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Exploring Strategic Competitiveness of Pharmaceutical Indusries Operating In India

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Abstract: Indian pharmaceutical industry is growing with leaps and bound. The growth in Indian pharmaceutical companies is not only in terms of market capitalization but its affordability and availability is also appreciable. Modern day's pharmaceutical businesses are very complex. Earlier the businesses were using easy marketing tactics to meet the needs of market. Medical products could easily build their brand status. Building brand trust, attracting purchase, creating brand affect and brand loyalty was easier. Marketing and branding revolve around media, message repetitions, recall value and creativity.

In present study the Indian pharmaceuticals companies' branding techniques have been studied. It is never possible to observe the impact in general and about all the branding techniques used by companies. The study is based on a survey of 500 respondents. We have taken four hypotheses related to the issue. For the testing of hypothesis correlation (r) and multiple correlation coefficient(R) is calculated. Further we have mentioned the other findings that we came across while study that can contribute to the marketing of pharmaceutical products.

Keywords: Pharmaceutical Industry, Medicine Branding, Brand recognition.

I. INTRODUCTION

India enjoys a key position in the global pharmaceutical industry. The country is the world's largest supplier of generics, accounting for 20% of global exports. It supplies over 50% of global demand for various vaccines and 40% of the demand for generic products in the US.Pharmaceutical Industry in India contributes to around 2% of the global industry The global pharmaceutical market is expected to exceed USD 1.5 Trillion by 2023, and the key growth drivers will continue to be the US and the emerging economies.The Indian Pharmaceutical industry is expected to grow upto USD 100 billion by the end of 2025. Pharmaceutical exports from India stood at USD 24.44 Billion in FY 2020-21. The Indian biotechnology industry was valued at USD 64 billion in 2019 and is expected to reach USD 150 billion by 2025. India also has the largest number of manufacturing sites approved by the United States Food and Drug Administration (USFDA) outside of the United States.

India is the largest provider of generic drugs globally and is known for its affordable vaccines and generic medications. The Indian Pharmaceutical industry is currently ranked third in pharmaceutical production by volume after evolving over time into a thriving industry growing at a CAGR of 9.43% since the past nine years. Generic drugs, over-the-counter medications, bulk drugs, vaccines, contract research & manufacturing, biosimilars, and biologics are some of the major segments of the Indian pharma industry. India has the most number of pharmaceutical manufacturing facilities that are in compliance with the

US Food and Drug Administration (USFDA) and has 500 API producers that make for around 8% of the worldwide API market.

Indian pharmaceutical sector supplies over 50% of global demand for various vaccines, 40% of generic demand in the US and 25% of all medicine in the UK. The domestic pharmaceutical industry includes a network of 3,000 drug companies and ~10,500 manufacturing units. India enjoys an important position in the global pharmaceuticals sector. The country also has a large pool of scientists and engineers with a potential to steer the industry ahead to greater heights. Presently, over 80% of the antiretroviral drugs used globally to combat AIDS (Acquired Immune Deficiency Syndrome) are supplied by Indian pharmaceutical firms. India is rightfully known as the "pharmacy of the world" due to the low cost and high quality of its medicines.

According to the Indian Economic Survey 2021, the domestic market is expected to grow 3x in the next decade. India's domestic pharmaceutical market stood at US$ 42 billion in 2021 and is likely to reach US$ 65 billion by 2024 and further expand to reach US$ 120-130 billion by 2030. India's biotechnology industry comprises biopharmaceuticals, bio-services, bio-agriculture, bio-industry, and bioinformatics. The Indian biotechnology industry was valued at US$ 70.2 billion in 2020 and is expected to reach US$ 150 billion by 2025. India's medical devices market stood at US$ 10.36 billion in FY20. The market is expected to increase at a CAGR of 37% from 2020 to 2025 to reach US$ 50 billion. As of August 2021, CARE Ratings expect India's pharmaceutical business to develop at an annual rate of ~11% over the next two years to reach more than US$ 60 billion in value.

Source : IBEF 2022
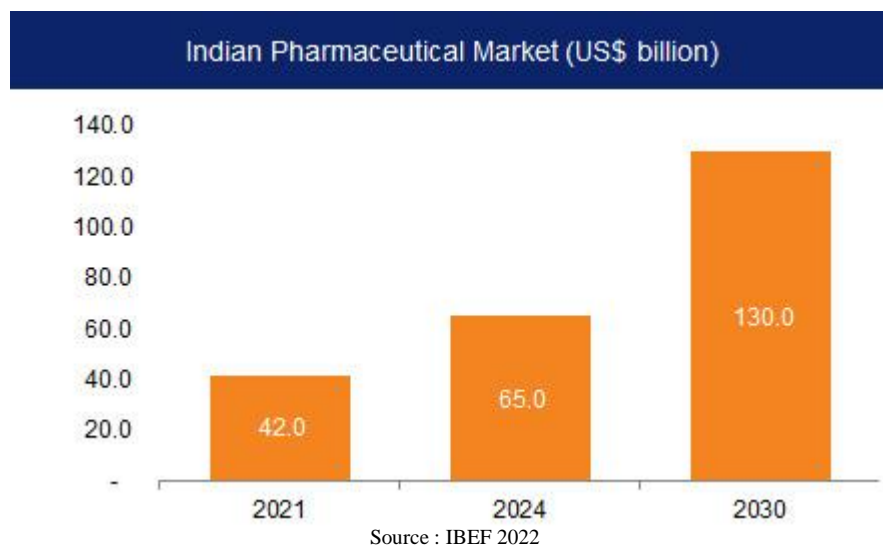
In the global pharmaceuticals sector, India is a significant and rising player. India is the world's largest supplier of generic medications, accounting for 20% of the worldwide supply by volume and supplying about 60% of the global vaccination demand. The Indian pharmaceutical sector is worth US$ 42 billion worldwide. In August 2021, the Indian pharmaceutical market increased at 17.7% annually, up from 13.7% in July 2020. According to India Ratings & Research, the Indian pharmaceutical market revenue is expected to be over 12% Y-o-Y in FY22.

Global medicine spending and growth, 2016-23[1]

Spending (US$ Billion)
Growth (%)
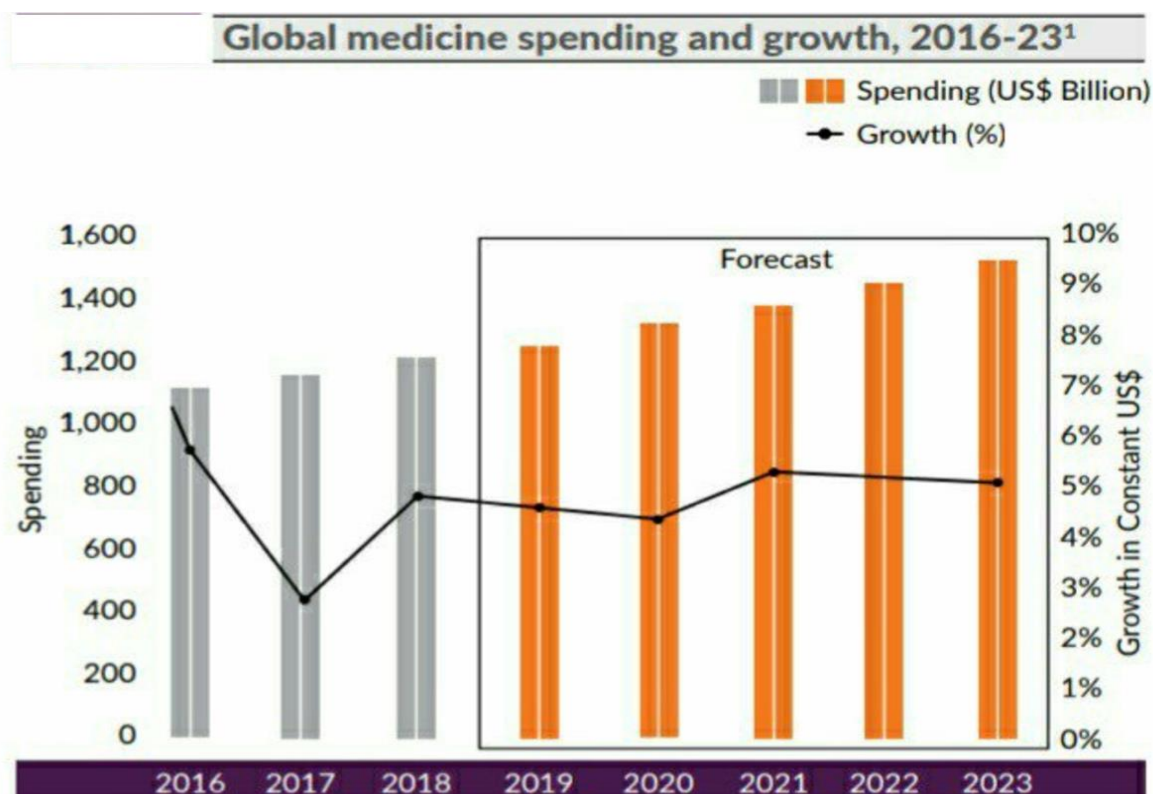
Pharmaceutical business is the universal business known as the fastest growing industry. In Pharmaceutical industry, especially the Pharmaceutical marketing practices are essential for Doctors, Pharmaceutical Companies, Retailers and Wholesalers, Medicine consumers, and Government. Marketing and branding of product is making people aware about the medicine brands. Branding efforts are resulting in brand recognition which is turning into brand recommendation by doctors. Doctors prescribe more of that brand which familiar and have an established brand value. This research paper is an effort to estimate the impact and correlation of different branding activities on brand recognition and prescription of medicines. Based on a survey of 500 doctors, it is found that personal selling, availability and distribution and customer education (e-marketing) play important role in brand recognition and prescription of medicines.

II. REVIEW OF LITERATURE

For present study researcher has collected and evaluated studies related to research inthree parts:

1. Studies related to Pharmaceutical Industry

2. Studies related to Branding and factors affecting purchase behavior

3. Research Papers on Impact of Medical Literature on Physician Prescribing Behaviour

Lisa Barbadora (2015), Stan Bernar (2014), ParthaAnbil, Shiraz Hasan & Sanjay Bajpai (2014) and several others have contributed in the studies related to pharmaceutical industries. Kadam, et. al., (2012), Kulkarni and Belgaonkar (2012), Shahzad Khan (2011) and several others have contributed on the studies related to branding and purchase behaviour. Donna Kelly & Michael Gibbons (2008),Herbert Jack Rotfeld(2005)andBrian Smith (2009) made some meaningful contribution in Impact of Medical Literature on Physician Prescribing Behaviour.

Delgado, et. al, (2012) evaluated that economic growth and prosperity of nations are now increasingly linked to their competitiveness and how they are able to make their nations attractive to investments and take leadership positions in a number of industries. Competition and competitiveness are therefore buzzwords in the global economy.

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Porter (1990) elucidated the concept of competitiveness is created, not inherited. Firms and nations with little or no resources are able to rule the markets, only because they have assiduously built competitiveness in what they do.

Garelli (2002) originated that Japan has no iron ore or coal, but has a strong position in the global steel market. Singapore, also as a young nation without natural resources, attracted capital, labor and enterprise to build a strong place in the league of competitive countries.

Van der Ploeg (2010) stated that many nations in Africa with rich natural resources rank among the poorest nations and are not competitive for a variety of reasons.

Feurer and Chaharbaghi (1994) elaborated that competitiveness is defined as relative and not absolute. It depends on shareholder and customer values, financial strength which determines the ability to act and react within the competitive environment and the potential of people and technology in implementing the necessary strategic changes. Competitiveness can only be sustained if an appropriate balance is maintained between these factors which can be of a conflicting nature.

The researcher has found following research gap:

1. Lack studies on branding of pharmaceuticals product with respect to doctors' prescription.

2. Celebrity endorsement is more common brand building tool; there appeared a need to examine this tool with respect to pharmaceutical industry.

3. Researches have been done about distribution but associations of distribution and availability with doctors' prescription have not been done.

4. Role of educating customer have been increased in previous few years, present research tries to fill the research gap in the same aspect.

III. HYPOTHESIS

1. Brand recommendation and recognition does not have significant relation with personal selling.

2. Brand recommendation and recognition does not have significant relation with Availability and distribution.

3. Brand recommendation and recognition does not have significant relation with Customer education (e-marketing).

4. Brand recommendation and recognition does not have significant relation with celebrity endorsement.

IV. METHODOLOGY

Present study consider doctors as respondents. Doctors are the population for present research. Sampling size based on confidence interval for statistics is used to decide sampling size. Standard deviation of Population is unknown so we have used proportion formula.

n= p (1-p) (Z/E) 2

n= 0.050 (1-0.50) (1.96/0.05)2

= 0.50 (0.50) (39.2)2

= 0.50 (0.50) (1536.64)

= 384.16

The sample size with formula comes 384.16. As researcher cannot take a part of sample, so updating to nearest integer, minimum sample size will be 385. As the sample location includes different cities nearby Lucknow and researcher has to visit

each location five times so the researcher raised the sample size up to 500. A tool with Cronbach Alpha value 0.870 with 20 questions is used. Present study is a part to whole data collected with the help of a valid and reliable tool. Variables considered in the study were Brand recommendation and recognitions, Personal selling, Availability and distribution, Customer education or open access content (e- marketing) and Role of celebrity.

V. RESULTS

Modern day's pharmaceutical businesses are very complex. Earlier the businesses were using easy marketing tactics to meet the needs of market. Medical products could easily build their brand status. Building brand trust, attracting purchase, creating brand effect and brand loyalty was easier. Marketing and branding revolve around media, message repetitions, recall value and creativity. Correlation between brand recommendation and recognition and personal selling is

0.593. It shows that Brand recommendation and recognition have significant relation with personal selling. So, hypothesis 01 is rejected and it can be said that, "Brand recommendation and recognition have significant relation with personal selling."

Correlation between brand recommendation and recognition and Availability and distribution is

0.408. It shows that Brand recommendation and recognition have significant relation with Availability and distribution. So, hypothesis 2 is rejected and it can be said that, "Brand recommendation and recognition have significant relation with Availability and distribution." Correlation between brand recommendation and recognition and Customer education (e-marketing) is 0.538. It shows that Brand recommendation and recognition have significant relation with Customer education (e-marketing).So, hypothesis 3 is rejected Availability and distribution and Customer education (e-marketing).

The correlation value is positive and but the value is 0.091, which is considered as poor correlation. So, it could be said that, "Brand recommendation and recognition does not have significant relation with celebrity endorsement" so hypothesis 4 is accepted.

Table 1: Regression Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661[a]	.437	.433	2.71279
a. Predictors: (Constant), Availability_and_distribution, Celebrity_Endorsement,Customer_education_e_marketing, Personal_selling				

The regression model summary in Table 1 shows that the model with nine predictor variables explains 43.3 % (Adjusted R Square= .433)variance of Brand recommendation and recognition

Y. Any model with Adjusted R Square value .400 and above is moderately acceptable. Multiple correlation coefficient (R) value is 0.661, which shows that all the factors explained in the model are highly correlated. This supports the hypotheses testing results.

Companies	Structured Questionnaire Distributed	Completed Questionnaire Received	Rejected due to incompleteness and errors	Actual Questionnaires for analysis
Top 20 Companies	250	197	4	193
Out of top 20 Companies	250	223	5	218
Total	500	420	9	411

objective of the study was to identify the potential factors of competitiveness in pharmaceutical industry. For this, after preliminary data editing, data were subjected to Exploratory Factor Analysis (EFA) as the technique reduces a data set of interrelated variables to a more manageable size and thus helps in finding underlying dimensions in the form of independent set of variables called factors.

KMO and Bartlett's Test

Data collected for all 41 variables were subjected to principal component analysis with varimax orthogonal rotation. Kaiser-Meyer-Olkin (KMO for short) test of sampling adequacy and Bartlett's test of sphericity were checked and both the measures indicated that data can be analyzed using factor analysis.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.846	
Bartlett's Test of Sphericity	Approx. Chi-Square	4141.594
	df	410
	Sig.	.000

Descriptive Statistics, KMO Values and Communality Values of the Variables Used in EFA

Communality Scores for the Variables in EFA

| Label of the variable	Initial	Extraction
High equity stake held by the owners in the company	1.000	.742
Well defined vision and mission for the company	1.000	.830
Consistently good corporate governance practiced by the company	1.000	.770
Professionally qualified CEO/MD with relevant industry experience	1.000	.669
Well documented and clear corporate policies	1.000	.746
The ability to strategise and implement strategies.	1.000	.704
The ability to take hard decisions on closing business or moving out of markets	1.000	.637
The ability to have a clear market focus	1.000	.632
The ability to take leadership position in the industry	1.000	.605
The ability of the firm to consistently grow in sales.	1.000	.587
The ability of the firm to consistently grow in sales above the industry average.	1.000	.634
The commitment of the firm to international business	1.000	.649
The ability of the firm to consistently grow its export sales.	1.000	.613
The ability of the firm to consistently grow in profitability, year on year	1.000	.559
The ability of the firm to increase presence in foreign markets	1.000	.673
The number of foreign markets that the company operates.	1.000	.636
The presence of the firm in developed country markets such as N America & Europe	1.000	.553
The ability to deploy international scales of operation in manufacture.	1.000	.475
The ability to deploy superior technology compared to competition	1.000	.634
The ability to better access raw material resources	1.000	.541
The ability to develop cost effective procurement of raw materials.	1.000	.512
The ability to deploy better quality assurance systems.	1.000	.518
The use of best practices in IT systems	1.000	.633
The number of technology collaborations that the firm has.	1.000	.625
The quantum of research spending by the company	1.000	.584
The number of patents filed by the firm or owned by the firm.	1.000	.654
The ability to foster creativity and innovation in the company	1.000	.756
The ability to manage risks in the business better.	1.000	.633
The ability to access funds easily for operations and for growth	1.000	.585

Extraction Method: Principal Component Analysis
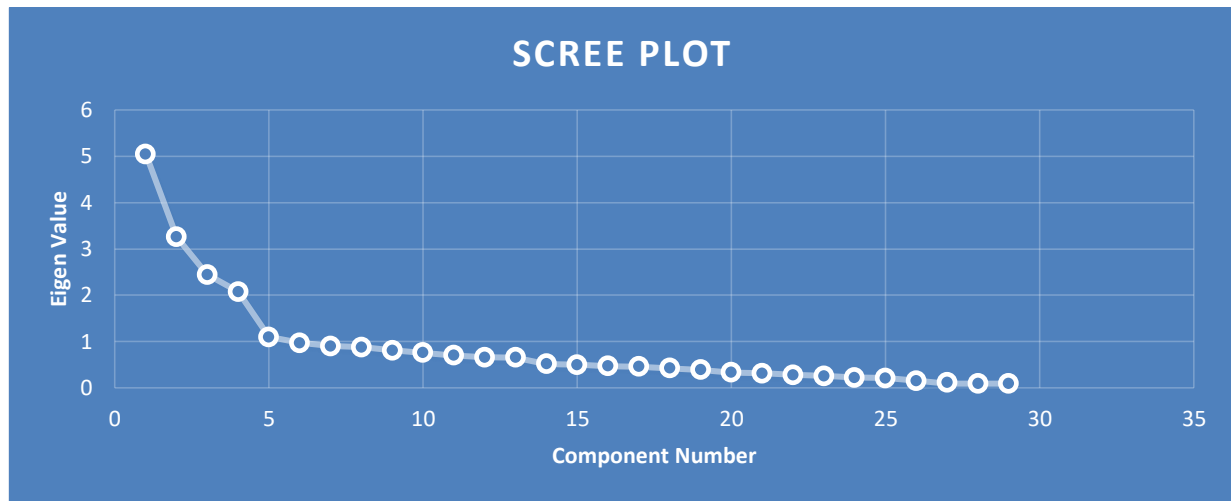
Table Showing Values of Factor Loadings after Rotation, % of Variance Explained, % of Cumulative Variance Explained, Eigen Values and Cronbach''s α Values for the Five Extracted Factors

VI. FINDINGS OF THE STUDY

In present study the Indian pharmaceuticals companies' branding techniques have been studied. It is never possible to observe the impact in general and about all the branding techniques usedby companies. This education about medicine brands (Branding Efforts) is beneficial but at the same time it creates a threat of Self-medication. Self-medication is an alarming sign for our society. Self medication with over the counter (OTC) drugs may lead to adverse drug reactions, drug-drug interactions, skin problems, hypersensitivity reactions, allergy and even death. Severalstudies show that self-medication is a global phenomenon. Self-medication can be prevented by increasing awareness in society that the prescription is concern of doctors and consumer education and branding of medicines are not for self-medication.

The correlations among the variables are positive. It can be said that the CelebrityEndorsement isgoing to increase Brand recognition of medicines. But the value of correlation is too small that the impact does not take the worth of making it. It is recommendable that companies shouldfocus on other aspects of brand building in pharmaceutical products.It can be said that Brand recommendation and recognition does not have significant relation with celebrity endorsement.

The vampire effect in Pharmaceutical endorsement

Vampire effect is, when celebrities are very famous and they overshadow the brand. Very intense celebrity image often creates great image in the mind of viewers. Sometime the viewer only retains the appearance of celebrity and don't retain the brand.

Medicines are not useful unless someone is sick. In such condition the use of celebrity in the advertisement will only increase the cost of advertisement. Viewers will only retain the celebrity and possibly skip the product.

Changing images of celebrities:

Celebrity often loses their impact on masses. In recent times Hardik Pandya, a young cricketer, has faced same issue. Due to his appearance and indecent comments against women in a TV show he put himself in controversy. Advertisements endorsed by him have been removed from media. Celebrity gets associated with the products. If they lose their impact on people the product will also suffer.

Another cricketer Yuvraj Singh endorsed in Revital health supplements advertisements. In the coming years he suffered from cancer that may be from unknown cause. But due to this product contained a great lose.

Contrast between celebrity image and brand image:

Celebrities have certain characteristics so does the brand. It is very important for the success of endorsement that celebrity must match the product. Now a day's pharmaceutical companies are endorsing celebrities for their promotion. It is very important that features of medicines must match the nature of celebrity. It seems bit difficult to match such curative features in a person as a medicine. In such case the role of celebrities in the advertisement of pharmaceutical product becomes almost impossible.

Mismatch of celebrity endorsement and celebrity personal consumption:

Celebrities are often found using other than the endorsed brand. In such circumstances the endorsements may be worthless and may lose the goodwill of the product.

Most of the cricketer celebrities get their treatments outside India. In such case if they promote any pain relief medicine on TV, people will hardly accept it.

Shilpa Shetty, a well-known celebrity for her fitness diet and yoga, promotes Volini a pain relief medicine. Priyanka Chopra another celebrity promotes Cipla, the advertisement is indirect advertisement where the celebrity just aware the masses about the use of asthma inhalers and on the screen Cipla is mentioned throughout the advertisement. Cipla makes asthma inhalers and by this advertisement they build their brand.

Rohit Sharma, present ODI Indian cricket team Vice-Captain appears in Nasivion advertisement.It is a medicine that helps in nasal congestion as a decongestant spray. Virat Kholi, present captain of Indian cricket team in all format, appear in advertisement of different variants ofVicks i.e. tablet and inhaler.

Here the very idea is that the appearance of these celebrities may have impact on people but real target chunk is doctors. Actual practice in medical field is that patients must consult the doctor than only take medicines. On the one hand these medicine branding efforts are making the people to fall in the pit of self-medication on the other hand the real target group i.e. doctors might have least effect by them. It is difficult to believe any doctor recommend a medicine to a patient just because a celebrity appeared in the advertisement of it.

BRANDING OF PHARMACEUTICAL COMPANIES

A. Debates against the Branding of Medicines

The use of self-medication is highly prevalent in the community. Self-medication can be defined as obtaining and consuming one (or more) drug(s) without the advice of a physician either for diagnosis, prescription or surveillance of treatment. The major reasons of self-medications are:

- Lack of immediate access to doctors

- High consultancy fee

- Fear of being put through unnecessary tests

- Lack of time

- Increased access to internet

- Increased medicines advertisements with celebrity endorsement

- Increased brand education by pharmaceuticals companies

When we study the reasons of the self-medication we find that the increased brand awareness is making people to do it. After watching a 30 seconds advertisement on television they become equivalent to a doctor with several years of study. The effects of self-medications are:

- Incorrect diagnosis

- Delay in medical advice

- Adverse reaction

- Permanent loss or damage

- Allergic issues

- Death too is possible is some cases

So, it could be said that the branding of medicine must be avoided and it must be narrowed to target only Regular Medical Practitioners (RMP) and doctors only.

B. Debates in favor of Branding of the MedicinesCaveat emptor

Under the principle of caveat emptor, the buyer could not recover damages from the seller for defects on the property that rendered the property unfit for ordinary purposes. The only exception was if the seller actively concealed latent defects or otherwise made material misrepresentations amounting to fraud. Thus, we can say that customer education in the form of branding by pharmaceutical companies are not only required but also desired. A patient have all right to know about the medicines and these branding efforts are just a contribution to that.

Branding of medicines and Placebo effect:

Placebo effect is also called the placebo response. It is a remarkable phenomenon in which a placebo -- a fake treatment, an inactive substance like sugar, distilled water, or saline solution -can sometimes improve a patient's condition simply because the person has the expectation that it will be helpful. Expectation plays a potent role in the placebo effect. The more a person believes they are going to benefit from a treatment, the more likely it is that they will experience a benefit.

To separate out this power of positive thinking and some other variables from a drug's true medical benefits, companies seeking governmental approval of a new treatment often use placebo-controlled drug studies. If patients on the new drug fare significantly better than those taking placebo, the study helps support the conclusion that the medicine is effective.

The power of positive thinking is not a new subject. The Talmud, the ancient compendium of rabbinical thought, states that: "Where there is hope, there is life." And hope is positive expectation, by another name. The scientific study of the placebo effect is usually dated to the pioneering paper published in 1955 on "The Powerful Placebo" by the anesthesiologist Henry K. Beecher (1904-1976). Beecher concluded that, across the 26 studies he analyzed, an average of 32% of patients responded to placebo.

With help of the belief of patient's medicine can cure more than earlier. Branding of medicine can play pivot role in treatment. If a patient believes that the medicines are brand and it is going to help him surely it will help. Often branded medicines are costlier. "Costlier is better" is another ideology in the mind of consumers makes the barding efforts important in the cases of medicines.

There are intense debates whether branding of product must be done or not, if done in what ways it should be done? The researcher has confined the research area to the use of celebrity in the barding of medicines.

With the help of pervious researches and content analysis of different pharmaceutical company'sprofile researcher has found following branding tactic used by pharmaceutical companies.

1. **Broad strategies:** These are mergers, acquisitions and amalgamation etc. These are not so often. These are taken by high level managements and board of directors meeting.

2. **Use of celebrities:** These are most common practices in healthcare and body building segments.

3. **Control on marketing mix:** pharmaceutical companies are using intense sales force to increase their reach. They focus on availability and distributions of product. If the product is not available for a longer time in the market all branding efforts will perish and another product may occupy the brand image. This type of branding efforts also involve pricing decision etc.

4. **Living in the product category:** Johnson and Johnson set the best example of this branding effort. They excel in baby care segment and built their brand image.

5. **Name close to generic:** Products like Pacimol 650 by Ipca laboratories Pvt. Ltd. have easily captured the market. It was so because they have used the generic formulation of Paracetamol as their product name.

VII. CONCLUSION

The present research affects different dimensions of society. Cosmetic companies, marketers, entrepreneurs and students of business studies are foremost benefited group.Products' attributes as the key point of selling, to involving celebrities, today it's mainly about how well a company manages to educate consumers about the personal values, benefits and quality of a product. It's about being less transactional and more personal. Brands need to provide tools to help consumersvalidate the individual fit of a product or service for their individual situation.

The research hypothesis suggests that the brand image of the medicine cannot be built by celebrity endorsement. It takes much more to make a medicine brand. The use of celebrity in pharmaceuticals field will increase the cost of promotion mix which will not be good in long run.Companies must focus on other accolades of brand building. Even the legal complexities will reduce the scope of applicability of celebrity endorsements as there are medicines that cannot be sold without prescription.

Though all the goodness of branding of medicines, self-medication is an alarming sign for society. Self-medication must be prevented with the help of clear objectives of branding effortsof medicine. The promotional activities of medicines must also inform the consumer about the importance of medical prescription and disadvantages of self-medication.

The research can be concluded by considering the fact that doctor's perspective is highly positiveon branding strategies of Indian pharmaceutical companies in the context of brand recognition and prescriptions. The significance of present study can be understood as follows:

a) Pharma companies:

Pharma companies can use the findings of the study to improve their marketing campaigns. Knowledge about pharmaceutical marketing and branding is empathic if the study is applied to marketing efforts.

b) Marketers:

Marketers are not only confined to the knowledge about pharmaceutical marketing and branding but they can use this research for their purposes. Though present study is in the context with knowledge about pharmaceutical marketing and branding but its applicability is in all marketing domains.

c) Entrepreneurs:

Starting a venture is difficult as well as easiest task. If all the home work is done in regards of production, supply chain and marketing it is an easy task. Entrepreneurs can access the literature of present research to better equip themselves with knowledge about pharmaceutical marketing and branding tools.

d)   Students of business studies:

Students of business studies are very dynamic and versatile. They are supposed to be armored with all the academic knowledge to cope up with the forthcoming challenges of business world. Students can enhance their knowledge about pharmaceutical marketing and branding with the help of the literature of present research.

Though all the goodness of branding of medicines, self-medication is an alarming sign for society. Self-medication must be prevented with the help of clear objectives of branding effortsof medicine. The promotional activities of medicines must also inform the consumer about the importance of medical prescription and disadvantages of self-medication.

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