

RESEARCH

A Systematic Review of Pharmaceutical Marketing Strategies and Outcomes: The 7Ps–6D Framework with Sustainability as a Key Emerging Theme

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ABSTRACT

PURPOSE: This study reviews the empirical research on pharmaceutical marketing strategies to develop a pharmaceutical sector-specific framework that links strategies with outcomes.

CITATION: Anthuvan, T., Kumar, A., Maheshwari, K. and Naresh, B. (2026): A Systematic Review of Pharmaceutical Marketing Strategies and Outcomes: The 7Ps–6D Framework with Sustainability as a Key Emerging Theme. *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 22, Nos. 1-2, pp.153-172.

RECEIVED: 11 December 2025 / **REVISED:** 19 January 2026 / **ACCEPTED:** 30 January 2026 / **PUBLISHED:** 12 February 2026

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DESIGN/METHODOLOGY/APPROACH: A systematic review of 64 studies (2013–2024) was conducted using Preferred Reporting Items for Systematic Reviews and Meta-Analyses, (PRISMA) guidelines, followed by bibliometric mapping using Litmaps and thematic coding using NVivo.

FINDINGS: This study proposes a modified 7Ps model in which sustainability (“Green P”) is included as the seventh P alongside six outcome dimensions (6Ds): prescribing behaviour, commercial performance, brand loyalty, stakeholder engagement, regulatory access, and sustainability impact.

PRACTICAL IMPLICATIONS: The 7Ps–6D framework serves as an important tool for marketers to align marketing strategies with ethical standards, regulatory norms, and sustainability goals.

ORIGINALITY/VALUE: This is the first pharmaceutical sector-specific model to combine traditional and evolving marketing drivers with outcomes.

RESEARCH LIMITATIONS/IMPLICATIONS: Findings are based on published empirical studies and may not fully reflect real-life practices that are undocumented.

KEYWORDS: *Pharmaceutical Marketing; 7Ps Marketing Mix; Sustainability; Ethical Promotion; Regulatory Compliance; Brand Loyalty; Systematic Literature Review.*

INTRODUCTION

Pharmaceutical marketing is one of the most complicated and highly regulated sectors in business. As a result, firms must carefully balance their commercial and ethical objectives in clear contradiction (Milanesi *et al.*, 2020). As members of the worldwide healthcare ecosystem, segment producers are expected to generate revenue through pharmaceutical marketing activities scaled at USD 12 trillion by 2030 (Ken Research, 2025). Thus, these firms are already burdened by a growing set of conflicting issues and priorities. The central challenge in marketing, particularly for pharmaceutical products, lies in the risk that promotional strategies may outpace scientific evidence, rendering existing marketing models increasingly unsuitable in contexts involving high medical risk and patient safety concerns. Clinical trials are becoming increasingly difficult to conduct, and ethical concerns tend to emerge more rapidly within medical and related research fields. In this context, the pharmaceutical industry has faced criticism for employing marketing practices that conflict with established ethical standards and research integrity principles (Hashimoto *et al.*, 2024).

Advertising in this sector generally presumes the use of some of the most traditional media for targeting physicians through medical reps, a 4Ps (Product, Price, Place, and Promotion) framework-based marketing mix (McCarthy, 1960). Afterwards, by adding three more “Ps” the authors of the 7Ps of service marketing concept have transformed the model with the aim of aligning it with the



needs of services (people, processes, and physical evidence) such as healthcare (Booms and Bitner, 1981). These modifications are supported by research publications in the Indian pharmaceutical marketing arena, revealing a move towards digital and psychological engagement models (Anthuvan *et al.*, 2025; Anthuvan *et al.*, 2026).

The marketing world has been majorly influenced by the digital transition due to COVID-19, as well as the worldwide movements of the environment. Current pharmaceutical marketing executives are expected to split their efforts between leveraging phygital (physical and digital) means of communication and keeping their talk ethical, transparent, and patient-centred (Putri *et al.*, 2024). Nevertheless, few empirical marketing mix models for different sectors effectively illustrate these trends. This study proposes a data-driven instrument suitable for this industry. The changes in the traditional 7Ps model that this work suggests include the addition of new topics and the introduction of outcome dimensions are noteworthy innovations in the model.

METHODOLOGY

This systematic literature review (SLR) was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria (Moher *et al.*, 2009) to investigate the relationship between pharmaceutical marketing strategies and their quantifiable results. This review focuses on India as a result of the country's changing market dynamics. However, the combined results were applicable to the rest of the world.

Search Strategy

Peer-reviewed articles relevant to this review were identified from three major academic databases: Scopus, Web of Science, and PubMed. To go beyond the coverage of a normal literature search, bibliometric mapping was performed using Litmaps. Our main emphasis was on empirical research, such as quantitative, qualitative, and mixed methods studies, which investigated the marketing strategies of pharmaceuticals and the results of these strategies for both prescription (Rx) and over-the-counter (OTC) products.

Inclusion Criteria: We included peer-reviewed empirical studies published between 2013 and 2024 that researched pharmaceutical marketing strategies and their resulting effects. All types of research, including qualitative, quantitative, mixed methods, and systematic literature reviews, were considered. All the papers were written in English.

Exclusion Criteria: This review excluded conceptual papers, opinion pieces, editorials, and articles that did not have clearly defined outcomes. Non-English language papers, studies published before 2013, and grey literature were removed.

Systematic Review Process

The first database query resulted in a combined total of 731 records. After duplicate removal and relevance screening, 392 studies were included in the next stage. We decided not to proceed with 301 research articles based solely on their abstracts. The full texts of 91 remaining papers were obtained, 64 of which met the eligibility criteria. 34 empirical studies contained statistical indicators, such as β values, p-values, t-values, or odds ratios (ORs) that could be extracted. The review process was in line with PRISMA guidelines to ensure openness and reproducibility. Figure 1 shows a PRISMA flowchart illustrating the selection process.

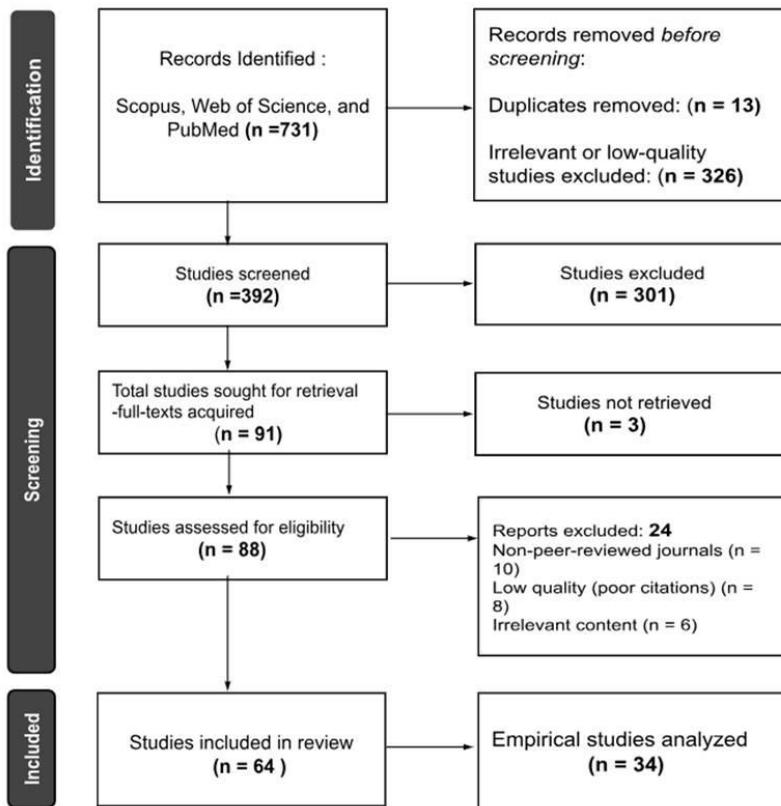


Figure 1: Systematic Review Process: PRISMA Flow Diagram

Source: Author's own creation based on systematic review (2025)

Data Extraction and Thematic Analysis

The data extraction process was divided into two phases. During the first phase, after studies were mapped to Litmaps, bibliometric measures such as journal quality, citation counts, and keyword

frequencies were recorded. Coding of independent (pharmaceutical strategy) and dependent (outcome) variables was performed manually. The quantitative indicators (e.g., β values and ORs) of 34 empirical studies were noted. In the second phase, thematic coding was done with the help of NVivo to better organise the qualitative insights. Strategy-related variables amounted to 246 and were extracted and grouped into 14 thematic clusters, which also had new-age variables, such as digital outreach, physical integration, and sustainability initiatives. The outcome variables were subdivided into 63 categories, including behavioural and commercial aspects. This approach allowed for both quantitative grounding and thematic depth.

Citation Connectivity and Topical Relevance

Figure 2 illustrates the citation network generated using Litmaps. The node size reflects citation frequency, whereas the connections between nodes represent shared references across studies.

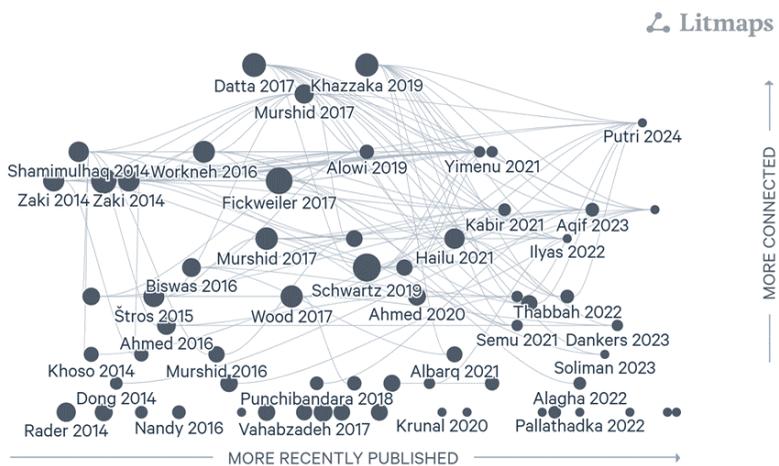


Figure 2: Thematic Connectivity and Influence of Selected Studies (Litmaps)

Source: Author-generated visualisation using Litmaps tool (2025)

Publication Year and Citation Count

Figure 3 displays the distribution of the reviewed studies based on publication year and number of citations. As a result of their earlier publication dates, some seminal works, such as Lieb and Scheurich (2014), have attracted more citations. Newer studies from 2023 and 2024 have been given precedence in terms of research quality and their fit with new themes, even though their citation counts are low because they are recent.

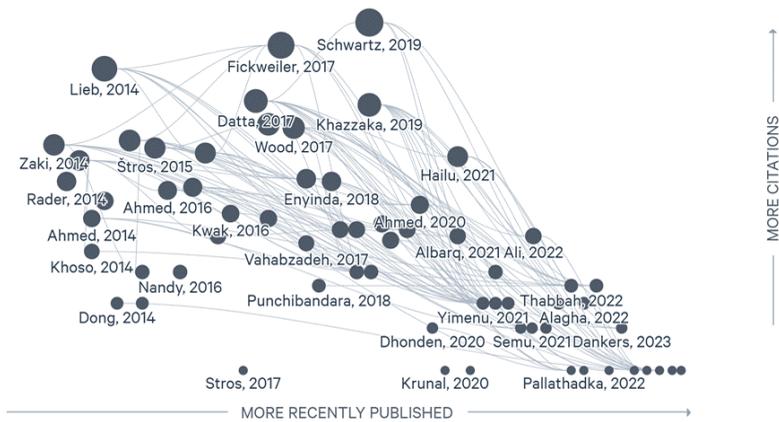


Figure 3: Year vs. Citation Count of Selected Studies (Litmaps)

Source: Author's own creation using Litmaps based on systematic review (2025)

RESULTS

Distribution of Pharmaceutical Marketing Studies by Year

Figure 4 shows the distribution of the 64 studies over time. For the years 2021 and 2022, there is a huge increase in the number of studies, and this increase is probably due to the great digital boom resulting from the COVID-19 pandemic. The time frame of 2014-2018 demonstrates a small but steady pattern of studies. In recent years, as is understandable, there have been few citations because indexing takes time. In general, this trend indicates an increasing scholarly concern about pharmaceutical marketing because of changes in strategic priorities.

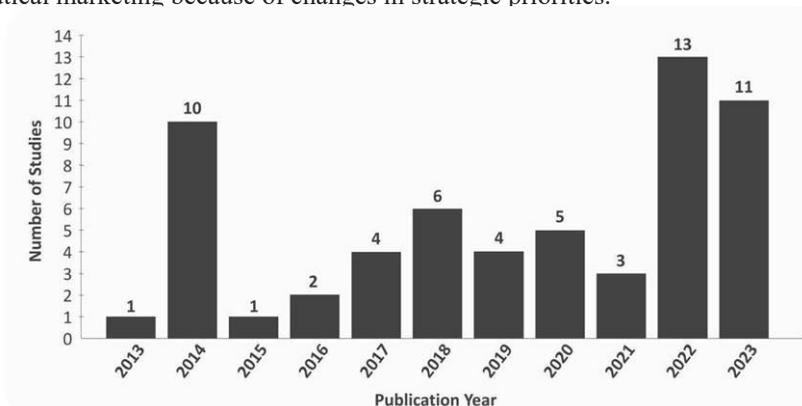


Figure 4: Distribution of Pharmaceutical Marketing Studies by Year

Source: Author's own creation using Litmaps Pro based on systematic review (2025)

Citation Analysis of Influential Studies

Table 1 indicates the ten most influential studies in terms of their citation counts at the time of paper submission. Earlier research focused mainly on the promotional impact on prescribing behaviour, whereas later investigations examined the ethical aspects of engagement, compliance, and digital transformation. Although there is a growing focus on regulation, the issue of sustainability is barely mentioned.

Table 1: Synopsis of Top 10 Most-Cited Studies in Pharmaceutical Marketing

S. No	Authors and Year	Short title	Journal	Citations	Key Findings	Research Gaps
1	Schwartz and Woloshin (2019)	Medical marketing in the US, 1997–2016.	JAMA	336	Substantial growth in physician and consumer-directed marketing; weak regulatory oversight.	Policy reforms lag digital and direct marketing trends.
2	Fickweiler <i>et al.</i> (2017)	Physician–pharma interactions and prescribing attitudes.	BMJ Open	227	Industry interactions influenced prescribing behaviour and formulary decisions.	Limited evidence on effectiveness of policy and educational interventions.
3	Lieb and Scheurich (2014)	Doctor–industry contact and perceptions.	PLoS ONE	217	Sponsored CME and small gifts influenced prescribing.	Need for large-scale studies to confirm behavioural shifts.
4	Khazzaka (2019)	Pharma strategy impact in Lebanon.	BMC Health Services	131	Free samples and incentives influenced prescribing; ethics awareness varied.	Stricter promotional regulations needed.
5	Datta and Dave (2017)	Promotion and prescription behaviours.	Health Economics	119	Detailing boosted prescriptions significantly.	Limited real-world cost–benefit data.
6	Murshid and Mohaidin (2017)	Prescribing theories and proposed model.	Pharmacy Practice	105	Multi-theory conceptual model proposed.	Model lacks validation and broader stakeholder integration.
7	Wood <i>et al.</i> (2017)	Pharma marketing and Medicare prescription.	PLoS ONE	79	Even low-value incentives drove costlier branded prescriptions.	Few mechanisms to limit this influence.
8	Zaki (2014)	Drug promotion perceptions in Saudi Arabia.	Saudi Pharm Journal	77	High promotional exposure and limited training in ethical evaluation.	Need for structured ethical training programmes.

S. No	Authors and Year	Short title	Journal	Citations	Key Findings	Research Gaps
9	Stros and Lee (2014)	Marketing dimensions in pharma: A review.	Journal of Strategic Marketing	73	Promotion dominates pharma marketing research.	Under exploration of distribution and process dimensions.
10	Hailu <i>et al.</i> (2021)	Pharma marketing mix strategies and prescribing behaviour.	BMC Public Health	70	Marketing mix strategies significantly influenced physicians' prescribing behaviour.	Cross-sectional design limits causal inference and generalisability.

Source: Author's own compilation based on extracted data

Note: Citation counts are from Google Scholar as of May 2025.

Analysis of Study Methodologies

The majority of the 64 studies that were reviewed were of quantitative nature, followed by systematic literature reviews and mixed methods. The spread of these research designs indicates that there is a keen inclination to data-driven approaches in pharmaceutical marketing. To be precise, 34 empirical studies have reported statistical indicators such as β values, odds ratios (ORs), and p-values. These are the quantitative cores upon which the proposed framework was built.

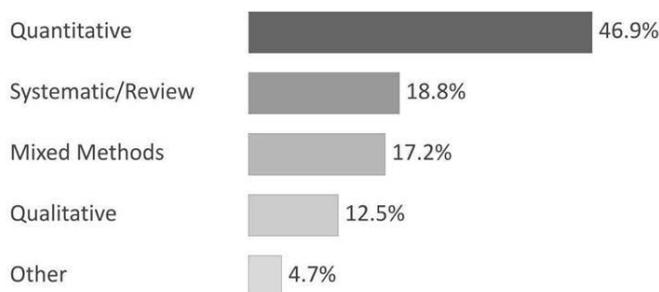


Figure 5: Distribution of Pharmaceutical Marketing Studies by Research Methodology

Source: Author's own creation based on systematic review (2025)

Geographical Distribution of Studies

The research was spread across different countries, such as India and the US, in terms of the number of studies, followed by other South Asian and Middle Eastern countries. Many multicountry studies have shown that more researchers are interested in working together. However, Africa, Latin America, and East Asia remain poorly represented (see Table 2).

Table 2: Geographical Distribution of Pharmaceutical Marketing Studies

Country/Region	Number of Studies	Percentage (%)
India	11	17
United States	10	16
Multiple Countries/ Global	8	13
Pakistan	6	9
Jordan	4	6
Ethiopia	3	5
Saudi Arabia	3	5
Others	19	30

Source: Author's own compilation based on extracted data

Theoretical Frameworks in Pharmaceutical Marketing Research

The literature relies on a combination of classical and emerging theories. The Marketing Mix (4Ps and 7Ps) and the theories were the main models cited most of the time. In addition, Principal Component Analysis (PCA), Persuasion Theory, Social Power Theory, and Agency Theory have been used to explain outcome dynamics and strategic impacts. The deployment of models such as the Technology Adoption Model (TAM), Innovation Diffusion Theory (IDT), and Social Media Marketing Theory reveals the increasing attention paid to digital adoption. The adoption of futuristic models, such as Game Theory, Green Marketing, and the Digital Quotient (DQ), pointed to a recent transition to agility, environmental friendliness, and technology.

Research Gaps and Future Directions in Existing Literature

Despite the increased amount of research activity, the authors identified several gaps in the literature. Few empirical studies have evaluated the effectiveness of digital marketing, the ethical practice of digital marketing, and sustainability-driven strategies in digital marketing. There are few longitudinal studies on the use of AI-driven strategies, e-detailing, and neuromarketing, particularly in low- and middle-income countries. The authors found that fewer papers discuss regulation and data privacy; however, these issues remain a concern. They also found very few comparative studies conducted across different regulatory and cultural contexts. However, the economic impact of green marketing strategies remains largely unknown. The researchers mention that constructs such as hybrid (online/offline) engagement, omni-channel return on investment (ROI), and new marketing competencies need deeper exploration. These authors believe that filling these gaps will require context and awareness of research that balances ethical, regulatory, and environmental considerations with commercial priorities.

Systematic Analysis of Marketing Strategies (Independent Variables)

From the 246 extracted independent variables representing marketing strategies across 64 studies, 93 distinct modes were identified and clustered into 15 themes. Most aligned with the traditional 7Ps categories: product, price, place, promotion, people, and processes. However, a recurring group of variables, such as eco-packaging, CSR (Corporate Social Responsibility), and green marketing, did not fit neatly within these six dimensions. Given their frequency and thematic cohesion, a new cluster was created, Sustainability and Social Responsibility (see Table 3).

Table 3: Overview of 15 Marketing Strategy Clusters in Pharmaceutical Marketing

Cluster	7Ps Category	Top Variables	Impact	Type	Occurrence	% Frequency
Product and Quality Assurance.	Product	Product Innovation, Quality and Differentiation.	High	Core	23	12.20%
In-Clinic Promotional Strategy.	People and Promotion	MR Visits, Free Samples and Detailing.	High	Core	20	10.60%
Innovation and new age Strategy.	Process	AI, Predictive Analytics and Digital Integration.	High	Emerging	12	6.40%
Distribution and Accessibility,	Place	Channels, Penetration and Availability.	Medium	Core	10	5.30%
Direct-to-Consumer (DTC) Strategy.	Promotion	Social media, Digital Ads, DTC and Advertisement.	Medium	Emerging	10	5.30%
Engagement and Relationship Management.	People and Process	CRM, HCP Engagement and Loyalty Programmes.	High	Core	10	5.30%
Digital Marketing.	Promotion and Process	Social media, omni-channel and Personalisation.	High	Core	9	4.80%
Pricing and Value-Based Approaches.	Price	Value Pricing and Competitive Pricing.	Medium	Core	9	4.80%
Phygital and omni-channel.	Process	Hybrid Marketing and Multi-Channel Integration.	High	Core	8	4.20%
Reputation, CSR and Branding.	People	Brand Awareness, CSR and Positioning.	High	Core	8	4.20%
Compliance and Ethical Strategy.	Process	Regulatory Compliance and Ethical Marketing.	High	Core	8	4.20%

Cluster	7Ps Category	Top Variables	Impact	Type	Occurrence	% Frequency
Place and Market Access.	Place	Distribution, Expansion and Supply Chain.	High	Core	7	3.70%
Partnerships and Collaborations.	People and Process	Alliances and Healthcare Collaborations.	Medium	Emerging	6	3.20%
Customer Support Programmes.	People	Patient Support and Engagement Programmes.	Medium	Core	5	2.60%
Sustainability and Social Responsibility.	Green P (Sustainability)	Eco-Packaging, CSR initiatives, Ethical Sourcing and Green Branding.	Emerging	Emerging	4	2%

Source: Author’s own compilation based on extracted data

Abbreviations: AI – Artificial Intelligence; CRM – Customer Relationship Management; CSR – Corporate Social Responsibility; DTC – Direct-to-Consumer; HCP – Healthcare Professional; MR – Medical Representative; OTC – Over-the-Counter; ROI – Return on Investment.

Mapping to the 7Ps Framework

From the 15 broad clusters identified, we mapped them more closely to the well-known 4Ps and 7Ps frameworks of marketing mix. This began with McCarthy’s original 4Ps: Product, Price, Place, and Promotion, and was then extended to Booms and Bitner’s 7Ps by adding people, processes, and physical evidence. Although a 10Ps model (including Positioning and Policy) was briefly explored to reflect regulatory complexity, it was not retained because of the limited empirical support. Ultimately, seven dimensions emerged as the most consistently validated ones. A distinct set of variables centred on CSR, eco-packaging, and green marketing led to the addition of the seventh P Green P (Sustainability). Although cited in only 6% of the studies, it was clearly evolving and warrants inclusion in the revised framework (See Table 4).

Table 4: Summary of 7Ps in Pharmaceutical Marketing: Frequency and Impact

Category	Total Occurrence Count (n=64)	% of Studies Involving Each Category	Estimated Effect Size (β)* (n=34)	Number of Significant Variables	Representative Variables	% Frequency
Promotion	24	38%	0.54	16	Advertisement, Direct Marketing and Personal Selling.	12.20%
People	36	56%	0.39	6	Medical Representatives and Physician Engagement.	10.60%

Category	Total Occurrence Count (n=64)	% of Studies Involving Each Category	Estimated Effect Size (β) * (n=34)	Number of Significant Variables	Representative Variables	% Frequency
Product	18	28%	0.45	8	Formulation, Packaging and Brand Differentiation.	6.40%
Process	26	41%	0.42	7	Digital Transformation and Workflow Optimisation.	5.30%
Place	13	20%	0.33	4	Distribution Networks and Channel Strategy.	5.30%
Price	9	14%	0.3	3	Value-based Pricing and Market Competition.	5.30%
Green P (Sustainability)	4	6%	(Emerging focus)	NA	CSR, Ethical Sourcing, Eco-packaging and Green Branding.	4.80%

Source: Author’s own compilation based on extracted data

Abbreviations: β – Effect Size.

Figure 6 visualises the estimated impact (β value) of each marketing mix element based on 34 empirical studies.

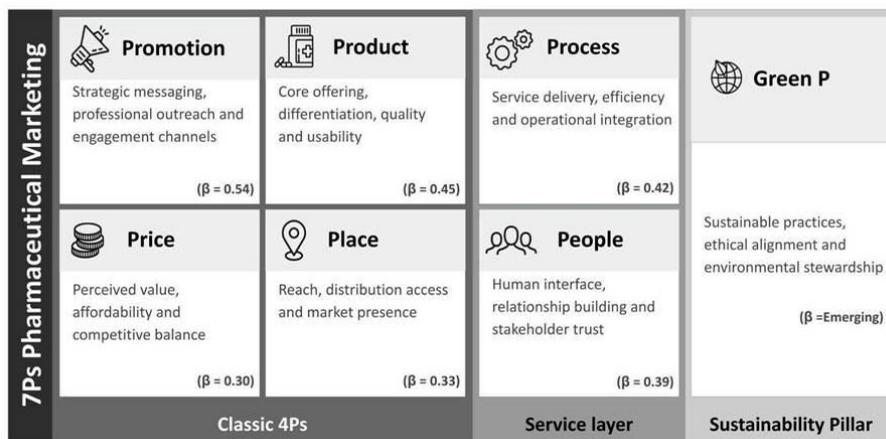


Figure 6: 7Ps Framework in Pharmaceutical Marketing

Source: Author’s own creation based on systematic review (2025)

Systematic Analysis of Marketing Outcomes (Dependent Variables)

The review identified six distinct outcome dimensions, termed the 6Ds, which explain how pharmaceutical marketing strategies translate into behavioural, commercial, and societal results. These dimensions were developed in a similar manner using NVivo through the thematic coding of 63 unique outcome indicators across 64 studies (see Table 5).

Table 5: Overview of 6D Marketing Outcome Dimensions

Outcome No.	Outcome Name	Description	% Occurrence	Examples of Dependent Variables
1	Prescribing Patterns and Physician Decisions.	Influence on physician behaviour and HCP engagement.	57.80%	Prescription behaviour, Physician Trust and E-Detailing.
2	Sales, Market, and Firm Performance.	Financial and commercial outcomes.	51.60%	Sales Growth, Market Share and Revenue Generation.
3	Brand Performance and Loyalty.	Trust, satisfaction, and customer retention.	37.50%	Brand Trust, Customer Loyalty and Corporate Reputation.
4	Customer and Consumer Engagement	Emotional and functional connection with stakeholders.	28.10%	Patient Satisfaction, Brand Recall and Engagement.
5	Market Accessibility and Compliance.	Regulatory adherence and formulary/access initiatives.	10.90%	Policy Compliance and Access Programmes.
6	Sustainability and Social Impact.	Ethical conduct, environmental focus, and community outcomes.	10.90%	Green Branding, CSR Impact, Sustainable Development.

Source: Author's own compilation based on extracted data

Mapping Outcomes to the 6Ds Framework

The prescribing behaviour and commercial market performance of firms (rank, market share, growth, etc.) have emerged as the most frequently studied outcomes, highlighting the enduring focus on sales and prescriber influence. Brand loyalty and consumer engagement outcomes have gained popularity in recent years, reflecting a broader shift towards brand building, trust, and sustained value creation. Compliance, market access, ethics, and sustainability focus, though less frequently addressed, represent emerging outcomes, as illustrated in Figure 7.



Figure 7: Mapping Of Pharmaceutical Marketing Strategies to Six Outcome Domains (6Ds)
 Source: Author’s own creation based on systematic review (2025)

Thematic Evolution in Pharmaceutical Marketing Research

From this analysis, it is quite evident that there has been a move away from promotion, centred activities towards digitally enabled, morally conscious and sustainability aligned strategies. The change is a direct response to increased stakeholder demands, changes in regulations, and digital maturity in the world after COVID. The main time-related aspects are presented in Table 6.

Table 6: Thematic Trends in Pharmaceutical Marketing Research (2013–2024)

Theme	Time Period	Key Variables	Key Insights
Traditional Tools	2013–2016	Detailing, Free Samples and Sponsorships.	Predominant methods for influencing prescribing; later questioned ethically.
Digital Transformation	2017–2024	E-Detailing, social media and Telemarketing.	Gained momentum post-2017; vital during COVID-19 for remote engagement.
Ethical Marketing	2016–2024	Corporate Reputation and Regulatory Compliance.	Trust and transparency became central to brand credibility and loyalty.
Sustainability Practices	2018–2024	Green Marketing and Eco-Friendly Packaging.	Sustainability emerged as a brand differentiator aligned with global goals.
Innovative Strategies	2020–2024	AI, Predictive Analytics and omni-channel.	Enabled personalised marketing, deeper insights, and operational efficiency.

Source: Author’s own compilation based on extracted data

Abbreviations: AI – Artificial Intelligence.

DISCUSSION

This paper combines a variety of the most significant points about the impact of drug Advertisement on healthcare professionals' prescriptions, financial results, and compliance with regulations. In addition, it features a remodelled pharmaceutical, and specific 7Ps marketing mix model coupled with a 6D outcome framework that signifies the increased focus on recent empirical research trends.

The review documents the continuous dominating role of medical representatives on doctors' working manner, and that the people element of the marketing mix has the strongest effect (Lieb and Scheurich, 2014; Hashimoto *et al.*, 2024). Nevertheless, this power is being transformed by digital means, such as omni-channel strategies, virtual interactions, and AI-driven personalisation (Anthuvan *et al.*, 2025; Kumar *et al.*, 2024; Anthuvan *et al.*, 2026). This newly emerging trend requires the development of new skills in digital fluency and data-driven decision-making.

This revised 7Ps model replaces 'Physical Evidence' with 'Green P (Sustainability)', based on the significant temporal trend found throughout the studies analysed. It is derived from solid systematic data and is customised to the compliance-oriented character of pharmaceutical marketing. The integration of 6D outcome aspects in the model makes the theoretical framework more practical, and its orientation towards outcomes such as physician trust, sales performance, and policy compliance (Desai *et al.*, 2025) becomes more evident.

Although Green P is less frequently used in empirical research, its strategic importance has been rising. Topics such as eco-packaging, CSR, and green marketing are not considered merely as compliance necessities but as sources of competitive advantage (Milanesi *et al.*, 2020). In addition, the introduction of new regulatory measures such as India's Extended Producer Responsibility (EPR) framework and the increasing use of ESG metrics by investors are factors that bring about an increase in its importance (Calciolari *et al.*, 2024; Amel and Serafeim, 2018). For sustainability to transition from mere intention to measurable outcomes, organisations must embed transparent and traceable key performance indicators (KPIs) (e.g., carbon footprint reduction, CSR expenditure, and environmental certifications) in brand planning. Moreover, winning the execution game requires the involvement of strategic marketing, supply chain, and compliance teams in the coordination (Shaukat and Ming, 2022).

The marketing methods are not the same everywhere. In contrast to the U.S., where direct to consumer (DTC) Advertising is common most parts of the world, including India, focus on physician-centred engagement (Anthuvan *et al.*, 2025). In developing markets, personal interaction through medical representatives (MRs) is still the most popular way; however, digital tools are gradually being accepted. Besides local regulations, variations in healthcare infrastructure also determine the playing field; thus, the 7Ps and 6D framework of pharmaceutical marketing must be localised accordingly.

This article fortifies pharmaceutical marketing theory by reinterpreting the traditional 7Ps within service-oriented and heavily regulated environments. It complements this perspective by linking the marketing mix to outcome-focused thinking through the 6D model. While other models like SAVE (Solution, Access, Value, and Education) place more emphasis on customer centricity, they often fail to consider important aspects such as regulatory adherence and sustainability (Ettenson *et al.*, 2013). On the contrary, the 7Ps - 6D framework represents a more comprehensive, sector-specific way that can account for traditional (e.g., promotion, people) and emerging (e.g., physical engagement, green marketing) strategies for their real-world effects. Table 7 shows how each of the six outcome dimensions (6Ds) reflects the relative impacts of the six Ps.

Table 7: Impact of 7Ps on 6Ds in Pharmaceutical Marketing

Impact of 7Ps on 6Ds	Estimated Effect Size (β)	D1: Prescribing Influence (57.8%)	D2: Commercial Performance (51.6%)	D3: Brand Loyalty (37.5%)	D4: Stakeholder Engagement (28.1%)	D5: Access and Compliance (10.9%)	D6: Sustainability Impact (10.9%)
P1: Promotion (38%)	0.54	Strong	Strong	Strong	Strong	Medium	Weak
P2: People (56%)	0.45	Strong	Strong	Strong	Strong	Weak	Weak
P3: Product (28%)	0.45	Strong	Strong	Medium	Weak	Medium	Weak
P4: Process (41%)	0.42	Strong	Medium	Medium	Strong	Strong	Medium
P5: Place (20%)	0.33	Weak	Strong	Weak	Weak	Strong	Weak
P6: Price (14%)	0.3	Medium	Medium	Weak	Medium	Strong	Weak
P7: Green P (Sustainability)	Emerging	Weak	Weak	Medium	Medium	Medium	Strong

Source: Author’s own compilation based on extracted data

Note: β = Effect size based on 34 empirical studies. “Emerging” denotes lower empirical frequency. Color coding is for visual impact only: Dark grey = Strong; Grey = Medium; White = Weak.

The 7Ps-6D framework is very applicable to stakeholders from pharmaceutical companies and the healthcare sector, particularly in conditions where there is a need to assess the marketing impact on physician behaviour, brand trust, and regulatory compliance. The framework, being peer-reviewed evidence, is in line with ethical and evidence-based decision-making across pharmaceutical firms, regulatory bodies, and healthcare systems (Mohammad, 2015; Rosas and Madrigal, 2024; Hashimoto *et al.*, 2024). In addition, marketers are obliged to integrate sustainability and ethical KPIs into dashboards; regulators may evaluate compliance and social performance through 6D results; and professional councils may develop engagement models around the moral aspects of

the practice. The framework serves as a tool for balancing innovation with trust, building, and responsible regulation in low-income and middle-income countries (Anthuvan *et al.*, 2025).

LIMITATIONS

This comprehensive review has a few limitations that must be acknowledged. Although this was done rigorously, the qualitative nature of thematic coding may still be somewhat subjective. Subsequent research could use AI-powered text mining to make coding more consistent and less biased. The review only considered peer-reviewed studies in English, so it may have missed the insights of grey literature or non-English publications, particularly those from disadvantaged regions. One of the main future marketing strategies, to be powered by AI for personalisation, omni-channel engagement, and sustainability branding still needs to be confirmed by further research. The new framework, which is supported by evidence, will gain more acceptance if it is tested in real-world scenarios across different therapeutic categories and various healthcare settings.

CONCLUSIONS

This assessment of pharmaceutical marketing is a practical and timely means of evaluating marketing by integrating two models grounded in empirical research: a revised 7Ps pharmaceutical marketing mix that adds Green P (sustainability) as the seventh P, and a 6D framework for evaluating the results of 7Ps. On their own, these reflect the industry's continuing transformation towards less exploitative, more transparent, and more accountable practices. The structure connects strategic levers to tangible outcomes by changing prescribing behaviour, increasing brand trust, or achieving compliance and sustainability targets.

This study offers a pertinent framework for practical situations, as this industry is progressively adopting digital tools, AI, machine learning (ML), agent-based AI, hybrid engagements, ESG, and focused strategies. Apart from being a subject of academic research, the 7Ps 6D framework is also a strategic instrument from which stakeholders such as marketers, regulators, and policymakers can benefit.

This model serves as a guide for the pharmaceutical industry in both the prescription (Rx) and over-the-counter (OTC) segments, helping marketers realign their efforts with changes in stakeholder expectations, regulatory requirements, and public health outcomes in the long run.

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