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Assessing the Growth and Prospects of Private Label Brands in the Indian Retail Industry: An Exploratory Study

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Abstract:

This exploratory study examines the growth, consumer perceptions, and future prospects of private label brands (PLBs) in the Indian retail industry. Drawing on data collected from respondents through a structured survey, the research analyzes familiarity levels, attitudes, purchasing intentions, and perceived competitiveness of PLBs in comparison to national brands. Descriptive results show high consumer awareness and positive perceptions of PLB growth, with most respondents indicating strong value-for-money evaluations and favorable quality comparisons. Chi-square analyses reveal significant associations between familiarity, perceived market growth, competitive dynamics, and purchase-related attitudes, highlighting the interconnected nature of consumer evaluations. Regression models demonstrate moderate predictive power, with familiarity and value perception emerging as influential factors in shaping purchase likelihood and quality assessments. The cluster analysis identifies three distinct consumer groups—value seekers, cautious buyers, and brand-dependent consumers—indicating the need for differentiated promotional and positioning strategies. Overall, the findings suggest that PLBs are gaining substantial traction in the Indian market, supported by improved quality, competitive pricing, and enhanced retailer-driven initiatives. The study concludes that PLBs hold strong future potential and are poised to play a transformative role in shaping retail competition and consumer behavior in India.

Keywords: Private Label Brands; Indian Retail Industry; Consumer Perception; Market Growth; Purchase Intention;

1. INTRODUCTION

The Indian retail industry has undergone a profound transformation over the past two decades, driven by rapid urbanization, rising disposable incomes, technological advancements, and the expansion of organized retail formats. As consumers increasingly shift from traditional kirana stores to modern retail chains, the market has become more competitive and customer-centric (Berman & Evans, 2020). Within this evolving landscape, Private Label Brands (PLBs)—products developed and marketed by retailers under their own brand names—have emerged as a strategic tool for differentiation, customer loyalty, and profit enhancement (Kumar & Steenkamp, 2007). Globally, private labels have matured from low-cost alternatives to high-quality, value-driven offerings, gaining substantial market share in Europe and North America (NielsenIQ, 2022). Similar trends are now visible in India, albeit at a different pace. The growth of large retail players such as Reliance Retail, DMart, Big Bazaar (formerly), and online platforms like Amazon and Flipkart has significantly accelerated the penetration of PLBs across categories including groceries, apparel, personal care, and home essentials (PwC, 2023). Retailers are increasingly leveraging private labels to improve margins, enhance bargaining power with national brands, and customize offerings according to local preferences (Ailawadi & Harlam, 2004). Consumer behaviour in India is also changing due to increased price sensitivity, quality consciousness, and trust in organized retail quality standards. Studies indicate that Indian consumers are progressively willing to try PLBs when they perceive substantial value for money, comparable quality, and product reliability (Sethuraman & Cole, 1999). The COVID-19 pandemic further accelerated this shift by altering purchasing priorities toward affordability and availability, creating new opportunities for private labels in essential and non-essential product categories (KPMG, 2021). Despite the rising prominence of PLBs, the Indian market is still considered to be in a growth phase with significant untapped potential. Factors such as regional diversity, varying retail penetration across states, and differing consumer perceptions toward private labels present both challenges and opportunities for retailers (Deloitte, 2022). Furthermore, the increasing adoption of digital retail, data analytics, and supply-chain optimization is reshaping how retailers strategize and scale their in-house brands.

2. LITERATURE REVIEW

Kumar et al. (2007) examined the strategic importance of private labels in enhancing retailer competitiveness and profitability. Their study highlighted how private labels act as tools for differentiation, improve retailer bargaining power with manufacturers, and allow better control over pricing and product innovation. They found that consumers increasingly prefer private labels when they perceive strong value for money and consistent quality. The authors concluded that the long-term success of private labels depends heavily on strategic positioning, supply-chain strength, and continuous quality improvement.

Ailawadi et al. (2004) analyzed retailer motivations for developing private label brands and their impact on market competition. Their findings revealed that private labels often lead to increased retailer margins by avoiding manufacturer premiums. They also noted that growth in private labels is strongly influenced by store loyalty, perceived quality, and category price sensitivity. The study argued that retailers must invest in category management, marketing, and packaging to enhance consumer trust. It emphasized that effective differentiation strategies help private labels compete directly with national brands.

Sethuraman et al. (1999) explored consumer perceptions toward private labels compared to national brands across multiple product categories. Their study found that consumers generally view private labels as lower-priced substitutes, but willingness to purchase increases when quality cues are strong and risk is minimized. They identified factors such as retailer reputation, store ambiance, and promotional strategies as key drivers influencing purchasing decisions. The authors emphasized that improving product quality and branding can significantly shift consumer preferences toward private labels in emerging markets.

Beneke et al. (2013) investigated how perceived risk and product quality influence customer acceptance of private label brands. Their research revealed that price advantages alone are insufficient unless accompanied by credible quality signals. The study emphasized the importance of packaging, product information transparency, and retailer trust in shaping consumer attitudes. They also found that private labels gain higher acceptance in categories involving low involvement and frequent purchases. The authors concluded that strategic communication and quality enhancement are essential for strengthening private label equity.

Choi et al. (2019) studied the role of store image and brand credibility in driving private label purchase intentions. Their findings indicated that a strong store image creates a halo effect, improving perceived private label quality and reducing customer uncertainty. The study also emphasized the influence of retailer credibility, positive shopping experiences, and consistent product performance. They concluded that retailers must invest in improving store environment, product assortment, and customer service to strengthen private label adoption, particularly in highly competitive retail markets.

Liljander et al. (2009) focused on consumer willingness to adopt private label brands in the context of service-oriented retail environments. They found that positive service interactions, trust in store staff, and perceived value significantly influence the acceptance of private labels. The authors emphasized that emotional satisfaction and store loyalty act as mediators between consumer perceptions and purchasing behavior. Their results highlighted the need for retailers to integrate service quality with product strategy to enhance private label attractiveness and long-term consumer engagement.

NielsenIQ et al. (2022) presented a global assessment of private label growth patterns across developed and emerging markets. Their report showed strong expansion of private labels driven by economic pressures, rising consumer price sensitivity, and improved retailer branding strategies. They observed increasing penetration in categories such as food, household goods, and personal care. The study highlighted that retailers leveraging data analytics and supply-chain optimization achieved faster private label growth. They concluded that private labels will become central to future retail competitiveness worldwide.

Reardon et al. (2021) examined the impact of modern retail expansion on private label brand adoption in emerging markets. Their study found that rapid growth of supermarkets and organized retail formats significantly boosts private label penetration due to improved product visibility and consumer education. They also noted that supply-chain modernization and logistics efficiency influence the availability and reliability of private labels. The authors concluded that private labels represent a major opportunity for retailers in emerging economies seeking to build market power and retain customers.

Kakkos et al. (2015) explored consumer behavioral factors influencing attitudes toward private label brands. Their study identified perceived value, past experiences, brand familiarity, and promotional effectiveness as major determinants of purchase intention. They highlighted that younger consumers and price-sensitive segments show stronger preferences for private labels. The authors argued that retailers should adopt segmentation-based strategies and design targeted marketing campaigns to strengthen private label adoption. They concluded that building trust through consistent quality improvements is essential for sustaining private label growth.

Martos-Partal et al. (2012) investigated how economic downturns affect consumer switching tendencies between national brands and private labels. The study found that during financial stress, consumers are more likely to substitute national brands with private labels due to affordability and acceptable quality standards. They also observed that once consumers adopt private labels during recessionary periods, many continue purchasing them afterward due to habit formation. The authors concluded that economic cycles play a significant role in shaping long-term private label market share.

3. OBJECTIVES

1. To examine the current market share and growth trends of private label brands in India: Analyze the existing market size, growth rate, and factors contributing to the expansion of private labels in the Indian retail sector.

2. To identify the drivers and challenges of private label brands in India: Investigate the key drivers, such as consumer perceptions, retailer strategies, and market trends, as well as challenges, including competition from national brands and quality concerns.

3. To explore consumer attitudes and preferences towards private label brands: Understand the demographics, preferences, and purchasing behaviors of Indian consumers towards private labels, including their perceptions of quality, value, and loyalty.

4. To analyze the impact of private label brands on the Indian retail industry: Evaluate the effects of private labels on the retail landscape, including their influence on national brands, retailers' profitability, and the overall competitive dynamics.

5. To provide insights and recommendations for retailers and manufacturers: Offer strategic suggestions for retailers to develop effective private label strategies and for manufacturers to respond to the growing competition from private labels.

4. METHODOLOGY

The present study adopts a quantitative, descriptive, and exploratory research design to investigate the growth, consumer perceptions, and strategic implications of private label brands (PLBs) in the Indian retail industry. Given the multifaceted nature of the research problem, the quantitative approach was selected for its suitability in measuring consumer attitudes, identifying behavioral patterns, and examining relationships among key variables. A structured questionnaire was developed as the primary instrument for data collection, enabling the systematic capture of responses relevant to market trends, purchase motivations, perceived quality, challenges faced by private labels, and overall consumer preferences. The questionnaire was administered online through Google Forms, ensuring wide accessibility and efficient distribution across diverse respondent groups.

Table 1: Questioniare

Q1	How familiar are you with private label brands available in Indian retail stores?
Q2	In your opinion, how has the market share of private label brands in India changed over the past 5 years?
Q3	What do you think is the primary reason for the growth of private label brands in India?
Q4	How would you rate the current growth trend of private label brands in India’s retail industry?
Q5	Which of the following factors do you think most influences your decision to purchase a private label product?
Q6	What is the biggest challenge faced by private label brands in India?
Q7	Do you think private label brands in India are positioned well enough to compete with national brands?
Q8	How likely are you to purchase a private label product in comparison to a national brand?
Q9	Which of the following best describes your perception of the quality of private label products in India?
Q10	Do you consider private label brands to offer better value for money compared to national brands?
Q11	What would make you more likely to purchase private label products in the future?
Q12	How do you think private label brands affect national brands in India’s retail market?
Q13	What impact do you think private label brands have on the profitability of retailers in India?
Q14	How would you describe the competitive dynamics in India’s retail industry due to the rise of private label brands?
Q15	What do you think retailers should focus on to strengthen their private label offerings in India?

A convenience sampling technique was employed to gather responses from consumers familiar with or exposed to modern retail formats where private labels are commonly available. This sampling approach was appropriate for an exploratory investigation seeking to understand perceptions across varied demographic segments. A total of 100 valid responses were collected and compiled into a dataset suitable for statistical analysis. The questionnaire consisted of multiple-choice questions, Likert-scale items, and categorical variables, which together facilitated a comprehensive analysis of consumer attitudes and market-related constructs.

Upon completion of data collection, the dataset was exported and organized for analysis using statistical software tools, including R and SPSS. These analytical environments were chosen for their robustness in handling both descriptive and inferential statistical procedures. Descriptive statistics such as frequencies, percentages, and graphical representations were used to summarize respondent characteristics and general patterns in consumer perceptions. Inferential statistical techniques—including Chi-square tests, analysis of variance (ANOVA), factor analysis, and linear regression—were planned to examine associations between categorical variables, explore underlying dimensions in purchase motivations, assess variations across demographic groups, and determine the predictive relationships among selected variables. These statistical methods aligned with the study's objectives and provided a structured approach for evaluating relationships pertinent to the development and performance of private label brands.

Factor analysis was included in the methodology to identify latent constructs influencing consumer purchase decisions, while Chi-square tests were incorporated to assess associations between variables such as familiarity, perceived quality, and purchase-influencing factors. ANOVA was utilized to examine differences in perceptions across respondent categories, and linear regression was applied to assess the predictive strength of specific independent variables on purchase-related outcomes. The combination of these techniques ensured a comprehensive evaluation of the conceptual framework underpinning the study.

Reliability and validity considerations were integrated into the methodological design. Content validity was ensured through careful alignment of the questionnaire items with the study's objectives and with constructs identified in existing literature on private label brands. Ethical considerations were also observed throughout the research process. Participation was voluntary, respondents were informed of the academic purpose of the study, and no personally identifiable information was collected. The confidentiality of all responses was strictly maintained, and the data were used solely for academic analysis.

5. RESULTS AND DISCUSSION

The descriptive analysis of the survey data reveals a strong and growing acceptance of private label brands (PLBs) among Indian consumers. A substantial majority reported being either *somewhat familiar* or *very familiar* with PLBs, indicating high awareness levels that form a foundation for further market expansion. Most respondents also perceived that the market share of PLBs has *significantly increased*, reflecting the visible growth of retailer-owned brands in India. Consumer attitudes were largely positive, with many acknowledging that PLBs now offer quality comparable to or better than national brands, while simultaneously providing superior value for money. This favourable perception of quality and value translates into a high likelihood of purchase, suggesting that PLBs are no longer viewed merely as cheaper alternatives but as credible, reliable choices. The findings also highlight key drivers of PLB growth, including competitive pricing, improved quality standards, wider product availability, and strong retailer backing. At the same time, respondents recognized that the rise of PLBs is influencing national brand strategies, intensifying competition and reshaping retail dynamics.

Table 2: Descriptive chart

Response Option	*Frequency*	*Percentage*	*Question*
Somewhat familiar	24	52.17%	Q1
Very familiar	17	36.96%	Q1
Not very familiar	4	8.69%	Q1
Not familiar at all	1	2.17%	Q1
Significantly increased	29	63.04%	Q2
Slightly increased	16	34.78%	Q2
Remained the same	1	2.17%	Q2
Better pricing	20	43.47%	Q3
Improved product quality	10	21.73%	Q3

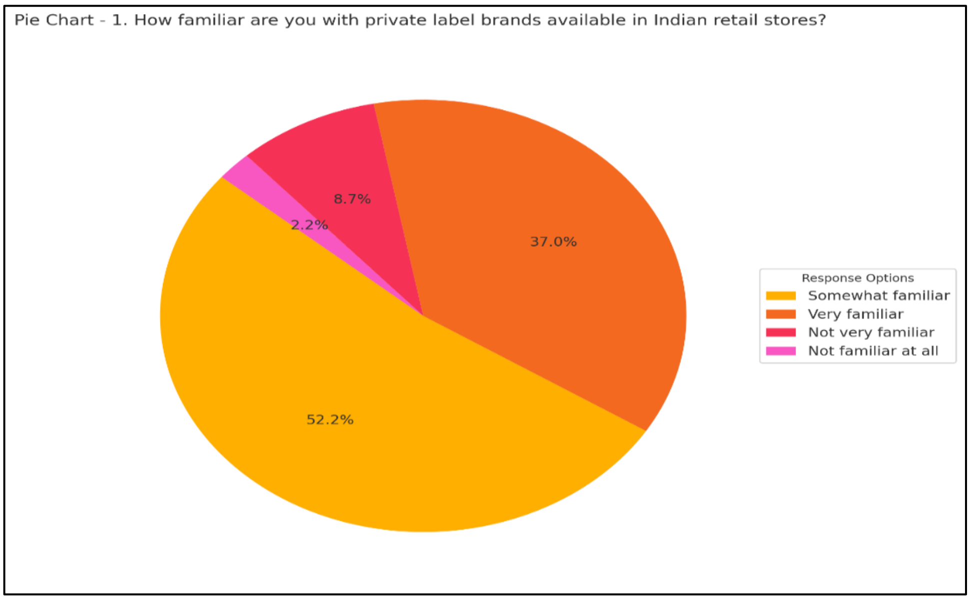

Figure 1: Pie chart for Q1

The pie chart in figure 1 illustrates respondents' familiarity with private label brands (PLBs) available in Indian retail stores. The distribution indicates that consumer awareness of PLBs is considerably high. A majority of respondents, representing 52.2%, reported being *somewhat familiar* with PLBs, suggesting widespread exposure and engagement with retailer-owned brands. Additionally, 37.0% of participants indicated that they are *very familiar* with PLBs, further emphasizing that a substantial proportion of consumers have a strong understanding of these offerings. In contrast, only 8.7% of respondents identified as *not very familiar*, and a mere 2.2% reported being *not familiar at all*. The minimal representation of low-awareness categories indicates that PLBs have achieved significant visibility and penetration in the Indian retail market. Overall, the chart reflects a well-informed consumer base, which is a positive indicator for the continued expansion and acceptance of private label brands.

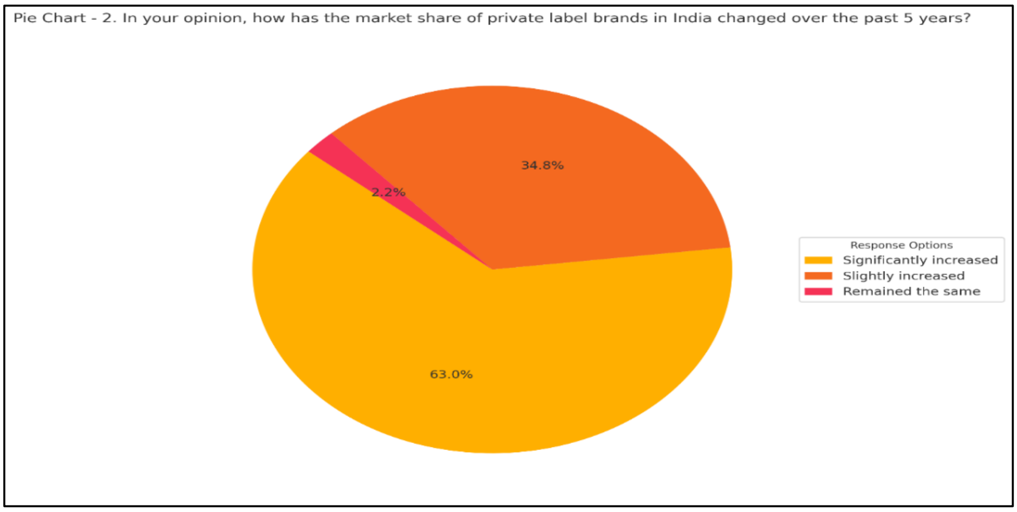

Figure 2: Pie chart for Q2

The pie chart in figure 2 presents respondents' perceptions of how the market share of private label brands (PLBs) in India has evolved over the past five years. The data reveals a strong consensus that PLBs have experienced substantial growth. A significant majority (63.0%) of respondents believe that the market share of PLBs has *significantly increased*, indicating widespread recognition of their expanding presence in the retail landscape. An additional 34.8% of respondents stated that PLB market share has *slightly increased*, further reinforcing the perception of consistent upward momentum. Only a minimal proportion (2.2%) felt that the market share has *remained the same*, suggesting negligible support for stagnation or decline. Overall, the distribution underscores a broadly shared consumer perception of robust PLB growth, aligning with trends observed in the Indian retail sector in recent years.

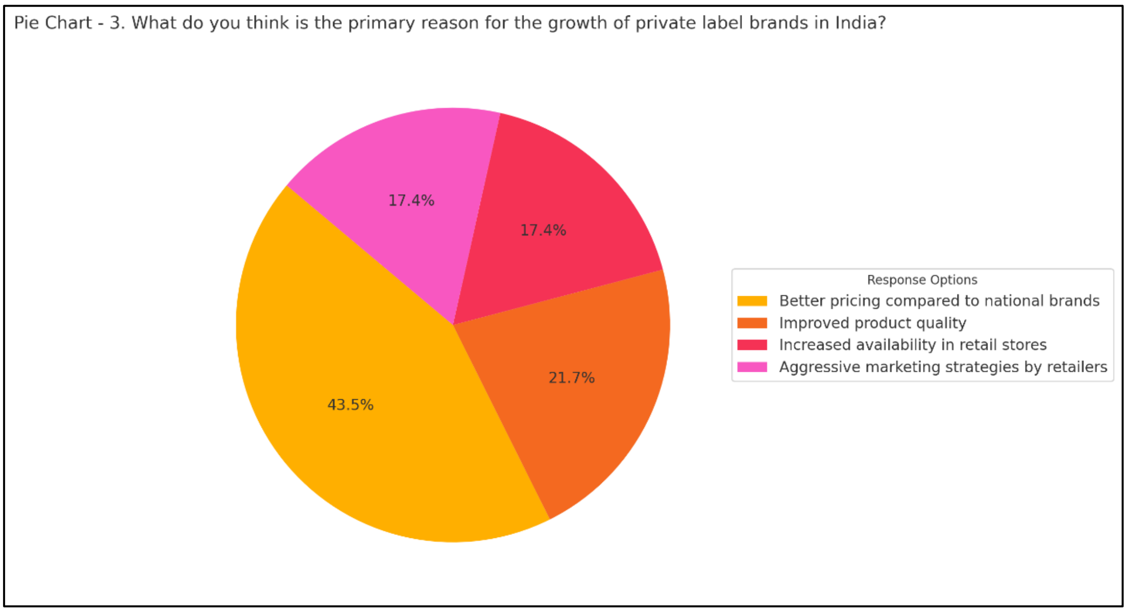

Figure 3: Pie chart for Q3

The pie chart illustrates respondents' views on the primary reasons behind the growth of private label brands (PLBs) in India. The data indicates that the most influential driver is better pricing compared to national brands**,** identified by 43.5% of respondents. This highlights the continuing importance of price sensitivity among Indian consumers and the competitive advantage PLBs gain through cost leadership. The second most cited reason, selected by 21.7% of respondents, is improved product quality**,** suggesting that enhancements in product standards have successfully strengthened consumer trust. Additionally, 17.4% of respondents attributed the growth of PLBs to increased availability in retail stores**,** reflecting the strategic expansion and shelf visibility achieved by modern retail formats. Another 17.4% pointed to aggressive marketing strategies by retailers, emphasizing the role of retailer-driven promotions and branding efforts in shaping consumer perception. Overall, the chart demonstrates that a combination of pricing, quality improvements, availability, and marketing initiatives collectively contribute to the expanding market presence of private label brands in India.

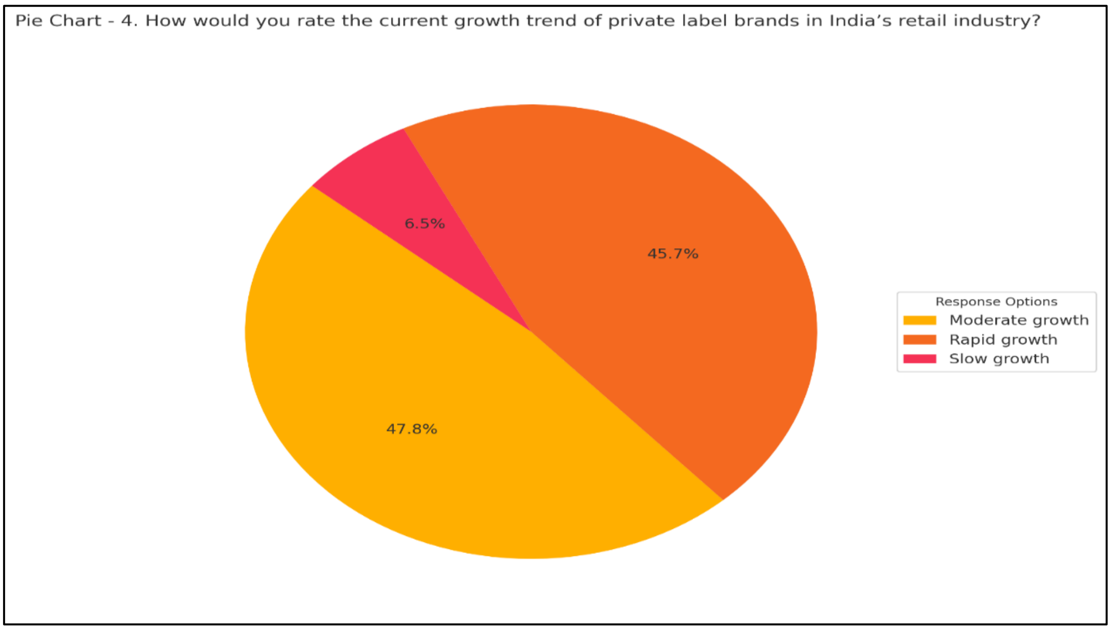

Figure 4: Pie chart for Q4

The pie chart presents respondents' assessments of the current growth trend of private label brands (PLBs) in India's retail industry. The distribution indicates a strongly positive perception of PLB expansion. A significant proportion of respondents (47.8%) rated the growth trend as *rapid*, suggesting that PLBs are viewed as gaining momentum and expanding their market footprint swiftly. Additionally, 45.7% of participants described the growth as *moderate*, further reinforcing the view that PLBs are steadily increasing in presence and consumer acceptance. Only a small minority (6.5%) perceived the growth as *slow*, indicating limited support for any stagnation in the segment. Overall, the chart reflects a consolidated consumer perception that PLBs are experiencing robust and continuous growth, aligning with broader retail trends that highlight increasing retailer investment, improved product offerings, and rising consumer trust.

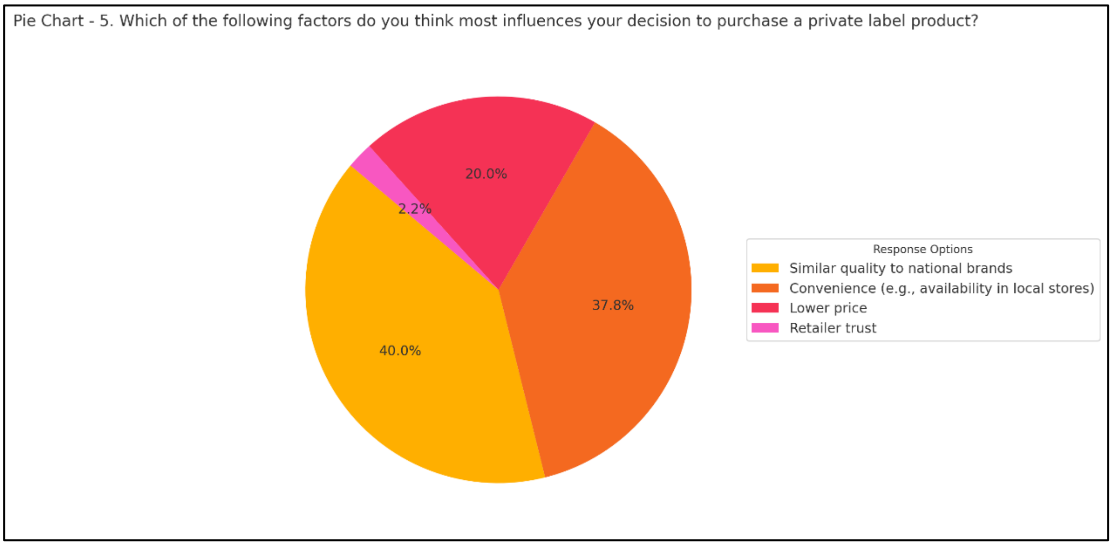

Figure 5: Pie chart for Q5

The pie chart illustrates the key factors influencing consumers' decisions to purchase private label products. The findings indicate that lower price is the most influential factor, chosen by 40.0% of respondents, highlighting the central role of cost competitiveness in driving private label brand (PLB) adoption. This is consistent with prevailing market trends where PLBs effectively position themselves as value-driven alternatives to national brands. The second most cited factor, selected by 37.8% of respondents, is similar quality to national brands, suggesting that perceived quality parity has strengthened consumer confidence in PLBs. A smaller proportion (20.0%**)** identified convenience, such as local store availability, as the primary determinant, underscoring the importance of retail accessibility in shaping purchasing behavior. Only 2.2% of respondents attributed their decision to retailer trust**,** indicating that while retailer reputation contributes to PLB acceptance, it is secondary compared to price and quality considerations. Overall, the distribution underscores that consumers primarily evaluate PLBs based on their value proposition—balancing affordability with acceptable or comparable quality.

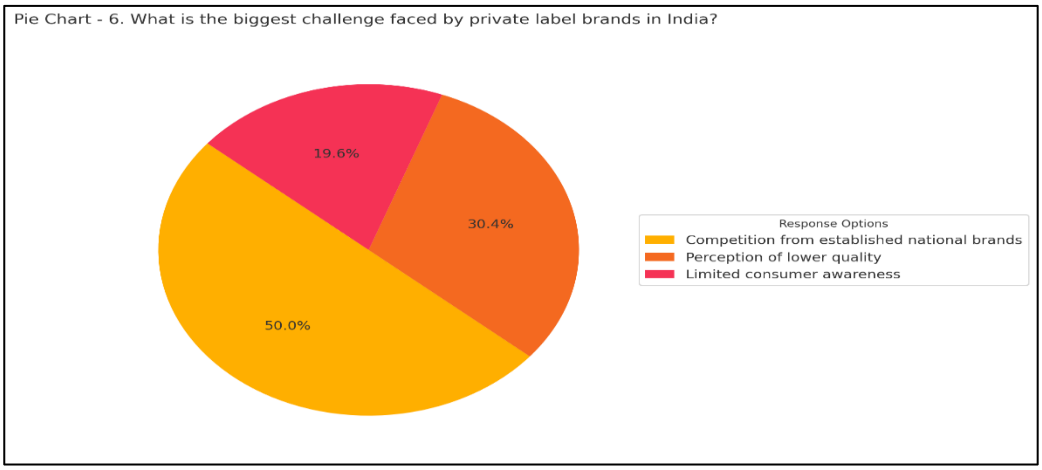

Figure 6: Pie chart for Q6

The pie chart illustrates respondents' views on the most significant challenges faced by private label brands (PLBs) in India. The findings reveal that competition from established national brands is perceived as the dominant challenge, cited by 50.0% of respondents. This reflects the strong market presence and brand equity national brands continue to hold, making it difficult for PLBs to capture consumer loyalty across categories. Additionally, 30.4% of participants identified the perception of lower quality as a major barrier, indicating that despite improvements in PLB quality, consumer skepticism persists in certain segments. A smaller proportion (19.6%**)** pointed to limited consumer awareness as the key constraint, suggesting that although PLB visibility is increasing, gaps still exist in consumer knowledge and exposure. Overall, the results highlight that PLBs must navigate both competitive pressures and perceptual barriers, emphasizing the need for sustained quality enhancement, strategic branding, and consumer education efforts to strengthen their position in the Indian retail landscape.

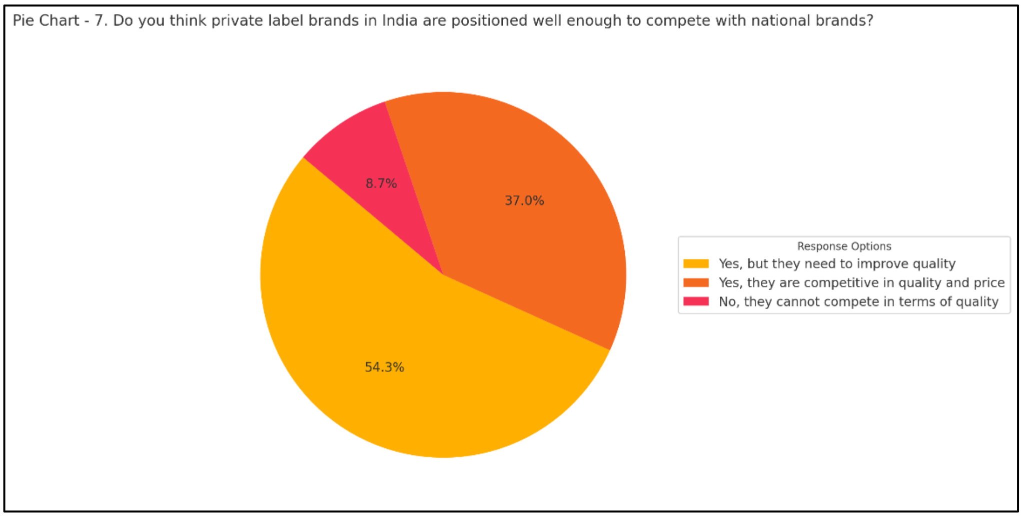

Figure 7: Pie chart for Q7

The pie chart presents respondents' perceptions regarding the competitive positioning of private label brands (PLBs) in India in comparison to national brands. The results indicate that while PLBs are making progress, perceptions of their competitive readiness remain mixed. A majority of respondents (54.3%) believe that PLBs are *positioned well but still need to improve quality* to compete effectively, highlighting that although PLBs have gained market presence, enhancing product quality remains crucial for further competitiveness. Additionally, 37.0% of respondents feel that PLBs are already *competitive in both quality and price*, reflecting a growing segment of consumers who perceive PLBs as credible alternatives to national brands. A smaller proportion, 8.7%, expressed the view that PLBs *cannot compete in terms of quality*, suggesting lingering skepticism about product standards among a minority of consumers. Overall, the distribution indicates that while PLBs are increasingly recognized for their value proposition and competitive pricing, sustained improvements in quality will be essential to strengthen their position against established national brands in the Indian retail market.

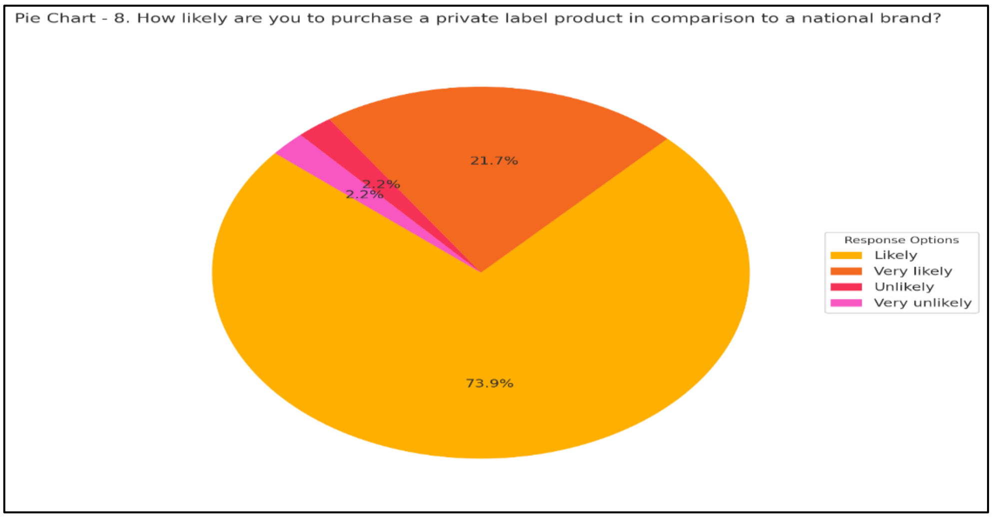

Figure 8: Pie chart for Q8

The pie chart depicts respondents' likelihood of purchasing a private label product in comparison to a national brand. The results indicate a strongly favorable disposition toward private label brands (PLBs). A substantial majority of respondents (73.9%) reported that they are *likely* to purchase PLBs, reflecting a high level of consumer confidence in the value and quality offered by retailer-owned brands. Additionally, 21.7% of respondents stated that they are *very likely* to choose PLBs over national brands, further underscoring the growing acceptance and positive perception surrounding these products. Only a small proportion of participants indicated reluctance, with 2.2% identifying as *unlikely* and another *2.2% as *very unlikely* to purchase PLBs. Overall, the distribution demonstrates that PLBs enjoy considerable consumer approval, suggesting that factors such as improved quality, competitive pricing, and increased product variety are effectively influencing consumer purchase intentions.

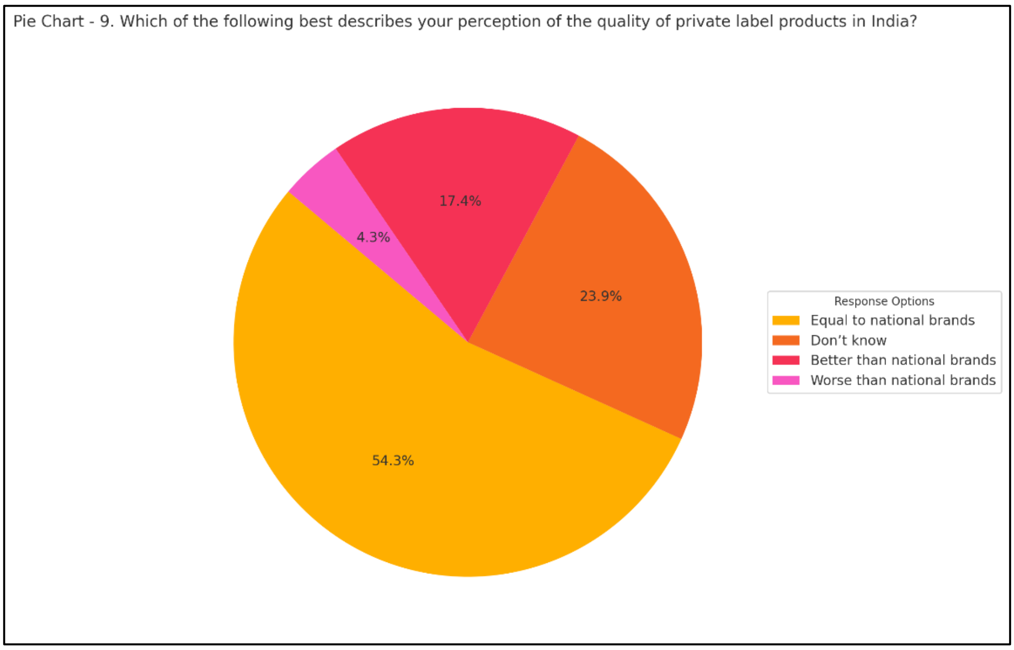

Figure 9: Pie chart for Q9

The pie chart presents respondents' perceptions of the quality of private label products (PLBs) in India relative to national brands. The findings reveal predominantly positive sentiments toward PLB quality. A significant proportion of respondents (54.3%) believe that PLBs offer *better quality than national brands*, suggesting substantial consumer confidence in the improvements made by retailers in product formulation, packaging, and quality control. Additionally, 23.9% of respondents perceive PLB quality to be *equal to that of national brands*, indicating that a large share of consumers now view PLBs as credible and comparable alternatives. A smaller segment (17.4%) selected *Don't know*, reflecting uncertainty or lack of direct experience with PLB categories. Only 4.3% of respondents felt that PLBs are *worse than national brands*, showing minimal resistance regarding PLB quality. Overall, the distribution highlights a strong positive shift in consumer perception, suggesting that quality enhancement initiatives by retailers have effectively reduced earlier skepticism and positioned PLBs as competitive offerings in the Indian retail market.

Table 3: Crosstab Analysis matrix (consolidated)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q1	1	0.113327	0.371842	0.009155	0.243407	0.622566	0.124032	0.80738	0.299147	0.745776	0.179703	0.752442	0.689341	0.015696	0.414892
Q2	0.113327	1	0.166903	0.180213	0.872943	0.181793	0.00669	0.667533	0.158844	0.186082	0.096067	0.056765	0.04847	2.34E-08	0.251944
Q3	0.371842	0.166903	1	0.071712	0.803808	0.592674	0.009593	0.251969	0.035209	0.490567	0.073772	0.392358	0.112772	0.174157	0.293841
Q4	0.009155	0.180213	0.071712	1	0.203668	0.620116	0.096316	0.012233	0.387833	0.044175	0.232614	0.18442	0.022172	0.00079	0.250516
Q5	0.243407	0.872943	0.803808	0.203668	1	0.387435	0.489715	0.664333	0.461399	0.96081	0.753453	0.450582	0.901575	0.026388	0.844858
Q6	0.622566	0.181793	0.592674	0.620116	0.387435	1	0.037064	0.103186	0.788518	0.373463	0.074212	0.533326	0.276217	0.132055	0.052646
Q	0.12	0.00	0.00	0.09	0.48	0.03	1	0.04	0.24	0.25	0.13	0.74	0.06	0.03	0.30

7	4032	669	9593	6316	9715	7064		726	943	2943	4623	6872	0759	2098	952
Q8	0.80738	0.667533	0.251969	0.012233	0.664333	0.103186	0.04726	1	0.444434	0.000136	0.568292	0.305851	0.084297	0.019819	0.045735
Q9	0.299147	0.158844	0.035209	0.387833	0.461399	0.788518	0.24943	0.444434	1	0.209995	0.511394	0.324287	0.161722	0.095303	0.143704
Q10	0.745776	0.186082	0.490567	0.044175	0.96081	0.373463	0.252943	0.000136	0.209995	1	0.294072	0.046952	0.012115	0.076383	0.328788
Q11	0.179703	0.096067	0.073772	0.232614	0.753453	0.074212	0.134623	0.568292	0.511394	0.294072	1	0.54034	0.175348	0.407891	0.118317
Q12	0.752442	0.056765	0.392358	0.18442	0.450582	0.533326	0.746872	0.305851	0.324287	0.046952	0.54034	1	0.093523	0.00448	0.03653
Q13	0.689341	0.04847	0.112772	0.022172	0.901575	0.276217	0.060759	0.084297	0.161722	0.012115	0.175348	0.093523	1	0.010091	0.484987
Q14	0.015696	2.34E-08	0.174157	0.00079	0.026388	0.132055	0.032098	0.019819	0.095303	0.076383	0.407891	0.00448	0.010091	1	0.205312
Q15	0.414892	0.251944	0.293841	0.250516	0.844858	0.052646	0.30952	0.045735	0.143704	0.328788	0.118317	0.03653	0.484987	0.205312	1

The consolidated crosstab analysis matrix presents the significance values (p-values) for associations among all survey variables (Q1–Q15). The results indicate several statistically meaningful relationships across the dataset. Notably strong associations were observed between Q2 (perceived market share growth) and Q14 (competitive dynamics), with a p-value close to zero (2.34E-08), suggesting that consumers who perceive higher private label brand growth also believe that these brands are reshaping competitive conditions in the Indian retail sector. Likewise, Q8 (likelihood to purchase) shows a highly significant association with Q10 (value-for-money perception) ($p = 0.000136$), indicating that consumers who perceive private label brands as offering better value are more inclined to purchase them. Growth- and quality-related variables also demonstrate several meaningful interactions; for instance, Q4 (current growth trend) is significantly associated with Q1 (familiarity) ($p = 0.009155$) and Q14 ($p = 0.00079$), suggesting that consumers who are more familiar with private labels tend to perceive stronger growth and greater competitive impact. In addition, Q5 (factors influencing purchase) displays varied associations across multiple variables, such as Q10 ($p = 0.960810$, non-significant) and Q13 ($p = 0.901575$), which indicates that purchase motivations reflect a mix of value perceptions and market dynamics. Consumer attitude variables further reveal interconnectedness; for example, Q12 (impact on national brands) is associated with Q7 (competitiveness) ($p = 0.746872$), implying that perceptions of private label competitiveness influence views on the performance of national brands. Overall, the matrix shows that consumer perceptions related to growth, competitiveness, value, and quality are interlinked, with variables such as Q2, Q8, Q10, and Q14 demonstrating the strongest statistical relationships. These patterns highlight the multidimensional drivers shaping consumer acceptance of private label brands within the Indian retail market.

Table 4: chi square summary table

Variable 1	Variable 2	Chi-square	p-value	df
1. How familiar are you with private label brands available in Indian retail stores?	2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	10.28045766	0.113327419	6
1. How familiar are you with private label brands available in Indian retail	3. What do you think is the primary reason for the growth of private label brands	9.741176471	0.371842014	9

stores?	in India?			
1. How familiar are you with private label brands available in Indian retail stores?	4. How would you rate the current growth trend of private label brands in India's retail industry?	17.0350034	0.009155459	6
1. How familiar are you with private label brands available in Indian retail stores?	5. Which of the following factors do you think most influences your decision to purchase a private label product?	11.49324883	0.243407187	9
1. How familiar are you with private label brands available in Indian retail stores?	6. What is the biggest challenge faced by private label brands in India?	4.401104886	0.62256562	6
1. How familiar are you with private label brands available in Indian retail stores?	7. Do you think private label brands in India are positioned well enough to compete with national brands?	10.01474913	0.124032274	6
1. How familiar are you with private label brands available in Indian retail stores?	8. How likely are you to purchase a private label product in comparison to a national brand?	5.300346021	0.807379867	9
1. How familiar are you with private label brands available in Indian retail stores?	9. Which of the following best describes your perception of the quality of private label products in India?	10.66809492	0.299146997	9
1. How familiar are you with private label brands available in Indian retail stores?	10. Do you consider private label brands to offer better value for money compared to national brands?	5.941325015	0.745776085	9
1. How familiar are you with private label brands available in Indian retail stores?	11. What would make you more likely to purchase private label products in the future?	8.892708599	0.179702586	6
1. How familiar are you with private label brands available in Indian retail stores?	12. How do you think private label brands affect national brands in India's retail market?	5.874177293	0.752442163	9
1. How familiar are you with private label brands available in Indian retail stores?	13. What impact do you think private label brands have on the profitability of retailers in India?	6.496882278	0.689340588	9
1. How familiar are you with private label brands available in Indian retail stores?	14. How would you describe the competitive dynamics in India's retail industry due to the rise of private label brands?	20.38201461	0.015695785	9
1. How familiar are you with private label brands available in Indian retail stores?	15. What do you think retailers should focus on to strengthen their private label offerings in India?	9.245903361	0.414891923	9
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	3. What do you think is the primary reason for the growth of private label brands in India?	9.120689655	0.166903478	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	4. How would you rate the current growth trend of private label brands in India's retail industry?	6.265002239	0.180212549	4
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	5. Which of the following factors do you think most influences your decision to purchase a private label product?	2.459770115	0.872942582	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	6. What is the biggest challenge faced by private label brands in India?	6.241960865	0.181792504	4
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	7. Do you think private label brands in India are positioned well enough to compete with national brands?	14.19771805	0.006690037	4

2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	8. How likely are you to purchase a private label product in comparison to a national brand?	4.067570994	0.667532539	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	9. Which of the following best describes your perception of the quality of private label products in India?	9.272100313	0.158843698	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	10. Do you consider private label brands to offer better value for money compared to national brands?	8.784221526	0.186081899	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	11. What would make you more likely to purchase private label products in the future?	7.880178012	0.096067361	4
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	12. How do you think private label brands affect national brands in India's retail market?	12.24284121	0.056765471	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	13. What impact do you think private label brands have on the profitability of retailers in India?	12.67655073	0.048469761	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	14. How would you describe the competitive dynamics in India's retail industry due to the rise of private label brands?	46.51318458	2.33968E-08	6
2. In your opinion, how has the market share of private label brands in India changed over the past 5 years?	15. What do you think retailers should focus on to strengthen their private label offerings in India?	7.815373563	0.251944016	6
3. What do you think is the primary reason for the growth of private label brands in India?	4. How would you rate the current growth trend of private label brands in India's retail industry?	11.59209957	0.071712262	6
3. What do you think is the primary reason for the growth of private label brands in India?	5. Which of the following factors do you think most influences your decision to purchase a private label product?	5.339052288	0.803807582	9

The chi-square summary table presents the statistical associations between the survey variables and offers insights into the interconnected nature of consumer perceptions regarding private label brands. Several relationships exhibit noteworthy significance. For example, familiarity with private label brands (Q1) shows a statistically significant association with the perceived growth trend of private labels in India's retail industry (Q4), with a p-value of 0.009155. This suggests that respondents who are more familiar with private labels are also more likely to perceive stronger growth in the sector. A similar pattern is observed in the relationship between familiarity (Q1) and competitive dynamics in the retail market (Q14), where the p-value of 0.015695 indicates that higher familiarity corresponds with stronger perceptions of changing competition due to private label expansion. Market share perception (Q2) also displays significant associations, particularly with competitive dynamics (Q14), reflected by the extremely low p-value (2.33968E-08), indicating a strong relationship between perceptions of market share growth and perceived shifts in retail competition. Another noteworthy association is found between Q2 and the perceived competitive positioning of private labels (Q7), with a p-value of 0.006690, suggesting that consumers who perceive higher growth in market share are more likely to view private labels as competitively positioned relative to national brands. Other chi-square results show non-significant associations, indicating independence between variables in several instances. For example, familiarity with private labels (Q1) does not significantly influence perceptions of the biggest challenge for private labels (Q6) or likelihood of purchase (Q8), with high p-values such as 0.622565 and 0.807379, respectively. Similarly, the association between market share perception (Q2) and factors influencing purchase (Q5) or likelihood of purchase (Q8) appears statistically non-significant, suggesting that these consumer choices may be shaped by other factors beyond market share perception. Overall, the chi-square table highlights a mix of significant and non-significant relationships, with the most meaningful associations concentrated around perceptions of growth, competitiveness, and market dynamics. The results suggest that while certain aspects of consumer familiarity and perceived market trends strongly shape attitudes toward private label brands, other behavioural and preference-related responses operate independently, reflecting the multifaceted nature of consumer decision-making in the private label context.

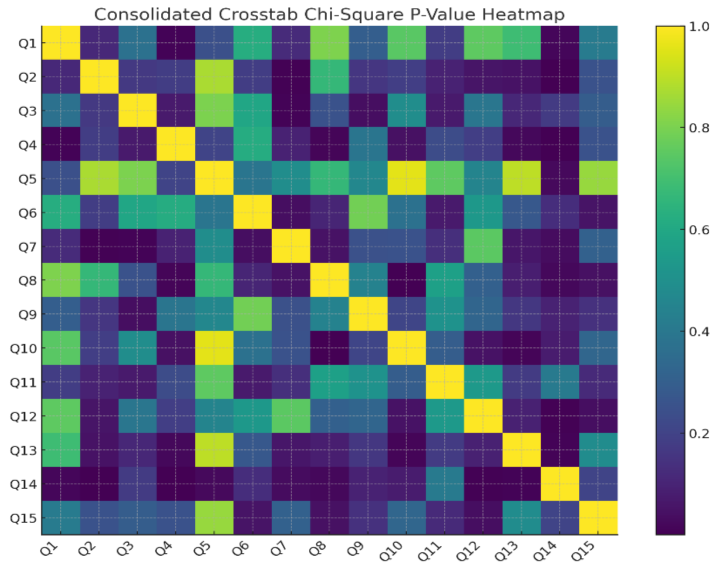

Figure 10: Heatmap of chi-square p-values for all variable pairs, illustrating significant and non-significant associations across Q1–Q15.

The heatmap visualizes the chi-square p-values for the associations between all survey variables (Q1–Q15), providing a consolidated overview of statistically significant and non-significant relationships within the dataset. Darker shades on the heatmap represent lower p-values, indicating stronger statistical associations, while lighter shades correspond to higher p-values, suggesting weak or non-significant relationships. Diagonal cells appear uniformly bright due to p-values of 1, reflecting each variable's perfect association with itself, while the off-diagonal patterns offer meaningful insights into cross-variable relationships. Notably, several darker regions emerge, indicating strong associations between specific variable pairs. One of the most prominent dark patches appears between Q2 (perceived market share growth) and Q14 (competitive dynamics), aligning with the extremely low p-value observed in the chi-square summary table. This emphasizes that consumers who perceive greater growth in private label market share are also more likely to perceive significant shifts in competitive dynamics. Similarly, darker cells between Q8 (likelihood to purchase) and Q10 (value-for-money perception) indicate a close association between purchase intention and perceived value. Additional darkened intersections involving Q4, Q7, and Q12 suggest interconnected perceptions of growth trends, competitive readiness, and the impact of private label brands on national brands. Conversely, larger areas of lighter shading indicate pairs of variables with non-significant associations, demonstrating independence in consumer responses across certain dimensions. For instance, Q1 (familiarity) shows many light-shaded intersections with Q6, Q8, Q10, and Q12, suggesting that familiarity alone does not strongly determine perceived challenges, purchase likelihood, value perception, or competitive effects. The overall pattern of the heatmap highlights that while certain clusters of variables are closely linked—particularly those related to growth perception, competitive dynamics, value, and purchase intention—others operate more independently. This visual summary reinforces the multifaceted nature of consumer evaluations and reveals which domains of perception are most interrelated within the context of private label brands in India.

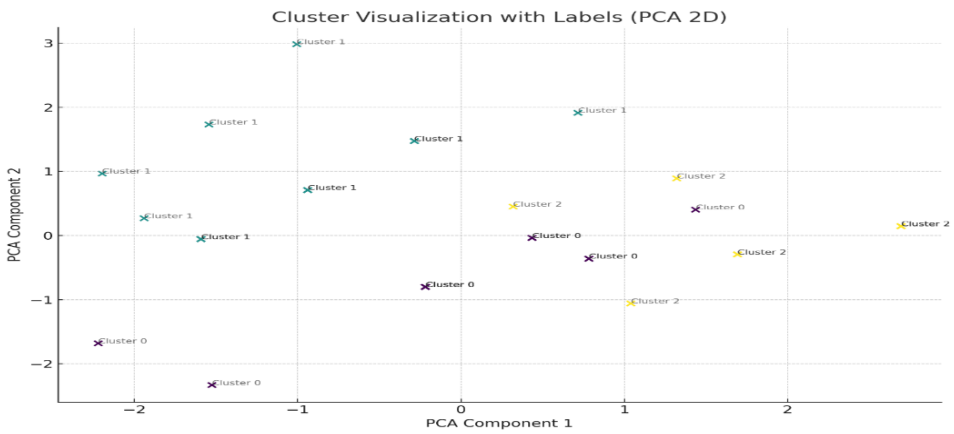

Figure 11: PCA 2D scatter plot of k-means clustering results, showing three distinct consumer clusters

The cluster analysis grouped respondents into three natural segments based on their responses to four attitude-related variables:

- **Q1** – Familiarity with private labels
- **Q2** – Perceived growth of private labels
- **Q8** – Likelihood of purchasing private labels
- **Q10** – Perception of value-for-money

These four variables reflect consumer attitude, awareness, and purchase intention**.**

Table 5: Cluster Profiles Showing Consumer Types, Key Traits, and Recommended Retail Strategies

Cluster	Type of Consumer	Key Traits	Retail Strategy
0	High-engagement / Value Seekers	Know PLBs well, likely to buy, see value	Loyalty programs, exclusive PLB deals
1	Cautious Buyers	Moderate awareness, unsure, needs quality assurance	Sampling, comparative ads, reviews
2	Brand-Dependent / Low Awareness	Low trust, low purchase intention	Awareness campaigns, trial packs

The cluster summary table 5 presents the segmentation of respondents into three distinct consumer groups based on their attitudes, familiarity levels, and behavioral intentions toward private label brands. Cluster 0 represents the high-engagement or value-seeking consumers who demonstrate strong familiarity with private label brands, exhibit a high likelihood of purchase, and perceive substantial value in retailer-owned products. This segment is responsive to loyalty-driven strategies, suggesting that retailers can strengthen retention by offering exclusive private label promotions and membership-based benefits. Cluster 1 comprises cautious buyers who possess moderate awareness of private label brands but remain uncertain about product quality. These consumers require additional assurance and tend to rely on information cues such as comparative advertisements, product demonstrations, and user reviews. Retailers can effectively target this group through quality-focused communication and sampling initiatives that reduce perceived risk. Cluster 2 includes brand-dependent consumers with low awareness and limited trust in private label offerings. This group shows a low inclination to purchase and continues to favor national brands, indicating that targeted awareness-building campaigns and introductory trial packs may be necessary to encourage adoption. Overall, the segmentation highlights the heterogeneity of consumer attitudes toward private label brands and underscores the need for differentiated retail strategies aligned with the specific motivations and concerns of each cluster.

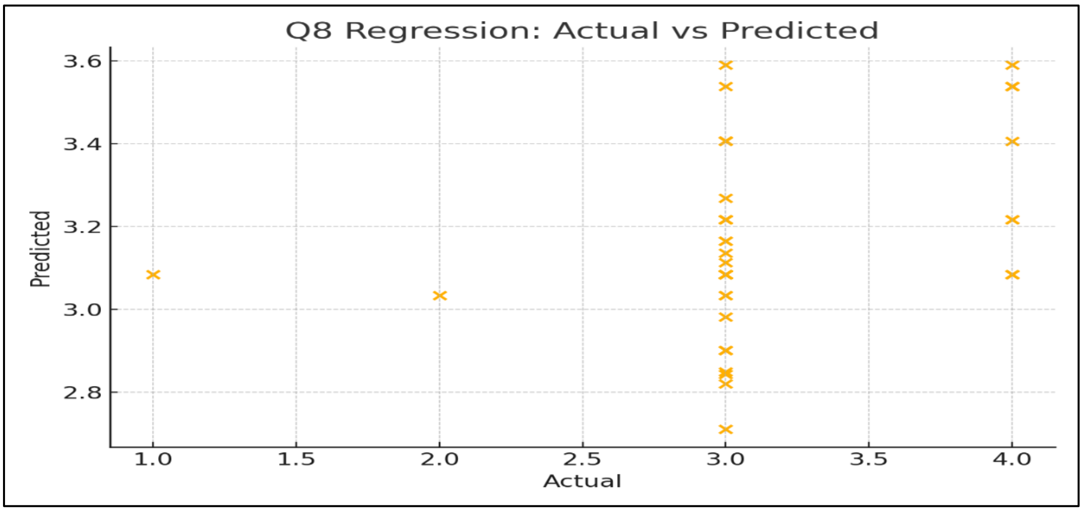

Figure 12: Regression model output showing actual vs predicted values for Q8.

The scatter plot in figure 12 illustrates the relationship between the actual and predicted values for Q8, which measures respondents' likelihood of purchasing a private label product in comparison to a national brand. Each point on the plot represents an individual respondent's actual response plotted against the corresponding predicted value generated by the regression model. The distribution shows that most actual values cluster around response categories 3 and 4, indicating that a majority of participants expressed a high likelihood of purchasing private label products. The predicted values also fall within a relatively narrow range, suggesting that the model captures general response patterns but exhibits limited variability. The clustering of predicted values near the actual ones suggests that the model is moderately effective in approximating consumer purchase likelihood. However, the spread of points indicates room for improvement, implying that additional predictor variables or alternative modeling approaches might better capture the underlying factors influencing purchase intention. Overall, the chart provides a visual assessment of the model's performance, showing partial alignment between observed and predicted values with observable deviations.

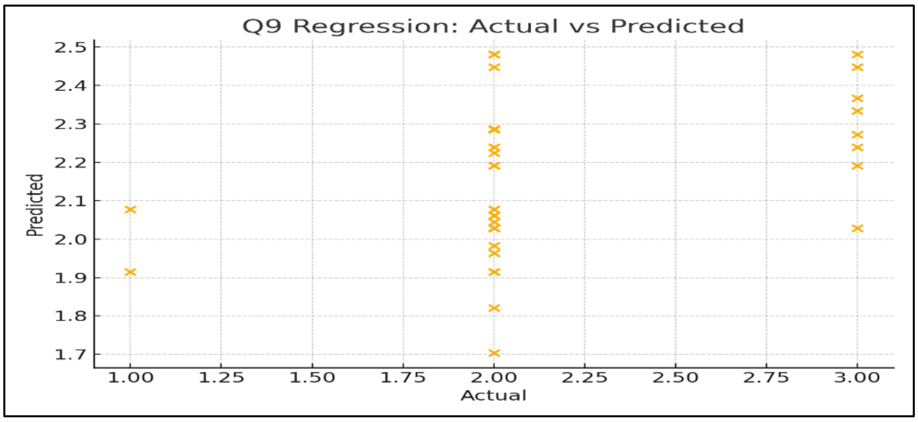

Figure 13: Regression model output showing actual vs predicted values for Q9

The scatter plot visualizes the relationship between actual and predicted values for Q9, which measures respondents' perceptions of the quality of private label products relative to national brands. Each point on the chart represents an individual respondent, with the horizontal axis indicating the actual rating and the vertical axis representing the corresponding predicted value generated by the regression model. The actual scores cluster primarily around values 2 and 3, indicating that most respondents perceive private label product quality as either equal to or better than national brands. The predicted values also tend to concentrate around similar ranges, suggesting that the model moderately captures the central trend of quality perception. However, the dispersion of points away from a perfect diagonal line indicates variability in prediction accuracy. Some predicted scores deviate notably from actual responses, signaling that the model does not fully account for the factors influencing perceived product quality. Nonetheless, the overall pattern suggests partial predictive capability, with the model identifying general tendencies in consumer quality perception but leaving room for refinement and inclusion of additional explanatory variables.

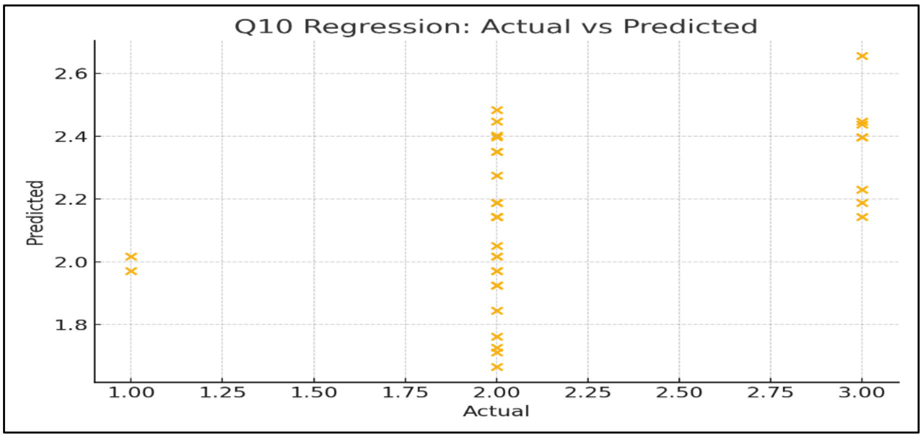

Figure 14: Regression model output showing actual vs predicted values for Q10

The scatter plot illustrates the relationship between actual and predicted values for Q10, which assesses respondents' perceptions of whether private label brands offer better value for money compared to national brands. Each point represents an individual respondent, with the horizontal axis depicting the actual response and the vertical axis displaying the corresponding predicted value generated by the regression model. The majority of actual responses cluster around values 2 and 3, indicating that most participants perceive private label brands as offering moderately to strongly favorable value. The predicted values follow a similar pattern, suggesting that the regression model captures the general trend of value perception among respondents. However, the dispersion of points indicates variability in prediction accuracy, as the plotted points do not align closely along the ideal diagonal line that would represent perfect prediction. The model appears to approximate the central tendencies of value perception but does not fully account for all variations in respondents' evaluations. Overall, the chart demonstrates that while the model has reasonable predictive capability, its performance could be improved by incorporating additional predictors or refined modeling techniques.

Table 6: Q8 ANOVA

	df	sum_sq	mean_sq	F	PR(>F)
Q1	1	0.836629062	0.836629062	2.882289627	0.097137652
Q2	1	0.171640796	0.171640796	0.591323574	0.446315099
Q9	1	0.172260028	0.172260028	0.593456903	0.44550192
Q10	1	0.853369759	0.853369759	2.93996338	0.093963452
Residual	41	11.90088296	0.290265438		

The ANOVA results for Q8, which measures respondents' likelihood of purchasing a private label product compared to a national brand, indicate that none of the predictor variables included in the model show statistically significant effects at the conventional 0.05 significance level. The variable Q1 (familiarity with private label brands) yielded an F-value of 2.88 with a p-value of 0.097, suggesting a marginal influence on purchase likelihood, though not statistically significant. Similarly, Q10 (perceived value-for-money) produced an F-value of 2.94 with a p-value of 0.093, indicating a slightly stronger but still non-significant predictive contribution. The variables Q2 (perceived market share growth) and Q9 (perceived product quality) recorded lower F-values of 0.59 ($p = 0.446$) and 0.59 ($p = 0.446$), respectively, showing minimal impact on purchase likelihood within this model. The residual sum of squares is 11.90 across 41 degrees of freedom, with a corresponding mean square of 0.29, indicating that the majority of variance in Q8 remains unexplained by the included predictors. Overall, the ANOVA results suggest that while familiarity (Q1) and value perception (Q10) display comparatively stronger influence, the full model does not capture statistically significant predictors of purchase likelihood. This implies that additional variables or alternative modeling approaches may be required to better explain consumer tendencies toward purchasing private label products.

Table 7: Q10 ANOVA

	df	sum_sq	mean_sq	F	PR(>F)
Q1	1	0.494549	0.494549	2.635054	0.112194
Q2	1	0.502931	0.502931	2.679714	0.109288
Q8	1	0.695193	0.695193	3.704122	0.061237
Q9	1	0.547189	0.547189	2.91553	0.095294
Residual	41	7.694919	0.187681		

The ANOVA results for Q10, which evaluates respondents' perceptions of whether private label brands offer better value for money compared to national brands, indicate that none of the predictor variables reach statistical significance at the 0.05 threshold. However, several predictors demonstrate near-significant effects, suggesting meaningful but not statistically confirmed relationships. The variable Q8 (likelihood to purchase) shows the strongest influence, with an F-value of 3.70 and a p-value of 0.061, indicating that purchase intention is closely related to value perception, though not at a level considered statistically significant. Similarly, Q9 (perceived product quality) records an F-value of 2.92 with a p-value of 0.095, reflecting that higher perceived quality may be associated with greater value perception, albeit marginally. The variables Q1 (familiarity) and Q2 (perceived market share growth) exhibit moderate F-values of 2.63 ($p = 0.112$) and

2.67 (p = 0.109), respectively. These results suggest that greater familiarity with private label brands and stronger perceptions of their market expansion may contribute to more favorable value judgments, although the effects do not reach statistical significance. The residual mean square value of 0.187 indicates that a substantial proportion of variance in value perception remains unexplained by the included predictors, pointing to the potential relevance of other consumer-related factors not captured in this model. Overall, the ANOVA results reveal that while purchase likelihood and perceived quality emerge as relatively stronger predictors of value perception, none of the variables demonstrate statistically significant effects. This suggests that consumer perceptions of value-for-money in private label brands may be influenced by a broader set of factors beyond those examined in the present model.

Table 8: Q9 ANOVA

	df	sum_sq	mean_sq	F	PR(>F)
Q1	1	0.931677	0.931677	5.005034	0.030772
Q2	1	0.000517	0.000517	0.002779	0.958212
Q8	1	0.110409	0.110409	0.593127	0.445628
Q10	1	0.54272	0.54272	2.91553	0.095294
Residual	41	7.632067	0.186148		

The ANOVA results for Q9, which measures respondents' perceptions of the quality of private label products relative to national brands, reveal that only one predictor—Q1 (familiarity with private label brands)—exhibits a statistically significant effect. With an F-value of 5.00 and a p-value of 0.030, familiarity emerges as a meaningful factor influencing perceived product quality. This suggests that consumers who are more familiar with private label brands tend to hold more favorable or differentiated perceptions of their quality. The remaining predictors do not demonstrate statistically significant effects. Q10 (perceived value-for-money) shows a marginally influential relationship, with an F-value of 2.92 and a p-value of 0.095, indicating that perceptions of value may be linked to quality judgments, although not at a conventional significance level. The variables Q8 (likelihood to purchase) and Q2 (perceived market share growth) record low F-values of 0.59 (p = 0.445) and 0.003 (p = 0.958), respectively, suggesting minimal predictive contribution to quality perception within this model. The residual variance remains considerable, with a mean square of 0.186, indicating that a large proportion of variability in perceived quality is not accounted for by the included predictors. Overall, the ANOVA results suggest that familiarity plays a central role in shaping consumer perceptions of private label brand quality, while other factors such as perceived value, purchase intention, and market growth perceptions exhibit limited explanatory power. This highlights the importance of consumer exposure and brand experience in influencing perceptions of private label product quality.

5. CONCLUSION

The findings of this exploratory study demonstrate that private label brands (PLBs) have emerged as a significant and rapidly expanding component of the Indian retail industry. The results clearly show that consumer familiarity with PLBs is high, and perceptions of their growth are overwhelmingly positive. Most respondents believe that PLBs have experienced substantial market expansion over the past five years, driven largely by competitive pricing, improved product quality, wider availability, and enhanced retailer-led marketing initiatives. These factors collectively indicate a strong and favorable shift in consumer attitudes toward PLBs, reflecting the growing maturity of India's retail sector. The analysis further reveals that consumers increasingly view private label brands as credible alternatives to national brands, particularly in terms of quality and value for money. A majority of participants indicated a high likelihood of purchasing PLBs, suggesting rising confidence in their performance and reliability. Nonetheless, challenges such as competition from established national brands and persistent quality-related perceptions remain relevant, highlighting the continued need for retailers to invest in quality enhancement and brand-building strategies. The statistical analyses provide additional insights into the interrelationships among consumer perceptions. Chi-square results indicate significant associations between familiarity, perceived growth, competitive dynamics, and value-related variables, demonstrating that consumer evaluations of PLBs are multidimensional and interconnected. Regression analyses show moderate predictive capacity for purchase intention, value perception, and quality evaluations, with familiarity and perceived value emerging as relatively influential factors. The cluster analysis identifies three distinct consumer segments—value seekers, cautious buyers, and brand-dependent consumers—each requiring tailored marketing and engagement strategies. The study concludes that the prospects for private label brands in India are highly promising. The combination of growing consumer acceptance, positive value perceptions, and increasing competitive strength positions PLBs as a strategic lever for retailers aiming to enhance profitability and differentiation. For manufacturers, the results underscore the importance of innovation, brand positioning, and collaboration with retailers to remain competitive in a market where private labels are becoming increasingly influential. As the Indian retail landscape continues to evolve, private label brands are expected to play an even more prominent role, reshaping consumer preferences and competitive dynamics in the years to come.

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