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Author's :

Dr. Dean Martin C
Associate Professor, Research Guide & HOD, Department of Commerce, Govt Arts & Science College Ollur, Thrissur, Kerala, India.

Corresponding Author :

Dr. Dean Martin C
Associate Professor, Research Guide & HOD, Department of Commerce, Govt Arts & Science College Ollur, Thrissur, Kerala, India.

Branded Air Conditioners in Kerala : Market Dynamics, Consumer Preferences, and Efficiency Considerations

Abstract : Kerala, traditionally viewed as a moderate climate zone, has witnessed a remarkable surge in demand for branded air conditioners (ACs) in recent years, driven by rising temperatures, changing lifestyles, and increased purchasing power. Despite this growth, AC penetration in the state remains relatively low compared to national averages, indicating substantial untapped market potential. This study examines the dynamics of the branded AC market in Kerala, focusing on consumer preferences, brand positioning, and the influence of energy efficiency parameters on purchase decisions. Using a mixed-method approach involving both secondary data analysis and a structured survey of 200 households across Ernakulam, Thiruvananthapuram, and Kozhikode districts, the research identifies key factors driving brand choice and evaluates the performance of major brands across critical parameters including cooling efficiency, energy consumption, after-sales service, and price-value perception. The findings reveal that while Voltas and Blue Star dominate the market, LG and Samsung maintain strong brand equity among premium consumers. Energy efficiency (BEE star rating) has emerged as a decisive factor, particularly among middle-income households. The study concludes that branded AC manufacturers must prioritize localized marketing strategies, enhance service networks in tier-2 and tier-3 towns, and leverage energy-efficient product lines to capitalize on Kerala's expanding market.

Keywords : Branded Air Conditioners, Kerala Market, Consumer Preference, Energy Efficiency, BEE Star Rating, Brand Positioning

1. Introduction : The Indian room air conditioner market has experienced transformative growth over the past decade, transitioning from a luxury product to a perceived necessity in many urban and semi-urban households. Nationally, room ACs contributed an estimated 50-60 GW

to the evening peak electricity demand in 2024, with nearly 50 million new units added between 2019 and 2024. Kerala, despite its equable climate and two monsoon seasons, has not remained untouched by this cooling revolution. The state has witnessed a paradigm shift in consumer behaviour, driven by extreme heat events, rising disposable incomes, and the proliferation of nuclear families in urban apartments.

Historically, Kerala‘s AC market was characterized by low penetration rates. Data from the National Family Health Survey (2019–2021) indicated that only 13.5% of Kerala households owned an air conditioner or cooler, trailing behind several other southern states in absolute ownership despite higher literacy and income levels. However, recent trends suggest a dramatic acceleration. Reports from 2024 documented unprecedented sales surges, with retailers in Kochi reporting daily sales of 500–600 units during peak summer months, and overall market growth exceeding 100% during festive seasons. This juxtaposition of traditionally low baseline penetration and explosive current growth makes Kerala a uniquely interesting market for branded AC manufacturers.

The competitive landscape in Kerala is intense, with national players including Voltas, Blue Star, LG, Samsung, Panasonic, and Lloyd competing for market share. Voltas has established itself as a dominant force, claiming approximately 23% market share in the state as early as 2019, a figure supported by its extensive network of exclusive brand stores in Thiruvananthapuram and Tripunithura. Blue Star has similarly targeted aggressive growth, leveraging its strong presence in the commercial refrigeration segment to bolster residential AC sales. Meanwhile, LG and Samsung have cultivated premium positioning, emphasizing technological features and design aesthetics.

This research article seeks to provide a comprehensive analysis of the branded air conditioner market in Kerala, examining the interplay between brand strategies, consumer behaviour, and energy efficiency imperatives. The study is particularly timely given the Bureau of Energy Efficiency ‘s (BEE) introduction of stricter efficiency standards effective January 2026, which will reshape product portfolios and marketing messages across the industry.

2. Statement of the Problem : Despite the documented surge in AC sales in Kerala, there exists a significant gap in academic and industry literature regarding the specific factors that influence brand selection and consumer satisfaction in this regional market. Most available data focus on national-level trends or anecdotal retail reports, lacking systematic empirical investigation into Kerala-specific dynamics. Key unanswered questions include: What parameters do Kerala consumers prioritize when selecting among branded ACs? How do demographic factors such as income, location (urban vs. semi-urban), and family size mediate brand preference? To what extent does energy efficiency labelling influence purchase decisions in a state with relatively high electricity tariffs? And how do brands ‘service networks and localized marketing efforts affect market share in a market characterized by geographically dispersed semi-urban demand centres?

Furthermore, the rapid transition from window to split ACs, the growing preference for inverter technology, and the increasing availability of consumer finance options have altered the competitive landscape in ways that require systematic documentation. Without a clear understanding of these regional specificities, manufacturers risk misallocating marketing resources and product development efforts. This study addresses this gap by providing empirical evidence on consumer preferences and brand performance across defined parameters in the Kerala context.

3. Literature Review : The literature on air conditioner markets in India can be broadly categorized into three streams: studies on market growth and penetration, analyses of energy

efficiency policy and consumer behaviour, and brand-specific strategic assessments.

Market Growth and Penetration. National-level data indicates that only about 8% of India 's 300 million households owned an AC as of recent estimates, with rural ownership at approximately 1%. The International Energy Agency projects a ninefold rise in home AC ownership by 2050, with peak power demand from room ACs potentially exceeding 180 GW by 2035 under business-as-usual scenarios. Kerala-specific data from the National Family Health Survey placed combined AC and cooler ownership at 13.5%, suggesting that while the state lags in absolute penetration, its high literacy and income levels create conditions for rapid future growth. Historical reporting from 2010 noted that Kerala consumers were "quality-conscious" and that attitude, rather than affordability, was the primary barrier to adoption—a perception that appears to have shifted dramatically given recent sales data.

Energy Efficiency and Policy. India 's BEE star labelling program, introduced in 2006, has driven a 43% improvement in AC energy efficiency over nearly two decades. Inverter ACs now dominate the domestic market, and manufacturers have adopted default temperature settings of 24°C to optimize energy use. The forthcoming efficiency standards, effective January 2026, are expected to reduce peak load by 8–10 GW by 2030 and save consumers approximately $12 billion annually in electricity bills. For Kerala specifically, where residential electricity tariffs are among the higher in India, the lifecycle cost of ownership—including power consumption—is a particularly salient consideration for consumers.

Brand Dynamics. Voltas has been identified as the undisputed market leader in India with approximately 24% national share, and its Kerala share was reported at nearly 23% in 2019. The company has invested in exclusive brand stores across Kerala, with seven outlets in the state as of 2023, positioning itself as a premium yet accessible brand. Blue Star has targeted Kerala as a growth market, aiming for 15% state-level share through expanded product ranges and dealer networks. LG and Samsung, while not exclusively focused on cooling products, leverage their broader consumer electronics brand equity to command premium pricing in the AC segment. The literature reveals a gap in systematic comparison of these brands across consumer-relevant parameters in the Kerala context.

4. Objectives of the Study :

1. To analyse the growth trajectory and current market structure of branded air conditioners in Kerala.
2. To identify and rank the parameters influencing brand selection among Kerala consumers.
3. To evaluate the performance of leading branded ACs across key parameters including cooling efficiency, energy consumption, after-sales service, and value for money.
4. To assess the awareness and influence of BEE star ratings on purchase decisions in the Kerala market.
5. To provide actionable recommendations for manufacturers and marketers seeking to strengthen their position in Kerala.

5. Methodology : Research Design. The study employs a descriptive research design combining quantitative and qualitative approaches. Secondary data was collected from industry reports, government publications, and news archives to establish market context. Primary data was gathered through a structured questionnaire administered to AC owners and prospective buyers.

Sampling. A multistage sampling technique was adopted. In the first stage, three districts—Ernakulam, Thiruvananthapuram, and Kozhikode—were purposively selected to represent central, southern, and northern Kerala respectively. In the second stage, 200 respondents (approximately 67 per district) were selected through convenience sampling from households

that had purchased a branded AC within the past three years or were actively considering a purchase. The sample composition ensured representation across income groups, family sizes, and dwelling types.

Data Collection. A pre-tested questionnaire comprising 28 items was administered between October and December 2024. The questionnaire captured demographic information, brand ownership, purchase decision factors, satisfaction levels across parameters, and awareness of energy efficiency labelling. Responses were measured on a 5-point Likert scale for satisfaction and importance items. Additionally, 10 in-depth interviews were conducted with retail dealers and service technicians to triangulate consumer responses.

Parameters Tested. The following parameters were evaluated for leading brands (Voltas, Blue Star, LG, Samsung, and Lloyd):

- Cooling performance and speed
- Energy efficiency (as indicated by BEE star rating and actual consumption perception)
- Noise levels during operation
- After-sales service responsiveness and quality
- Price-value perception
- Availability of spare parts and service network
- Smart features and connectivity

Analytical Tools. Data was analysed using SPSS version 26. Descriptive statistics (frequencies, means, standard deviations) were computed for demographic profiles and parameter ratings. One-way ANOVA was employed to test for significant differences in satisfaction levels across brands. Factor analysis (Principal Component Analysis with Varimax rotation) was used to identify underlying dimensions of purchase decision factors. Chi-square tests examined associations between demographic variables and brand preference. A significance level of $p < 0.05$ was adopted throughout.

6. Tables :

Table 1: Demographic Profile of Respondents (n = 200)

Variable	Category	Frequency	Percentage
District	Ernakulam	68	34.0
	Thiruvananthapuram	67	33.5
	Kozhikode	65	32.5
Monthly Household Income	Below ₹30,000	42	21.0
	₹30,001–₹60,000	78	39.0
	₹60,001–₹1,00,000	54	27.0
	Above ₹1,00,000	26	13.0

Variable	Category	Frequency	Percentage
Dwelling Type	Independent house	112	56.0
	Apartment/flat	88	44.0
AC Ownership Duration	Less than 1 year	64	32.0
	1–3 years	89	44.5
	More than 3 years	47	23.5

Table 2: Brand Ownership and Mean Satisfaction Scores (on 5-point scale)

Brand	Frequency	% of Sample	Cooling Performance	Energy Efficiency	After-Sales Service	Value for Money
Voltas	58	29.0	4.21	4.05	3.88	4.32
Blue Star	44	22.0	4.35	4.18	4.02	4.11
LG	38	19.0	4.42	4.22	3.95	3.84
Samsung	32	16.0	4.28	4.10	3.76	3.79
Lloyd	18	9.0	3.94	3.82	3.55	4.05
Others	10	5.0	3.80	3.70	3.40	3.90
Total	**200**	**100.0**				

Table 3: Factor Analysis of Purchase Decision Parameters (Rotated Component Matrix)

Parameter	Factor 1: Performance & Efficiency	Factor 2: Economic Value	Factor 3: Service & Support
BEE star rating	**0.847**	0.212	0.098
Cooling speed	**0.812**	0.145	0.234
Power	**0.789**	0.334	0.087

Parameter	Factor 1: Performance & Efficiency	Factor 2: Economic Value	Factor 3: Service & Support
consumption			
Noise level	**0.734**	0.201	0.312
Purchase price	0.187	**0.856**	0.145
EMI/finance options	0.098	**0.821**	0.234
Resale value	0.312	**0.745**	0.089
Service network proximity	0.145	0.198	**0.889**
Warranty terms	0.234	0.287	**0.812**
Brand reputation	0.398	0.312	**0.678**
Eigenvalue	3.42	2.18	1.76
% Variance Explained	34.2	21.8	17.6
Cumulative %	34.2	56.0	73.6

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

7. Results :

Market Structure and Brand Share. The survey results confirm Voltas ‘s leadership position in Kerala, with 29% of respondents owning a Voltas AC, followed closely by Blue Star at 22% (Table 2). LG and Samsung collectively account for 35% of ownership, while Lloyd and other brands comprise the remainder. This distribution aligns with industry reports of Voltas ‘s approximately 23% state-level market share, suggesting the brand has maintained or slightly improved its position since 2019. Notably, Voltas ‘s strength is most pronounced in the ₹30,000–₹60,000 income segment, where it captures 34% of ownership, while LG leads among households earning above ₹1,00,000 (31% share).

Satisfaction Across Parameters. One-way ANOVA revealed statistically significant differences across brands for cooling performance ($F = 3.42$, $p = 0.010$), after-sales service ($F = 4.18$, $p = 0.003$), and value for money ($F = 5.67$, $p < 0.001$). LG recorded the highest mean satisfaction for cooling performance (4.42) and energy efficiency (4.22), while Voltas scored highest on value for money (4.32). Blue Star demonstrated the most balanced performance profile, scoring above 4.0 on all four parameters. Lloyd consistently underperformed relative to competitors, particularly on after-sales service (3.55), which emerged as the brand ‘s most significant

vulnerability.

Purchase Decision Factors. Factor analysis (Table 3) identified three underlying dimensions explaining 73.6% of variance in purchase decision parameters. Factor 1, "Performance and Efficiency," accounted for 34.2% of variance and loaded heavily on BEE star rating, cooling speed, power consumption, and noise level. Factor 2, "Economic Value," explained 21.8% of variance and was dominated by purchase price, EMI options, and resale value. Factor 3, "Service and Support," contributed 17.6% of variance with high loadings on service network proximity, warranty terms, and brand reputation. These findings indicate that Kerala consumers evaluate AC purchases across a multidimensional framework in which energy efficiency is the single most important underlying factor.

Energy Efficiency Awareness. A striking 78% of respondents were able to correctly identify the BEE star rating of their purchased AC, and 64% stated that star rating was either "very important" or "extremely important" in their decision. Among first-time buyers (those owning an AC for less than one year), this proportion rose to 71%, suggesting that efficiency awareness is increasing over time. The most commonly cited reason for prioritizing star rating was "reducing electricity bills" (cited by 82% of those who rated it important), followed by "environmental concern" (41%) and "government recommendation" (28%).

Service Network Challenges. Qualitative interviews with dealers and technicians revealed significant service infrastructure constraints in semi-urban and rural areas. A dealer in Kozhikode district reported that installation wait times during peak season (April–May) extended to 7–10 days for popular brands, compared to the industry standard of 48–72 hours. Technicians noted that the proliferation of inverter AC models has created a skills gap, as older technicians lack training in diagnosing electronic control board failures. This service bottleneck disproportionately affects brands with weaker local dealer networks.

8. Discussion : The findings reveal a Kerala AC market in transition—expanding rapidly but still characterized by low baseline penetration and significant regional disparities. The dominance of Voltas and Blue Star, which together account for 51% of ownership in the sample, reflects these brands 'sustained investment in dealer networks, exclusive brand stores, and localized promotional campaigns. Voltas 's strategy of opening exclusive brand stores in Kerala, including outlets in Thiruvananthapuram and Tripunithura, appears to have paid dividends in building brand visibility and consumer trust. However, LG 's superior satisfaction scores on cooling performance and energy efficiency suggest that the Korean brand retains a technological edge that could translate into market share gains if it addresses its relatively weaker value-for-money perception.

The prominence of energy efficiency as the primary factor in purchase decisions (Factor 1, 34.2% variance) carries important implications. Kerala 's high literacy rate and widespread media exposure to energy-saving messaging have created a consumer base that is unusually receptive to BEE star ratings compared to national averages. This aligns with the BEE 's broader policy objectives and suggests that the forthcoming 2026 efficiency standards will be well-received in the state. Manufacturers should anticipate that products failing to meet higher star thresholds will face accelerated obsolescence in the Kerala market.

The service network findings highlight a structural challenge that is particularly acute in Kerala 's dispersed semi-urban geography. Unlike metropolitan markets where service technicians are concentrated, Kerala 's demand is spread across small towns and municipalities, many of which lack authorized service centres for all brands. The observation that installation delays extend to 7–10 days during peak season represents a significant consumer pain point and a competitive vulnerability for brands with thinner networks. This finding corroborates anecdotal

reports from 2024 that documented widespread AC shortages and installation delays across Kerala during the summer heatwave.

The demographic analysis reveals that AC adoption is broadening beyond traditional elite segments. The fact that 39% of respondents earn between ₹30,001 and ₹60,000 per month, and an additional 21% earn below ₹30,000, indicates that ACs have become accessible to middle-income and lower-middle-income households. This democratization of cooling is consistent with reports of auto drivers and daily-wage workers purchasing ACs through consumer finance schemes. Manufacturers and retailers should therefore prioritize affordable entry-level models and flexible payment options alongside premium feature-rich offerings.

9. Conclusion : The branded air conditioner market in Kerala is at an inflection point. Characterized by historically low penetration but explosive recent growth, the state offers substantial opportunities for manufacturers who can navigate its unique consumer preferences and infrastructure constraints. This study establishes that Kerala consumers are sophisticated decision-makers who prioritize energy efficiency, cooling performance, and service reliability over purely price-based considerations. Voltas and Blue Star currently lead the market through superior distribution and value perception, while LG commands respect for technical performance but trails in price-value perception. The imminent tightening of BEE efficiency standards will likely accelerate the replacement of older, less efficient units and reinforce the centrality of star ratings in consumer decision-making. Brands that invest in service network expansion—particularly in semi-urban districts—and that communicate energy savings effectively will be best positioned to capture Kerala ‘s expanding AC demand in the coming years.

10. Future Scope : Future research should address several limitations of this study. First, the sample was confined to three districts and relied on convenience sampling; a larger, probability-based sample covering all 14 districts would enhance generalizability. Second, longitudinal tracking of consumer satisfaction and brand switching behaviour would provide insights into the durability of brand preferences. Third, comparative studies across South Indian states—particularly Tamil Nadu and Karnataka, which share similar climatic and demographic profiles—could identify Kerala-specific versus regional patterns. Fourth, as inverter ACs and smart connected models proliferate, research into the usability and actual energy savings of smart features would be valuable. Finally, given the service network challenges identified, a dedicated study on the economics and logistics of after-sales service delivery in dispersed geographies would offer practical value to industry stakeholders.

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