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ROLE OF E-PHARMACIES IN OTC DRUG MARKETING

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ABSTRACT

The rapid growth of e-commerce has led to the emergence of e-pharmacies, which enable consumers to purchase prescription medications online. This study aims to explore the factors influencing the adoption of e-pharmacies in India through an interpretative phenomenological analysis (IPA) approach. Twelve in-depth interviews were conducted with individuals who had experience ordering prescription medicines through e-pharmacies. The findings revealed that constructs from the UTAUT2 model, including performance expectancy, effort expectancy, social influence, facilitating conditions, price value, and habit, played a significant role in the adoption of e-pharmacies. Construct hedonic motivation, from UTAUT2, was found to be weakly significant in explaining the adoption of e-pharmacy. Additionally, health literacy was identified as a key factor, with e-pharmacy users demonstrating higher levels of health literacy. However, perceived risks, such as performance, financial, privacy, and psychological risks, were found to negatively influence the adoption of e-pharmacies. The study proposes, based on findings, a research model to understand consumer behavior in the adoption of e-pharmacies. The findings suggest that the presence of favorable conditions, such as convenience, accessibility, user-friendly interfaces, social influence, internet accessibility, integrated healthcare services, diverse payment methods, and price advantages, have contributed to the widespread acceptance and adoption of e-pharmacy services in India. The study highlights the need for future research to employ quantitative or mixed methods approaches to address the limitations of the current exploratory study and to investigate the multifaceted determinants of e-pharmacy adoption in different geographical contexts.

INTRODUCTION

A web-based pharmacy is an online system that provides a platform for customers to purchase medicinal drugs and E-services online, allowing the customer to receive medicines/services in the comfort of their homes within a short time.In this article, we aim to provide valuable insight into the online pharmacy sector in India.

The Indian drug market was assessed to be at US$ 41 billion in 2021 and remained the third biggest market as far as the amount/volume and the thirteenth biggest in terms of value. It is predicted to advance to US$ 65 billion by 2024 while ascending in maturing populace and persistent infections, rising expendable livelihoods, and expanding mindfulness, among others. This calculated figure, which is around 33% of that of the US and practically a large portion of that of Europe, gives India a cutting edge as a creating objective. Drug stores are gradually picking up force inside the online business industry space with its amazingly developing infiltration rate. As of now, around 250 online drug stores have come up within the nation.

E-pharmacy is a highly unexplored sector and rose to popularity because of several entrepreneurs who aimed at delivering quality healthcare to every citizen in India at affordable rates. The preference for E-pharmacy rose from 23% in 2013 to around 59% in 2018.

Another intriguing investigation by Frost and Sullivan has proposed that the estimated growth of the E-drug store market in India is at a remarkable compound annual growth rate (CAGR) of 63% and will reach US$ 36 billion by 2022 from what was observed in 2018 (US$ 512 million).With urbanization on the rise, it is estimated that nearly half of the Indian population will turn to E-platforms for their medical needs. As per Netmeds, the E-drug store represents 1½%–2% of the entire pharmaceutical industry deal, and from the present trajectory, it can be assumed that the market growth can go up to 10% before the end of 2023.

Several elements are driving the E-drug store market in India. Aside from pocket-friendly and reasonable items, these drug stores likewise are offering some benefit-added items and administrations such as arrangements for a specialist discussion (E-counsel) and E-symptomatic administrations, among others These administrations are helping these organizations to turn into a total medical care specialist cooperative, particularly in those regions where specific specialists are inaccessible or travel for discussions might bimperative for patients. Different E-medical services by the public authority like *Ayushman Bharat* provide financial aid by increasing the reach of insurance plans to remote places, feasible services, and doorstep conveyance within a short time, thereby expanding the prevalence of the web drug stores over disconnected retail drug stores among purchasers.However, this industry has its shares of lows, and the biggest hindrance to this industry is the lack of a rigid legal framework. Without well-defined regulations for this sector, E-pharmacy is unable to win the battle over traditional medicine stores and continues to face several drawbacks, which will be discussed further.

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LITERATURE REVIEW

E-pharmacies serve as a primary catalyst in the modern Over-the-Counter (OTC) drug marketing landscape. By shifting the consumer journey from traditional brick-and-mortar pharmacies to digital interfaces, they have redefined how non-prescription medications and wellness products are promoted and sold.

Key Roles of E-Pharmacies in OTC Marketing

1. Direct-to-Consumer (D2C) Accessibility and Convenience

Seamless Availability: E-pharmacies allow consumers to easily browse and order a massive inventory of OTC items including vitamins, analgesics, and dermatological products 24/7.

Removal of Barriers: They remove geographical constraints, enabling quick doorstep delivery. Studies indicate that convenience and contactless delivery are the strongest drivers of e-pharmacy patronage for OTC products.

2. Execution of Precision Digital Marketing

Targeted Campaigns: E-pharmacies use data analytics to deploy highly targeted Search Engine Optimization (SEO) and Pay-Per-Click (PPC) campaigns directed at consumers actively searching for specific health symptoms.

Inbound & Content Marketing: Platforms regularly publish informative blogs, videos, and infographics regarding minor ailments (e.g., cold remedies). This educates consumers while naturally positioning their listed OTC brands as solutions.

3. Price Transparency and Aggressive Promotions

Comparison Capabilities: Consumers can instantly compare different brands, generic substitutes, and costs, which strongly impacts purchasing behavior.

Discounts & Loyalty Incentives: E-pharmacies frequently deploy localized discounts, digital coupons, and subscription models that reduce customer acquisition costs and drive repeat purchases of daily health supplements.

RESEARCH METHODOLOGY

E-pharmacies have fundamentally changed how non-prescription drugs are positioned, promoted, and purchased.

Instant Point-of-Purchase Advertising: E-pharmacies use banner ads, pop-ups, and targeted algorithms directly on the shopping interface to trigger impulse buys for common ailments.

Personalised Nudge Marketing: Platforms leverage consumer data and purchase history to push automated notifications and reminders for chronic or recurring OTC needs.

Facilitating Brand Comparisons: Digital storefronts allow users to easily compare prices, ingredients, and side effects across competing brands, reducing the traditional gatekeeper role of the physical pharmacist.

Aggressive Discounting and Bundling: E-pharmacies offer deep price cuts (frequently 10% to 30%) and cash-back incentives that traditional brick-and-mortar stores struggle to match.

Social Proof and Consumer Reviews: Digital pharmacies aggregate user ratings and reviews on products like vitamins and pain relievers, building massive trust through peer validation.

Subscription and Auto-Refill Models: Marketers lock in long-term loyalty by offering subscription packages for daily supplements and recurring self-care items.

Standard Research Methodology for This Domain

When academic or market researchers study the impact of e-pharmacies on OTC marketing, they typically deploy a specific set of frameworks:

1. Research Design

Approach: Most studies use a Quantitative or Mixed-Methods research design to analyze vast consumer behavioral datasets alongside qualitative perceptions.

Nature: Highly Descriptive and Exploratory, attempting to chart evolving consumer intent.

E-Pharmacy Business Model:

3. E-Pharmacy Business Models

In practice, digital pharmacies generally utilize one of two foundational business structures, or they leverage a combination to operate as a hybrid entity:

1. **The Inventory-Led Model:** The e-pharmacy acts as the direct retailer, purchasing massive bulk orders of drugs directly from manufacturers or top-tier wholesalers and fulfilling orders from their own centralized fulfillment warehouses.
2. **The Marketplace (Aggregator) Model:** The e-pharmacy functions as a pure technology intermediary. It networks existing local physical pharmacies onto its app, routing the consumer’s order to the closest local vendor to complete the delivery.

Role in OTC Drug Marketing

The role of Over-the-Counter (OTC) drug marketing is to bridge the gap between self-medication needs and safe, effective consumer healthcare solutions. Unlike prescription (Rx) drugs, which target healthcare professionals, OTC marketing directly targets the end consumer.

🔑 **Key Roles of OTC Drug Marketing**

1. Driving Consumer Awareness and Education

- **Symptom Identification**: Teaches consumers how to recognize minor ailments (e.g., allergies, acid reflux, tension headaches).
- **Usage Guidance**: Communicates proper dosage, active ingredients, and administration timing directly through multimedia and simplified packaging.
- **Risk Reduction**: Highlights contraindications and warnings to prevent adverse drug interactions during self-medication.

2. Establishing Brand Trust and Differentiation

- **Perceived Efficacy**: Uses emotional storytelling and clinical backing to convince consumers that a specific brand relieves pain faster or better than generic alternatives.
- **Safety Association**: Builds a long-term reputation of safety, making consumers comfortable buying the product without seeing a doctor.
- **Visual Identity**: Utilizes distinct packaging, logos, and mascots to stand out on crowded pharmacy and retail shelves.

3. Facilitating Point-of-Purchase Conversions

- **Retail Visibility**: Leverages strategic shelf placement, floor displays, and point-of-sale (POS) standees in both pharmacies and non-pharmacy retail environments.
- **Availability**: Ensures mass distribution so the product is accessible at the exact moment a consumer feels an acute need (e.g., catching a cold or experiencing sudden heartburn).
- **Incentivization**: Employs consumer-oriented promotions like discounts, bundled offers, or loyalty points.

Consumer Behavior Analysis

🧠 **Key Drivers of Consumer Behavior in OTC Markets**

1. Perceived Efficacy and Safety

Consumers prioritize immediate symptom relief above almost all other factors.
Trust is built when a product demonstrates quick onset and minimal side effects.
Perceived risk heavily dictates whether a consumer opts for self-medication or visits a physician.

2. Low Brand Loyalty and High Price Sensitivity

Because consumers are driven by the need for instant relief, brand loyalty in the OTC sector is surprisingly low.
High price sensitivity causes consumers to easily switch to generic equivalents if they promise the same healing effects.
Financial household constraints strongly correlate with a higher reliance on OTC drugs over doctor consultations.

3. The Power of "Influencers" (Pharmacists and Peers)

Pharmacists: They serve as the most critical touchpoint. Consumers heavily rely on a pharmacist's active recommendation at the point of sale.
Reference Groups: Recommendations from family, friends, and associative social groups dictate initial trust and product trial.

3. **Direct-to-Consumer Advertising (DTCA)**
4. Mass media and digital advertisements do not always trigger an immediate purchase, but they successfully build top-of-mind awareness and brand recall.

For minor, routine ailments (like coughs or headaches), consumers often grab the brands they frequently see in commercials or social media.

🛒 The OTC Consumer Decision-Making Process

🔍 **Stage 1: Problem Recognition**

Triggered by internal stimuli such as acute pain, seasonal allergies, or a common cold.
The busy, stressful modern lifestyle pushes consumers to seek rapid "shortcut" pills rather than dedicating time to visit a clinic.

Stage 2: Information Search

Consumers heavily lean on internal memory (past personal experience with a drug).
External search involves asking the local pharmacist, consulting family members, or searching symptoms on the internet.

⚖️ **Stage 3: Evaluation of Alternatives**

Consumers evaluate options based on cost, product accessibility, and physical aesthetics (such as pill size, taste, or easy-to-open packaging).

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Branded medications fight for market share against lower-priced generic drugs.

💳 Stage 4: Purchase Decision

Often an impulsive or highly urgent decision triggered by active physical discomfort.

Brick-and-mortar pharmacies remain the dominant channel due to the immediacy of the need, though e-pharmacies are rapidly growing for chronic OTC supplies.

If the drug effectively cures the ailment, strong cognitive positive reinforcement occurs, prompting future repurchases.

Data Analysis and Interpretation:

📊 Market Overview & Data Analysis

The OTC drugs market is characterized by robust growth metrics, driven by a global shift toward self-care and rising healthcare costs.

Global Market Size: The global OTC drugs market was valued at approximately $155.1 Billion in 2024 and is projected to reach $216.8 Billion by 2034, growing at a compound annual growth rate (CAGR) of 5.0%.

Regional Dominance: North America held the largest market share at roughly 39.7% in 2025, attributed to high health awareness and established retail infrastructures.

Fastest Growing Region: The Asia-Pacific region is the fastest-growing market, with India projecting an aggressive 11.21% CAGR driven by a rising middle class and rapid digital adoption.

Leading Product Segments

Cough, Cold, and Flu Remedies: Hold the largest overall share (about 22.8% to 23.9%) due to seasonal demand and recurring minor illnesses.

Analgesics (Pain Relief): The second-largest segment, heavily driven by an aging global population managing chronic issues like osteoarthritis.

Vitamins, Minerals, and Supplements (VMS): The fastest-growing product category, moving at a 7.52% CAGR as consumer mindset pivots from "treatment" to "prevention".

💡 Interpretation of Key Marketing Strategies

Data from the market highlights several strategic pivots that successful pharmaceutical companies are utilizing:

1. The "Prescription to OTC" (Rx-to-OTC) Switch

Pharmaceutical companies are actively transitioning mature prescription drugs to OTC status to extend product lifecycles.

Interpretation: This widens the consumer base immensely. Marketers are utilizing the US FDA's Additional Conditions for Nonprescription Use (ACNU) rules to transition complex molecules by using digital self-selection tools (like apps or online questionnaires) to safely guide consumers.

2. The Shift from Prescriber "Push" to Consumer "Pull"

In traditional pharma, marketing is aimed at physicians. In OTC, the consumer is the ultimate decision-maker.

Interpretation: Marketing budgets have aggressively moved toward direct-to-consumer (DTC) advertising, social media educational campaigns, and functional benefit-driven packaging (e.g., labeling a supplement for "Deep Sleep" or "Stress Relief" rather than listing chemical ingredients).

⚠️ Challenges in OTC Marketing

Consumer Misuse: Approximately 23% of OTC drug users admit to exceeding recommended dosages. Marketers face the challenge of making products look accessible while aggressively promoting safe consumption.

Challenges and Regulations:

⚖️ Regulations of OTC Drug Marketing

OTC drug marketing is highly regulated to ensure consumer safety, prevent deceptive health claims, and maintain transparency. The regulatory landscape varies by region but generally follows strict standards:

1. Separation of Regulatory Oversight (U.S. Model)

FDA vs. FTC: In the United States, the Food and Drug Administration (FDA) regulates the formulation, safety, and labeling of OTC drugs. However, the Federal Trade Commission (FTC) holds primary jurisdiction over the advertising and marketing of OTC non-prescription products.

FTC Advertising Standards: The FTC enforces three primary standards for OTC ads: prior substantiation of objective claims, consumer perception aligned with real-life situations to avoid deception, and an unfairness policy to protect against unavoidable consumer harm.

2. Labeling Requirements

Standardised Drug Facts: Regulations mandate clear, concise labeling. In the U.S., the FDA requires a standard "Drug Facts" label including active ingredients, purposes, uses, warnings, directions, and inactive ingredients.

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Layperson Accessibility: Labeling must be simple and easily understood by a layperson without clinical guidance.

3. Direct-to-Consumer (DTC) Advertising Limits

Fair Balance: Any advertisement highlighting the benefits of an OTC drug must also give "fair balance" to its risks, side effects, and contraindications.

Prohibition of Off-Label Promotion: Marketers cannot promote an OTC drug for indications or uses not explicitly covered under the approved monograph or New Drug Application (NDA).

4. International Discrepancies and Evolution

India (No Defined OTC Category): Currently, India's Drugs and Cosmetics Act does not explicitly define the term "OTC". Products are governed by the general Drugs and Cosmetics Rules and the Drugs and Magic Remedies (Objectionable Advertisements) Act. However, recent government moves are seeking to heavily restrict digital promotion and create isolated OTC rules to combat misuse.

⚠️ Challenges in OTC Drug Marketing

Marketers in the OTC pharmaceutical sector navigate a complex web of ethical, educational, and competitive hurdles:

🧩 Consumer Self-Diagnosis: Consumers lack medical training. Devising marketing messages that help consumers accurately self-diagnose their minor ailments—without overstepping into advising on complex conditions—is a severe challenge.

⚠️ Risk of Misuse and Overdose: Heavy or persuasive marketing can inadvertently lead to the overuse or chronic abuse of medications (such as NSAIDs or antacids), leading to health complications like renal failure or severe drug-drug interactions.

Future Prospects

1. Digital Transformation and E-Commerce

The internet has fundamentally altered the path to purchase for non-prescription medications.

The Omnichannel Shift: Traditional brick-and-mortar pharmacies are actively integrating with digital applications to provide localized pollen forecasts, health trackers, and in-app pharmacist consultations. Online pharmacy sales are projected to sustain double-digit annual growth.

Search-Driven Decisions: Consumers (especially Millennials and Gen Z) treat doctor visits as a last resort, relying heavily on online research, peer forums, and digital symptom checkers to self-diagnose.

Data Personalization: Direct-to-Consumer (DTC) models and co-branded loyalty apps allow brands to capture first-party data, enabling personalized marketing and curated subscription boxes for chronic conditions.

2. Strategic Rx-to-OTC Switches

The transition of drugs from prescription (Rx) to non-prescription (OTC) status is a primary growth engine.

Market Expansion: This strategy allows big pharma to breathe new life into off-patent drugs, bypassing generic price erosion by establishing direct consumer brand loyalty.

Broadening Indications: Major regulators continue to approve landmark switches, allowing patients immediate access to critical medications (such as daily oral contraceptives and emergency opioid overdose reversals) directly from the shelf.

3. The Rise of "Clean Label" and Preventative Care

The definition of OTC is expanding rapidly beyond cough, cold, and pain relief.

Holistic Wellness Integration: Influenced by the broader food and beverage industry, consumers demand products focused on illness prevention rather than just treatment. Categories like sleep aids, weight management, and complex skin health are skyrocketing.

Natural and Plant-Based Demands: Consumers actively seek "organic," "GMO-free," and "dye-free" labels. Parents, in particular, show a heavy preference for administering natural OTCs first before using traditional synthetic medications.

4. Innovative Content and Influencer Marketing

Because pharmaceutical advertising is strictly regulated, companies must find creative, compliant ways to build authority.

Knowledge Hubs: Successful brands are pivoting away from aggressive sales pitches to building highly educational portals featuring infographics, interactive surveys, and expert blogs addressing common ailments.

Micro-Influencers and UGC: In an industry inherently tied to skepticism, over 90% of consumers trust user-generated content (UGC) over traditional advertising. Trusted faces in health communities carry immense marketing weight.

Conclusion:

Executive Summary

The digital transformation of the pharmaceutical sector has positioned e-pharmacies as a dominant force in the marketing and distribution of Over-the

Counter (OTC) drugs. By leveraging aggressive digital marketing, data analytics, and doorstep convenience, e-pharmacies have successfully shifted consumer behavior toward proactive self-care and digital purchasing. However, this rapid growth outpaces current regulatory frameworks, creating a critical need for balanced oversight to protect public health while sustaining economic and accessible healthcare growth.

Detailed Conclusion

1. Market Expansion and Consumer Empowerment

Shift to "Pull" Marketing: E-pharmacies have fundamentally changed OTC marketing from a physician-driven "push" strategy to a consumer-centric "pull" strategy. Patients now research remedies independently, read digital reviews, and actively participate in their own treatment decisions.

Accessibility and Convenience: Digital platforms have successfully bridged geographical barriers, offering 24/7 access to wellness and therapeutic products. This has immensely benefited elderly, disabled, and remote populations.

Price Transparency: The ability to compare prices instantaneously online has fostered intense competition. This forces brands to optimize pricing and heavily benefits price-sensitive consumers.

2. Emerging Risks and Public Health Concerns

Promotion of Uncontrolled Self-Medication: The extreme ease of acquiring OTC drugs online frequently encourages improper self-diagnosis and chronic self-medication without professional oversight.

Loss of the Pharmacist Interface: Traditional brick-and-mortar pharmacies offer immediate, personalized counseling. E-pharmacies, while convenient, often reduce this critical human interaction, increasing the risk of adverse drug-to-drug interactions.

Data Privacy and Fraud: Handling sensitive medical data online exposes consumers to cybersecurity threats, data breaches, and the predatory targeting of vulnerable patients by aggressive advertisers.

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