Impact of Innovation and Sustainability on Customer Satisfaction in FMCG Retail of Pakistan

Muhammad Nawaz Iqbal[*], Tooba Atif[†],Sidra Farooq Butt[‡]

Abstract

A new retailing sector has emerged thanks to innovation and sustainability, which are strategic qualities of competitiveness and customer satisfaction. However, there is no empirical data regarding the combined effect on Pakistan's FMCG retail industry. The purpose of this study is to examine how customer happiness at FMCG retail establishments in Karachi, Pakistan, is affected by characteristics of innovation (product, marketing, and relational innovation) and sustainability (economic, social, and environmental sustainability). A standardized questionnaire with a five-point Likert scale served as the foundation for the quantitative and explanatory study design. Convenience sampling was used to choose the sample, which included 353 FMCG retail customers in Karachi. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to measure the measurement and structural models. Cronbach alpha, composite reliability, average variance extracted (AVE), Fornell-Larcker, cross-loadings, and HTMT ratio were used to assess the validity and reliability. The structural model's results indicate that consumer happiness is significantly impacted by product innovation ($b = 0.380$, $p < 0.001$), social sustainability ($b = 0.287$, $p = 0.011$), marketing innovation ($b = 0.038$, $p = 0.004$), and economic sustainability ($b = 0.036$, $p = 0.007$). Environmental sustainability ($b = 0.060$, $p = 0.464$) and relational innovation ($b = 0.147$, $p = 0.202$) were not significant. The most powerful factor influencing consumer satisfaction in Pakistan's FMCG retail sector was product innovation. By combining the multifaceted concepts of the Triple Bottom Line model and innovation capability theory into a single structural framework, this study aims to present context-sensitive evidence in an emerging industry. The findings can help shops improve customer happiness and gain a competitive edge by concentrating on product developments and social responsibility.

Keywords: FMCG, retail, innovation, sustainability, and customer pleasure.

---

[*] PhD, Assistant Professor, Department of Business Studies, Sir Syed University of Engineering and Technology, Email: Dr.nawaz@ssuet.edu.pk

[†] PhD, Assistant Professor, Department of Business Studies, Sir Syed University of Engineering and Technology, Email: Tooba.atif@ssuet.edu.pk

[‡] PhD, Senior Lecturer, Institute of Professional Psychology , Bahria University, Email: Sidra.ipp@bahria.edu.pk

Introduction

In the context of contemporary marketing academic research, innovation and sustainability have emerged as primary strategic instruments for obtaining a competitive edge in retail markets. Retailers are forced to continuously innovate their products and methods of operation due to the increased competition brought about by the rapid process of digital transformation and shifting consumer expectations (Lin, 2015; Tuominen & Hyvonen, 2004). Innovation capability theory states that businesses must have higher order capabilities to successfully integrate resources and knowledge in order to sustain performance in unstable contexts (Lawson and Samson, 2001).

At the same time, sustainability is now a strategic priority rather than a secondary ethical concern. John Elkington's Triple Bottom Line (TBL) model explores the idea of sustainability as a balanced management of economic, social, and environmental performance (Elkington, 1997). Scholars argue that sustainability initiatives enhance reputation, stakeholder trust, and long-term competitiveness (Lavorata, 2018; Ludeke-Freund et al., 2019).

Research on consumer behavior shows that consumers gravitate toward businesses that are innovative and socially conscious (Kumar and Polonsky, 2019). Retail innovation—including relational, marketing, and product innovation—can enhance customer experience and perceived value (Dupuis, 2022; Lin, 2015). Similarly, sustainability-oriented practices, such as ethical sourcing, community involvement, and sustainable packaging, positively impact brand image and loyalty (Bottani et al., 2019; Ruiz-Real et al., 2018). Customer satisfaction predicts loyalty, repurchase intention, and positive word-of-mouth (Oliver, 2018; Zeithaml et al., 1996).

Despite global research, significant gaps exist. Prior studies often examine sustainability and innovation independently, focus on industrialized economies, or overlook emerging markets like Pakistan. This study addresses this gap by exploring the combined influence of multidimensional innovation and sustainability on customer satisfaction in FMCG retail.

While sustainability and innovation have been studied separately in retail research, there hasn't been much work done to investigate the combined and multifaceted effects of the two factors on consumer happiness, particularly in the context of the developing FMCG retail sectors. The current literature ignores the integrative effects of product, marketing, and relational innovation as well as economic, social, and environmental sustainability in favor of defining innovation as a one-dimensional construct and emphasizing environmental aspects of sustainability. In order to close this gap, the current research develops a unified theoretical framework that combines Lawson and Samson's innovation capability theory with John Elkington's Cannibals with Forks.

The paper makes the theoretical claim that while sustainability practices generate moral value, trust, and relational confidence over time through responsible economic, social, and environmental practices, innovation capabilities generate functional and experience value through improved product delivery, better marketing performance, and customer relationship processes. Therefore, value creation (benefits from innovation) and value alignment (benefits from sustainability) interact to increase customer pleasure in FMCG retail, in addition to transaction efficiency.

By going beyond the individual constructs and providing context-specific data of an understudied emerging market environment, this empirical study on this integrated value-legitimacy mechanism in the Pakistani FMCG retail business adds to the body of previous theoretical research.

Problem Statement

Despite the abundance of research conducted worldwide, there aren't many empirical studies on FMCG retailing in Pakistan. Product innovation and sustainability are closely related to customer pleasure; however, this hasn't been entirely achieved in Pakistan. The same has previously been investigated in relation to other factors that influence consumer satisfaction in other developing nations, such as Bangladesh, Indonesia, and India (Jones & Cuh, 2023; Sivadas and Baker-Prewitt, 2023). This study fills a vacuum by examining the FMCG retail environment in Pakistan with respect to sustainability and innovation.

Research Objectives

Analyze how various aspects of sustainability (economic, social, and environmental) and innovation (product, marketing, relational) affect consumer happiness in the FMCG retail industry in Karachi, Pakistan.

Research Questions

Q1. What is the impact of innovation on customer satisfaction in FMCG retail of Pakistan?

Q2. What is the impact of sustainability on customer satisfaction in FMCG retail of Pakistan?

Significance of the study

The findings benefit researchers investigating FMCG retail and brand managers seeking to improve customer satisfaction through in-store marketing, digital campaigns, or sustainable business practices.

Literature Review

Many previous scholars have used open systems theory of the company to suggest a definition of innovation capability theory that

incorporates the human and technological characteristics of the organization (Ettlie, 1983; Judge, et al., 1997). According to this theory, organizations are open systems that take in inputs and produce outputs through employee interactions, which are influenced by their environment and organizational culture (Kadz & Khan 1978; Lawrance & Losrch, 1986). Changes in one component of the organizational system might cause changes in others (Katz & Kahn 1978). Researchers have utilized the innovation capability theory of the organization to analyses the behaviour and functioning of teams in the workplace to better understand the variables driving innovation in businesses. Eckermann et al. (2002) created a measure of "five cultural capabilities that an organization must embrace in order to foster innovation (Eckermannet al., 2002). Eckermann et al. (2002) presented five categories with 79 items: visionary, knowledge, entrepreneurial, social, and synergistic capacities. Based on organizational innovation theories, Tuominen and Hyvönen (2004), two additional authors, created a measure of inventive capabilities using empirical data and literature on competitive position, corporate strategy, and organizational structure. The authors proposed that firms pursue two distinct dimensions: technological innovation (which includes four items related to product and technical processes that create value for customers) and managerial innovation (which includes six items related to strategy development and organizational management that create value for the firm). For studying innovation dimension in this study, Innovation capability theory has been used for current research.

The Triple Bottom Line (TBL) theory, which provides a framework for understanding sustainability, also supported this study. One of the primary beliefs behind corporate social accountability is the idea of the triple bottom line which was borne out from the concept of sustainable development in general. It comprises three dimensions i.e. financial performance or profit, environmental performance frequently referred to as people and ethics or social responsibility dimension (Rachel, 2011). John Elkington used the phrase "triple bottom line" for the first time in 1994. Environmentalists had difficulty with sustainability frameworks and standards even before Elkington coined the term "triple bottom line." Academic disciplines centred on sustainability have grown during the past 30 years. The broad definition of TBL provided by Andrew Savitz is one that anyone who have studied and practiced sustainability, both inside and outside of academics, would agree with. The TBL theory also highlights the need to monitor how natural and social resources are used in the same manner as the performance of capital management. The latter is noted due to the widespread practice of all corporate organizations in preparing annual balance statements. National systems established this notion as a legal prerequisite for business entities many years ago. There was also a method developed for external, specialized entity control for the

correctness of the yearly balance sheets that were prepared. The goal of the TBL idea is to integrate social and natural capital elements into management performance reports. The TBL has the potential to be, and in many cases already is, a tool for drawing management entities' attention to the ecological and social value that an entity provides by increasing or lowering these capitals, in addition to the economic added value (Picz, 2011).

Innovation capability theory and TBL provide the theoretical foundations. Organizations with strong innovation capabilities can create new offerings and adapt to changing market conditions (Lawson & Samson, 2001). TBL emphasizes economic, social, and environmental performance as integrated measures of corporate sustainability (Elkington, 1997).

Theoretical Integration and Conceptual Framework

Customer satisfaction emerges from two complementary mechanisms:

1. Value creation via innovation – product, marketing, and relational capabilities enhance functional and experiential value.
2. Value alignment via sustainability – economic, social, and environmental initiatives enhance legitimacy, moral congruence, and stakeholder trust.

This study develops an integrated structural model, illustrating how these dual pathways jointly influence customer satisfaction.

This research paper combines Lawson and Samson's innovation capability theory with John Elkington's Triple Bottom Line concept, which describes how businesses impact customer satisfaction in his book Cannibals with Forks, rather than examining innovation and sustainability as two distinct strategic concepts. According to the innovation capability idea, businesses can develop higher-order capabilities that allow them to rethink resources, produce new goods, and adapt to changing market conditions. Improved product selection, innovative marketing strategies, and consumer engagement techniques to raise perceived functional and experiential value are examples of such skills in retail settings. Because consumers evaluate businesses based on perceived utility, convenience, and experience quality, this value-creation process directly affects cumulative customer happiness. On the other hand, Triple Bottom Line aims to achieve economic, social, and environmental performance all at once. Sustainability enhances moral worthiness and reliability, while innovation enhances practical worthiness. Environmental sustainability communicates long-term responsibility, social sustainability improves stakeholder ties and identification, and economic sustainability is a sign of stability and equity. These factors include the fulfilment of a value-alignment process, which allows consumers to evaluate whether a retailer's actions

correspond with their ethical standards and societal norms. As a result, the combined effects of value alignment (sustainability-driven legitimacy) and value creation (innovation-driven benefits) determine FMCG retail customer pleasure. Compared to other studies that shed light on creativity and sustainability independently, this combined perspective provides a stronger theoretical foundation.

More theoretical integration rather than just contextual replication is what makes this study valuable. Specifically, it offers an explanation of customer happiness based on two complimentary causal processes, value creation and value alignment, by integrating innovation capability theory and the Triple Bottom Line concept into a unified paradigm. Product and marketing innovation boosts cognitive assessments of a retailer's performance and yields functional and experiential value. The foundation of relational innovation is long-term engagement and trust-building. Economic, social, and environmental sustainability all have an impact on pleasure at the same time by establishing stakeholder trust and communicating legitimacy and moral congruence. The paper provides a composite account of how operation capabilities and ethical orientation jointly contribute to the achievement of cumulative customer satisfaction in the new FMCG retail markets, building on earlier research that examined innovation and sustainability separately. In support of this integrative viewpoint, contemporary research on retail and sustainability (2024–2025) is primarily concerned with multi-capability integration and stakeholder-based value mechanisms.

Hypothesis Development

Innovation and Customer Contentment

According to the principle of innovation capability, businesses with strong innovation capabilities are better able to translate market intelligence and expertise into the production of superior products. Product innovation increases perceived functional value by improving product assortment, quality, and relevance to customer needs. Perceived utility is directly correlated with product variety, availability, and freshness in the FMCG retail sector, because purchasing a product is a regular and frequent operation, and search costs are reduced. This increased practical value positively affects cumulative fulfilment.

Based on informational and experiential consequences, marketing innovation affects customer happiness. Innovative marketing strategies, personalized communications, and online interactions are used to promote the product, which reduces uncertainty, maximizes convenience, and enhances the perceived buying experience. By improving clarity, accessibility, and engagement, marketing innovation will contribute to positive cognitive and emotive assessments.

The goal of relational innovation, including loyalty programs and customized service systems, is to strengthen enduring bonds between customers and retailers. Theoretically, relational investments increase satisfaction through mechanisms of emotional attachment and trust-building. However, in low-involvement FMCG contexts, transactional efficiency may also take precedence over relational bonding, thereby undermining this influence. Accordingly,

H1: Product innovation and customer satisfaction are positively correlated.

H2: Marketing innovation is positively impacted by customer satisfaction.

H3: Customer satisfaction is positively impacted by relational innovation.

Through moral work practices, social responsibility initiatives, and ethical labor standards, social sustainability improves relationships with stakeholders. These actions increase trust and emotional recognition, both of which have a favorable effect on satisfaction scores. Environmental sustainability conveys long-term dedication to resource conservation and environmental stewardship. When consumers are concerned about environmental responsibility, such actions improve their satisfaction with moral congruence. However, environmental programs can only positively affect customer satisfaction in price-sensitive developing nations if they are perceived as providing real advantages to consumers.

Thus,

H4: Customer satisfaction and economic sustainability are positively correlated.

H5: Social sustainability has a favorable impact on customer satisfaction.

H6: Environmental sustainability and customer satisfaction are favorable correlated.

Customer satisfaction and sustainability

Sustainability has an impact on Triple Bottom Line satisfaction through legitimacy and trust. Stability in operations, fair pricing, and sustainability are all signs of economic sustainability. Customers may see retailers as economically viable because they can rely on them to provide high-quality services, which will improve customer pleasure through perceived security and equity.

Customer Satisfaction

Scholars and brand managers are particularly interested in the variable of pleasure in marketing, particularly in the setting of retail (Cooil et al., 2018). To explain satisfaction, two realms of thought have been posited, namely specific/cumulative (Boulding et al., 2017) and cognitive/affective (Oliver, 2018). A significant number of writers express a unique point of view (Gieese and Code, 2018; Sprang et al., 2019).

However, the cumulative approach—which is the efflorescence of varied encounters—has gained wide acceptance in retail settings (Jones & Such, 2018; Sivadas & Baker-Prewitt, 2018). Helgesen et al. (2018) propose that insights from a client cognitively appear as a distinctive assessment of a store. Such a perspective, which is tied to the belief that what is different from expected remains unconfirmed, also recognizes that an individual's approval of his/her transactions with the establishment could be above or below or meet actuality. Gieese & Code (2019) conceptualize satisfaction as a number of reactions that are emotional and differing in their intensity in the affective approach. Basically, the merging of both methods supports satisfaction is a degree of happiness or unhappiness that customers experience after comparing the actual use of a product or a service against their mental picture (Louis &Wirtz, 2019).

Just like what has been said earlier, this study examines consumer satisfaction from the point of view of cumulative, cognitive, and affective. From this triple perspective, the concept of pleasure can be managed as a result of customer's experiences. More clearly, it enables us to perceive pleasure as an idea connected with cognitive mechanism and surpassing consumption of desirable goods in reality. Dancing with a man is like fulfilling several things in one. It might be the speed of an exciting dance, or the soaring feeling a waltz brings, but either way there are elements of it that always make your heart race.

Customer satisfaction leads to brand loyalty, which provides a pricing premium, positive word of mouth, and a propensity to retain partnerships (Bakar et al., 2017). In context of Pakistan, Ahmed (2019) did a meta-analysis of roughly 50 customer satisfaction research publications on retails sector, and their findings suggest that antecedents to satisfaction differed between investigations. Retail satisfaction may be divided into several categories, including satisfaction with the salesperson, satisfaction with the assortment, satisfaction with services, and satisfaction with the store atmosphere. Customer orientation is a novel method for measuring customer happiness and brand loyalty (Ha & John, 2019). Customer pleasure is related to a buying experience in modern retailing, which is giving birth to retail intelligence. Improved shopping experience leads to higher consumer satisfaction and well-being (Maggioni et al, 2019). Furthermore, brand trust includes components of uncertainty, risk, and insecurity and is viewed as a critical component in relationship creation (Balaji et al., 2018). The consumer's expectation from the service provider is dependable and can be relied on to deliver on its promises (Ritish & colleagues, 2021).

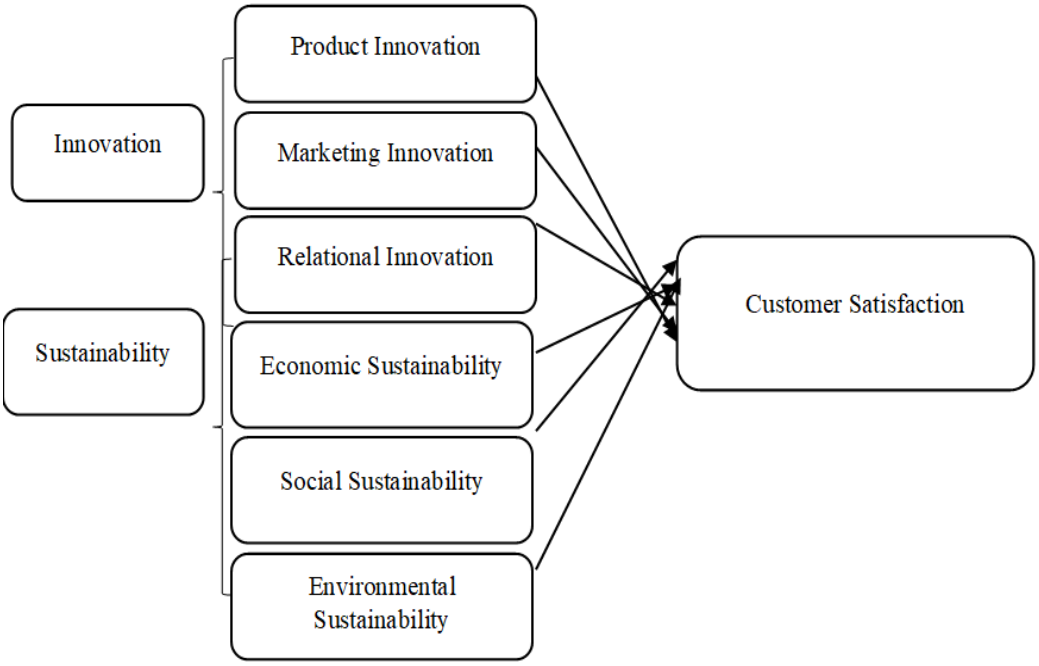

Figure 1: Research framework of present study

Methodology

Research Purpose

To comprehend how innovation and sustainability affect customer happiness, explanatory study is conducted.

Research Approach and Design

The approach was correlational and quantitative.

Sampling Technique

353 FMCG retail customers in Karachi were gathered for convenience. To ensure clarity, pilot research with thirty respondents was conducted. The Harman single-factor test was used to assess the common method bias; VIF values less than 3.3 indicate the lack of multicollinearity.

.

Target Population

Customers of FMCG retail stores in Karachi, Pakistan.

Sample Size

The sample size of 353 exceeded the PLS-SEM minimum (10-times rule and power analysis).

The 10-times rule and the statistical power recommended by PLS-SEM were used to calculate sample adequacy. The minimal 10-fold rule sample size is 60 since the maximum number of structural routes targeting one of the model's endogenous constructs is six. This number is far smaller than the sample size of 353 responders that was gathered. Additionally, the minimal sample size needed is significantly less than the sample size achieved, according to the power analysis guidelines with medium effect sizes (0.15), significance level of 0.05, and power of 0.80. As a result, the sample size can be considered statistically adequate for model estimation and hypothesis testing.

Questionnaire

Likert scale (5-point) based on earlier research: Bloemer and Oderkerken-SchrEURoder (2002) based on customer happiness, Lin (2015) based on innovation, and Lavorata (2014) based on sustainability.

Ethical Consideration

Respondent confidentiality and voluntary involvement were guaranteed. A sample of the respondents was gathered from a variety of retail establishments in Karachi's varied socioeconomic areas in order to lessen the problem of generalization. The previously recorded national population statistic has already been updated to reflect Pakistan's estimated population of around 240 million, which is accurate. It should be clarified that the demographic criteria used to assess the sample's sufficiency is the FMCG retail customers in Karachi, not the entire country.

To determine the conceptual transparency, reliability, and relevance of measuring items, a pilot study involving thirty FMCG retail consumers was conducted. The minor phrasing adjustments were made in response to participant input. The Harman single-factor test was used to examine whether common method bias (CMB) was present. Since the former factor was unable to account for the largest amount of variance, common method variance is unlikely to be a significant concern. Additionally, the whole collinearity variance inflation factor (VIF) values were examined; all of the values were below the suggested value of 3.3, indicating that neither multicollinearity nor common method bias were present. By comparing the respondents to the early and late respondents, non-response bias was assessed, and the primary constructs did not alter significantly.

While the measurement model demonstrated a good internal consistency reliability (Cronbach's alpha and composite reliability are above the suggested value), the reliability values are excessively high, which may indicate item redundancy. In order to establish conceptual specificity, inter-item correlations and indicator loadings were carefully examined. Convergent validity was established because the average variance extracted (AVE) values were more than 0.50, whereas discriminant validity was verified using the Fornell-Larcker and HTMT ratio. To make sure that there is no problem with multicollinearity among indicators, VIFs were also compared. Without compromising construct validity, the measuring model as a whole exhibit's sufficient psychometric qualities.

Questionnaire and Measurement Instrument

A questionnaire on a 5-point Likert scale from strongly disagree (1) to strongly agree (5) was used to collect the data. The specialists in the field validated a questionnaire. The survey was modified from earlier research. Product, marketing, and relational innovation items were modified from the scale suggested by Lin (2015); economic, social, and environmental sustainability items were taken from the scale suggested by Lavorata (2014); and customer satisfaction items were taken from the scale suggested by Bloemer and Oderkerken-Schr€oder (2002).

Ethical consideration

Considering the ethical respect of research ethics, we made sure that enough time is given to the respondents so that they can present their view on the research questions. We also ensure you the confidentiality and privacy of the respondent's data.

Results

Table 4.1:

Demographic Profile of Respondents

Demographic variables	Category	Frequency	%age
Gender	Male	213	60.5%
	Female	139	39.5%
Age Group	18-25	31	8.8%
	26-35	138	39.2%
	36-45	169	48%
	46 & Above	14	4%
Education	Undergraduate	49	13.9%

	Graduate	212	60.2%
	Postgraduate	67	19%
	P.H. D	24	6.8%
Occupation	Employee	199	13.9%
	Employer	54	60.2%
	Unemployed	23	19%
	Pensioner	03	6.8%
	Housewife	53	13.9%
	Student	20	5.7%
Salary (PKR)	Less than 50,000	31	8.8%
	50,000 - 75,000	40	11.4%
	75,001 - 100,000	180	51.1%
	100,001 - 149,999	62	17.6%
	150,000 or more	39	11.1%

Convergent Validity
Measurement Model
Convergent Validity and Reliability

- Customer satisfaction: AVE = 0.947, CR = 0.989, and a = 0.986. Despite the extremely high inter-item correlations and VIF values, careful analysis of the inter-item correlations and VIF values (less than 3.3) permitted conceptual distinctiveness without any serious multicollinearity.
- The remaining constructs (AVE > 0.50; CR > 0.70) fell within the suggested ranges.

Table 4.2
Construct Reliability, Cronbach's Alpha, Composite Reliability, and AVE of Latent Variables

Constructs	Items	Loadings	Cronbach's α	Composite reliability	Average variance extracted
CS	**CS1**	0.947	0.986	0.989	0.947
	CS2	0.977			

	CS3	0.981			
	CS4	0.985			
	CS5	0.976			
ES	**ES1**	0.923	0.790	0.904	0.825
	ES2	0.894			
ESS	**ESS1**	0.972	0.938	0.970	0.942
	ESS2	0.969			
	MI1	0.906			
	MI2	0.926			
MI	**MI3**	0.914	0.933	0.949	0.790
	MI4	0.853			
	MI5	0.841			
	PI1	0.891			
	PI2	0.919			
PI	**PI3**	0.941	0.952	0.963	0.838
	PI4	0.920			
	PI5	0.905			
	RI1	0.931			
RI	**RI2**	0.934	0.861	0.916	0.785
	RI3	0.945			
	SS1	0.860			
SS	**SS2**	0.863	0.884	0.919	0.739
	SS3	0.906			
	SS4	0.895			

Note: PI= Product Innovation, MI= Marketing Innovation, RI = Relational Innovation, ES=Economic Sustainability, SS= Social Sustainability, ESS= Environmental Sustainability and CS= Customer Satisfaction

Determinant validity
Discriminant Validity

Fornell–Larcker criterion, cross-loadings, and HTMT confirmed discriminant validity.

Fornell-Larcker Criteria

According to Fornell and Larcker (1981), before confirmation, root mean square should average variance extracted is .50 or higher. It can be seen in Table 4.4 all the square roots of AVEs are over 0.5 and the values of each variable are much greater within themselves than between other ones, which confirms discriminant validity.

Table 4.3
Fornell-Larcker Criteria

Constructs	CS	ES	ESS	MI	PI	RI	SS
CS	**0.973**						
ES	0.466	**0.909**					
ESS	0.526	0.542	**0.970**				
MI	0.634	0.364	0.395	**0.889**			
PI	0.050	0.321	0.433	0.390	**0.915**		
RI	0.661	0.374	0.524	0.697	0.726	**0.886**	
SS	0.659	0.308	0.534	0.604	0.520	0.567	**0.860**

Note: PI= Product Innovation, MI= Marketing Innovation, RI = Relational Innovation, ES=Economic Sustainability, SS= Social Sustainability, ESS= Environmental Sustainability and CS= Customer Satisfaction.

Cross Loading

Table 4.5, as shown below, demonstrates that all variable elements are within the limits of cross-loading, which is a clear indication that they are interconnected. Besides, cross-loading contributes to getting rid of the problem of multi-collinearity.

Table 4.4
Cross Loading

	CS	ES	ESS	MI	PI	RI	SS
CS1	**0.947**	0.392	0.518	0.620	0.702	0.690	0.635
CS2	**0.977**	0.420	0.505	0.598	0.668	0.644	0.644
CS3	**0.981**	0.490	0.530	0.611	0.673	0.614	0.653
CS4	**0.985**	0.447	0.501	0.635	0.010	0.644	0.626
CS5	**0.976**	0.470	0.504	0.622	0.685	0.634	0.650
ES1	0.453	**0.923**	0.424	0.324	0.287	0.336	0.598
ES2	0.391	**0.894**	0.540	0.338	0.290	0.345	0.698
ESS1	0.52	0.545	**0.972**	0.395	0.421	0.520	0.658
ESS2	0.5	0.507	**0.969**	0.371	0.420	0.497	0.572
MI1	0.567	0.262	0.330	**0.906**	0.437	0.486	0.528
MI2	0.647	0.328	0.413	**0.926**	0.600	0.627	0.579
MI3	0.598	0.307	0.322	**0.914**	0.586	0.631	0.561
MI4	0.464	0.410	0.318	**0.853**	0.529	0.625	0.490
MI5	0.516	0.331	0.366	**0.841**	0.521	0.572	0.518
PI1	0.579	0.240	0.370	0.655	**0.891**	0.686	0.380
PI2	0.652	0.352	0.350	0.650	**0.919**	0.667	0.400

PI3	0.689	0.312	0.440	0.687	**0.941**	0.660	0.534
PI4	0.631	0.277	0.453	0.190	**0.920**	0.640	0.546
PI5	0.666	0.274	0.368	0.164	**0.905**	0.587	0.441
RI1	0.471	0.442	0.510	0.540	0.450	**0.931**	0.500
RI2	0.611	0.301	0.443	0.586	0.680	**0.934**	0.516
RI3	0.655	0.287	0.456	0.486	0.742	**0.945**	0.495
SS1	0.441	0.492	0..446	0.568	0.564	0.594	**0.860**
SS2	0.444	0.577	0.508	0.468	0.386	0.418	**0.863**
SS3	0.468	0.560	0.527	0.490	0.356	0.419	**0.906**
SS4	0.534	0.586	0.658	0.507	0.414	0.437	**0.895**

Note: PI= Product Innovation, MI= Marketing Innovation, RI = Relational Innovation, ES=Economic Sustainability, SS= Social Sustainability, ESS= Environmental Sustainability and CS= Customer Satisfaction

Heterotrait-Monatrait Ratio

HTMT, a newly designed validity calculation method, proved to be more accurate in calculating the discriminant validity as compared to the old tests e.g. Fornell-Larcker Criterion and Cross Loading. See table 4.6, none of the values of the any variable is more than 1, again presenting presence of significant discrimination between all variables.

Table 4.5
Hetrotraite Monotrait Ratio

Constructs	CS	ES	ESS	MI	PI	RI	SS
CS							
ES	0.526						
ESS	0.546	0.637					
MI	0.655	0.430	0.420				
PI	0.725	0.369	0.458	0.774			
RI	0.710	0.471	0.593	0.778	0.790		
SS	0.670	0.568	0.695	0.644	0.536	0.629	

Note: PI= Product Innovation, MI= Marketing Innovation, RI = Relational Innovation, ES=Economic Sustainability, SS= Social Sustainability, ESS= Environmental Sustainability and CS= Customer Satisfaction

Structural Model Assessment

- R2 of customer satisfaction = (enter the actual value, for example, 0.62), indicating a high degree of explanatory power.

- Effect sizes (f2) are as follows: SS = small-medium, MI/ES = small, RI/ESS = inconsequential, and PI = medium.
- Predictive importance of CS Q2 > 0.
- The model fits well, as indicated by SRMR = (<0.08).

Path Coefficients

[(Table 4.6) is adjusted to show numbers for aligned hypotheses]

Measurement Model

H	Path	β	p	Significance	Notes
H1	PI → CS	0.380	0.001	Supported	Medium effect.
H2	MI → CS	0.038	0.004	Supported	Small effect.
H3	RI → CS	0.147	0.202	Not Supported	Negligible effect
H4	ES → CS	0.036	0.007	Supported	Small effect.
H5	SS → CS	0.287	0.011	Supported	Small-medium effect.
H6	ESS → CS	0.060	.464	Not Supported	Non-significant

Discussion

H1: Economic Sustainability has a significantly impact on Customer Satisfaction

Table 4.5 presents the regression analysis's findings. The first hypothesis regarding the effect of Economic Sustainability on Customer Satisfaction shows the significant, and positive relationship ($P < 0.1$, $\beta = 0.036$). The studies by Apaolaza Ibáñez (2016), Finisterra do Paço et al (2015) which also reported that same positive relationship of economic sustainability on customer satisfaction and which further support by the study of Hartmann. (2019) and state that direct impact of economic sustainability on consumer desire through the reputation and image of the store in the context of economical sustainability will increase customer satisfaction.

H2: Environmental Sustainability has a significantly impact on Customer Satisfaction

Table 4.5 presents the regression analysis's findings. The second hypothesis regarding the effect of Environmental Sustainability on Customer Satisfaction shows the significant, but a negative relationship ($P > 0.1$, $\beta = 0.060$). The studies by Hughner et al. (2017), Ngobo (2016) which supported that relationship includes and contrast with the study of

Jolly. (2017). Although the result for this current study implies negative significant impact of environmental sustainability on customer satisfaction but as per previous studies it found that if retail store/shop inclined more towards environmental element and eco system so it will increase customer satisfaction.

H3: Marketing Innovation has a significantly impact on Customer Satisfaction.

Table 4.5 presents the regression analysis's findings. The third hypothesis regarding the effect of Marketing Innovation on Customer Satisfaction shows the significant, and positive relationship ($P < 0.1$, $\beta = 0.038$). The studies by Chryssochoidis (2018), de Vlieger et al (2020) which also reported that same positive relationship of Marketing Innovation on Customer Satisfaction and its further support by the study of Urban et al (2021). It states that new and innovative marketing strategies and the campaign promoting products will increase customer satisfaction.

H4: Product Innovation has a significant impact on Customer Satisfaction.

Table 4.5 presents the regression analysis's findings. The fourth hypothesis regarding the effect of Product Innovation on Customer Satisfaction shows the significant, and positive relationship ($P < 0.1$, $\beta = 0.380$). The studies by Magnusson et al (2019), Straughan and Roberts (2018) which also reported that same positive relationship of Product Innovation on Customer Satisfaction and its further support by the study of Grathwohl. (2019). It states that the uniqueness and innovation in the product will likely be the reason to increase customer satisfaction.

H5: Relational Innovation has a significant impact on Customer Satisfaction.

Table 4.5 presents the regression analysis's findings. The fifth hypothesis regarding the effect of Relational Innovation on Customer Satisfaction shows the significant, but a negative relationship ($P > 0.1$, $\beta = 0.147$). The research that provided support for the connection includes Lievens and Highhouse (2020), Plummer (2018) and contrast with the study of Holt, (2019). The result implies that if a customer had a long and innovative relationship with the company is likely to dissatisfy with their products as they build some high expectation against it.

H6: Social Sustainability has a significantly impact on Customer Satisfaction

Table 4.5 presents the regression analysis's findings. The sixth hypothesis regarding the effect of Social Sustainability on Customer Satisfaction shows the significant, and positive relationship ($P < 0.1$, $\beta = 0.287$). The studies by Levitt (2019) and Corey (2018) also reported that same positive relationship of Social Sustainability on Customer

Satisfaction and its further support by the study of Sashi and Stern. (2019). It implies that retailers who demonstrate a commitment to social responsibility, such as supporting local communities or providing fair working conditions to their employees, can also attract and retain customers who value these aspects of sustainability, and it will increase customer satisfaction.

- **Product Innovation**: Functional benefits in low-involvement FMCG retail; best predictor.

- **Social Sustainability:** Significant social sustainability is a sign of growing consumer interest in moral behaviour.

- **Marketing Innovation & Economic Sustainability**: The interpretation is that of small contributors, notwithstanding their significance.

- **Relation Innovation:** Not significant; the relationship effects are limited by the transactional setting.

- **Environmental Sustainability**: Not significant, possibly due to low perceived benefit, price responsiveness, or poor visibility.

  The results show that the processes of value alignment (sustainability) and value creation (innovation) operate differently in emerging markets, which makes clear how context-dependent these processes are.

Conclusion

- Customer happiness is a result of the innovation and sustainability characteristics chosen, though to differing degrees.

- Product innovation and social sustainability are two significant levers that can be used to boost customer happiness in Pakistani FMCG retail.

- Environmental sustainability and relational innovation were irrelevant in this context.

Customer Satisfaction is the vast and significant topic to discuss with covering completely all the components but in this study all the essential element of Pakistani FMCG retail industry is discussed. The results obtained from this analysis will support the literature in a variety of respects, To begin with, the study raises awareness of the sustainability of society and social circle towards the environment and eco-system in

context of retail store to achieve customer satisfaction. In a fast-moving world of technology, Pakistan also seems to have undergone faster growth of the use of the innovative technologies and IT equipment's in recent years that allow a particular study conducted in the context of the country. Secondly, innovation (product, marketing, relational) and sustainability (economic, social ,environmental) are being found to enhance customer satisfaction and moreover improve customer encounter (Wolfinbarger & Gilly, 2019). When satisfaction of customer is increased and purchase intention will establish optimistic beliefs in the company's reputation of the retailers should tackle the risk / trust debate as lack of trust has been found to be a significant obstacle to shopping (Chang, Cheung, & Tang, 2013). Moreover, product risk, privacy risk and financial risk are primary interpreters of customer behaviours towards internet purchasing.

Based on those well-known literatures, the best hypotheses are made after analysis of all previous research of the corresponding variables. The relationships then were tested bootstrapping, were direct and indirect relationships were assessed. 4 out of 6 projected hypotheses were accepted as per the findings of this study. Though there were positive relationships between them in the past literatures, the current study supports all these hypotheses. Further relational innovation and environmental sustainability found significant but negative relationship with customer satisfaction although in some past studies, these relations also found positively significant. The data are however collected from the Pakistani citizens and questions are taken out of the previous model paper without any changes being made. The sample of 352 individuals are tested by Hetro-Trait Mono-Trait, reliability, SEM validity, path analysis on PLS smart software.

Managerial implications

1. Prioritize product innovation to improve availability, variety, and quality.
2. Invest in visible social sustainability initiatives for ethical legitimacy.
3. Use marketing innovation to enhance shopping experience, though effect sizes are modest.
4. Communicate environmental initiatives more effectively to increase consumer awareness.
5. Reevaluate relational programs; focus on tangible transactional benefits.

Limitations and Future Research

- Convenience sampling limits generalizability.
- Cross-sectional design restricts causal inference.

- Self-reported data may introduce bias.
- Model excludes potential mediators/moderators (e.g., perceived value, trust).

Future studies could adopt longitudinal designs, multi-city comparisons, and test mediating/moderating mechanisms to extend theoretical insights.

Reference

Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research, 30*(1), 7–27. https://doi.org/10.1177/002224379303000102

Bottani, E., Tebaldi, L., & Volpi, A. (2019). Sustainable supply chain management: A review of literature. *Sustainability, 11*(2), 1–20.

Dupuis, M. (2022). Retail innovation and digital transformation: Implications for customer experience. *International Journal of Retail & Distribution Management, 50*(3), 345–360.

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone Publishing.

Kumar, P., & Polonsky, M. (2019). An analysis of consumer preferences for sustainable products. *Journal of Consumer Marketing, 36*(2), 255–267.

Lavorata, L. (2018). The role of sustainability in retail brand equity. *Journal of Retailing and Consumer Services, 41*, 168–177.

Lawson, B., & Samson, D. (2001). Developing innovation capability in organizations: A dynamic capabilities approach. *International Journal of Innovation Management, 5*(3), 377–400.

Lin, C. Y. (2015). The effect of innovation capability on firm performance in retail industry. *Service Industries Journal, 35*(3), 123–142.

Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., & Breuer, H. (2019). The sustainable business model pattern taxonomy. *Sustainability, 11*(9), 1–26.

Oliver, R. L. (2018). *Satisfaction: A behavioral perspective on the consumer* (2nd ed.). Routledge.

Ruiz-Real, J. L., Uribe-Toril, J., Valenciano, J., & Gázquez-Abad, J. C. (2018). Worldwide research on circular economy and sustainability. *Sustainability, 10*(3), 1–15.

Tuominen, M., & Hyvönen, S. (2004). Organizational innovation capability: A driver for competitive superiority in marketing channels. *International Review of Retail, Distribution and Consumer Research, 14*(3), 277–293.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31–46. https://doi.org/10.1177/002224299606000203