

PHARMACEUTICAL SALES AND MARKETING

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1: Sales Domain – Indoor Assignments [01-05]

A) Indoor Assignments:

1. Developing Questionnaires for Surveys

○ Objective: Learn how to create structured surveys to collect data about customer preferences, product feedback, or market trends.

○ Key skills: Research, logical question framing, understanding the target audience.

2. Development of Personnel Skills Related to Pharma Profession

○ Objective: Enhance skills necessary for a career in the pharmaceutical industry.

○ Key skills: Product knowledge, regulatory awareness, professionalism, ethical practices.

3. Teaching Soft Skills and Situation Handling Skills to Students

○ Objective: Train students to handle various real-life situations in the field professionally.

○ Key skills: Communication, conflict resolution, empathy, persuasion, adaptability.

4. Develop a Detailing Story on the Product

○ Objective: Prepare a concise and persuasive presentation of a product's features, benefits, and differentiators.

○ Key skills: Storytelling, product knowledge, customer engagement, sales strategy.

5. Detailing and Product Knowledge Gathering by Students

○ Objective: Equip students with deep understanding of the product to effectively communicate with healthcare professionals.

○ Key skills: Research, learning from resources, note-taking, presentation skills.

B) Outdoor Assignments:

1. Conducting Market Survey in Medical Shops

○ Objective: Understand the market presence of products and companies, their market share, and competitive positioning.

○ Activities:

▪ Visit medical shops in the assigned area.

▪ Collect data on product availability, brands, pricing, and stock levels.

▪ Identify which products are most frequently sold.

○ Outcome: A clear picture of market trends, competition, and company performance.

2. Preparing List of Doctors in Assigned Areas

○ Objective: Build a comprehensive database of healthcare professionals for targeted sales and marketing.

○ Activities:

▪ Identify doctors in the area.

▪ Collect details: name, specialty, clinic/hospital address, contact info.

▪ Classify doctors by specialty (e.g., cardiology, dermatology, general medicine).

○ Outcome: Ready-to-use doctor database for sales visits and marketing campaigns.

3. Generate Details of Doctor Prescription Habits

○ Objective: Understand prescribing patterns of doctors to tailor product promotion strategies.

○ Activities:

▪ Record which drug categories a doctor prescribes frequently.

▪ Identify brand preferences and switching behavior.

▪ Note frequency and patient profile.

○ Outcome: Insights into prescription behavior for better targeting and sales planning.

4. Compare with ORG Marketing Data and Develop Company Profiles

○ Objective: Benchmark field findings against established market data to identify gaps and opportunities.

○ Activities:

▪ Collect ORG (organization) marketing data for the area.

▪ Compare field survey results with this data.

▪ Develop detailed profiles of companies operating in the area: products, market share, strengths, weaknesses.

o Outcome: Accurate company profiles to guide sales strategy.

5. Conduct Survey on Various Brands of a Selected Drug

o Objective: Evaluate competition for a specific drug and understand brand performance.

o Activities:

- Choose a drug category.
- Collect data on multiple brands: sales, pricing, patient preference, doctor feedback.
- Prepare comparative tables and evaluation reports.

o Outcome: Comparative data to identify which brands are preferred and why, supporting competitive strategy.

6. Conduct Market Survey on Irrational Drug Combinations

o Objective: Identify irrational drug combinations in the market and understand regulatory frameworks.

o Activities:

- Identify commonly prescribed irrational combinations (those not scientifically justified).
- Collect information on guidelines/regulations from regulatory authorities (like CDSCO in India).
- Prepare a detailed report summarizing findings, risks, and regulatory status.

o Outcome: Awareness of unsafe or non-compliant drug combinations, supporting ethical sales and compliance training.

2: Marketing or Product Development [05-10]

1. Introduction to Role and Responsibilities of Product Management Team and Its Hierarchy

• Objective: Understand how the product management team functions and its place within the organization.

• Activities:

o Learn about different roles in the product management team (e.g., Product Manager, Associate Product Manager, Market Analyst).

o Understand reporting lines and hierarchy.

o Study responsibilities such as product planning, marketing strategy, competitor analysis, and lifecycle management.

• Outcome: Awareness of team structure, workflow, and responsibilities within product management. Key Skill: Organizational understanding and teamwork.

2. Literature Review to Identify Proper Time and Type of Products Introduced in the Market

• Objective: Build a data-driven understanding of market trends and product launch timing.

• Activities:

o Collect and review scientific journals, market reports, and past product launches.

o Identify trends in product introduction in a specific category.

o Analyze which types of products were successful and when they were launched.

• Outcome: A compiled dataset that helps in planning future product launches.

Key Skill: Research, data analysis, and market insight.

3. Acquiring Product Knowledge Regarding Chemistry, Pharmacological and Formulation Aspects of Various Products

• Objective: Gain deep understanding of the products to effectively support marketing and sales.

• Activities:

o Study chemical composition, pharmacodynamics, and pharmacokinetics.

o Learn about formulations, dosage forms, indications, and contraindications.

o Understand manufacturing processes and quality standards.

• Outcome: Thorough knowledge that helps in product promotion, answering queries, and differentiating products.

Key Skill: Technical learning and scientific literacy.

4. Identifying the Need for New Products Through Discussions with Medical Practitioners

• Objective: Determine market gaps and opportunities for new products.

• Activities:

o Conduct interviews or discussions with doctors and healthcare professionals.

o Gather insights on unmet medical needs and desired product specifications.

o Analyze the right timing to launch new products in different segments of medical practice.

• Outcome: Practical insights that guide new product development and market entry strategies.

Key Skill: Market research, networking, and need analysis.

5. Developing Literature Articles as Leave-Behinds for Supporting Products

- Objective: Create supporting materials that reinforce product promotion.
 - Activities:
 - Write concise, scientifically accurate articles that summarize product benefits.
 - Include clinical evidence, usage instructions, and comparisons with competitors.
 - Design materials that can be left with doctors, pharmacists, or stakeholders after visits.
 - Outcome: Professional leave-behind materials that enhance credibility and aid in product adoption.
- Key Skill: Scientific writing and marketing communication.

6. Preparing a Documented Report of the Work Under Supervision

- Objective: Compile all learning and research into a formal report.
 - Activities:
 - Organize findings from literature review, field discussions, and product studies.
 - Document insights on product trends, market needs, and promotional materials.
 - Review and finalize the report with guidance from an internal expert.
 - Outcome: A professional report that reflects research, analysis, and practical understanding of product development.
- Key Skill: Documentation, reporting, and professional presentation.

3: Stages of the Sales Cycle. [11-15]

1. Lead List Preparation

- Objective: Identify potential customers who are likely to buy your product.
 - Activities:
 - Collect and classify potential leads (e.g., doctors, pharmacies, hospitals).
 - Gather relevant details: name, specialty, contact info, location, current prescribing habits.
 - Prioritize leads based on potential sales value or likelihood of conversion.
 - Outcome: A targeted, organized list that focuses sales efforts efficiently.
- Key Skill: Research and organization.

2. First Contact / Interview

- Objective: Make initial contact to introduce yourself, your company, and your products.
- Activities:
 - Schedule appointments or cold-call the lead.
 - Build rapport through polite conversation and professional behavior.
 - Collect preliminary information about customer needs, preferences, and challenges.
- Outcome: Establishes the first impression and opens the door for further engagement.

Key Skill: Communication and relationship-building.

3. Funnelling the Customers

- Objective: Segment and prioritize leads based on their interest and potential.
- Activities:
 - Identify which leads are highly interested, moderately interested, or not currently interested.
 - Focus efforts on high-priority leads.
 - Use CRM tools or tracking sheets to manage leads.
- Outcome: Efficient allocation of sales resources to maximize conversion rates.

Key Skill: Analytical thinking and strategic planning.

4. Product Discussion

- Objective: Present the product, its benefits, and how it addresses the customer's needs.
- Activities:
 - Provide detailed information about the product features, indications, dosage, and benefits.
 - Use supporting materials like brochures, charts, or slides.
 - Demonstrate how the product solves the customer's problems better than competitors.
- Outcome: Educates the customer and builds confidence in the product.

Key Skill: Product knowledge and persuasive communication.

5. Customer Objections Handling

- Objective: Address concerns or hesitations the customer may have about the product.
- Activities:
 - Listen carefully to objections (e.g., price, efficacy, brand loyalty).
 - Respond calmly with facts, benefits, or examples.
 - Turn objections into opportunities by reinforcing product advantages.
- Outcome: Overcomes barriers to purchase and strengthens customer trust. Key Skill: Problem-

solving and negotiation.

6. Negotiations and Sales Closing

- Objective: Finalize the sale by reaching an agreement that satisfies both parties.
- Activities:
 - Discuss terms of sale, pricing, and delivery.
 - Negotiate mutually beneficial solutions if required.
 - Obtain the customer's commitment to purchase.
- Outcome: Successful conversion of a lead into a customer.

Key Skill: Negotiation, persuasion, and confidence.

7. Generate Referrals

- Objective: Expand your customer base by leveraging satisfied customers.
- Activities:
 - Ask satisfied customers to recommend your product to peers or colleagues.
 - Collect contacts or leads from referrals.
 - Maintain relationships to encourage repeat business.
- Outcome: Creates a network of potential new leads and enhances credibility.

Key Skill: Networking and relationship management.

4: Marketing Research and the Information [15-20]

1. Marketing Research

- Objective: Understand the role of research in making informed marketing decisions.
- Activities:
 - Learn different types of marketing research: primary (surveys, interviews) and secondary (reports, databases).
 - Collect and analyze data related to market demand, customer preferences, and sales trends.
 - Use research tools and techniques to gather accurate information.
- Outcome: Ability to gather, analyze, and interpret market data for decision-making.

Key Skill: Data collection, analytical thinking, and problem-solving.

2. Studying of Macro Environment Factors

- Objective: Assess the external factors that influence marketing strategy.
- Activities:
 - Analyze political, economic, social, technological, environmental, and legal (PESTEL) factors.
 - Study demographic trends, regulatory changes, and

technological innovations affecting the market.

- Evaluate how these factors impact product acceptance and sales strategies.

- Outcome: Understanding of external market forces and their influence on business decisions.

Key Skill: Strategic analysis and environmental scanning.

3. Research of Consumers

- Objective: Understand customer behavior, preferences, and needs.

- Activities:

- Identify target consumer segments and their buying behavior.

- Conduct surveys, interviews, or focus groups to gather feedback.

○ Analyze factors influencing purchase decisions, including price sensitivity, brand loyalty, and product perception.

- Outcome: Detailed insights into consumer needs, which help tailor marketing and sales strategies.

Key Skill: Customer insight analysis and market segmentation.

4. Research of Competitors

- Objective: Evaluate competitor strategies and performance to identify opportunities and threats.

- Activities:

- Identify key competitors in the market.

- Analyze their product offerings, pricing, promotions, and distribution channels.

- Study strengths, weaknesses, and market positioning.

- Outcome: Competitive intelligence to improve product positioning and marketing strategies.

Key Skill: Competitive analysis and strategic thinking.

5. Price Research

- Objective: Understand pricing strategies in the market and optimize product pricing.

- Activities:

- Study competitor pricing, discounts, and offers.

- Conduct surveys or market visits to assess customer perception of price vs. value.

- Analyze cost structures and profitability of different pricing models.

- Outcome: Informed pricing decisions that balance competitiveness and profitability.

Key Skill: Pricing strategy and market analysis.

6. Research of Distribution and Sales

- Objective: Analyze sales channels and distribution efficiency for better market coverage.
- Activities:
 - Study existing distribution networks, retail presence, and supply chain effectiveness.
 - Identify gaps or bottlenecks in product availability.
 - Evaluate sales performance across regions, stores, or representatives.
- Outcome: Insights to optimize distribution channels and improve sales performance.

Key Skill: Supply chain awareness, sales analysis, and channel management.

Abstract—Pharmaceutical sales and marketing encompass the strategies and activities used to promote and distribute medications to healthcare professionals, pharmacies, and patients. This field plays a crucial role in ensuring that new and existing drugs are effectively introduced to the market, focusing on raising awareness about their benefits, safety, and proper usage. Pharmaceutical marketing is governed by strict regulations to ensure ethical promotion and to avoid misleading claims that could jeopardise patient safety. The industry is increasingly leveraging digital marketing, data analytics, and personalised strategies to engage healthcare providers and consumers more effectively. As the healthcare landscape evolves, pharmaceutical companies must balance innovation in their marketing approaches with adherence to legal and ethical standards, aiming to improve both business outcomes and public health.

Index Terms—Pharmaceutical Sales, Strategies, Approaches.

I. INTRODUCTION

Pharmaceutical sales and marketing play a pivotal role in the healthcare industry, bridging the gap between drug manufacturers and healthcare providers. The primary objective is to ensure that healthcare professionals are well-informed about new and existing medications, enabling them to make informed decisions that benefit patient care. This process involves a variety of strategies, including direct sales, educational programs, digital marketing, and collaborations with healthcare institutions. Due to the highly regulated nature of the pharmaceutical

industry, marketing efforts must adhere to strict guidelines set by regulatory authorities, ensuring that all promotional activities are ethical, transparent, and scientifically accurate. In recent years, the landscape of pharmaceutical sales and marketing has shifted, with digital platforms, data-driven approaches, and patient-centered strategies becoming increasingly prominent. As the sector continues to evolve, pharmaceutical companies are tasked with balancing business growth, innovation, and compliance with the overarching goal of improving patient outcomes.

1. **Pharmaceutical sales:** Pharmaceutical sales is the sale of prescription and over-the-counter (OTC) pharmaceutical products to healthcare professionals such as physicians, pharmacists, hospitals, and other groups, with goals to help promote the use of a company's pharmaceutical product.

2. **Pharmaceutical Marketing:** In essence, pharmaceutical marketing is a set of activities and strategies applied by pharmaceutical companies to create an awareness of their pharmaceutical products and medical solutions in the healthcare market in an attempt to reach healthcare professionals and consumers to influence product adoption and sales.

The pharmaceutical marketing is a huge job creator in India, and MR jobs hold the majority of it. There exist approximately 6 lakh MRs in India. In any major town, between 300 to 600 MRs will be present, contributing to growth of industry to become shortly a 100 billion USD. MRs are an important intermediary – they translate all product concepts, produced drugs, and years of research and development into a commercial success. Perceived value given by pharmaceutical sales representatives (PSRs) and physicians has been investigated, with PSRs providing emphasis on detailing of established and new products and presenting research studies. Yet, physicians valued the role of PSRs only for recruitment of physicians to participate in the US FDA-approved drug studies. One contrarian dimension is that busy physicians value the information provided by medical colleagues maximum compared to advertisements and Mrs. Hence, MRs target and build key opinion leaders or key opinion builders (noted doctors), who advocate the right usage of products. The another area related to this is that the tools applied to assess physician

interaction with pharmaceutical companies are not high reliability; consequently, data quality is low. Hence a high priority is allotted to continuous research in this field. Although pharmaceutical marketing is one of the major impact areas, the studies need to be robust, especially in lower-income and middle-income countries, as the systematic review of knowledge, belief, and attitude of prescribers in these geographies is not robust.

II. LITERATURE REVIEW

Marketing Mix: “The marketing mix refers to the appointment of efforts, the combination, the designing and the integration of the elements of marketing into a programmed or mix which, on the basis of an appraisal of the market forces will best achieve an enterprise at a given time”. – Borden
 “Marketing Mix” is the set of controllable variables that the firm can use to influence the buyer's response. E. Jerome McCarthy's marketing mix, consisting of product, pricing, placement, and promotion, was introduced in 1960. This mix interacts with each other, enabling businesses to target specific markets and establish a strong brand image, crucial for both short- term and long-term sales.



Product Mix: “The product mix is the full list of all products offered for the sale by the company.”- William Stanton “A product mix is the set of all product lines and items that a particular seller offers

for the sale to buyers.”- Philip Kotler Product mix is a crucial aspect of a company's strategy, allowing for research and brand image analysis. A wider and deeper product line reduces risk and reduces reliance on a single product. The product mix includes width, length, depth, and consistency. Companies can analyze customer needs and stay updated with the latest trends by adding new products and identifying their most loyal customers. This helps in developing strategies to boost sales productivity and stay competitive in the market (Admin, B., 2009).

Price Mix: “Price is the amount of money charged for a product or service or the sum of the values that the consumer’s exchange for the benefits of having or using the product or service.” - Philip Kotler. “A value that will purchase a definite quantity, weight, or other measure of a good or service.” – Business Dictionary. Pricing is a crucial component of the marketing mix, resulting in profit for companies. It involves determining the best price for a product, which affects consumer purchasing power and standard of living. Price is the most powerful component, as it controls demand and affects product sales revenue, ultimately affecting the company's profitability. Price changes are easy to implement, ensuring a company's profitability (Jayna B., 2020).

Place mix: “The various the company undertakes to make the product accessible and available to target customer.” -Philip Kotler Place is defined as the "direct or indirect channels to market, geographical distribution, territorial coverage, retail outlet, market location, catalogues, inventory, logistics, and order fulfilment". Blythe, J. (2009) The place mix is a crucial part of the marketing mix, ensuring everything is in its proper place and procedures are executed smoothly. It consists of distribution channels and physical distribution, focusing on reaching the right target audience at the right time. Proper placement can lead to increased sales, market share, earnings, and sales (Martin Luenendonk, 2019).

Promotion Mix: “Promotion mix is the combination of the operational selling, salesperson, public relation. These are the promotional tools that help an organization to achieve its marketing objective.” -

William J. Stanton "The marketing communication used to make the offer known to potential customers and persuade them to investigate it further". Blythe, J. (2009) "Promotion includes all the activities of the company undertakes to communicate and promote its products to the target market." Philip Kotler A promotion mix is a company's strategy to reach market objectives. Effective promotion involves captivating communication through the right channels, focusing on the right demographic, increasing market awareness, resulting in increased demand and sales for the business (Josh, 2022) (Gawande, R.,2020).

III. PHARMACEUTICAL SALES REPRESENTATIVE

- **Definition:** A Pharmaceutical Sales Representative also called a Medical Sales Representative acts as the key link between a pharmaceutical or medical device company and healthcare providers like doctors, pharmacists, and hospital staff.

Education and Promotion: The core role is to educate healthcare professionals (HCPs) about new and existing pharmaceutical products, including their benefits, side effects, dosage, and evidence-based clinical trial results.

Relationship Building: Establishing and maintaining positive, trusting relationships with HCPs in a designated sales territory.

Sales and Strategy: Persuading HCPs to prescribe their company's drugs by demonstrating the product's value and strategic alignment with patient needs. They track prescription data and adjust strategies to meet sales targets.

Compliance: Operating within strict ethical and regulatory guidelines (such as the PhRMA Code in

the US) regarding interactions, gifts, and the dissemination of product information.

Administrative Tasks: Managing schedules, travel routes, sales reports, and territory analysis.

Skills and Background

Scientific and Medical Knowledge: A solid understanding of medical terminology, therapeutic areas, and the pharmacology of the products.

Communication & Presentation: Excellent ability to convey complex medical data clearly and persuasively.

Relationship Building: Strong interpersonal skills for building rapport with busy healthcare professionals.

Self-Motivation & Drive: A highly motivated, goal-oriented, and resilient mindset, as the role often involves autonomy and frequent rejection.

IV. CONSUMER BEHAVIOUR IN PHARMACEUTICAL MARKET

Consumer purchasing behaviour encompasses more of the consumer's approach to purchasing a product. As a result, marketing efforts are focused on the consumption of services, ideas, and activities by consumers. The manner in which a customer purchases a product is crucial to marketers. It entails a series of consumer decisions cues i.e., what, why, when, how much, and how often. In general, a consumer is an individual who consumes, particularly one who is of a specific gender, age, religion, or ethnicity, and who purchases goods for personal consumption rather than for resale. A consumer is an important figure who may decide whether or not to buy something from a specific store and can be influenced by marketing and commercials. Consumer purchasing behaviour encompasses more than how a person purchases a thing. Hence, marketing efforts are focused on the consumer's consumption of services, as well as his activities and thoughts.



V. STUDY ON SUPPLY AND DEMAND OF MEDICAL PRODUCTS

The characteristics of the market mechanism are demand, price and market supply. The interaction between these elements will be discussed in detail in the section devoted to operating costs. Given a statement, the study and demand for medical equipment has become an important factor in studying the economy, which in turn has led to consumer demand leading directly to satisfaction. Bad demand. The business is in a bad mood if the majority of the business does not like the good (service) and even agrees to pay something to avoid it (e.g. vaccinations, oral surgery, some procedures, removal of bile bubbles). Not necessary. Business customers may be dissatisfied or dissatisfied with the product marketing. The problem is to find a way to relate the benefits of the product to people's needs or interests. Thinking ability. The products or services available in the market cannot meet the needs of customers. The business's problem is to determine the size of the potential market and create effective products and services that can meet the needs. In case of a decrease in demand, the economic problem is to correct the decrease in demand on the way to goods. Constant thoughts. In many organizations, sales fluctuate seasonally, daily, or hourly, which can cause loading and overload problems. The problem for business is to find a way to keep needs changing over time through price changes, drug promotion, and other promotional methods. It needs high taste. When

the organization deals with different tasks, it is time to talk about it. Business is the challenge is to support the current level of demand despite changes in consumer dynamics and increased competition. There is a lot of demand. For many organizations, the level of demand is beyond what they can meet or expect to meet. The problem for the retail industry in this case is to find opportunities or ways to reduce demand. Feelings of surprise. Fighting bad brands requires hard work. For example, Narcotics, demons. The business's problem is convincing followers to reject the scent. Information threat as a result, prices are very high and product supply is limited. Good Demand - Medical products are sufficient and available in the pharmacy chain. Insufficient demand - Insufficient or unequal supply of medical supplies to pharmacies. Create demand – demand for new and less well- known medical products.

MODERN CHALLENGES FACING SALES REPRESENTATIVES

In the modern world of pharmaceutical sales, representatives face unique challenges that their predecessors have not faced. Here are the four main points:

Limited access to doctors: Many doctors is reluctant to meet with pharmaceutical representatives due to work constraints and time constraints. The confidence of pharmaceutical representatives diminished, and doctors began to become overwhelmed with patient care and administrative responsibilities.

Communication revolution: Advances in technology have changed the way of communication. Doctors can now interact with pharmaceutical sales representatives through various digital media, allowing them to access information and interact with the Company's departments, enabling them to get better results considering their busy time. Increasing competition: On average, doctors are contacted by pharmaceutical companies about 2,800 times each year. Because of frequent interactions, healthcare representatives must work harder to stand out, build relationships with healthcare providers, and continue to promote their products.

No personal change in sales: Pharmaceutical sales representatives are usually trained to follow a predefined script. At the same time, these articles become out dated and cause doctors to not participate. An aggressive, impersonal approach hinders effective sales in today's environment. Personality is the key to success in any business.

VI. CONCLUSION

The sales and marketing landscape in the pharmaceutical industry is evolving with a focus on digital strategies and the need to maintain good communication between pharmaceutical companies and medical professionals. Despite significant challenges, the benefits of improving patient care and addressing unmet medical needs remain numerous. A strong and ethical approach to sales and marketing is the key to success in this industry. This review sheds light on the various worlds of sales and marketing in the pharmaceutical industry, suggesting strategies and decisions for success in this field. This is important.

REFERENCE

- [1] Rajput K, Pandey RK. Pharmaceutical Marketing: A Literature Review. *Int J Eng Manag Res.* 2022;12(2):56–63.
- [2] Lazić D. Pharmaceutical marketing values and research of user satisfaction in medical pharmacy institutions. *ScienceIJ.* 2024; (no volume):
- [3] Rathore YK, Dewangan N, Swarnkar S. Comprehensive Approaches to Pharmaceutical Marketing: Balancing Innovation and Regulation. *Res J Pharm Technol.* 2024;17(11):5480–5484.
- [4] Chowhan SS. Marketing practices for pharmaceutical products: an exploratory study in Rajasthan. *Glob J Res Anal.* 2023;12(12):78–83.
- [5] Malik R, Aggarwal R. Innovative Marketing and Consumer Behaviour: A Systematic Literature Review. *Samvad.* 2021;23: 87–(...). DOI:10.53739/samvad/2021/v23/165188.
- [6] Chattopadhyay M, Dan PK, Majumdar S, Chakraborty PS. Application of artificial neural network in market segmentation: A review on recent trends. *arXiv.* 2012.
- [7] Wang Y, Wu J, Ye X, Wu Y. Product Competitive Analysis Model Based on Consumer Preference Satisfaction Similarity: Case Study of Smartphone UGC. *Systems.* 2025;13(1):38. DOI:10.3390/systems13010038.
- [8] Houghton D, Hua G, Jin D, Lin J, Wei Q, Zhang C. Imputing unknown competitor marketing activity with a Hidden Markov Chain. *arXiv.* 2014.
- [9] K C S, Mukherjee A. Characterizing Product Lifecycle in Online Marketing: Sales, Trust, Revenue, and Competition Modeling. *arXiv.* 2017.
- [10] Menchetti F, Bojinov I. Estimating the effectiveness of permanent price reductions for competing products using multivariate Bayesian structural time series models. *arXiv.* 2020.
- [11] Bozanta A, Berry S, Cevik M, Bulut B, Yigit D, Gonen F, Başar A. Time Series Clustering for Grouping Products Based on Price and Sales Patterns. *arXiv.* 2022.
- [12] Sarpatwari A, Hernandez I, Xu S, et al. Competition and price among brand-name drugs in the same class: a cohort study. *PLoS Med.* 2019; (Volume): – (PMC article).
- [13] Gerpott TJ, Heinemann LO, Thomas SL. Competitive pricing on online markets: a literature review. *PeerJ Comput Sci.* 2022; (PMC article).
- [14] Adom AY. Competitor Analysis in Strategic Management. *CORE.* (no date).
- [15] ResearchGate. Competitive Analysis – Market Strategic Overview. (no date).
- [16] Kotler, P. *Marketing Management.* (PDF).

- (n.p.); (n.d.). (Contains chapters on competitor cost-price analysis and pricing methods)
- [17] MPBOU. Marketing: An Introduction. Unit-1. (n.p.); (n.d.). (On marketing research and its importance for competitive environments)
- [18] Oxford College of Marketing. What is a PESTEL analysis? (blog). (n.d.).
- [19] Emeritus. PESTEL Analysis: Ultimate Guide to Secure Marketing Success. (blog). (n.d.).
- [20] InfLiBNET. Marketing Research – Marketing Management. (ebook chapter). (n.d.).
- [21] Adeniran, J. A., Egwuonwu, T. K., & Egwuonwu, C. O. K. (2016). The Impact of Sales Promotions on Sales Turnover in Airlines Industry in Nigeria. *International Journal of Marketing Studies*, 8(3), 99. <https://doi.org/10.5539/ijms.v8n3p99>
- [22] Ahmad, M. F. Bin, Harun, M. H. Bin, Chasmen, H. S. Bin, Hashim, A. H. Bin, & Kanapathipillai, K. (2023). the Effect of Service Marketing Mix on Sales Performance: the Case of an Insurance Company in Perak, Malaysia. *European Journal of Management and Marketing Studies*, 8(2), 1–32. <https://doi.org/10.46827/ejmms.v8i2.1407>
- [23] Ahmed, R. R., Parmar, V., & Amin, M. A. (2014). Impact of Product Packaging on Consumer's Buying Behavior. *European Journal of Scientific Research*, 120(2), 145–157. <https://doi.org/10.13140/2.1.2343.4885>
- [24] Nandy, M. and Pal, B., 2015. Pharmaceutical Business and Product: Paradigm Shift in Indian Pharmaceutical Industry (IPI). *Adhyayan: Journal of Management Sciences*, 5(02), p. 27-40.
- [25] <https://www.productplan.com/learn/pharmaceutical-product-manager/>
- [26] Amol V. Pore, Sanjay K Bais, Sarfaraz M. Kazi IJPHT, APRIL-JUNE 2023,01(01) 72-76.
- [27] Pharmacy management and business guide for international students at the university of pharmacy.
- [28] Naidoo, S., 2003. Analysis of the roles and responsibilities of product managers in the pharmaceutical industry (Doctoral thesis).
- [29] Masood, I., Ibrahim, M., Hassali, M. and Ahmed, M., 2009. About technological change, adoption in the pharmaceutical industry and related issues.
- [30] Chris Lawson, March 9, pharmaceutical Marketing: Strategy. Business goals.16. Parekh, D., Kapupara ,P. and Shah, K., 2016. Digital Pharmaceutical Marketing: An Analysis. *Journal of Pharmaceutical and Technology Research*, 9(1), p. 108.