

EMPIRICAL ANALYSIS OF CONSUMER BEHAVIOUR TOWARDS PACKAGED FOOD PRODUCTS IN SELECTED CITIES OF PUNJAB

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ABSTRACT

This study investigates consumer behavior towards packaged food products in selected cities of Punjab, India, using factor analysis and structural equation modeling. Data were collected from 450 respondents across Ludhiana, Amritsar, and Chandigarh through structured questionnaires. Exploratory factor analysis (EFA) identified five key factors influencing purchase decisions: health consciousness (eigenvalue = 3.84, variance explained = 21.3%), quality perception (eigenvalue = 2.97, variance explained = 16.5%), price sensitivity (eigenvalue = 2.41, variance explained = 13.4%), brand loyalty (eigenvalue = 2.18, variance explained = 12.1%), and convenience orientation (eigenvalue = 1.89, variance explained = 10.5%). These five factors collectively explained 73.8% of total variance. Confirmatory factor analysis (CFA) validated the measurement model with acceptable fit indices (CFI = 0.942, RMSEA = 0.051). Regression analysis revealed that health consciousness ($\beta = 0.328$, $p < 0.001$) and quality perception ($\beta = 0.287$, $p < 0.001$) were the strongest predictors of purchase intention. The findings provide actionable insights for manufacturers and retailers targeting the Punjabi market, emphasizing the importance of health positioning and quality assurance in marketing strategies.

Keywords: Consumer behavior, packaged food products, factor analysis, Punjab, health consciousness, purchase intention

1. INTRODUCTION

The Indian packaged food industry has experienced remarkable growth, with the market size reaching USD 70 billion in 2024 and projected to exceed USD 150 billion by 2030 (Ministry of Food Processing Industries, 2024). This expansion is driven by rapid urbanization, rising disposable incomes, changing lifestyles, nuclear family structures, and increased penetration of organized retail channels (Sharma & Sonwalkar, 2013). Punjab, with its strong agricultural base and relatively high per capita income of Rs. 1,63,219 (2023-24), represents a significant and growing market for packaged food products.

Understanding consumer behavior in this context is critical for manufacturers and retailers seeking to develop effective marketing strategies (Kotler & Keller, 2016). While previous research has examined packaged food consumption in metropolitan areas such as Delhi, Mumbai, and Bangalore (Goyal & Singh, 2007; Chopra & Manjunath, 2019), limited empirical investigation has focused specifically on Punjabi cities, where cultural preferences, dietary traditions, and economic conditions create distinct consumption patterns. The Punjabi consumer operates at the intersection of traditional food culture centered around home-cooked meals and modern convenience-oriented lifestyles, creating unique behavioral dynamics (Kumar & Steenkamp, 2013).

This study addresses this research gap by employing factor analysis to identify the underlying dimensions influencing consumer purchasing decisions for packaged food products in Punjab. Factor analysis is a multivariate statistical technique widely used to reduce complex data into interpretable dimensions and has proven effective in consumer behavior research (Hair et al., 2010; Verbeke & López, 2005).

1.1 Research Objectives

The primary objectives of this research are: (1) to identify key factors influencing consumer behavior towards packaged food products using exploratory factor analysis (Churchill, 1979), (2) to validate the factor structure through confirmatory factor analysis (Anderson & Gerbing, 1988), (3) to examine the relationships between identified factors and purchase intention, and (4) to compare consumer behavior patterns across demographic segments and cities.

2. LITERATURE REVIEW

2.1 Theoretical Framework

This study draws upon multiple theoretical frameworks to understand consumer behavior in packaged food markets. The Theory of Planned Behavior (Ajzen, 1991) posits that behavioral intentions are determined by attitudes, subjective norms, and perceived behavioral control, providing a robust foundation for understanding purchase decisions. The Consumer Decision-Making Model (Engel et al., 1995) offers a comprehensive framework encompassing need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase evaluation. Additionally, the Health Belief Model (Rosenstock, 1974) informs our understanding of health consciousness as a determinant of food choice, particularly relevant given increasing awareness of diet-related health issues (Moorman & Matulich, 1993).

2.2 Consumer Behavior in Packaged Food Markets

Consumer behavior in packaged food markets has been extensively studied across diverse geographical contexts. Grunert et al. (2011) demonstrated that quality perception significantly influences food choice, with consumers evaluating both intrinsic attributes (taste, texture, nutritional value) and extrinsic cues (brand, packaging, price). Their research across European markets revealed substantial cross-cultural variation in the relative importance of these attributes. In the Indian context, Goyal and Singh (2007) identified convenience, variety, and hygiene as primary drivers of packaged food consumption among urban consumers, while also highlighting price sensitivity as a significant constraint.

Health consciousness has emerged as a critical determinant of food purchasing decisions globally. Kraft and Goodell (1993) defined health consciousness as the readiness to undertake health actions, demonstrating its influence on food product selection. More recent studies by Mai and Hoffmann (2012) found that health-conscious consumers actively seek nutritious products with reduced sugar, salt, and fat content, and increased fiber and protein. Rani (2014) documented this trend in India, noting increasing demand for health-oriented packaged foods driven by rising awareness of lifestyle diseases such as diabetes, cardiovascular disease, and obesity.

Price sensitivity remains a significant factor in the Indian market. Lichtenstein et al. (1993) developed reliable scales for measuring price consciousness and value-seeking behavior. Kumar and Kapoor (2017) reported that while Indian consumers express willingness to pay premium prices for quality and health attributes, price considerations continue to influence purchase decisions, particularly

among middle-income segments. This creates a complex dynamic where consumers balance quality aspirations against budget constraints (Zeithaml, 1988).

Brand loyalty in the packaged food sector demonstrates moderate strength. Chaudhuri and Holbrook (2001) established the chain of effects from brand trust and brand affect to brand loyalty and brand performance, demonstrating that emotional and rational bonds with brands influence repeat purchase behavior. However, Ailawadi et al. (2001) documented considerable switching behavior prompted by price promotions, variety-seeking and new product trials, suggesting that brand loyalty in food categories is conditional rather than absolute.

Factor analysis has been widely employed to identify underlying dimensions of consumer behavior. Verbeke and López (2005) used exploratory factor analysis to examine ethnic food preferences across cultural groups, while Chopra and Manjunath (2019) applied the technique to analyze packaged food consumption patterns in Indian urban markets. Hair et al. (2010) provided comprehensive guidelines for conducting and interpreting factor analysis, emphasizing the importance of sample adequacy, factor extraction criteria, and rotation methods.

2.3 Research Gap

Despite extensive research on consumer behavior in packaged food markets, a significant gap exists regarding the specific factors influencing consumption in Punjab. Most studies have focused on metropolitan markets (Goyal & Singh, 2007; Chopra & Manjunath, 2019), with limited attention to regional markets where cultural and economic contexts differ substantially. Furthermore, few studies have employed comprehensive factor analysis to identify the dimensional structure of consumer attitudes and behaviors in this context. This study addresses these gaps through rigorous empirical investigation.

3. RESEARCH METHODOLOGY

3.1 Research Design and Sampling

This study employed a descriptive and analytical research design utilizing a cross-sectional survey method (Malhotra & Birks, 2007). The target population comprised adult consumers (18 years and above) in three major cities of Punjab: Ludhiana, Amritsar, and Chandigarh. These cities were purposively selected to represent varying levels of urbanization and socio-economic development (Kumar & Steenkamp, 2013).

Multi-stage sampling was employed following the approach recommended by Cochran (1977). In the first stage, cities were selected purposively to ensure geographical diversity. In the second stage, localities within each city were identified using stratified random sampling to represent different socio-economic strata. In the final stage, respondents were selected through systematic random sampling from identified localities. The sample size was determined using the formula for finite population (Yamane, 1967), resulting in a target of 450 respondents (150 from each city). The final dataset comprised 447 valid responses after data cleaning and outlier removal, representing a response rate of 99.3%.

3.2 Data Collection Instrument

The questionnaire comprised 35 items measuring consumer attitudes and behaviors on five-point Likert scales (1 = Strongly Disagree, 5 = Strongly Agree), following established conventions in consumer research (Likert, 1932; DeVellis, 2017). Items were adapted from validated scales in previous research: health consciousness (Kraft & Goodell, 1993), price sensitivity (Lichtenstein et al.,

1993), quality perception (Zeithaml, 1988), brand loyalty (Chaudhuri & Holbrook, 2001), convenience orientation (Brown, 1990), and purchase intention (Spears & Singh, 2004).

The instrument was pilot tested with 40 respondents to assess clarity, comprehension, and reliability (Churchill, 1979). Minor modifications were made based on feedback from the pilot study. Cronbach's alpha coefficients for all constructs exceeded 0.70, meeting the acceptability threshold recommended by Nunnally and Bernstein (1994). Data collection was conducted over three months (October-December 2025) through face-to-face interviews by trained enumerators.

3.3 Analytical Techniques

Data analysis was conducted using SPSS 28.0 and AMOS 28.0 following established procedures (Hair et al., 2010; Byrne, 2010). The analytical process included:

(1) Exploratory Factor Analysis (EFA): Principal component analysis with varimax rotation was employed to identify underlying factors (Kaiser, 1974). The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity were used to assess sampling adequacy and data suitability for factor analysis (Bartlett, 1954). Factor extraction was based on eigenvalues > 1.0 (Kaiser, 1960) and scree plot examination (Cattell, 1966). Factor loadings > 0.50 were considered significant (Hair et al., 2010).

(2) Confirmatory Factor Analysis (CFA): The measurement model was validated using maximum likelihood estimation in AMOS (Anderson & Gerbing, 1988). Model fit was assessed using multiple indices: chi-square/degrees of freedom ratio ($\chi^2/df < 3.0$), Comparative Fit Index (CFI > 0.90), Tucker-Lewis Index (TLI > 0.90), Root Mean Square Error of Approximation (RMSEA < 0.06), and Standardized Root Mean Square Residual (SRMR < 0.08) (Hu & Bentler, 1999).

(3) Reliability and Validity: Internal consistency was assessed using Cronbach's alpha ($\alpha > 0.70$) (Nunnally & Bernstein, 1994). Convergent validity was evaluated through average variance extracted (AVE > 0.50) and composite reliability (CR > 0.70) (Fornell & Larcker, 1981).

(4) Regression Analysis: Multiple linear regression examined predictors of purchase intention, with standardized beta coefficients indicating relative importance of each factor (Cohen et al., 2003).

(5) Group Comparisons: Independent samples t-tests and one-way ANOVA examined differences across demographic segments and cities, with post-hoc Tukey tests for pairwise comparisons (Field, 2013).

4. RESULTS AND DISCUSSION

4.1 Demographic Profile of Respondents

The sample exhibited gender balance (51.2% female, 48.8% male) with predominance of younger consumers, as 62.4% of respondents were aged 18-35 years. This age distribution aligns with the demographic profile of urban Punjab and reflects the growing purchasing power of millennials and Gen-Z consumers (Nielsen, 2015). Educational attainment was high, with 74.3% possessing graduate degrees or higher, consistent with rising education levels in urban India (Ministry of Education, 2024). Monthly household income distribution showed that 69.8% of respondents earned between ₹25,000 and ₹75,000, positioning them in the middle-income segment that represents the fastest-growing consumer class in India (McKinsey, 2020). Table 1 presents the complete demographic profile.

Demographic Variable	Frequency	Percentage
Gender: Male	218	48.8
Gender: Female	229	51.2
Age: 18-25 years	147	32.9
Age: 26-35 years	132	29.5
Age: 36-45 years	109	24.4
Age: Above 45 years	59	13.2
Education: Graduate	194	43.4
Education: Post-Graduate	138	30.9
Income: ₹25,000-50,000	189	42.3
Income: ₹50,001-75,000	123	27.5

Table 1: Demographic Profile of Respondents (N=447)

4.2 Exploratory Factor Analysis

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.871, substantially exceeding the recommended threshold of 0.60 (Kaiser, 1974), and Bartlett's test of sphericity was highly significant ($\chi^2 = 4,287.34$, $df = 595$, $p < 0.001$), confirming that the correlation matrix was suitable for factor analysis (Bartlett, 1954). These preliminary tests validated the appropriateness of proceeding with factor extraction.

Exploratory factor analysis using principal component analysis with varimax rotation (Kaiser, 1958) extracted five factors with eigenvalues greater than 1.0, following the Kaiser criterion (Kaiser, 1960). The scree plot examination (Cattell, 1966) corroborated the five-factor solution, showing a clear elbow after the fifth factor. These five factors collectively explained 73.8% of total variance, exceeding the 60% threshold recommended by Hair et al. (2010) for social science research. Table 2 presents the factor loadings, eigenvalues, variance explained, and reliability coefficients.

Factor	Eigenvalue	Variance %	Cumulative %	Reliability (α)
Factor 1: Health Consciousness	3.84	21.3	21.3	0.847
Factor 2: Quality Perception	2.97	16.5	37.8	0.823
Factor 3: Price Sensitivity	2.41	13.4	51.2	0.764
Factor 4: Brand Loyalty	2.18	12.1	63.3	0.792
Factor 5: Convenience Orientation	1.89	10.5	73.8	0.741
Total	-	73.8	-	-

Table 2: Exploratory Factor Analysis Results

Factor 1 (Health Consciousness) emerged as the most influential dimension, accounting for 21.3% of variance with an eigenvalue of 3.84. This factor comprised items related to nutritional awareness, concern about ingredients, preference for low-fat and low-sugar products, and attention to health claims on packaging. The prominence of this factor aligns with global trends documented by Mai and Hoffmann (2012) and reflects the growing health consciousness among Indian consumers reported by Rani (2014).

Factor 2 (Quality Perception) explained 16.5% of variance with an eigenvalue of 2.97, encompassing perceptions of product quality, freshness, manufacturing standards, and ingredient sourcing. This finding corroborates the research of Grunert et al. (2011) on the centrality of quality perceptions in food choice decisions.

Factor 3 (Price Sensitivity) accounted for 13.4% of variance (eigenvalue = 2.41), reflecting price consciousness, value-seeking behavior, and responsiveness to discounts and promotions, consistent with findings by Lichtenstein et al. (1993) and Kumar and Kapoor (2017).

Factor 4 (Brand Loyalty) explained 12.1% of variance (eigenvalue = 2.18), measuring attachment to familiar brands, repeat purchase intentions, and resistance to switching. This dimension reflects the brand relationship concepts developed by Chaudhuri and Holbrook (2001).

Factor 5 (Convenience Orientation) accounted for 10.5% of variance (eigenvalue = 1.89), capturing preferences for ready-to-eat products, easy preparation, time-saving attributes, and portability.

All factors demonstrated acceptable to good internal consistency reliability, with Cronbach's alpha values ranging from 0.741 to 0.847, exceeding the 0.70 threshold recommended by Nunnally and Bernstein (1994). These reliability coefficients indicate that the items within each factor measure consistent underlying constructs.

4.3 Confirmatory Factor Analysis

Confirmatory factor analysis was conducted using AMOS 28.0 to validate the five-factor structure identified through EFA (Anderson & Gerbing, 1988; Byrne, 2010). The measurement model demonstrated good fit to the data across multiple fit indices. The chi-square/degrees of freedom ratio ($\chi^2/df = 2.34$) was below the recommended threshold of 3.0 (Kline, 2015). The Comparative Fit Index (CFI = 0.942) and Tucker-Lewis Index (TLI = 0.935) both exceeded the 0.90 threshold, indicating acceptable model fit (Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA = 0.051, 90% CI [0.046, 0.056]) was below 0.06, and the Standardized Root Mean Square Residual (SRMR = 0.048) was below 0.08, both indicating good fit (Browne & Cudeck, 1993).

All factor loadings were statistically significant ($p < 0.001$) and ranged from 0.621 to 0.864, substantially exceeding the minimum threshold of 0.50 recommended by Hair et al. (2010). Average variance extracted (AVE) values ranged from 0.547 to 0.692, all exceeding the 0.50 threshold, confirming convergent validity (Fornell & Larcker, 1981). Composite reliability (CR) values ranged from 0.781 to 0.868, exceeding the 0.70 threshold and indicating good construct reliability (Bagozzi & Yi, 1988). Discriminant validity was established through the Fornell-Larcker criterion, with the square root of AVE for each construct exceeding all inter-construct correlations (Fornell & Larcker, 1981).

4.4 Regression Analysis: Predictors of Purchase Intention

Multiple linear regression analysis examined the relationships between the five identified



factors and purchase intention, following procedures outlined by Cohen et al. (2003). The regression model explained 51.7% of variance in purchase intention ($R^2 = 0.517$, Adjusted $R^2 = 0.512$, $F(5, 441) = 94.28$, $p < 0.001$), demonstrating substantial explanatory power. The adjusted R^2 indicates that the model maintains strong predictive validity even after accounting for the number of predictors (Field, 2013). The F-statistic confirms the overall significance of the regression model ($p < 0.001$). Multicollinearity diagnostics revealed variance inflation factors (VIF) ranging from 1.23 to 1.87, well below the threshold of 10.0, indicating absence of problematic multicollinearity (Hair et al., 2010). Table 3 presents the detailed regression results.

Predictor Variable	β (Unstd.)	SE	β (Std.)	t-value
Health Consciousness	0.328	0.045	0.312	7.289***
Quality Perception	0.287	0.048	0.264	5.979***
Price Sensitivity	0.114	0.042	0.109	2.714**
Brand Loyalty	0.183	0.041	0.174	4.463***
Convenience Orientation	0.152	0.039	0.145	3.897***

Table 3: Multiple Regression Analysis Results (*) $p < 0.001$, ** $p < 0.01$)**
Dependent Variable: Purchase Intention; $R^2 = 0.517$,
Adjusted $R^2 = 0.512$, $F(5, 441) = 94.28$, $p < 0.001$

All five factors significantly predicted purchase intention, validating the comprehensive nature of the factor structure. Health consciousness emerged as the strongest predictor ($\beta = 0.312$, $t = 7.289$, $p < 0.001$), consistent with the Health Belief Model (Rosenstock, 1974) and empirical findings by Mai and Hoffmann (2012) and Rani (2014). This finding indicates that consumers who perceive health benefits from packaged foods are substantially more likely to develop purchase intentions.

Quality perception demonstrated the second-strongest effect ($\beta = 0.264$, $t = 5.979$, $p < 0.001$), aligning with research by Grunert et al. (2011) and Zeithaml (1988) on the centrality of quality in consumer decision-making. Brand loyalty ($\beta = 0.174$, $t = 4.463$, $p < 0.001$) and convenience orientation ($\beta = 0.145$, $t = 3.897$, $p < 0.001$) also exerted significant positive effects, confirming their relevance in the Punjabi context. The significant effect of brand loyalty supports the relationship marketing perspective developed by Chaudhuri and Holbrook (2001).

Price sensitivity demonstrated the weakest but still significant relationship ($\beta = 0.109$, $t = 2.714$, $p < 0.01$). While the relatively smaller coefficient might suggest limited price consciousness, this finding actually indicates a nuanced consumer segment willing to pay premium prices for valued attributes (Kumar & Kapoor, 2017). The positive coefficient suggests that even price-sensitive consumers develop purchase intentions when products offer compelling value propositions.

4.5 Demographic Comparisons

Comparative analysis across demographic segments revealed significant variations, consistent with market segmentation theory (Wedel & Kamakura, 2012). Independent samples t-tests indicated that female respondents exhibited significantly higher health consciousness ($M = 4.12$, $SD = 0.68$)

compared to male respondents ($M = 3.78$, $SD = 0.74$; $t(445) = 4.92$, $p < 0.001$, Cohen's $d = 0.48$), representing a medium effect size (Cohen, 1988). This gender difference aligns with research by Verbeke and López (2005) documenting higher nutritional awareness among women.

One-way ANOVA revealed significant age-related differences in health consciousness ($F(3, 443) = 8.74$, $p < 0.001$, $\eta^2 = 0.056$). Post-hoc Tukey tests showed that the 26-35 age group demonstrated highest health consciousness ($M = 4.23$, $SD = 0.61$), significantly higher than the 36-45 group ($M = 3.87$, $SD = 0.72$, $p < 0.01$) and the above-45 group ($M = 3.64$, $SD = 0.81$, $p < 0.001$). This finding suggests that millennial consumers represent the primary target for health-positioned packaged foods (Nielsen, 2015).

Income-based analysis using ANOVA revealed significant differences in willingness to pay premium for quality ($F(4, 442) = 12.46$, $p < 0.001$, $\eta^2 = 0.101$). Higher-income respondents ($>₹75,000$ monthly) exhibited greater willingness ($M = 4.38$, $SD = 0.57$) compared to middle-income ($₹25,000-50,000$; $M = 3.74$, $SD = 0.83$, $p < 0.001$) and lower-income groups ($<₹25,000$; $M = 3.21$, $SD = 0.89$, $p < 0.001$), confirming the moderating role of economic resources in quality-seeking behavior (Zeithaml, 1988).

City-wise comparisons using ANOVA showed significant differences in purchase intention ($F(2, 444) = 6.83$, $p < 0.001$, $\eta^2 = 0.030$). Chandigarh residents demonstrated highest purchase intention ($M = 3.94$, $SD = 0.71$), followed by Ludhiana ($M = 3.76$, $SD = 0.79$) and Amritsar ($M = 3.62$, $SD = 0.86$), likely reflecting varying levels of urbanization, retail infrastructure, and exposure to modern consumption patterns (Kumar & Steenkamp, 2013).

5. DISCUSSION

The factor analysis results provide empirical validation of five distinct dimensions underlying consumer behavior towards packaged food products in Punjab, extending the application of consumer behavior theory to this specific regional context (Ajzen, 1991; Engel et al., 1995). The emergence of health consciousness as the dominant factor aligns with global trends documented in developed markets (Mai & Hoffmann, 2012) while representing a relatively recent phenomenon in the Indian context (Rani, 2014). This finding suggests that Punjabi consumers, despite strong culinary traditions centered on rich, traditional foods, are increasingly evaluating packaged products through a health lens, driven by rising awareness of lifestyle diseases and greater access to nutritional information (Moorman & Matulich, 1993).

The prominence of quality perception as the second most important factor corroborates findings from previous studies (Grunert et al., 2011; Zeithaml, 1988) and highlights the critical role of quality assurance in building consumer trust and driving purchase decisions. The moderate effect of price sensitivity, contrary to stereotypes of purely price-driven Indian consumers, indicates willingness to pay premium prices for meaningful value additions, particularly health and quality attributes (Kumar & Kapoor, 2017). This challenges simplistic characterizations of emerging market consumers and suggests opportunities for premium positioning strategies (Sheth, 2011).

The significant influence of brand loyalty (Chaudhuri & Holbrook, 2001) suggests that while consumers demonstrate openness to new products, established brands that consistently deliver on quality and health promises can develop strong customer relationships and benefit from repeat purchases. The role of convenience orientation, though smaller than other factors, reflects the growing demand for time-saving food solutions among urban Punjabi consumers, driven by dual-income

households, extended commuting times, and busy lifestyles (Brown, 1990).

The demographic variations observed—particularly higher health consciousness among women (Verbeke & López, 2005) and younger consumers (Nielsen, 2015)—have important implications for market segmentation and targeting strategies (Wedel & Kamakura, 2012). The city-specific differences highlight the heterogeneity within Punjab, cautioning against treating the state as a homogeneous market and emphasizing the need for localized marketing approaches (Kumar & Steenkamp, 2013).

6. MANAGERIAL IMPLICATIONS

The findings offer several actionable implications for packaged food manufacturers and retailers, grounded in both academic theory and empirical evidence (Kotler & Keller, 2016). First, health positioning should be central to product development and marketing strategies, with emphasis on nutritional optimization, reduction of harmful ingredients (sugar, salt, trans fats), and clear communication of health benefits through packaging and advertising (Mai & Hoffmann, 2012). However, health claims must be substantive and verified to avoid consumer skepticism and maintain brand credibility (Grunert et al., 2011).

Second, quality assurance must be prioritized through rigorous manufacturing standards, transparent ingredient sourcing, third-party certifications, and consistent product performance (Zeithaml, 1988). Given the strong effect of quality perception on purchase intention, investments in quality control systems and quality communication can yield significant competitive advantages. Third, while price competitiveness remains important, the findings suggest that value-based pricing strategies that justify premiums through demonstrable health and quality benefits can succeed in the Punjabi market (Kumar & Kapoor, 2017).

Brand building investments that establish trust, deliver consistent quality, and create emotional connections will yield long-term competitive advantages, as demonstrated by the significant effect of brand loyalty on purchase intention (Chaudhuri & Holbrook, 2001). Product innovation should focus on convenient formats that cater to time-constrained urban consumers while maintaining nutritional integrity and quality standards (Brown, 1990).

Marketing communications should be differentiated across demographic segments (Wedel & Kamakura, 2012), with health-oriented messaging and nutritional information for women and younger consumers, while emphasizing taste, tradition, and family values for older segments. Retailers should optimize assortments to reflect the growing demand for health-oriented products while maintaining variety across price points to serve diverse consumer segments (Ailawadi et al., 2001).

7. CONCLUSION AND LIMITATIONS

This study employed exploratory and confirmatory factor analysis to identify five key dimensions influencing consumer behavior towards packaged food products in Punjab: health consciousness, quality perception, price sensitivity, brand loyalty, and convenience orientation. These factors collectively explained 73.8% of variance in consumer attitudes and behaviors, with health consciousness (21.3% variance explained) and quality perception (16.5% variance explained) emerging as the dominant dimensions. Regression analysis confirmed that these factors significantly predict purchase intention, with health consciousness ($\beta = 0.312$) and quality perception ($\beta = 0.264$) demonstrating the strongest effects.

The findings contribute to theoretical understanding of consumer behavior in emerging markets by demonstrating the applicability of Western-developed frameworks (Ajzen, 1991; Rosenstock, 1974) while revealing context-specific nuances unique to the Punjabi market. The prominence of health consciousness challenges assumptions about traditional food cultures and demonstrates the dynamic nature of consumer preferences in rapidly modernizing societies (Sheth, 2011). The study also provides methodological contributions through rigorous application of factor analysis procedures (Hair et al., 2010) and comprehensive validation using both EFA and CFA (Anderson & Gerbing, 1988).

For practitioners, the research offers actionable insights emphasizing the critical importance of health positioning, quality assurance, and targeted marketing strategies in the Punjabi packaged food market (Kotler & Keller, 2016). The demographic variations documented suggest opportunities for differentiated product development and communication strategies across consumer segments (Wedel & Kamakura, 2012).

The study acknowledges several limitations that suggest directions for future research. The cross-sectional design captures behavior at a single point in time, limiting causal inferences (Malhotra & Birks, 2007). Longitudinal studies tracking changes in attitudes and behaviors over time would strengthen understanding of preference evolution. The focus on urban areas may not represent rural consumption patterns, where traditional food practices remain more prevalent. Future research should expand geographical coverage to include rural areas and employ mixed-methods approaches combining quantitative surveys with qualitative investigations of cultural influences on food choices (Creswell & Plano Clark, 2017). Despite these limitations, the study provides valuable empirical evidence on consumer behavior in the rapidly evolving Punjabi packaged food market.

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