

BUILDING PHARMA BRANDS WITH THE 7PS, INCLUDING THE GREEN P: A 7PS 3D CONCEPTUAL MODEL OF LEGITIMACY, EQUITY, AND MARKET IMPACT

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ABSTRACT

Pharmaceutical brands compete in tightly regulated markets where legitimacy with authorities and trust among physicians and patients determine enduring success. Yet most studies remain promotion-centric and overlook how the full marketing mix shapes sustained brand equity and market outcomes. This paper advances a 7Ps–3D framework that embeds a distinct, auditable Green P sustainability as an equal element of the marketing mix. The model links all seven Ps to three sequential outcomes: legitimacy (D_1), trust-based equity (D_2), and market impact (D_3) under a governance overlay of claim–practice congruence, substantiation files, and third-party assurance. Fourteen propositions connect $D_1 \rightarrow D_2 \rightarrow D_3$, moderated by regulatory stringency, therapy risk, and digital maturity, with boundary effects where incongruence weakens outcomes. For managers, the framework offers a diagnostic blueprint to integrate sustainability metrics and governance safeguards into marketing decisions, enabling defensible gains in legitimacy, equity, and performance while aligning competitive advantage with ESG priorities.

Keywords: Pharmaceutical Marketing, 7Ps–3D Framework, Green P, Brand Legitimacy, Brand Equity, Market Impact, Sustainability in Marketing, Marketing Governance.

INTRODUCTION

Pharmaceutical brands compete under intense regulatory scrutiny and rising expectations from physicians, patients, and payers. In this environment, brand credibility is a prerequisite for access and adoption, and performance increasingly depends on demonstrable legitimacy with regulators and healthcare professionals, authentic equity with stakeholders, and market impact that extends beyond promotional spend (Anthuvan & Maheshwari, 2024; Anthuvan & Maheshwari, 2025). Yet despite extensive research on the marketing mix in healthcare, scholarship has struggled to specify how the full set of seven Ps translates into brand-building pathways that matter in regulated markets.

A central gap lies in the treatment of sustainability. Although it increasingly influences pricing latitude, access, and reputational risk, sustainability has rarely been integrated as a structured element within pharmaceutical marketing or linked to brand outcomes through testable relationships. Most studies privilege promotion over the full mix, treat trust, authenticity, and legitimacy as implicit or secondary, and separate ESG discourse from marketing decision-making (Festa et al., 2022; Elrod & Fortenberry, 2020; López-Toro, Sánchez-Teba, Benítez-Márquez, & Rodríguez-Fernández, 2021). Our accepted systematic review of pharmaceutical marketing synthesized 64 peer-reviewed studies published between 2015 and 2025 across Scopus, Web of Science, and PubMed and revealed persistent weaknesses: overemphasis on promotion, limited attention to brand-building outcomes

(legitimacy, equity, impact), and insufficient integration of sustainability within the marketing mix (Anthuvan, Kumar, Maheshwari, & Naresh, 2026).

This paper advances a 7Ps–3D conceptual model in which all seven Ps—including a distinct Green P representing sustainability—jointly shape three sequential brand outcomes: D1 brand legitimacy (regulatory, professional, and patient credibility), D2 brand equity (authenticity and trust), and D3 market impact (adoption intent, market share, and pricing latitude). The model articulates grouped propositions linking each of the seven Ps to D1, D1 to D2 through authenticity and trust, and D2 to D3, while also identifying moderators such as regulatory stringency, therapy risk, firm size, and digital maturity, and boundary conditions where claim–practice incongruence weakens effects. A measurement blueprint and governance safeguards are also provided to guide implementation through managerial dashboards and evidence-based routines, enabling brand teams to translate marketing choices—including sustainability commitments—into defensible performance outcomes.

Relation to prior SLR. This manuscript builds on an accepted systematic review that established a broader 7Ps–6D perspective on pharmaceutical marketing (Anthuvan et al., 2025) but constitutes a distinct, brand-focused contribution. The evidence base is adapted to D1–D3 brand outcomes, and new theories, propositions, measures, and figures are developed to advance understanding of how sustainability can strengthen legitimacy, equity, and market impact in pharmaceutical branding International Organization for Standardization (2015).

The remainder of the paper outlines the evidence base and methods, presents the 7Ps–3D model and grouped propositions, and concludes with a constructs-and-measures blueprint, governance safeguards, and implications for managers, policymakers, and researchers International Organization for Standardization (2016).

LITERATURE REVIEW

Regulatory and Market Heterogeneity: Why Legitimacy (D1) Comes First

Pharmaceutical brand building begins with legitimacy (D1) because access, visibility, and pricing latitude depend more on credibility than persuasion. In highly regulated systems, formulary inclusion, reimbursement, and procurement are determined by evidence standards and risk–benefit judgments that precede any marketing effort (Vogler, Salcher-Konrad, & Habimana, 2023; Elrod & Fortenberry, 2020). In prescription-only markets, promotional activity operates under strict ethical codes, making regulatory approval and health-care professional trust the real gateways to adoption and coverage (Festa et al., 2022; Porcu, García, & Kitchen, 2020). Brands that consistently align scientific claims, safety transparency, access reporting, and code-compliant engagement earn legitimacy that translates into guideline endorsements, payer acceptance, and formulary listings—core levers for utilization and growth. Conversely, when credibility falters, even large promotional budgets struggle to move share or price realization (Anthuvan et al., 2024; Qiu et al., 2025). Regulatory legitimacy cues (D1) are strengthened by full-mix branding—coherence across Product, Price, Place, People, and Process—which also compounds downstream D2 outcomes such as trust, loyalty, and equity. In practice, D1 credibility is the precondition through which D2 relationships are built and, ultimately, converted into D3 market impact via coverage breadth, prescribing latitude, and payer willingness to pay (Milanesi, Runfola, & Guercini, 2020; López-Toro et al., 2021).

Full-Mix Branding Beyond Promotion

Promotion-centric strategies often underperform on brand legitimacy (D1) and brand equity (D2) because credibility in regulated markets arises from coherence across the entire

marketing mix—not from messaging alone (Elrod & Fortenberry, 2020; Anthuvan et al., 2026). While prescriptions may initially respond to promotional stimuli or pricing offers, these effects rarely translate into enduring trust or loyalty without broader strategic alignment (Hailu, Workneh, & Kahissay, 2021; Desveaud et al., 2024). Empirical research linking CSR initiatives and marketing-mix levers to brand loyalty shows that authenticity and perceived credibility mediate the pathway from firm actions to sustained brand outcomes (Štreimikienė & Ahmed, 2021; Porcu, García, & Kitchen, 2020). This evidence underscores the need to reposition the full set of seven Ps—including a distinct Green P—as inputs to D1 and D2, correcting the long-standing bias toward promotion alone (Anthuvan et al., 2026; Festa et al., 2022).

In pharmaceutical contexts, product choices (quality and evidence transparency), price policies (fairness and access), process design (reliability and compliance-by-design), and people practices (ethical, code-compliant engagement) all serve as credibility cues that regulators and clinicians interpret as markers of legitimacy (D1). These same levers reinforce authenticity and trust (D2) among wider stakeholders (Elrod & Fortenberry, 2020; Milanese et al., 2020). The traditional Physical Evidence element is therefore redefined as the Green P, framing sustainability as a measurable marketing input—through verified environmental claims, responsible sourcing, or reduced packaging intensity—rather than as a peripheral CSR activity (López-Toro et al., 2021; Soete, Jiménez-González, Dahlin, & Dewulf, 2017). This full-mix orientation aligns with emerging empirical findings that integrated levers—rather than isolated promotional tactics—drive higher levels of loyalty and brand equity (Štreimikienė & Ahmed, 2021; Hailu et al., 2021). Table 1 summarizes empirical models connecting the marketing mix—including sustainability components where present—to D1–D3 brand outcomes (Shi & Jiang, 2023).

Green P as a Brand Input: From Compliance to Authenticity

Sustainability becomes a genuine part of brand-building only when it is treated as a managed and measurable element of the marketing mix—the Green P. In pharmaceuticals, this takes the form of verifiable environmental and social claims within code-compliant materials, access programs that disclose eligibility and outcomes transparently, carbon-efficient packaging and take-back pilots, ethical sourcing with traceable suppliers, and life-cycle assessments verified by independent agencies. Each of these actions supports brand legitimacy (D1) when evidence, claims, and behavior are consistent with regulatory and professional expectations, and they reinforce authenticity and trust (D2) when physicians, patients, and partners can clearly see that what the brand communicates is matched by what it does (Elrod & Fortenberry, 2020; Milanese et al., 2020; López-Toro et al., 2021).

These initiatives lend themselves to quantification through practical indicators such as the percentage of recycled or bio-based content per standard dose, packaging-to-dose weight, share of verified claims in promotional content, depth of ESG disclosure against recognized benchmarks, supplier due-diligence coverage, and the proportion of life-cycle reports backed by third-party assurance (Soete et al., 2017; Štreimikienė & Ahmed, 2021). Unlike routine compliance lists, an authenticity-driven Green P stresses audited evidence and code-consistent communication that can withstand regulatory and public scrutiny. By connecting sustainability choices directly to D1 credibility and, in turn, to D2 equity through perceived integrity and reliability (Porcu et al., 2020; Anthuvan et al., 2026), the Green P shifts sustainability from a peripheral CSR exercise to a core element of marketing strategy. In essence, the Green P is a measurable marketing input grounded in traceability, verification, and anti-greenwashing discipline—setting the stage for cross-industry metrics discussed in Section 2.5.

Where Current Models Fall Short—and What We Add

Despite incremental advances, prevailing pharmaceutical marketing models remain promotion-centric, foregrounding messaging and financial inducements while underspecifying non-promotional levers such as Product, Price, Process, People, and Place. This bias weakens external validity in regulated settings where credibility arises from coherence across the full mix. Second, most studies omit explicit brand outcomes for decision legitimacy and brand equity (D1 and D2), concentrating instead on tactical prescribing metrics (D3). As summarized in Table 1 (Section 3), even sophisticated approaches (e.g., SEM, meta-analytic models, and neuromarketing tools) predominantly explain prescriptions or short-run engagement, with loyalty, trust, and legitimacy either proxied imperfectly or excluded. Third, sustainability is rarely embedded as a structured marketing input; green claims are treated as peripheral CSR rather than a measurable lever within the mix. This omission invites construct under-representation and greenwashing risk because firms can communicate sustainability without operational alignment in product, packaging, or process. To address these deficits, we advance a 7Ps–3D architecture that (i) rebalances the mix beyond promotion, (ii) centers D1/D2 as primary brand outcomes with D3 as consequential performance, and (iii) formalizes a Green P with auditable metrics, assurance pathways, and governance safeguards. These observed gaps provide the foundation for the 7Ps–3D conceptual model proposed in the subsequent section.

Table 1 MARKETING-MIX COMPONENTS AND SUSTAINABILITY DIMENSIONS: MAPPING THE 7PS AND THE GREEN P					
Author(s) & Year	Model Type	Independent Variables (IVs)	Dependent Variables (DVs)	Key Insights	Sustainability/Green P Inclusion
Hailu et al. (2021)	Multiple Linear Regression	Product, Price, Place, Promotion (4Ps)	Prescribing Behavior (D1)	Price and promotion exert strong influence on prescriptions but do not build trust or loyalty.	No
Al Thabbah et al. (2022)	Binary Logistic Regression	Demographics, Marketing Exposure	Prescribing Practices (D1)	Private-sector physicians more responsive to pricing stimuli than public sector.	No
Štreimikienė & Ahmed (2021)	SEM (Mediation/Moderation)	CSR, Marketing Mix	Brand Loyalty (D2), Buying Behavior	CSR effects on loyalty are mediated by authenticity and moderated by technology use.	Partial
Desveaud et al. (2024)	Meta-Analytical SEM	Brand Experience, Consumer–Brand Bonding	Brand Loyalty (D2)	Brand experience and bonding consistently mediate	No

				marketing strategies and loyalty.	
Alsharif et al., (2023)	Neuromarketing Analysis	Advertising, Product Packaging, Price	Neural Responses (Emotion, Attention, Memory)	Validates emotional and cognitive pathways activated by marketing stimuli.	No
Anthuvan et al. (2026)	Systematic Review – Conceptual Model (7Ps–6D with Green P)	Product, Price, Place, Promotion, People, Process, Green P	Prescribing Behavior (D1), Brand Loyalty (D2), Stakeholder Engagement (D3)	Introduces 7Ps–6D model integrating sustainability (Green P) as a strategic input for legitimacy and equity.	Explicit

Note: The final column indicates whether sustainability or green marketing elements were explicitly (Yes), indirectly (Partial), or not (No) incorporated in the model. All references are included in the manuscript reference list.

Cross-Industry Signals, Pharma-Ready Measures

Cross-industry evidence from FMCG, packaging, and circular-economy research shows that auditable Green P levers can be operationalized through standards-aligned, transferable metrics. Packaging intensity—material use per clinical exposure (grams per DDD or per pack)—is complemented by recycled-content shares and validated recyclability benchmarks, all linked to EPR design and recovery outcomes (OECD, 2022; Ellen MacArthur Foundation, 2019). Verified sustainability claims reduce deception risk when aligned with ISO 14001 environmental management systems, ISO 14021 self-declared environmental claims, and the GHG Protocol scopes, while emerging digital product passport requirements strengthen traceability and component-level disclosure (European Commission, 2023). Supplier ESG assurance enhances credibility through certified audits across critical tiers (e.g., FSC, 2021; PEFC, 2020; ISO 19011 audit guidance; SA8000/SMETA practice). Within pharmaceuticals, these translate into KPIs such as packaging-to-dose ratios, PCR/PIR content by component, recyclability compliance rates, EPR participation and take-back performance, claim-verification ratios, and DPP-enabled SKU share—providing auditable inputs and governance signals that pre-empt greenwashing and underpin the Section 3 measurement architecture.

THEORETICAL FOUNDATIONS

The 7Ps–3D framework integrates classical marketing theory, outcome-based models, and ethical–relational perspectives. These foundations are grouped thematically to clarify how they inform the model’s design and practical relevance Li & Kallas, (2021).

Marketing Strategy Theories

Marketing-mix theory has long underpinned strategic thinking, evolving from McCarthy’s 4Ps to Booms and Bitner’s 7Ps, which extended its applicability to service contexts (McCarthy, 1960; Booms & Bitner, 1981). Within pharmaceuticals, structured

syntheses of these dimensions confirm their persistent relevance and contextual adaptations (Štros & Lee, 2015). Building on this lineage, the 7Ps–3D model replaces Physical Evidence with the Green P (Sustainability), emphasizing the integration of environmental and social priorities into the marketing core. Unlike earlier interpretations that treated sustainability as peripheral CSR, the Green P integrates eco-efficient packaging, ethical sourcing, responsible product design, and transparent ESG communication as central drivers of differentiation (Milanesi et al., 2020). This reframing positions sustainability at the heart of pharmaceutical marketing and aligns with emerging expectations of ESG-anchored legitimacy and green branding.

Outcome-Centric and Behavioral Models

The “3D” dimension introduces a sequential outcome pathway linking marketing inputs to progressive brand responses. Prescribing behavior (D1) represents the immediate behavioral response to marketing stimuli, which subsequently builds attitudinal loyalty and trust (D2) and expands into multi-stakeholder engagement (D3). This cascade reflects empirical links between marketing-mix strategies and physician decision-making (Hailu et al., 2021) and brand-equity models demonstrating how trust and emotional attachment sustain brand preference and repeat prescribing (Kotler & Keller, 2016). Incorporating this logic moves the framework beyond transactional effects toward the cultivation of long-term, sustainability-anchored brand relationships.

Ethical and Relational Anchors

Amid increasing scrutiny, legitimacy in pharmaceutical marketing depends on ethical conduct and stakeholder trust. Stakeholder theory extends engagement beyond prescribers to include regulators, institutions, and wider communities (Freeman, 1984). Carroll’s CSR Pyramid positions ethical responsibility as the foundation of legitimacy (Štreimikienė & Ahmed, 2021), Cohen, (2025). Customer engagement theory highlights how participatory approaches deepen loyalty and advocacy (Barari et al., 2021), while co-creation research underscores the credibility gained when clinicians and patients are involved in program design (Scandellius & Cohen, 2016). Internal green marketing further strengthens employee alignment and external brand citizenship (Amireh, 2021). Collectively, these perspectives reinforce the Green P’s integrative role and explain the outcome chain from D1 to D3, as summarized in Table 2.

Table 2 SUMMARY OF THEORETICAL CONSTRUCTS INFORMING THE 7PS–3D FRAMEWORK				
Thematic Group	Theory/Model	Purpose in Framework	Mapped to	Key Reference(s)
Strategic Marketing Foundations	Marketing Mix Theory (4Ps/7Ps)	Structure of strategic inputs	All 7Ps	McCarthy (1960); Booms & Bitner (1981)
	Green Marketing & ESG Branding	Strategic role of sustainability in brand differentiation	Green P	Milanesi et al. (2020); Barbosa et al. (2023)

	ESG Integration Models	How ESG criteria are embedded into business and marketing	Green P	Aldowaish et al., (2022); Yu et al. (2024)
	Safe & Sustainable by Design (SSbD)	Embedding sustainability into product design and packaging	Green P	Puhlmann et al. (2024); Soete et al. (2017)
Outcome & Behavior Models	Outcome-Based Evaluation	Links marketing-mix strategies to measurable relational outcomes	D1–D3	Kumar et al. (2020); Anthuvan et al. (2026)
	Behavioral Marketing Theory	Explains prescriber response to marketing stimuli	D1	Hailu et al. (2021); Lieb & Scheurich (2014)
	Brand Equity & Loyalty Models	Basis for repeat prescriptions and emotional loyalty	D2	Kotler & Keller (2016)
	Omnichannel & Digital Integration	Builds trust through coherent, personalized engagement	D1, D2	Porcu et al. (2020); Yang et al. (2025)
Ethical & Stakeholder Anchors	Stakeholder Theory	Engagement beyond prescribers to regulators and communities	D3	Freeman (1984); Aksoy et al. (2022)
	CSR Pyramid	Ethical responsibility as foundation of legitimacy	D2, D3	Štreimikienė & Ahmed (2021)
	Customer Engagement Theory	Participatory loyalty and advocacy	D2, D3	Barari et al. (2020)
	Co-Creation / Participation	Involving doctors and patients in design and communication	Green P, D2	Scandellius & Cohen (2016); Chowdhury (2024)
	Internal Green Marketing	Employee alignment and brand citizenship	Green P	Amireh (2021)

Model Development and Propositions

The 7Ps–3D framework was developed through a structured, three-stage process: (i) literature mapping, (ii) theoretical synthesis, and (iii) expert validation through a focus group discussion (FGD) with senior pharmaceutical marketers.

Literature Mapping and Theoretical Synthesis

This study extends an accepted systematic review of pharmaceutical marketing (Anthuvan, Kumar, and Maheshwari, 2025, *World Journal of Entrepreneurship, Management and Sustainable Development*) that established the 7Ps–6D framework. The present work narrows that evidence base to brand-building outcomes and develops a 7Ps–3D conceptual model linking the full marketing mix—including a distinct Green P—to D1 brand legitimacy, D2 brand equity (authenticity and trust), and D3 market impact (adoption intent, market share, and pricing latitude). The evidence base consisted of peer-reviewed English-language publications from 2013 to 2024 indexed in Scopus, Web of Science, and PubMed. Bibliometric mapping was applied to identify networked studies examining pharmaceutical marketing strategies and their branding, regulatory, or market effects. Both conceptual and empirical works were reviewed, and quantitative indicators (β -values, odds ratios, p-values) informed directional interpretation.

An additional brand-building filter was applied to the accepted SLR's included set, retaining studies that operationalized at least one of the D1–D3 outcomes. Each study was coded across the seven Ps—Product, Price, Place, Promotion, People, Process, and Green P—and mapped to brand-building pathways. Practitioner input from senior pharmaceutical marketers guided refinements in construct definitions, measurement indicators, and moderator identification (regulatory stringency, therapy risk, firm size, and digital maturity). Boundary conditions were also noted where claim–practice incongruence could weaken effects. Findings were synthesized into grouped propositions mapping the full 7Ps (including the Green P) to D1, D2, and D3 via the directional chain 7Ps $\rightarrow$ D1, D1 $\rightarrow$ D2, and D2 $\rightarrow$ D3, with empirical estimates guiding directional plausibility and qualitative insights explicating mechanisms. The adapted PRISMA flow diagram for the brand-building subset is presented in Appendix A (Figure 2

) (Page et al., 2021).

Expert Validation Through Focus Group Insights

To ensure practitioner relevance, a pilot FGD was conducted with twelve senior professionals from leading Indian pharmaceutical companies, including marketing heads, business-unit leaders, brand managers, and digital specialists. Each participant had over a decade of strategic or operational experience. The discussion focused on four themes: (1) effectiveness of traditional versus extended 7Ps strategies, (2) the role of sustainability in brand building, (3) connections between marketing actions and long-term outcomes, and (4) organizational readiness for ESG-aligned marketing. Insights emphasized the pivotal role of People, Process, and the Green P, particularly in the context of digital transformation and ESG integration. Participants endorsed inclusion of the Green P, sharing examples from CSR campaigns, sustainable packaging, and compliance dashboards that enhance transparency and stakeholder trust. The D1–D3 outcome chain was validated as a realistic structure for understanding brand equity building in regulated markets. Based on the discussion, constructs such as phygital outreach, compliance communication, and CSR visibility were refined to bridge academic framing with field practice and to inform future empirical testing.

Participation was voluntary, non-attributable, and limited to professional insights; no patient-level or personally identifiable data were collected.

Model Rationale

Prevailing approaches to pharmaceutical marketing remain promotion-centric and under-specify how the full marketing mix contributes to credible brand building in regulated contexts. The 7Ps–3D framework advances this field by integrating a distinct, auditable Green P as a full peer within the mix and by positioning legitimacy (D_1) as the necessary precursor to equity (D_2 : authenticity and trust) and, in turn, to market impact (D_3). The central premise is that sustainable, well-governed marketing decisions signal credible intent and evidence-based practice—first establishing legitimacy with professional and consumer stakeholders (D_1), then translating into perceived authenticity and trust (D_2), and ultimately driving adoption, share growth, and pricing latitude (D_3) Streimikiene & Ahmed, (2021).

The framework departs from CSR sidebars by treating sustainability as an operationalized marketing lever anchored in verifiable actions such as responsible product design, decarbonized operations, sustainable packaging, take-back programs, and supplier-standard enforcement. A governance overlay—comprising claim substantiation, compliance, and transparency—binds People, Process, and Promotion to Product realities, mitigating greenwashing risk and strengthening decision credibility. Three context moderators—regulatory stringency, therapy risk, and digital maturity—shape the strength of pathways from the Ps to legitimacy (D_1) and from legitimacy to equity (D_2), explaining variations across prescription (Rx) versus over-the-counter (OTC) segments and across markets such as India, the EU, and the US Lopez-Toro et al., (2021).

Designed for empirical validation, the model specifies propositions (PR1–PR5) covering:

1. positive effects of P_1 – P_7 on D_1 ;
2. sequential $D_1 \rightarrow D_2 \rightarrow D_3$ links;
3. moderation by regulatory stringency, therapy risk, and digital maturity; and
4. Attenuation of all positive paths under claim–practice incongruence.

This structure supports multi-informant, two-wave empirical designs (marketers for mixed inputs and governance; prescribers for D_1/D_2 in prescription markets; consumers for D_2/D_3 in OTC settings) and enables testing of mediation, moderation, and the incremental validity of the Green P through SEM frameworks.

Conceptual Model Overview

The 7Ps–3D framework models how the full marketing mix—including a distinct, auditable Green P—builds credible brands in regulated pharmaceutical contexts. Sustainable, well-governed decisions across P_1 – P_7 first establish brand legitimacy (D_1), which then translates into equity (D_2 : authenticity and trust) and ultimately market impact (D_3 : adoption, share growth, and pricing latitude). A governance overlay (claim substantiation, compliance, transparency) ensures claim–practice congruence and mitigates greenwashing risk, while three moderators—regulatory stringency, therapy risk, and digital maturity—shape the strength of the $P_s \rightarrow D_1$ and $D_1 \rightarrow D_2$ pathways across Rx and OTC contexts and across markets (e.g., India, EU, US). Propositions PR1–PR5 summarize these relationships, enabling empirical tests of mediation, moderation, and the incremental validity of the Green P. The overall structure of these relationships is illustrated in Figure 1, and Propositions PR1–PR5 summarize the expected mediation, moderation, and incremental validity of the Green P within the model.

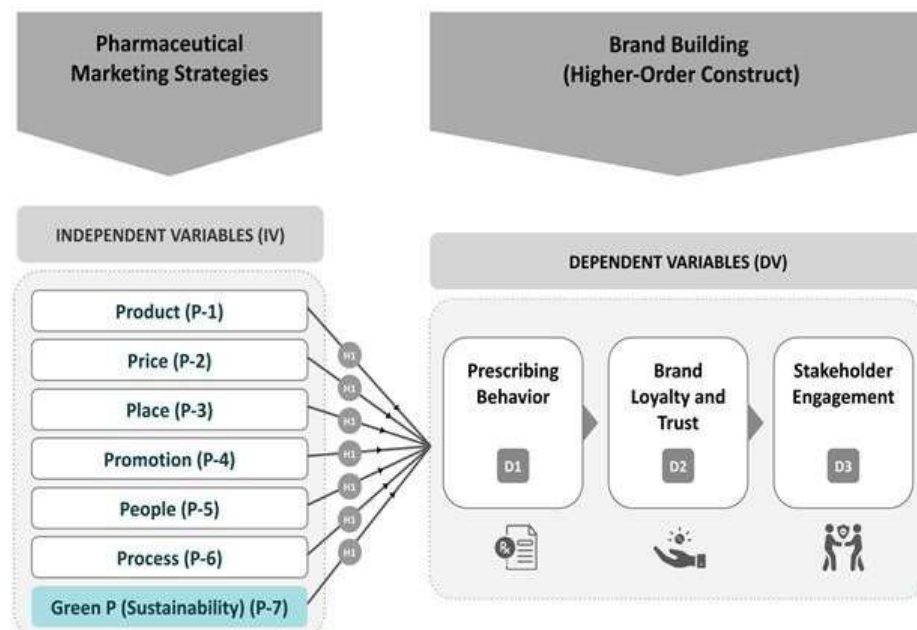


FIGURE 1
CONCEPTUAL MODEL OF THE 7PS-3D FRAMEWORK

Left = 7 Ps (P_1 – P_6 + P_7 ; Green P shown in distinct color); Center = $D_1 \rightarrow D_2 \rightarrow D_3$ chain; Top ribbon = moderators (regulatory stringency, therapy risk, digital maturity); Shaded boundary = claim–practice incongruence; Dotted arrows = optional direct effects ($Product \rightarrow D_3$; $Price \rightarrow D_3$). Green P (formative, auditability overlay) is depicted as a full peer within the mix. Authors’ conceptual development (2025).

Construct Definitions and Propositions

To operationalize the 7Ps–3D framework, each marketing-mix input (P_1 – P_7) and outcome (D_1 – D_3) is defined in concise, measurable terms with indicative literature anchors (Table 3). Equity (D_2) is operationalized through authenticity and trust as its core sub-dimensions. Green P (P_7) is modeled as a formative construct comprising verifiable sub-facets—sourcing, packaging, waste reduction, digital substitution, and transparency—each evaluated through auditability and claim–practice congruence. For managerial and empirical translation, Table 4 presents auditable indicators for Green P implementation. Finally, Table 5 summarizes the five propositions (PR1–PR5) that link the marketing mix to sequential brand outcomes and contextual moderators, forming the model’s testable foundation De Soete et al., (2017).

Table 3 CONSTRUCT MATRIX: DEFINITIONS AND ROLES FOR THE 7PS-3D FRAMEWORK			
Construct	Role	Definition (plain language, ≤ 2 lines)	Key Source(s)
Product (P_1)	Independent	Brand formulation, features, and therapeutic quality define clinical credibility.	Hailu et al., 2021
Price (P_2)	Independent	Perceived fairness and value are reflected in pricing strategy and affordability.	Shi & Jiang, 2022

Place (P ₃)	Independent	Reach and accessibility through distribution, channel coverage, and stockist efficiency.	Saxena, Balani, & Srivastava, 2021
Promotion (P ₄)	Independent	Integrated communication via detailing, CME, sampling, and digital/print media.	Milanesi et al., 2020; Chaudhuri et al., 2024
People (P ₅)	Independent	Competence and credibility of field-force or medical-affairs interactions.	Al Thabbah et al., 2022
Process (P ₆)	Independent	Efficiency and reliability of internal delivery, supply, and complaint-redress processes.	Saxena, Balani, & Srivastava, 2022
Green P (P ₇)	Independent (formative)	Sustainability as a full mix element—responsible design, low-carbon operations, recyclable packaging, take-back programs, supplier standards—validated by auditability and claim–practice congruence.	Milanesi et al., 2020; Amireh, 2021; Barbosa et al., 2023
Legitimacy (D ₁)	Dependent	Perceived professional/regulatory credibility arising from compliant and ethical practices.	Kotler & Keller, 2016; Choudhary et al., 2023
Equity (D ₂)	Dependent	Overall brand equity is operationalized through authenticity and trust, leading to loyalty and advocacy.	Desveaud et al., 2024; Aly et al., 2025
Market Impact (D ₃)	Dependent	Tangible performance outcomes—adoption intent, share growth, and pricing latitude—reflect sustained stakeholder support.	Freeman, 1984; Aly et al., 2025

Table 4 INDICATIVE AUDITABLE METRICS FOR OPERATIONALIZING GREEN P (P₇)		
Dimension of Green P	Example Indicator(s)	Reference(s)
Sustainable sourcing	% of raw materials ethically or locally sourced; supplier ESG conformance rate	Milanesi et al., 2020
Eco-friendly packaging	% recycled or biodegradable content; carbon footprint per pack (Scope 3)	Soete et al., 2017; Puhlmann et al., 2024; Becker et al., 2022
Digital substitution	% detailing conducted digitally; reduction in printed materials and samples	Milanesi et al., 2020
Waste reduction / take-back	Volume of expired samples safely recovered; % waste recycled; reverse-logistics coverage	Soete et al., 2017
Transparency & reporting	Public ESG disclosures incl. Scope 3 data, % targets achieved, and third-party assurance	Barbosa et al., 2023

Claim–practice congruence	% of claims with substantiation files; external audit pass rate; corrective-action closure time	Governance/Compliance literature
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Table 5
PROPOSITION SUMMARY (PR1–PR5)

Code	Proposition	Direction	Theory Anchor	Test Method
PR1a–g	Each of P ₁ –P ₇ positively influences brand legitimacy (D ₁).	Positive	Stakeholder & Signaling Theory	SEM paths (P ₁ :P ₇ → D ₁)
PR2	Legitimacy (D ₁) positively influences Equity (D ₂ : authenticity and trust).	Positive	Legitimacy–Trust Link	D ₁ → D ₂ path
PR3	Equity (D ₂) positively influences Market Impact (D ₃).	Positive	Relationship Marketing / Brand Equity Theory	D ₂ → D ₃ path
PR4a–c	Regulatory stringency, therapy risk, and digital maturity moderate P → D ₁ and D ₁ → D ₂ paths.	Variable	Contingency Theory	Interaction/Multi-group SEM
PR5	Claim–practice incongruence attenuates positive effects in PR1–PR3.	Negative	Ethics & Governance Theory	Interaction or split-sample analysis

These propositions provide a testable foundation for future empirical research. The model can be examined using structural equation modeling (SEM) to assess serial mediation across the D₁ → D₂ → D₃ pathway and to evaluate multi-group invariance under different regulatory or market conditions.

Brand-Building Pathways and Theoretical Relationships

The 7Ps–3D framework links coherent, sustainable, and well-governed marketing-mix decisions to performance through a sequential pathway: P₁–P₇ → Legitimacy (D₁) → Equity (D₂: authenticity and trust) → Market Impact (D₃). Prior work shows that integrated, ethically grounded strategies shape professional judgment and brand-equity formation in regulated markets (Kotler & Keller, 2016). In this model, product quality and fair, transparent price build initial credibility; place reliability and process robustness reduce friction; promotion and people interactions convey accuracy and evidence; and the Green P introduces auditable sustainability actions—responsible sourcing, eco-friendly packaging, and digital substitution—that strengthen perceived legitimacy (Milanesi et al., 2020). Legitimacy functions as the proximal evaluation of compliance and credibility García-Salirrosas et al., (2022). It precedes and enables authenticity and trust, the core sub-dimensions of equity (D₂), which then influence behavioral and market outcomes (D₃) (Ilyas & Siddiqi, 2024). This staged logic mirrors adoption behavior in risk-sensitive categories: verification precedes identification, and identification precedes sustained action. A governance overlay—substantiation, compliance, and transparency—preserves claim–practice congruence and

mitigates greenwashing risks that could otherwise weaken the $P_s \rightarrow D_1$ and $D_1 \rightarrow D_2$ links (Milanesi et al., 2020).

Consistent with the model illustration, Product and Price may exhibit optional direct effects on Market Impact (D_3) in contexts where clinical performance signals and affordability are immediately salient. Nevertheless, the central pathway operates through Legitimacy (D_1) and Equity (D_2), reflecting how trust-driven brand building unfolds in regulated healthcare markets. The structure supports empirical testing of serial mediation ($D_1 \rightarrow D_2 \rightarrow D_3$), moderation by regulatory stringency, therapy risk, and digital maturity, and evaluation of the incremental validity of the Green P within structural-equation-modeling frameworks spanning both prescription and OTC settings (Kotler & Keller, 2016; Milanesi et al., 2020; Ilyas & Siddiqi, 2024).

DISCUSSION

Implications for Global Pharma: Standardization vs. Adaptation

The 7Ps–3D framework implies a dual mandate for global pharmaceutical marketing: standardize the core to preserve legitimacy and equity, yet adapt execution to regulatory maturity, therapy risk, and cultural context. A common foundation—evidence-based product, transparent price, reliable place and process, compliant promotion, credible people, and an auditable green P—anchors credibility and prevents greenwashing through claim–practice congruence and third-party assurance (Milanesi et al., 2020; Barbosa et al., 2023). Around this standardized base, adaptation becomes essential. In emerging markets such as India, Brazil, and South Africa, community health initiatives, literacy programs, and visible local partnerships strengthen collective legitimacy where regulation is less stringent (Kaladharan et al., 2024; Rahman, Chwialkowska, Hussain, Bhatti, & Luomala, 2021; Shaukat & Ming, 2022). In contrast, developed economies rely on certification-driven ESG models and innovation aligned with Safe and Sustainable by Design (SSbD) principles, reflecting higher consumer and HCP willingness to support verified sustainability claims (Puhlmann et al., 2024; Li & Kallas, 2021) Programme for the Endorsement of Forest Certification, (2020).

Operationally, Green P levers cut across the mix:

- Packaging and logistics emphasize recycled or biodegradable materials, lower Scope-3 emissions, and reverse-logistics programs (Soete et al., 2017; Puhlmann et al., 2024).
- Digital substitution replaces resource-intensive detailing and sampling with targeted virtual engagement where clinically appropriate, measuring both footprint reduction and engagement quality (Elrod & Fortenberry, 2020; Kamboj & Matharu, 2021).
- Transparency in ESG reporting and external assurance accelerates the $D_1 \rightarrow D_2$ translation from legitimacy to trust (Barbosa et al., 2023; Aldowaish et al., 2022).

Governance remains the stabilizing axis: documented claim substantiation, timely corrective action, and periodic congruence audits sustain $\text{Green P} \rightarrow D_1$ effects, particularly in high-risk therapeutic areas where compliance lapses can erode trust (Alden, 2021; Yurteri, Mandrik, & Essiz, 2023). Firms can monitor these pathways through auditable indicators integrated into brand reviews and ESG dashboards, validating mediation and moderation patterns via SEM and tracking the incremental validity of Green P beyond Product and Promotion (Aly et al., 2025; Liu, Song, & Liu, 2023) MJ, (1981). Finally, alignment with policy ecosystems—such as EU SSbD directives or India’s extended-producer-responsibility norms—reinforces legitimacy through circularity and safe-disposal partnerships with distributors and provider networks (Daú et al., 2019; Taddei et al., 2022; Soete et al., 2017). The managerial bottom line is clear: anchor brands in legitimacy, move deliberately toward trust-based equity, and treat Green P as an auditable amplifier rather than a slogan. Balancing

global standards with local relevance converts credibility into durable market impact (Kotler & Keller, 2016; Ilyas & Siddiqi, 2024).

Context Relevance

The influence of the 7Ps–3D framework is context-dependent, shaped primarily by regulatory stringency, therapy risk, and digital maturity, each of which determines how legitimacy, equity, and market impact unfold. In highly regulated environments, stringent oversight strengthens the Green P → D₁ (Legitimacy) pathway by rewarding verifiable ESG performance and penalizing claim–practice incongruence; transparency in reporting and third-party assurance thus become vital instruments of legitimacy (Milanesi et al., 2020; Barbosa et al., 2023). Conversely, in loosely governed contexts, weak monitoring may allow symbolic sustainability claims to persist, fragmenting the legitimacy–equity link. Therapy risk further conditions this relationship: high-risk or life-critical indications demand stronger clinical evidence, rigorous process reliability, and ethically compliant promotion to preserve professional trust (Alden, 2021; Yurteri et al., 2023). Low-risk or short-course therapies, by contrast, may rely more on brand familiarity and affordability signals than on intensive governance mechanisms de Souza et al., (2023).

Equally important, digital maturity modifies the speed and strength of the D₁ → D₂ → D₃ sequence. In digitally advanced organizations, omnichannel data, real-time feedback, and analytics capabilities accelerate the translation of legitimacy into trust and measurable market outcomes (Puhlmann et al., 2024; Liu, Song, & Liu, 2023). Recent Indian evidence supports this view: firms with higher digital readiness demonstrate greater alignment between marketing strategy, ESG communication, and stakeholder engagement, leading to superior legitimacy and equity outcomes (Anthuvan, Maheshwari, Ramanan, & Ravi, 2025). Together, these contextual moderators explain why similar marketing-mix strategies can yield divergent results across markets and therapy segments. Firms operating within stricter regulatory frameworks, higher-risk categories, or digitally mature ecosystems are more likely to achieve the full legitimacy → equity → impact progression envisioned by the 7Ps–3D model Ur Rahman et al., (2023).

Implications, Limitations, And Future Research

Practical Implications

The 7Ps–3D framework provides brand leaders with a clear playbook: standardize the core, localize the activation, and govern the congruence. Across markets, a consistent baseline—evidence-based product, transparent price, reliable place and process, compliant promotion, credible people, and an auditable green P—anchors legitimacy and reduces greenwashing risk (Milanesi et al., 2020; Barbosa et al., 2023). Execution must then adapt to context: in emerging economies, community health initiatives and literacy programs strengthen collective legitimacy where enforcement is variable (Kaladharan et al., 2024; Rahman et al., 2021), while in developed markets, certification-driven ESG and Safe and Sustainable by Design (SSbD) innovation reinforce trust among HCPs and consumers who reward verified sustainability claims (Puhlmann et al., 2024; Li & Kallas, 2021).

Embedding the Green P across the mix makes sustainability measurable rather than symbolic. Recycled packaging, digital substitution, and transparent ESG reporting convert operational efficiency into credibility (Soete et al., 2017; Elrod & Fortenberry, 2020). Regular claim audits, substantiation files, and external assurance sustain legitimacy even in high-risk therapy segments (Alden, 2021; Yurteri, 2021). When tracked through ESG dashboards, these actions reveal how legitimacy (D₁) matures into equity (D₂) and market impact (D₃).

Managers should treat the Green P as an auditable amplifier—not a slogan—and balance global standards with local relevance to translate credibility into durable brand and market value (Kotler & Keller, 2016; Ilyas & Siddiqi, 2024).

Limitations

This paper introduces the 7Ps–3D framework and a progressive pathway linking legitimacy (D_1), equity (D_2), and market impact (D_3). While conceptually robust and grounded in literature synthesis, the model remains untested empirically. The operationalization of the Green P—as an auditable sustainability layer across the marketing mix—may vary by regulatory setting, therapeutic area, and market channel Stros & Lee, (2015). Future studies should therefore refine context-sensitive, cross-market scales for packaging circularity, digital substitution, reverse logistics, and transparency while preserving discriminant validity between legitimacy and trust-based equity constructs (Barbosa et al., 2023; Ilyas & Siddiqi, 2024). Because data in regulated markets are typically observational and multi-source, methodological challenges such as common-method bias, confounding, and reverse causality warrant careful design Organisation for Economic Co-operation and Development, (2022). Multi-informant, multi-wave studies, or quasi-natural experiments arising from sustainability-related policy changes—such as the EU’s Safe and Sustainable by Design (SSbD) initiative—could provide stronger identification and enable testing of serial mediation and incremental validity of the Green P using structural-equation or Bayesian approaches (Puhlmann et al., 2024; Aly et al., 2025; Liu, Song, & Liu, 2023). Boundary effects and digital contingencies also merit attention. The model may behave differently in high-risk therapies, affordability-sensitive markets, or weakly regulated settings, where product performance and price fairness could exert direct influences on market outcomes independent of legitimacy and equity (Kotler & Keller, 2016; Milanese et al., 2020). Likewise, digital maturity appears to accelerate the $D_2 \rightarrow D_3$ transition by improving traceability, analytics, and feedback loops, but the absence of harmonized measures limits comparability across studies.

Future research directions

Further research should standardize digital-readiness indices and determine which data capabilities most efficiently convert legitimacy into trust and adoption (Anthuvan et al., 2025; Puhlmann et al., 2024). Beyond pharmaceuticals, cross-sector and cross-national studies—spanning prescription, OTC, vaccine, and device markets—could assess the framework’s generalizability and reveal how regulatory, cultural, and digital differences reshape sustainability–brand linkages (Kaladharan et al., 2024; Rahman et al., 2021). Zec, (2024) Advancing these lines of inquiry will help move the 7Ps–3D model from conceptual proposition to cumulative evidence, demonstrating how auditable sustainability strengthens legitimacy, builds trust-based equity, and sustains competitive impact in regulated healthcare systems Figure 2.

CONCLUSION

This paper redefines the pharmaceutical marketing mix by embedding sustainability—the Green P—as a full and measurable component within the 7Ps–3D brand-building framework. The model connects a standardized marketing mix to a staged progression of legitimacy (D_1), trust-based equity (D_2), and market impact (D_3), governed by transparent claim–practice congruence, documented substantiation, and third-party assurance. Empirically, the forthcoming doctoral research will examine whether the Green P offers

incremental predictive power for legitimacy and its downstream effects on equity and impact, beyond the traditional levers of product and promotion. Conceived in India's regulated pharmaceutical ecosystem, the framework is designed for global scalability and provides a conceptual foundation for future research linking sustainability, governance, and brand performance.

Declaration

Context

This conceptual paper originates from the author's doctoral research on marketing strategies and brand building in the Indian pharmaceutical industry.

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Conflict of Interest

The authors declare that there is no conflict of interest related to this study and confirm that the manuscript is original and not under consideration elsewhere.

Author Contributions

All authors contributed to the conceptualization, literature synthesis, drafting, and final approval of the manuscript.

Data Availability

No datasets were generated or analyzed for this conceptual study.

Ethics Statement

Not applicable for this conceptual phase; future empirical work will be preregistered and obtain formal institutional ethics or IRB approval prior to data collection.

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APPENDIX

Adapted under fair use for scholarly synthesis from Anthuvan, Kumar, and Maheshwari (2025). The diagram is redrawn for this manuscript and adds a D1–D3 brand-building filter to the accepted SLR flow. Counts mirror the original SLR up to inclusion; the final two boxes represent the brand-focused subset and the 34 studies informing the 7Ps–3D pathways.

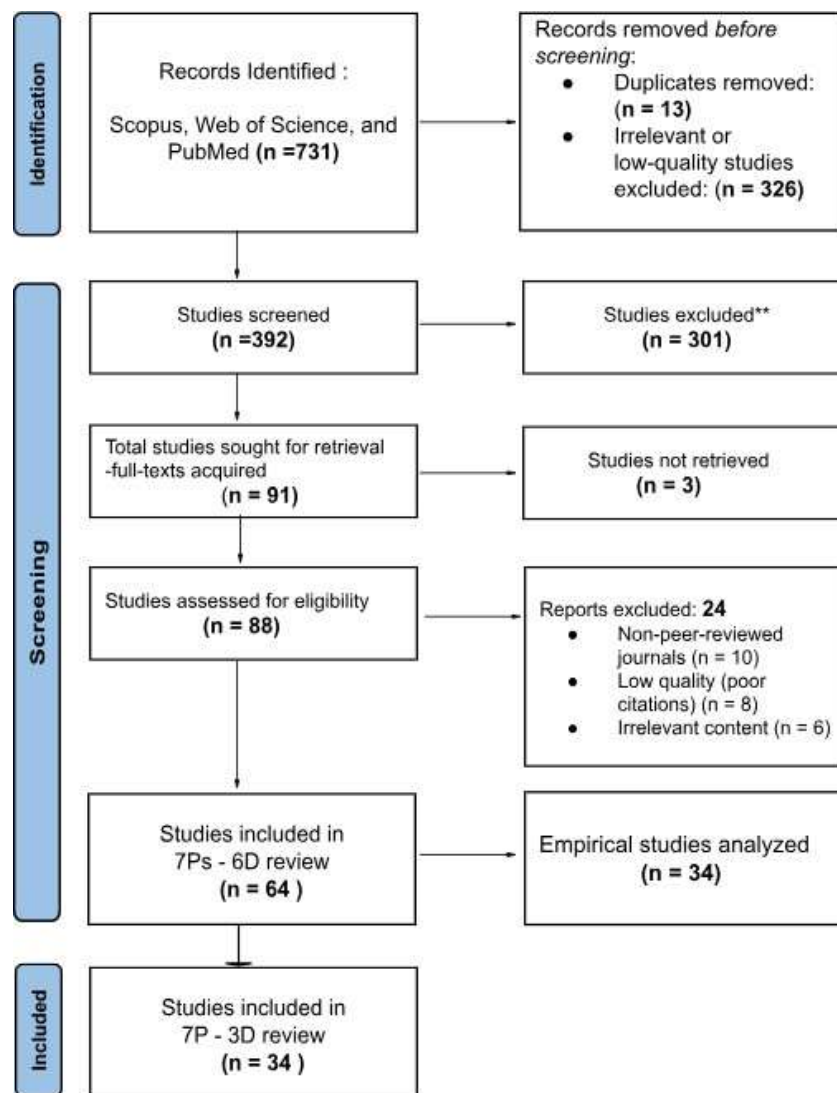


FIGURE 2
ADAPTED PRISMA FLOW FOR THE BRAND-BUILDING SUBSET

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