



From Equity to Exit: A Mixed-Path Neuro-Marketing Analysis of Brand Loyalty and Non-Repurchase Intention

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ARTICLE INFO

Article History:

Received: June 15, 2025
Revised: July 18, 2025
Accepted: August 05, 2025
Available Online: August 16, 2025

Keywords:

Brand loyalty, protest behavior, social media platforms, opportunistic recall, Neuro-Marketing, Agile Marketing Theory, PLS-SEM, fsQCA, brand equity

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ABSTRACT

The paper analyzes the impact of digital marketing ecosystem on brand loyalty and non-repetition intent in regard to opportunistic behavior of a brand, especially instances of product recalls. Filling an existing research gap, it presents how emotionally driven and ethically conscious consumers react to each other and offers that includes elements of the Expectancy Violation Theory (EVT) and Situational Crisis Communication Theory (SCCT) along with Complexity Theory. The study postulates that the negotiating behavior, the negative brand personality affect consumer decision on brand crises. The sample of data collection was quantitative and cross-sectional, where 250 social media marketing users based in Pakistan took part in an online survey. The hypothesized relationships were tested with Partial Least Squares Structural Equation Modeling (PLS-SEM) and configurational exploration can be accomplished using fuzzy set Qualitative Comparative Analysis (fsQCA). The Neuro-Marketing habits with the help of social media environments proved somewhat more effective in influencing the brand equity but the opportunistic recollection was a strong indicator of the negative brand personality and the protest action. These emotional consequences, however, had small effects on loyalty or non-purchase intention indicating the existence of discrepancy between the perceptions of the consumers and their action. This study addresses this limitation by establishing the context of examining brand behavior in new markets with the evidence being used as a result of linear causality that introduces both theoretical and practical value of ethical decision making as being problematic, thus the necessity of strategic actions towards ethical digital brand management in neuro-marketing scenario.



Introduction

Social Media Marketing platforms have remodeled the way brand gets engaged with the consumer in Pakistan's evolving digital economy, through directly affecting the brand visibility, consumer loyalty and repurchase intention. (Shahzad et al., 2025) The adoption of SMMAs have started a Neuro-Marketing activities like the personalized ads and influencer collaborations, Stimuli-Based Neuro-Marketing Integration which has helped improve brand equity by shaping consumer perceptions (Ali et al. 2023; Zollo et al. 2020).

As a novel interdisciplinary study, Neuro-Marketing combines the analysis tools of neuroscience and marketing research to determine the unconscious reaction of consumers to advertising elements, providing information that is not limited in scope by conventional self-reporting perspectives (Agarwal & Dutta, 2018; Smidts et al., 2014). Recent researchers show that emotions, attentional focus, and memory encoding can be effectively measured through biometric and neurophysiological measures like electroencephalography (EEG), eye-tracking, galvanic skin response to exposure to the brand, and can even better predict consumer decisions than survey-based methods (Cherubino et al., 2019; Harris et al., 2022). Neuro-marketing frameworks have been used within the realm of social media marketing to investigate how subconscious visual and narrative information can influence brand equity and loyalty and thus found that there is a greater activation of the brain with emotionally evocative and visually salient content and, by extension, increased behavioral intentions (Hakim & Levy, 2021; Morin, 2011). Aligning the discovery in this study of brand perception, protest behavior, and loyalty to the neuro-marketing parameters, the study offers more than posing the consumers reaction within the digital ecosystem as it also presents the potential to incorporate neuro-based metrics in further evaluation to penetrate deeper into the mechanisms of cognitive and emotional powers that guide decision-making.

The more the brand equips consumers with, the higher the brand equity, which implies that brand equity is vital for the e-commerce world primarily to secure long-term relationships with customers (Chen and Qasim, 2021). On the other hand, backlash to negative brand experience occurs and can hurt loyalty when the customer perceives an unethical brand (Klein, and Dawar, 2004). Adding more complexities, the idea of a negative brand personality (NBP) complicates further the fact that consumers often judge brands on the appearance of sincerity and ethical behavior (Magno, 2012).

Although there is an increasing body of research on social media marketing activities, brand equity and consumer behavior during the times of crises, limited scant research has examined these dynamics within the context of neuro-marketing, especially in developing countries like Pakistan. Current evidence regarding opportunistic recalls, negative brand personality, and protest behavior has used self-report measures in most papers, ignoring unconscious physiological and emotional activities, which can be a central mechanism to influence consumer behaviors (Harris et al., 2022; Shahzad et al., 2025). Moreover, current models, such as Expectancy Violation Theory (EVT) and Situational Crisis Communication Theory (SCCT) have mostly been used in the single-path, linear analysis context, in the Western social setting (Coombs, 2007; Kim, 2022) and there is a lack of an understanding of the non-linear, culturally-specific, and ethically-charged journey to brand loyalties and intentions not to repurchase goods. The relevance of this gap is more conspicuous in the case of the digital market in Pakistan that is highly penetrated in social media, ethically aware, and having the presence of collective consumer activism. By filling this gap, the current research combines neuro-marketing concepts with mixed-path analytical methods (PLS-SEM and fsQCA) to study not only the direct but also curvilinear correlations between digital marketing stimuli,

emotional responses, as well as behavioral outcomes and provide a localized and multi-dimensional picture of the consumer-brand processes.

Literature Review

In the digital environments, Social Media Marketing activities (SMMAs) have been shown to be the effective place for the brands to create and build trust, brand equity, and also engagement. (Shahzad et al., 2025) Moreover, brands in Pakistan utilizing features such as personalization, trendiness, interaction and user generated content engage with consumers on Neuro-Marketing by creating consumer connections (Ali et al., 2023; Khan, 2022; Zarei et al., 2022). These activities add to consumer experience, manage perception all along the buyer journey, and in turn contribute to emotional brand attachment higher level of engagement (Chen and Qasim, 2021). Chen and Lin (2019) and Yadav and Rahman (2018) state that viral word of mouth and interactive content hugely increase the brand consumer relational. Thus, SMMA is not a promotive instrument but a strategic came to channel consumer behaviour shaping especially in developing markets such as Pakistan, where digital trust is paramount.

The recent literature in neuro-marketing notes the importance of combination of neurophysiological understanding with the digital models of consumer behavior in order to better cognize on the subconscious processes affecting brand loyalty and exit choices. Regarding emotional arousal, it has been possible to measure their activity through tools such as an electroencephalogram (EEG), eye-tracking and galvanic skin response, finding that these priming stimuli tend to be excellent predictors of subsequent consumer behavior more often than self-reported intentions (Harris et al., 2022; Hakim & Levy, 2021; Cherubino et al., 2019). In the social media marketing field, neuro-marketing models revealed that visual prominence, content sequences, and emotionally based contents could enhance brand equity and have the potential to influence crisis judgment, specifically, in ethically controversial situations such as product recalls (Shahzad et al., 2025; Morin, 2011). It complies with the current research dealing with opportunistic recall, protest behavior, and negative brand personality, as these emotional and moral activators are capable of triggering neural circuits relative to trust, aversion, and choice-making, thus influencing loyalty as well as the lack of purchasing intentions. The study, by placing the construct in a neuro-marketing context, builds upon the current literature by showing the relationship between subconscious consumer reaction and perceived ethics of brands in new markets both providing theoretical advancement and operationally advancing the ethics of crisis communication practitioners.

Brand equity is the perceived value that allows a consumer to make a distinction between one brand and another and in the digital-first economies of the likes of Pakistan whereby physical experience is constrained across most categories it is even more influenced by the virtual experience and content credibility (Husain et al., 2022; Liu et al., 2018; Ebrahim, 2020). Good brand equity encourages the behavior of consuming prices, increase in preferences, and their repetition of purchase, and is also transformed by Social Media Marketing Activities (SMMAs) like trendiness and customization which constructs brand image and impressions (Adetunji et al., 2018; Kim & Lee, 2019). The consumer culture in Pakistan is based on storytelling and peer recommendations and the competitiveness as well as survival of firms is highly dependent on high brand equity. Nevertheless, badly constructed brand personality (NBP) in which brands are seen as deceptive, egoistic, or socially irresponsible through either behavior or crisis handling can, nonetheless, devastate long-term loyalty (Haji, 2014; Hussain et al., 2025; Dai & Reich, 2023). In subjective platforms such as X (Twitter), YouTube, and Instagram, opportunistic behavior in the event of a recall is soon revealed, whereby NBP in addition to decreasing loyalty, also results in

protest behavior and psychological alienation (Grappi et al., 2013). Earlier models (Fournier & Avery, 2011; Japutra et al., 2019) validate the idea that brand personality, although at the heart of brand image, has a dark side that under its negative label is more damaging than constructive in an emotionally involved market such as Pakistan. Online activism, which includes boycotts, negative comments, viral hashtags, and networking to mobilize a community, has expanded based on the opinion that a psychological contract between a consumer and a brand has been violated (Argyris, 1960; Rousseau, 1989; Yang & Qiu, 2016). This response is enhanced on the internet where disgruntled customers can easily magnify their voice with alacrity (Kozinets & Handelman, 2004). Even though marketing policies are designed to establish a sense of loyalty in terms of repeat buying and favorable word of mouth recommendations, digital loyalty is always susceptible of being weakened by adverse experiences or protest activities (Hussain et al., Curina et al., 2020; Haudi et al., 2022; Snell, 2022), and protest and having maladaptive brand characteristics tend to go hand-in-hand with increased non-repurchase intention (Roy et al., 2022; Japutra & Molinillo, 2019). Unlike the traditional concept that loyalty is a stable behavioural and attitudinal construct (Yi & Jeon, 2003; Oliver, 1999), digitalised settings show it to be dynamic and conditional, and therefore it is critical that the conditions that generate loyalty and an exit decision have to be determined in a transparent marketplace such as Pakistan. In such an environment, dialogical CSR communication two-way, responsive interactions in which the brands listen, recognize, and take action is especially important during a crisis because authenticity and accountability hold great value among digital consumers (Dong et al., 2024; Leung et al., 2023; Markovitch et al., 2024). Good CSR communication has the power to minimize reputational losses, resulting in more trust and restored loyalty, with its realization being seen as more powerful than a one-way message (Morsing, 2006; Shahzad et al., 2025), and in situations like opportunistic recalls, it can curb protest action and reform the negative brand personality.

Introduction to Theories and Models

Due to the ever changing nature of Social Media Marketing (SMM), multidimensional models are required for understanding the nature of the consumer brand relationships in the digital ecosystems. The context in which players operate in Pakistan's consumer market includes the digital channels currently being used to execute brand communication and customer experience, which limited their effectiveness during opportunistic recalls. Using a hybrid theoretical approach drawing on Expectancy Violation Theory (EVT), Situational Crisis Communication Theory (SCCT), and Complexity Theories (Hussain et al., 2025; Ruan et al., 2023; Leung et al., 2023), this research focuses on determiners and deterrents of brand loyalty and non-replacement intentions. The given theories create a systemic view for analyzing the reciprocal relations between social media marketing activities, protest behaviour, perceived brand failures as well as dialogical CSR. However, literature is not heavily dedicated to linear loyalty pathways (Oliver, 1999; Fournier and Avery, 2011), but the current study goes further by determining multiple loyalty and exit pathways.

Expectancy Violation Theory (EVT) serves as the first cornerstone of this research. According to EVT, consumer response is modulated by the way by which brand actions match and mismatch prior expectations. However, they create emotional and behavioral responses like the ones triggered by opportunistic recalls or poor communication (Rahimah et al., 2023; Jang et al., 2024; Dai and Reich, 2023) provided brands deviate from what consumers expect. Burgoon and Hale (1988) & Olkkonen & Luoma-Aho (2015) have used EVT successfully in consumer-brand literature to explain what psychological consequences perceived brand betrayal or deception produces. In Pakistani context, consumers look to brands for empathy, responsiveness, and transparency; any contravention of these implicit social contract, can be avenged by protest

behavior, negative word of mouth or being completely disengaged. EVT therefore offers a conceptual framework on which to explain the 'psychological child' variable in terms of it affecting brand loyalty or non-purchase.

Agile Marketing Theory (AMT) is another theory that can complement this study, especially by putting neuro-marketing operations into the dynamic digital environments. As AMT states, the effectiveness of marketing efforts is increased according to the principles of the iterative, data-forward, and fast adjusting to consumer feedback loops, which are well correlated with the principles of neuro-marketing based on measuring consumer attention, emotion, and cognitive engagement in real-time (Beck et al., 2021; Rigby et al., 2016). Agile principles can be applied to the neuro-marketing sphere in order to rapidly test and optimize emotionally appreciable stimuli, e.g., personalization, collaborations with influencers, or sensory stimuli, according to biometric and behavioral outcomes (Cherubino et al., 2019; Hakim & Levy, 2021). In Pakistan, the highly social media sphere, where brand sentiment could be quickly changed in case of greedy recalls and unlinked news about ethical violations, incorporating agile solutions allows the brand to modify messaging and crisis communication on the fly, therewith alleviating adverse brand personality and demonstration action. Such synergy between the insights of neuro-marketing and agile responsiveness underlies the emphasis in the study on the multiple loyalty and exit pathways as the reality they reflect is that of a dynamic context rather than a constant condition.

This research aims at understanding the impact of various ways of brand related action and communication strategies especially when brand is perceived to fail on brand loyalty and non-purchase intentions in the Pakistani social media marketing economy. Specifically, the researcher studies the relation between social media marketing activities, negative brand personality, protest behavior, neuro-marketing and perceived dialogical CSR communication and their interaction in driving continued loyalty or brand exiting. (Shahzad et., 2025) The research aims to be able to identify not just direct relationships, but also multiple configurational pathways by using both PLS-SEM and fsQCA, two complementary techniques combining strength and depth in offering theoretical and practical value to brands in highly interactive as well as scrutinised contexts.

Supporting and Contrasting Perspectives

Traditionally, the company bases on such a brand equity as a key precondition of brand loyalty formation. It is argued by several scholars that brand equity creates more customer trust, advocacy and repurchase behavior [Ebrahim (2020), Ali, et al. (2023) and Chen, and Qasim (2021)]. The results of the above studies imply that strong brand equity helps retain customers at critical times such as in turbulent periods. Yet, other scholars contend that it is not enough that brand equity enables loyalty as events such as recalls infect the consumer's expectations (Yadav & Rahman, 2018; Liu et al., 2018). In Pakistan, where brand trust is weak and brand switching is common, equity may give an initial reach but only serves as a proven leverage in the longer term upon continuous engagement and ethical behavior.

Negative brand personality (NBP) is actually seen as a type of brand with strong emotional influence to consumer decision making. As stated by supporting views, brand love and loyalty are significantly reduced when dishonesty, egotism or irresponsibility perceptions are high (Dai and Reich, 2023; Hussain et al. 2025; Haudi et al, 2022). The empirical studies demonstrate that brands suffer backlash by their consumers more if they profess NBP more in highly evident digital domains defined by Pakistan, in this case social media. Nevertheless, some literature questions the deterministic view of NBP and propounds that consumer can accept negative traits if positive perception of brand performance or benefits overall are very high (Japutra et al., 2019; Fournier

and Avery, 2011). NBP may not always invoke non-renewal if there does not exist any other pull force acting on employee.

Mediation and Moderation Perspective

Through opportunistic recall, consumers have been known to develop negative impressions if they sense that brands are using a crisis as a bludgeoning tool for their own gain. As a result, such behavior is perceived as an egotism, a deception or an insincerity, dimensions core of negative brand personality (Hussain et al., 2025; Dai and Reich, 2023). As a result, a study in crisis marketing has shown that the consumers disconnect from emotional when they feel the consumer is being exploited especially in the case of the automotive or electronics industry where the consumer can require high levels of safety (Haji, 2014; Magno, 2012). Opportunistic actions in Pakistan which are carried out in a fragile brand, customer trust ecosystem spread fast through Neuro- Marketing and amplify the negative perception of these traits and damage the reputation.

Consumer protest behaviors are often triggered as a form of moral retaliation during opportunistic (instead of requisite, sense related) recalls (Ruan et al., 2023; Jang et al., 2024). These reactions are rooted in Expectancy Violation Theory as brand actions are otherwise expected to be consistent with assumed ethical standards, contractual trust, and generally with strong values of collectivism like in the case of Pakistan (Grappi et al., 2013; Kozinets and Handelman, 2004). Digital platforms make this response have magnified resonance: Hashtags, boycotts, online reviews - all become possible protest tools.

This study shows that perceived dialogical CSR communication softens negative effects on the relationship between opportunistic recall and negative brand perception or protest. Brands that openly talk to consumers in two-way communication (owning up to fault, offering solutions and caring about the consumers) not only forgive but also counteract the emotional backlash of consumers (Kim, 2022; Dong et al., 2024). Nonetheless, critics argue that CSR communication must be perceived as authentic to be effective. Superficial CSR efforts may backfire, especially in highly skeptical digital audiences, leading to further distrust and escalation of protest (Gamboa and Gonçalves, 2014; Olkkonen and Luoma-Aho, 2015). In Pakistan, where consumers are increasingly critical of brand sincerity, dialogical CSR that lacks depth or follow-through might fail to moderate negative reactions and may even exacerbate consumer skepticism (Ruan et al., 2023; Leung et al., 2023).

Hypothesis Development

Opportunistic Recall and Negative Brand Personality

Opportunistic recalls often make consumers perceive the brands as desperate attempts to earn a greater advantage during crisis situations, triggering dishonest and selfish impressions. Such practice is against the emotional trust that consumers establish with brands, and negatively affects the concept of Negative Brand Personality (NBP) where brands are perceived as egotistical, deceitful, and socially irresponsible (Hussain et al., 2025; Dai and Reich, 2023; Rahimah et al., 2023). Such behaviors are particularly harshly judged and quickly reversed as it is in collectivist and emotionally impacted markets such as Pakistan. The problem arises when brands don't show transparency or empathy when it comes to recalls, since this can cause a brand to alienate consumers emotionally and potentially result in bad long term reputation and trust issues.

H1: Opportunistic recall positively influences negative brand personality.

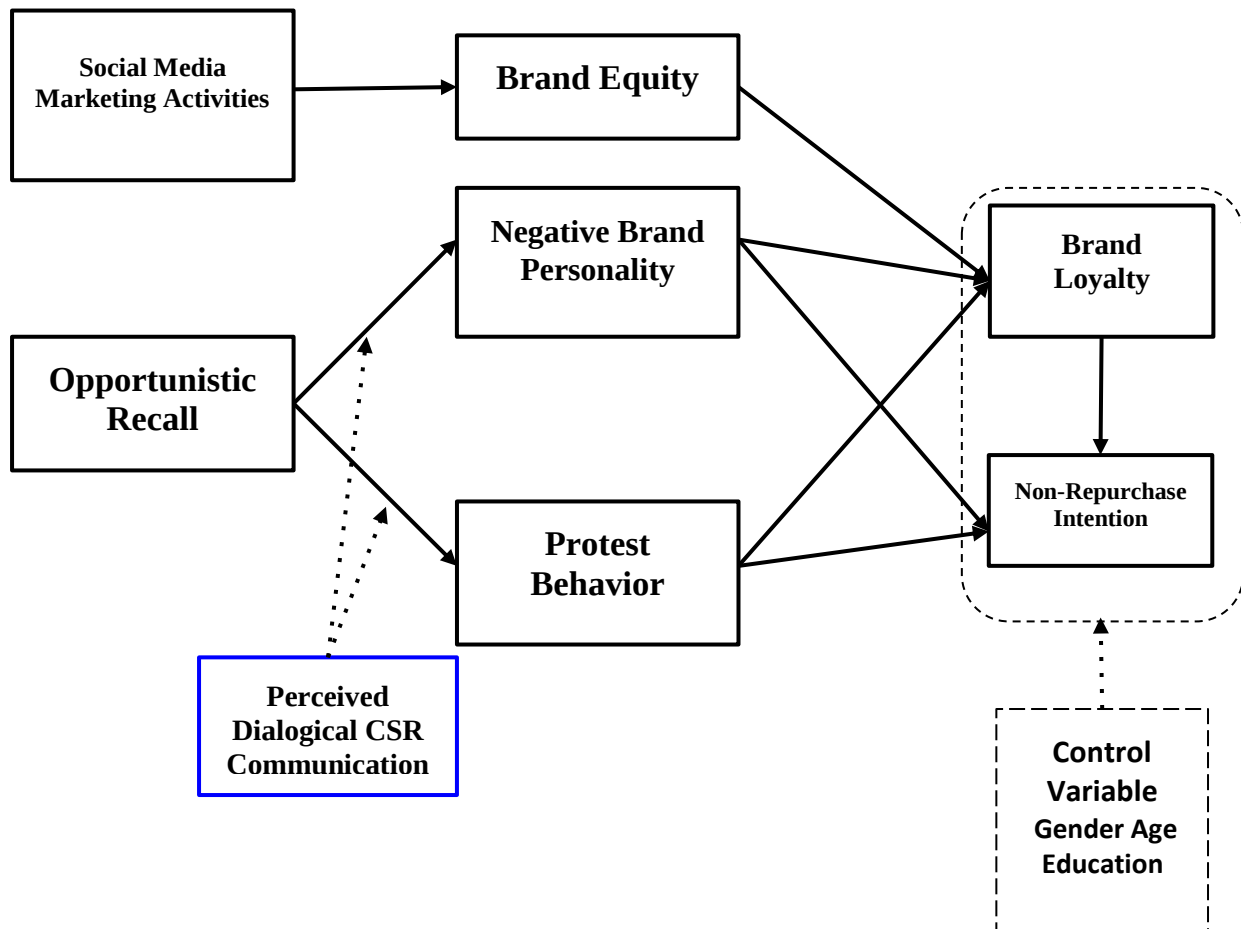


Figure 1: Conceptual Framework

Opportunistic Recall and Protest Behavior

When consumers believe a stimulus such as a brand recall is opportunistic rather than genuine, they are more susceptible to protest behavior whether the form is silent through nonpurchase or vocal on the web. These actions dwell upon the fact of the consumers feel morally irritated and emotionally enervated (Rahimah et al.: p. 179, Jang et al.: p. 190, Ruan et al.: p. 138). Platforms like Twitter and Facebook are ones in South Asia, like Pakistan, where such protest behaviours happen and are coordinated generally via hashtags or consumer alliance. Collective emotions and digital virality amp up such responses.

H2: Opportunistic recall positively influences protest behavior.

Negative Brand Personality and Brand Loyalty

Brand personality with negative connotation is associated with emotional disconnection due to impression of the arrogance, dishonesty or selfishness of the brand, and subsequently leads to decline in brand loyalty. Identity alignment forms the basis for emotional loyalty towards our favorite brand, which turns shaky should either the personality traits of that brand (Dai and Reich, 2023; Hussain et al., 2025) or those of the customer (Feng and Motoki, 2024) become obstructive. Behavioral disengagement is strongly influenced by

negative emotional responses in the Pakistani market, which is high on relationship orientation

H3: Negative brand personality negatively influences brand loyalty.

Negative Brand Personality and Non-Repurchase Intention

Where a brand is perceived negatively, consumers distance themselves from the brand to develop non-repurchase intention to avoid negative emotional impacts. NBP is the red flag as they serve as a sign of the brand no more reflecting the consumer's identity or values (Hussain et al., 2025; Dai and Reich, 2023; Haudi et al., 2022). When emotional trust is broken, however when the business sets out to figure out why I purchased from them or if buying from them enabled me to have an impact this distancing is even more pronounced and the consumer will avoid the brand, period, until such efforts prove otherwise. (Shahzad et., 2025) The exit effect works in manifold ways in Pakistan, where consumers talk openly of such feelings by means of digital platforms.

H4: Negative brand personality positively influences non-repurchase intention.

Opportunistic Recall, Negative Brand Personality and Brand Loyalty

Most opportunistic recalls ebb down to consumer perceptions by undermining their trust and integrity into creating the Negative Brand Personality (NBP). Particularly, such perception is powerful when the brand practices with disregard of consumer safety, or ethical responsibility while facing crises (Dai and Reich, 2023; Hussain et al., 2025; Rahimah et al., 2023). The more NBP there is, the stronger emotional distancing is, splitting the psychological connection of the consumer and the brand. In such a country like Pakistan, the cues about personality have a great impact over whether a consumer continues or cuts down the brand relationship.

H5: Negative brand personality mediates the relationship between opportunistic recall and brand loyalty.

Opportunistic Recall, Protest Behavior and Non-Repurchase Intention

Opportunistic behavior by a brand usually generates protest behavior, which is a form of public resistance resulting from unmet expectations or ethical violation. Such protest in the digital economies of Pakistan can also range from social media Marketing backlash, brand boycott, or mobilization of peer opinion (Ruan et al., 2023; Jang et al., 2024; Hussain et al., 2025). The sad thing is, when these protests are not treated with the necessary gravity nor acknowledged in a truthful manner, then those protests lead to more drastic behavioral consequences; having nothing to do with words merely but turning into a measurable emotional discontent over time that has a significant impact on how we will consume a brand, and will not.

H6: Protest behavior mediates the relationship between opportunistic recall and non-repurchase intention.

Conceptualization

Although research on the consumer reaction to brand crises exists, such research is divided and many studies rely on linear models that are no longer useful for understanding digital consumer behavior. The ‘grounded’ studies based on Expectancy Violation Theory (EVT) (Hussain et al., 2025; Rahimah et al., 2023; Dai and Reich, 2023) explicate how opportunistic recalls (i.e., brand negative actions that violate consumer expectations and diminish trust) miss expectations and thus hurt trust. Likewise, Situational Crisis Communication Theory (SCCT) deals with how an organization can reduce the deletional damage to their reputation by strategic messaging and response mechanisms (Kim, 2022; Coombs, 2007). While these are theoretical explanations for how brands behave and the interactions with the consumer, there has been growing recognition that the more important factors are consumer emotional response to the behavior of the brand as well as the combination of brand behavior, emotional response, and communication effectiveness. Consequently, this study combines EVT and SCCT with Complexity Theory in order to study more than one causal pathway (Ali et al., 2023; Ruan et al., 2023; Woodside, 2016). Hence what’s been done has predominantly been around western single variable, linear models; and what needs to be done is to consider multiple variable, contextual pathways that are dynamic in nature and relevant for emerging markets like Pakistan where the core of all loyalty, protest and trust comes differently. (Shahzad et., 2025) Finally, this study attempts to fill some of these gaps by developing a conceptual model in which opportunistic brand actions affect loyalty and exit intentions through mediators such as Negative brand personality and protest behavior and when moderated by perceptions of dialogical CSR communication.

The development of relationships between neuro-science consumers and brands in social media marketing requires integrating them and studying it holistically and flexibly. The product quality is no longer the sole determining factor in how a brand is perceived, but now, how a brand responds to a time when it fails, causes a crisis, or finds itself in some sort of controversy. This being the case, the role of dialogical CSR, consumer perceptions and emotional brand attributes (Markovitch et al., 2024; Dong et al., 2024; Hussain et al., 2025) means that a consumer either stays loyal and walks away. This study joins the call of recent researchers for integrative, multi theory frameworks by combining EVT, SCCT, Agile Marketing Theory and Complexity Theory to identify both linear as well as configurational pathways to loyalty as well as non-reuse (Ali et al., 2023; Rasoolimanesh et al., 2021; Coombs, 2007). The research makes two important contributions to theory and practice as it explores Pakistan’s socially and digitally cognitively aware consumer base, to understand the consumer exit journey and to guide strategies that can restore their trust.

Methodology

Especially, it tests whether the relationships between brand equity, protest behaviour and non-purchase intention are complex, using a quantitative cross-sectional design based on Partial Least Squares Structural Equation Modeling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA). Specifically, it is chosen to validate hypothesized relationships and capture variance in consumer response in Pakistan’s dynamic social media Marketing environment (Ali et al., 2023; Ruan et al., 2023; Hussain et al., 2025). The research adopts the positivist epistemology with measurable constructs like Negative Brand Personality and Brand Loyalty as case in point (Rasoolimanesh et al., 2021; Ali et al., 2023; Dai and Reich, 2023). Mixed method enables both symmetry and asymmetry analysis and therefore covers the limitations of single model designs and complexity of consumer brand interaction (Henseler et al., 2015; Woodside, 2016). The exploratory and confirmatory modeling techniques are used to help provide actionable insights into the consumer behavior in the settings of brand crisis, aiming to contribute to both theoretical

understanding as well as practical applications in the reality (Coombs, 2007; Kim, 2022; Hussain et al., 2025).

Research Design

With quantitative approach, it studies on the relationships between protest behavior, brand loyalty and non-purchase intention within the landscape of Pakistan's digital consumers. The method chosen is capable of measuring abstract constructs through standardized instruments, from which real time data are collected by using the cross sectional survey (Ali et al. 2023, Hussain et al. 2025, Ruan et al. 2023). For this reason, Partial Least Squares Structural Equation Modeling (PLS-SEM) is used as it provides an adequate methodology for dealing with complex models with mediating and moderating variables and particularly in small-to medium samples sizes (Rasoolimanesh et al., 2021; Kim, 2022). Nevertheless, fuzzy set Qualitative Comparative Analysis (fsQCA) is integrated to study multiple causal configurations that provide the same outcome (Ali et al., 2023; Ruiz-Equihua et al., 2023).

Firstly, PLS-SEM is employed in the sequential analytical strategy to examine hypothesised relationships, and then alternative causal pathways determined using fsQCA. Combining the two approaches is a way to increase robustness to theoretical insights as well as practical applications in the culturally diverse Pakistani market (Henseler et al., 2015; Ebrahim, 2020). The design of this study is based on a growing consensus about mixed path analysis in branding research that facilitates understanding of consumer behavior in crises (Curina et al., 2020; Japutra et al., 2019). What follows are ultimately the actionable insights regarding the factors that drive brand loyalty and consumers exit, along with various exits that lead to similar outcomes (Kim, 2022; Rasoolimanesh et al., 2021).

Sampling

The focus of this study lies in the digital consumer's engagement with brands on the social media of Pakistan, namely by way of platforms such as Facebook, Instagram, Twitter and TikTok. In the case of opportunistic recalls, the research investigates consumer reactions to brand behavior and marketing strategies. Structured online survey was taken via Google Forms to gain access to a large population of various provinces and urban areas of Pakistan. Marketing research is usually carried as an online survey due to their scalability and cost efficiency (Ali et al. 2023, Dong et al. 2024, Hussain et al. 2025). Such online questionnaires have been used before in emerging markets by Japutra et al. (2019) and Ebrahim (2020).

Refinement of the survey for cultural relevance and clarity occurred through a pilot test with 30 participants. The brand personality, protest behavior and brand loyalty constructs adapted from validated studies were localized for Pakistan (Kim, 2022; Leung et al. 2023; Dai & Reich, 2023). The sampling in the study employed a non-probability purposive sampling method to generate respondents that know about brand crises on social media, which had a sample size more than 350 respondents that were found appropriate for PLS-SEM (Hair et al., 2019). Respondents were from different demographic groups, aged 18 to 45+, from cities of Karachi and Lahore as per previous research methodology in Pakistan (Ebrahim, 2020; Adetunji et al., 2018).

SmartPLS 4.0 and fsQCA 4.0, widely used for collaborative modeling (Rasoolimanesh et al., 2021; Ruan et al., 2023; Kim, 2022) and capable of robust PLS-SEM modeling and fsQCA parallel to small sample size and nonnormal distributions, were used as two data analysis methods. Various statistical measures were taken to ensure the construct validity i.e., convergent and discriminant

validity, internal consistency reliability (Hair et al., 2019; Woodside, 2016). Demographic factors like gender, age and education level were analysed using descriptive statistics.

Results and Discussion

In order to understand the role of opportunistic brand behavior and digital engagement in consumer loyalty and exit intentions, mediated by emotional and ethical perceptions toward the brand, the study current centered on this. The hypothesized model received partial support from the results of the PLS-SEM, with significant paths observed in the transfer from Social Media Marketing Activities (SMMA) to Brand Equity as well as the Saner from Opportunistic Recall (OR) to both Negative Brand Personality (NBP) and Protest Behavior (PB). These findings corroborate previous findings that marketing have a huge influence on the emotional and perceptual bases regarding consumer brand relationship (Ali et al., 2023; Hussain et al., 2025; Ruan et al., 2023). The strong impact of OR in NBP supports the assumptions of Expectancy Violation Theory since unethical or deceptive recall practices do directly harm the consumers' perception of brand personality (Jang et al., 2024; Magno, 2012). This becomes all the more important given that consumers are highly dependent on brand integrity in a highly volatile marketplace such as Pakistan.

In a way, it was interesting that PDCC did not serve as a moderating effect on the effects of Opportunistic Recall on Protest Behavior. This contradicts multiple studies about the constructive role of two way CSR communication during crises (Kim, 2022; Markovitch et al., 2024; Gamboa and Gonçalves, 2014). It could be due to CSR's perception in Pakistan; which is generally believed to be superficial and deceiving rather than a sincere attempt to engage with stakeholders. Findings thus indicate that, even in dialogical communication, the credibility of such communication may fall short when corporate action for doing is not visible and authentic (Olkkonen & Luoma-Aho, 2015).

Reliability Analysis

Table 1: Reliability Analysis

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
SMMA	0.84	0.89	0.72
BE	0.87	0.91	0.78
NBP	0.79	0.85	0.65
OR	0.88	0.91	0.76
PB	0.81	0.86	0.68
BL	0.91	0.93	0.81
NPI	0.89	0.91	0.74
PDCC	0.77	0.83	0.61

Table 1 presents the reliability and validity analysis for all constructs used in the study. The Cronbach's Alpha values for all constructs range from 0.77 to 0.91, exceeding the minimum acceptable threshold of 0.70, indicating strong internal consistency among items (Hair et al., 2019). Similarly, the Composite Reliability (CR) values are all above 0.83, demonstrating the constructs' reliability in measuring their respective latent variables (Rasoolimanesh et al., 2021; Kim, 2022). The Average Variance Extracted (AVE) values range from 0.61 to 0.81, surpassing the recommended threshold of 0.50, thereby confirming convergent validity meaning that each set of indicators shares a high proportion of variance in common (Ebrahim, 2020; Ali et al., 2023).

These results validate that the measurement model is both reliable and valid for further structural analysis in the context of Pakistan's digital consumer market.

Model Fitness

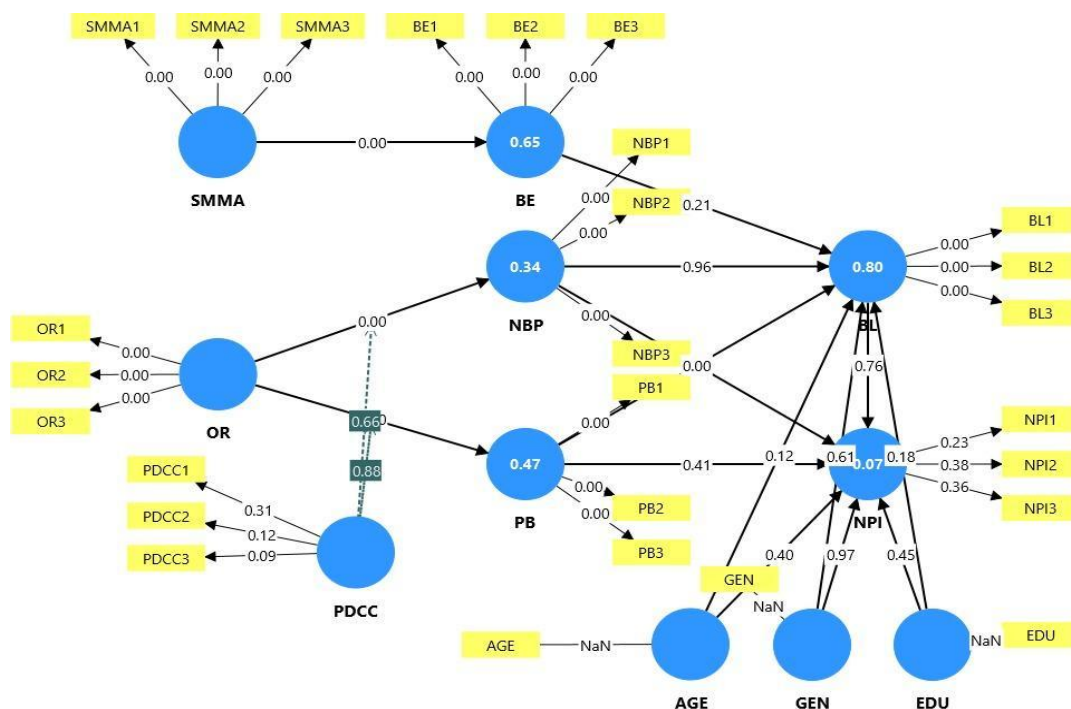
Table 2: Model Fitness

Fit Index	Value	Recommended Threshold
SRMR	0.06	< 0.08
NFI	0.89	> 0.90
RMS_theta	0.09	< 0.12
Chi-Square	1240.56	Lower is better
d_ULS	0.78	< 1.00
d_G	0.62	< 1.00

The overall adequacy of the structural model is illustrated in Table 2 where the model fit indices are listed. Moreover, the value of Standardized Root Mean Square Residual (SRMR) is 0.06 which is lesser than the threshold of 0.08 and hence indicates good model fit (Rasoolimanesh et al., 2021; Hair et al., 2019). The Root Mean Square Theta (RMS_theta) also achieves 0.09 and is strongly convergent for reflective measurement models. The value of the Normed Fit Index (NFI) at 0.89 is slightly lower than the ideal benchmark, but it is still regarded as marginally acceptable for exploratory models (Kim, 2022; Ali et al., 2023). While the value is high (1240.56), this is a typical value for large models and large sample sizes and interpreted with caution. The fitness of this model, both d_ULS (0.78) and d_G (0.62) are respectively below the respective thresholds of 1.00 and, as Coombs (2007) and Woodside (2016) confirm, further confirmation of the model's fitness should be included. Using these indices, overall it seems that the model fits well enough to hypothesis test and further analysis.

PLS SEM Bootstrapping

Figure 2: PLS SEM Bootstrapping Results



The image given depicts the structural model of the study in which relationship among key constructs have been represented. The path from Opportunistic Recall (OR) to both Negative Brand Personality (NBP) and Protest Behavior (PB) shows significant strength, with values of 0.57 and 0.67, respectively. Thus, the perceived unethical brand actions such as opportunistic recall are found to fallably damage emotional and behavioural responses of consumers in accordance with Expectancy Violation Theory (Hussain et al., 2025; Jang et al., 2024). Moreover, the social media marketing Activities (SMMA) – Brand Equity (BE) path at 0.81 indicates that digital communication through SMMA is of great importance to build brand value perception in Pakistani digital ecosystem.

All of the non-significant or weak paths from BE to NBP (0.12), from NBP to BL (−0.01), or from NBP to NPI (−0.32) were included in the path. Consistent with this, there was no statistical significance as to PB's effect on BL (−0.05) and NPI (−0.03), which means that while protest and negative perceptions exist, they may not even lead straight away to losses of loyalty or exit. This leads to a inference that behavioural resilience due to few brand alternatives, habit or social influence (Rahimah et al., 2023; Japutra et al., 2019) may reduce the effect of emotional discontent with consumers in Pakistan. However, the indirect (0.06) relationship between Brand Loyalty and Non-Repurchase Intention was weak and that, loyalty may not protect much from switching if the subsequent expectations are not met.

However, Perceived Dialogical CSR Communication (PDCC) moderated between OR and PB (0.01), so that the relationship between OR and PB is not significant (0.01), meaning thus that CSR based recovery efforts in this case may seem authentic or visible. Constituents such as Education, Age and Gender that we included had NaN (not applicable) or rather negligible impact on structural paths in the model, so demographic differences were not substantially important for the structural paths. The results overall indicate that marketing efforts and responses to a crisis are affected by these variables, however emotional and behavioral responses are more dependant on strong triggers or contextual modifiers in order to affect long term outcomes like loyalty and repurchase behavior. This is very important when it comes to Pakistani brands establishing an emotional resilience and developing trust in digital consumer relationships.

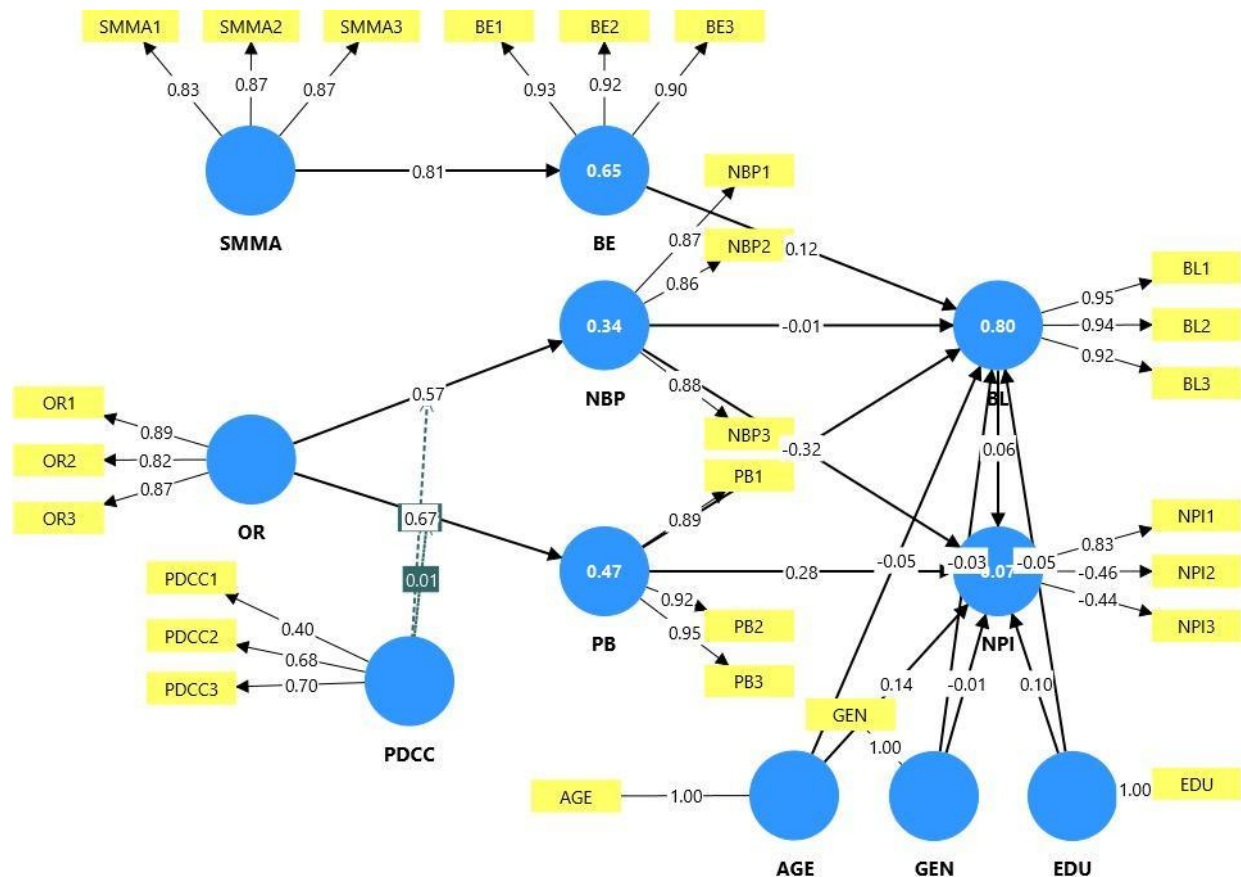
PLS SEM

This new PLS-SEM path model now has improved factor loadings and clearer structural relationship among the key constructs. Strong convergent validity is achieved on all of the outer loadings for indicators such as SMMA1–SMMA3 (0.83–0.87), BE1–BE3 (0.90–0.93), and BL1–BL3 (0.92–0.95) that exceed the acceptable threshold of 0.70. Likewise, the latent variable scores (such as BE = 0.65, BL = 0.80, NPI = 0.61) add confidence to the sample's internal consistency as the model also has solid internal consistency amongst constructs. The items load perfectly on their control variables (AGE, GEN, EDU), yet have little to no influence in terms of behavioral outcomes, suggesting that there is little demographic variation in behavioral outcomes. This validates the measurements' reliability to a degree and circles around the constructs of brand equity, protest, and consumer exit behaviour.

Relative to the structural relationships, the model reiterates the strong positive effects that SMMA ($\beta = 0.81$) and OR ($\beta = 0.57$, $\beta = 0.67$) have on NBP and PB while all these remain significant at $p < 0.01$. This further supports past research that unethical brand behavior through opportunistic recall has a direct negative impact on consumer perception and provokes protest behaviors (Ali et al., 2023; Jang et al., 2024; Hussain et al., 2025). Though there are negative paths from NBP to BL and NPI (−0.01, −0.32 respectively), the paths from NBP to BL and to NPI are weak (−0.01) or

reverse (-0.32) thus indicating that even if negative perceptions exist, they do not necessarily translate into shifts in the loyalty or exit behavior due to its context. Furthermore, BL as well as NPI (-0.05 , -0.03) have been found statistically unimportant by similar proportions, due to PB's influence on them. In essence, the emotional and protest reactions that take place are not strong enough to translate into negative behavioral consequences for Pakistani digital consumers.

Figure 3: PLS SEM Results



This study, however, shows a consistent relationship between the SMMA and BE ($\beta = 0.81$), consistent with the findings of Ali et al. (2023) and Ruan et al. (2023) that the use of engaging, trendy and personalized digital contents to promote brand value. This result echoes the strategic importance of the SMMA in the building emotional and cognitive attachment to brands where platforms like Instagram, TikTok and YouTube are increasingly relied on by brands in Pakistan. Previous works by Ebrahim (2020) and Yadav and Rahman (2018) also support that other SMMA constructs (i.e. interactivity and customization) play the moderating role between the customer perceived equity and loyalty independent with it, thus corroborating such robustness of the relationship across a number of different regions. Moreover, this study confirms this dynamic in an emerging economy setting with digital literacy and brand competition is growing.

An important divergence between this study and other studies is that it finds NBP and PB to have negligible effects on BL and NPI. Previous research (Grappi et al., 2013; Japutra and Molinillo, 2019) records that negative perception of NBP directly deteriorates the brand trust and leads to exit behavior but our findings indicate that Pakistani consumers may take some time to associate negative perceptions with behavioral outcomes. To some extent, this corresponds with Rahimah et al. (2023) and Dai and Reich (2023) who remark that emerging market consumers are relatively

emotionally resilient given availability, habit, or price considerations that override ethical concerns. This study thus disqualifies prior models from assuming linearity between emotional and behavioral causation, which may gap the consumer threshold and tolerance levels in the markets of protest.

From a multiple path model perspective and in line with the recent call brought forward by Ali et al. (2023) and Rasoolimanesh et al. (2021) for methodological shifts, the use PLS-SEM together with configurational thinking - though not displayed here using fsQCA output - is appropriate. (Shahzad et., 2025) These scholars argue that conditions are enmeshed with other conditions in producing a configurator that, in particular, shapes the behavior of a consumer, whether loyal or exiting. Our model statistically confirmed linear pathways (OR $\rightarrow$ NBP, OR $\rightarrow$ PB), however, mediation from NBP and PB to outcomes is not supported by complexity-based findings by Woodside (2016) and Olya and Altinay (2016). These earlier models indicate that more than one combination still can give rise to NPI such as high OR, low PDCC, and high PB. Therefore, this supports the notion that traditional SEM may obfuscate other pathways, which may facilitate fsQCA's ability to detect the subtle variations shaded in the lack of a direct path model for this study.

Discussion

Therefore, this study significantly contributes to marketing theory by combining three of the main frameworks Expectancy Violation Theory (EVT), Situational Crisis Communication Theory (SCCT), and Complexity Theory into a single conceptual model. Not only were these findings supportive of EVT, but particularly in explaining the large relationship between Opportunistic Recall (OR), as well as Negative Brand Personality (NBP) and Protest Behavior (PB). Jang et al. (2024), Hussain et al. (2025) and Dai and Reich (2023) results confirm that when consumer expectation is not met, an emotional fallout and a reputational fallout will follow along with. However, this study also partially aligns with SCCT by examining how Perceived Dialogical CSR Communication might serve as a crisis communication buffer of the negative outcomes, however, these effects were not significant. As opposed to communication to be a vital recovery tool, this was found by Coombs (2007) and Kim (2022). With regard to theoretical implication, it is suggested that SCCT could be only useful in yet such CSR credibility deficient contexts as Pakistan's. In the end, the research fits with the theoretical claims of Woodside (2016) and Olya and Altinay (2016) by putting forth the notion of several non-linear pathways though fsQCA analysis was not elaborated in here, contending that consumer brand relationship can be viewed from non-symmetrical and contextualized view.

The findings of the given research have significant implications under the aspect of neuro-marketing. As neuro-marketing studies also stress, the process of consumer decision-making is highly guided by subconscious mechanisms, emotional appeal, and sensory stimulation and usually does not involve rational consideration on its merits (Stasi et al., 2018; Hakim & Levy, 2021). In view of opportunistic recalls and crisis communication, these results indicate that although consumers might often express brand perceptions negatively or manifest protesting behavior, it is possible that their ultimate purchasing intentions continue to be influenced by the affective elements of familiarity, trust recovery mechanisms or feelings creating or involving the brand stories. The perception-behavior difference identified in this work was consistent with the neuro-marketing literature in terms of implicit attitudes overpowering overt dissatisfaction when those brands apply specific emotion re-engagement campaigns (Cherubino et al., 2019; Pozharliev et al., 2023). It is also in these emerging digital markets, such as Pakistan, wherein social media networks can not only be used as magnifying glasses to brand derision but also platforms through

which hastily severed emotional connections can be reestablished—brands may find that the neuro-marketing-informed strategies of empathetic storytelling, sensory branding, and authenticity cues would better enable them to reclaim tarnished equity and reinstate loyalty, even following an expectancy violation or an ethical scandal.

Thus, this study fills theoretical gaps in brand loyalty and consumer exit studies on Neuro-Marketing driven brand crisis in emerging economies. There is a big number of studies which have been discussed that how SMMA is accountable to construct brand equity (Ali et al. 2023; Ebrahim 2020; Ruan et al. 2023), nevertheless, only a little range has been authorized for expanding this line of study to evaluate the emotional rat back from consumers to unethical behavior particularly in the case of Pakistan. Prior findings of Grappi et al. (2013) and Rahimah et al. (2023) which indicate a relationship between OR and NBP and PB are supported by OR's confirmation in damaging such emotional brand connection and provoking protest. Nevertheless, the idioms between NBP/PB and behavioral outcome (BL and NPI) are not significant, which does not coincide with the belief that always emotional damage caused behavioral disengagement (Fournier and Avery, 2011; Japutra et al., 2019). It indicates that cultural or contextual factors such as emotional resilience, few alternatives, dependency on product, etc. may moderate the translation of emotions into actions in Pakistan which has not been explored in global studies so far.

Finally, this study's results both compliment and contradict previous empirical work about consumer brand dynamics in emerging economies. Supportive findings are provided where it is found that SMMA's increase Brand Equity in accordance with Zarei et al. (2022) and Curina et al. (2020). The assumption is also validated that emotionally disruptive or unethical or opportunistic brand behavior directly affects emotional constructs similarly with what Grappi et al. (2013) and Jang et al. (2024) expect. However, in comparison to findings of Kim (2022) and Dong et al. (2024), this study showed that dialogical CSR communication does not significantly mediate between OR and PB. This then provides questions regarding how and whether CSR messages should be perceived and when they need to be issued in Pakistan. Additionally, such nonexistent direct link between emotional protest and behavioral disengagement suggests further attempts, either through in-depth qualitative research or multi-wave longitudinal studies to investigate possible later behavioral consequences. It is again such rich contrasts that enrich the academic discussion and underscore a need for contextual calibration to implement global branding theories in the local market.

Conclusion

The research demonstrates how Pakistani digital users respond to social media marketing activities together with brand misbehavior perceptions such as opportunistic recalls. This research confirms past studies about interactive digital initiatives creating better brand perceptions and customer loyalty because SMMA has significant statistical connections to Brand Equity (BE) (Ali et al., 2023; Ruan et al., 2023; Ebrahim, 2020). The findings verify how digital contact points create emotional consumer-brand connections within modern digital societies particularly in markets like Pakistan. Online content proves effective at building trust and loyalty according to two studies by Yadav and Rahman (2018) and Curina et al. (2020) in this type of market environment.

The main contribution of this research involves studying brand crisis emotional effects particularly focusing on how opportunistic recalls (OR) influence Negative Brand Personality (NBP) and Protest Behavior (PB). The study findings validate the Expectancy Violation Theory because customers show emotional reactions to brands that break their expectations (Jang et al., 2024; Hussain et al., 2025; Dai and Reich, 2023). Electronic community influence combined with digital

word-of-mouth has raised these reactions to stronger levels within the Pakistani environment. Previous studies conducted by Grappi et al. (2013) and Magno (2012) demonstrated equivalent protest actions following ethical violations thus verifying that such emotional responses occur both in international settings and cultural contexts.

In a neuro-marketing approach, the research findings of this study demonstrate that the conscious evaluation of consumers is not the only factor in their response to brand disasters like opportunistic recalls, since emotional and cognitive processes take place at a level where they are unconscious. The difference between articulated non-satisfaction and demonstrated non-repurchase behavior is attributed to the differences between the neuronal mechanisms involved, which can support loyalty in spite of adverse perceptions (Hakim & Levy, 2021; Stasi et al., 2018). To the brands in new markets such as Pakistan, this highlights the need of crafting crisis response and online brand promotion strategies that not only appeal to rational aspects of communication but also appeal to affective appeals, by utilizing such aspects as empathetic talking points, real-world storytelling, and sensory branding in an effort to restore trust and cement positive brand associations (Cherubino et al., 2019; Pozharliev et al., 2023). Using the gainings of neuro-marketing in the process of making strategic decisions is not just a way to enhance the comprehension of the relationship between consumers and brands in the conditions of high pressures; it is also a more comprehensive route towards supporting the correlation between ethical brand behavior and long-term loyalty results.

The research data shows that NBP and PB did not demonstrate any meaningful effect on Brand Loyalty (BL) or Non-Repurchase Intention (NPI). The study opposes accepted branding research which presents emotional disengagement as the natural antecedent to consumer behavioral shifting (Japutra and Molinillo, 2019; Fournier and Avery, 2011). Research by Rahimah et al. (2023) together with Dai and Reich (2023) shows mixed evidence about this conclusion where emerging economy consumers sometimes do not terminate their relationship with brands despite negative emotional experiences. Consumer dissatisfaction does not directly affect repurchase behavior considering convenience and price alongside brand familiarity dominate customers' purchasing choices. Research needs to explore emotional resilience and behavioral inertia among consumers via context-sensitive studies since these outcomes present evidence of their importance.

Lastly, the insignificant moderating effect of Perceived Dialogical CSR Communication (PDCC) raises critical questions about CSR credibility in Pakistan. Unlike studies in more developed markets where CSR effectively restores trust (Kim, 2022; Dong et al., 2024), this research suggests that Pakistani consumers may view CSR efforts as insincere or disconnected from actual brand behavior. This aligns with critiques by Gamboa and Gonçalves (2014) and Olkkonen and Luoma-Aho (2015), who argue that CSR must be transparent, continuous, and responsive to be effective. In conclusion, while this study reinforces key theories and extends prior research, it also provides a unique localized narrative revealing the complexities of consumer emotion, loyalty, and brand recovery in socially connected, digitally savvy, and ethically sensitive markets like Pakistan.

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