

A Study of Marketing Mix Strategies With Reference to Chemical industries in Pune District

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Research Guide

Abstract –

Over the last fifteen years the Indian chemicals industry has graduated from manufacturing principle chemicals in a highly regulated market to being a mature industry in a liberalized economy. Until 1991, India had a closed economy, with the domestic chemical industry enjoying protection in the form of differential import duties on raw materials and finished chemical products. Chemical manufacturing was largely controlled by licensing regulations. The chemical industry is among the fastest growing ones in India. The bulk of chemicals produced in India comprise either upstream products or intermediates, which go into a variety of manufacturing applications including fertilizers, pharmaceuticals, textiles, plastics, agrochemicals, paints and dyes.

The manufacture and marketing of chemicals will continue to offer substantial employment opportunities both for skilled and unskilled persons. It generates indirect employment for the chemicals, engineering and transport industry. With the additional emphasis on exports, there will be new opportunities in logistics and marketing as well.

With the help of cluster development and partnership with educational and research institutions especially, in emerging areas such as biotech, pharmaceuticals and speciality chemicals, the new product innovation/development takes place very easily

Setting up of Chemical parks or Mega Chemical Estate, the industry may be encouraged to set up mega chemical plants that could contribute to increased production as well as employment generation.

With the help of Eco- Friendly technology, Industry should evolve clean development mechanism and emphasize on utilization of production process, where bi-product formulation is minimized and the waste generated is bio-degradable to minimize the pollution. The solvents are recycled in the process and the industry should achieve the target of zero effluent, which will go a long way to keep the environment clean.

Legislations governing the chemical industry into one Integrated Chemical Legislation. This legislation should cover the entire life cycle of chemicals. This will act as REACH like legislation for safe use of chemicals for protection of human health & environment

Keywords – fertilizers, pharmaceuticals, textiles, plastics, agrochemicals, Legislations health & environment.

Introduction –

The Indian chemical industry, 12th largest in production, is growing at an average rate of 12.5%. However, sector modernization of existing technology through foreign collaborations could further enhance growth.

According to Research analysis the Indian chemical industry in its new report Chemical Industry in India. The report researches the characteristics of the Indian chemical industry and the segments which, as a whole, make up this dynamic machinery of growth. The massive globalization and consolidation strides taken by the industry as explained in the report with the

requirement of heavy capital investment that brings in more competition and the overall focus of the industry to meet the environmental challenge.

The report delves deeper into the processes applied in the Indian chemical industry and their defining global standards thereby ensuring leadership in exports as well as attracting significant FDI in the industry. The industry's dynamics like competition, infrastructure and the regulatory policies with the reporting requirements deployed on the industry are explained by the report.

The performance and outlook of the chemical industry, particularly in the context of India's development process, depends upon and determines the trends in the overall economy. In the years to come, various new avenues are likely to arise in the Indian chemical industry like structural shifts, strategic marketing alliances for domestic sales and exports, strategic marketing alliance with multinational and trading companies.

Use of advanced technology, strong research capabilities, backward and forward linkage and development of domestic capacity to reduce dependence on imported raw materials are key success factors for Indian chemical industry. In addition safety, health and environment protection issues are becoming important challenge for the Indian chemical industry, Indian manufacturers are addressing such challenges in an organized way.

The Indian chemical industry needs to consolidate to upgrade the scale of operations required to compete effectively. This includes scale in manufacturing, logistics, marketing, R & D and raising finance.

The manufacturer should focus on the following points –

- a) high domestic demand potential
- b) low export focus
- c) cost disadvantages
- d) Fragmented industry
- e) Low levels of R & D

To make necessary changes in the above characteristics, the depth research on chemical industry is very essential.

Literature Review –

Dr. Mihaela Moisa, (2002) ,Companies that are doing affairs in B2B Field has to adapt Marketing mix variables in order to succeed. Trying to build a long term relationship with the client, companies acting in this area are using specific characteristics for the 4P'S. In B2B area, adapting the Marketing Mix to the characteristics of the field has the decisive role to create long term partnership with companies , clients and , in fact ,creating the favourable field for sustainable development.

Yikuan Lee and Gina Colarelli O'Connor; (2003) , the existing literature offers little decision-making guidance to managers on how to successfully introduce a product that exhibits network effects. The authors discuss the influence of network effects on the dynamics of market competition and on consumers' consumption behaviors. They argue that, because of these changes, the priority of particular performance objectives and the impact of specific launch strategies differ for products that exhibit network effects from what current wisdom and empirical results prescribe. These ideas are formalized in a conceptual framework and a series of research propositions.

Fok D., Richard Paap and Philip Hans Franses (2003), to comprehend the competitive structure of a market, it is important to understand the short-run and long-run effects of the marketing mix on market shares. A useful model to link market shares with marketing-mix variables, like price and promotion, is the market share attraction model. In this paper we put forward a representation of the attraction model, which allows for explicitly disentangling long-

run from short-run effects. Our model also contains a second level, in which these dynamic effects are correlated with various brand and product category characteristics.

Shruti Tripathi , (2010) , Basic Chemical Industry of India, has key linkage with several other industries . The chemical industry is diverse and heterogeneous comprising several sector that are largely unrelated to one other. The key sectors that make up the industries are – Petrochemicals , Inorganic chemicals , Organic chemicals , Fine Chemicals & Agrochemicals.

Lohana Sarika (IJRFM), 2011 – This research paper investigate the relationship between Marketing Strategy and it's impact on consumer buying behaviour . The finding shows that the product and place has an impact on consumer buying behaviour. The product and place strategies influence consumer buying behaviour. These finding suggest that consumers look for product characteristics and store location when buying the products

Objectives –

1. To study the marketing mix strategy of chemical industries in Pune district.
2. To find out the market potential of existing Fine chemical products .
3. To find out the problems in chemical industries in Pune district relevant to the marketing mix strategy.

Hypothesis –.

- 1) There is no significant relationship between price consideration & customer buying behavior to purchase the product.
- 2) There is no significant relationship between product discount & consumer buying behavior.
- 3) There is no significant relationship between product distribution & percentage increase in sale.
- 4) There is no significant relationship between product promotion & percentage increase in sale.

Research Methodology –

The data are collected with the help of Primary data as well as Secondary data. The Primary data are collected with the help of Questionnaire method, Personal interview method, Telephonic interview method. While secondary data are collected with the help of Govt. published report , Magazine , Journal, Chemical weekly & Web site.
The sample size 78 industries.

Hypothesis Testing –

Hypothesis 1

H0 .There is no significant relationship between price consideration and customer buying behavior to purchase the product.

H1 .There is no significant relationship between price consideration and customer buying behavior to purchase the product.

Level of significance: 5 %

The test statistics used for testing this hypothesis is cross tabulation (**One Proportion test**).

To test this hypothesis researcher has defined null and alternative hypothesis as follows:

H0: $p = .60$ (60 % people feel that decrease in price has positive impact on the sale)

H1: $p < .60$ (less than 60 % people feel that price has not positive impact on sale)

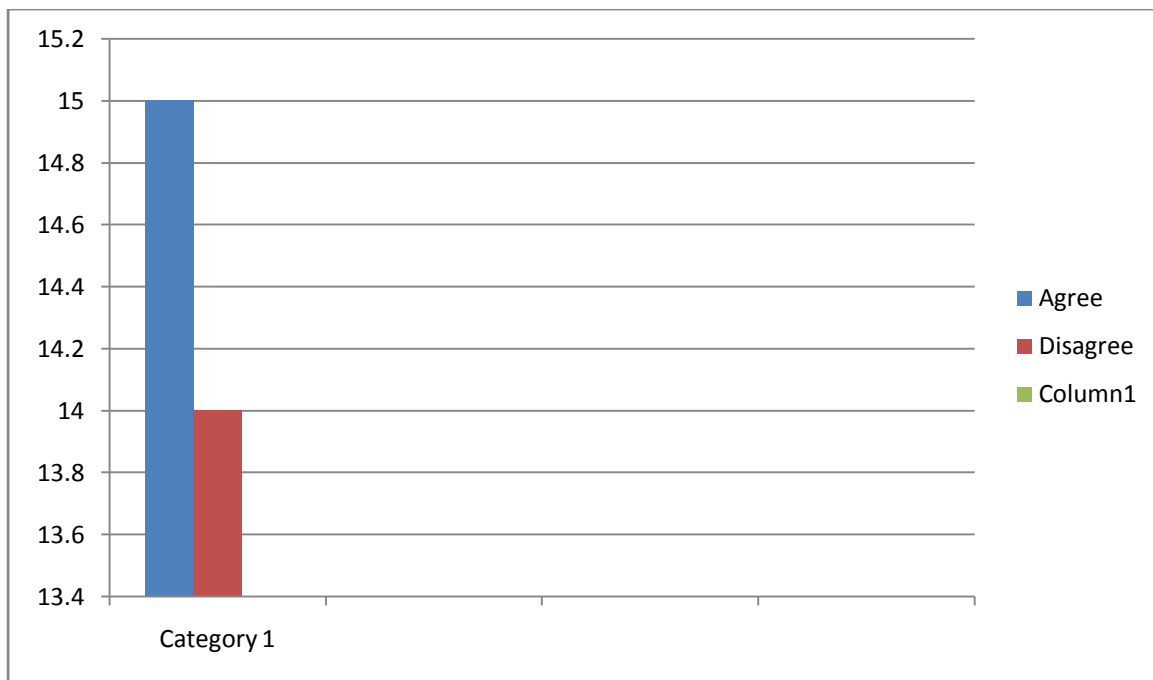


Figure 1 Decrease in price having positive impact on sale

Interpretation –

60 % people feel that there is association between price consideration and buying behaviour and 40% people feel that there is no association between price consideration and buying behaviour.

Test Statistics

	Agree disagree
Chi-Square	.828 ^a
Df	1
Asymp. Sig.	.363

Decision rule

The results of the test statistics indicates to **accept null hypothesis** as p value of the statistics is 0.363 which is more than .05. **Therefore we can conclude that 60 % people feel that there is association between price consideration and buying behavior.**

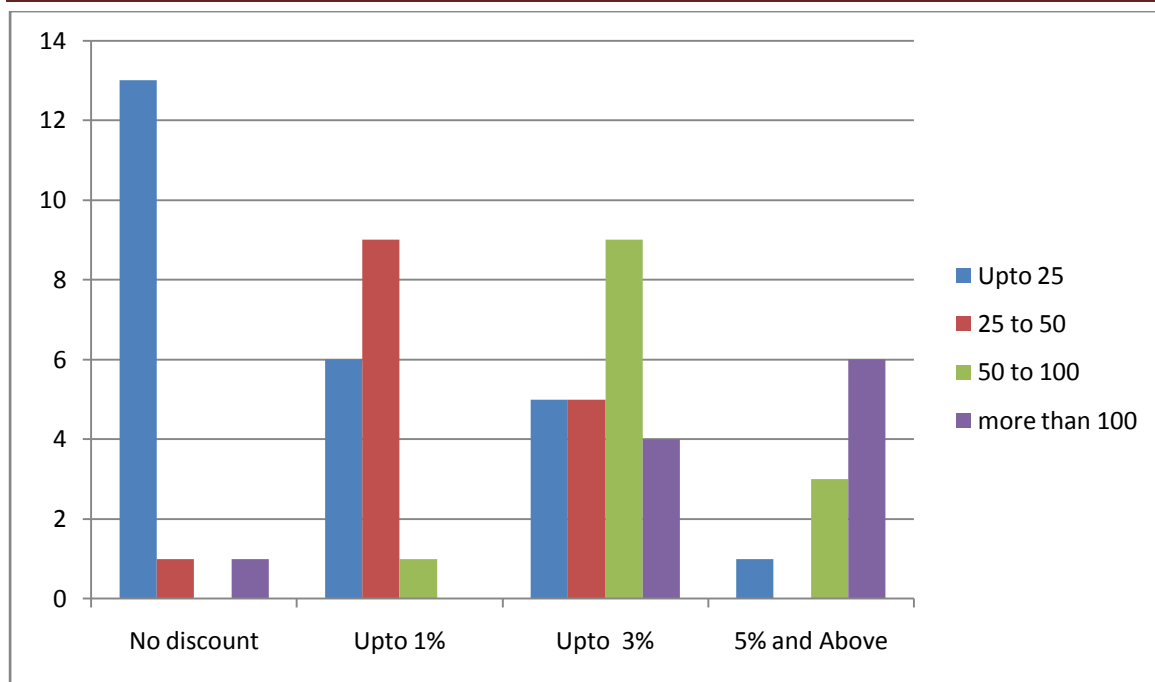
Hypothesis 2

H0: There is no significant association between product discount and consumer buying behavior.

H1: there is significant association between product discount and consumer buying behavior.

Level of significance: 5 %

The test statistics used for testing this hypothesis is cross tabulation (**chi-square test**).



Discount offered to customers

Interpretation –

It was observed that 86.7 % manufacturer are not giving discount to the customer, 37% manufacturer are giving 1% discount upto 25 customer, 21.7% manufacturer are giving 3% discount upto 25 customer and 10% manufacturer are giving 5% and above discount upto 25 customer. **Therefore it shows that there is significant association between product discount and consumer buying behavior**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	47.620 ^a	9	.001
Likelihood Ratio	49.122	9	.001
Linear-by-Linear Association	25.895	1	.001
N of Valid Cases	64		

Decision rule 1.

The results of the test statistics **indicates to reject null hypothesis** as p value of the chi-square statistics -is 0.001 which is less than 0.05. **Therefore we can conclude that statistically there is significant association between product discount and consumer buying behavior.**

Decision rule 2.

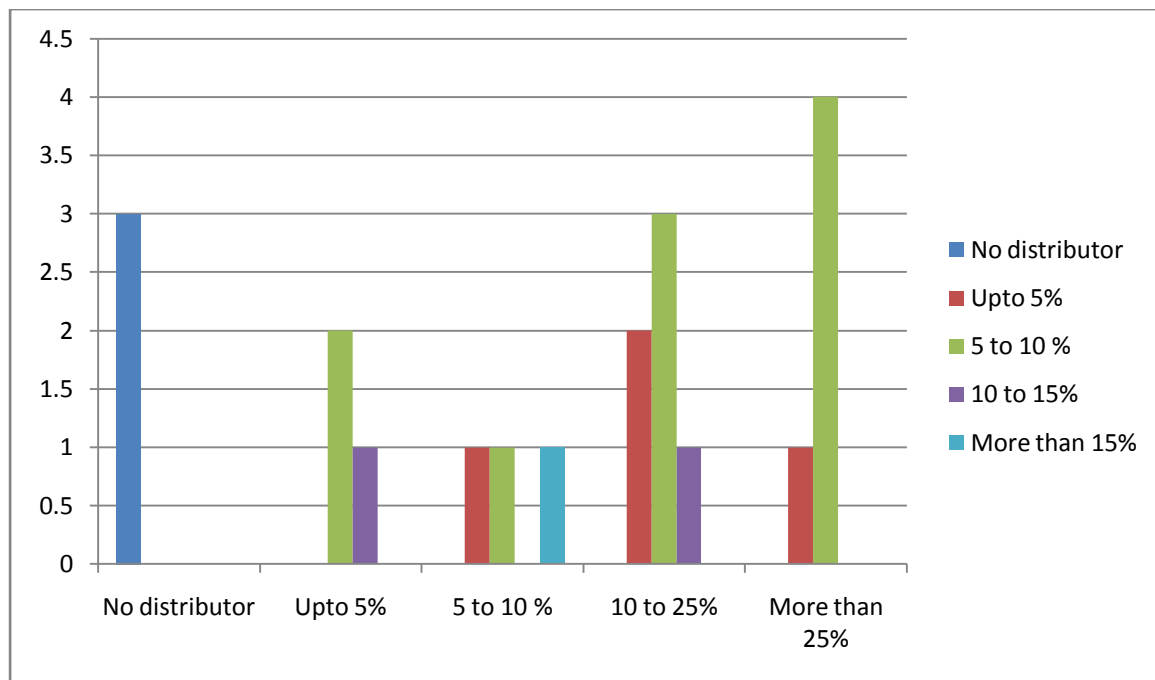
Hypothesis 3

H0: There is no significant association between number of distributors and percentage increase in sale.

H1: there is significant association between number of distributors and percentage increase in sale.

Level of significance: 5 %

The test statistics used for testing this hypothesis is cross tabulation (**chi-square test**).



No. of distributors

Interpretation -

It was observed that 40% industries have no distributor, and 60% industries have more than 25 distributors. It shows that there is no such increase in sale while appointing a dealer, it indicates that there is no relationship between number of distributor and increase in sale.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.400 ^a	16	.016
Likelihood Ratio	25.771	16	.057
Linear-by-Linear Association	2.489	1	.115
N of Valid Cases	20		

Decision rule 1.

The results of the test statistics indicates **to reject null hypothesis** as p value of the chi-square statistics -likelihood ratio- is .057 which is less than .05. Therefore we can conclude that **statistically there is significant association between number of distributors and percentage increase in sale**. Therefore we can conclude that product distribution with or without distributors has association with sale.

Hypothesis 4

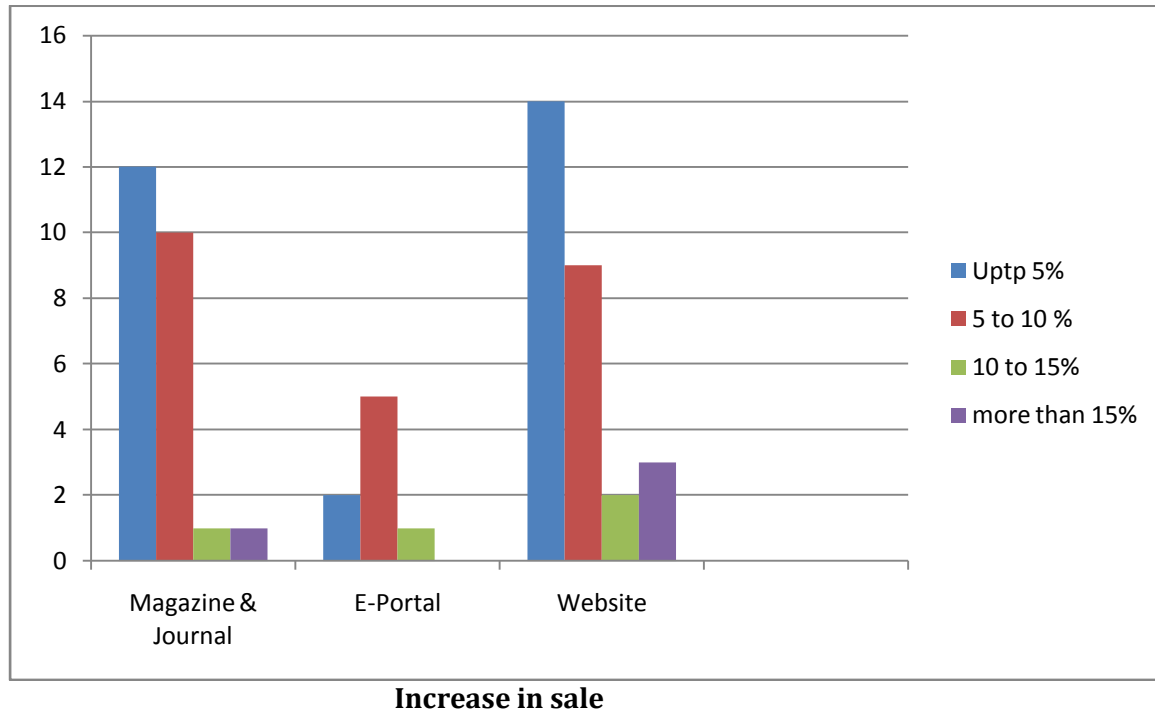
We have considered three different types of product promotion (Magazine and journal, e-portal, web sites) to test this hypothesis.

H0 -There is no significant association between magazine and journal promotion type and percentage increase in sale.

H1 -There is no significant association between magazine and journal promotion type and percentage increase in sale.

Level of significance: 5 %

The test statistics used for testing this hypothesis is cross tabulation (**chi-square test**).



Interpretation –

It is observed that 50 % companies are used web –site for promotion , 25 % companies are used e-portal for promotion and 50% companies are used magazines and journals for promotion ,maximum sale gets from web-site

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.571 ^a	3	.206
Likelihood Ratio	4.263	3	.234
Linear-by-Linear Association	3.263	1	.071
N of Valid Cases	35		

Decision rule1.

The results of the test statistics indicates **to accept null hypothesis** as p value of the chi-square statistics 0.234 is more than .05. **Therefore we can conclude that statistically there is no significant association between product promotion type-magazine and journal and percentage increase in sale.**

Findings –

Product :

- 1) 20% companies are manufacturing Dyes and Intermediates. 57 % companies are manufacturing Fine chemicals. 3 % companies are manufacturing Cosmetics. 10 % companies are manufacturing Agro chemicals and 10 % companies are manufacturing Speciality chemicals.
- 2) 7 % companies business are selling within Pune district . 22 % companies business are selling with in Maharashtra state. 52% companies business are within the country and 19 % companies export oriented.
- 3) 50% companies are preferred for good quality product, 30% timely delivery and 20% are preferred reasonable price .

Price:

- 1) 42 % companies agreed that 1- 5 % sale increases due to small change in price (upto 1%) and gain extra market share. 15% respondents agreed that upto 5-10 % sale increases due to small change in price (upto 1%). 6 % respondents agreed that upto 10-15 % sale increases due to small change in price (upto 1%) and 37 % respondents are neutral regarding this opinion.
- 2) 75 % customers agreed that product quality taken into consideration while deciding product pricing. 10 % respondents agreed that discount offer taken into consideration while deciding product pricing. 5 % respondents agreed that required service taken into consideration while deciding product pricing and 10 % respondents agreed that competitor's policy taken into consideration while deciding product pricing.

Place :

- 1) 25 % manufacturer prefer the distributors which are nearer to the customers while appointing distributor. 15% manufacturers are prefer large storing capacity(warehouse) while appointing distributor . 12 % manufacturer prefer those who having own transporting facility /capacity while appointing distributor. While 48 % manufacturer does not have their own distributors.
- 2) 12 % sale increased by appointing upto 5 distributors. 18 % sale increased by appointing 10 distributors. 22 % sale increased by appointing 25 distributors. And 48 % companies does not have distributors.

Promotion:

- 1) 95 % companies have used advertisement for improvement in sales. And remaining 5% companies are do not use advertisement as a promotional factor for increasing the sales.
- 2) Both the large scale and small scale industries various Medias for product promotion i.e Magazines & Journal, E- portal, Web sites, According to this research 50% industries are using Web site for product promotion and their sales increases by 5%. 40% industries are using Magazines & Journal for product promotion and their sales increase 5 %, and only 5% industries are using E-Portal for product promotion and their sales increase by 5 %. Rest of the 5% industries do not use any types of promotional sources, only personal contact and mouth publicity are used for product sales.

Suggestions to the Manufacturer –

1. Setting up of Chemical Parks or Mega Chemical Estates

In order to address the issue of creation of common infrastructure, the chemical industry, in association with the Government may establish exclusive Chemical Parks – a concept similar to the Software / Hardware Technology Park. It is also important to consider establishment of exclusive Chemical Zones on the lines of Special Economic Zones to give a fillip to the industry. such Parks / Zones, the industry may be encouraged to set up mega chemical plants that could contribute to increased production as well as employment generation.

2. Aggressive growth & Export Focus:

Industry needs to adopt aggressive growth with a greater focus on exports and set up capacities of global standards. Investments need to be made in the field of knowledge based chemical industry such as specialty chemicals, intermediates for agro chemicals and pharmaceutical sectors etc. The industry needs to focus on “Brand building” through aggressive promotion of exports, especially where they have “core competence”. Industries need to create an online information pool to facilitate sourcing of Indian products by customers abroad including launching of a web site. Using the internet an exporter can get some idea of export markets, information regarding market potential, usage pattern, demand, latest prices, payment structure, etc.

3. Focus on R&D:

Chemical industry needs to focus on R&D in one or multiple areas. While R&D remains universal imperative, to source intellectual as well as human capital. Such linkages may be effectively used for setting up of in-house R&D facility or for outsourcing R&D activities. The big industries like Sudarshan Chemicals , Deepak Nitrite ltd , Dai-ichi karkaria ltd, having their own well developed R & D, so that new product innovation would get possible for them and they continuously develop their new products, but small scale industries in Kurumbh , Bhosari , Bhor , Pimpri areas they don't have their own R & D lab, they are fully depends on private R & D lab or Government R & D lab or outsourcing the product.

4. Co-Marketing alliances:

In order to increase market penetration and increase their presence in select segments, companies need to enter into product specific marketing arrangements. This would benefit the Indian companies due to synergy between the quality of products and marketing strengths of MNCs who hold registrations for a number of products in different countries. Indian pharmaceutical companies have followed a similar strategy. Industry could consider alliances with Middle- East countries, which have an enormous feed stock advantage, for instance forging a long term strategic alliance between a Middle East refinery / naphtha cracking producer and a down stream Indian producer.

5. Improving Basic Management Capabilities

Chemical industries like Sudarshan Chemicals ltd, Deepak Nitrite ltd, Dai-ichi Karkaria ltd has a good record of management expertise. This could adopt a techniques such as Good Manufacturing Practices, Good Laboratory Practices, Total Quality Management (TQM), Total Production Management and Risk Management. They are more concentrate on product quality and service, like this other small scale industries in Pirangut , Kurkumbh, Bhosari area should adopt such types of technique.

6. Adhering to Environmental Norms

Since chemical substances are used in manufacture of consumer items Such as paint, glue insect spray, cosmetics and household cleaners, dyes manufacturer and chemical producers have the responsibility in promoting safe management of substances – starting from design in production to end users, and their final disposal (hazardous waste- solid waste as well effluent) proper process is required, most of the companies having their own effluent treatment plant, but small scale industries in Bhosari ,Kurkumbh area they don't have their effluent process plant , they directly drain the effluent into the river.

Recommendations

The following section lists down the key recommendations and levers which stakeholders such as industry, government and academia can use to overcome the challenges faced by the domestic chemical industry

1. Improve infrastructure

There is an urgent need to build better infrastructure and provide adequate power/ water to support industrial growth of chemicals. Infrastructure is inadequate with respect to safe transportation of products as well as proper goods storage and exports. Significant investments are needed in roads, railways, waterways, ports, warehouses etc. to support the overall industrial growth in India. Various levers could be explored to provide adequate infrastructure to the chemical industry

a. Creation of cluster/ inter-linkages map: An all India chemical cluster map could be formed highlighting linkages with roads to pipelines, effluent treatment plants, power, utilities, etc.

b. Infrastructure such as roads and ports near the SEZs/ PCPIRs could be developed.

c. Anchor companies could undertake responsibility to make raw material available for downstream units in the cluster, thereby facilitating integration of the entire value chain.

d. Facilitating land acquisition: Land acquisition is another roadblock faced by the private sector in setting up new infrastructure. States/ Centre have adequate capability to resolve the issue by coming together to develop a common policy for land acquisition and identify/ earmark areas for green-field plants .

2. Provide support for new technologies and establish technology up-gradation fund (TUF)

a. To promote investments in R&D and green technologies, fiscal incentives such as accelerated depreciation, tax benefits, subsidies etc. could be provided .

3. Implement the 6-point plan for strengthening R&D

a. Establish chemical sector council for innovation having representatives from the government, chemical companies, industry associations and reputed research/ educational institutes (e.g., NCL, ICT)

References –

1. Marketing in the Twenty –First Century – By Smith , Borden , Green
2. Marketing Management - Philip Kotlar
3. Basic Chemical Industry of India : An Analysis – By Shruti Tripathi
4. Indian Chemical Industry : Five year plan – 2012-2017
5. Handbook on Indian Chemical Industry (India Chem 2010)
6. Indian Chemical Industry : Current status – By S.R Lohokare
7. Industrial , Investment and Infrastructure policy of Maharashtra