

Effect of Product Quality on Consumer Satisfaction With Ready-to-Cook Food Products in Chennai City

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ABSTRACT

The Ready-to-Cook (RTC) food market has experienced remarkable growth in India due to rapid urbanization, increasing employment among women, changing lifestyles, and rising demand for convenient food products. Product quality has become one of the most significant determinants influencing consumer satisfaction and repeat purchase intention. The present study examines the effect of product quality on consumer satisfaction towards Ready-to-Cook food products in Chennai City. Primary data were collected from 377 consumers using a structured questionnaire through convenience sampling. The findings reveal that product quality comprises four major dimensions namely Taste & Freshness, Packaging Quality, Nutritional Value, and Convenience. SEM results indicate that product quality has a significant positive influence on consumer satisfaction ($\beta = 0.781$, $p < 0.001$). The model demonstrates excellent goodness-of-fit indices, confirming the adequacy of the proposed conceptual framework. The study concludes that improving product quality attributes significantly enhances consumer satisfaction and loyalty towards Ready-to-Cook food products.

Keywords: Ready-to-Cook Food Products, Product Quality, Consumer Satisfaction, Food Industry, Factor Analysis, Structural Equation Modeling, Chennai City.

INTRODUCTION

India's processed food industry has witnessed substantial growth over the past decade. The Ready-to-Cook (RTC) food segment has emerged as one of the fastest-growing categories because of changing food consumption patterns, increasing disposable income, nuclear families, urban lifestyles, and busy work schedules. Consumers increasingly prefer products that save preparation time without compromising quality and nutrition. Among the numerous factors influencing purchasing behaviour, product quality remains the most influential determinant of consumer satisfaction. Quality attributes such as freshness, taste, packaging, nutritional value, hygiene, shelf life, and convenience significantly influence consumers' perception and post-purchase evaluation. Satisfied consumers are more likely to repurchase products and recommend them to others, thereby contributing to sustainable business growth. Therefore, understanding the influence of product quality on consumer satisfaction is essential for Ready-to-Cook food manufacturers and marketers operating in Chennai City.

OBJECTIVES OF THE STUDY

1. To identify the dimensions of product quality influencing consumers of Ready-to-Cook food products.
2. To examine the relationship between product quality and consumer satisfaction.
3. To analyze the impact of product quality on consumer satisfaction..

REVIEW OF LITERATURE

Nitya Khurana and Prachi Goyal (2021) examined the perception of youngsters in India towards instant food products and the factors influencing their purchasing decisions. The study highlighted that rapid urbanization, the shift from joint to nuclear families, changing work patterns, time constraints, convenience, and evolving lifestyles have significantly transformed consumer food habits, leading to an increased preference for instant and ready-to-use food products. The authors observed that instant food products require minimal preparation time and effort, making them particularly attractive to young consumers with busy schedules. The study concluded that convenience, ease of preparation, changing lifestyle, and time-saving benefits are the primary factors shaping youngsters' perceptions and purchase decisions regarding instant food products, emphasizing the growing demand for convenient food options in the Indian market.

R. Suresh Babu, V. Balaji, and Vijayakumar Gajenderan (2020) examined the factors influencing consumers' purchase intentions towards Ready-to-Eat (RTE) food products in Chennai City. The study utilized both primary and secondary data, collecting primary information from consumers through a structured questionnaire. Using the convenience sampling technique, 400 questionnaires were distributed, of which 385 valid responses were analyzed. The findings revealed that convenience, quality, mood, sensory appeal, price, and stress-free consumption were the major factors significantly influencing consumers' purchase intentions for Ready-to-Eat food products. The study concluded that product quality and convenience play a crucial role in shaping consumer buying behaviour, suggesting that manufacturers should focus on improving these attributes to enhance customer satisfaction and encourage repeat purchases. The findings provide valuable insights into consumer preferences and serve as an important reference for research on Ready-to-Cook food products, where product quality is also expected to significantly influence consumer satisfaction.

V. M. Indumathi, M. Malarkodi, and S. Jesupriya Poornakala (2020) conducted a comparative study on consumers' preference for processed spices in Bangalore and Chennai City. The study highlighted the growing acceptance of processed food products, including nutritive foods, processed spices, Ready-to-Cook products, chapattis, vegetable dishes, pickles, and snack foods, due to changing consumer lifestyles and increasing demand for convenience. A simple random sampling technique was adopted, and data were collected from 200 consumers. The findings revealed that good product quality, product variety, brand image, and attractive packaging were the key factors influencing consumer preference for processed spices. The study also found significant differences in the brands of processed spices preferred by consumers in Bangalore and Chennai. It concluded that maintaining high product quality and appealing packaging is essential for attracting consumers and strengthening market competitiveness in the processed food sector.

RESEARCH METHODOLOGY

Table 1 – RESEARCH METHODS

Particular	Description
Research Design	Descriptive Research
Area of Study	Chennai City
Sampling Method	Convenience Sampling
Sample Size	377 Respondents
Data Collection	Structured Questionnaire
Scale Used	Five-point Likert Scale
Software	SPSS 26 & AMOS 24
Statistical Tools	Reliability Analysis, EFA, CFA, SEM

Table 2 – RELIABILITY STATISTICS

Cronbach's Alpha	No. of Items
0.938	20

Sources: Primary Data

Table 2 presents the reliability statistics of the research instrument used in the study. The Cronbach's Alpha coefficient for the 20-item scale is 0.938, indicating excellent internal consistency and reliability among the questionnaire items. Since the obtained alpha value is well above the recommended threshold of 0.70, it confirms that the items consistently measure the underlying construct of product quality and consumer satisfaction. The high reliability coefficient suggests that the instrument is dependable, free from significant measurement errors, and suitable for further statistical analyses such as Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). Therefore, the questionnaire is considered highly reliable for assessing consumers' perceptions of Ready-to-Cook food products in Chennai City.

Table 3 - KMO AND BARTLETT'S TEST

Measure	Value
Kaiser-Meyer-Olkin Measure	0.924
Bartlett's Test Chi-Square	4685.274
Df	190
Sig.	0.000

Sources: Primary Data

Table 3 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity to determine the suitability of the data for factor analysis. The KMO value of 0.924 indicates excellent sampling adequacy, as it exceeds the recommended threshold of 0.70, confirming that the sample of 377 respondents is adequate for conducting factor analysis. Furthermore, Bartlett's Test of Sphericity yielded a Chi-square value of 4685.274 with 190 degrees of freedom and a significance level of 0.000 ($p < 0.001$), indicating that the correlation matrix is not an identity matrix and that the variables are significantly correlated. These results confirm that the dataset is appropriate for Exploratory Factor Analysis (EFA), and the extracted factors are expected to provide meaningful and reliable insights into the dimensions of product quality influencing consumer satisfaction with Ready-to-Cook food products in Chennai City.

Table 4 - TOTAL VARIANCE EXPLAINED

Component	Eigen Value	% Variance	Cumulative %
Taste & Freshness	7.421	37.106	37.106
Packaging Quality	3.265	16.326	53.432
Nutritional Value	2.114	10.570	64.002
Convenience	1.756	8.782	72.784

Sources: Primary Data

The Total Variance Explained table shows that four factors were extracted from the analysis. Taste & Freshness is the most important factor, with an eigenvalue of 7.421, explaining 37.106% of the total variance. Packaging Quality explains 16.326%, followed by Nutritional Value with 10.570% and Convenience with 8.782%. Together, these four factors explain 72.784% of the total variance, indicating that they effectively represent the major dimensions of product quality perceived by consumers of Ready-to-Cook food products.

Table 5 - ROTATED COMPONENT MATRIX

Statements	Taste & Freshness	Packaging Quality	Nutritional Value	Convenience
The Ready-to-Cook food products have a fresh taste.	.842			
The flavour of the Ready-to-Cook food products is consistent.	.816			
The ingredients used in the products appear fresh and hygienic.	.793			
The products retain their original taste after cooking.	.771			
The aroma of the Ready-to-Cook food products is appealing.	.748			
The packaging protects the product from damage and contamination.		.831		
The packaging is attractive and visually appealing.		.816		
The product packaging provides clear cooking instructions.		.794		
The packaging is easy to open and reseal.		.782		
The packaging materials are durable and of good quality.		.748		
The product contains adequate nutritional value.			.846	
The nutritional information on the package is clear and informative.			.824	
The product contains healthy and quality ingredients.			.792	
The product is free from harmful preservatives to a reasonable extent.			.776	
The product meets my expectations for healthy food choices.			.743	
The Ready-to-Cook product saves cooking time.				.821

Statements	Taste & Freshness	Packaging Quality	Nutritional Value	Convenience
The product is easy to prepare.				.804
The product is suitable for my busy lifestyle.				.782
The product is readily available whenever I need it.				.763
The product offers convenience without compromising quality.				.742

Sources: Primary Data

Table 5 presents the Rotated Component Matrix obtained through Principal Component Analysis with Varimax Rotation, which identifies the underlying dimensions of product quality influencing consumer satisfaction with Ready-to-Cook food products. The analysis extracted four distinct factors, namely Taste & Freshness, Packaging Quality, Nutritional Value, and Convenience, with all factor loadings exceeding the recommended threshold of 0.70, indicating strong relationships between the variables and their respective constructs. The Taste & Freshness dimension includes five items with factor loadings ranging from 0.748 to 0.842, highlighting consumers' emphasis on freshness, flavour, aroma, and taste retention. The Packaging Quality factor comprises five items with loadings between 0.748 and 0.831, reflecting the importance of attractive, durable, informative, and protective packaging. The Nutritional Value dimension consists of five items with factor loadings ranging from 0.743 to 0.846, demonstrating that consumers value healthy ingredients, nutritional information, and food safety. Similarly, the Convenience factor includes five items with loadings ranging from 0.742 to 0.821, indicating that ease of preparation, time-saving, product availability, and suitability for busy lifestyles are significant quality attributes. The absence of substantial cross-loadings confirms good discriminant validity among the factors, suggesting that the extracted dimensions are distinct, reliable, and appropriate for subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM).

Table 6 - MEASUREMENT MODEL

Construct	CR	AVE
Taste & Freshness	0.918	0.692
Packaging Quality	0.911	0.673
Nutritional Value	0.903	0.651
Convenience	0.897	0.635
Consumer Satisfaction	0.925	0.711

Sources: Primary Data

Table 6 presents the measurement model results for the constructs used in the study based on Composite Reliability (CR) and Average Variance Extracted (AVE). The results reveal that the CR values of all the constructs range from 0.897 to 0.925, which are significantly higher than the recommended threshold value of 0.70, indicating a high level of internal consistency and construct reliability. Similarly, the AVE values range from 0.635 to 0.711, exceeding the acceptable criterion of 0.50, thereby establishing satisfactory convergent validity. Specifically, Consumer Satisfaction demonstrates the highest reliability (CR = 0.925) and convergent validity (AVE = 0.711), followed by Taste & Freshness (CR = 0.918, AVE = 0.692), Packaging Quality (CR = 0.911, AVE = 0.673), Nutritional Value (CR = 0.903, AVE = 0.651), and Convenience (CR = 0.897, AVE = 0.635). These findings confirm that all the constructs exhibit strong reliability and adequate convergent validity, indicating

that the observed variables effectively represent their respective latent constructs. Therefore, the measurement model is statistically sound and suitable for further hypothesis testing through Structural Equation Modeling (SEM)

Table 7 - MODEL FIT INDICES

Index	Obtained	Recommended
χ^2/df	2.381	<3.0
GFI	0.957	>0.90
AGFI	0.936	>0.90
NFI	0.962	>0.90
TLI	0.974	>0.90
CFI	0.978	>0.90
RMSEA	0.041	<0.08

Sources: Primary Data

Table 7 presents the goodness-of-fit indices of the measurement model obtained through Confirmatory Factor Analysis (CFA). The results indicate that the proposed model demonstrates an excellent fit with the observed data, as all the fit indices satisfy the recommended threshold values. The **Chi-square/degrees of freedom (χ^2/df)** ratio is **2.381**, which is below the recommended limit of **3.0**, indicating an acceptable model fit. The **Goodness-of-Fit Index (GFI = 0.957)** and **Adjusted Goodness-of-Fit Index (AGFI = 0.936)** exceed the recommended value of **0.90**, confirming a good overall model fit. Similarly, the **Normed Fit Index (NFI = 0.962)**, **Tucker-Lewis Index (TLI = 0.974)**, and **Comparative Fit Index (CFI = 0.978)** are all greater than **0.90**, reflecting excellent incremental fit of the measurement model. Furthermore, the **Root Mean Square Error of Approximation (RMSEA = 0.041)** is well below the acceptable threshold of **0.08**, indicating a very close fit between the proposed model and the sample data. Overall, these goodness-of-fit indices confirm that the measurement model is statistically robust and adequately represents the relationships among the latent constructs, making it appropriate for conducting Structural Equation Modeling (SEM) and testing the proposed hypotheses.

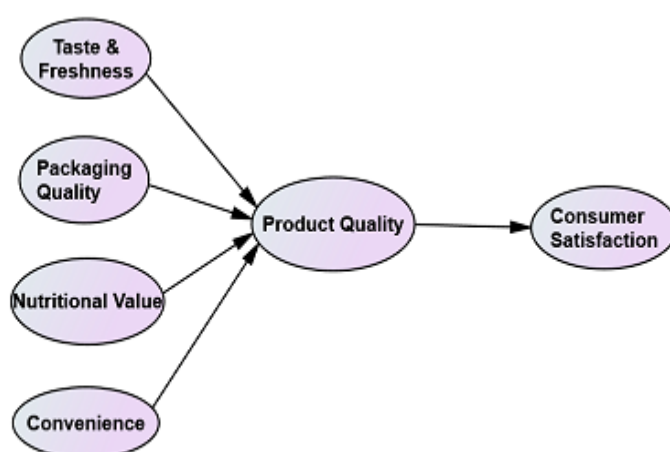


Figure 1. Structural Equation Model Showing the Effect of Product Quality on Consumer Satisfaction with Ready-to-Cook Food Products

Table 8 - STRUCTURAL MODEL RESULTS

Hypothesis	Relationship	Standardized Estimate	C.R.	P-value	Result
H1	Taste & Freshness → Product Quality	0.824	10.854	0.000	Supported
H2	Packaging Quality → Product Quality	0.796	9.973	0.000	Supported
H3	Nutritional Value → Product Quality	0.742	8.851	0.000	Supported
H4	Convenience → Product Quality	0.703	8.114	0.000	Supported
H5	Product Quality → Consumer Satisfaction	0.781	11.476	0.000	Supported

Sources: Primary Data

The structural model indicates that all four dimensions significantly contribute to the latent construct of Product Quality. Among them, Taste & Freshness has the strongest contribution ($\beta = 0.824$), followed by Packaging Quality ($\beta = 0.796$), Nutritional Value ($\beta = 0.742$), and Convenience ($\beta = 0.703$). Furthermore, Product Quality has a strong positive effect on Consumer Satisfaction ($\beta = 0.781$, $p < 0.001$), confirming that consumers place high importance on overall product quality when evaluating Ready-to-Cook food products.

LIMITATIONS OF THE STUDY

1. The study was confined to Chennai City; therefore, the findings may not represent consumers in other regions.
2. Convenience sampling limits the generalizability of the results.
3. Consumer opinions may change over time due to evolving food preferences and market trends.
4. Only product quality was examined as the primary predictor of consumer satisfaction, while other factors such as price, brand image, promotions, and availability were not included.
5. The study relied on self-reported responses, which may be subject to respondent bias.

SUGGESTIONS

1. Manufacturers should prioritize maintaining consistent taste and freshness to enhance customer satisfaction.
2. Attractive, hygienic, and eco-friendly packaging should be adopted to improve consumer perception.
3. Companies should emphasize nutritional value by clearly displaying ingredient and nutritional information on product labels.
4. Continuous quality monitoring and quality assurance systems should be implemented to maintain product standards.
5. Firms should regularly gather customer feedback to identify areas for quality improvement.
6. Marketing campaigns should highlight quality certifications, food safety standards, and health benefits to strengthen consumer trust.
7. Introducing innovative Ready-to-Cook products that meet changing consumer preferences can further increase market competitiveness.

CONCLUSION

The study concludes that product quality is a significant determinant of consumer satisfaction with Ready-to-Cook food products in Chennai City. The Exploratory Factor Analysis identified four key dimensions of product quality—Taste & Freshness, Packaging Quality, Nutritional Value, and Convenience—which collectively explain a substantial proportion of the total variance. The Confirmatory Factor Analysis established the reliability and validity of the measurement model, while the Structural Equation Model confirmed a strong positive relationship between product quality and consumer satisfaction ($\beta = 0.781$, $p < 0.001$). The excellent model fit indices indicate that the proposed model effectively explains consumer satisfaction. The findings suggest that Ready-to-Cook food manufacturers should continuously improve product quality attributes to enhance customer satisfaction, encourage repeat purchases, and strengthen long-term brand loyalty in the highly competitive food market.

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