

Exploring the Interplay of Brand Characteristics, Brand Addiction, and Compulsive Buying Behavior Among Pakistani Consumers

Abstract

Purpose

This study investigates the influence of brand characteristics, specifically brand self-expressiveness, brand innovativeness, and brand liking, on compulsive buying behavior, with brand addiction serving as a mediating variable. It aims to understand how these brand attributes shape consumers' emotional attachment to brands and their subsequent purchasing tendencies within Pakistan's apparel industry, particularly in Karachi. The research further seeks to highlight the managerial relevance of brand addiction in influencing consumer decision-making and the ethical implications associated with compulsive buying.

Method

A quantitative research design was employed, using a structured questionnaire based on a five-point Likert scale. Data were collected from 384 respondents, including students and working professionals, through convenience sampling. The data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). Reliability and validity were evaluated using Cronbach's alpha, composite reliability, Average Variance Extracted (AVE), and the Fornell–Larcker and HTMT criteria. Path analysis was conducted to test the hypothesized relationships at a 5% significance level.

Findings

The results reveal that brand self-expressiveness, brand innovativeness, and brand liking each have a positive and statistically significant effect on brand addiction. Brand addiction, in turn, significantly influences compulsive buying behavior and mediates the relationship between brand characteristics and compulsive buying.

Originality

This study contributes to the limited body of research on brand addiction and compulsive buying in emerging markets. It uniquely examines these constructs within Pakistan's cultural and retail context, providing valuable insights into how emotional and psychological brand connections drive consumer behavior while emphasizing the need for ethical and responsible marketing practices.

Keywords: Brand characteristics, brand addiction, compulsive buying behavior (CBB), consumer-brand relationship, branding.

Introduction

In Pakistan's resourceful marketplace, consumers become especially enthusiastic and excited to engage with their desired branded products, exemplified by willingness to spend a significant amount of money on a designer good. Such behaviors and costs demonstrate characteristics of fans of a brand (McNally & Speak, 2023). While the emotional bond of humans to inanimate possessions and activities have been documented, a few recent studies show that emotional bonds can be created with a brand, with the same human attachment style response. Such emotional bonds, although different from even the most human normative bonds, can cross the boundaries of simple preference and move to attachment. The emotional bonds to brands, as noted by Francioni et al. (2021), has gained interest in research; however, the emotional bonds that are located on the range of addiction are less studied. In the center of this gap should be brand addiction, which is simply the emotional bond that is associated with specific brands (Le et al., 2025). Such emotional bonds with brands provide an individual with the pleasure, satisfaction, and even joy that provide a range of emotional illusion to a state where they cannot be separate from the brand (Francioni et al., 2021). This is an especially important area of research in order to understand the emotional bonds to the consumer activities in Pakistan, as it is an emerging market.

Consumers in Pakistan also form connections with brands through brand attachment and brand liking (Elhajjar et al., 2022). Among various forms of addictive consumption behavior, compulsive purchasing of brands has received the most attention. However, the domain of addictive brand behavior remains relatively underexplored since its initial recognition by Fourmier (1998), a seminal work on consumer–brand relationships. These relationships encompass a wide range of emotions, from subtle sentiments to intense adoration that can develop into a powerful brand addiction. However, there is limited empirical evidence in the Pakistani setting that has targeted the role of brand attributes in shaping brand addiction and consequently its connection with compulsive purchasing, a lapse that also applies to emerging regional studies (Hussain and Khalid, 2025). It is of specific interest to fill this gap in consideration of the economic importance of the apparel industry in Pakistan and the growing importance of psychological processes of a brand in consumer decision-making.

In the study of consumer behavior within Pakistan, researchers have long examined the complexities of consumer attitudes toward brands, both positive and negative (Shaikh & Soomro, 2025). Fournier's empirical work shed light on a range of complex and often unexplored connections between consumers and brands, revealing what she described as "dark side" relationships encompassing dependency, enmity, enslavement, and secret affairs. This conceptualization extends the notions of addiction and compulsive consumption (O'Guinn & Faber, 1989; Rook, 1987) into the realm of brands (cited in Fournier, 1998). Consequently, Fournier's analysis highlights the potential for consumers to develop addictive attachments to specific brands.

In contemporary Pakistani society, where consumerism plays an increasingly influential role, individuals often seek ways to infuse their lives with meaning and significance (Hall & Taylor, 2023). This inherent desire is frequently fulfilled through the acquisition of material possessions or cherished items. Notable examples such as Harley-Davidson and Starbucks Coffee demonstrate brands that have successfully built deep emotional connections with their customers, grounded in feelings of love and addiction. According to Jameel et al. (2024), exposure to social media and cultural focus on appearance contribute to the intensification of such emotional bonds in Pakistan, posing an additional threat of compulsive buying habits.

Amid the many ways consumers engage with brands, brand addiction emerges as a significant yet underexplored phenomenon, even though compulsive buying behavior often receives greater research attention. Consumer-brand interactions span a wide range of emotions—from fleeting sentiments to deep affection that can develop into compulsive dedication (Handique & Sarkar, 2024). In the evolving landscape of consumer decision-making, both internal factors, such as emotional states, and external factors, such as brand appeal and gender, exert considerable influence. Notably, growing research attention has focused on understanding decision-making processes that lead to compulsive buying (Thomas et al., 2023). O'Guinn and Faber (1989) describe compulsive buying as "repetitive purchasing prompted by negative events or emotions," a behavior affecting the population and recognized as a psychological concern.

Given the prevalence of this issue, studies have consistently found that females exhibit a higher tendency toward compulsive buying than males (Darrat et al., 2023). Based on previous findings, it can be hypothesized that individuals with higher levels of compulsive buying tendencies are more likely to form strong relationships with brands. However, despite the

intuitive nature of this relationship, research exploring this connection remains limited. The current Pakistani studies affirm that their tendencies towards compulsive buying are increasing in fashion-related areas, whereas the psychological aspect of brand addiction has not been included in the model (Tarka et al., 2022).

This study investigates how specific brand attributes influence brand addiction and explores the links between brand addiction and emotional and behavioral outcomes, particularly Compulsive Buying Behavior (CBB). The reason why the Pakistani apparel sector is the focus is that it is among some of the most competitive sectors where consumers make essential decisions based on branding and identity signaling at a certain emotional level (Farooq & Moon, 2025). By doing so, it seeks to provide marketers with valuable insights into the factors driving compulsive buying behavior and to identify potential pathways for prevention and mitigation. Moreover, the study explores the role of brand characteristics in fostering brand addiction and their subsequent impact on compulsive buying behavior. These insights have the potential to encourage more responsible and ethical branding practices among businesses.

Research Question (RQ): What is the effect of the brand characteristics on brand addiction, and what is the resultant effect of brand addiction on the compulsive buying behavior of clothing brands in Karachi, Pakistan?

The significance of this study lies in its effort to address a clear research gap in Pakistan's apparel industry. By examining the interplay between brand characteristics, brand addiction, and compulsive buying behavior, the study enhances understanding of marketing practices related to apparel products in Karachi. The study is relevant to the theory of non-Western consumer behavior by demonstrating that cultural values, social norms, and economic pressures contribute to the formation of addictive brand relationships together (Gul et al., 2021). Understanding the dynamics of brand addiction and its influence on compulsive buying behavior can also guide the development of effective interventions and support mechanisms for affected consumers.

In Pakistan, where consumer behavior and brand interactions are shaped by distinct cultural nuances, this study aims to unravel the complex connections between brand addiction and compulsive buying behavior. By doing so, it contributes to the existing literature and offers actionable insights to guide the industry toward more responsible and consumer-centric marketing practices.

Literature Review

Brand Addiction

Brand Self-Expressiveness and Brand Addiction

Individuals often express their sense of self through the brands with which they identify. According to Aaker (2009), self-expressiveness refers to *“the extent to which a particular brand enhances one’s social identity and/or resonates with one’s inner self.”* Bai et al. (2021) have established a positive relationship between self-expressiveness, brand addiction, and compulsive buying behavior, demonstrating that brands enabling self-expression tend to evoke strong emotional responses from consumers. The influence of self-expression is evident in the development of strong customer-brand relationships, particularly in its role as a precursor to brand addiction. Moreover, Wallace et al. (2021) further suggest that when self-expressiveness is present, consumers form deeper and more meaningful attachments to brands. This highlights the significance of learning about self-expression as the cause of brand addiction.

In the Pakistani context, where cultural values and consumer preferences are closely intertwined, understanding the connection between self-expression and brand addiction is especially relevant. This study, therefore, seeks to examine this relationship and contribute to the broader understanding of how consumer behavior and self-expression interact within this cultural setting. This investigation is supported by Sagheer et al. (2021), who point to the changing consumer-brand relationships in Pakistan.

H1. Brand self-expressiveness has a positive effect on brand addiction.

Brand innovativeness and Brand addiction

Prominent and globally recognized brands such as Coca-Cola, Disney, Intel, Microsoft, Nike, Porsche, and Toyota consistently position themselves as pioneers of innovation, a core value they emphasize across their platforms (Obi et al., 2023). These brands continually invest significant resources to project an image of creativity and progressiveness to consumers. Additionally, Hetet et al. (2020) define brand innovativeness as the recognition of a brand’s ability to offer novel and valuable solutions to consumers. Moreover, Pina & Dias (2021) provided a foundational understanding of this concept, describing it as consumers’ perception of a brand’s inclination to embrace new ideas, encourage experimentation, and engage in

creative processes. This perception is rooted in consumers' awareness of a brand's history of introducing innovative products, its creativity, and its potential to sustain innovation in the future. Furthermore, Hetet et al. (2020) argue that brand innovativeness extends beyond meeting customer needs, encompassing dimensions that transcend functional benefits. Interestingly, Khatoon & Rehman (2021) suggest a nuanced relationship between innovation and brand addiction, indicating that higher levels of innovation may strengthen consumers' emotional attachment to brands.

Theoretically, the innovativeness of brands might be seen as a cognitive and affective cue reinforcing the attitude of consumers to the brand. New brands are usually viewed as thrilling, futuristic and can provide excellent value, which may add to psychological satisfaction and self-expressive advantages (Behnke, 2025). The repeated experience with innovation-related satisfaction can in turn support positive behavioral intentions and create a dependency-like behavioral pattern that can over time lead to the strong emotional attachment that defines brand addiction.

Within Pakistan's cultural context, where consumer behavior is shaped by unique social and market dynamics, this study explores the relationship between brand innovativeness and consumer responses, contributing to the growing body of research on how innovation influences perceptions and behavior. Junaaid et al. (2022) highlight a gap in the literature regarding the in-depth study of consumer-brand relationships and brand addiction. Similarly, Keller (2020) examined the causes and effects of high-tech brand addiction, reflecting the growing scholarly interest in understanding the depth of consumer-brand engagement. Although previous studies have sought to conceptualize and measure brand addiction, one essential aspect remains underexplored: understanding the driving factors behind brand addiction and its implications for consumer well-being (Sakuntala et al., 2024). The present research, therefore, aims to provide a comprehensive understanding of brand addiction by examining its antecedents and consequences.

H2. Brand innovativeness has a positive effect on brand addiction.

Brand liking and Brand addiction

Yousef (2024) contends that a central assumption in marketing research is that consumers are more likely to purchase brands and products toward which they hold favorable attitudes. Francioni et al. (2021) offer a useful perspective, defining brand liking as the process of

fostering a positive attitude among consumers toward a brand, based on the belief that the brand recognizes and resonates with them as unique individuals. From the consumer's perspective, brand liking can be evaluated through an attitudinal framework that measures the positivity and strength of perceptions associated with brand attributes (Khatoon & Rehman, 2021). This approach establishes a direct link between brand liking and subsequent behavioral intentions. A key perspective within this discourse emphasizes that a positive attitude toward a brand forms the foundation for developing a lasting relationship with it. In Pakistan, where consumer preferences are shaped by strong cultural influences, examining brand liking is particularly relevant.

Brand addiction represents one of the most intense forms of consumer-brand relationships (Yousef, 2024). Fournier's seminal work (1998) laid the foundation for understanding consumer-brand relationships, identifying a continuum that ranges from mild affection to intense, even addictive, attachment. The evolution from infatuation to passionate brand attachment reflects this progression from subtle emotional sentiments to stronger, desire-driven connections. Subsequent studies, such as Francioni et al. (2021), have empirically examined the antecedents and outcomes of brand addiction, thereby extending the discourse. Within Pakistan's distinctive cultural and social landscape, exploring brand addiction carries significant implications. This study builds on existing knowledge to advance understanding of how consumer-brand relationships and addictive tendencies interact, providing insights into the emotional and behavioral dimensions of Pakistani consumers' brand preferences.

H3. Brand liking has a positive effect on brand addiction.

Brand addiction and Compulsive buying behavior

Compulsive buying, a recognized psychological and psychiatric phenomenon, has the potential to profoundly affect an individual's overall well-being. In recent years, there has been a notable rise in "dark-side" consumer behavior issues such as compulsive buying across the globe (Japutra et al., 2022). Moreover, Somma et al. (2023) suggest that compulsive buying often functions as a coping mechanism for individuals struggling with negative emotions. These findings highlight the vulnerability of compulsive buyers, who frequently exhibit poor impulse control during purchasing episodes. Lawrence & Elphinstone (2021) further classify compulsive buying into three dimensions of impulsivity: urgency, lack of perseverance, and lack of premeditation. This highlights the mental complication of compulsive buying behavior.

Examining such “dark-side” behaviors offers valuable insights into the psychological underpinnings of consumer decision-making. Understanding compulsive buying behavior not only enhances comprehension of contemporary consumers but also helps marketers design more ethical and effective strategies (Somma et al., 2023). By investigating various forms of purchasing behavior, this study provides a basis for uncovering how personal and psychological factors interact to shape consumer actions.

Within the retail sector, branded apparel plays a strategic role in achieving competitive advantage, differentiation, and profitability. Branded apparel—defined as clothing owned, managed, and retailed by a specific brand (Chen et al., 2023)—has become increasingly prominent in Pakistan’s retail market. International brands such as Forever 21, Mango, Uniqlo, Padini, H&M, and Zara have established strong footholds in the country. Among consumer goods, branded apparel is especially prone to impulsive purchases (Kshatriya & Shah, 2023). In modern society, such apparel transcends its utilitarian function, symbolizing identity, social standing, and individuality.

In Pakistan’s distinct socio-cultural environment, where clothing is closely tied to expressions of self and social identity, understanding compulsive buying behavior toward branded apparel is particularly relevant (Raza et al., 2020). This brings the fact that cultural and social norms must be put into consideration during the analysis of compulsive consumption patterns. This study, therefore, seeks to explore the underlying factors driving compulsive buying within Pakistan’s apparel sector, contributing to the ongoing discourse on consumer behavior in emerging markets.

H4: Brand addiction has a positive effect on compulsive buying behavior

Brand Self-expressiveness on Compulsive Buying behavior through Brand Addiction

The concept of Self-Expressiveness (SE) has often been intertwined with the notion of conspicuous consumption, signifying individuals' acquisition of items primarily to uphold their social identity or communicate their personal expression (Hall & Taylor, 2023). Compulsive buying, on the other hand, has commonly been linked with shopaholic tendencies or excessive purchasing habits. Moreover, Thomas et al. (2023) highlight that consumer behaviour frequently categorize compulsive buying as a form of behavioural addiction. In this regard, Handique & Sarkar (2024) posit that consumers resort to compulsive buying as a means to

alleviate tension and escape the pressures of daily life. This is an indication that self-expressiveness is indirectly related to compulsive buying through brand addiction.

Within the Pakistani context, where cultural norms and societal dynamics shape consumer preferences, the interplay between self-expressiveness, brand addiction, and compulsive buying behaviours holds significant relevance (Farooq & Moon, 2025). This research endeavour aims to delve into this intricate interrelation, contributing to the understanding of consumer behaviour within the Pakistani market.

H5: Brand addiction mediates the relationship of brand self-expressiveness with compulsive buying behavior.

Brand innovativeness on Compulsive buying behavior through Brand addiction

Brand innovativeness, manifested through distinct brand associations, not only acts as a signifier of quality and commitment but also catalyzes the development of brand knowledge (Hall & Taylor, 2023). This, in turn, aids customers in considering the brand during the point of purchase, fostering positive brand behaviours. Notably, research by Handique & Sarkar (2024) has asserted that compulsive buyers often exhibit a heightened awareness of their physical appearance, expressing a preference for an exceptional and distinctive look in comparison to their peers. This implies that innovativeness can increase the propensity to compulsive buying by amplifying brand attachment.

Amidst Pakistan's cultural tapestry, where consumer preferences are woven together with social dynamics, the interplay between brand self-innovativeness, brand addiction, and compulsive buying behaviour carries pertinence (Tarka et al., 2022). This research endeavours to untangle this intricate web of relationships, contributing to a more comprehensive understanding of consumer behaviour within the Pakistani market.

H6: Brand addiction mediates the relationship of brand innovativeness with compulsive buying behavior.

Brand liking on Compulsive buying behavior through Brand addiction

Significantly higher prevalence rates were noted within the fourth category fashion clothing characterized by its high involvement and transformative nature. Surprisingly, almost half of the students, 45%, expressed an affection for a particular brand within this category (Thomas

et al., 2023). This underscores a noteworthy connection between brand liking and brand addiction. When consumers develop a liking for a brand, a resonance is created that can potentially lead to brand addiction. Recent research conducted by Jameel et al. (2024) provides additional insights, revealing that compulsive buyers often indulge in shopping for stylish apparel, inadvertently exceeding their practical requirements.

Furthermore, a positive correlation emerges between brand addiction and compulsive buying behaviour. As consumers become addicted to a specific brand, there is a propensity to engage in compulsive purchasing of its products (Farooq & Moon, 2025). This shows the mediating phenomenon of brand addiction in how brand liking is converted to a behavioral outcome. Within the unique cultural milieu of Pakistan, where consumer preferences intertwine with sociocultural dynamics, this study strives to unravel the intricate connections between brand liking, addiction, and compulsive buying behaviour. Through this exploration, the research aims to contribute to an enhanced understanding of consumer behaviour within the Pakistani context.

H7: Brand addiction mediates the relationship between brand liking with compulsive buying behavior.

Theoretical Framework Integration

In order to offer a logical theoretical background, the study relies on the self-congruity theory and the Stimulus-Organism-Response (S-O-R) model. According to the S-O-R model, external factors like brand features trigger internal conditions (organism) of consumers that generate behavioral reactions that include compulsive purchasing (Li et al., 2021). Moreover, self-congruity theory also explains that consistency between brand image and the self-concept of a consumer brings about attachment of emotion and brand addiction (Mrad et al., 2025). With their conjunction, the research explains the psychological processes by which brand innovativeness, self-expressiveness and liking influence the emotional attachment of consumers, which in turn affects compulsive purchasing behavior in the cultural and social environment of Pakistan.

In order to offer a more substantial theoretical basis of the suggested relationships, the paper relies on the Theory of Planned Behavior (TPB) (Ajzen, 1991) that provides a properly developed model to understand how consumers are making decisions and behavioral

consequences. According to TPB, the behavioral intentions are the key determinants of an individual behavior, and they depend on three major factors such as attitude towards the behavior, subjective norms and the perceived behavioral control. In the framework of the present research shown in figure 1, the compulsive buying behaviors are formed by the positive brand-related attitudes (attitudes), social factors associated with brand consumption (subjective norms) and the perceived capacity to control their buying behavior (perceived behavioral control).

Brand attributes may be explained as antecedents which impact consumer attitudes and normative beliefs which enhance emotional attachment and have potential to encourage brand addiction. Brand addiction, in its turn, represents a high motivation level that can further increase behavioral intentions to repeat purchases. Notably, the perceived behavioral control aspect of TPB is especially applicable in the explanation of a compulsive buying behavior since the consumers can also have the weakened self-regulatory ability even after becoming aware of the adverse effects of over-buying. Therefore, TPB offers a theoretical or logical framework in which brand attributes, brand addiction, and compulsive purchasing behavior can be logically explained among Pakistani consumers.

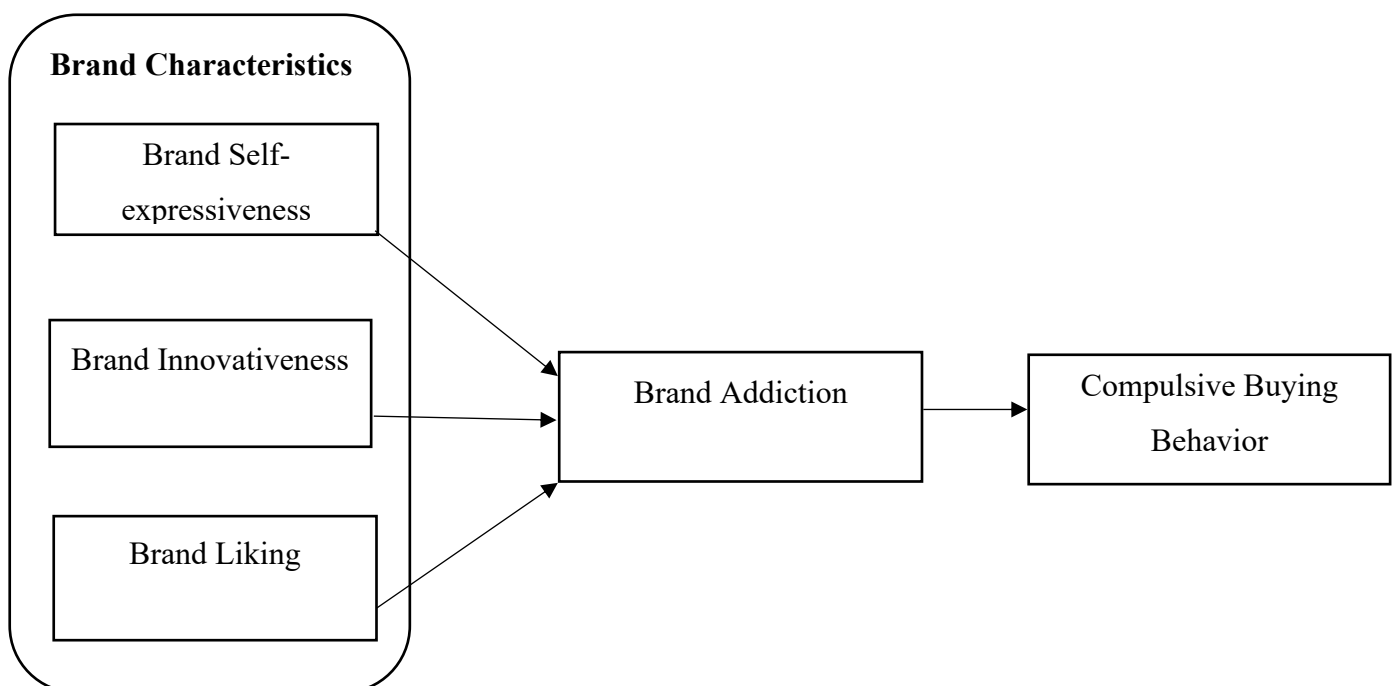


Figure 1: Compulsive Buying Behavior Framework

Methods

This study employs a quantitative research design to examine the influence of brand characteristics on compulsive buying behavior, with brand addiction serving as the mediating variable within the clothing industry. A quantitative research design is appropriate as it allows for the objective measurement and statistical analysis of relationships between brand characteristics, brand addiction, and compulsive buying behavior (Ghanad, 2023). Using structured instruments and PLS-SEM ensures empirical rigor and reliable insights into consumer-brand interactions in the clothing industry. The primary data were collected through a structured questionnaire based on a five-point Likert scale. Validated scales of Francioni et al. (2020) and Elhajjar et al. (2022) had been used to evaluate each construct: Brand Self-Expressiveness, Brand Innovativeness, Brand Liking, Brand Addiction, and Compulsive Buying Behavior, with 3 to 9 items per construct. Participants comprised both students and working professionals from Karachi, selected using a convenience sampling technique. Convenience sampling was used because of the limitation of access; the sample was diverse in terms of demographics to increase heterogeneity (Stratton, 2021). The final sample size of 384 respondents was determined using the sample size estimation method proposed by Soper (Jhantasana, 2023). The questionnaire was being conducted in English and translated into Urdu for the respondents who were less fluent in English, therefore making sure that it was linguistically appropriate and understandable. Informed consent was obtained by the institute, and all the participants gave their informed consent. The anonymity and data confidentiality were strictly observed. The ethics clearance was obtained from Bahria University Karachi Campus.

Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM), an advanced technique well-suited for analyzing complex relationships among latent variables (Hair et al., 2019; Hair Jr et al., 2021). The methodological process included several analytical stages: reliability testing using Cronbach's alpha and principal component analysis to ensure internal consistency; Confirmatory Factor Analysis (CFA) to evaluate construct, convergent, and discriminant validity based on the Fornell and Larcker (1981) criterion; and path analysis to test hypotheses at a 5% significance level.

The chosen industry in the study is the clothing industry of Pakistan because of the high expansion in the market, the consumer rate of the branded clothes and the high impact of the social and cultural factors on the buying behavior. In Pakistan, branded clothes are viewed as a utility good, as well as a sign of social identity, status, and self-expression, which is why it is an appropriate setting to observe compulsive buying and brand addiction. Situated within the unique cultural and market context of Karachi, Pakistan, this research aims to shed light on the dynamic relationships between brand characteristics, brand addiction, and compulsive buying behavior in the clothing sector. The study combines the S-O-R framework to provide a theoretical account of how internal consumer condition (organism), like brand addiction, is the result of brand characteristics (stimulus).

Results and Findings

Pilot Study

Before embarking on the primary data collection for this study, it's essential to underscore the significance of a pilot study, as emphasized by Aziz & Khan (2020). A pilot study serves not only as the bedrock of sound research but also as a means to enhance the quality of the main study, particularly by refining the feasibility of gathering a more substantial sample size. In alignment with this, a pilot study was meticulously conducted, employing Cronbach's alpha reliability analysis.

The outcomes of the pilot study are noteworthy. The internal consistency of the variables examined within the study ranged from 64.1 percent for brand addiction to 89.1 percent for compulsive buying behaviour. Importantly, these internal consistency levels surpass the recommended threshold of 60 percent established by Nunnally & Bernstein (1994). This is a confirmation of the measurement scale reliability as well as a strong basis for the primary research. In the dynamic context of Pakistan, this pilot study serves as a crucial step in ensuring the validity and reliability of the forthcoming main study.

Data Screening

Before delving into data analysis, it is imperative to meticulously scrutinize the main study data for any anomalies, including missing values, univariate, and multivariate outliers. In this regard, Blázquez-García et al. (2021) provide valuable guidelines.

According to their recommendations, standardized values, represented as Z scores, falling below -3.29 or exceeding +3.29 are indicative of univariate outliers and should be duly removed from the dataset. Additionally, Deodhar & Gupta (2023) assert that Mahalanobis Distance (D^2) values less than 0.001 serve as markers for multivariate outliers, warranting their exclusion from the dataset. The study had no univariate or multivariate outliers, and all the responses (384 responses) were retained. Moreover, there were no missing values.

Demographic Profile of the Respondent

Descriptive analysis was performed in IBM SPSS Statistics 22. This study collected data from 384 responses. Of those 193(50.03%) were male, and 191 (49.8%) were female. Furthermore, 141(36.7%) were between the ages of 18-25; 190 (49.4%) were between the ages of 26-35; 44(11.46%) were between the ages of 36-45; 9(2.3%) were between the ages of 46-50. In addition, 184 (48%) individuals made less than two visits to the store a month, 150 (39.1%) made between 3 and 6 visits, 34 (8.9%) made between 7 and 9 visits, and 16 (4.0%) made more than ten visits a month. Moreover, 34 (8.9%) households had income between 20,000 and 40,000; 24 (6.3%) between 40,000 and 60,000; 40 (10.4%) between 60,000 and 80,000; 65 (16.9%) between 80,000 and 100,000 and 221 (57.5%) had income over 100,000.

Measurement model

----- Table 1: Measurement Model -----

The above table 1 shows that all indicator loadings are higher than the recommended threshold of 0.70 with a probability level below 5 percent (Hair et al., 2021); therefore, construct validity has been achieved. Moreover, construct reliability based on Cronbach's alpha and composite reliability (CR) has also been found to be higher than the recommended threshold of 0.70 and 0.80, respectively (Hair et al., 2019); Cronbach's alpha or coefficient alpha is a parameter that is used to evaluate the internal consistency among the items of a variable. In other words, it gives an idea of the interrelatedness among the items that make up a single variable. Therefore, constructs have substantial internal consistency in the structural model. Lastly, latent constructs have an AVE coefficient higher than 0.50, and therefore, it has been manifested that constructs have a substantial degree of convergence with their respective indicators (Hair et al., 2021); therefore, convergent validity has also been achieved.

Discriminant validity

Fornell and Larcker (1981) criterion (FLC)

The following table 2 shows the result of FLC for discriminant validity assessment using the PLS algorithm.

----- **Table 2: Fornell and Larcker Criterion (FLC) for discriminant validity** -----

The above table 2 shows that diagonally bold values are found higher than their respective correlation with other constructs and therefore, constructs have achieved a higher degree of divergence from each other (Fornell & Larcker, 1981). Hence, discriminant validity has been established using the FLC method.

HTMT ratio

The following Table 3 shows the result of the HTMT ratio for the discriminant validity assessment using the PLS algorithm.

-----**Table 3: HTMT ratio**-----

The above table 3 shows that all HTMT ratios between latent constructs are below the recommended threshold of 0.90, provided that constructs have substantial divergence from each other (Henseler et al., 2016; Henseler et al., 2015). Therefore, discriminant validity using the HTMT ratio has been established.

Structural model

Hypothesis-testing using PLS path analysis

The table 4 shows the result of path analysis for hypothesis testing using the PLS bootstrapping technique at 5000 subsamples and two-tailed estimation.

----- **Table 4: Path Analysis** -----

The table 4 shows that brand addiction has a positive effect on compulsive buying behavior ($\beta = 0.512$; $p < 0.05$). Moreover, brand innovativeness ($\beta = 0.261$; $p > 0.05$) has a positive and significant effect on brand addiction, whereas brand liking ($\beta = 0.116$; $p < 0.05$) has a positively significant effect on brand addiction, and lastly, brand self-expressiveness ($\beta = 0.183$; $p < 0.05$) has a positively significant effect on brand addiction.

-----**Table 4.1: Indirect Effects**-----

The table 4.1 shows that brand innovativeness ($\beta = 0.134$; $p < 0.05$), brand liking ($\beta = 0.059$; $p < 0.05$), and brand self-expressiveness ($\beta = 0.094$; $p < 0.05$) have a significantly positive effect on compulsive buying behavior through brand addiction.

Collinearity Statistics (VIF)

-----Table 5: Variance Inflation Factor (VIF) -----

To obtain accurate results, there must be no interdependence among the independent variables. This is checked by computing the Variance Inflation Factor (VIF) According to Hair et al., (2019), if VIF is equal to or greater than 5, the collinearity is of a serious nature; if VIF is equal to or greater than 3-5, there is a medium probability of the presence of collinearity, and therefore, the VIF should be less than 3. The table 5 demonstrate that there is no collinearity among the variables since all VIF values are less than 3.

Predictive relevance

The following table 6 shows the result of predictive relevance using the PLS algorithm and PLS blindfolding.

-----Table 6: Predictive Relevance-----

It has been suggested that latent constructs with R^2 greater than 25 percent, 50 percent, and 75 percent have weak, moderate and strong predictability in the structural model (Hair, 2014). In table 6, the R Square value of 0.175 indicates that the 3 independent variables, namely brand self-expressiveness (BSE), brand innovativeness (BI), and Brand liking (BL), account for 17% variance in the dependent variable, namely Compulsive Buying Behavior (CBB).

Another parameter which is used to evaluate the predictive correctness of the path model in Smart PLS is Q Square (Subhaktiyasa, 2024). The blindfolding process is followed to compute the value of Q Square. The value of Q Square should be greater than 0 for consequential outcomes. The threshold values are 0.50, 0.25, and 0, which denote large, medium, and small predictive correctness of the model (Hair et al., 2019).

The Q Square value obtained in this research is 0.161 and 0.193, which means the PLS Path model has a small level of predictive correctness.

Hypothesis-testing summary

The following table 7 shows the summary of the hypothesis testing based on PLS path modeling analysis.

-----Table 7: Hypothesis-Testing Summary-----

Discussion

The primary aim of this study was to explore the impact of brand characteristics on compulsive buying behaviour, with brand addiction playing a pivotal role as a mediating factor. To achieve this objective, a statistical technique known as Structural Equation Modelling (SEM) was employed, utilizing the Smart PLS software. The study involved the formulation and subsequent testing of seven hypotheses. As advocated by Hair et al. (2019), the strength of the relationships between variables was assessed using Path Coefficients (Beta) and t-values. Furthermore, the acceptance or rejection of hypotheses hinged on the P-value. In accordance with established conventions, a P-value less than 0.05 was considered indicative of statistical significance. These statistical criteria provide strong and locally relevant results in the context of Pakistan, where cultural influence, social identity, and brand perception have a strong impact on consumer preferences.

Furthermore, the study findings illuminated a noteworthy correlation: brand addiction exerts a positive and substantial influence on compulsive buying behaviour. It is found that online shopping is rapidly rising in Pakistan, with fashion and apparel among the top categories purchased online which enhance compulsive buying (Raza et al., 2025). This result is consistent with Wallace et al. (2021), who emphasize that the attachment to a particular brand may result in a higher purchase intention. This connection is especially acute in Pakistan, where brand decisions are strongly connected with the social status and the use of identity. Brand addiction works on both a psychological and a social level by developing reliance on the brand and the psychological level as a mechanism of self-representation, which fits into the cultural and social norms in Pakistan. In tandem with this, the work of Sagheer et al. (2021) lends further support to this hypothesis. Their research aligns with the notion that brand addiction fosters robust emotional connections between individuals and brands, resulting in an intensified desire to possess the products associated with the brand. This emotional connection can have a significant effect on the purchase behavior in the Pakistani context, where brand selection is also strongly associated with social success and identity expression (Hetet et al., 2020). This desire manifests in two distinct ways. First, the emotional bond formed through brand addiction can create a sense of dependency, compelling individuals to continually engage with the brand by making purchases. Second, brand addiction often encompasses a yearning to accentuate one's self-identity by aligning with the brand. Therefore, brand addiction not only leads to

consumption, but it also functions as a social and self-representation channel in the Pakistani society-cultural setting.

Furthermore, the study brought to light a significant and positive relationship between brand innovativeness and brand addiction. This finding resonates with the research conducted by Junaid et al. (2022), who delved into the concept of creative processes and a brand's proclivity for generating novelties and fresh ideas that cater to consumers' perceptions. Brands with consistent and innovative solutions and new designs arouse the interest of consumers, which strengthens emotional attachment. This hypothesis is rooted in the idea that a brand's readiness to embrace risk, invest in research and development, and consistently adapt to evolving consumer demands can lead to a heightened emotional bond between consumers and the brand (Francioni et al., 2021). In essence, the anticipation and excitement associated with encountering something novel and distinct can nurture a deeper emotional connection with a brand. Since the consumer market in Pakistan is dynamic and consumers are becoming increasingly curious about something new, brand innovativeness will be a factor that influences brand addiction.

Similarly, the findings of the study illuminated a significant and positive relationship between Brand Self-Expressiveness (BSE) and Brand Addiction (BA). This outcome resonates with the research conducted by Hall & Taylor (2023), which underscores the pivotal role of brand self-expressiveness in consumer behavior. Brand self-expressiveness, as elucidated by Hall & Taylor (2023), pertains to the degree to which individuals employ brands as a means to convey their personality to both themselves and others. BSE is particularly applicable to brand attachment in Pakistan, where social and cultural identity are very important in consumption. Firstly, BSE empowers individuals to articulate facets of their identity, fostering a sense of uniqueness and belonging (Farooq & Moon, 2025). In a society like Pakistan, where individuality and personal identity are highly valued, brand self-expressiveness can assume a significant role. Furthermore, BSE frequently involves social signalling and a desire for social recognition, whether through engagement in social networks or online communities. It is a socially oriented factor that enhances the emotional attachment to a brand, which consequently leads to compulsive buying behaviour as people struggle to retain their preferred social image.

Furthermore, the study unearthed a substantial and positive influence of brand liking recommendations on Compulsive Buying Behaviour (CBB) mediated through brand addiction. This finding echoes the research conducted by Handique & Sarkar (2024), emphasizing the

pivotal role of brand liking in consumer behaviour. When individuals develop a strong affinity for a brand, they are more prone to forging an emotional connection and aligning themselves with the brand. This is magnified in Pakistan, where brand preference is usually coupled with personal and social identity. These findings are further corroborated by the research of Tarka et al. (2022), which underscores the notion that the desire to uphold a consistent self-image can be a driving force behind addictive behaviours. This leads to a desire among consumers to purchase and use brand products to support and claim their self-identity in social and cultural life.

Moreover, the relatively low explanatory power ($R^2 = 0.175$ for compulsive buying behavior) should be acknowledged. This means that although brand traits and brand addiction do have a major role to play, other unaccounted attributes, like cultural, psychological and social factors, also play significant roles in predicting compulsive purchasing of the Pakistani context. This restriction must be taken into serious account when one wants to make some practical conclusions about the research. On balance, the results prove the mediating effect of the brand addiction between the brand attributes (self-expressiveness, innovativeness, and liking) and compulsive purchasing behaviour in accordance with S-O-R theory and the socio-cultural background of Pakistani customers.

Conclusion

The primary objective of this study was to delve into the intricate dynamics of consumer behavior in Karachi, Pakistan, with a specific focus on the impact of brand attributes, namely brand innovativeness (BI), brand liking (BL), and brand self-expressiveness (BSE), on compulsive buying behavior (CBB). The mediating role of brand addiction (BA) was also scrutinized within this context. Employing a quantitative deductive methodology, we embarked on an extensive exploration, adopting the explanatory research type to gather a substantial volume of data and conduct a comprehensive analysis of the variables under investigation. Our target population encompassed the diverse and dynamic residents of Karachi, reflecting the rich tapestry of consumer behaviours within this unique urban landscape. Data collection was meticulously executed through a structured questionnaire employing a five-point Likert scale. To ensure a broad and representative sample, this questionnaire was administered through both in-person interviews and online surveys. In terms of data analysis, we harnessed the power of Partial Least Squares Structural Equation Modelling (PLS SEM), a robust technique that facilitated both measurement and structural modelling. This enabled us to rigorously examine

the intricate relationships among the variables. Our findings shed light on significant relationships: BI, BSE, and BL exhibit a positive and statistically significant impact on BA, which, in turn, has a positive and significant influence on CBB. Moreover, our research underscores that BI, BSE, and BL collectively exert a positive and significant influence on CBB, and this effect is channelled through BA. For businesses in the Pakistani context, these results hold paramount importance. They emphasize the necessity for firms to develop strategies aimed at nurturing enduring and robust relationships with their customers. Once these conditions are met, the consumer-brand relationship can be deemed healthy, sustainable, and thriving. In line with contemporary consumer preferences, managers should also harness various communication channels, such as social media platforms (Instagram, TikTok, online chats, forums, and blogs). These channels provide an avenue for engaging with the target audience, soliciting their feedback, and continuously researching new ideas. It's equally vital for firms to promote ethical and accurate messaging to encourage repeat purchases through initiatives like awareness programs and loyalty programs. In today's consumer landscape, an alluring physical store or captivating online channel that showcases aesthetics, appearance, and innovativeness can significantly influence brand perception and customer awareness.

Managerial Implications

This study offers several practical and ethically grounded recommendations, particularly for managerial strategies tailored to engage young consumers and responsibly cultivate brand addiction. The research offers profound insights that can significantly enhance our comprehension of consumer-brand relationships in the context of Pakistan. Traditionally, many company managers have centered their strategies on product price and performance. However, the findings emphasize the need for a shift in managerial attitudes. Firms should recognize that value encompasses various dimensions and holds diverse meanings for consumers. To captivate and retain customers in the long term, managers must adapt by prioritizing innovation and personalization and ethical engagement of their brands. Continuous research is pivotal, and communication departments play a central role in this endeavour. These departments should actively seek innovative approaches and foster interactive relationships with customers. Creating online platforms to facilitate brand-consumer interaction, as well as leveraging new social media tools like Instagram stories, polls, and Q&A sessions, can empower managers to encourage and harness customer self-expression responsibly.

Furthermore, managers must closely monitor customers' emotional states, both in their marketing activities and from a strategic standpoint. They are also supposed to monitor the online and offline purchasing behaviours to detect the initial signs of compulsive buying and react through ethical methods of engagement. Managers should leverage emerging web technologies such as forums, blogs, and live chats to cultivate highly interactive and personalized customer communication. Establishing a sense of community is another pivotal aspect. Engaging customers through social media, hosting events, and offering loyalty programs or other incentives can foster repeat purchases and brand addiction without encouraging over-consumption. At a strategic level, firms should place a strong emphasis on consumer profiling, utilizing careful segmentation and targeting analyses. This approach enables firms to precisely identify the characteristics of specific consumer segments. By doing so, they can plan long-term marketing activities that promote responsible consumption and customer well-being. Firms should not only monitor customer emotional states through online channels but also promote positive and ethically sound messages to prevent negative consumption behaviours. Managers need to address responsible consumption and make sure that the process of brand engagement promotes well-being and not overspending. Brand addiction must result in a positive state of mind rather than overspending or anxiety.

Managers can also consider incorporating additional tools, such as television advertising and sales campaigns, to disseminate the same message in offline contexts. Specifically, firms should develop social messages and advertising campaigns that highlight both the potential for customers to establish positive, responsible relationships with their brands and the risks associated with negative consumption behaviours stemming from excessive brand attachment. In conclusion, these recommendations underscore the evolving landscape of consumer-brand relationships in Pakistan. They emphasize a healthy and ethical strategy, combining innovation, personalization, emotional intelligence and consumer well-being as a means of fostering brand addiction and sustainable interaction.

Limitations of the Study

The present section has provided a meaningful future direction, the study has a few limitations. It investigates the impact of brand features on compulsive buying behavior with the mediating effect of brand addiction. To start with, the study is only geographically restricted to Karachi and therefore might be limited in terms of generalizing the results to other parts of Pakistan.

Secondly, the research is based entirely on quantitative methodology; it would be possible to gain additional knowledge concerning the issue of consumer motivation in compulsive buying. Third, no moderating variables were included in the study, which can restrict the knowledge of the contextual effects on brand addiction and compulsive buying. Fourthly, although 384 participants are a sufficient size to conduct SEM analysis, the use of convenience sampling could limit the representativeness and generalizability of the results. Some groups of demographics and socio-economic status could be misrepresented. Besides, the 5-point Likert scale can be quite efficient, but it might not be suitable to reflect fine consumer motivations and situational factors. Fifthly, the research is focused on certain brand features; the other possible variables, such as social influence or peer pressure, were not investigated. Finally, the correlational design does not permit the establishment of causality relations, which is also one of the areas where future longitudinal or experimental research can be undertaken.

References

- Aaker, D. A. (2009). *Managing brand equity*. Simon and Schuster.
- Aziz, A., & Khan, N. (2020). The potential uses of pilot study in qualitative research. *Journal of Research & Reviews in Social Sciences Pakistan*, 3(1), 750-767.
- Bai, S., Yin, Y., Yu, Y., Wei, S., & Wu, R. (2021). Effects of self-expressive brand and susceptibility to interpersonal influence on brand addiction: Mediating role of brand passion. *Frontiers in Psychology*, 12, 602023.
- Behnke, M. (2025). How self-expressive human values boost brand appeal?. In *In One Word: The Power of Razor-sharp Brand Positioning to Lower Costs and Improve Results* (pp. 83-94). Cham: Springer Nature Switzerland.
- Blázquez-García, A., Conde, A., Mori, U., & Lozano, J. A. (2021). A review on outlier/anomaly detection in time series data. *ACM computing surveys (CSUR)*, 54(3), 1-33.
- Chen, S., Wang, P., & Wood, J. (2023). What is a retail brand-a systematic review of terms and definitions. *International Journal of Retail & Distribution Management*, 51(5), 653-673.
- Darrat, A. A., Darrat, M. A., & Darrat, M. A. (2023). Does wanting more lead to losing control? Examining the psychological drivers of compulsive buying. *Young Consumers*, 24(1), 56-73.

- Deodhar, S. J., & Gupta, S. (2023). The impact of social reputation features in innovation tournaments: Evidence from a natural experiment. *Information Systems Research*, 34(1), 178-193.
- Elhajjar, S., Kaskas, M., & Tlaiss, S. (2022). Investigating the causes and consequences of addiction to high-tech brands. *Technology Analysis & Strategic Management*, 34(8), 974–987.
- Farooq, A., & Moon, M. A. (2025). Addicted to the fake: Coaction theory and the psychology behind counterfeit consumption. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 19(3), 648-672.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Fournier, S. (1998). Consumers and Their Brands: Developing Relationship Theory in Consumer Research. *Journal of Consumer Research*, 24(4), 343–353.
- Francioni, B., Curina, I., Hegner, S. M., & Cioppi, M. (2020). Brand addiction: Brand characteristics and psychological outcomes. *Journal of Consumer Marketing*.
- Ghanad, A. (2023). An overview of quantitative research methods. *International journal of multidisciplinary research and analysis*, 6(08), 3794-3803.
- Gul, R. F., Liu, D., Jamil, K., Baig, S. A., Awan, F. H., & Liu, M. (2021). Linkages between market orientation and brand performance with positioning strategies of significant fashion apparels in Pakistan. *Fashion and Textiles*, 8(1), 37.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature.
- Hair, J. F. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24.
- Hall, A., & Taylor, S. (2023). Consumer culture and symbolic capital in a differentiated Pakistani transnational community: ‘It is a fake type of izzat’. *The Sociological Review*, 71(5), 1172-1190.

- Handique, K., & Sarkar, S. (2024). The Impact of Brand Love on Customer Loyalty: Exploring Emotional Connection and Consumer Behaviour. *International Research Journal of Multidisciplinary Scope*, 5(04), 1104-1120.
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial management & data systems*, 116(1), 2-20.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Hetet, B., Ackermann, C. L., & Mathieu, J. P. (2020). The role of brand innovativeness on attitudes towards new products marketed by the brand. *Journal of Product & Brand Management*, 29(5), 569-581.
- Hussain, Q., & Khalid, W. (2025). Impulsive Buying Behaviour: How Positive Emotions Mediate the Relationship between Brand Love, Brand Engagement, and Brand Performance in the context of Pakistan. *Social Science Review Archives*, 3(1), 2476-2492.
- Jameel, A., Khan, S., Alonazi, W. B., & Khan, A. A. (2024). Exploring the impact of social media sites on compulsive shopping behavior: the mediating role of materialism. *Psychology Research and Behavior Management*, 171-185.
- Japutra, A., Ekinici, Y., & Simkin, L. (2022). Discovering the dark side of brand attachment: Impulsive buying, obsessive-compulsive buying and trash talking. *Journal of Business Research*, 145, 442-453.
- Jhantasana, C. (2023). Should a rule of thumb be used to calculate PLS-SEM sample size. *Asia Social Issues*, 16(5), e254658-e254658.
- Junaid, M., Fetscherin, M., Hussain, K., & Hou, F. (2022). Brand love and brand addiction and their effects on consumers' negative behaviors. *European Journal of Marketing*, 56(12), 3227-3248.
- Keller, K. L. (2020). Consumer research insights on brands and branding: a JCR curation. *Journal of Consumer Research*, 46(5), 995-1001.
- Khatoon, S., & Rehman, V. (2021). Negative emotions in consumer brand relationship: A review and future research agenda. *International Journal of Consumer Studies*, 45(4), 719-749.

- Kshatriya, K., & Shah, P. S. (2023). A study of the prevalence of impulsive and compulsive buying among consumers in the apparel and accessories market. *Vilakshan-XIMB Journal of Management*, 20(1), 2-24.
- Lawrence, L. M., & Elphinstone, B. (2021). Coping associated with compulsive buying tendency. *Stress and Health*, 37(2), 263-271.
- Le, M. T., Nguyen, T. K., McClelland, R., Antunes, P., & Thuan, N. H. (2025). Exploring the dichotomy between brand addiction and brand love: a comprehensive analysis. *Asia Pacific Journal of Marketing and Logistics*.
- Li, X., Zhou, Y., Wong, Y. D., Wang, X., & Yuen, K. F. (2021). What influences panic buying behaviour? A model based on dual-system theory and the stimulus-organism-response framework. *International Journal of Disaster Risk Reduction*, 64, 102484.
- McNally, D., & Speak, K. D. (2023). Be your own brand: Achieve more of what you want by being more of who you are. Berrett-Koehler Publishers.
- Moon, M. A., Faheem, S., & Farooq, A. (2022). I, me, and my everything: Self-conceptual traits and compulsive buying behavior. *Journal of Retailing and Consumer Services*, 68, 103075.
- Mrad, M., Itani, O. S., & Cui, C. C. (2025). Unlocking life satisfaction: the impact of self-image congruence on consumers' life satisfaction through brand love and brand addiction. *European Journal of Marketing*, 59(8), 2054-2088.
- Nunnally, J., & Bernstein, I. (1994). Psychometric Theory 3rd edition (MacGraw-Hill, New York).
- Obi, P., Eze, K., & Balogun, R. (2023). Competition in Marketing: A Deep Dive into Advertising Rivalries. *Fusion of Multidisciplinary Research, An International Journal*, 4(2), 471-482.
- Pina, R., & Dias, Á. (2021). The influence of brand experiences on consumer-based brand equity. *Journal of Brand Management*, 28(2), 99-115.
- Raza, M., Frooghi, R., & Aziz, A. (2020). Determinants of compulsive buying behaviour in apparel industry of Pakistan. *International Journal of Innovation, Creativity and Change*, 11(11), 172-189.
- Raza, S., Riaz, A., Khan, M. K., Nazir, H., & Zaka, M. A. (2025). Digital Innovation and Online Shopping Experience as Drivers of Repurchase Intention in Pakistan's Fashion Industry. *ASSAJ*, 3(02), 222-232.

- Sagheer, U., Hussain, F., & Hamid, K. (2025). Social Media Activities And Its Influence on Customer-Brand Relationship: An Empirical Study of Apparel Retailers' Activity In Pakistan. *Journal of Computing & Biomedical Informatics*.
- Sakuntala, D., Rizal, M., Syahril, H., & Rafiki, A. (2024, September). Brand Attitude and Research Agenda. In *Contemporary Business Research in the Islamic World: Proceedings of the 14th Global Islamic Marketing Conference, September 2023* (p. 123). Springer Nature.
- Shaikh, A. L., & Soomro, K. A. (2025). Role of negative public religious sentiments on brand management in Pakistan—from the marketers' perspective. *Journal of Islamic Marketing*.
- Somma, A., Krueger, R. F., Markon, K. E., Gialdi, G., Di Leva, N., Falcone, E., ... & Fossati, A. (2023). Are problem buying and problem gambling addictive, impulsive, or compulsive in nature? A network analysis and latent dimension analysis study in Italian community-dwelling adults. *Psychiatry research*, 321, 115100.
- Stratton, S. J. (2021). Population research: convenience sampling strategies. *Prehospital and disaster Medicine*, 36(4), 373-374.
- Subhaktiyasa, P. G. (2024). PLS-SEM for multivariate analysis: A practical guide to educational research using SmartPLS. *EduLine: Journal of Education and Learning Innovation*, 4(3), 353-365.
- Tarka, P., Harnish, R. J., & Babaev, J. (2022). From materialism to hedonistic shopping values and compulsive buying: A mediation model examining gender differences. *Journal of Consumer Behaviour*, 21(4), 786-805.
- Thomas, T. A., Joshi, M., Trotzke, P., Steins-Loeber, S., & Müller, A. (2023). Cognitive functions in compulsive buying-shopping disorder: A systematic review. *Current Behavioral Neuroscience Reports*, 10(1), 1-19.
- Wallace, E., Torres, P., Augusto, M., & Stefurn, M. (2021). Outcomes for self-expressive brands followed on social media: Identifying different paths for inner self-expressive and social self-expressive brands. *Journal of Business Research*, 135, 519-531.
- Yousef, W. Y. (2024). Exploring the distinctions between brand happiness, belongingness, attachment, and likeability: A qualitative analysis of consumer perceptions. *Corporate Reputation Review*, 1-14.

