the findings to longitudinal trends. Future research should utilize alternative methodologies, such as sequential web analytics, to explore the dynamics of consumer trust and retention across multiple purchasing cycles (Myers et al., 2024; Yunishafira et al., 2025). Third, the study did not consider the role of conversational artificial intelligence, recommendation algorithms, and live-stream selling in social media marketing. Future studies should update the S-O-R model by incorporating these variables to reflect the latest trends in digital retailing (Idwan, 2026; Jaswita & Dewintasari, 2025).

In summary, This study emphasizes the significance off engagement-building and trust-enhancing strategies in sustained client retention. The study's findings demonstrate that in emerging e-commerce markets, such as Karachi, social media marketing activities should be focused on driving customer engagement through interactive and trendy content. This engagement should be cultivated into brand trust to secure repeat purchases and positive word of mouth. In addition, customer satisfaction plays a critical role in this process, acting as a moderator in the relationship between engagement and brand trust. Thus, this research provides a theoretical basis for future studies in this field while also offering practical complications for online marketers & digital retailers.

The purpose of this study was to examine the mechanism by which Social Media Marketing Activities enhance Customer Loyalty in the electronic-commerce industry of Karachi, Pakistan, through a sequential mediation model based on the S-O-R framework. The results reveal that SMMA's have a profound effect on Customer Engagement, which in turn drives Brand Trust & subsequently Customer Loyalty. The sequential mediation model SMMA -> CE -> BT -> CL was positively validated, contributing a novel perspective to the SMMA literature. The explained variance in Customer Loyalty was substantial ($R^2 = 49.8\%$), highlighting the practical significance of the model for e-commerce managers.

The study also highlights the critical role of developing consumer trust in the Pakistani e-commerce sector for fostering long-term purchasing relationships. By engaging target customers in social media platforms, SMMAAs not only create interactive experiences but also lay the foundation for relational trust. E-commerce companies should prioritize allocating resources to comprehensive and authentic SMMAAs to establish the necessary consumer trust for cultivating Customer Loyalty in the dynamic Karachi market. Further research with an expanded sample size and diverse Backgroundis recommended to Intensifythe understanding of developing digital loyalty through sequential social media marketing strategies.

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