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Research Article

Impact of product quality on customer satisfaction via mediating role of customer value: A study among FMCG customers in Delhi

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ABSTRACT:

This research examines the effect of the price and quality of the product on customer satisfaction, with customer value as an intervening variable. Using a quantitative research method, the research considers FMCG customers in Delhi region of India and examines their beliefs about quality, price, and value, and their effect on satisfaction. Responses from 210 participants were used to collect data and statistically validate for accuracy. Structural equation modeling (SEM) approach was applied in order to test causal relationships between the variables in question. Results indicate that product quality and price have a significant effect on customer satisfaction, with customer value serving as an important mediator. The results identify the key mediating role of perceived value to improve customer satisfaction in competitive consumer goods markets. Implications of research with its theoretical and practical dimensions are also presented.

Keywords: Product quality, customer satisfaction, customer value, FMCG.

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1. Introduction

The Fast-Moving Consumer Goods (FMCG) industry is among the most dynamic and highly competitive industries globally, propelled by innovation, changing consumer tastes, and volatile market dynamics. Growth of the sector in emerging economies such as India is spurred by urbanization, growing disposable incomes, and changing lifestyles of consumers. In this scenario, maintaining customer satisfaction is a must for businesses to stay in touch with the market and remain competitive. Most importantly, customer value and product quality have emerged as key determinants of customer satisfaction in this industry.

Product quality is a complex idea incorporating factors like performance, reliability, durability, and general consumer feeling about a product's efficacy. Quality products are not only meeting but often exceeding customer expectations to create satisfaction and long-term customer loyalty. However, the nexus between product quality and customer satisfaction is not necessarily linear. The idea of customer value—a perceived balance between costs and benefits—is a mediating factor in this relationship. By improving customer value, companies can make the connection between quality and satisfaction stronger, leading to better consumer retention and word-of-mouth recommendations.

Even in the presence of a vast literature on marketing that highlights the importance of product quality and customer value, empirical research examining their interaction in the FMCG industry, especially the Indian context, is scarce. With the distinctive nature of FMCG products characterized by frequent purchase cycles, price elasticity, and brand-oriented consumer behavior, examining the influence of product quality on customer satisfaction through the mediating effect of customer value is ever more important. This research seeks to fill this research gap by analyzing these interrelationships between FMCG customers in Delhi to offer data-driven findings to improve product offerings and marketing strategies.

With a focus on an urban consumer segment in Delhi, this study examines how customer value is delivered through product quality from the customer's perspective. The research will guide companies in the FMCG industry about the importance of strategic quality enhancement and value creation for delivering better consumer experiences. In addition, the study highlights how companies must connect their product strategy with consumer perceptions to achieve long-term success at the market level.

The following sections of this paper are dedicated to an extensive literature review, exploring significant theoretical and empirical approaches to product quality, customer satisfaction, and customer value. The discussion further discusses the mediating role of customer value, highlighting its strategic significance in bridging product quality with increased customer satisfaction levels in the FMCG industry.

2. Literature Review

2.1. Product Quality

Product quality is widely recognized as a critical determinant of customer satisfaction, encompassing key attributes such as functionality, reliability, and overall performance. According to Bhowmick and Seetharaman (2023), superior product quality positively influences customer satisfaction by exceeding consumer expectations. The study highlights that product attributes such as design, material quality, and performance contribute significantly to shaping consumer perceptions and influencing purchase decisions. Likewise, Razak, Nirwanto, and Triatmanto (2021) contend that regular product quality strengthens customer trust and builds brand loyalty, which are key factors for sustaining a competitive advantage in the FMCG market.

In the FMCG industry, certain product characteristics like packaging, taste, shelf life, and convenience significantly influence consumer preference. Research indicates that consumers link high-quality FMCG products with increased value, which, in turn, enhances satisfaction and brand loyalty. Moreover, the adoption of sophisticated manufacturing processes and strict quality control procedures has been associated with better product quality, ultimately resulting in increased levels of customer satisfaction (Khalifa, 2004). These results highlight the significance of quality assurance strategies in guaranteeing continued consumer involvement in the FMCG market.

2.2 Customer Satisfaction

Customer satisfaction is a marketing premise that refers to the degree to which a service or product delivers or exceeds customers' expectations. It is one of the ultimate results of effective marketing campaigns and a leading determinant of customer loyalty. According to Bhowmick and Seetharaman (2023), customers are likely to perform repeat purchases and refer products to other consumers if they are satisfied, thus developing brand loyalty and market share growth. Besides, customer satisfaction is a buffer against competitive market pressure, enabling firms to maintain consumers in extremely saturated markets.

It is well-documented that there is a positive correlation between customer satisfaction and customer retention. Razak et al. (2021) suggest that satisfaction acts as a mediator in the relationships between product quality and perceived value and long-term consumer loyalty. This highlights the need for companies to maintain high-quality products and maximize customer value to develop long-term consumer relationships. Additionally, Khalifa (2004) emphasizes that customer satisfaction is influenced by both intrinsic variables, including product features, and extrinsic variables, including brand image and service quality, thus it is important for companies to embrace a holistic approach in customer satisfaction strategies.

2.3 Customer Value

Customer value, defined as the perceived balance between benefit and sacrifice of a product, is a key construct that drives customer satisfaction. Khalifa (2004) divides customer value into three dimensions: functional value, emotional value, and social value. Functional value refers to the concrete benefits of a product, including its utility and reliability. Emotional value is concerned with the feelings and experiences related to product use, whereas social value is concerned with the status or prestige one gains from owning a particular product.

Customer value in the FMCG industry is maximized by several strategies such as product differentiation, competitive pricing, and good marketing communication. Bhowmick and Seetharaman (2023) highlight that customer value is a mediating variable, enabling the effect of product quality on customer satisfaction. Firms emphasizing the creation of value through superior product benefits at moderate prices are more likely to realize greater customer satisfaction and brand loyalty. In addition, Razak et al. (2021) point out that firms targeting the provision of enriched value propositions have a competitive edge as they raise consumers' willingness to use their products.

2.4 Mediating Role of Customer Value

The mediating role of customer value in product quality to satisfaction has attracted much scholarly attention. Khalifa (2004) contends that customer value acts as a link between product quality dimensions and consumer attitudes, eventually leading to higher overall satisfaction. The mediation effect emphasizes the need for companies to correspond product attributes to consumer expectations so that improvements in quality will translate into concrete benefits to consumers.

Empirical research supports the position of customer value as an essential mediator in the FMCG industry. For example, Bhowmick and Seetharaman (2023) illustrate that customer value has a strong effect in enhancing the role of product quality in satisfaction, especially in competitive retail settings. These results reinforce the need for companies to implement a value-driven strategy in product development and promotion. Likewise, Razak et al. (2021) hold the view that companies focusing on value creation along with quality assurance are in a better position to create consumer loyalty and long-run market success. Through the appreciation of customer value as a driver of satisfaction as a strategic input, FMCG firms can enhance their product proposition and reinforce brand positioning in competitive markets.

3. Theoretical Framework

The theoretical framework for this research combines product quality, customer value, and customer satisfaction to analyze their interdependencies in the FMCG industry. Product quality is theorized as the independent variable with direct and indirect impacts on customer satisfaction. High product quality is likely to improve customer satisfaction directly through

fulfilling or surpassing consumer expectations. Yet, this interaction is also moderated by customer value as a mediating variable. Customer value maps product quality attributes to perceived benefits, and thereby, makes improvements in quality more salient for the consumer. This framework highlights the interdependence of these constructs and their combined role in affecting consumer conduct.

The theoretical foundation for this research draws upon value-based and satisfaction theories. Expectation-Confirmation Theory (Oliver, 1980) posits that customer satisfaction results from the confirmation of earlier expectations of product quality. Satisfaction is felt by customers when the perceived product quality is equal to or greater than expectations. The Means-End Theory (Zeithaml, 1988) also describes how consumers derive product evaluation in terms of the benefits they receive, reflecting the role of customer value as an intervening factor. By synthesizing these theories, the framework proposed in this study offers a holistic understanding of how product quality affects customer satisfaction via customer value in the FMCG sector.

4. Hypotheses Formation

Based on findings obtained from the literature review and theoretical framework, the following hypotheses are put forward:

H1: Customer satisfaction is influenced positively by product quality. The hypothesis draws support from previous research that argues improved product quality enhances consumer experience, thus ensuring increased satisfaction (Bhowmick & Seetharaman, 2023; Razak et al., 2021).

H2: Customer value is enhanced by product quality. Better-quality products are associated with being of greater value due to their enhanced attributes, thus consumers prioritize them more (Khalifa, 2004).

H3: Customer value has a positive effect on customer satisfaction. When customers see high value in a product, they tend to be satisfied and show brand loyalty (Bhowmick & Seetharaman, 2023).

H4: The relationship between product quality and customer satisfaction is mediated by customer value. This hypothesis posits that product quality per se cannot be enough to create satisfaction; instead, the value perceived by consumers from a product will play an important role in enhancing this relationship (Razak et al., 2021).

These hypotheses shall be tested empirically with the help of a quantitative methodology and shall yield results regarding the direct and indirect influences of product quality on customer satisfaction in the FMCG industry.

5. Conceptual Model

The theoretical framework for this research graphically illustrates the interaction among product quality, customer value, and customer satisfaction. Product quality is the independent variable, customer satisfaction the dependent variable, and customer value the mediating variable. The model depicts the direct hypothesized link between product quality and customer satisfaction, and the indirect link via customer value.

The addition of customer value as a mediating variable increases the model's ability to explain consumer judgments of product quality in terms of perceived benefits. Theoretical work is congruent with the extant research establishing the mediating effect of customer value for equivalent settings (Khalifa, 2004; Razak et al., 2021). The empirically validating of this model will provide management strategy for FMCG firms hoping to enhance customers' satisfaction levels using focused improvement initiatives on product quality and creation of value.

6. Research Design

This research follows a quantitative research design to explore systematically the interdependencies between product quality, customer value, and customer satisfaction in the FMCG industry. A cross-sectional survey was used to gather data from customers of FMCG in Delhi to analyze deeply consumers' perceptions and behaviors.

6.1. Sample and Sampling Technique

The study population includes consumers of FMCG in Delhi. As the research is focused on insights from experienced consumers, a purposive

sampling method was used to choose 225 regular buyers of FMCG items. Using the non-probability sampling method provides assurance that the research gathers viewpoints from consumers who have high exposure and experience with FMCG brands. To make the findings reliable and generalizable, the respondents were chosen based on their frequency of purchase, engagement with brands, and cooperation with the survey.

6.2. Data Collection

Data were gathered through a systematic questionnaire aimed at measuring perceptions of product quality, customer value, and customer satisfaction. The questionnaire was based on previously validated scales to ensure accuracy and reliability. Answers were captured on a 5-point Likert scale, from "strongly disagree" to "strongly agree." The survey was segmented into various sections, including demographic information, product quality characteristics (e.g., reliability, performance, packaging), customer value constructs (functional, emotional, and social value), and general levels of customer satisfaction.

6.3. Data Analysis

The data obtained were analyzed using Structural Equation Modeling (SEM), which is a stringent statistical approach used to model relationships among more than one variable. SEM was adopted because it accommodates examination of direct, indirect, as well as mediating effects together. Confirmatory factor analysis (CFA) for establishing the measurement model followed by structural path analysis to evaluate hypothesized associations. This research methodology ensures that findings from the research accurately reflect and give complete insights into how product quality affects customer satisfaction via the mediating variable of customer value.

Using SEM, this research seeks to provide empirical support for the conceptual model, thus enriching the literature on customer satisfaction in the FMCG industry. The findings will assist companies in streamlining their strategies to improve product quality and customer value, hence customer satisfaction and brand loyalty.

7. Results

The research indicators of this study include product quality, price, customer value, and customer satisfaction, it comprises 49 item questionnaires and has been proved with validity test and reliability tests. The outcome of the tests revealed that 49 items were valid and reliable, hence it indicates that respondents comprehend the questionnaires and also are consistent regarding the point stipulated in a statement. Some of the indicators selected for measuring the latent variables of this study can be observed in the value of the loading factors (Table 1).

Table 1. The Value of Factor Loadings Research Indicators

Standardized Value of Loading Factors							
Product Quality		Price		Customer Value		Customer Satisfaction	
Performance	0.768	Affordable Price	0.774	Function Value	0.913	Loyalty	0.962
Features	0.812	Normal Price	0.701	Emotional Value	0.882	Expectations	0.853
Reliability	0.893	Discounts	0.714	Social Value	0.755	Repurchase Interest	0.973
Conformity	0.911	Competitor Price	0.641			Small Desire of Complaint	0.762
Durability	0.772	Price Suitability	0.615			Recommendation Willingness	0.878
Service Capabilities	0.836					Company's Reputation	0.872
Aesthetics	0.839						
Perception Quality	0.837						
Note: significant level of less than 0.05							

The results presented in Table 1 indicate that each research indicator successfully reflects the measured variable. This is evidenced by the factor loadings of each indicator, which exceed the threshold of 0.5, demonstrating strong correlations with their respective constructs. Additionally, the probability values associated with each indicator remain below the acceptable error rate of 0.05, further confirming the validity and reliability of the indicators used in the study.

The findings related to the perception of the measured variables suggest that product quality is primarily reflected through the conformity of the product with consumer expectations and industry standards. Furthermore, the affordability of a product plays a crucial role in shaping consumer perceptions of its price, with lower prices contributing positively to consumer evaluations. Similarly, product value is demonstrated through its functional utility, emphasizing the tangible benefits that customers derive from its use. Additionally, customer satisfaction is most effectively represented by the repeated purchasing

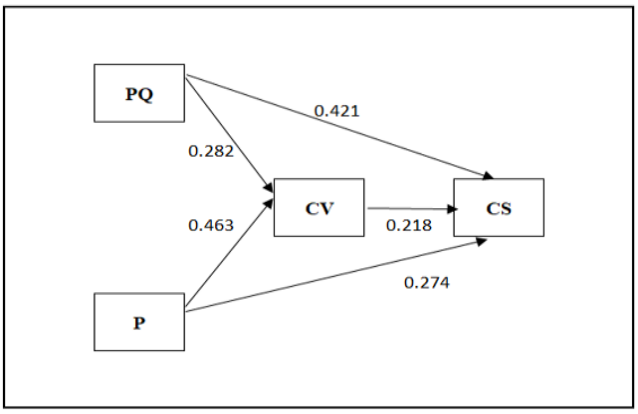
behavior of consumers, signifying their continued trust and preference for the product over time.

The assessment of the model's goodness of fit reveals that the calculated Chi-Square (X^2) value is 227.637, which is lower than the critical Chi-Square table value of 238.214 at a 0.05 error rate and 223 degrees of freedom. This finding suggests that the discrepancy between the observed data and the theoretical model is minimal, indicating an adequate model fit. Furthermore, the probability level of the Structural Equation Modeling (SEM) model stands at 0.072, which is greater than the 0.05 threshold. This implies that the model does not significantly differ from the actual data, reinforcing its suitability for further statistical analysis and hypothesis testing.

Given these statistical outcomes, it can be inferred that the SEM model is a valid and reliable representation of the relationships among the research variables. The results support the notion that product quality, price, and value function collectively influence customer satisfaction, as evidenced by the strong factor loadings and acceptable model fit indices. These findings provide a solid foundation for deeper analysis and further interpretation of how these constructs interact within the FMCG sector.

As shown in Figure 2, the model's structural integrity and the goodness-of-fit criteria validate its applicability for further research. The alignment of empirical data with theoretical expectations enhances confidence in the study's conclusions, reinforcing the robustness of the SEM model in capturing consumer perceptions and behavior patterns. Consequently, the study provides meaningful insights for businesses seeking to optimize product quality, pricing strategies, and value propositions to enhance overall customer satisfaction and loyalty.

Figure 2. The Coefficient on Structural Equation Modelling



Note: PQ = Product Quality; P = Price; CV = Customer Value; CS = Customer Satisfaction*) probability level less than 0.05

The research results indicate that all the variables in the research have a significant effect with one to another. The of this hypothesis is presented in this following Table 2.

Table 2: The Coefficient on the Research Variable

Hypothesis	Exogenous Variable	Mediation Variable	Endogenous Variable	Standardized Coefficient	Results
H1	Product Quality	Customer Value	****	0.282	H1 is accepted
	Price			0.463	
H2	Product Quality	****	Customer Satisfaction	0.421	H2 is accepted
	Price			0.274	
H3	***	Customer Value	Customer Satisfaction	0.218	H3 is accepted
H4	Product Quality	Customer Value	Customer Satisfaction	0.282*0.218= 0.0615	H4 is accepted
	Price			0.463*0.218= 0.1009	

Note: Probability level less than 0.05

From the results above, it shows that customer value has a positive and significant effect on customer value based on product quality and price. Customer value and price and product quality can significantly and positively impact customer satisfaction. Customer value also brings a significant and positive effect towards customer satisfaction. This test results confirmed that customer value is an effective moderator for product quality and price in terms of increasing customer satisfaction, indicates that customer value is valuable to satisfy the price when buyers perceive that there is a compatibility on product quality and price. According to the path analysis, it is discovered that the strongest track is in the price and quality's influence on customer satisfaction. Therefore, the results of this study reveal that the

quality of FMCG products matters to enhance the customer satisfaction.

8. Implications of the Study

The findings of this study provide valuable insights for marketers and businesses operating in competitive industries, particularly within the FMCG sector. Firstly, the positive relationship between product quality, pricing strategies, and customer satisfaction underscores the necessity for organizations to invest in quality enhancement initiatives while maintaining competitive pricing structures (Kotler & Keller, 2022). Companies must strategically balance these factors to ensure that perceived value aligns with customer expectations, ultimately fostering higher levels of satisfaction and loyalty (Zeithaml, 1988). By adopting a customer-centric approach to product development and pricing, businesses can strengthen their market position and sustain long-term consumer relationships.

Secondly, the mediating role of customer value highlights its significance as a central strategic focus for firms. Customer value is a multifaceted construct encompassing functional, emotional, and social dimensions, all of which contribute to shaping consumer perceptions and purchase decisions (Sweeney & Soutar, 2001). Businesses should not only emphasize delivering high-quality products but also focus on enhancing customer experiences that foster deeper emotional and psychological connections. This could be achieved through personalized marketing strategies, value-added services, and consistent brand messaging that reinforces consumer trust and loyalty (Holbrook, 1999).

Furthermore, this study presents a foundation for future research by encouraging the exploration of additional mediating variables, such as brand image and customer trust, in the relationship between product attributes and satisfaction (Aaker, 1996). Examining these variables could provide a more comprehensive understanding of the mechanisms driving consumer decision-making in the FMCG sector. For industry practitioners, the findings offer guidance on designing targeted marketing strategies that leverage customer value as a source of competitive advantage. By integrating customer value considerations into product positioning and promotional efforts, businesses can enhance their differentiation in saturated markets.

9. Conclusion

This study provides empirical evidence on the mediating role of customer value in the relationship between product quality and customer satisfaction within the FMCG sector in Delhi. The findings emphasize the need for businesses to prioritize customer value creation as a means of enhancing satisfaction and fostering long-term consumer loyalty. By focusing on both product quality and perceived value, organizations can achieve sustainable growth and maintain a competitive edge in the highly dynamic FMCG market (Parasuraman, Zeithaml, & Berry, 1988).

The results suggest that improving product quality through adherence to industry standards and maintaining competitive pricing through affordability can significantly enhance customer value. Considering the functional value of FMCG products is particularly crucial, as it ensures the maintenance of a healthy lifestyle and contributes to increased customer satisfaction, thereby fostering repeat purchases (Gale, 1994). However, a key finding of this research is that functional value alone may not be sufficient to drive customer satisfaction. Instead, it is the overall quality of FMCG products—ensuring compliance with standardized benchmarks—that plays a more critical role in shaping consumer perceptions.

Given the intense competition within the FMCG industry, manufacturers must continuously seek innovative strategies to improve product competitiveness. In light of the structural equation modeling (SEM) approach used in this study, future researchers are encouraged to investigate product competitiveness as a potential mediator in the relationship between customer value and satisfaction. This additional layer of analysis could provide deeper insights into the dynamics of consumer decision-making and contribute to the development of more effective marketing and product development strategies.

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