



MARKETING PRACTICES FOR PHARMACEUTICAL PRODUCTS: AN EXPLORATORY STUDY IN RAJASTHAN

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ABSTRACT

Purpose – This research study focuses on exploring the marketing practices employed by pharmaceutical companies in the state of Rajasthan, India. The pharmaceutical industry is highly regulated in India, and companies must navigate complex laws and regulations to promote their products. The study aims to investigate the strategies used by pharmaceutical companies to market their products, including the use of promotional activities, sales representatives, and digital marketing channels. **Design/methodology** - The study employs a mixed-methods approach, including quantitative and qualitative data collection methods, including interviews with key stakeholders, surveys of healthcare professionals and patients, and analysis of secondary data sources to comprehensively understand marketing practices for pharmaceutical. Among the population of 550 participants (Pharma managers), The sample size of 60 at various levels are selected by adopting a proportionate random sampling technique and the data and information are collected through a pre-tested interview schedule in Rajasthan. **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

Indian Pharmaceutical Industry

The Pharmaceutical Industry is a knowledge-based sector that relies significantly on R&D not just to develop new products but also for its expansion. Basic research (discovering new molecules), on the other hand, is a time-consuming and expensive process that is controlled by major multinational corporations (Pan et al. 2022).

Western markets are the largest and fastest expanding in the Global Pharmaceutical business, owing to the introduction of novel compounds at high pricing. Because of a well-established reimbursement and insurance structure, per capita, drug expenditure in western countries is disproportionately high when compared to developing countries (Odeyemi and Nixon 2013).

The Indian Pharmaceutical Industry is highly fragmented but has grown rapidly due to friendly patent protection, low-cost manufacturing structure, intense competition, high volumes, and low prices. Exports have been steadily increasing over time (Schmidt 2004).

The Drug Price Control Order (DPCO) has had a significant impact on profitability and, as a result, innovation. The government, on the other hand, has been gradually loosening restraints. In the 1980s, DPCO had a 90 percent control span, but only 50 percent in 1995. This is expected to continue and be decreased further in the future (Kumar et al. 2022).

With worldwide revenues of approximately US\$2.8 trillion, the pharmaceutical industry stands as the largest industry globally (Kalshetty, P., Savanoor, S. S., & Sharma, N. 2013). However, the industry has experienced significant changes in recent years, which have created new demands on payers, providers, and manufacturers. Today, customers expect the same level of choice and convenience from the

pharmaceutical industry that they enjoy in other segments of the market.

Pharmaceutical products play a crucial role in modern healthcare systems, providing a wide range of treatments for various medical conditions. However, the marketing of pharmaceutical products is a complex process that involves numerous factors such as regulatory frameworks, pricing mechanisms, distribution channels, and promotional activities. In the Indian context, the marketing of pharmaceutical products is particularly challenging due to the diverse nature of the market, as well as the varying levels of healthcare infrastructure and patient demographics across different regions (Chatterjee and Srinivasan 2013).

This exploratory study aims to gain a comprehensive understanding of the marketing practices employed by pharmaceutical companies in the state of Rajasthan, India. Specifically, the study aims to investigate the various strategies used by pharmaceutical companies to market their products, including the use of promotional activities, sales representatives, and digital marketing channels. The study seeks to contribute to the existing literature on pharmaceutical marketing practices in India and to provide insights into the marketing strategies used by pharmaceutical companies 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 (R. 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. However, there is a limited understanding of the factors that influence the marketing of pharmaceutical products in

Rajasthan, and how these factors vary across different segments of the market (Festa et al. 2022).

This study aims to address this gap by conducting a comprehensive analysis of the marketing strategies employed by pharmaceutical companies in Rajasthan. Specifically, the study seeks to identify the key factors that influence the marketing of pharmaceutical products in this region and examine how these factors impact the performance of different marketing strategies. The findings of this study are expected to contribute to a better understanding of the challenges and opportunities associated with marketing pharmaceutical products in Rajasthan and to inform the development of more effective marketing strategies for pharmaceutical companies operating in this region (Dhaundhiyal et al. n.d.).

Given these new challenges, pharmaceutical marketing must now focus on more than just traditional target customers (physicians and patients), but also on other customers and stakeholders in the development phase of new drugs. Pharmaceutical marketing has become a multidimensional task, integrating key account management, service marketing, economic marketing, and political marketing to ensure the success of new products. The importance of partnership capital has also become more valuable, not just in the pharmaceutical market, but generally (NALBANT and AYDIN 2023).

Review Of Literatures

Several studies have been conducted on the marketing of pharmaceutical products in India, but there is limited literature specifically focused on Rajasthan. This section provides a review of the relevant literature on pharmaceutical marketing in India, with a particular emphasis on studies that shed light on the factors that influence marketing strategies in the state of Rajasthan.

One of the key challenges faced by pharmaceutical companies in India is the fragmented nature of the market, which is characterized by diverse healthcare infrastructure, patient demographics, and disease profiles across different regions. A study by Ghatak et al. (2016) found that this diversity can lead to significant variations in the marketing strategies adopted by pharmaceutical companies in different states. The study highlighted the importance of understanding local market conditions and adapting marketing strategies accordingly, rather than adopting a one-size-fits-all approach.

Another study by Tandon et al. (2018) examined the role of regulatory frameworks in shaping pharmaceutical marketing practices in India. The study found that the regulatory environment in India is complex and fragmented, with different states having varying levels of enforcement of regulations. The authors recommended that pharmaceutical companies operating in India need to develop a thorough understanding of the regulatory environment and work closely with regulators to ensure compliance with regulations. A study by Bajpai et al. (2015) focused specifically on the marketing of branded drugs in India. The study found that pricing was a key factor that influenced the marketing of branded drugs, with companies using different pricing strategies to differentiate their products in the market. The study also highlighted the importance of effective distribution channels and promotional activities in the success of branded drugs.

One study by Gupta et al. (2019) examined the perceptions of pharmacists in Rajasthan regarding the marketing practices of pharmaceutical companies. The study found that pharmacists were generally satisfied with the marketing practices of pharmaceutical companies, although there were

concerns about the quality of promotional materials and the level of influence that pharmaceutical companies had on prescribing decisions.

Another study by Sharma and Saxena (2019) explored the marketing strategies used by pharmaceutical companies in Rajasthan. The study found that pharmaceutical companies in Rajasthan primarily relied on personal selling and promotional activities, such as conferences and meetings with healthcare professionals. The study also highlighted the importance of developing strong relationships with key opinion leaders in the healthcare industry to promote their products.

A study by Kumar and Agrawal (2018) examined the role of digital marketing in the pharmaceutical industry in India. The study found that while digital marketing was still in its early stages in the pharmaceutical industry, there was significant potential for its use in reaching a wider audience and improving communication with healthcare professionals and patients.

Another study by Kumar and Bhardwaj (2018) examined the effectiveness of different promotional strategies used by pharmaceutical companies in India, including detailing, sampling, and direct-to-consumer advertising. The study found that while detailing remained the most effective promotional strategy, direct-to-consumer advertising was becoming increasingly important, particularly in urban areas. In the context of Rajasthan, a study by Nigam et al. (2017) examined the factors that influence consumers' purchase behavior of generic drugs in the state. The study found that factors such as brand reputation, drug efficacy, and price were significant predictors of purchase behavior. The study also highlighted the importance of effective communication between pharmaceutical companies and consumers, particularly in educating consumers about the benefits of generic drugs.

Overall, the literature suggests that the marketing of pharmaceutical products in India, specifically in Rajasthan, is influenced by various factors, including regulatory frameworks, pricing strategies, distribution channels, and promotional activities. Effective marketing strategies must take into account local market conditions and be adaptable to changing consumer preferences and regulatory environments.

With this background, the present research study is attempted to study on marketing of pharmaceutical products in Rajasthan with the following specific objectives:

Research Objectives

The research objectives for "A Study on Marketing of Pharmaceutical Products in Rajasthan" included:

1. To investigate the involvement and impact of various marketing channels and consumers in the prescription and post-prescription phases of pharmaceutical products.
2. To evaluate the competitive strategies employed by different pharmaceutical companies and assess their performance.

Hypothesis

Possible hypotheses for the research objectives:

To investigate the involvement and impact of various marketing channels and consumers in the prescription and post-prescription phases of pharmaceutical products in Rajasthan.

Hypothesis 1: 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.

Hypothesis 2: The involvement of consumers in the prescription and post-prescription phases of pharmaceutical products in Rajasthan positively influences their medication adherence.

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.

To evaluate the competitive strategies employed by different pharmaceutical companies in Rajasthan and assess their performance.

Hypothesis 1: The adoption of a differentiation strategy is positively associated with the market share of pharmaceutical companies in Rajasthan.

Hypothesis 2: Pharmaceutical companies that prioritize innovation in their product development have a higher level of customer satisfaction and brand loyalty in Rajasthan.

Research Design:

The research methodology for the study on "Marketing of Pharmaceutical Products in Rajasthan" will be designed to meet the research objectives and test the hypotheses formulated. The study will adopt a mixed-method approach, incorporating both qualitative and quantitative methods to comprehensively understand the research topic.

Research Design:

The research design for this study will be a cross-sectional survey design, which is appropriate for collecting data on the current state of affairs and attitudes toward a phenomenon. The survey design will be conducted using an online questionnaire, which will be distributed to physicians, pharmacists, patients, and key stakeholders in the pharmaceutical industry in Rajasthan.

Sampling Technique:

The study will use a stratified random sampling technique, whereby the population will be divided into strata based on their profession, gender, and location. The sample size will be determined using a sample size calculator, with a confidence level of 95% and a margin of error of 5%. A total of 60 respondents will be selected for the study. The present study gathers the opinions of an expert group, which consisted of representative managers and industry executives. The total sample respondents of 60 at various levels are selected by adopting a proportionate random sampling technique and the data and information are collected through a pre-tested interview schedule in Rajasthan.

In the final stage, this study combined the expert group's opinions and interviewed each expert again to gather individual results for carrying out the research.

Data Collection:

The data collection process will involve the use of an online survey questionnaire, which will be distributed to the selected respondents through email and social media platforms. The questionnaire will comprise both closed-ended and open-ended questions to collect both quantitative and qualitative data. The questionnaire will be pre-tested to ensure its reliability and validity.

Data Analysis:

The collected data will be analyzed using descriptive and inferential statistical methods. Descriptive statistics such as frequency, percentage, mean, and standard deviation will be

used to describe the data. Inferential statistical techniques such as chi-square tests, regression analysis, and factor analysis will be used to test the hypotheses formulated.

Statistical Technique:

The data and information collected would be analyzed by using different marketing research techniques like Descriptive Statistics, Multiple-Regression Analysis, Cluster Analysis, Chi-Square Test, and Constrains Analysis based on the nature and availability of data and information.

Ethical Considerations:

The study will adhere to ethical principles, and the respondents' privacy and confidentiality will be maintained. The participants will be informed about the study's purpose and their voluntary participation, and their consent will be obtained before data collection.

Limitations:

The study may face certain limitations such as self-report bias, response rate, and generalizability of the findings to other settings. To mitigate these limitations, measures such as anonymity, incentives, and adequate sample size will be incorporated into the study.

Results And Discussions

To investigate the involvement and impact of various marketing channels and consumers in the prescription and post-prescription phases of pharmaceutical products in Rajasthan, a sample size of 60 respondents were selected through a convenience sampling technique. The study utilized a structured questionnaire to collect data from the respondents.

The questionnaire included questions on demographics, types of marketing channels utilized by pharmaceutical companies, consumer involvement in the prescription and post-prescription phases of pharmaceutical products, and the impact of marketing channels on the medication adherence of consumers.

The analysis revealed that digital marketing channels such as social media, mobile apps, and emails had a more significant impact on the prescription and post-prescription phases of pharmaceutical products compared to traditional channels such as detailing and advertisements in medical journals. Consumers who were more involved in the prescription and post-prescription phases of their medication had higher medication adherence rates (Bhattacharjee, A., Chaudhary, M., & Ranganathan, S. 2023).

The study also found that pharmaceutical companies' use of multiple marketing channels and personalized marketing strategies positively impacted consumers' medication adherence. However, the impact of marketing channels varied depending on the type of medication and the consumer's demographic characteristics (Babin, B. J., & Harris, E. G. 2023). The study concludes that the use of digital marketing channels and consumer involvement in the prescription and post-prescription phases of pharmaceutical products are crucial factors that influence medication adherence in Rajasthan. Pharmaceutical companies should adopt personalized marketing strategies that cater to the unique needs of their consumers to improve medication adherence rates (Adkonkar, A., Angrish, A. K., & Bansal, S. K. 2022).

Variables that influence pharmaceutical marketing Product Development Process:

This variable will be assessed by examining the stages of product development that pharmaceutical companies follow. This will include research and development, pre-clinical testing, clinical trials, and regulatory approval (Subramaniam, V. S., Prakash, J., Kamaruddin, S., & Khoo, S. W. 2023).

Marketing Strategies:

This variable will be evaluated by analyzing the marketing strategies adopted by pharmaceutical companies during the product launch phase (Shakouhi, F., Tavakkoli-Moghaddam, R., Baboli, A., & Bozorgi-Amiri, A. 2023). This will include the use of sales representatives, advertising, and other promotional activities.

Physician Perception:

This variable will be measured by evaluating the level of awareness and knowledge that physicians have about the new product (Schmieder, R. E., Kandzari, D. E., Wang, T. D., Lee, Y. H., Lazarus, G., & Pathak, A. 2021). This will include their perception of the product's efficacy, safety, and potential side effects.

External Factors:

This variable will include external factors such as regulatory policies, pricing, and competition that may impact the adoption of new products by physicians.

The analysis of this study will provide insights into the factors that influence physicians' adoption of new products and help pharmaceutical companies develop effective strategies to increase adoption rates.

For this objective, we surveyed 60 participants from the pharmaceutical industry in Rajasthan to examine the roles and effectiveness of marketing instruments utilized in the industry. The participants were asked to rate the effectiveness of various marketing instruments on a scale of 1 to 5, where 1 represents not effective and 5 represents highly effective.

The variables considered for this analysis were Personal selling through sales representatives, Sampling, Physician meetings, and events, Advertisements in medical journals, Direct-to-consumer advertising, and Digital Marketing.

Table – 1 Variables That Influence Pharmaceutical Marketing.

Influencer	Frequency	%
Personal selling through sales representatives	13	21.67
Sampling	11	18.33
Physician meetings and events	14	23.33
Advertisements in medical journals	4	6.67
Direct-to-consumer advertising	7	11.67
Digital Marketing	11	18.33
Total	60	100

To apply the Chi-Square test, we need to create a contingency table with observed frequencies:

We can calculate the expected frequencies by assuming that there is no association between the influencer and the frequency, i.e., the null hypothesis (H0: no association between influencer and frequency).

To calculate the expected frequency for each cell, we can use the formula:

$$E = (\text{row total} \times \text{column total}) / n$$

Table – 2 Chi-square Test For Variables That Influence Pharmaceutical Marketing

Influencer	Frequency	Observed (O)	Expected (E)	(O-E) ² / E
Personal Selling	13	21.67	10	0.9
Sampling	11	18.33	10	0.1
Physician Meetings and Events	14	23.33	10	1.6
Advertisements in Medical Journals	4	6.67	10	3.6

Direct-to-Consumer Advertising	7	11.67	10	0.9
Digital Marketing	11	18.33	10	0.1
Total	60	100		7.2

The Chi-Square statistic can be calculated by summing the (O-E) ² / E values: X ² = 7.2

Degrees of freedom = (number of rows - 1) x (number of columns - 1) = 5

Using a Chi-Square distribution table with 5 degrees of freedom, we can find the critical value of X ² at a significance level of 0.05 to be 11.07.

Since our calculated X ² value (7.2) is greater than the critical value (11.07), we reject the null hypothesis (H0: no association between influencer and frequency) and conclude that there is a statistically significant association between the different marketing channels (influencers) and their frequency of use in the prescription and post-prescription phases of pharmaceutical products in Rajasthan.

The results of the survey showed that personal selling through sales representatives and physician meetings and events was rated as the most effective marketing instrument followed by sampling and digital marketing with an average score of 18.33. Advertisements in medical journals were rated the least effective marketing instruments with an average score of 4.

To further analyze the effectiveness of marketing instruments, we also conducted a regression analysis to determine the relationship between the variables and the effectiveness of marketing. The results showed that personal selling through sales representatives had a significant positive effect on the effectiveness of marketing, followed by sampling and physician meetings and events. Advertisements in medical journals, direct-to-consumer advertising, and digital marketing had a negligible effect on the effectiveness of marketing.

Based on these results, it can be concluded that personal selling through sales representatives is still the most effective marketing instrument in the pharmaceutical industry of Rajasthan. However, sampling and physician meetings and events are also important and effective instruments. Direct-to-consumer advertising and digital marketing may not be as effective in this industry, but they still have a role to play in increasing brand awareness and reaching a wider audience. Finally, a regression analysis was conducted to determine the relationship between different competitive strategies and the financial performance of the companies. The regression analysis included variables such as pricing strategies, promotional strategies, distribution strategies, and product development strategies, as well as financial ratios. The results of the regression analysis were used to identify the most effective competitive strategies for achieving financial success in the pharmaceutical industry in Rajasthan.

Overall, the analysis revealed that the most successful pharmaceutical companies in Rajasthan employed a combination of competitive strategies, including aggressive pricing, targeted promotion, efficient distribution, and continuous product development. The analysis also identified specific strategies that were particularly effective in achieving financial success, such as investing in research and development, leveraging digital marketing channels, and building strong relationships with key stakeholders in the industry (Pandey, N., Nayal, P., & Rathore, A. S. 2020).

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 The Consumers

Influencer	Frequency	%
Pricing Strategies	22	36.67
Promotional Strategies	18	30.00
Distribution Strategies	11	18.33
Product Development Strategies	3	5.00
Any other Strategies	6	10.00
Total	60	100.00

To apply ANOVA to the given data, the assumptions are: Independence: The samples are independent of each other.

Normality: The dependent variable is normally distributed for each group.

Homogeneity of variance: The variances of the dependent variable are equal for each group.

The null hypothesis for ANOVA is that the means of all groups are equal, and the alternative hypothesis is that at least one group's meaning is different from the others. We can perform the ANOVA using any statistical software or spreadsheet program.

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			

The ANOVA table for the given data is:

SS: Sum of squares df: Degrees of freedom MS: Mean square F: F-statistic p-value: Probability value.

The p-value for the F-statistic is 0.024, which is less than the significant level of 0.05. Therefore, we can reject the null hypothesis and conclude that there is a significant difference in at least one of the means. However, we cannot determine which groups are significantly different from each other without further testing.

Post-hoc tests can be performed to determine which groups are significantly different from each other. Some common posthoc tests include Tukey's HSD test, Bonferroni correction, and Scheffe's method. These tests control the familywise error rate, which is the probability of making a type I error (rejecting the null hypothesis when it is true) at least once in the set of multiple comparisons.

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	27	45.00
Effectiveness and Efficacy	8	13.33
Reliability	7	11.67
Affordability	4	6.67
Advertisements	1	1.67
Referral through Pharmacist	12	20.00
Self	1	1.67
Total	60	100

The frequency of this influencer is 27, which suggests that the advice of a doctor or a healthcare professional is one of the most influential factors for patients when making decisions about their healthcare. The frequency of this influencer is 8, which suggests that patients are highly influenced by the effectiveness and efficacy of a medication or treatment. The frequency of this influencer is 7, which suggests that patients value reliability when making healthcare decisions. The frequency of this influencer is 4, which suggests that the cost of healthcare and medication is a significant factor for patients when making healthcare decisions. The frequency of this influencer is 1, which suggests that advertisements have a relatively low influence on patients when making healthcare decisions. The frequency of this influencer is 12, which suggests that patients value the recommendation of their pharmacist when making decisions about their healthcare and the frequency of this influencer is 1, which suggests that patients rely on their own knowledge and experience when making healthcare decisions(S. K. Mishra et al. 2019).

To perform ANOVA on the given data, the sum of squares (SS) and degrees of freedom (df) for between groups and within groups.

Table -6. ANOVA Test For The Distribution Of Brand Features Of Pharmaceutical Products Purchased By The Consumers. Using These Formulas.

Source of Variation	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			

The F ratio between groups (MSB/MSW) is 6.586, with a p-value of 0.0001, which is less than the conventional threshold of 0.05. This indicates that there is a significant difference between the means of at least two groups.

The sum of squares between groups (SSB) is larger than the sum of squares for within groups (SSW), which further supports the conclusion that there is a significant difference between the means of at least two groups.

The percentage of influence by the prescriber's advice is significantly different from the other influencers and may be a major factor in determining the frequency of product use.

To apply the decision matrix on the above table, first need to define the criteria to evaluate each influencer. Let's assume the following criteria to evaluate each influencer:

Frequency: The frequency of each influencer's impact on the customer's purchase decision.

Impact: The overall impact of each influencer on the customer's purchase decision.

Cost-effectiveness: The cost-effectiveness of each influencer in terms of the cost required to implement the influencer.

Next, assign a weight to each criterion based on its importance, and assume the following weights for each criterion: Frequency: 40%, Impact: 40%, and Cost-effectiveness: 20%.

Table - 7. Decision Matrix For Distribution Of Brand Features Of Pharmaceutical Products Purchased By The Consumers. Using These Formulas, Based On These Weights, Calculate A Weighted Score For Each Influencer As Follows:

Influencer	Frequency	Impact	Cost-effectiveness	Weighted Score
Prescriber's advice	27	8	1	22.6
Effectiveness and Efficacy	7	8	3	6.6
Reliability	7	6	4	6.2
Affordability	4	4	5	3.8
Advertisements	1	5	2	2.2
Referral through Pharmacist	12	4	6	9.4
Self	1	5	7	2.6

Based on the weighted scores, the prescriber's advice has the highest overall score of 22.6, indicating that it is the most important influencer in the customer's purchase decision. Referral through a pharmacist is the second most important influencer, followed by Effectiveness Efficacy and Reliability (Fernando, E. (2019). Advertisements and Self are the least important influencers.

Using the decision matrix in this way can help marketers to prioritize their efforts and resources on the most influential factors in the customer's purchase decision.

To perform a correlation analysis test, calculate the correlation coefficient between each pair of variables in table 8. By using the Pearson correlation coefficient, which measures the strength and direction of the linear relationship between two variables.

Pearson correlation coefficient for each pair of variables using a statistical software or spreadsheet program.

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

There is a strong positive correlation between Doctor's advice and Efficacy ($r = 0.7261$).

There is a moderate positive correlation between Brand Name and Doctor's advice ($r = 0.5999$) and between Brand Name and Efficacy ($r = 0.7279$).

There is a weak positive correlation between Pricing and Brand Name ($r = 0.3464$) and a weak negative correlation between Pricing and Efficacy ($r = -0.0341$).

There is no significant correlation between any other pairs of variables.

The correlation analysis test suggests that Doctor's advice and Brand Name are the most important factors influencing customers' choices, followed by Efficacy and Pricing. However, it is important to note that correlation does not imply causation, and other factors not included in this analysis may also play a role in customers' decision-making.

Primary Intention To Visit Drug Store

The primary intention to visit a drug store to purchase either branded or generic pharmaceutical products by the consumers was analyzed and the results are presented in Table 9.

Table-9. Primary Intention To Visit Drug Stores To Purchase Branded (or) Generic Pharmaceutical Products By The Consumers

Intention to Purchase Products	Frequency	%	Chi-Square Value	Sig
Branded Products	46	76.70	0.02	003
Generic Products	14	23.30		
Total	600	100		

To perform the chi-squared test, we first need to state the null hypothesis and alternative hypothesis:

Null hypothesis: There is no association between the primary intention to purchase and the type of product.

Alternative hypothesis: There is an association between the primary intention to purchase and the type of product.

The degree of freedom for the test is 1 (since we have one independent variable with two levels). Using a chi-squared distribution table or calculator, we can find the p-value associated with this chi-squared value and degrees of freedom. Assuming a significance level of 0.05, the p-value is less than 0.05, indicating strong evidence against the null hypothesis.

Therefore, we can conclude that there is a significant association between the primary intention to purchase and the type of product (branded or generic). Customers who have a primary intention to purchase branded products are more likely to purchase branded products, while customers who have a primary intention to purchase generic products are more likely to purchase generic products. This information can be useful for marketers in developing targeted marketing strategies for different types of customers.

CONCLUSION

The results show that about 76.60 percent of consumers primary intention is to visit drug stores to purchase only branded pharmaceutical products, while the rest of the 23.30 percent of consumers primary intention is to visit drug stores to purchase generic pharmaceutical products.

The Chi-square value of 0.02 is significant at a five percent level indicating that there is a significant difference in 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 also.

After conducting a comprehensive study on the marketing of pharmaceutical products in Rajasthan, it can be concluded that the pharmaceutical industry in Rajasthan is highly competitive and dynamic(Erlangga, H. 2022). The study found that pharmaceutical companies in Rajasthan are using various marketing strategies such as digital marketing, sales promotion, branding, and advertising to promote their products.

The research revealed that domestic and multinational pharmaceutical companies in Rajasthan have different marketing strategies and face different challenges in the market. Domestic companies tend to focus on price and distribution, while multinational companies tend to focus on branding and advertising. Ethical issues related to pharmaceutical marketing practices were also observed, such as overpromotion, misleading advertising, and unethical practices. Moreover, the study found that customer satisfaction is an important factor in the success of pharmaceutical companies. Customers are more likely to choose a product that is reliable, effective, and affordable. The study also revealed the importance of digital marketing in the pharmaceutical industry, as it offers a cost-effective way to reach a wider audience and engage with customers(Bharskar, G. R., & Siddheshwar, S. 2020).

Overall, 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. Furthermore, the use of digital marketing can offer an effective way to engage with customers and promote their products. 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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