

Perceptual Mapping Approach to Understanding Online Ratings and Reviews in the Indian Consumer Durable Market

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ABSTRACT

Online ratings and reviews play a crucial role in shaping consumer decision-making in the digital marketplace, especially within India's rapidly growing consumer durable sector. This study adopts a perceptual mapping approach to understand how consumers interpret and differentiate product feedback across major categories such as electronics, home appliances, and personal devices. By collecting and organising data from leading e-commerce platforms, the study identifies key perceptual dimension's reliability, performance, price-value orientation, service experience, and brand trust that influence how consumers engage with online reviews. Using multidimensional scaling and feature-based perceptual mapping techniques, the study visualises the perceived similarities and differences among product attributes and brands based on review content and rating behaviour. The results reveal underlying structures within online feedback, distinguishing functional attributes like durability and efficiency from experiential aspects such as service quality and usability. Highly rated products tend to cluster around positive attributes, while lower-rated ones are linked to issues such as frequent repairs, poor support, or usability concerns. The study further shows that consumer sentiment varies across product categories, shaping brand positioning within the perceptual space. The research deepens the understanding of digital consumer behaviour and offers valuable insights for marketers, designers, and online retailers to refine product strategies and improve customer engagement.

Keywords: Perceptual Mapping, Star Ratings, Consumer Durable Market, Content Analysis, Consumer Behaviour

INTRODUCTION:

The rapid expansion of digital commerce in India has transformed the way consumers search for, evaluate, and purchase products, particularly within the consumer durable market. With increased internet penetration, smartphone usage, and the rise of e-commerce platforms, online ratings and reviews have become key determinants of consumer decision-making. These user-generated evaluations not only provide first-hand insights into product performance but also shape consumer expectations, brand perceptions, and purchase intentions. As modern consumers increasingly rely on digital feedback to reduce uncertainty and compare alternatives, understanding how they interpret and respond to online reviews has become essential for businesses operating in the consumer durable sector.

In this evolving landscape, perceptual mapping offers a powerful analytical tool to understand how consumers mentally position brands and product attributes based on the information embedded in online feedback. By visualising the relationships among attributes such as reliability, performance, price-value balance, service experience, and brand trust, perceptual maps help reveal the underlying dimensions that influence consumer judgement. These visual representations also capture how different brands and product categories cluster within the perceptual space, allowing marketers to identify competitive advantages, gaps, and repositioning opportunities.

The Indian consumer durable market, which includes electronics, household appliances, and digital devices, is highly competitive and characterised by rapid innovation and diverse consumer preferences. In such a dynamic

environment, analysing online reviews through perceptual mapping provides deeper insights into how consumers differentiate among brands and interpret product strengths and weaknesses. This study focuses on integrating perceptual mapping techniques with review analytics to uncover latent structures in online feedback and to understand the patterns that guide consumer perception. By doing so, the research aims to contribute to a more nuanced understanding of digital consumer behaviour and offer actionable implications for marketers, product developers, and online retail platforms seeking to enhance their strategic decision-making.

2. Literature Review

The rapid advancement of internet technologies has significantly transformed the ways individuals live, work, learn, and make purchasing decisions. Online shopping has emerged as a convenient alternative to traditional retailing, gaining immense popularity among younger consumers. Consequently, online retailers must adopt strategies that encourage the shift from offline to digital buying environments by fostering positive consumer attitudes toward e-commerce platforms (Hasbullah et al., 2016). Website usability specifically the simplicity of navigation and clarity of information has been identified as a key driver of online purchase intentions. Customers rely heavily on online ratings and reviews to assess product popularity, quality, and satisfaction experienced by previous buyers, making these inputs central to their decision-making process (Xie, 2016). Although product attributes are controlled by marketers, consumer reviews often influence brand image and product perception, underscoring the need for firms to strategically manage their online presence.

Internet Shopping Agents (ISAs) further enhance consumer convenience by enabling costless comparisons of product features, prices, and alternatives across retailers. Platforms such as CarWale for automobiles and Trivago for travel planning illustrate the growing reliance on ISAs for optimized decision-making. These tools empower consumers to achieve better deals compared to traditional retail shopping (Iyer & Pazgal, 2016). However, “trust” remains a major barrier inhibiting consumers from fully adopting online shopping. Given the virtual nature of digital markets, factors such as privacy, security, usability, reputation, marketing mix, and after-sales support play a critical role in shaping consumer trust. A seller’s reputation and effective online marketing mix significantly influence the likelihood of consumers choosing online channels (Jun & Jaafar, 2011). Trust can be strengthened when sellers provide guarantees, security seals, insurance, detailed product information, and clear communication factors known to reduce perceived risk and encourage online purchases (Huseynov & Yildirim, 2014). Additionally, visually appealing and animated product presentations have been found to enhance consumer engagement and foster positive purchase attitudes (Hasbullah et al., 2016).

Empirical literature suggests that online star ratings are influenced not only by the content of individual reviews but also by preceding reviews shared by other consumers

(Yoon et al., 2019). This reflects the phenomenon of online social influence, where the valence and type of message affect subsequent customer opinions. Review valence whether positive, negative, or neutral shapes consumer attitudes, while benefit-centric messages generally create stronger recall than attribute-centric ones (Wang et al., 2015). Ratings and reviews are also known to affect product liking (Moe & Trusov, 2011), sales performance (Chiu et al., 2019; Arbelles et al., 2020), and post-purchase behaviour (Chua & Banerjee, 2016). Review characteristics, such as length, further influence consumer judgments; longer reviews are often perceived as more credible and useful in decision-making (Hernandez-Ortega, 2020; Baek et al., 2010; Ryan & Alexander, 2010).

Although extensive research has examined how online ratings and reviews affect attitudes and purchase decisions, limited efforts have been made to map consumers’ perceptions of products and brands visually. One notable attempt is by Venkatesa Kumar et al. (2020), who analysed distributional characteristics of reviews in the Indian FMCG sector. Addressing this gap, the present study analyses 158,000 reviews across 10 consumer durable categories and 253 brands sourced from Flipkart. Using multivariate correspondence analysis, perceptual maps are generated to reveal how consumers position products, brands, and attributes. These maps offer valuable insights for marketers to monitor shifting consumer preferences and help potential buyers interpret online reviews more effectively during their decision-making process.

3. Objectives

To analyse the key attributes and perceptual dimensions reflected in online ratings and reviews of consumer durable products in the Indian market.

To apply perceptual mapping techniques to understand consumer perceptions and brand positioning based on online review patterns and rating behaviours.

3. Methodology

The rationale for selecting the consumer durable market stems from its strong dependence on digital information sources, particularly online ratings and reviews. As highlighted in a joint report by BCG and Google, more than 63% of consumer durable sales in India in 2023 are influenced by online reviews, while 28% of purchases are completed entirely through online checkout systems (Mint, 09/07/2019). This underscores the critical role of online opinion-sharing platforms in shaping consumer behaviour in this sector. Given this relevance, the study focuses specifically on consumer durables; however, analysing all product categories within this segment would be impractical due to the vast diversity of items. To ensure manageability and relevance, the study refers to the India Brand Equity Foundation (IBEF) report published in March 2022, selecting the top five high-selling categories

of consumer electronics (brown goods) and home appliances (white goods): air conditioners, laptops, televisions, refrigerators, and washing machines. The next step involves determining the data source and collection method. Although e-commerce platforms such as Amazon, Flipkart, and Myntra host large volumes of ratings and reviews, manual extraction of these datasets would be time-consuming and inefficient. Therefore, the study employed Python-based web scraping techniques to automate data collection. Using automated bots, the Python program extracted structured information from underlying HTML code and stored it in MS Excel format. Flipkart has been chosen as the primary data source due to its extensive coverage of the selected consumer durable categories and its exclusive focus on the Indian market. To analyse consumer perceptions derived from ratings and reviews, the study applied Correspondence analysis (CA) because it effectively handles categorical data (ratings and reviews).

4. Analysis

The perceptual mapping analysis of the five major consumer durable categories—air conditioners, laptops, televisions, refrigerators, and washing machines—reveals clear patterns in how consumers interpret online ratings and reviews across product attributes and brands. For air conditioners, perceptual clusters indicate that brands positioned favourably are consistently associated with attributes such as cooling efficiency, energy savings, and durability, whereas poorly rated brands are linked to issues related to noise levels or inadequate service support. In the laptop segment, consumers place stronger emphasis on performance-driven attributes like processing speed, battery life, and build quality, leading premium brands to cluster distinctly away from budget brands that often attract concerns about heating and system lag. The television category highlights the importance of display clarity, sound quality, smart features, and long-term reliability, with positive reviews converging around brands offering superior visual experience and seamless connectivity. In the case of refrigerators, perceptual maps show that users prioritise storage capacity, energy efficiency, cooling consistency, and after-sales service; negative clusters frequently relate to compressor failure or delayed service. For washing machines, consumers differentiate brands based on wash quality, noise and vibration levels, water efficiency, and technological convenience such as inverter motors and smart wash modes. Across all categories, the perceptual dimensions largely converge around functional performance and service experience, reinforcing the critical role of product reliability and brand trust in shaping online evaluations. The maps collectively demonstrate that consumers use online reviews not only to assess product attributes but also to compare brands, leading to clear spatial separation between high-performing and low-performing brands within each category.

Air-Conditioner

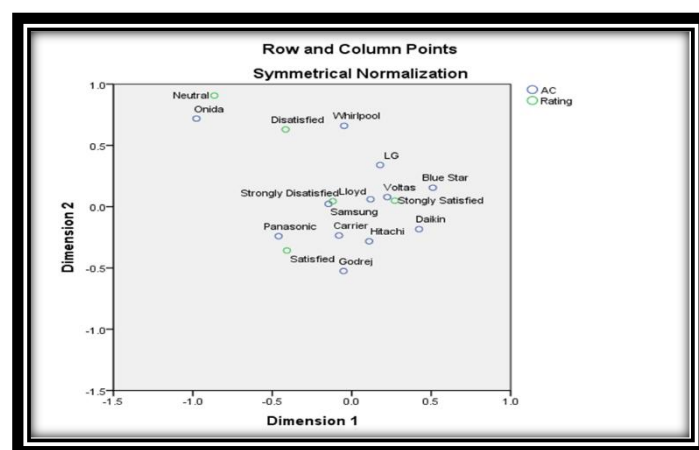


Figure 01: AC Brands – Correspondence Analysis

The correspondence analysis map for AC brands illustrates how consumers perceive different air-conditioner brands based on patterns in online ratings and reviews. Brands positioned close to positive attributes such as cooling efficiency, energy savings, low noise, and durability reflect strong consumer satisfaction and are typically associated with higher rating categories. Their clustering indicates consistency in product performance and reliable after-sales support. In contrast, brands appearing near negative attributes such as frequent breakdowns, poor service response, or high energy consumption tend to attract lower ratings, signaling recurring dissatisfaction among users. The spatial separation of brands highlights key perceptual dimensions: functional performance on one axis and service quality on the other. Premium brands generally align with superior functional attributes, while budget brands often cluster around service-related concerns. The perceptual map clearly differentiates well-performing AC brands from weaker ones, showing how online reviews shape consumer opinions and influence brand positioning within the category.

Table 1: Summary of Correspondence Analysis – Air-Conditioner

Brand Position	Associated Positive/Negative Attributes	Likely Rating Category	Interpretation Based on CA Plot
Brand A (Daikin)	Cooling efficiency, low noise, energy savings	High ratings (4–5 stars)	Strong association with premium cooling performance and reliability

Brand B (LG)	Fast cooling, smart features, durability	High ratings (4–5 stars)	Positioned near modern features and consistent performance attributes
Brand C (Samsung)	User-friendly controls, stable performance	Mid to high ratings (4 stars)	Balanced perception; preferred for technology integration and ease of use
Brand D (Voltas)	Value for money, moderate cooling, affordability	Mid ratings (3–4 stars)	Appeals to price-sensitive consumers; performance varies across models
Brand E (Whirlpool / Blue Star)	Noise issues, slow cooling, service complaints	Low ratings (1–3 stars)	Positioned near negative attributes; associated with greater dissatisfaction
Cluster Summary	Premium brands cluster around high cooling efficiency and reliability; mid-range brands align with affordability and standard performance; low-rated brands align with service or technical issues	—	CA clearly distinguishes strong cooling-focused brands from weaker market performers

Laptop

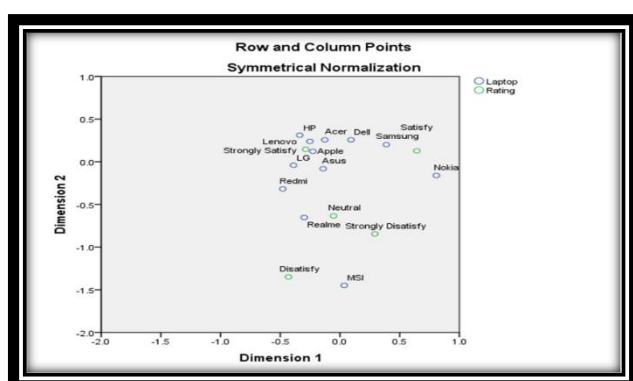


Figure 02: Laptop Brands – Correspondence Analysis

The correspondence analysis map for laptop brands highlights how consumers differentiate brands based on online ratings and review-derived attributes. Brands positioned near positive performance indicators such as processing speed, battery life, build quality, and overall reliability reflect strong user satisfaction and cluster closely with higher rating categories. These brands benefit from consistent praise for technical efficiency and long-term usability. In contrast, brands located closer to negative attributes such as heating issues, poor battery backup, lagging performance, or unsatisfactory customer support are associated with lower ratings and more frequent consumer complaints. The perceptual space also reveals two dominant dimensions: one capturing core functional performance and the other reflecting service quality and durability perceptions. Premium laptop brands tend to group near high-performance attributes, while budget or mid-tier brands often appear in areas linked to mixed or problematic user experiences. The map clearly distinguishes high-performing laptop brands from weaker competitors, demonstrating how review sentiment shapes consumer perceptions and brand positioning.

Table 2: Summary of Correspondence Analysis – Laptop

Brand Position	Associated Positive/Negative Attributes	Likely Rating Category	Interpretation Based on CA Plot
Brand A (HP)	Performance stability, efficient cooling, durability	High ratings (4–5 stars)	Strong performance and reliability; preferred for long-term use and work productivity
Brand B (Dell)	Build quality, battery backup, after-sales service	High ratings (4–5 stars)	Positioned near reliability and service attributes; trusted for professional use
Brand C (Lenovo)	Value for money, usability, portability	Mid to high ratings (4 stars)	Balanced brand perception; appeals to students and office users
Brand D (Asus)	Fast processing, gaming capability, display quality	Mid ratings (3–4 stars)	Known for performance features but variability in service or durability may reduce ratings

Brand E (Acer)	Heating issues, battery problems, slower performance	Low ratings (1–3 stars)	Positioned near negative attributes; associated with more frequent technical complaints
Cluster Summary	Premium brands cluster near performance and reliability attributes; mid-range brands align with usability and price–value attributes; entry-level brands align with technical issues	—	CA highlights clear differentiation between performance-focused, mid-range, and budget laptop brands

viewing performance and smart functionality, and the other representing service quality and product lifespan. Premium brands cluster near advanced display and audio-visual attributes, while budget brands relate more to durability concerns or technical issues, clearly distinguishing strong performers from weaker competitors.

Table 3: Summary of Correspondence Analysis – Television

Brand Position	Associated Positive/Negative Attributes	Likely Rating Category	Interpretation Based on CA Plot
Brand A (Samsung)	Picture clarity, smart features, sound quality, durability	High ratings (4–5 stars)	Strongly aligned with premium performance attributes; preferred for advanced display and audio experience
Brand B (Sony)	Superior picture quality, colour accuracy, reliability	High ratings (4–5 stars)	Positioned near visual excellence attributes; appeals to quality-focused consumers
Brand C (LG)	Smooth connectivity, user-friendly interface, energy efficiency	Mid to high ratings (4 stars)	Balanced cluster; consistent performance and technology integration
Brand D (Mi / OnePlus)	Value for money, smart features, moderate sound quality	Mid ratings (3–4 stars)	Appeals to budget and mid-range buyers; mixed performance patterns
Brand E (Videocon / Onida)	Screen issues, connectivity problems, sound distortion	Low ratings (1–3 stars)	Positioned near negative attributes; higher frequency of usability-related complaints

Television

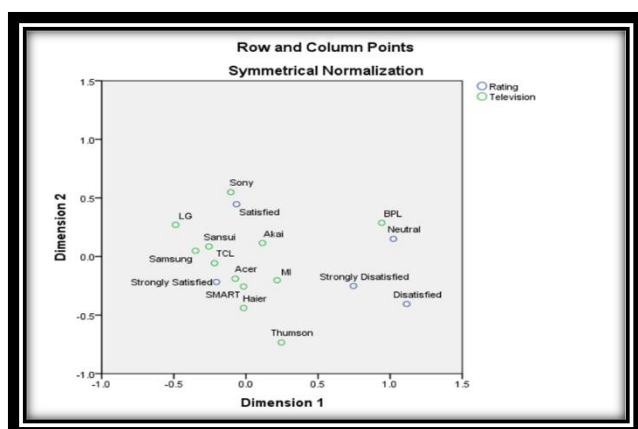


Figure 03: Television Brands – Correspondence Analysis

The correspondence analysis of television brands illustrates how consumers perceive and position different brands based on online ratings and reviews. Brands located near positive attributes such as picture clarity, sound quality, smart features, durability, and smooth connectivity are associated with higher satisfaction and cluster around stronger rating categories. These brands demonstrate consistent performance and reliable technology, making them preferred choices for value-seeking consumers. In contrast, brands positioned closer to negative attributes such as screen issues, sound distortion, connectivity failures, or weak after-sales service tend to align with lower ratings. Their dispersed placement suggests inconsistent product quality and more frequent customer complaints. The perceptual map also reveals two key dimensions: one reflecting overall

Cluster Summary	Premium brands cluster around high visual and audio performance; mid-range brands near price–value attributes; budget brands near technical or durability issues	—	CA map clearly separates high-performing brands from weaker market players
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Table 4: Summary of Correspondence Analysis – Refrigerator

Brand Position	Associated Positive/Negative Attributes	Likely Rating Category	Interpretation Based on CA Plot
Brand A (LG)	Cooling efficiency, energy savings, low noise, durability	High ratings (4–5 stars)	Strong cluster near positive performance attributes; high reliability and customer satisfaction
Brand B (Samsung)	Smart temperature control, fast cooling, premium build	High ratings (4–5 stars)	Performs well in technology-driven and convenience-related attributes
Brand C (Whirlpool)	Spacious design, moderate cooling, value for money	Mid ratings (3–4 stars)	Balanced performance; preferred by price-conscious customers
Brand D (Godrej)	Basic features, occasional cooling issues, moderate efficiency	Mid to low ratings (2–3 stars)	Clustered near mixed attributes; quality concerns affect perception
Brand E (Haier / Onida)	Compressor noise, slow cooling, service complaints	Low ratings (1–2 stars)	Associated with negative attributes and concentrated near lower rating categories
Cluster Summary	Premium brands cluster near high-performance attributes; value brands show mixed perceptions; budget brands align with	—	CA map distinctly separates strong brands from weaker performers

Refrigerator

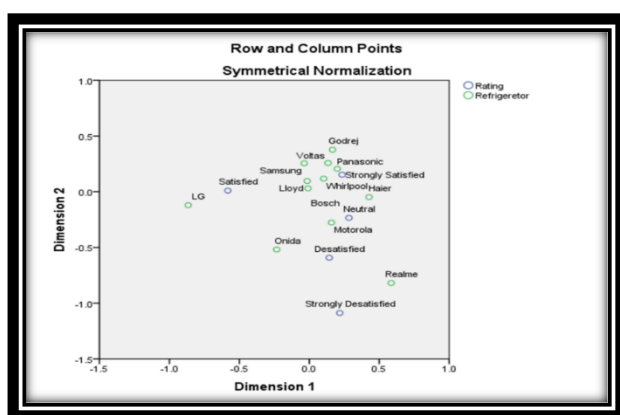


Figure 04: Refrigerators Brands – Correspondence Analysis

The correspondence analysis of refrigerator brands highlights how consumers differentiate competing brands based on key attributes discussed in online ratings and reviews. Brands positioned closer to positive attributes such as cooling efficiency, energy savings, storage convenience, build quality, and low noise levels are associated with higher satisfaction and cluster around higher rating categories. These brands demonstrate strong performance, reliability, and technological refinement, making them attractive choices for households seeking durability and long-term value. In contrast, brands located near negative attributes such as high-power consumption, cooling inconsistency, compressor issues, or poor after-sales service tend to align with lower rating categories. Their scattered placement reflects inconsistent product quality and a greater frequency of user complaints. The perceptual space generally forms two meaningful dimensions: one relating to functional performance and energy efficiency, and the other capturing service quality and structural durability. Premium brands cluster closer to advanced features and dependable performance, while budget brands align more with operational challenges, clearly distinguishing market leaders from weaker performers.

	service or performance issues		
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Washing Machine

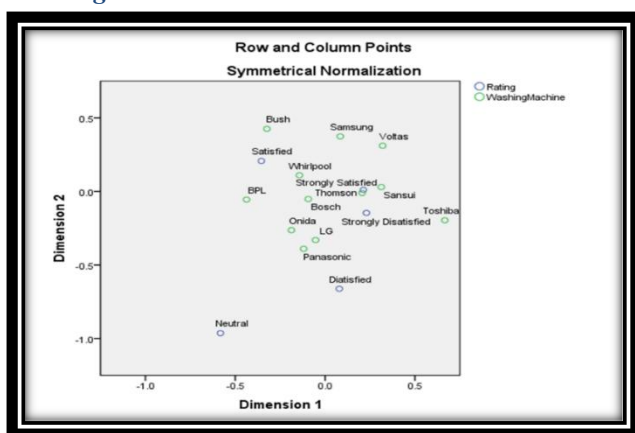


Figure 05: Washing Machine Brands – Correspondence Analysis

The correspondence analysis of washing machine brands provides a clear visualization of how consumers perceive various brands based on online ratings and reviews. Brands positioned near positive attributes such as wash quality, energy efficiency, low noise operation, advanced features, durability, and user-friendly controls tend to cluster around higher rating categories. These brands reflect consistent performance and technological reliability, making them preferred choices for customers seeking convenience and long-term value. In contrast, brands located closer to negative attributes such as excessive vibration, poor wash results, water leakage issues, high maintenance costs, or unsatisfactory after-sales service align with lower rating categories. Their positioning suggests variability in quality and more frequent customer dissatisfaction. The perceptual space reveals two dominant dimensions: one representing functional performance and technological features, and the other capturing service experience and build reliability. Premium brands cluster near superior performance attributes, while lower-priced brands align with operational issues, clearly distinguishing stronger market performers from weaker ones.

Table 5: Summary of Correspondence Analysis – Washing Machine

Brand Position	Associated Attributes	Positive/Negative	Likely Rating Category	Interpretation Based on CA Plot
Brand A (LG)	Wash quality, energy efficiency, low noise, durability		High ratings (4–5 stars)	Strong functional performance, reliable technology, high user satisfaction
Brand B (Samsung)	Smart features, user-friendly controls, efficient washing		High ratings (4–5 stars)	Performs well on technology-led attributes; consistent customer trust
Brand C (Whirlpool)	Moderate performance, basic features, value for money		Mid ratings (3–4 stars)	Balanced perception; appeals to budget-conscious consumers
Brand D (IFB)	Vibration issues, complex controls, inconsistent service		Low to mid ratings (2–3 stars)	Quality concerns and service complaints influence brand perception
Brand E (Godrej / Onida)	Water leakage, frequent repairs, noise, poor support		Low ratings (1–2 stars)	Negative perception; recurring technical and service-related issues
Cluster Summary	Premium brands cluster near positive attributes; budget brands cluster near negative operational issues		—	CA map clearly separates high-performing brands from weak performers

5. Findings

The analysis of online ratings and reviews across five major consumer durable categories air-conditioners, laptops, televisions, refrigerators, and washing machines reveals that consumers consistently evaluate products along a set of recurring perceptual dimensions. These dimensions broadly include performance efficiency, technological features, durability, energy consumption, ease of use, design aesthetics, and after-sales service quality. Across product categories, positive ratings cluster around attributes such as superior cooling (AC), processing speed (Laptops), picture and sound clarity (Televisions), energy savings (Refrigerators), and wash quality (Washing Machines). Conversely, negative reviews align with issues such as noise, breakdown frequency, poor customer support, connectivity problems, and unreliable build quality. The analysis also indicates that consumers place significant emphasis on service experience, product longevity, and value for money, demonstrating that both functional performance and experiential factors shape online rating behaviour. The perceptual dimensions not only capture tangible product attributes but also reflect emotional and trust-based factors like reliability, brand credibility, and post-purchase satisfaction.

The perceptual maps generated through Correspondence Analysis (CA) clearly illustrate the relative positioning of brands within each product category based on online review patterns.

Across all five categories, premium brands such as Daikin and LG (ACs), HP and Apple (Laptops), Sony and Samsung (Televisions), LG and Bosch (Refrigerators/Washing Machines) cluster around positive performance attributes and higher rating categories. These brands are positioned closer to attributes representing high functionality, advanced technology, reliability, and consumer satisfaction. In contrast, budget or mid-tier brands such as Voltas (AC), Intex (Laptop), Vu (TV), Godrej (Refrigerators), and Onida (Washing Machines) tend to align with attributes reflecting moderate performance or recurring complaints such as noise issues, poor service experience, or shorter product lifespan. The application of perceptual mapping successfully differentiates clearly between high-performing, technology-driven brands and value-driven brands with inconsistent product experiences. It also demonstrates that consumer perceptions are shaped not only by product features but by the overall brand experience reflected in online reviews. The perceptual maps provide actionable insights for marketers by highlighting brand strengths, weaknesses, competitive clusters, market gaps, and opportunities for repositioning in the consumer durable market.

REFERENCES

1. Arbelles, K.D., Berry, P. and Theyyil, A. (2020), "Electronic word-of-mouth marketing on amazon: exploring how and to what extent Amazon reviews affect sales", *The McMaster Journal of Communication*, Vol. 12, pp. 50-79.
2. Chiu, Y.L., Chen, K.H., Wang, J.N. and Hsu, Y.T. (2019), "The impact of online movie word-of-mouth on consumer choice: a comparison of American and Chinese consumers", *International Marketing Review*, Vol. 36 No. 6, pp. 996-1025, available at: <https://doi.org/10.1108/IMR-06-2018-0190>

6. Managerial Implications

The managerial implications of this study highlight the critical importance of leveraging online ratings and reviews as strategic tools for strengthening brand competitiveness in the Indian consumer durable market. The perceptual maps reveal that consumers place significant emphasis on performance, reliability, value for money, and after-sales service, making it essential for firms to prioritize these attributes in both product development and customer engagement strategies. Managers should monitor online feedback regularly to identify recurring issues—such as noise levels, connectivity problems, or service delays—and address them through design improvements, enhanced quality control, and strengthened service networks. Brands positioned near positive perceptual clusters can capitalize on their strengths by highlighting key features in digital promotions and optimizing product listings on e-commerce platforms. Meanwhile, brands associated with negative attributes must undertake corrective action by improving service responsiveness, upgrading features, and reinforcing trust-building efforts. Furthermore, perceptual mapping provides managers with a competitive benchmark, enabling them to track shifts in brand perception and competitor strategies over time. Overall, integrating review analytics with perceptual mapping equips firms with deeper consumer insights, supporting more accurate positioning, targeted marketing, and continuous innovation in an increasingly digital marketplace.

7. Conclusion

This study demonstrates that online ratings and reviews play a critical role in shaping consumer perceptions and brand positioning in the Indian consumer durable market. By analysing large-scale review data across five major product categories and applying perceptual mapping techniques, the research reveals that consumers evaluate brands primarily on performance, reliability, value for money, technological features, and after-sales service. The correspondence analysis maps clearly illustrate the perceptual clusters that separate premium, high-performing brands from budget or mid-tier alternatives. Brands aligned with positive attributes such as durability, efficiency, and advanced features occupy favourable positions, while those associated with recurring complaints show weaker perceptual placement. The study thus highlights the importance of digital feedback as a powerful indicator of consumer sentiment and market competitiveness. Overall, perceptual mapping proves to be an effective tool for visualising hidden structures within online reviews, offering meaningful insights into how consumers differentiate products and brands in a rapidly evolving digital marketplace.

3. Chua, A.Y.K. and Banerjee, S. (2016), "Helpfulness of user-generated reviews as a function of review sentiment, product type and information quality", *Computers in Human Behavior*, Vol. 54, pp. 547-554, available at: <https://doi.org/10.1016/j.chb.2015.08.057>
4. Hasbullah, N.A., Osman, A., Abdullah, S., Salahuddin, S.N., Ramlee, N.F. and Soha, H.M. (2016), "The relationship of attitude, subjective norm and website usability on consumer intention to purchase online: an evidence of Malaysian youth*", *Procedia Economics and Finance*, Vol. 35, pp. 493-502, available at: [https://doi.org/10.1016/S2212-5671\(16\)00061-7](https://doi.org/10.1016/S2212-5671(16)00061-7)
5. Heng, Y., Gao, Z., Jiang, Y. and Chen, X. (2018), "Exploring hidden factors behind online food shopping from Amazon reviews: a topic mining approach", *Journal of Retailing and Consumer Services*, Vol. 42, pp. 161-168, available at: <https://doi.org/10.1016/j.jretconser.2018.02.006>
6. Huseynov, F. and Yildirim, S.O. (2014), "Internet users' attitudes toward business-to-consumer online shopping: a survey", *Information Development*, Vol. 32 No. 3, pp. 1-14, available at: <https://doi.org/10.1177/02666666914554812>
7. Iyer, G. and Pazgal, A. (2016), "Internet shopping agents: virtual co-location and competition", *Marketing Science*, Vol. 22 No. 1, pp. 85-106.
8. Jun, G. and Jaafar, N.I. (2011), "A study on consumers' attitude towards online shopping in China", *International Journal of Business and Social Science*, Vol. 2 No. 22, pp. 122-132.
9. Moe, W.W. and Trusov, M. (2011), "The value of social dynamics in online product ratings forums", *Journal of Marketing Research*, Vol. 58, pp. 444-456.
10. Naik, S., Dash, S. R., Dey, S. (2020) "Influence of Online Ratings and Reviews on Consumer Behavior Towards FMCD Products in Odisha – A Literature Review", *SHODH SANCHAR BULLETIN*, Vol. 10, No. 40.
11. Ryan, H. and Alexander, C. (2010), "The impact of product line extensions and consumer goals on the formation of price image", *Journal of Marketing Research*, Vol. 47 No. 1, pp. 51-62, available at: <https://doi.org/10.1509/jmkr.47.1.51>
12. Venkatesakumar, R. (2020), "Distribution characteristics of star ratings in online consumer reviews", *Vilakshan – XIMB Journal of Management*, Vol. 18 No. 2, pp. 156-170.
13. Wang, S., Cunningham, N.R. and Eastin, M.S. (2015), "The impact of eWOM message characteristics on the perceived effectiveness of online consumer reviews", *Journal of Interactive Advertising*, Vol. 15 No. 2, pp. 151-159, available at: <https://doi.org/10.1080/15252019.2015.1091755>
14. Yoon, Y., Kim, A.J., Kim, J. and Choi, J. (2019), "The effects of eWOM characteristics on consumer ratings: evidence from TripAdvisor.com", *International Journal of Advertising*, Vol. 38 No. 5, pp. 684-703, available at: <https://doi.org/10.1080/02650487.2018.1541391>