

PURCHASING BEHAVIOR OF PHARMACEUTICAL PRODUCTS IN RAJASTHAN: AN EXPLORATORY STUDY ON INFLUENCING VARIABLES IN PHARMACEUTICAL MARKETING

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ABSTRACT

Purpose – The research paper focused on investigating the marketing strategies used by pharmaceutical businesses in Rajasthan, India. In India, the pharmaceutical sector is heavily regulated, and to market their medicines, businesses must comply with some intricate laws and rules. The purpose of the study is to discuss the methods pharmaceutical businesses use to sell their goods, such as sales agents, internet marketing channels, and promotional events.

Design/methodology - To fully understand pharmaceutical marketing practices, the study uses a mixed-methods approach that includes quantitative and qualitative data collection techniques, such as surveys of patients and healthcare professionals, interviews with key stakeholders, and analysis of secondary data sources. A proportional random selection approach is used to pick 120 participants at different levels from the population of 900 participants (Pharma managers), and data and information are gathered in Rajasthan using a pre-tested interview schedule.

Originality/value - To prove the hypothesis, the structural equation model was applied to software version 3.2.9 to test the determining factors. This research endeavors to suggest the buying behavior adoption willingness of consumers.

Finding- The findings of the study suggest that pharmaceutical companies in Rajasthan need to adopt an integrated marketing approach that focuses on customer needs, offers reliable and affordable products, and adheres to ethical marketing practices. The findings will be of interest to marketing managers, policymakers, and researchers in the pharmaceutical industry.

Future scope - The study also recommends further research on the impact of marketing strategies on customer behavior and the long-term success of pharmaceutical companies in Rajasthan.

Keywords: Pharmaceutical Marketing Practices, Regulatory Framework, Social and Digital Marketing.

INTRODUCTION

The pharmaceutical industry is a knowledge-based business that depends heavily on R&D for both product development and growth. On the other hand, basic research (discovering

new molecules), is a costly and time-consuming process that is managed by large multinational companies (Pan et al. 2022). Because of the high cost of new compounds, Western countries have disproportionately high medication expenditure per capita as compared to underdeveloped countries due to well-established reimbursement and insurance structures (Odeyemi and Nixon 2013).

Despite its extreme fragmentation, the Indian pharmaceutical industry has expanded quickly because of favorable patent protection, an affordable production system, fierce rivalry, large volumes, and low costs. Over time, exports have been rising steadily (Schmidt 2004).

Innovation has suffered as a result of the Drug Price Control Order (DPCO), which has had a substantial effect on profitability. Conversely, the government has been progressively relaxing restrictions. DPCO had a 90% control span in the 1980s, but by 1995 it was down to 50% (Kumar et al. 2022). With an estimated global sale of US\$2.8 trillion, the pharmaceutical business is the largest in the world. But in recent years, the business has seen tremendous transformation, resulting in increased expectations on payers, providers, and manufacturers. Consumers today anticipate from the pharmaceutical business the same degree of ease and choice that they get from other market sectors.

Pharmaceutical items are essential to contemporary healthcare systems because they offer a broad choice of therapies for different medical ailments. However, the process of marketing pharmaceutical items is intricate and encompasses a wide range of elements, including distribution routes, pricing strategies, regulatory frameworks, promotional efforts (Chatterjee and Srinivasan 2013).

The purpose of this exploratory research is to get a thorough understanding of the marketing strategies used by pharmaceutical businesses in Rajasthan, India. The study's specific goal is to look into the many approaches pharmaceutical businesses take to promoting their goods, such as using sales agents, internet marketing channels, and promotional events. The goal of the study is to add to the body of knowledge already available on pharmaceutical marketing practices in India and to provide light on the promotional tactics employed by pharmaceutical firms in Rajasthan (Vyas and Panesar 2019). The findings of this study will be of interest to marketing managers, policymakers, and researchers in the pharmaceutical industry, and will help inform future marketing strategies for pharmaceutical products in the region. The state of Rajasthan is one of the largest markets for pharmaceutical products in India, with a growing demand for both generic and branded drugs (Mishra and Sathyaseelan 2019). The marketing strategies employed by pharmaceutical companies in this region are therefore of great significance to the industry as a whole (Festa et al. 2022).

By doing an in-depth review of the marketing tactics used by pharmaceutical businesses in Rajasthan, this research seeks to close this gap. The study specifically aims to determine the major determinants of pharmaceutical product marketing in this area and investigate the effects of these determinants on the effectiveness of various marketing approaches. The results of the study should help clarify the opportunities and difficulties involved in marketing pharmaceutical products in Rajasthan and guide the creation of more successful marketing plans for pharmaceutical companies doing business there (Dhaundhiyal et al. n.d.).

Pharmaceutical marketing needs to take on new problems and concentrate not just on conventional target customers (patients and physicians), but also on other consumers and stakeholders involved in the development of new pharmaceuticals. To guarantee that new drugs succeed, pharmaceutical marketing has evolved into a multifaceted endeavor that integrates economic, political, service, and key account management (Nalbant and Aydin 2023).

REVIEW OF LITERATURE

The marketing of pharmaceutical items in India has been the subject of several studies, although Rajasthan has received little attention in the literature.

Pharmaceutical firms in India encounter a significant obstacle in the form of the fragmented nature of the industry, which is typified by variations in patient demographics, illness profiles, and healthcare facilities among various areas. According to research by Ghatak et al. (2016), this variability may cause notable differences in the marketing approaches used by pharmaceutical companies in various jurisdictions. The study emphasized that rather than using a one-size-fits-all strategy, it is crucial to comprehend local market dynamics and modify marketing tactics appropriately.

Tandon et al. (2018) looked at the influence of regulatory frameworks on pharmaceutical marketing practices in India in another research. According to the report, India's regulatory framework is complicated and dispersed, and different states have differing degrees of regulatory enforcement. The authors suggested that to guarantee regulatory compliance, pharmaceutical firms doing business in India should get a deep grasp of the regulatory framework and collaborate closely with authorities.

Bajpai et al. (2015) conducted a study that concentrated on the promotion of branded medications in India. According to the study, price had a significant impact on how branded medications were marketed, with different pricing methods being used by different corporations to set themselves apart from the competition. The study also emphasized how crucial successful marketing campaigns and distribution networks are to the marketability of branded medications.

In one research, chemists in Rajasthan were asked about their opinions of pharmaceutical firms' marketing strategies by Gupta et al. (2019). Pharmacists were found to be largely happy with pharmaceutical firms' marketing strategies, despite reservations over promotional materials' quality and the corporations' degree of control over prescription choices.

Sharma and Saxena (2019) investigated the marketing tactics employed by pharmaceutical businesses in Rajasthan in follow-up research. According to the report, the main marketing and sales strategies used by pharmaceutical firms in Rajasthan were conferences and meetings with medical experts, as well as personal selling.

In a 2018 research, Kumar and Agrawal looked at the function of digital marketing in India's pharmaceutical sector. Although digital marketing in the pharmaceutical business was still in its infancy, the study indicated that there was a lot of promise for using it to reach a larger audience and enhance communication between patients and healthcare providers.

In a follow-up research, Kumar and Bhardwaj (2018) investigated the efficacy of several promotional tactics employed by Indian pharmaceutical businesses, such as direct-to-consumer advertising, sampling, and detailing. According to the survey, direct-to-consumer advertising was growing more significant, especially in metropolitan areas, even if detailing was still the most successful promotional technique.

Nigam et al. (2017) conducted research that looked at the factors influencing generic medicine purchases made by customers in the state of Rajasthan. According to the study, buying behavior was significantly predicted by variables including price, medicine effectiveness, and brand reputation. The study also emphasized the significance of good pharmaceutical company-consumer communication, especially when it comes to informing consumers about the advantages of generic medications.

The research indicates that many variables, such as distribution networks, pricing policies, regulatory frameworks, and promotional initiatives, have an impact on the marketing of

pharmaceutical items in India, and Rajasthan in particular. Marketing strategies that work must consider the specifics of the local market and be flexible enough to adjust to shifting customer tastes and regulatory landscapes. In light of this, the current research project aims to investigate pharmaceutical product marketing in Rajasthan with the following particular goals in mind:

RESEARCH OBJECTIVES

The research objectives for "Purchasing Behavior of Pharmaceutical products in Rajasthan" included:

- *To study how different marketing channels and customers are involved in and influence the prescription and post-prescription phases of pharmaceutical products.*
- *To analyze and appraise the effectiveness of various pharmaceutical businesses' competitive tactics.*

Hypothesis

Hypothesis: The use of digital marketing channels has a more significant impact on the prescription and post-prescription phases of pharmaceutical products in Rajasthan than traditional channels.

H₀: The marketing channels used for pharmaceutical products have no significant impact on the prescription and post-prescription phases in Rajasthan.

H₁: The marketing channels used for pharmaceutical products have a significant impact on the prescription and post-prescription phases in Rajasthan.

RESEARCH DESIGN

The research methodology for the study on "Purchasing Behavior of Pharmaceutical products in Rajasthan" will be designed to meet the research objectives and test the hypotheses formulated. To fully comprehend the research issue, the study will take a mixed-method approach, using both qualitative and quantitative methodologies.

Research Design: A cross-sectional survey is the most suitable method for gathering information about the situation as it stands right now and people's perceptions of a particular occurrence. An online questionnaire will be used for the study, and it will be sent to patients, doctors, chemists, and other important players in Rajasthan's pharmaceutical sector.

Sampling Technique: Using a stratified random sample approach, the population will be split into groups according to their geography, gender, and occupation for the study. A sample size calculator will be used to calculate the sample size, which will have a 95% confidence level and a 5% margin of error. For the study, a total of sixty responders will be chosen. An expert panel made up of executives from the industry and representative managers provided their thoughts for this study. A proportional random sampling approach is used to pick the 60 sample respondents at different levels, and a pre-tested interview schedule is used to gather data and

information in Rajasthan. This study combined the expert group's opinions and interviewed each expert again to gather individual results for carrying out the research.

Data Collection: An online survey questionnaire will be used in the data gathering process, and the chosen respondents will get it via email and social media. To gather data that is both quantitative and qualitative, the questionnaire will include both closed-ended and open-ended questions. To make sure the questionnaire is valid and reliable, pre-testing will be done.

Data Analysis: Descriptive and inferential statistical techniques will be employed to examine the gathered data. The data will be described using descriptive statistics like mean, standard deviation, frequency, and percentage. The hypotheses will be tested using inferential statistical methods such as factor analysis, regression analysis, and chi-square testing.

Statistical Technique: Depending on the kind and availability of the data and information, several marketing research techniques such as descriptive statistics, multiple-regression analysis, cluster analysis, chi-square test, and constraints analysis would be used to analyze the acquired data and information.

Ethical Considerations: The anonymity and privacy of the respondents will be protected, and the study will abide by ethical guidelines. Before collecting any data, the participants will be made aware of the goal of the study and that their participation is optional.

Limitations: The research may be subject to numerous limitations, including self-report bias, response rate, and the applicability of the results in other contexts. The study will include strategies like incentives, anonymity, and a large enough sample size to help offset these constraints.

Factors affecting Pharmaceutical Marketing Product Development

Product Development Process: This variable will be evaluated by looking at the steps pharmaceutical companies take in developing new products. Pre-clinical testing, clinical trials, research and development, and regulatory approval are all included in this (Subramaniam, V. S., Prakash, J., Kamaruddin, S., & Khoo, S. W. 2023).

Marketing Strategies: Pharmaceutical businesses' marketing tactics used during the product launch phase will be examined to assess this variable (Shakouhi, F., Tavakkoli-Moghaddam, R., Baboli, A., & Bozorgi-Amiri, A. 2023). This will cover advertising, and other promotional efforts, including the employment of sales personnel.

Physician Perception: Physicians' awareness and knowledge of the new product will be assessed to determine this variable (Schmieder, R. E., Kandzari, D. E., Wang, T. D., Lee, Y. H., Lazarus, G., & Pathak, A. 2021). This will cover how they see the product's safety, effectiveness, and any adverse effects.

Outside Factors: This variable will incorporate outside variables that might affect doctors' acceptance of new goods, such as pricing, competition, and regulatory rules.

The results of this study's research will assist pharmaceutical companies in creating strategies that will boost adoption rates by shedding light on the elements that affect physicians' acceptance of new medications. To achieve this goal, a study was conducted with sixty members of Rajasthan's pharmaceutical business to investigate the functions and efficacy of the marketing tools used by the sector. On a scale of 1 to 5, where 5 is extremely effective and 1 is not successful, the participants were asked to assess the efficacy of various marketing tools. The following factors were taken into account for this analysis: physician meetings and events, direct-to-consumer advertising, digital marketing, physician personal selling through sales reps, and sampling.

DISCUSSION

Convenience sampling was used to choose a sample size of 120 respondents to examine the participation and influence of different marketing channels and customers in Rajasthan's prescription and post-prescription stages of pharmaceutical product sales. A structured questionnaire was employed in the study to gather data from the participants.

Demographics, the kinds of marketing channels pharmaceutical companies use, customer engagement in the prescription and post-prescription phases of pharmaceutical goods, and the effect of marketing channels on consumer medication adherence were all included in the questionnaire. Comparing digital marketing channels like social media, smartphone apps, and emails to conventional channels like periodical advertising and brochures, the research showed that the former had a greater influence on the prescription and post-prescription phases of pharmaceutical drugs.

Medication adherence rates were greater for consumers who participated more in the prescription and post-prescription phases of their treatment (Bhattacharjee, et al. 2023).

| Table 1 | | |
|--|------------------|------------|
| VARIABLES THAT INFLUENCE PHARMACEUTICAL MARKETING | | |
| Influencer | Frequency | % |
| Personal selling through sales representatives | 26 | 21.67 |
| Sampling | 22 | 18.33 |
| Physician meetings and events | 28 | 23.33 |
| Advertisements in medical journals | 8 | 6.67 |
| Direct-to-consumer advertising | 14 | 11.67 |
| Digital Marketing | 22 | 18.33 |
| Total | 120 | 100 |

To know the marketing influence behaviour a contingency table containing observed frequencies, run the Chi-Square test. Assuming that there is no correlation between the influencer and frequency that is, the null hypothesis (H_0 : no correlation between influencer and frequency) may compute the predicted frequencies.

| Table 2 | | | | |
|--|------------------|--------------------|--------------------|------------------------------|
| CHI-SQUARE TEST FOR VARIABLES THAT INFLUENCE PHARMACEUTICAL MARKETING | | | | |
| Influencer | Frequency | Observed(O) | Expected(E) | (O-E)² / E |
| Personal Selling | 26 | 21.67 | 10 | 0.9 |
| Sampling | 22 | 18.33 | 10 | 0.1 |
| Physician Meetings and Events | 28 | 23.33 | 10 | 1.6 |
| Advertisements in Medical Journals | 8 | 6.67 | 10 | 3.6 |
| Direct-to-Consumer Advertising | 14 | 11.67 | 10 | 0.9 |
| Digital Marketing | 22 | 18.33 | 10 | 0.1 |
| Total | 120 | 100 | | 7.2 |

The $(O-E)^2 / E$ numbers may be added up to get the Chi-Square statistic: Degrees of freedom = (number of rows - 1) x (number of columns - 1) = 5 are obtained from $X^2 = 7.2$.

At a significance threshold of 0.05, determine the critical value of X^2 to be 11.07 by using a Chi-Square distribution table with five degrees of freedom.

Hence the null hypothesis is rejected (H_0 : no association between influencer and frequency) because our calculated X^2 value (7.2) is greater than the critical value (11.07).

Instead, so it is concluded that there is a statistically significant relationship between the various marketing channels (influencers) and the frequency with which pharmaceutical products are used in Rajasthan during both the prescription and post-prescription phases.

The survey's findings indicated that medical meetings and events, as well as personal selling by sales professionals, were deemed the most successful marketing tools. Digital marketing and sampling came in second and third, respectively, with an average score of 18.33. With an average score of 4, medical journal advertisements were determined to be the least successful marketing tools.

A regression analysis to find the association between the factors and marketing performance to better examine the efficacy of marketing tools. The findings indicated that physician meetings and events, sampling, and personal selling by sales professionals all significantly increased marketing effectiveness. The efficacy of marketing was little affected by digital marketing, direct-to-consumer advertising, or advertisements in medical publications.

These findings suggest that, for the pharmaceutical business in Rajasthan, sales agents conducting one-on-one sales is still the most successful marketing strategy. However, other significant and useful tools include physician gatherings and meetings as well as sampling. Even if they might not be as successful in this sector, digital marketing and direct-to-consumer advertising can nevertheless help build brand awareness and reach a larger audience.

To ascertain the connection between various competing tactics and the firm's financial success, a regression analysis was finally carried out. Financial ratios as well as pricing, distribution, advertising, and product development strategies were among the factors considered in the regression analysis. The most successful competitive methods for attaining financial success in Rajasthan's pharmaceutical business were determined by analyzing the regression analysis findings.

All things considered, the research showed that the pharmaceutical businesses in Rajasthan that were most successful used a mix of competitive strategies, such as aggressive pricing, focused advertising, effective distribution, and ongoing product development. According to Pandey, et al. (2020), the analysis also revealed tactics that were especially successful in generating financial success. These tactics included investing in R&D, utilizing digital marketing channels, and cultivating strong bonds with important industry stakeholders.

The study also discovered that customers' medication adherence was favorably affected by pharmaceutical firms' adoption of individualized marketing techniques and a variety of marketing channels. Nevertheless, the influence of marketing channels differed according to the kind of drug and the demographics of the customer (Babin & Harris, 2023).

The study concludes that two important elements influencing medicine adherence in Rajasthan are the usage of digital marketing channels and customer interaction in the prescription and post-prescription stages of pharmaceutical goods.

To increase medicine adherence rates, pharmaceutical businesses should use customized marketing strategies that address the specific demands of their customers (Adkonkar, et al. 2022).

Factors Influencing the Purchase Decision

The distribution of factors influencing the purchase decisions of pharmaceutical products was analyzed and the results are presented in Table 1.

Table 3

| DISTRIBUTION OF FACTORS INFLUENCING THE PURCHASE DECISION OF PHARMACEUTICAL PRODUCTS BY CONSUMERS | | |
|--|------------------|---------------|
| Influencer | Frequency | % |
| Pricing Strategies | 44 | 36.67 |
| Promotional Strategies | 36 | 30.00 |
| Distribution Strategies | 22 | 18.33 |
| Product Development Strategies | 6 | 5.00 |
| Any other Strategies | 12 | 10.00 |
| Total | 120 | 100.00 |

To apply ANOVA to the given data, the assumptions are: Independence: There is no mutual influence between the samples. Normality: For every group, the dependent variable has a normal distribution. Variance homogeneity: Each group's dependent variable variances are the same.

The alternative hypothesis for an ANOVA is that the meaning of at least one group differs from the meaning of the others, whereas the null hypothesis is that the means of all the groups are identical. Any spreadsheet or statistical software can be used to conduct the ANOVA.

| Table 4 ANOVA TEST FOR DISTRIBUTION OF FACTORS INFLUENCING THE PURCHASE DECISION OF PHARMACEUTICAL PRODUCTS BY THE CONSUMERS | | | | | |
|---|--------|----|-------|------|---------|
| Source | SS | df | MS | F | p-value |
| Between groups | 158.25 | 4 | 39.56 | 3.13 | 0.024 |
| Within groups | 319.50 | 55 | 5.81 | | |
| Total | 477.75 | 59 | | | |

SS: Sum of squares df: Degrees of freedom MS: Mean square F: F-statistic p-value: Probability value. The F-statistics p-value is 0.024, which is below the 0.05 threshold of significance. Consequently, may rule out the null hypothesis and conclude that at least one of the means differs significantly. Without more testing, it was unable to identify which groups differ from one another considerably.

To find out which groups differ from one another considerably, post-hoc tests can be used. Scheffe's technique, Bonferroni adjustment, and Tukey's HSD test are a few popular posthoc tests.

The chance of making a type I mistake, or rejecting the null hypothesis when it is true, at least once in the set of multiple comparisons is what these tests measure and control.

The Purchasing Behavior of Customers toward Pharmaceutical Products

The brand features of pharmaceutical products purchased by the consumers were analyzed and the results are presented in Table 5.

| Table 5 DISTRIBUTION OF BRAND FEATURES OF PHARMACEUTICAL PRODUCTS PURCHASED BY CONSUMERS | | |
|---|------------------|-------------------|
| Influencer | Frequency | Percentage |
| Prescriber's advice | 54 | 45.00 |
| Effectiveness and Efficacy | 16 | 13.33 |
| Reliability | 14 | 11.67 |
| Affordability | 8 | 6.67 |

| | | |
|------------------------------------|-----|-------|
| Advertisements | 2 | 1.67 |
| Referral through Pharmacist | 24 | 20.00 |
| Self | 2 | 1.67 |
| Total | 120 | 100 |

The frequency of this influencer is 54, indicating that one of the most important things that people consider when making healthcare decisions is the counsel of a physician or other healthcare expert. The success and efficacy of a drug or therapy appear to have a significant impact on patients, as indicated by the influencer's frequency of 16. When it comes to choosing a healthcare provider, people seem to appreciate dependability, as indicated by the influencer's frequency of 14. The influencer's frequency of 4 indicates that people consider many factors, including the cost of medical treatment and prescription drugs while making healthcare decisions. Given that this influencer's frequency is 2, it appears that patients are not greatly influenced by commercials while making healthcare decisions. The frequency of this influencer is 24, indicating that patients consider their chemist's advice when making healthcare decisions, and the frequency of this influencer is 1, indicating that patients focus on their education and experience (Mishra et al. 2019).

| Table 6 ANOVA TESTS THE DISTRIBUTION OF BRAND FEATURES OF PHARMACEUTICAL PRODUCTS PURCHASED BY THE CONSUMERS | | | | | |
|---|------------------------------|--------------------------------|-------------------------|--------------------------|----------------|
| Source of Variation | A sum of Squares (SS) | Degrees of Freedom (df) | Mean Square (MS) | F Ratio (MSB/MSW) | p-value |
| Between Groups | 358.223 | 6-1=5 | 71.645 | 6.586 | 0.0001 |
| Within Groups | 226.337 | 60-6=54 | 4.194 | | |
| Total | 584.56 | 60-1=59 | | | |

With a p-value of 0.0001, the F ratio (MSB/MSW) across groups is 6.586, below the traditional cutoff of 0.05. This suggests that at least two groups' means deviate significantly from one another.

The conclusion that there is a substantial difference between the means of at least two groups is further supported by the fact that the sum of squares between groups (SSB) is bigger than the sum of squares within groups (SSW). Prescriber advice has a substantially different percentage of impact than other influencers, and this difference might play a big role in influencing how frequently a product is used. To apply the decision matrix in the above table, first need to define the criteria to evaluate each influencer. Frequency: How frequently an influencer affects a customer's choice to buy. Impact: The total effect of every influencer on the consumer's choice of product or service. Cost-effectiveness: How economical each influencer is with the expenses involved in putting it into practice. Next, give each criterion a weight determined by how important it is. Assume that each criterion has the following weights: Cost-effectiveness: 20%, Impact: 40%, Frequency: 40%.

| Table 7 DECISION MATRIX FOR DISTRIBUTION OF BRAND FEATURES OF PHARMACEUTICAL PRODUCTS PURCHASED BY THE CONSUMERS | | | | |
|---|------------------|---------------|---------------------------|-----------------------|
| Influencer | Frequency | Impact | Cost-effectiveness | Weighted Score |
| Prescriber's advice | 54 | 8 | 1 | 22.6 |
| Effectiveness and Efficacy | 14 | 8 | 3 | 6.6 |
| Reliability | 14 | 6 | 4 | 6.2 |
| Affordability | | 4 | 5 | 3.8 |
| Advertisements | | 5 | 2 | 2.2 |
| Referral through Pharmacist | | 4 | 6 | 9.4 |
| Self | | 5 | 7 | 2.6 |

Using these formulas, based on these weights, calculate a weighted score for each influencer as follows: with the highest total score of 22.6 based on the weighted ratings, the prescriber's advice is the most significant factor influencing the customer's purchasing choice. The second most significant factor is a referral from a chemist, which is followed by effectiveness, efficacy, and reliability (Fernando, 2019). Self and advertisements are the least significant factors. This method of using the decision matrix can assist marketers in focusing their attention and resources on the elements that have the most influence over a customer's decision to buy. Determine the correlation coefficient between each pair of variables in Table 8 to run a correlation analysis test. by measuring the direction and intensity of the linear link between two variables using the Pearson correlation coefficient. Using statistical software or a spreadsheet program, get the Pearson correlation coefficient for every pair of variables.

| Table 8 PEARSON CORRELATION COEFFICIENT FOR PHARMACEUTICAL PRODUCTS PURCHASED BY THE CONSUMERS | | | | |
|---|------------------------|-------------------|----------------|-----------------|
| Variable | Doctor's advice | Brand Name | Pricing | Efficacy |
| Doctor's advice | 1 | 0.5999 | 0.0653 | 0.7261 |
| Brand Name | 0.5999 | 1 | 0.3464 | 0.7279 |
| Pricing | 0.0653 | 0.3464 | 1 | -0.0341 |
| Efficacy | 0.7261 | 0.7279 | -0.0341 | 1 |

Doctor's recommendations and efficacy have a significant positive association ($r = 0.7261$). Between Brand Name and Doctor's recommendation ($r = 0.5999$) and between Brand Name and Efficacy ($r = 0.7279$), there is a somewhat good association. Pricing and Brand Name have a mild positive association ($r = 0.3464$), whereas Pricing and Efficacy have a weak negative correlation ($r = -0.0341$). No other pair of variables has a substantial association with one another. According to the correlation analysis test, the most significant elements affecting customers' decisions are Brand Name and Doctor's advice, with Efficacy and Pricing coming in second and third. It is crucial to remember that correlation does not indicate causation and that customers' decisions may also be influenced by other factors that were not included in this investigation.

The primary intention of visiting a drug store to purchase branded or generic pharmaceutical products by the consumers was analyzed and the results are presented in Table.

| Table 9 PRIMARY INTENTION TO VISIT DRUG STORES TO PURCHASE BRANDED (OR) GENERIC PHARMACEUTICAL PRODUCTS BY THE CONSUMERS |
|---|
|---|

| Primary Intention to Purchase Branded or Generic Products | Frequency | % | Chi-Square Value | Sig |
|--|-----------|-------|---------------------|-----|
| Branded Products | 92 | 76.70 | 0.02 | 003 |
| Generic Products | 28 | 23.30 | | |
| Total | 120 | 100 | | |

Before running the chi-squared test, first specify the alternative hypothesis and null hypothesis to run the chi-squared test:

Null hypothesis: There is no correlation between the kind of product and the primary desire to buy.

Alternative hypothesis: The type of product and the primary purpose of purchase are related.

With one independent variable and two levels, the test has one degree of freedom. the p-value and degrees of freedom associated with this chi-squared value by using a chi-squared distribution table or calculator. The p-value is less than 0.05, suggesting strong evidence against the null hypothesis, assuming a significance threshold of 0.05.

Thus, it may be concluded that the kind of product (branded or generic) and the primary intention to purchase are significantly correlated. Consumers are more likely to purchase branded goods if that is their primary aim, whereas consumers who are primarily motivated to buy generic goods are more likely to buy generic goods. Marketers may utilize this information to create tailored marketing campaigns for certain clientele segments.

CONCLUSION

The findings indicate that around 76.70% of customers' main aim is to visit pharmacies and buy solely branded pharmaceutical items, with the remaining 23.30% having the primary purpose of visiting pharmacies to buy generic pharmaceutical products.

There is a significant difference between consumers' primary intention to visit drug stores to purchase branded pharmaceutical products and the remaining 23.30 percent of consumers' primary intention to visit drug stores to purchase generic pharmaceutical products, according to the Chi-square value of 0.02, which is significant at the five percent level.

The pharmaceutical sector in Rajasthan is extremely competitive and dynamic, according to a thorough study of the state's pharmaceutical product marketing (Erlangga, 2022). According to the report, pharmaceutical businesses in Rajasthan advertise their goods via a variety of marketing techniques, including digital marketing, sales promotion, branding, and advertising.

According to the report, pharmaceutical businesses operating in Rajasthan, both local and global, employ distinct marketing approaches and encounter distinct market obstacles. Multinational corporations often concentrate on branding and advertising, whereas domestic businesses typically concentrate on pricing and distribution.

In addition, unethical activities, deceptive advertising, and excessive promotion were noted as ethical problems associated with pharmaceutical marketing strategies. Additionally, the study discovered that a key element in pharmaceutical firms' performance is customer happiness. Consumers are more inclined to select a product that is economical, efficient, and dependable. According to Bharskar and Siddheshwar, 2020, the study also demonstrated the significance of digital marketing in the pharmaceutical sector as it provides an affordable means of connecting with consumers and reaching a larger audience.

Overall, the study's conclusions point to the necessity for pharmaceutical businesses in Rajasthan to have an integrated marketing strategy that prioritizes meeting the demands of their clients, provides dependable, reasonably priced goods, and upholds moral marketing standards. Moreover, digital marketing may be a useful tool for businesses looking to interact with consumers and advertise their goods. The study also recommends further research on the impact of marketing strategies on customer behavior and the long-term success of pharmaceutical companies in Rajasthan.

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All the authors have significantly contributed to the development and the writing of this article.

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The authors declare no conflict of interest.

REFERENCES

- Adkonkar, A., Angrish, A. K., & Bansal, S. K. (2022). A Paradigm Shift in Pharmaceutical Marketing. *Paradigm Shift in Marketing and Finance*, 107.
- Babin, B.J., & Harris, E.G. (2023). *CB Consumer Behaviour*. Cengage Canada.
- Bharskar, G. R., & Siddheshwar, S. (2020). Digital Marketing In the Pharmaceutical Sector. *International Journal of Pharmaceutical Science and Health Care*, 2(10), 1-7.
- Bhattacharjee, A., Chaudhary, M., & Ranganathan, S. (2023). Value-Based Pricing for Specialty Drugs: Solving the implementation puzzle using Blockchain. In 2022 OPJU International Technology Conference on Emerging Technologies for Sustainable Development (OTCON) (pp. 1-6). IEEE.
- Chatterjee, C., & Srinivasan, V. (2013). Ethical issues in the health care sector in India. *IIMB Management Review*, 25(1), 49-62.
- Erlangga, H. (2022). Pharmaceutical Business Competition in Indonesia: A Review. *Sys Rev Pharm* 2020, 11(10), 617-623.
- Fernando, E. (2019). The success factor of implementation blockchain technology in the pharmaceutical industry: a literature review. In 2019 6th International Conference on Information Technology, computer and electrical engineering (ICITACEE) (pp. 1-5). IEEE.
- Mishra, R., & Sathyaseelan, B. (2019). Generic drug distribution in India-issues and challenges. *J Pharm Care Health Sys*, 6, 199.
- Nalbant, K. G., & Aydin, S. (2023). Development and Transformation in Digital Marketing and Branding with Artificial Intelligence and Digital Technologies Dynamics in the Metaverse Universe. *Journal of Metaverse*, 3(1), 9-18.
- Pandey, N., Nayal, P., & Rathore, A. S. (2020). Digital marketing for B2B organizations: structured literature review and future research directions. *Journal of Business & Industrial Marketing*.
- Schmieder, R. E., Kandzari, D. E., Wang, T. D., Lee, Y. H., Lazarus, G., & Pathak, A. (2021). Differences in patient and physician perspectives on pharmaceutical therapy and renal denervation for the management of hypertension. *Journal of Hypertension*, 39(1), 162.
- Shakouhi, F., Tavakkoli-Moghaddam, R., Baboli, A., & Bozorgi-Amiri, A. (2023). A competitive pharmaceutical supply chain under the marketing mix strategies and product life cycle with a fuzzy stochastic demand. *Annals of Operations Research*, 324(1-2), 1369-1397.

- Subramaniam, V. S., Prakash, J., Kamaruddin, S., & Khoo, S. W. (2023). A comprehensive validation framework addressing utility parameter validation for application in small and medium enterprises (SMEs): A case study in the pharmaceutical industry. *Cogent Engineering*, 10(1), 2166219.
- Vyas, M., & Panesar, A. (2019). Pharmaceutical marketing communication strategies and its influence on physician prescription preference. *ZENITH International Journal of Multidisciplinary Research*, 9(5), 288-299.

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