Chapter I

Introduction
CHAPTER - I

INTRODUCTION

Marketing Strategy is the component of marketing plan that outlines how the firm will achieve its marketing objectives. Marketing strategy consists of target market selection and the development of a marketing mix. In a broader sense, however, marketing strategy refers to how the firm will manage its relationships with customers, so that it gains an advantage over the competition.

Target market selection is the first stage of this process. The marketing plan should clearly define target markets, in terms of demographics, geography, psychological profiles, product usage, and so on. This step is crucial because to develop a marketing mix that can satisfy customer needs, a marketer must understand those needs. In developing a marketing mix, the firm should determine how the elements of the mix-product, distribution (place), promotion and price-will work together, to satisfy the needs of the target market.

To gain an advantage, the firm must do something better than its competitors. In other words, its product must be of higher quality; its prices must be consistent with the level of quality; its distribution methods must be efficient and cost effective; and its promotion must be more effective than the competitors. It is also important that the firm attempts to make these advantages sustainable. (William M. Pride and Ferrell O.C, 2005).
Market Scenario of pharmaceutical Industry

The global pharmaceutical industry is estimated at US $ 651 billion and is likely to grow at seven per cent per annum. The Indian pharmaceutical industry is estimated at US $ 6 billion, which is growing at 11 per cent per annum. The Indian pharmaceutical sector is highly fragmented, with over 20,500 registered units. There are about 252 large-scale units and 8500 small-scale units, including five central public sector units, which form the core of the Indian pharmaceutical industry. The Indian pharmaceutical sector is largely research oriented and knowledge based industry. The latest market research report of 2006 on “Opportunities in Indian health care sector” describes that, about 72 per cent of the health care market in India is captured by the leading 255 pharmaceutical companies; with the market leader holding about eight per cent of the market share. (www.prlog.org).

The Indian pharmaceutical industry has been providing employment for millions and ensuring drugs are available to vast population, at an economical price. At present, India has the highest number of United States Food and Drug Administration (USFDA) approved plants outside United States and largest bulk fillings facility with lesser cost. (www.rediff.com).

Trade-Related aspects of Intellectual Property rights (TRIPS) agreement of World Trade Organisation came into force from 1st January, 2005. Now, Indian pharmaceutical industry is focusing its’ attention on research and development, to make and sell, self-patented products. India has the advantage of scientific talent with highly skilled manpower, advances in biotechnology and latest information technology facilities with lesser cost. (www.cii.in).
**Marketing Strategy in pharmaceutical industry**

To encash generic (non-branded product) opportunities, Indian companies enter into all kinds of alliances in every area with global players. They have developed a reputation as the lowest-cost manufacturers, in a market with the world’s highest drug prices. Indian companies adopt a strategy of tie-up partnerships with other multinational companies. Indian companies have been currently concentrating on Novel Drug Delivery Systems (NDDS), to create slightly differentiated products and patent them. Also, they have been entering into technologically tougher sector, to reduce higher competition. Indian companies usually challenge the innovators’ patents in court, ahead of its expiry. (Sridharan, 2005).

Pharmaceutical companies implement strategy such as offensive strategy, defensive strategy, target market strategy, market leader strategy, market challenger strategy, market follower strategy, penetration pricing strategy, price skimming strategy, product line extension strategy, product elimination strategy, product acquisition strategy, product differentiation strategy, market penetration strategy, new market strategy and geographical expansion strategy in the process of hematinic marketing.

**Statement of the Problem**

“Anaemia” is generally defined as a condition, in which the blood is deficient in red blood cells, in hemoglobin or in total volume. Iron deficiency is by far the most common cause of anaemia, throughout the world. “Hematinic” is defined as an agent that tends to stimulate blood cell formation, or to increase the hemoglobin in the blood. Iron deficiency anaemia is highly prevalent in India.
Iron deficiency is not the only cause of anaemia, where anaemia is prevalent; iron deficiency is usually the most common cause. (Tripathi K.D, 2002).

The need for the study of Hematinic in India is justified by the following facts:

- Nutritional anaemia is one of the major health problems in India. The prevalence of anaemia ranges from 33 per cent to 89 per cent, among pregnant women and is more than 60 per cent among adolescent girls. (Toteja G.S et al., 2006).
- According to the Nutrition Foundation of India, 90 per cent of adolescent girls, women and children suffer from iron deficiency. Almost 20 per cent of maternal deaths are because of iron deficiency anaemia. (www.hindu.com).
- Dietic and Nutrition surveys reveal that 87 per cent of pregnant women suffer from anaemia. (www.hindu.com).

India is the second highly populated country in the world and made up of mostly economically weaker sections of the people. The most obvious and feasible approach to the prevention and control of anaemia would be, through the distribution of daily supplements of elemental iron in the form of Hematinics. International Organisations and Government of India have been sponsoring Iron Folic Acid (IFA) tablets distribution programmes to eradicate anaemia. As recommended in Health Bulletin, social marketing organisation should adapt commercial marketing strategy; to succeed for health related product (or service) promotion. (Elaine M. Murphy, 2005).
Study on the hematinic target market and marketing strategic components of leading hematinic companies such as product strategic components, pricing strategic components, promotional strategic components and distribution strategic components that fulfill the needs and influence doctors (customers), to prescribe hematinic oral solid formulations will be insightful to learn about successful marketing strategy of leading hematinic companies.

Objectives of the Study

The project has overall objective of studying the marketing strategic components that influence doctors, to prescribe hematinic oral solid formulations promoted by leading pharmaceutical companies in Tiruchirapalli head quarters.

The proposed project has the following specific objectives, such as

1. to identify and analyse the target market customers (doctors) and indications of usage for hematinic oral solid formulations, promoted by leading pharmaceutical companies, in Tiruchirapalli head quarters;
2. to study the product strategic components that influence doctors, to prescribe hematinic oral solid formulations;
3. to analyse the pricing strategic components that influence doctors to prescribe hematinic oral solid formulations;
4. to analyse the promotional strategic components that influence doctors to prescribe hematinic oral solid formulations;
5. to study the retail distribution strategic components, that influence doctors to prescribe hematinic oral solid formulations; and
6. to analyse other marketing strategic components, that influence doctors to prescribe hematinic oral solid formulations, promoted by leading pharmaceutical companies in Tiruchirapalli head quarters.

Hypotheses

In the light of the above objectives the following hypotheses have been framed and tested in this study.

1. There is no significant difference in the perception of male and female doctors, about hematinics on the following aspects such as
   (i) Quantity of iron recommended by research organisation
   (ii) Additional ingredient for efficacy and safety

2. There is no significant difference in the perception among different speciality of doctors namely General Practitioners, Obstetrics and Gynecology, Physicians, Dermatologists and Others about hematinics on the following aspects such as
   (i) Patient’s affordability
   (ii) Marketing professional’s efficiency and regular visits.

3. The experience of the doctors has no influence over the selection of hematinic group such as Conventional iron, Carbonyl iron, Polymaltase iron, Iron with multivitamin and others.
Methodology

Selection of the hematinic oral solid formulations, companies and study areas

Hematinics are available in three formulations states such as oral solid, oral liquid and parenteral (injectables). Oral solid formulations consist of capsules, tablets and caplets. As recommended by Ministry of Health and Family Welfare (Government of India) oral solid formulations have better efficacy and safety than other liquid and parenteral formulations. Oral solid hematinic formulations have been distributed by Ministry of Health and Family Welfare for expectant mothers to eradicate anaemia. World Bank assisted government sponsored Integrated Child Development Scheme (ICDS) centers have been distributing Iron Folic Acid (IFA) tablet, as oral-solid formulation to eradicate anaemia. Hence oral solid hematinic formulations have been selected for this study.

In Tiruchirapalli head quarters more than 225 companies have been marketing their hematinics oral solid formulations. Among these, 12 are multinational companies, 48 are all India level marketing companies and the rest are regional level marketing companies. Among these companies, the top selling eleven products-owned companies have been selected for this study, on the basis of rupee wise sales performance in Indian Pharmaceutical Market as per Operational Research Grading - Moving Annual Total (ORG-MAT) - 2006 report. The top selling eleven products-owned companies are as follows: GlaxoSmithKline-Asclepius (Fefol-Z), Janseen-Cilag (Raricap), Wyeth (Autrin), Emcure (Orofer-XT), GlaxoSmithKline-Derma (Fesovit), Ranbaxy (Conviron), Franco-Indian (Dexorange), Emcure-Swiz (Ferium-XT), E.Merck (Livogen), GlaxoSmithKline-Asclepius (Fefol) and Sun (Anofer).
GlaxoSmithKline-Asclepius division owns two products, within this range of top selling eleven products-owned companies. Companies occupying beyond eleventh rank were not selected for this study, based on the opinion of doctor respondents in pilot study. The reasons were non-representation, irregular representation of marketing professionals, frequent change of marketing professionals (employees’ turnover) and so on. Hence this study deals with top selling eleven products-owned by ten companies that consist of five multi-national companies and five all India based companies.

Tiruchirapalli has a great importance in health care industry, as it has government head quarter’s hospital, government medical college, BHEL Hospital, TB Sanatorium and leading private hospitals. Tiruchirapalli is enriched with highly qualified well renowned experienced doctors and medical consultants for pharmaceutical companies. Tiruchirapalli wing of Indian Medical Association (IMA) launched its “Anaemia free India” campaign on the occasion of Doctors’ Day on July 1, 2005. Anaemia free India campaign is the most important service programme, initiated by Indian Medical Association for the people of India, to eradicate anaemia from this society. Federation of Gynecologists and Obstetricians Society of India (FOGSI) and other private doctors voluntarily provide free check-up and free Iron Folic Acid (IFA) tablets for pregnant mothers on 9th day of every month, to eradicate anaemia under the banner of “Vande Mataram Yojana”. (www.expresshealthcaremgmt.com).

World Bank assisted Integrated Child Development Scheme (ICDS) Project Office is situated at Tiruchirapalli.
Under this project Iron Folic Acid tablets have been distributed to antenatal mothers, to the extent of 68.8 per cent and to adolescent girls to the extent of 89.1 per cent in Tiruchirapalli, as reported by Government of Tamil Nadu in April 2006.

Researcher had 14 years of pharmaceutical marketing experience especially in the segment of hematinic formulations at Tiruchirapalli head quarters. Hence, the researcher preferred to do this research, to study and analyse marketing strategic components that influence doctors, to prescribe hematinic oral solid formulations promoted by leading pharmaceutical companies, in Tiruchirapalli head quarters.

Research Design

Tiruchirapalli marketing head quarters (pharmaceutical companies-territory) consist of twelve areas such as Tiruchirapalli, Musiri, Kulithalai, Lalgudi, Thoriyure, Manapparai, Ariyalure, Perambalure, Pudukottai, Aranthangi, Karur and Pallapatti; as quoted by marketing professionals of leading companies. It covers the topography of five districts such as Tiruchirapalli, Karur, Pudukottai, Perambalure and Ariyalure.

Two medical sales representatives have been working for each company in Tiruchirapalli head quarters, to cover doctors as per company’s Doctor Call List. Interview with the leading eleven companies’ medical representative reveals that they have been calling maximum of 500 doctors (250 doctors by each medical sales representative) in Tiruchirapalli head quarters, as per Company’s Doctor Call List.
Selection of doctors for Company’s Doctor Call List was based on various factors such as prescribing potential of hematinic formulations by doctors, total number of patients treated by doctors and volume of business contributed by doctors.

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the Station</th>
<th>Total Doctors met by Medical Representative</th>
<th>Population proportion</th>
<th>Total Doctors included for the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trichy</td>
<td>285</td>
<td>0.570</td>
<td>285</td>
</tr>
<tr>
<td>2.</td>
<td>Musiri</td>
<td>11</td>
<td>0.022</td>
<td>11</td>
</tr>
<tr>
<td>3.</td>
<td>Kulithalai</td>
<td>12</td>
<td>0.024</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Lalgudi</td>
<td>08</td>
<td>0.016</td>
<td>08</td>
</tr>
<tr>
<td>5.</td>
<td>Thoriyure</td>
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<td>0.040</td>
<td>20</td>
</tr>
<tr>
<td>6.</td>
<td>Manapparai</td>
<td>12</td>
<td>0.024</td>
<td>12</td>
</tr>
<tr>
<td>7.</td>
<td>Ariyalure</td>
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<td>22</td>
</tr>
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<td>8.</td>
<td>Perambalure</td>
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<td>0.040</td>
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<tr>
<td>9.</td>
<td>Pudukottai</td>
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<td>10.</td>
<td>Aranthangi</td>
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<td>06</td>
</tr>
<tr>
<td>11.</td>
<td>Karur</td>
<td>55</td>
<td>0.110</td>
<td>55</td>
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<tr>
<td>12.</td>
<td>Pallapatti</td>
<td>05</td>
<td>0.010</td>
<td>05</td>
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<tr>
<td></td>
<td>Total</td>
<td>500</td>
<td>1.000</td>
<td>500</td>
</tr>
</tbody>
</table>

**Figure No 1.** Selection of Doctors in Tiruchirapalli head quarters by Census method

**Source:** Doctors Call List of hematinic companies-2006, Tiruchirapalli head quarters.

All these 500 doctors featured in Company’s Doctor Call List of leading hematinic companies have been included as target doctor population for this study under census method.
Designing the questionnaire

A draft questionnaire was prepared after discussion, interviews and surveys with medical sales representatives (especially those involved in the process of implementing marketing strategy), doctors, chemists and wholesalers. These direct interviews were very insightful in learning about hematinic market and marketing strategic factors that influence doctors, to prescribe hematinic oral solid formulations promoted by leading companies in Tiruchirapalli head quarters.

In pharmaceutical industry, doctors are called customers, who have been empowered to prescribe suitable product for their patient’s welfare. Here patients are called consumers, who honour the recommendation of doctors by consuming a product. The drug company medical detailer is a professional representative, who calls regularly on doctors in their offices to provide them with information on drug products through personal selling marketing techniques. Interviews, discussions and surveys were conducted by the researcher with medical sales representatives, doctors, chemists and wholesalers to learn about marketing strategy of hematinic oral solid formulations, promoted by leading pharmaceutical companies.

The researcher framed 40 marketing strategic influencing components, to get a response from doctors. The researcher selected 50 targeted doctor respondents at random manner and administered a questionnaire for pre-test. Later, pilot study was conducted by administering a questionnaire. This shows the predictive validity of the 40 marketing strategic influencing components was moderate. The researcher assumed that the increase in sample size, would lead to achieve high predictive validity. Then appropriately updated and final draft of the questionnaire was prepared.
The questionnaire was classified into five different parts. Part I consists of nine product strategic influencing components, Part II comprises of four pricing strategic influencing components, Part III has eleven promotional strategic influencing components, Part IV has six distribution strategic components and part V consists of ten other marketing strategic related components. These marketing strategic components influence doctors, to prescribe hematinic oral solid formulations; promoted by leading pharmaceutical companies in Tiruchirapalli head quarters.

**Collection of Data**

The researcher collected primary data, by administering a questionnaire among targeted doctor respondents. The researcher collected secondary data from journals, books, reports, published articles and websites to learn about marketing strategic practices, adopted by these leading pharmaceutical companies. The researcher visited Regional Offices, Regional Depots and Carrier and Forwarding agent’s office of these leading pharmaceutical companies, to collect more information relevant to this research.

**Data Analysis - Tools used in this study**

A data base was created using Statistical Packages for Social Sciences (SPSS)-Data Editor with appropriate coding and statistical analysis was carried out. The following tools were applied to analyse the study.

In phase one, simple frequency tables and cross-tabulation analysis were presented for all required items.
**Box-plot Analysis**

In phase two, box-plot analysis was conducted to identify the nature of data, with reference to marketing strategic influencing components, for different speciality of doctor respondents. It was non-symmetrical in nature. Appropriate statistical tools were selected for further analysis.

**Pareto Chart Analysis**

The Pareto chart analysis confirms that 20 per cent of doctors contribute 80 per cent of hematinic business. Pareto chart analysis was conducted to clearly identify potential doctors, who contribute major business in terms of hematinic prescriptions. This theory of Pareto chart analysis provides guidance to evaluate about core customers, to win over maximum hematinic prescriptions as part of target market strategy.

**Profile Analysis**

In the final and third phase, Multivariate data analysis was used to deal with more than two marketing strategic influencing variables. Profile Analysis was conducted to know the perceptions of doctors, on three pricing strategic factors such as least price, moderate price and premium price.

**Factor Analysis**

Factor analysis was conducted as a data reduction technique, to analyse the interrelationships among large number of marketing strategic variables and explain these variables in terms of common underlying dimensions (factors).
Mann-Whitney Test (or U Test)

The non-parametric technique named the Mann-Whitney U test was applied to test the null hypothesis of whether two groups (male doctors and female doctors) have identical thinking in terms of prescribing behaviour. Mann-Whitney test is used to determine whether two independent samples have been drawn from the sample population. To perform this test, rank the data jointly, taking them as belonging to a single sample in either an increasing or decreasing order of magnitude. Find the sum of the ranks assigned to the values of the first sample (and call it R1) and also the sum of the ranks assigned to the values of the second sample (and call it R2).

Then work out the test statistic i.e., U, which is a measurement of the difference between the ranked observation of the two samples as under

\[ U_1 = n_1 \cdot n_2 + \frac{n_1(n_1 + 1)}{2} - R_1 \]

\[ U_2 = n_1 \cdot n_2 + \frac{n_2(n_2 + 1)}{2} - R_2 \]

n₁, n₂ = Sample size in group1 and group 2
R₁, R₂ = Sum of the ranks assigned to groups 1 and 2 respectively

(Kothari C.R, 2004).

Kruskal-Wallis Test (or H test)

The Kruskal-Wallis test was utilised to test hypothesis for more than two groups. Kruskal-Wallis test is used to test the null hypothesis that ‘k’ independent random samples come from identical universes against the alternative hypothesis that the means of these universes are not equal. In this test, the data are ranked jointly from low to high or high to low as if they constituted a single sample.
The test statistic is $H$ for this test, which is worked out as under:

$$H = \frac{12}{N(N+1)} \sum_{j=1}^{k} \frac{R_j^2}{n_j} - 3(N+1)$$

$k$ – Number of samples

$R_j$ – Sum of ranks in the $j^{th}$ sample

$n_j$ – Size of sample $j$

$N$ – Total number of observations in all samples. (Kothari C.R, 2004).

Chi-Square Test

The Chi-Square ($\chi^2$) one sample test is an appropriate way to answer the question of the existence of significant difference

$$\chi^2 = \sum_{i=1}^{N} \frac{(O_i - E_i)^2}{E_i}$$

$O_i$ – Observed number in $i^{th}$ category

$E_i$ – Expected number in $i^{th}$ category.

Chi-square test utilised to explain whether or not two attributes are associated. Null hypothesis is that the two attributes are independent. (Kothari C.R, 2004).

Kendall’s Coefficient of Concordance

Kendall coefficient of concordance ($W$) was obtained to understand inter-rater agreement among independent respondents who rate the stimuli. Kendall’s coefficient of concordance, represented by the symbol $W$, is an important non-parametric measure of relationship.
It is used for determining the degree of association among several (k) sets of ranking of N objects or individuals. Kendall’s coefficient of concordance (W) is considered an appropriate measure of studying the degree of association among three or more sets of rankings.

\[
W = \frac{S}{\frac{1}{12} k^2 (N^3 - N)}
\]

\[
S = \sum (R_j - \bar{R}_j)^2
\]

K = number of judges; N = number of objects ranked;
\[
\frac{1}{12} k^2 (N^3 - N) = \text{maximum possible sum of the squared deviations i.e., the sum } S \text{ this would occur with perfect agreement among } k \text{ rankings. (Kothari C.R, 2004).}
\]

**Perceptual Map**

Perceptual Map was plotted on the basis of the right combination of doctor respondent’s preferential score and price, to evaluate marketing strategic practices of leading hematinic companies.

**Scope of the Study**

This study is much beneficial to pharmaceutical companies, as it highlights the marketing strategy of leading companies, with special reference to hematinic oral solid segment. Other companies can learn this marketing strategy and try to implement for their products to succeed in the segment.

As recommended by eminent social scientists, social marketing organisation should adapt commercial marketing strategy to succeed for health related product (or service) promotion.
So this project of studying about marketing strategic factors of hematinic (anti-anaemic) oral solid formulations is much helpful to social welfare organisations to learn about anaemia eradication programmes, campaign and strategy implemented by pharmaceutical companies (commercial marketing service organisations).

This study is much insightful to government policy makers, to understand anti-anaemic marketing strategy of pharmaceutical companies and to develop suitable plan of action for government sponsored programmes to eradicate anaemia.

This study is much useful for public, to understand the role of pharmaceutical marketing companies; in creating public awareness about anaemia and guidance to eradicate anaemia. In addition to their anaemia awareness leaf-let distribution, these companies have been providing their valuable services such as free anaemia-diagnostic camps and free medical camps to eradicate anaemia from needy people.

**Limitations of the Study**

1. Time factor is the major constraint and limitation of the researcher.
2. The respondents were doctors and they always had a busy schedule with their professional work, which was a barrier in filling up the questionnaire.
3. Marketing strategic influencing factors may differ from individual to individual. So, opinions given by the doctors may change over time and situation.
4. Since marketing strategy are sensitive issues, some respondents were hesitant to share their true ideas and perceptions.
In spite of the above limitations, the researcher has taken a lot of efforts and has made sacrifices to achieve the objectives of this study.

**Chapterisation**

The report of the study is presented in five chapters, arranged logically as follows:

Chapter I: It clearly visualises the design and execution of the study. It deals with the statement of the problem, objectives of the study, hypotheses, methodology, scope of the study and limitations.

Chapter II: This chapter deals with the review of literature related to pharmaceutical marketing strategic factors.

Chapter III: This chapter deals with the profile of the study area and profile of leading hematinic companies.

Chapter IV: This chapter deals with the analysis of primary data, related to marketing strategic factors that influence doctors to prescribe hematinic oral solid formulations.

Chapter V: Based on the analysis of data, the researcher presents the findings, conclusion and suggestions about the study on marketing strategy of leading pharmaceutical companies, with special reference to hematinic oral solid formulations in Tiruchirapalli head quarters.
References


12. Ibid., p. 298.

13. Ibid., p. 239.