



Cultural Effect of Health and Information Disclosure on Brand Loyalty in Emerging Market

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Abstract

The research examines how health-related challenges and information disclosure practices influence brand loyalty in the FMCG industry in Karachi, Pakistan, focusing on brand perception, trust, and cultural factors. The study employs cultural dimensions theory, signaling theory, and the brand equity model to explore the complex relationships between these variables. A quantitative research methodology was also used, implementing a correlation research design. Data was collected from 212 respondents using a non-probability, convenience sampling method with a 5-point Likert scale survey. The data was analyzed using PLS-SEM to assess the relationships between the variables. In addition, the results showed that brand perception positively affects brand trust. Brand trust has positively significant effects on brand loyalty. Culture has positively significant effects on brand perception. Also, health threats and information disclosure have a positively significant effect on culture. These results underscore the importance of health-related concerns and transparent communication in shaping consumer loyalty in the FMCG sector. The study provides valuable insights into how FMCG companies can strengthen brand loyalty in emerging markets through effective information disclosure practices and cultural alignment.



Introduction

Health-related challenges and information disclosure play important roles in the cultural effect of brands on brand loyalty, particularly among developing countries where socio-economic and cultural factors drive consumers' awareness and purchasing behavior. The interaction between health concerns strongly influences brand perception and long-term loyalty, the brand communication strategy, and consumer trust (Liu et al., 2024). Health threats, including pandemics, food safety concerns, and product-related risks, significantly impact consumer behavior. Individuals are known to change their purchasing decisions or shift brand loyalties to companies that place health-conscious formulations and transparency in high regard when a product is perceived as possibly detrimental to one's good health (Lyulyov et al., 2024). How much health threats influence consumer behavior depends on the cultural value level. For instance, in collective societies, consumer decisions will be based on how individuals in a society are perceived and how they cooperate. In contrast, in individual societies, people see risks themselves (Liaquat et al., 2025).

Information disclosure refers to how much brands share relevant product information, safety measures and aspects of corporate social responsibility (CSR) with members of the public. Transparent communication is a trust-generating and trust-sustaining element since consumers expect brands that offer complete and accurate information (Lyu & Kim, 2024). In the context of fast-moving consumer goods (FMCG), information on nutritional labeling, health benefits, statements on environmental impact, and ethical sourcing details are disclosed. As skepticism about corporate claims is high in markets, consumers increasingly seek authenticity in brand messaging. Transparent communication has become the key role of digital platforms and social media since consumers now have much information. They can check the brand and verify the claims step by step (Sanam et al., 2024).

Consumers behave with information disclosure under cultural norms. However, in high-context cultures with very implicit communication, the expectation for transparency might be lower. On the contrary, in contexts characterized by low context where direct and detailed information is held in high esteem, consumers may aspire for a detailed disclosure before purchasing (Hussain & Khan, 2024). As an illustration, societies with high uncertainty avoidance are more risk-averse and require many safety assurances to consider trusting a brand. Consumers in a society characterized by low uncertainty avoidance may prefer to experiment with new products even when faced with potential health risks. Likewise, in the case of collectivist cultures where social influence is strong, collectivist cultures may rely more on peer recommendations or family opinions for their brand transparency and reliability evaluation (Long et al., 2024).

Given that there exist several practical issues and challenges confronting businesses as well as consumers in emerging markets, in particular, the ones that are related to health and information disclosure and consequent to cultural implications of such, an examination of the cultural effect of health-related challenges and information disclosure on brand loyalty in emerging markets is vital (Akram et al., 2025). By providing insights into consumer behavior, trust formation, and sustainable brand-consumer relationships in the FMCG sector, these challenges provide evidence for the need for this study (Ghaffar et al., 2025).

The primary challenges arise from consumers' skepticism of brand communication, particularly health and product safety claims. Misleading advertising, exaggerated claims,



and regulatory enforcement are complex in many emerging markets, creating little trust in corporate messaging. Brands are so innovative and influential that consumers ask whether these health-related promises, claims, ingredient transparency, and sustainability initiatives are true (Soni et al., 2024). This skepticism leads to a negative view of the brand that hinders the development of long-term trust and loyalty. Consumer purchasing behavior has been completely changed as health threats like pandemics, food adulteration or personal care product safety concerns have emerged. Increased scrutiny of FMCG products followed rising awareness about the effects of harmful ingredients, allergens, and preservatives (Chowdhury & Nath, 2024). At the same time, however, there is a lack of clear and accessible information for consumers to inform decisions. If brands do not take care of these concerns, customer trust will be ruined, and their relationship with customers will be weakened; on the contrary, brands that respond proactively can have a bigger chance of building a relationship with customers (Fahim, 2024).

While numerous studies have been conducted on factors that lead to a brand loyal customer, only a few studies have investigated how health threats and information disclosure affect a consumer's trust in emerging markets, especially in the FMCG sector (Fahim, 2024). Most of the literature has been chiefly concerned with developed markets where stringent regulation assures transparency, in contrast to less regulated environments. It does not suffice to explain how cultural values affect people's responses to health concerns (Long et al., 2024). It has an underexplored role in establishing a brand perception of health risks in the context of a collectivist culture in Pakistan (Chowdhury & Nath, 2024; Eriqat et al., 2024).

Another gap is yet to be understood: consumers' psychological and behavioral responses to health threats and transparent communication to retain trust. However, other studies focus more on the quality of the product and its affordability for consumers while ignoring the importance of health-related transparency (Maduranga Arachchi & Samarasinghe, 2024). On one hand, digital platforms give brands the possibility to interact with their consumers, but they also create the possibility of spreading disinformation or generating skepticism; moreover, research has not been developed to analyze the impact that digital transparency might have on consumer trust in FMCG brands (Subhani et al., 2024).

Additionally, crisis management and brand recovery strategies after health-related incidents are studied without considering cultural influences. Very little has been researched on whether proactive transparency can compensate for the busting of long-term brand loyalty (Lyulyov et al., 2024). Addressing these gaps will offer ideas on how brands can build consumer trust, create loyalty, and overcome health-related issues in emerging markets (Poornima & Subramanian, 2024). Qualitative and quantitative results from this study offer insights into how cultural values influence consumer behavior, contributing to the understanding of the role of cultural values in shaping consumer behavior and assistance regarding how to communicate brand messages better (Chen et al., 2024a).

Therefore, the study examines how health-related challenges and information disclosure practices influence brand loyalty in the FMCG industry in Karachi, Pakistan. By analyzing consumer responses to health-related challenges and evaluating the effectiveness of information disclosure practices, it seeks to provide valuable insights into building and maintaining brand loyalty in this emerging market.





Literature Review

Brand Loyalty

Brand loyalty is synonymous with the consumer who has a penchant for a particular brand, one that he/she buys repeatedly, simultaneously advocating the products or services of the same. The idea reflects the tremendous emotional and behavioral commitment of consumers, who keep buying products of a brand despite competition or external stimulus (Zhang et al., 2025). According to the brand equity model, a key outcome is brand loyalty because the more the brand is viewed positively, the higher the commitment of consumers. This study examines how brand loyalty occurs regarding health-related features and transparency when the consumer perceives the communication about the safety and physical well-being of the product as a trustworthy brand; it leads to long-term loyalty in the FMCG sector (Xiao et al., 2025).

Brand Trust

Trust in a brand is the trust consumers will put in it to ensure it can be relied upon and stand by its honest reputation. It affects consumer behavior in markets that have health concerns and information (Long et al., 2024). According to signaling theory, the more brands share relevant information with consumers to reduce uncertainty and maintain credibility, the more the consumers can build brand trust. This study focuses on how information disclosure in health-related communication causes brand trust as a mediator between information disclosure and brand loyalty (Lefkeli et al., 2024).

Brand Perception

Brand perception relates to how consumers judge a brand based on experiences, marketing messages, and product quality. It has some form formed by various factors such as cultural values, transparency, and previous conversations. As per the brand equity model, the stronger the consumers understand a brand, the greater their trust and loyalty (Liu et al., 2024). This study shows that brand perception is determined by health threats and the disclosure of information because consumers evaluate the brands according to the method of communication, product safety, and health concerns. The perception of trust is positively related to positive perception and, in turn, to brand loyalty (Liaquat et al., 2025).

Culture

Culture refers to shared values, beliefs, and behavioral patterns that influence consumer's attitudes and decision-making. The cultural dimensions theory of Hofstede (2011) explains how the various cultural aspects, that is, collectivism, uncertainty avoidance and power distance, influence consumers' response to brand communication (Majeed & Rasheed, 2024). Culture is a moderating variable because it impacts how consumers perceive health-related risks and brand transparency. Marketers must understand the cultural effects in a collectivist society like Pakistan, which generally result in trust based on social networks and cultural norms. Hence, the strategies they build for brands consider the consumers' expectations (Shahid et al., 2025).

Health Threats

A health threat is a perceived or actual risk to consumer well-being resulting from some product attributes, including harmful ingredients, contamination, and or misleading health claims. Threats of this nature can tarnish consumer confidence and, thus, cause procurement behavior change (Baik & Famularo, 2024). In this case, the theory of cultural dimensions is relevant, as different cultural settings will lead to different consumer outcomes regarding health as a concern. In this study, the role of brand perception and



trust regarding health threats of FMCG brands is analyzed, and the way product safety concern impacts consumers' position toward FMCG brands is also known (Eid et al., 2024).

Information Disclosure

Information disclosure refers to the transparency and communication of product-related information, such as ingredients, safety measures, and health benefits, with the brand. Based on signaling theory, brands that share prevalent critical information when consumers are most likely to be uncertain are likely to reduce uncertainty and increase trust (Wang & He, 2024). Serving as a key consequence of information disclosure, this study features the impact of data disclosure on brand trust and loyalty. In emerging markets, skepticism of product claims is high, so consumers rely on clear brand communication to choose how to make an informed decision. Thus, disclosure is necessary to maintain long-term consumer relationships (Lyulyov et al., 2024).

Theoretical Background

Cultural Dimensions Theory

Proposed by Geert Hofstede in 2001, cultural dimensions theory aims to analyze the impact of cultural values on human behavior and decision-making. The theory defines these cultural dimensions as the key ones, including individualism vs. collectivism, uncertainty avoidance, power distance, long-term vs. short-term orientation, and others. Discussing these dimensions can help explain why cultural norms play a role in forming consumer perception, trust and brand loyalty (Hofstede, 2011). In the context of the research conducted, this theory is relevant as it mitigates consumers' perception of health threats in the emerging market of Pakistan, as well as their response to brand transparency. Knowing these cultural influences will explain why some information disclosure strategies might shape perception and brand loyalty more effectively. If brands communicate their strategies to meet cultural expectations, they will strengthen consumer trust and longtime brand commitment. This study adopts the theory to evaluate how cultural values influence the link between health-related information disclosure and brand loyalty in the FMCG sector (Żemojtel-Piotrowska & Piotrowski, 2023).

Signaling Theory

As proposed by Michael Spence (2002), signaling theory is the information that entities can convey from the available information to reduce uncertainty and build trust. When the market has information asymmetry, signaling differentiates reliable from unreliable brands (Spence, 2002). These effective signals include transparency in communication, product certifications, and proactive disclosure of health-related risks. In this study, the signaling theory is applied to analyze how FMCG brands utilize health-related information disclosure to establish trust in a brand and brand loyalty (von Deimling et al., 2022). In such an emerging market, where there is a lack of credibility about the safety and authenticity of the products, consumers rely significantly on brand signals to judge product safety and authenticity. If brands disclose health information proactively, they will provide a strong signal of credibility, mitigating consumer uncertainty and reinforcing their trust (Fahim, 2024).

Brand Equity Model

David Aaker's (1991) brand equity model explains how brand value is developed by factors reflected in brand awareness, brand associations, perceived quality, and brand loyalty. This model suggests that substantial brand equity will cause customers to trust, prefer and be loyal to the brand, creating a competitive advantage in the market (Aaker, 2009). This



study deals with the brand equity model to assess how uncertainty and information disclosure affect brand loyalty from a health issue point of view. Brand trust, consumer perception, and loyalty are affective power at the consumer brand level. If consumers believe that the brand is credible and responsible for handling health risks, they are likely to create a strong emotional bond with that brand. Also, in a culturally oriented market such as Pakistan, an effort towards transparency for trust building is expected to substantially benefit a brand's equity (Vo & Nguyen-Anh, 2024). The brand equity model is applied in this study to determine the mediating role of health information disclosure, brand perception and consumer trust in the relationship between health information disclosure and consumer loyalty in the FMCG industry. The research extends the model's application to emerging markets by integrating cultural influences to understand consumer-brand relationships in culturally driven purchasing behaviors (Zhang et al., 2025).

Hypothesis Development

Health Threats and Culture

Changes in perceptions, trust, and social norms 'force' consumer behavior due to health threats in culturally driven markets. Such perceived product-related health risks serve-triggers people to respond to them with their cultural values. Especially in high uncertainty-avoidance cultures like many emerging markets, consumers might react significantly to such health threats by hitting a breaking point and becoming more cautious and skeptical of brands (Baik & Famularo, 2024). Trust, consumer purchase behavior, and reliance on community-driven decision-making can be disrupted by health issues that may be present. Negative health perception spreads quickly among the members of the society where social influence is powerful and at a broader cultural level as this attitude affects the consumer (Uttley et al., 2025). Furthermore, cultural values that emphasize health consciousness may provoke concerns and thus increase the consumer's demand for more transparency and regulatory intervention (Crawford, 2022). Hence, it is proposed that:

H1. Health threats hurt culture.

Information Disclosure and Culture

Information disclosure shapes cultural attitudes toward trust, transparency, and consumer-brand relationships. Since if brands openly communicate product-related information like ingredients, their health impacts, and the safety measures taken, they are building a culture of informed decision-making (Wang & He, 2024). Surprisingly, signaling theory suggests that brands who disclose information beforehand send strong signals of credibility and reliability, thereby solving some uncertainty and building trust between the brands and their consumers. Transparency in communication is a social norm in culturally driven markets, as the values around it are driven by collective well-being and ethicality in business (Muttakin & Khan, 2025). The disclosure of information also aids in reinforcing trust and strengthening brand reputation in collectivist cultures where word of mouth and community influence have a significant bearing on the purchase decision. People feel more engaged with honest and truthful brands, creating a culture that customers' rights are the same as having informed choices (Zhao et al., 2024). Hence, it is proposed that:

H2. Information disclosure has a positive effect on culture.



Culture and Brand Perception

The perception of brands is profoundly and significantly influenced by culture, attitudes, expected behaviors, and purchasing behaviors. When culture is an issue, cultural dimensions theory states that, for instance, collectivism, uncertainty avoidance, and power distance affect the consumer decision-making process. Cultural factors are important in determining brand perception in markets that have yet to develop (Kaur et al., 2024). In collectivist cultures, when shared societal values, family influence, and peer recommendations are all involved, brand perceptions formed by collectivist consumers are significantly related to consumer actions and the values they have regarding society. This being said, a more favored brand that aligns with cultural expectations, like ethical sourcing, transparency, and so on, will more likely be perceived positively (Mohammad et al., 2024). Like in cultures with high uncertainty avoidance, consumers are also looking for brands that can be trusted with transparent and trustworthy information, thus contributing to the importance of transparency in forming a positive brand image (Oduro et al., 2024). Hence, it is proposed that:

H3. Culture has a positive effect on brand perception.

Brand Perception and Brand Trust

The brand perception has a crucial role in influencing the consumer trust. If consumers believe that a brand will behave well (come through), be transparent, be ethical, and support the culture's values in its actions, they tend to listen to and believe in the brand more. As the Brand equity model suggests, a good and strong brand perception can improve brand credibility and build a consumer's faith in a brand's integrity and reliability (Park & Nunes, 2024). Consumers build brand images through direct experience, marketing communication and word of mouth. A brand that consistently delivers high-quality products plays by ethical business practices, and is transparent about health and safety concerns creates an influential and trustworthy image (Oduro et al., 2024). Similarly, poor product quality, misinformation or lack of transparency can damage a brand's perceived value to the extent that customers can channel them to competitors (Zhang et al., 2025). Hence, it is proposed that:

H4. Brand perception has a positive effect on brand trust.

Brand Trust and Brand Loyalty

Brand Trust is a critical determining factor for brand loyalty as it reflects the consumer's confidence in brand reliability, integrity, and commitment to meet their expectations. The loyal repurchase, recommendation, and purchasing of products from a brand when it is trustworthy and confident will always be profitable for a brand (Hariyanti et al., 2024). To the fullest extent, trust strengthens the emotional connection between brands and their consumers and allows them to maintain long-term loyalty, brand stability, and understanding to serve them better (García-Salirrosas et al., 2024). Building brand trust is based on when brands maintain promises, stay transparent in communication, and behave ethically (Harriet et al., 2024). Hence, it is proposed that:

H5. Brand trust has a positive effect on brand loyalty.



Research Model

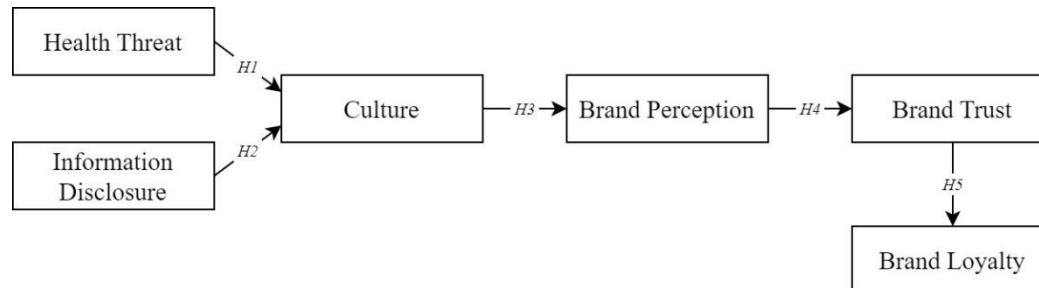


Figure 2.1: Research Model

Methodology

Design

The deductive research approach relies on theories and results to create hypotheses and test them empirically. The process follows a top-down process, starting from general theoretical concepts and moving to particular cases (Soiferman, 2010). This approach is appropriate since the present study is based upon well-developed theories such as cultural dimensions theory, signaling theory, and brand equity model, which examine the relationships between information disclosure, culture, brand perception, trust, and loyalty (Reyes, 2004). As a deductive study, the theory is deduced adequately into observation to create a logical flow from theory to observation, hence structured validation of theoretical relationships in the FMCG sector (Hall et al., 2023).

Quantitative research is a research approach in which numerical data is gathered and analyzed to locate patterns, relations, and trends. It is structured and objective and allows for the statistical testing of hypotheses (Saunders, 2014). The approach adopted in this study is quantitative as it attempts to investigate the effect of health threats and the disclosure of information on culture, brand perception, trust and loyalty in the FMCG sector. This approach is engineered to be precise and reliable and generalize findings to a larger population using numerical measurements. Due to the structured nature of quantitative research, this study is most suitable (Bryman, 2016).

Sample and Population

The research was conducted among Karachi residents who purchased FMCG products. Karachi is Pakistan's most significant metropolitan city, offering an ideal market framework to study how people in this segment behave regarding FMCG sector products because of its substantial consumer base. Market revenue for the FMCG sector of Pakistan shows projections to reach USD 30 billion by 2025 (Saqib, 2024). Karachi, Pakistan's commercial center, generates most of the packaged good's revenue, contributing to around 60% of urban consumer purchasing behavior patterns. Analyzing FMCG consumers in Karachi is a valuable resource for understanding how health threats and brand disclosures affect brand loyalty. More consumers now care about healthcare and brand openness (Sulehria et al., 2022).

The studied population represents an ideal research sample, including consumers with different purchasing habits and cultural and brand choices. Karachi consumers experience high exposure to brand communication from advertisements, digital media, and product packaging, which makes them suitable respondents for studying brand loyalty through health-related challenges and information disclosure (Hussain & Khan, 2024).



The sample size for this study is determined using the $50 + 8k$ rule, where k represents the number of variables in the research model. Using this formula, where $k = 6$ (the number of variables in the study), the minimum required sample size is 98 (Krejcie & Morgan, 1970). The study collected 212 responses from the consumers of FMCG brands in Karachi.

The research uses nonprobability convenience sampling methods to select participants by considering access and participation willingness. Research using convenience sampling provides practical access to Karachi-based FMCG consumers who fit the specified criteria since they have recently bought FMCG products and understand both health-related information and brand communication practices (Stratton, 2021). This research method provides efficient data collection because it serves the needs of studying consumer perceptions in Karachi's vast and diverse market. The cost-efficiency and operational speed of convenience sampling make it an ideal methodology for analyzing consumer perceptions in emerging market situations (Sedgwick, 2013).

Data Collection

The researcher will use a five-point Likert scale questionnaire to gather primary data. The systematic questionnaire allows participants to rate their agreement levels for statements about health dangers, information security, cultural perspectives, brand perception, trust, and loyalty (Allen & Seaman, 2007). The measurement tool combines a five-point Likert scale that creates clear points between "Strongly Disagree" and "Strongly Agree" for research purposes under this study. The research instrument is appropriate because it transforms abstract opinions into objective metrics, enabling statistical analysis between study variables. This measurement tool boosts response reliability and enhances comparability, making it a valuable instrument for studying consumer habits in the FMCG marketplace (Noh, 2011). Table 3.1 shows the measurement and sources of the data collection instrument.

Table 3.1: Research Instrument

Variable Name	N Items	Likert Type	Source(s)
Health threat	4	5-Point	(Fihartini et al., 2021)
Information Disclosure	8	5-Point	(Lee et al., 2023)
Culture	13	5-Point	(Erdem et al., 2006)
Brand Perception	6	5-Point	(Hanzaee & Rouhani, 2013)
Brand Trust	6	5-Point	(Zehir et al., 2011)
Brand Loyalty	6	5-Point	(Zehir et al., 2011)

The researcher implemented a survey using structured questionnaires on Google Forms for data acquisition. The questionnaires reach respondents through combined offline and online distribution methods to achieve maximum variability in participation (Zhang et al., 2017). The distribution of questionnaires through direct engagement with FMCG consumers in Karachi proves effective as respondents receive prompt response clarification. The availability of online distribution through social media platforms and email and messaging apps makes data collection more efficient by providing respondents with better accessibility and convenience (Schillewaert & Meulemeester, 2005). Combining personal



delivery with online channels helps produce higher response rates because it maintains research reliability and connection to the defined objectives (Zhang et al., 2017).

Results

Demographic Profile of the Respondents

Table 4.1 shows the demographic profile of the respondents.

Table 4.1: Demographic Profile (n = 212)

		Frequency	Percent
Gender	Male	104	49.1
	Female	108	50.9
Age	18-24 years	78	36.8
	25-30 years	72	34
	31-35 years	36	17
	Above 35 years	26	12.3
Education	Undergraduate	36	17
	Graduate	98	46.2
Frequency of FMCG Purchase	Postgraduate	78	36.8
	Daily	36	17
	Weekly	90	42.5
Type of FMCG Products Mostly Purchased	Monthly	86	40.6
	Personal Care Products	152	71.7
	Food and Beverages	42	19.8
	Household Cleaning Products	12	5.7
	Others	6	2.8

The demographic profile of the participants in the study reveals a total sample size of 212 individuals. In terms of gender, 104 participants (49.1%) were male, while 108 participants (50.9%) were female. Regarding age distribution, 78 participants (36.8%) were between 18-24 years old, 72 participants (34%) were aged 25-30 years, 36 participants (17%) were between 31-35 years old, and 26 participants (12.3%) were above 35 years.

In terms of education, 36 participants (17%) were undergraduates, 98 participants (46.2%) were graduates, and 78 participants (36.8%) had a postgraduate degree. Regarding the frequency of FMCG purchases, 36 participants (17%) reported purchasing daily, 90 participants (42.5%) made weekly purchases, and 86 participants (40.6%) bought FMCG products on a monthly basis. For the type of FMCG products mostly purchased, 152 participants (71.7%) preferred personal care products, 42 participants (19.8%) primarily



purchased food and beverages, 12 participants (5.7%) bought household cleaning products, and 6 participants (2.8%) reported purchasing other types of FMCG products.

Assessment of the Measurement Model

A measurement model shows the associations between latent elements and the observable indicators that link back to them. The model confirms correct construct measurements while validating how data structures theoretically connect to underlying concepts (Hair et al., 2017).

Indicator Reliability

Indicator Reliability was assessed using outer loadings (β values), which measure the strength of the link between an indicator and its construct. A loading value above 0.70 indicates strong reliability. The results show that most indicators have outer loadings exceeding 0.70, demonstrating strong reliability. For example, brand loyalty ($BL_1 = 0.882$; $BL_3 = 0.909$), brand perception ($BP_1 = 0.819$; $BP_5 = 0.763$), and culture ($C_{11} = 0.793$; $C_9 = 0.784$) all show strong loadings, confirming their significant contribution to their respective constructs (Hair et al., 2011, 2013). Health threats and information disclosure also show acceptable loadings, with HT_2 (0.927) and ID_3 (0.763) indicating strong relationships. However, some items, such as BP_2 (0.584), have loadings below the preferred threshold, which may suggest reconsideration. Despite lower loadings, these indicators remain statistically significant, with t -values above 1.96 and p -values below 0.05, confirming their relevance in the model (Hair et al., 2012).

Construct Reliability

Construct Reliability was evaluated using Cronbach's Alpha (α) and Composite Reliability (CR). All constructs exceeded the threshold of 0.70 for internal consistency, with Culture showing the highest α (0.818) and CR (0.873), confirming excellent reliability. Brand loyalty ($\alpha = 0.755$; CR = 0.890), brand trust ($\alpha = 0.742$; CR = 0.835), and health threat ($\alpha = 0.627$; CR = 0.833) also meet the reliability standards. These values confirm that the constructs exhibit strong internal consistency and are suitable for further analysis (Hair et al., 2011, 2013).

Convergent Validity

Convergent Validity was assessed using Average Variance Extracted (AVE). A value above 0.50 indicates that the construct explains more than 50% of the variance in its indicators. The AVE values for brand loyalty (0.803), brand trust (0.559), and health threat (0.716) all exceed 0.50, confirming good convergent validity (Hair et al., 2012). However, Brand Perception (0.517) and information disclosure (0.547) have AVE values slightly below the threshold, which suggests a need for further refinement in their measurement. Despite this, all constructs remain acceptable for further analysis due to their significance. Overall, the measurement model demonstrates good reliability and validity, making it suitable for further analysis in the study (Hair et al., 2017).

Table 4.2 provides the measurement model results using the PLS algorithm technique.

Table 4.2: Measurement Model

Constructs	Items	Loadings	Prob.	VIF	Alpha	CR	AVE
Brand Loyalty	BL_1	0.882	0.000	1.581	0.755	0.890	0.803
	BL_3	0.909	0.000	1.581			



	BP1	0.819	0.000	1.764			
	BP2	0.584	0.000	1.206			
Brand Perception	BP3	0.672	0.000	1.329	0.762	0.841	0.517
	BP4	0.734	0.000	1.603			
	BP5	0.763	0.000	1.583			
	BT2	0.711	0.000	1.236			
Brand Trust	BT3	0.747	0.000	1.660			
	BT4	0.732	0.000	1.549	0.742	0.835	0.559
	BT5	0.797	0.000	1.798			
	C11	0.793	0.000	2.062			
	C13	0.699	0.000	2.070			
Culture	C6	0.761	0.000	2.569	0.818	0.873	0.579
	C7	0.762	0.000	1.608			
	C9	0.784	0.000	2.718			
Health Threat	HT1	0.758	0.000	1.263			
	HT2	0.927	0.000	1.263	0.627	0.833	0.716
	ID3	0.763	0.000	1.664			
Information Disclosure	ID5	0.759	0.000	1.260			
	ID7	0.740	0.000	1.740	0.733	0.829	0.547
	ID8	0.696	0.000	1.421			

The table showed that indicators have loadings higher than the recommended threshold of 0.70 with a probability level below 5% and VIF below 5 (Hair et al., 2022; Hair et al., 2011), manifesting that indicators have substantial reliability for achieving construct validity. Moreover, constructs have alpha coefficient and composite reliability higher than the recommended thresholds of 0.70 and 0.80, respectively (Hair et al., 2019), and therefore, construct reliability has been established. Lastly, the table showed that constructs have AVE coefficients higher than 0.50 (Hair et al., 2011, 2013), and thus, it manifested a substantial degree of convergence between indicators and constructs.

Discriminant Validity

Discriminant validity measures how distinct one construct is from other constructs, thus ensuring that measures of two different constructs cannot overlap significantly or show a strong correlation (Lucas et al., 1996).



Heterotrait-Monotrait (HTMT) Ratio

Table 4.3 shows the result of discriminant validity using the HTMT ratio.

Table 4.3: Heterotrait-Monotrait (HTMT) Ratio

	Brand Loyalty	Brand Perception	Brand Trust	Culture	Health Threat	Information Disclosure
Brand Loyalty						
Brand Perception	0.758					
Brand Trust	0.881	0.712				
Culture	0.738	0.827	0.597			
Health Threat	0.522	0.734	0.716	0.873		
Information Disclosure	0.391	0.566	0.466	0.661	0.775	

Henseler et al. (2016); Henseler et al. (2015) recommended that the HTMT ratio between two latent constructs be less than 0.90 to establish discriminant validity. The above table shows that the highest HTMT ratio of 0.873 was found between health threat and culture, implying that discriminant validity using the HTMT ratio has been attained.

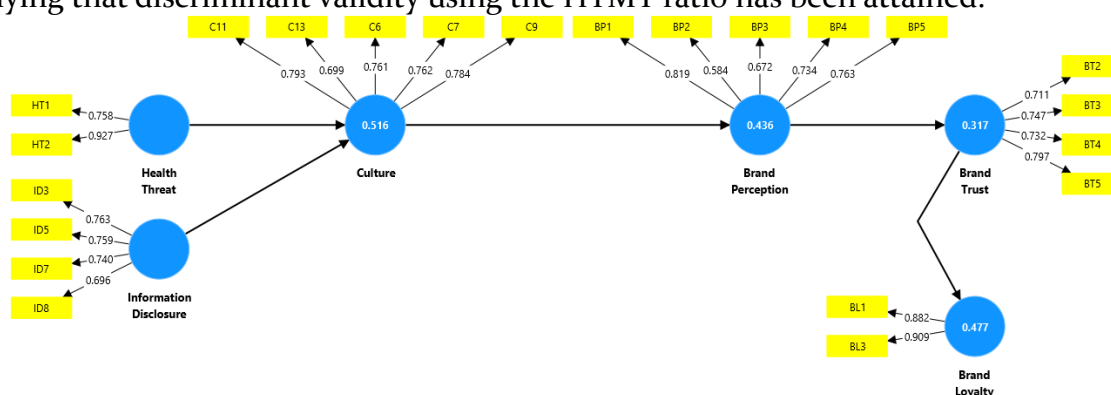


Figure 4.1: PLS Algorithm using SmartPLS

Fornell-Larcker Criteria (FLC)

Table 4.4 shows the result of FLC for discriminant validity assessment.

Table 4.4: Fornell-Larcker Criterion (FLC)

	Brand Loyalty	Brand Perception	Brand Trust	Culture	Health Threat	Information Disclosure
Brand Loyalty	0.896					
Brand Perception	0.578	0.719				
Brand Trust	0.690	0.563	0.748			
Culture	0.586	0.661	0.479	0.761		
Health Threat	0.383	0.505	0.464	0.684	0.846	
Information Disclosure	0.290	0.440	0.363	0.552	0.536	0.740

The above table showed that diagonally bold values (i.e., square root of the AVE coefficients) are higher than their respective correlation coefficients, providing that constructs have a higher degree of variance than their correlation with other constructs (Ab Hamid et al., 2017; Fornell & Larcker, 1981). Therefore, constructs have a substantial degree of divergence; thus, discriminant validity using FLC has been established.





Crossloadings Method

Table 4.5 shows the result of crossloadings for discriminant validity assessment.

Table 4.5: Crossloadings

	Brand Loyalty	Brand Perception	Brand Trust	Culture	Health Threat	Information Disclosure
BL1	0.882	0.510	0.579	0.457	0.163	0.231
BL3	0.909	0.526	0.654	0.586	0.503	0.285
BP1	0.443	0.819	0.498	0.557	0.388	0.407
BP2	0.289	0.584	0.323	0.423	0.430	0.251
BP3	0.456	0.672	0.396	0.435	0.252	0.293
BP4	0.368	0.734	0.370	0.410	0.274	0.290
BP5	0.501	0.763	0.415	0.527	0.465	0.316
BT2	0.556	0.602	0.711	0.349	0.211	0.327
BT3	0.499	0.330	0.747	0.379	0.371	0.145
BT4	0.347	0.266	0.732	0.304	0.261	0.266
BT5	0.589	0.384	0.797	0.383	0.536	0.315
C11	0.385	0.487	0.408	0.793	0.671	0.451
C13	0.220	0.386	0.327	0.699	0.618	0.422
C6	0.720	0.615	0.500	0.761	0.338	0.405
C7	0.490	0.551	0.311	0.762	0.575	0.481
C9	0.407	0.457	0.254	0.784	0.326	0.299
HT1	0.258	0.419	0.490	0.403	0.758	0.436
HT2	0.373	0.447	0.350	0.700	0.927	0.480
ID3	0.146	0.456	0.192	0.345	0.359	0.763
ID5	0.189	0.360	0.408	0.539	0.488	0.759
ID7	0.311	0.306	0.199	0.365	0.276	0.740
ID8	0.225	0.150	0.197	0.311	0.430	0.696

The above table shows that indicators have higher loadings in their constructs compared to their crossloadings in other constructs. This showed that constructs shared higher variance in their constructs than in other constructs (Ab Hamid et al., 2017; Cheung & Wang, 2017), manifesting that constructs have substantial divergence from other constructs establishing discriminant validity using crossloadings.



Assessment of the Structural Model

The potential connections between the study's elements are illustrated by the structural model. The structural model studies dependent variable effects from independent variables while testing causal paths between variables to measure the strength of their relationships (Diamantopoulos et al., 2008).

Path Analysis

Table 4.6 provides the result of hypothesis testing for direct-effect analysis.

Table 4.6: Path Analysis

	Estimate	S. D.	t-Stats	Prob.	Decision
Brand Perception -> Brand Trust	0.563	0.044	12.950	0.000	Supported
Brand Trust -> Brand Loyalty	0.690	0.035	19.768	0.000	Supported
Culture -> Brand Perception	0.661	0.040	16.334	0.000	Supported
Health Threat -> Culture	0.545	0.039	14.062	0.000	Supported
Information Disclosure -> Culture	0.259	0.049	5.322	0.000	Supported

The result showed that brand perception ($\beta = 0.563$; $p < 0.05$) has a positive and significant effect on brand trust. Similarly, brand trust ($\beta = 0.690$; $p < 0.05$) has a positive and significant effect on brand loyalty. Culture ($\beta = 0.661$; $p < 0.05$) has a positive and significant effect on brand perception. Additionally, health threat ($\beta = 0.545$; $p < 0.05$) has a positive and significant effect on culture. Also, information disclosure ($\beta = 0.103$; $p < 0.05$) has a positive and significant effect on culture.

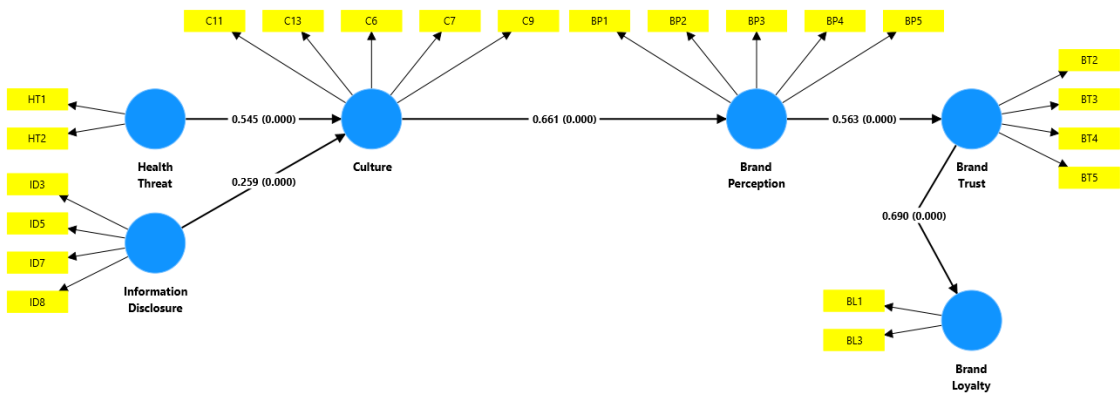


Figure 4.1: PLS Algorithm using SmartPLS

Predictive Relevance

Table 4.7 shows the predictive power of the endogenous constructs using the PLS Algorithm.

Table 4.7: Predictive Relevance

	R Square	Q Square
Brand Loyalty	0.477	0.363
Brand Perception	0.436	0.285



Brand Trust	0.317	0.265
Culture	0.516	0.366

Predictive power and relevance are evaluated using R-Square (R^2) and Q-Square (Q^2) values. R^2 measures the proportion of variance explained by the model, with values above 0.67 indicating strong predictive power, values between 0.33 and 0.67 showing moderate predictive power, and values between 0.19 and 0.33 representing weak predictive power (Chin, 1998). Q^2 assesses the predictive relevance of the model, with values greater than zero confirming predictive relevance, while higher values indicate stronger relevance (Cohen, 2013).

The results presented in Table show varying levels of predictive power and relevance across brand loyalty, perception, trust, and culture. Brand loyalty exhibits strong predictive power, with an R^2 value of 0.477 and a Q^2 value of 0.363. These values indicate that the model explains a significant portion of the variance in brand loyalty while maintaining substantial predictive relevance. Similarly, brand perception demonstrates moderate predictive power, with an R^2 value of 0.436 and a Q^2 value of 0.285. While the model explains a reasonable amount of variance in brand perception, its predictive relevance is lower than that of brand loyalty.

Additionally, brand trust shows relatively lower predictive power, with an R^2 value of 0.317 and a Q^2 value of 0.265. This suggests that while the model explains a fair amount of variance in brand trust, its predictive relevance is weaker than brand loyalty and perception. Culture exhibits the highest predictive power among the variables, with an R^2 value of 0.516 and a Q^2 value of 0.366. This indicates that the model explains a substantial portion of cultural variance and maintains strong predictive relevance. In conclusion, as all the constructs have some meaningful prediction power, the culture and brand loyalty construct predicts the strongest relevance and brand trust predicts the weakest (Chin, 1998; Cohen, 1988, 1992).

Discussions

The result showed that brand perception has a positive and significant effect on brand trust. This result is supported by Guerra-Tamez et al. (2024), who explained that consumers associate a brand with quality, reliability, and value when they positively perceive the brand. As a result of this strong perception, customers trust the products or services produced by the brand, thus minimizing uncertainty and perceived risks. Such assurance secures a position for consumers to place their trust in the brand, believing that it will always come through and deliver whatever has been promised. A good example is that brands renowned for ethical sourcing and high craftsmanship will be trusted more by consumers since customers feel there can be no compromise on the brand's integrity and reliability. Similarly, Natasiah (2024) supported this result and stated that a positive perception of a brand establishes an emotional connection between the consumers and the brand that further cements their faith over the years. When the brand meets consumers' expectations or exceeds them by a lot, such an approach breeds loyalty and, eventually, a positive relationship. Brands that meet the same value standards as consumers and provide an excellent customer experience would build trust among transparent consumers.

The finding showed that brand trust has a positive and significant effect on brand loyalty. This result is consistent with Afiftama and Nasir (2024), who explained that in the consumers' minds, trust in a brand acclaims the brand with quality, reliability, and a



sustained commitment to value. Trust reduces uncertainty, disuniting the perceived risk regarding any purchase-related decision. Thus, loyalty is assigned to the brand, and the customer chooses it against competitors. Additionally, Ramadhani and Ariyanti (2024) supported this result. They indicated that brand trust creates an emotional bond that lasts longer with the consumers on one side and the brand on the opposite side. Consumers attach to and advocate for brands that consistently meet their expectations, demonstrate transparency about what they do, and conduct themselves ethically. Such loyal customers will likely make repeat purchases and recommend the brand to others. This loyalty, underpinned by trust, is the stronghold of an equally strong customer base that guarantees longevity and continues to give the brand an edge over its market competitors.

The study found that culture has a positive and significant effect on brand perception. This result is supported by Mohammad et al. (2024), who demonstrated that culture plays an important role in shaping attitudes, beliefs, and brand expectations. It determines how people see the brand messaging, the quality of the product, and the authenticity with which the brand is credited. Culture-consistent brands are likely to be qualified by consumers as good because they create familiarity and relevance, thus making themselves more palatable and trustworthy. Likewise, Oduro et al. (2024) supported this result. They stated that the brand's capability of relating to the cultural identity enables stronger emotional ties with consumers because cultural symbols, traditions, and language influence the consumer's understanding of brand messages and positioning. It nullifies distance while enhancing relevance under national identity, creating relatability for that brand and fortifying the perceived authenticity. This guarantees maximum recognition and subsequent acceptance of such a brand, leading to a favorable perception and increased consumer engagement.

The result showed that health threats positively and significantly affect culture. This result is supported by Alyafei and Easton-Carr (2024), who indicated that when threats regarding health come into society, cultures reinvent and readjust their norms and behavior patterns to reduce risk and promote the well-being of everyone. Such practices as sanitation versus hygiene practices, eating habits, and socializing develop health threats, and over time, they become deeply rooted within the traditions of culture, thereby informing possible responses of individuals or collectivity in the future. Such evolution has been confirmed to suggest the strengthening of health threats in structuring cultural value systems and their routine practices. Also, (Hoxha et al., 2024) supported this result and stated that usually, collective reaction accompanying them is in itself a reinforcement of cultural solidarity and commonality. Stronger ties between people are made through a shared mistake and self-help among them in modifying policies while working together to ensure public health. Remedial culture enhances government accessibility of health and preventive measures, thus shaping general behavior and societal establishments over the long run. Human health threats thus rally cultures and interpret health issues regarding safety and social responsibility.

The finding showed that information disclosure has a positive and significant effect on culture. This result is consistent with Kampi et al. (2024), who stated that translucent and accessible information enhances cultural awareness through education about societal norms, ethical standards, and world events. Open information-sharing invites cultural values into the domain through innovative insights into changing perspectives, emerging technologies, and evolving societies. It has caused behavioral changes, attitudinal changes,



and even modification of traditions so that cultures can orient themselves under the constant bustling pace of a rapidly changing world. In addition, Chen et al. (2024b) supported this result and concluded that information disclosure induces trust among societies through accountability, fairness, and moral decision-making. When incorporated within institutions, governments, and organizations, where there is less open information sharing, it hinders the establishment of cultural norms around transparency, accountability, and the habit of collective people engaging in informed decision-making. Thus, societies develop better ethical frameworks, deepening internal ethical values such as honesty, openness, and integrity, all affecting identity culture and long-term social behaviors.

Conclusion and Recommendations

Conclusion

The research examines how health-related challenges and information disclosure practices influence brand loyalty in the FMCG industry in Karachi, Pakistan. The study seeks to provide valuable insights into building and maintaining brand loyalty in the FMCG sector in an emerging market by analyzing consumer responses to health-related challenges and evaluating the effectiveness of information disclosure practices. The study used cultural dimensions theory, signaling theory, and the brand equity model as theoretical framework. The study used a quantitative methodology; explanatory research was used to investigate a selected study topic while making significant alterations to account for the unidentified components. The research used a correlation design. The study's target population is the Karachi, Pakistan, consumers who purchased FMCG products. A non-probability, convenience selection method was used to choose the respondents for the study, and PLS-SEM was used to assess a complex modeling framework. Data was collected through a rapid and comprehensive five-point Likert scale questionnaire as part of the survey method.

The study found that brand perception has a positive and significant effect on brand trust and, subsequently, brand trust has a positive and significant effect on brand loyalty. Culture also has a positive and significant effect on brand perception. Additionally, health threats and information disclosure positively and significantly affect culture.

Overall, this research analyzed the effect of health-related issues and information-sharing practices on brand loyalty in Karachi's FMCG sector. The results indicate strong health and safety information and personalized experience foster brand trust and loyalty. Consumers have already been found to be loyal to brands that inform them of health issues and give validation to such claims. Besides, the study discusses how culture may shape perceptions of brands and involvement with them, especially in the case of Pakistan. These findings also underline the necessity for crisis management strategies to manage consumer trust in health-related crises. Through transparency, personalization, and cultural relevance, FMCG brands can assure consumers of enhanced brand safety and long-term loyalty. Finally, the revelations provide practices for FMCG companies wishing to create sustainable brand loyalty in emerging markets.

This study makes intense theoretical contributions by examining how health-related concerns⁶ and related information practices affect brand loyalty in the FMCG sector in Karachi, Pakistan, via an integration of cultural dimensions theory, signaling theory, and the brand equity model. This approach, which considers consumer reactions, thus fills gaps in the literature concerning cultural values, brand signaling, and brand equity in instilling consumer trust and loyalty over time (Vo & Nguyen-Anh, 2024).



Furthermore, combining cultural dimensions theory and signaling theory further enriches one's understanding of how cultural norms impact brand communication. The study shows that consumers in the collectivist society of Pakistan tend to favor brands that adopt health-oriented practices and engage in transparent communication about them, especially in times of health threats (Fahim, 2024). Cultural dimensions theory also explains that the avoidance of uncertainty causes consumers to favor brands that give distinct and reliable health-related evidence while signaling theory shows that transparency in disclosing product safety and quality works as a credibility signal, enhancing brand trust and solidifying relationships with consumers (Zhang et al., 2025).

Furthermore, signaling theory and the brand equity model intersect where transparency strengthens brand trust and perceived quality. This research finds that the brands that voluntarily provide health-related information are perceived as more reliable, thus earning higher consumer trust and loyalty (Arefin, 2024). On the one hand, signaling theory articulates how the actual disclosures become signals of authenticity. On the other hand, the brand equity model posits that trust in a brand builds brand associations, consumer attachment, and long-term loyalty (Zhang et al., 2025). This work validates that health-oriented branding directly boosts brand equity; thus, transparency becomes fundamental to consumer retention. Thus, the study promotes further academic research, leading to theoretical advancement and practical applications. It sets the stage for companies to develop more effective loyalty-building strategies in emerging markets, such as Karachi, where consumer expectations of health and information transparency are ever-changing. By integrating cultural, signaling, and brand equity perspectives, this research contributes to scholars and practitioners further investigating brand loyalty dynamics in health-conscious consumer markets (Sun et al., 2025).

Managerial Implications

The study's findings have indicated that managers in the FMCG sector in Karachi, Pakistan, should adopt proper strategic recommendations to ensure brand loyalty and address health-related issues while improving disclosure practices. Firstly, managers should pay attention to transparent and proactive information disclosure to instill consumer trust that may turn into brand loyalty. Consumers demand accurate, truthful, timely information regarding product quality, safety, and health benefits. FMCG brand manufacturers should cover all products under their labeling for full disclosure of health and safety. They can also use QR codes and other digital platforms for immediate access to comprehensive product information, certifications, and safety. Brands should use social media and their website to provide timely information about health concerns, product recalls, or regulatory compliance. Thus, transparency will allow managers to enhance brand credibility and reliability, converting these attributes into long-term consumer trust and brand loyalty.

Similarly, managers must integrate brand messaging with cultural norms and consumer expectations to evoke a stronger emotional bond with the target audience. Since Pakistani consumers are collectively influenced, these FMCG brands must highlight family health, community trust, and social responsibility in their branding and marketing efforts. Their advertising campaigns must weave culturally alert narratives that portray the company's promise of health and ethical sourcing. Involving local influencers, healthcare specialists, and community leaders helps add credibility to the brand. Thus, creating brand messaging that resonates with the dimensions of culture allows managers to fortify brand perception and consumer loyalty from an emerging market proposition.



Additionally, managers should infuse consumer engagement in digital and traditional avenues to create stronger bonds with brands. The involvement of consumers through social media, educational campaigns, and interactive content paves the way for consumer connections to develop and grow into brand trust. FMCGs should formulate live question-and-answer sessions, product transparency videos, and consumer testimonials to educate and reassure them in making health-conscious choices.

Managers should implement thorough quality controls to ensure product safety and protect the brand's reputation. Consumers have an inherent expectation that FMCG products will attain the highest health and safety standards; any perceived lowering of such quality would work detrimentally toward their trust and loyalty. Thus, organizations must adopt and adhere to international quality control standards such as ISO, Halal, or FDA certifications. An entire supply chain oversight minimizes contamination, mislabeling, or questionable quality of product issues. Creating mechanisms for consumer feedback would allow brands to continuously improve by fostering enhancement and product changeability as per consumer concern and choice. In this way, maintaining proper quality assurance protocols will work for managers towards brand trust and consumer confidence. Moreover, brand loyalty will flourish in a consumer-centric world if managers act on personalizing the experience.

Future Research Directions

The study captures substantive insights into how health-related challenges and information disclosure practices impact brand loyalty in Karachi, Pakistan, FMCG; however, several limitations should be considered. Firstly, the convenience sampling method, which is a non-probability method, restricts the data's generalization. The second limitation arises from the fact that it is a study concerning Karachi alone since the situation may be different in other areas of Pakistan or another cultural setting, and the study may not narrate the same consumer behavior or attitudes. Another limitation comes from the cross-sectional nature of the research design. In addition, self-reported survey use has its limitations, mainly in that the respondent's answer could be biased- that is, they may have given responses believed to be socially acceptable instead of expressing their true thoughts or behaviors.

Future research may capitalize on this study by extending the sample size and probability sampling mode for generalizability. Different regions of Pakistan and varying socio-economic statuses among the respondents would give a broader picture of consumer behavior on FMCG. Longitudinal studies could also be performed whereby changes in consumer attitude and brand loyalty would be traced with the provision of the best understanding of the health implications, followed by information disclosure that weighs more with the view of consumer loyalty over time. Additionally, future research may deal with replacing digital platforms and social media in influencing consumer perceptions of brand transparency and trust.

References

- Aaker, D. A. (2009). *Managing brand equity*. Simon & Schuster Inc., The Free Press.
- Ab Hamid, M., Sami, W., & Sidek, M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*,
- Afiftama, I., & Nasir, M. (2024). The effect of brand image, brand trust and customer experience on brand loyalty.



- Akram, M. R., uz Zaman, S., Alam, S. H., & Tariq, N. (2025). Impact of Product Pricing, Packaging Information, and Brand Trust on Consumer Purchase Intention and Loyalty. *Journal of Management & Social Science*, 2(1), 247-283.
- Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality progress*, 40(7), 64-65.
- Alyafei, A., & Easton-Carr, R. (2024). The health belief model of behavior change. In *StatPearls [Internet]*. StatPearls Publishing.
- Arefin, S. (2024). Strengthening Healthcare Data Security with Ai-Powered Threat Detection. *International Journal of Scientific Research and Management (IJSRM)*, 12(10), 1477-1483.
- Baik, J. S., & Famularo, J. (2024). Contextual integrity of loyalty programs, compromised? Interrogating consumer health data practices and networked actors in the US retail sector. *Telecommunications Policy*, 48(7), 102780.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Chen, H., Akparep, J., Sulemana, I., & Osei, A. (2024a). Advancing green innovations in pharmaceutical firms towards societal development: nurturing customers' health and building loyalty. *Environment, Development and Sustainability*, 1-26.
- Chen, X., Shen, X., & Zhuge, A. (2024b). Pollution matters: The political cost of information disclosure. *Governance*, 37(4), 1275-1297.
- Cheung, G. W., & Wang, C. (2017). Current approaches for assessing convergent and discriminant validity with SEM: Issues and solutions. *Academy of Management Annual Meeting Proceedings*, Briarcliff Manor, NY.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Chowdhury, S. A., & Nath, A. (2024). Exploring the Challenges and Opportunities of Digital Marketing Adoption in The Multinational FMCG Sector. *Available at SSRN* 5086494.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cohen, J. (1992). A power primer. *Psychological bulletin*, 112(1), 155-159.
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge.
- Crawford, R. (2022). A cultural account of "health": Control, release, and the social body. In *Issues in the political economy of health care* (pp. 60-104). Routledge.
- Diamantopoulos, A., Riefler, P., & Roth, K. P. (2008). Advancing formative measurement models. *Journal of business research*, 61(12), 1203-1218.
- Eid, M. H., Eissa, M., Mohamed, E. A., Ramadan, H. S., Tamás, M., Kovács, A., & Szűcs, P. (2024). New approach into human health risk assessment associated with heavy metals in surface water and groundwater using Monte Carlo Method. *Scientific Reports*, 14(1), 1008.
- Erdem, T., Swait, J., & Valenzuela, A. (2006). Brands as signals: A cross-country validation study. *Journal of marketing*, 70(1), 34-49.
- Eriqat, I. O., Tahir, M., & Zulkafli, A. H. (2024). The impact of corporate social responsibility disclosure on corporate reputation: the moderating role of national culture in financial industries of MENA region. *Cogent Business & Management*, 11(1), 2391120.



- Fahim, A. (2024). An exploration of online consumer buying behavior in context of Bangladeshi fast moving consumer goods industry.
- Fihartini, Y., Helmi, A., Hassan, M., & Oesman, Y. M. (2021). Perceived health risk, online retail ethics, and consumer behavior within online shopping during the COVID-19 pandemic. *Innovative Marketing*, 17(3), 17.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of marketing research*, 18(3), 382-388.
- García-Salirrosas, E. E., Escobar-Farfán, M., Esponda-Perez, J. A., Millones-Liza, D. Y., Villar-Guevara, M., Haro-Zea, K. L., & Gallardo-Canales, R. (2024). The impact of perceived value on brand image and loyalty: A study of healthy food brands in emerging markets. *Frontiers in Nutrition*, 11, 1482009.
- Ghaffar, A., Islam, F., Zaheer Zaidi, S. S., & Islam, T. (2025). Navigating health-care excellence: unravelling the nexus of corporate social responsibility, service quality, corporate reputation and brand preference. *International Journal of Pharmaceutical and Healthcare Marketing*.
- Guerra-Tamez, C. R., Kraul Flores, K., Serna-Mendiburu, G. M., Chavelas Robles, D., & Ibarra Cortés, J. (2024). Decoding Gen Z: AI's influence on brand trust and purchasing behavior. *Frontiers in artificial intelligence*, 7, 1323512.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12.
- 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.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. J. J. o. t. a. o. m. s. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. 40, 414-433.
- Hall, J. R., Savas-Hall, S., & Shaw, E. H. (2023). A deductive approach to a systematic review of entrepreneurship literature. *Management Review Quarterly*, 73(3), 987-1016.
- Hanzaee, K. H., & Rouhani, F. R. (2013). Investigation of the effects of luxury brand perception and brand preference on purchase intention of luxury products. *African Journal of Business Management*, 7(18), 1778.
- Hariyanti, T., Fitriyari, N., Pradana, E. W., & Lenggono, K. A. (2024). Hospital Customer Competition Issues are being addressed through Confirmation Factor Analysis on Experiential Marketing, Brand Trust, and Loyalty. *The Open Public Health Journal*, 17(1).
- Harriet, N., Arthur, N., Komunda, M. B., & Mugizi, T. (2024). Service quality, customer loyalty and customer retention among private health care services in mbarara city. *Open Journal of Social Sciences*, 12(01), 101-126.



- 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.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 8.
- Hoxha, G., Simeli, I., Theocharis, D., Vasileiou, A., & Tsekouropoulos, G. (2024). Sustainable healthcare quality and job satisfaction through organizational culture: Approaches and outcomes. *Sustainability*, 16(9), 3603.
- Hussain, Z., & Khan, A. (2024). Investigating the Determinants and Consumer Preferences of Sustainable Consumption and Production Adoption Among Fast-Moving Consumer Goods Manufacturers. In *Sustainable Development Goals: The Impact of Sustainability Measures on Wellbeing* (Vol. 113, pp. 79-92). Emerald Publishing Limited.
- Kampi, R., Okello, C., Ochieng, J., & Mwaka, E. S. (2024). Informed consent in cancer clinical care: perspectives of healthcare professionals on information disclosure at a tertiary institution in Uganda. *PLoS One*, 19(4), e0301586.
- Kaur, R., Pingle, S., & Jaiswal, A. K. (2024). Effect of organisational culture on employer branding and resultant employee brand equity in the private banking sector. *International Journal of Bank Marketing*, 42(2), 258-300.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Lee, E., Kim, J.-y., Kim, J., & Koo, C. (2023). Information privacy behaviors during the COVID-19 pandemic: focusing on the Restaurant Context. *Information Systems Frontiers*, 25(5), 1829-1845.
- Lefkeli, D., Karataş, M., & Gürhan-Canli, Z. (2024). Sharing information with AI (versus a human) impairs brand trust: The role of audience size inferences and sense of exploitation. *International Journal of Research in Marketing*, 41(1), 138-155.
- Liaquat, F., Naveed, J., Batool, F., Shaikh, F., Pasha, G. N., & Fatmi, S. I. A. (2025). The Role of Brand Trust in Healthcare Industry: Impact of Brand Experience, Influencer Expertise, and Cultural Values on Loyalty and Advocacy. *Journal of Medical & Health Sciences Review*, 2(1).
- Liu, P., Tse, E. C.-Y., & He, Z. (2024). Influence of customer satisfaction, trust, and brand awareness in health-related corporate social responsibility aspects of customers revisit intention: a comparison between US and China. *Journal of Quality Assurance in Hospitality & Tourism*, 25(4), 700-726.
- Long, H. C., Anh Quan, P. N., Xuan Tra, N. H., Pham, T.-D., Thuy Linh, N., & Khanh Doan, N. H. (2024). Factors affecting customer engagement and brand loyalty in Vietnam FMCG: the moderation of artificial intelligence. *Cogent Business & Management*, 11(1), 2428778.
- Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of personality and social psychology*, 71(3), 616.
- Lyu, J.-J., & Kim, C.-B. (2024). Impact of Blockchain Label on Brand Trust in the Organic Food Industry: Revealing the Role of Consumer Health Consciousness and Benefits Disclosure. *Journal of Korea Service Management Society*, 25(2), 46-70. <https://doi.org/10.15706/jksms.2024.25.2.003>



- Lyulyov, O., Pimonenko, T., Chen, Y., Kwilinski, A., & Yana, U. (2024). Countries' green brands within the context of sustainable development goals. *Journal of Innovation & Knowledge*, 9(3), 100509.
- Maduranga Arachchi, H. D., & Samarasinghe, G. (2024). Do fear-of-COVID-19 and regional identity matter for the linkage between perceived CSR and brand evangelism? A comparative analysis in South Asia. *European Journal of Management Studies*, 29(3), 361-393.
- Majeed, A., & Rasheed, A. (2024). Green banking adoption in Pakistan: the UTAUT model augmented with green consumption values, environmental concerns, and collectivism culture. *Journal of Environmental Planning and Management*, 1-34.
- Mohammad, A. A. S., Aityassine, F. L. Y., al-fugaha, Z. N. A., Alshurideh, M. T., Alajarmeh, N. S., Al-Momani, A. a., Al-shanableh, N., Alzyoud, M., Al-Hawary, S. I. S., & Al-Adamat, A. M. (2024). The impact of influencer marketing on brand perception: a study of Jordanian customers influenced on social media platforms. In *Business Analytical Capabilities and Artificial Intelligence-Enabled Analytics: Applications and Challenges in the Digital Era, Volume 1* (pp. 363-376). Springer.
- Muttakin, M. B., & Khan, A. (2025). CEO tenure, board monitoring and competitive corporate culture: how do they influence integrated reporting? *Journal of Accounting Literature*, 47(1), 75-99.
- Natasiah, U. (2024). Brand Image, Brand Trust, and Brand Ambassador on Purchase Decisions of Shopee E-Commerce Users in Pekanbaru City. *Jurnal Manajemen Bisnis*, 11(1), 120-134.
- Noh, Y.-H. (2011). A study on measuring the change of the response results in Likert 5-point scale measurement. *Journal of the Korean Society for information Management*, 28(3), 335-353.
- Oduro, S., De Nisco, A., & Petruzzellis, L. (2024). Country-of-origin image and consumer brand evaluation: a meta-analytic review. *Journal of Product & Brand Management*, 33(1), 108-124.
- Park, C. L., & Nunes, M. F. (2024). Vegan luxury for non-vegan consumers: Impacts on brand trust and attitude towards the firm. *Journal of Retailing and Consumer Services*, 77, 103669.
- Poornima, A., & Subramanian, S. (2024). Fostering Global Wellness: Harnessing Social Media to Enhance Cross-Cultural Trust to propel Medical Tourism Ensuring Economic Growth. *European Conference on Social Media*,
- Ramadhani, M. R., & Ariyanti, M. (2024). Exploring the Influence of Social Media Marketing on Brand Trust, Brand Image, and Brand Loyalty for Fore Coffee. *International Journal of Science, Technology & Management*, 5(4), 935-946.
- Reyes, M. Z. (2004). *Social research: A deductive approach*. Rex Bookstore, Inc.
- Sanam, A., Khan, S. A., Taj, A., & Lakho, A. (2024). The Impact of Customer Expectations, Customer Loyalty, Customer Brand Loyalty, and Customer Satisfaction on Purchase Intention in the FMCG Sector of Pakistan. *Policy Research Journal*, 2(4), 39-53.
- Saqib, M. (2024). Impact of green manufacturing, green purchasing, and eco-design on organizational performance in the FMCG sector of Pakistan. *South Asian Journal of Operations and Logistics*, 3(1), 112-136.
- Saunders, M. (2014). *Research Methods for Business Students* (6th edn).



- Schillewaert, N., & Meulemeester, P. (2005). Comparing response distributions of offline and online. *International Journal of Market Research*, 47(2), 163-178.
- Sedgwick, P. (2013). Convenience sampling. *Bmj*, 347.
- Shahid, S., Husain, R., Islam, J. U., & Hollebeek, L. D. (2025). Brand love and customer brand engagement for masstige: a cross-cultural perspective. *Journal of Product & Brand Management*.
- Soiferman, L. K. (2010). Compare and Contrast Inductive and Deductive Research Approaches. *Online Submission*.
- Soni, V., Saxena, P., Moid, S., Saxena, A., & Mehta, M. (2024). Identifying the dimensions of philanthropic CSR in the FMCG sector: agenda for the sustainability of business. *Corporate Governance: The International Journal of Business in Society*, 24(3), 682-700.
- Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American economic review*, 92(3), 434-459.
- Stratton, S. J. (2021). Population research: convenience sampling strategies. *Prehospital and disaster Medicine*, 36(4), 373-374.
- Subhani, I. U. H., Fan, J., Asdullah, M. A., Watto, W. A., & Nigar, F. (2024). The relationship between dimensions of corporate social responsibility and consumer's buying intentions in a cross-cultural context. *Future Business Journal*, 10(1), 129.
- Sulehria, R. A., Ahmed, A., & Abedin, M. (2022). Celebrity endorsements impact brand image: The case study of the fast-moving consumer goods (FMCG) industry in Pakistan. *Journal for Business Education and Management*, 2(1), 17-39.
- Sun, X., Shen, T., Jiang, Q., & Jiang, B. (2025). Research on the Impact of an AI Voice Assistant's Gender and Self-Disclosure Strategies on User Self-Disclosure in Chinese Postpartum Follow-Up Phone Calls. *Behavioral Sciences*, 15(2), 184.
- Uttley, L., Falzon, L., Byrne, J. A., Tricco, A. C., Munafò, M. R., Moher, D., Stoege, T., Matandika, L., Labbé, C., & Naudet, F. (2025). Research culture influences in health and biomedical research: rapid scoping review and content analysis. *Journal of Clinical Epidemiology*, 178, 11616.
- Vo, T. Q., & Nguyen-Anh, T. (2024). Corporate social marketing and brand equity—a case of dairy products in Vietnam. *Cogent Business & Management*, 11(1), 2321795.
- von Deimling, C., Eßig, M., & Glas, A. H. (2022). Signalling theory. In *Handbook of Theories for Purchasing, Supply Chain and Management Research* (pp. 445-470). Edward Elgar Publishing.
- Wang, Y., & He, P. (2024). Enterprise digital transformation, financial information disclosure and innovation efficiency. *Finance Research Letters*, 59, 104707.
- Xiao, K., Chung, S.-J., Wong, R., Lee, B., Kim, H., & Zhu, B. (2025). Effect of familiarity, brand loyalty and food neophobia on food acceptance: A case study of instant noodles with consumers in Seoul, Beijing, and Shanghai. *Current Research in Food Science*, 101026.
- Zehir, C., Şahin, A., Kitapçı, H., & Özşahin, M. (2011). The effects of brand communication and service quality in building brand loyalty through brand trust; the empirical research on global brands. *Procedia-Social and Behavioral Sciences*, 24, 1218-1231.
- Żemojtel-Piotrowska, M., & Piotrowski, J. (2023). Hofstede's cultural dimensions theory. In *Encyclopedia of sexual psychology and behavior* (pp. 1-4). Springer.



- Zhang, S., Shi, B., Xu, Y., & Wang, T. (2025). The Impact of Government Policy and City Image on Beverage Brands: Brand Innovation, Urban Culture, and Brand Loyalty. *Journal of Relationship Marketing*, 1-39.
- Zhang, X., Kuchinke, L., Woud, M. L., Velten, J., & Margraf, J. (2017). Survey method matters: Online/offline questionnaires and face-to-face or telephone interviews differ. *Computers in Human Behavior*, 71, 172-180.
- Zhao, M., Wang, X., Zhang, S., & Cheng, L. (2024). Business strategy and environmental information disclosure from a Confucian cultural perspective: Evidence from China. *Business Strategy and the Environment*, 33(3), 1557-1577.