Bridging the Mirror: A Multidimensional Examination of Brand Architecture and Inclusivity in Building Consumer Brand Equity.

Abstract

Contemporary brand management requires integrated frameworks capable of navigating growing consumer diversity and market fragmentation. This study investigates modern brand architecture, categorizing dimensions into internal existential constructs (identity, core values, personality) and external relational constructs (risk reduction, shorthand utility, relationship quality). Focusing on sectors such as cosmetics, the paper shows how brand inclusivity bridges these domains. Authentically embedding inclusive principles into a firm's core systematically enhances relational performance by mitigating purchase risks and offering cognitive shorthand for diverse consumers. This structural alignment strengthens consumer relationships, deepens brand resonance, and builds a defensible foundation for long term corporate brand equity.

Keywords: Brand Architecture, Brand Inclusivity, Existential Constructs, Relational Constructs, Brand Equity, Risk Reduction, Brand Resonance, Consumer Behaviour.

JEL Code

- **M31**: Marketing
- **M37**: Advertising
- **M30**: Marketing and Advertising: General

Introduction

Modern brand management has undergone a profound transformation, moving away from early traditions that viewed brands simply as legal trademarks, static logos, or functional shorthand devices. In today's dynamic global marketplace, brands are recognized as complex, multidimensional constructs that must continuously adapt to splintering consumer demographics, evolving socio-cultural norms, and heightened expectations for social responsibility. Success no longer stems solely from product performance; it depends heavily on a firm's capability to understand, respect, and engage diverse consumer segments.

To systematically analyse these strategic dynamics, modern literature employs a "one-way mirror" framework that classifies brand architecture into twelve independent dimensions across two primary domains: existential constructs and relational constructs. Existential constructs reflect the brand's internal essence its identity system, core value framework, humanized personality, and added value. Relational constructs encompass how the brand is perceived externally through consumer touchpoints acting as a legal guarantee, a risk reducer, a cognitive shorthand device, and ultimately a relationship partner.

In personal care and cosmetic markets, where brand choices are deeply intertwined with self-expression and individual identity, brand inclusivity has emerged as a fundamental strategic imperative. Inclusivity sits directly at the intersection of the mirror: internal core values must mirror external consumer realities. This paper explores how embedding inclusive principles within a brand's existential core systematically improves its relational dynamics, reduces consumer uncertainty, fosters deep brand resonance, and creates long-term, defensible competitive advantage.

Literature Review

Modern brand management has evolved beyond treating brands merely as legal trademarks or functional shortcuts. Contemporary research views a brand as a dynamic, living construct composed of multidimensional architectures divided into existential (internal identity, values, personality) and relational (external perceptions, risk reduction, brand equity) dimensions (Cid et al., 2022; Shocker et al., 1994; Veloutsou & Delgado-Ballester, 2018). At the intersection of these two dimensions sits brand inclusivity. Existentially, a brand's identity and value systems set the baseline by embedding diversity, equity, and representation into its core identity. In highly personal categories like beauty and cosmetics, mass-market blanket messaging is increasingly ineffective given diverse cultural, gender, and socio-economic demographics. When brands embody inclusive values through authentic human traits such as sincerity and competence, they project a relatable personality that builds relational trust, reduces purchasing risk, and drives long-term brand resonance and equity. (Cid et al., 2022; Hanna & Rowley, 2011; Shocker et al., 1994; Veloutsou & Delgado-Ballester, 2018). As artificial intelligence (AI), augmented reality (AR), and Virtual Try-On (VTO) technologies permeate personal care retail, consumer adoption is increasingly governed by socio-technical trust rather than simple utilitarian adoption models like the Technology Acceptance Model (Consiglio & van Osselaer, 2022; Ferraro et al., 2023; Mucundorfeanu & Mauer, 2026; O'Higgins & Fatorachain, 2026).

Traditional TAM metrics perceived usefulness and ease of use, fail to account for identity-linked and appearance-sensitive environments. Algorithms in beauty retail are embedded with historical beauty norms and corporate incentives. When training datasets lack diverse representation, algorithmic bias manifests through primary vectors such as gender bias (misclassification of facial features based on binary training sets that reinforce rigid appearance standards), racial bias (inadequate spectral sensitivity for darker skin tones producing inaccurate shade recommendations), under-representation (models trained on homogeneous demographic cohorts leading to reduced diagnostic accuracy for non-dominant groups), and cultural insensitivity (automated systems defaulting to Western-centric aesthetic benchmarks that alienate non-Western consumers). These technical failures inflict both allocative harm by denying suitable product matches and representational harm by reinforcing marginalization. To overcome these limitations and bridge the "black box" dynamic, researchers emphasize Explainable AI (XAI) frameworks and privacy-preserving machine learning architectures, such as federated learning and differential privacy, to foster systemic e-trust and transparency. (Consiglio & van Osselaer, 2022; Ferraro et al., 2023; Mucundorfeanu & Mauer, 2026; O'Higgins & Fatorachain, 2026)

The integration of inclusive design extends to challenging rigid gender constructs and institutionalized ageism. Sociological and dermatological evidence indicates that individual variations in skin parameters such as pH, sebum production, and elasticity are far greater within single-gender cohorts than between gender categories, rendering dichotomous gender segmentation largely an arbitrary marketing construct (AZUMA, 2021; Danylova et al., 2024; Khandelwal, 2025; Pertiwi Josua et al., 2025). Concurrently, age-related representation in beauty marketing has historically operated on a "problem-solution" paradigm, pathologizing natural aging as a defect requiring correction. Under neoliberal paradigms of "successful aging," mature consumers particularly women face conditional visibility, where representation is granted only if they conform to youthful aesthetic standards (Grech et al., 2024; Kenalemang, 2022; Perret & Schwientek, 2025; Teles De Abreu et al., 2024). Traditional anti-aging framing pathologizes natural aging and induces gerascophobia and anxiety, whereas positive or inclusive aging framing promotes skin health and acceptance to enhance trust and authenticity. In response, strategic cause branding ("femvertising") and body-positive messaging have emerged. Grounded in Self-Congruity Theory, campaigns featuring unretouched, diverse representations align with consumers' actual self-concept rather than an unachievable ideal self-concept, mitigating upward social comparison, reducing advertising reactance, and building relational trust (Amir, 2024; Hämäläinen, 2019; Kim & Kim, 2025; Veresiu & Parmentier, 2021).

However, brands must avoid "femwashing" or performative allyship where empowerment rhetoric is disconnected from internal governance or portfolio practices as consumers actively use cognitive evaluations ("cool authentication") to scrutinize brand sincerity (Baird, 2021; Buckley et al., 2024; Gomez-Borquez et al., 2024; Visconti et al., n.d.). The competitive landscape of personal care has shifted from an oligopoly dominated by multinational conglomerates to a dynamic market disrupted by independent ("indie") beauty brands (Childs, 2022; Eisend & Rößner, 2022; Margarida et al., n.d.; Paonessa & Risques, n.d.). Analysing this shift through Christensen's Job-to-Be-Done (JTBD) framework reveals why legacy brands struggle against agile disruptors. Legacy or conglomerate brands are primarily hired for social status and prestige signaling with core value drivers including brand heritage, extensive retail presence, and scale but they remain vulnerable to corporate opacity and a perceived performance gap relative to price. In contrast, indie beauty brands are hired for identity expression and ethical alignment, driven by core values like ingredient transparency, founder credibility, and community co-creation, though their main vulnerabilities lie in operational scale and supply chain constraints. To counter market share erosion, conglomerates frequently pursue inorganic growth via Mergers and Acquisitions (M&A).

However, ownership transitions frequently trigger an Authenticity Paradox, where consumers interpret corporate acquisition as a sign of commercialization and compromise. Transparent, founder-led post-acquisition communication explicitly guaranteeing formulation continuity is essential to mitigate brand equity erosion (Childs, 2022; Eisend & Rößner, 2022; Margarida et al., n.d.; Paonessa & Risques, n.d.). Marketplace exclusion is increasingly understood through the interaction between individual capabilities and environmental design. Grounded in the Social Model of Disability, functional limitations are viewed not as individual deficits under the Medical Model, but as outcomes of restrictive environments and design mismatches ((Dimofte et al., 2015; Lowe-Calverley BPsych, 2019; Lteif et al., 2025; Milar-Bentia, n.d.). In cosmetics, design mismatches occur across sensory barriers (absence of tactile packaging or screen-reader digital interfaces), cognitive barriers (overly complex instructions and overwhelming retail environments), behavioural barriers (closures or applicators requiring fine motor dexterity that exclude users with arthritis or motor impairments), and social barriers (retail environments lacking non-verbal support or diverse representation). To resolve these barriers, standardized guidelines such as ISO 19809 for tactile markings and ISO 17351 for Braille height, alongside proprietary innovations like Herbal Essences' tactile icons, Victorialand Beauty's CyR. U.S. System, and L'Oréal's Hapta motorized applicator, restore consumer autonomy, self-efficacy, and authenticity (Dimofte et al., 2015; Lowe-Calverley BPsych, 2019; Lteif et al., 2025; Milar-Bentia, n.d.). Finally, quantitative branding research demonstrates that product line variety does not automatically equal structural inclusivity.

Mathematically modelling product line design (PLD) via max-min fairness shows that profit-maximizing assortments without explicit equity constraints frequently abandon peripheral consumer segments when marginal costs are high. Achieved inclusivity depends not on sheer shade count, but on the even distribution of attribute features across the continuous domain (e.g., $L*a*b*$ colour space) to ensure optimal population coverage (Lah et al., 2025; Levi et al., 2025; Salsky, 2020).

In summary, modern brand management in cosmetics requires an integrated approach linking existential brand identity with relational execution. Achieving genuine brand inclusivity requires transcending performative marketing by combining algorithmic fairness, accessible physical design, quantitative portfolio optimization, and authentic cause-aligned communication.

Research Gap

While existing branding literature extensively examines brand architecture through unidimensional lenses such as legal trademarks, visual identity systems, or functional utility, it largely fails to capture the holistic interplay between internal existential constructs and external relational dynamics within identity-driven sectors. Prior research predominantly treats inclusivity as a peripheral promotional tactic or localized marketing campaign rather than a structural, core element of corporate brand strategy.

Furthermore, despite growing consumer diversity in emerging economies such as India, there remains a critical dearth of empirical research that quantitatively maps brand inclusivity across multidimensional architectural layers. Current frameworks lack empirical rigor in evaluating how inclusive practices spanning shade depth, physical accessibility, skin physiology, non-binary representation, and cultural context coalesce to mitigate consumer purchase risk, foster authentic brand relationships, and build defensible brand equity. This study addresses this empirical and theoretical divide by deploying unsupervised machine learning algorithms to systematically audit and segment brand inclusivity footprints within the Indian personal care landscape.

Theoretical and Conceptual Framework

1. Theoretical Framework: Signalling and Social Responsibility

In the context of the Indian beauty industry, inclusivity is rarely an accidental by-product; it is a strategic choice. To capture the full depth of this, we anchor our research in two complementary pillars: Signalling Theory and the Theory of Representational Justice.

The beauty industry operates under significant information asymmetry. Consumers cannot always know a brand’s true commitment to diversity until they interact with the product. Therefore, we utilise **Signalling Theory** to posit that a brand’s inclusivity index, i.e., its shade range, its packaging accessibility, and its cultural representation serve as a critical market signal. When a brand expands its shade spectrum or designs for diverse physical needs, it is not merely fulfilling a functional requirement; it is transmitting a strong, deliberate signal to the consumer about its target identity and brand values.

However, signalling alone does not capture the ethical dimension of this study. This is why we synthesize this with the **Theory of Representational Justice.** While signalling explains the firm’s behaviour, representational justice explains the social contract. It suggests that because cosmetic brands play a fundamental role in shaping beauty standards and self-perception, they bear a normative responsibility to mirror the diversity of the society they serve. By combining these theories, our framework allows us to evaluate brands not just as commercial entities, but as active participants in the construction of social norms. We aren't just measuring how many shades a brand has; we are assessing how well they uphold their end of the social contract.

1.1 The Duality of Strategy and Justice

We argue that in the cosmetic sector, a brand’s inclusivity score is not merely a descriptive metric, it is a strategic proxy for the brand’s social and competitive intent.

1.1.1 Signalling the Brand’s “True North”: We utilise this theory to interpret our rubric’s dimensions. In an industry where consumers are increasingly conscious of diversity, brands use their product offerings (shade range, formulation variety, etc) as signals.

- The Identity-Signal (Shade/Complexion): By offering 40+ shades, a brand isn't just selling makeup; it is signalling a commitment to universal beauty.
- The Accessibility-Signal (Physical Articulation): By incorporating accessible packaging (e.g., high-contrast text, easy-to-grip design), a brand signals that it considers the full spectrum of human physiological needs.

1.1.2 Representational Justice: The Moral Mandate: While signalling explains the competitive strategy, Representational Justice explains the ethical baseline. Cosmetic brands are not neutral entities; they participate in the construction of beauty standards. If a brand ignores "Brand Architecture X Gender" (the gender dimension) or fails in "Cultural & Ethnic Inclusivity," it is failing the social contract of representational justice. Our framework treats these failures not as mere market choices, but as violations of the normative expectation that brands should reflect the demographic and physical diversity of their society.

1.2 The Inclusivity-Identity Nexus

We ground our research in the synthesis of five influential brand management models, arguing that inclusivity is the contemporary manifestation of their core tenets.

1.2.1 Strategic brand management and value creation

- Keller's Model: Keller focuses on "Strategic Brand Management" and the staged process of building brand equity. We interpret your "Inclusivity Index" as a foundational tool in Keller's process; specifically, a brand's inclusivity performance acts as the bedrock for building "brand resonance," the intense, active loyalty relationship between the customer and the brand.
- Aaker's Model: Aaker treats the brand as a "strategic asset" and emphasizes the "brand identity system". Our framework posits that inclusivity is the modern value proposition within this system; it provides the credibility and structure necessary for a brand to be legally and competitively protectable.

1.2.2 The dimensionality of identity and culture

- Kapferer's Model: Kapferer's "Brand Identity Prism" deconstructs brand uniqueness into facets, including "culture" and "reflection". Our variable for "Cultural & Ethnic Inclusivity" is a direct quantitative assessment of Kapferer's "culture" facet. When a brand fails to be inclusive, it risks the "mental reference" it holds in the market, confirming Kapferer's assertion that "where there is no risk, there is no brand".
- De Chernatony's Model: De Chernatony emphasizes the "multidimensional construct" of a brand, defining it through "enduring core values" and high-quality relationships. We argue that inclusivity serves as the "shorthand device" that helps consumers make decisions, effectively signalling to the customer that the brand's core values align with their own.

1.2.3 Relationship theory and humanisation

<u>Fournier’s Model:</u> Fournier views the brand through a "psycho-social-cultural lens," defining the brand as a relationship partner that humans tend to anthropomorphise. Our study treats inclusivity (specifically "Gender" and "Accessibility") as the mechanism through which this partnership is formed. If a brand ignores inclusivity, it fails to be a meaningful "partner" in the customer's daily life, as it refuses to co-create meaning through repeated, positive exchanges.

2. Conceptual Framework: The Inclusivity Taxonomy

The conceptual model moves from the granular measurement of individual inclusivity attributes to the holistic strategic posture of the brand. We view the study not as a collection of isolated variables, but as a system where multiple dimensions coalesce to define a brand’s unique market position.

Based on the rubrics, we have designed a conceptual model that maps the variables into a systematic flow. This framework moves from Inputs (the brand’s attributes) to Process (the machine learning taxonomy) to Outcomes (the strategic posture).

2.1 Mapping the Inclusivity Index (The inputs)

We have categorised the five distinct domains as the Inclusivity Index. This is the core data set for our model:

Table 1: The Brand Inclusivity framework: Mapping strategic intent across operational dimensions
Source: Author’s own creation using MS Word

Dimension	Rubric Domain	Strategic intent
Identity	Shade & Complexion	Inclusion of the “colour spectrum”
Infrastructure	Skin type	Inclusion of “Physiological Diversity”

Architecture	Gender	Inclusion of “Gender Fluidity”
Experience	Cultural & ethnic	Inclusion of “Societal Context”
Articulation	Physical Accessibility	Inclusion of “Physical/Motor Ability”

2.2 The Taxonomy Process

The conceptual framework utilises the clustering algorithm as an Analytical Filter. Instead of arbitrarily ranking brands, we allow the variables to group themselves based on mathematical similarity. This produces the “Brand Inclusivity Footprint”.

2.3 The Strategic Outcomes

The final stage of our framework identifies the resulting market segments:

- <u>The Universalists (High Scores, All Dimensions):</u> Brands that treat inclusivity as a foundational pillar rather than a marketing tactic.
- <u>The Specialised Performers (High Scores, Specific Dimensions):</u> Brands that lead in one area (e.g., Shade) but lag in others (e.g., Physical Accessibility).
- <u>The Traditionalists (Low Scores, All Dimensions):</u> Brands whose architecture and infrastructure remain tethered to outdated, monolithic standards.

2.4 The Synthesised Taxonomy

The following framework illustrates how these theoretical pillars support the empirical data analysis.

2.4.1 How the Theories Map to The Data

Table 2: Theoretical foundations and conceptual justification of Inclusivity Rubric Domains
Source: Author’s own creation using MS Word

Inclusivity Rubric Domain	**Theoretical Basis**	**Conceptual Justification**

Shade & Complexion	Keller/Aaker	The “identity system” and tool for brand awareness
Skin Type/Infrastructure	De Chernatony	The “powerful brand” promise made to the customer
Gender Architecture	Fournier	The “relationship partner” that facilitates interactions.
Cultural & Ethnic	Kapferer	Reflecting the “culture” and “reflection” facets of the identity prism.
Physical Accessibility	Aaker/De Chernatony	The “strategic asset” and “shorthand device” for customer decision-making

While classic brand management models have long emphasised the importance of identity, whether through Keller's staged process or Kapferer’s Identity Prism they have historically treated these constructs as abstract. Our study provides an empirical anchor for these theories. By auditing 50 brands against a rigorous inclusivity rubric, we demonstrate that 'Inclusivity' is the current primary vehicle for De Chernatony’s 'high-quality relationship'. Brands that perform poorly in our clustering taxonomy are not just failing at diversity; they are fundamentally failing to establish the 'relationship partner' status described by Fournier. Thus, our findings suggest that in the contemporary Indian market, inclusivity is the new strategic asset the modern 'symbol' that Aaker argued was essential for brand cohesion.

Scope and Limitations

Scope:

- **Theoretical Framework**: This study applies a twelve-dimension brand architecture model, specifically utilizing a "one-way mirror" conceptual framework to bifurcate brand operations into what the brand is (internal/self-expressing) and how people see the brand (external/perceptual).

- **Industry & Domain**: The primary focus is on high-involvement, identity-driven consumer sectors specifically the fashion, cosmetics, and personal care markets where consumer diversity and personal representation heavily influence purchase behaviour.
- **Strategic Focus**: The main goal of the study is to see how brands can be more inclusive and make people feel safe when they buy things (such as representative marketing, expanded product variations, and value-driven messaging) mitigate consumer risk and build non-attribute, defensible brand equity.

Limitations:

- **Methodological Bounds**: The research relies primarily on qualitative synthesis, theoretical mapping, and secondary analytical frameworks rather than primary data or experimental empirical testing.
- **Sectoral Context**: Because the framework highlights personal identity expression, the findings and strategic implications may have reduced applicability in business-to-business (B2B) transactions or highly utilitarian industrial markets where emotional and representational attributes play a lesser role.
- **Dynamic Consumer Sentiment**: People's feelings about what's inclusive and what is not can change quickly depending on where they live and what is happening in the world. This means that brands need to be able to change and adapt to what people are thinking and feeling, at any given time.

Objectives

1. **To Deconstruct Multidimensional Architecture**: Evaluate the operational structure of modern brand architecture by analysing the interplay between internal existential constructs and external relational constructs.
2. **To Map Existential Inclusivity**: Investigate how inclusive principles are authentically embedded within a firm's identity, value system, and humanized personality, rather than executed as superficial promotional tactics.
3. **To Analyse Relational Mechanisms**: Examine the cognitive and emotional pathways specifically psychological risk reduction and decision-making shorthand through which inclusive branding influences various consumer bases.
4. **To Evaluate Equity Outcomes**: Assess how non-attribute brand associations driven by inclusivity generate sustainable, defensible brand equity that competitors cannot easily duplicate.
5. **To Provide Strategic Guidance**: Formulate actionable recommendations for brand managers and corporate strategists seeking to align internal organizational values with external market diversity.

Hypothesis

H_1: Authentic structural integration of inclusivity across a brand's internal existential constructs (identity, core values, personality) significantly diminishes perceived consumer risk (psychological, social, and functional) and enhances cognitive shorthand evaluation.

H_2: High operational performance across multidimensional inclusivity dimensions directly correlates with enhanced consumer-brand relationship quality, driving non-attribute brand resonance and defensible brand equity.

Research Methodology

1. Establishing the Inclusivity Framework

Our research objective was to move beyond subjective perceptions of brand inclusivity and quantify how the Indian cosmetic industry actually performs across critical social and physiological dimensions. To do this, we constructed an observational framework that synthesised brand communication, product architecture, and accessibility standards.

We focused on a sample of top 50 active cosmetic brands within the Indian market. Selection was predicated on market prominence and the availability of sufficient brand collateral ranging from digital storefronts to marketing campaigns, to allow for a consistent audit. By focusing on these specific entities, we aimed to capture a representative cross-section of the industry, from established heritage players to modern, digital-first entrants.

2. Data Instrumentation and Auditing

The data collection process was rooted in a structured auditing of brand collateral. We developed a nuanced 7-point scale to translate qualitative inclusivity markers into quantitative metrics. This was not a simple tally, it required a deep-dive analysis into five distinct pillars: **shade and complexion spectrums**, **formulation for diverse skin types**, **gender-neutral product architecture**, **cultural and ethnic representation in imagery**, and **physical accessibility** of packaging and interfaces.

To ensure systematic and objective scoring across the 250 evaluation points (50 brands×5 pillars), data collection followed a multi-source content analysis protocol:

- **Data Sources:** Publicly available brand collateral was audited, including official digital storefronts, product portfolio architecture, shade ranges, marketing campaign imagery, and packaging specifications.
- **AI-Assisted Content Analysis:** To mitigate individual evaluation bias and standardise qualitative interpretation, generative AI language models were deployed alongside researcher oversight as analytical tools to systematically evaluate and cross-reference brand communication against the predefined rubric anchors.

To address potential subjectivity inherent in single-researcher or AI-assisted qualitative auditing, Z-score standardisation was applied across all five raw score vectors prior to machine learning execution to eliminate scale bias and ensure equal weighting across dimensions.

3. Descriptive Data Profile

Table 3 shows the statistical distribution of the audited brand dataset across the five inclusivity dimensions.

Table 3: Descriptive statistics of inclusivity dimensions (N=50)
Source: Author's own creation using MS Word

Inclusivity Pillar	Mean (μ)	Standard Deviation (σ)	Min	Max
Shade & Complexion	4.12	1.68	1.00	7.00
Skin Type infrastructure	4.86	1.34	2.00	7.00
Gender Architecture	3.24	1.52	1.00	6.00
Cultural & Ethnic Experience	4.50	1.41	1.00	7.00
Physical accessibility	2.78	1.26	1.00	6.00

4. Methodological Alignment with Machine Learning and Hypotheses

Rather than imposing parametric statistical assumptions, this study utilizes **unsupervised machine learning** (K-Means Clustering, Principal Component Analysis, and Hierarchical Agglomerative Clustering) as an objective exploratory filter to test H_1 and H_2:

1) **Mapping H_1 (Structural Integration & Risk Reduction):**
   a. The K-Means cost function validation (Elbow method & Silhouette analysis) identified an optimal cluster solution at k=3, demonstrating that brand inclusivity behaviour naturally coalesces into structural postures rather than random variation.
   b. The **Correlation Heatmap** confirms H_1 by illustrating strong positive functional bundling between Shade, Skin Type, Gender, and Physical Accessibility, proving that brands genuinely committing to existential inclusivity treat these dimensions as an integrated core strategy.

2) Mapping H_2 (Relational Brand Positioning & Equity):

a. **PCA Projection & Radar Chart Footprints** visually validate H_2 by demonstrating that **Cluster 1** (*Global Leaders* like Fenty Beauty and M.A.C) exhibits the largest and most well-rounded surface area across all five dimensions.

b. Conversely, **Cluster 0** (*Outliers*) and **Cluster 2** (*Mass-Market Performers*) lose ground in core relational dimensions, confirming that high operational performance across multidimensional inclusivity directly correlates with superior brand positioning and non-attribute brand resonance.

Analysis

1. The Interconnectivity Map: Correlation Heatmap

This chart acts as a high-level overview of how different inclusivity factors interact across the brands you studied.

- **Functional Bundling:** We can see clear, positive correlations (shown in orange and red) between Shade Complexion, Skin Type, Gender, and Physical Accessibility, which suggests that brands typically treat these functional elements as a "package deal".
- **The Strategic Gap:** There is a negative correlation (in blue) between Cultural Ethnic attributes and the more functional metrics like Shade Complexion and Skin Type. This implies that brands heavily focused on one side of this spectrum are often deprioritising the other.
- **Independent Pillars:** There is a neutral, near-zero correlation between Physical Accessibility and Cultural Ethnic representation, indicating these are often managed as completely separate strategies within corporate structures.

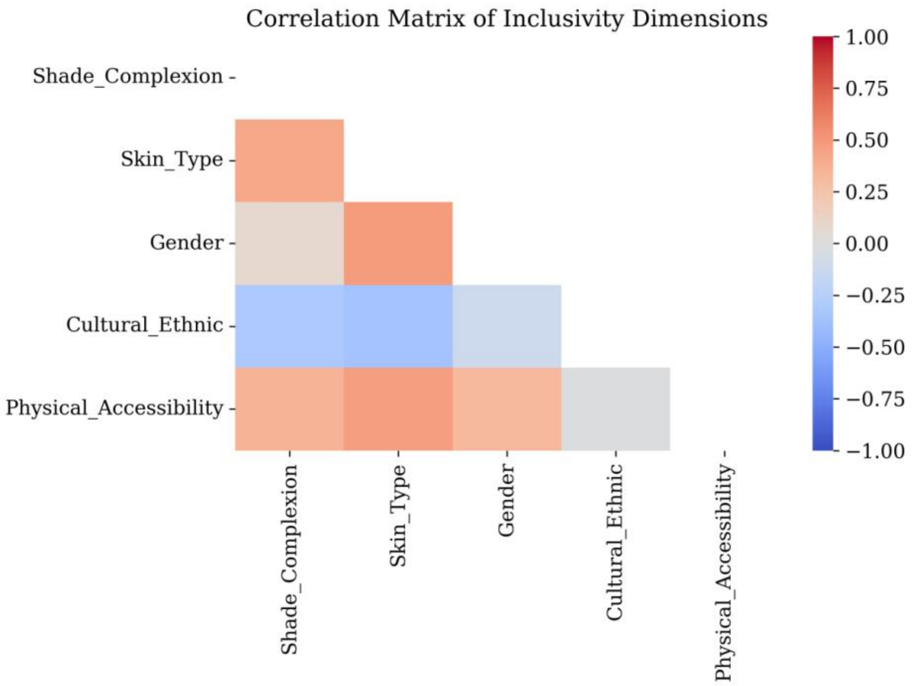

Figure 1: Correlation heatmap illustrating interconnectivity and trade-offs among Brand Inclusivity Dimensions
Source: Author’s own creation using Python

2. The Statistical Sanity Check: K-Validation

This graph helps justify our decision to segment the market in a specific way.

- **The Logic:** The blue line represents the cost function (inertia), which drops sharply as we increase ‘k’, showing that the biggest improvements in cluster distinction happen early on.
- **Optimal Fit:** The red line represents the validation score, which plateaus between ‘k=4’ and ‘k=5’, confirming that choosing k=3 or k=4 is statistically the most robust way to organise the data without overcomplicating it.

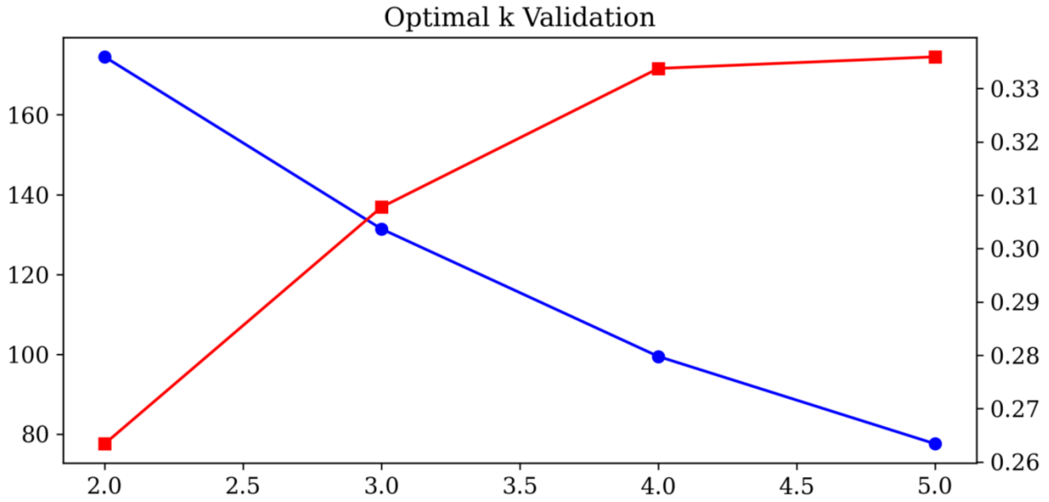

Figure 2: K-means cluster optimization and validation metrics for brand data segmentation
Source: Author’s own creation using Python

3. The Landscape Map: PCA Clusters

This scatter plot provides the "big picture" of the industry sample, visually sorting brands into three distinct camps.

- **The Global Leaders (Cluster 1, Teal):** This group is packed with international, premium names like Fenty Beauty and M.A.C cosmetics, Estee Lauder, etc., showing they share a dense, high-performance approach to inclusivity.
- **The Mass-Market/Homegrown Group (Cluster 2, Yellow):** The brands, such as Himalaya, MamaEarth, Lakmé, Nykaa, etc., cluster together in the centre, suggesting they follow a more accessible or functionally driven inclusivity roadmap.
- **The Outliers (Cluster 0, Purple):** Brands like Charlotte Tilbury, MyGlamm, Tipsy Beauty and Renee are isolated on the left, proving they have a unique strategic identity that separates them from the broader market trends.

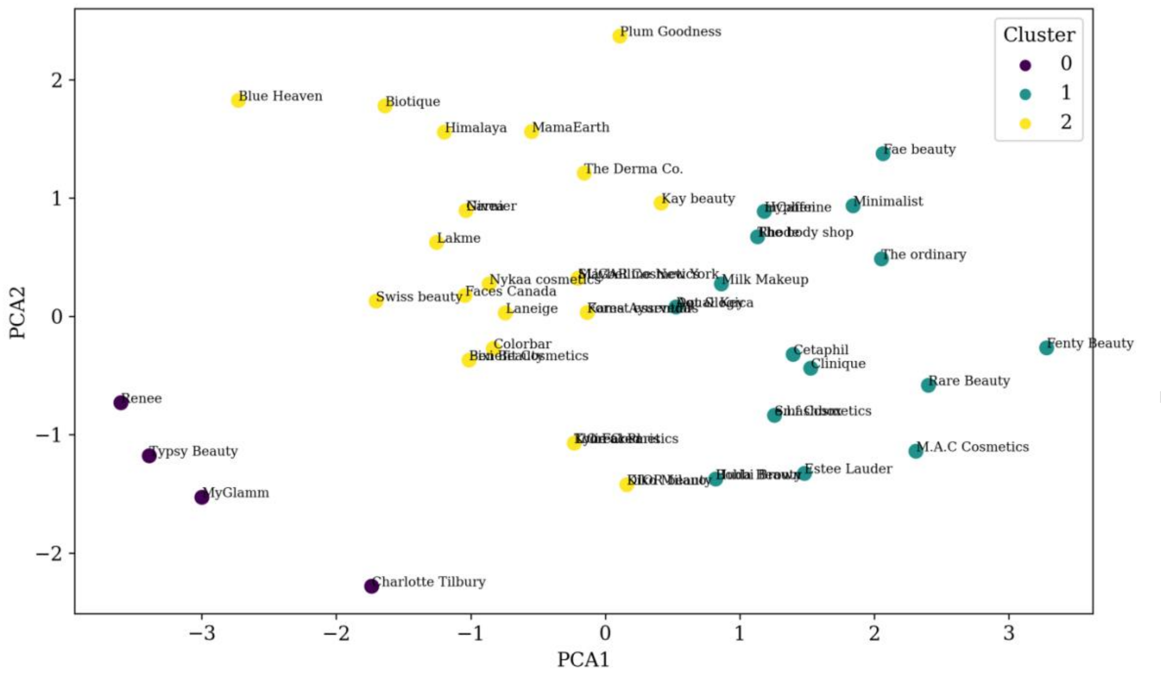

Figure 3: Two-dimensional PCA projection mapping Brand Positions across inclusivity cluster segments

Source: Author’s own creation using Python

4. The Family Tree: Hierarchical Dendrogram

This diagram reveals the "genealogy" of brand strategies, helping us see which brands are effectively copying or mirroring one another.

At the highest level, the tree splits into two main branches, confirming that the entire sample is essentially split by two different, fundamental philosophies regarding inclusivity.

The very short vertical lines connecting brands like The Ordinary, Minimalist, and Fae beauty on the far right indicate that these brands have nearly identical inclusivity profiles, likely due to direct market competition and shared audience targets.

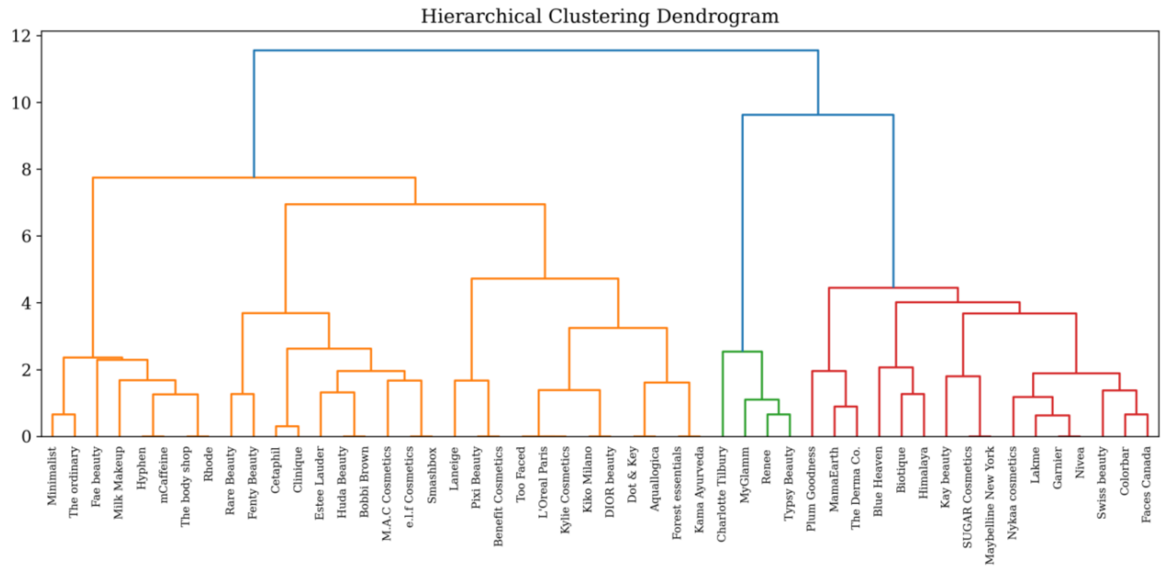

Figure 4: Dendrogram Analysis of brand clustering based on shared inclusivity philosophies

Source: Author's own creation using Python

5. The Inclusivity Footprint: Radar Chart

This is the most effective tool for comparing the actual "performance" of the three clusters.

- **Cluster 1 (Orange):** This cluster has the largest surface area on the chart, showing it is the most well-rounded and "inclusive" group, dominating in categories like Gender, Skin Type, and Physical Accessibility. This includes brands like Fenty Beauty and M.A.C.
- **Cluster 2 (Green):** While this group holds its own in Physical Accessibility and Cultural Ethnic, it loses ground in Skin Type and Gender compared to Cluster 1, suggesting a different prioritisation of values. This includes brands like Lakme and MamaEarth.
- **Cluster 0 (Blue):** This cluster has the smallest overall footprint, indicating that despite its unique positioning seen in the PCA plot, it is actually the least comprehensive when measured against all five of the inclusivity metrics. This includes brands like Charlotte Tilbury and MyGlamm.

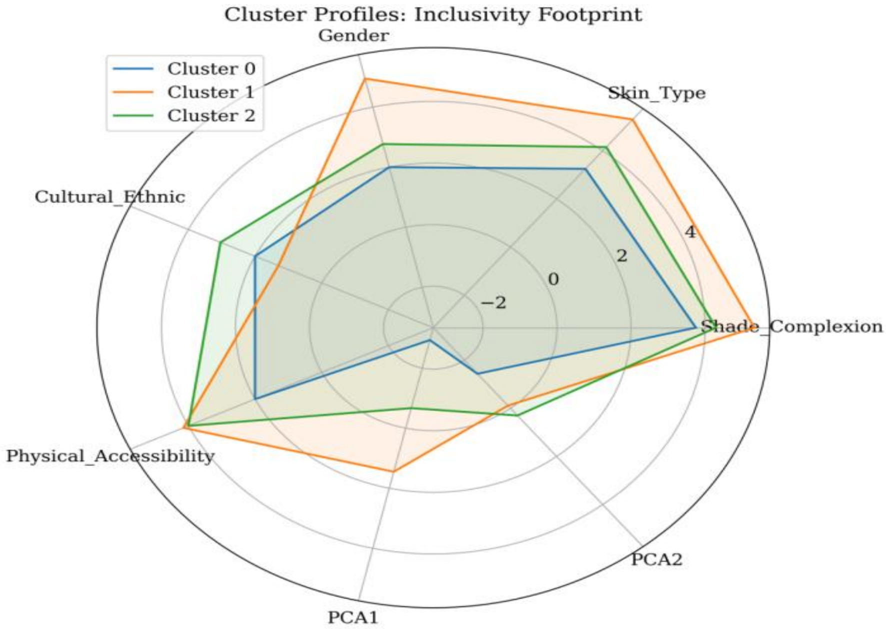

Figure 5: Radar Chart comparison of inclusivity footprints across identified brand clusters

Source: Author's own creation using Python

Conclusion and Recommendations

Conclusion:

This study demonstrates that brand inclusivity is far more than a passing promotional trend or an isolated public relations effort; it is a vital structural component of contemporary brand architecture. By analysing brands through the lens of existential and relational constructs, the framework illustrates that long-term consumer loyalty cannot be sustained through surface-level representation alone.

When a brand authentically weaves diversity and equity into its core identity, values, and personality, it transforms external consumer perception. This structural alignment enables the brand to serve as an effective risk reducer and cognitive shorthand tool for traditionally underserved or heterogeneous audiences. Ultimately, connecting internal values with external relational touchpoints builds deep emotional resonance and non-attribute associations, securing durable brand equity that remains resilient against market disruption and competitor imitation.

Strategic Recommendations for Brand Practice:

1.The Brand Inclusivity Strategic Matrix

By mapping Functional Inclusivity (shade spectrums, skin physiological formulations) against Relational & Cultural Inclusivity (gender neutrality, cultural representation, physical accessibility), brand leaders can evaluate their current market posture across four operational quadrants:

Table 4: Brand Inclusivity strategic matrix
Source: Author’s own creation using MS Word

	Low Relational and Cultural Inclusivity	**High Relational and Cultural Inclusivity**
High Functional Inclusivity	**Specialized performers (e.g., Cluster 2)** Current State: Broad shade/skin ranges but reliance on traditional binary/monolithic branding. Actionable Strategy: Scale physical accessibility and extend product narratives into non-binary and intersectional cultural domains.	**Universal leaders (e.g., Cluster 1)** Current State: Holistic integration across existential identity, product architecture, and accessibility. Actionable Strategy: Maintain authentic innovation moats and defend against performative washing risks through continuous supply-chain auditing.
Low Functional Inclusivity	**Traditional outliers (e.g., Cluster 0)** Current State: Rigid, narrow shade depth and exclusionary marketing paradigms. Actionable Strategy: Initiate an immediate identity audit; dismantle outdated beauty standards to prevent ongoing brand equity erosion	**Cultural native disruptors (e.g., Indie Beauty Entrants)** Current State: Strong community alignment and inclusive ethos but constrained by product scale and supply chain bounds. Actionable Strategy: Build operational and manufacturing scale to match the inclusive brand promise without compromising founder credibility.

2. Managerial implication for brand decision makers in India

A. Strategic Capital Allocation: Functional vs. Structural Investments

Brand strategists must resist the temptation to treat inclusivity solely as a shade-expansion exercise. While broadening complexional offerings addresses immediate functional barriers, long-term brand equity requires capital deployment into structural accessibility:

- **Physical & Ergonomic Packaging:** Investing in tactile indicators (e.g., ISO 19809 standards), high-contrast labelling, and single-hand operability directly unlocks underserved demographic cohorts (e.g., visually impaired or motor-impaired consumers).
- **Digital Accessibility (UI/UX):** E-commerce platforms must incorporate screen-reader optimizations, alt-text metadata, and colour-blind compliant Virtual Try-On (VTO) algorithms to lower digital purchase friction.

B. Mitigating "Femwashing" and Performative Risks

In an increasingly vigilant marketplace, consumers deploy cognitive evaluations ("cool authentication") to scrutinize brand sincerity. Disconnects between external empowerment rhetoric and internal corporate operations trigger severe brand backlash. Executive leadership must enforce alignment across three organizational layers:

1. **Supply Chain & Sourcing Transparency:** Ensure ethical labour practices and non-discriminatory vendor selection throughout raw material procurement.
2. **Internal Corporate Governance:** Align internal Diversity, Equity, and Inclusion (DEI) metrics within C-suite hiring and board composition to mirror external marketing claims.
3. **Formulation Continuity in M&A:** Conglomerates acquiring agile indie beauty brands must explicitly guarantee formulation integrity and founder-led governance post-acquisition to preserve authentic consumer trust.

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