

Business Development From Start to Scale
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Week - 04
Market and Competitor Analysis
Lecture - 17
Industry and Market Analysis

Hi friends, welcome to the NPTEL course Business Development, we are in week 4 with the theme of Market and Competitor Analysis. In this lecture the 17th in the series we discuss the topic of Industry and Market Analysis.

(Refer Slide Time: 00:27)

Industry, Market and Business Analysis

A Case Study of Specialty Chemicals Industry

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This is a case study of the specialty chemicals industry that has been conducted as part of the MBA course work in the Department of Management Studies Indian Institute of Technology, Madras.

(Refer Slide Time: 00:42)

Introduction

- Speciality chemicals are the ones used based on their performance and function – the effect chemicals or formulation chemicals
- The specialty chemicals market accounts for about 22% of the total chemicals and petrochemicals industry in India
- The specialty chemicals market is forecast to grow at a compound annual growth rate(CAGR) of around 16% over the next few years
- The industry caters to demand from different end-user industries such as food processing, textile, automotive, paints and coatings, real estate, agriculture, and home and personal care
- India ranks 14th in exports and 8th in imports of chemicals Worldwide
- Currently China is the leading manufacturer and exporter in this market

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Conducting the study of an industry is both an art and a science. It is an art because each industry will have its special characteristics and its special nuances which will be known to only those who are steep into the industrial environment. However, it is also a science because industry has its metrics, industry has its structural features that can be metricized and based on that we can understand the structure of the industry.

So, let us take the example of specialty chemicals industry which is one of the potentially growing industries in India. Specialty chemicals are the ones that are used based on their performance and function, the effect chemicals or formulation chemicals entail, the specialty

chemicals market accounts for about 22 percent of the total chemicals and petrochemicals industry in India.

This market is forecast to grow at a compounded annual growth rate CAGR of around 16 percent over the next few years. The industry caters to demand from different end user industries such as food processing, textile, automotive, paints and coatings, real estate, agriculture and home and personal care.

India ranks 14th in the exports and 8th in the imports of chemicals worldwide, currently China is the leading manufacturer and exporter of the specialty chemicals.

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What is Specialty Chemical?



Differentiation	Base/Commodity Chemicals	Specialty Chemicals
Product variety	Standardised products	Customised Products
Base for Differentiation	Pricing	R&D Capability, Quality consistency
Market structure	Large number of players	Fewer players
Switching cost	Low (Customers prefer low-cost suppliers because of standardized products)	Moderate (switching suppliers is difficult on account of a long approval process).
Core Growth Driver	Cost Leadership	Innovation-driven by high R&D
Economy of Scale	Benefit is significant due to standardised products	Benefit is limited due to higher number of low volume products



What is the Specialty Chemical? There are 2 types of chemicals one is the Base Commodity chemical, the second is the Specialty Chemical. The difference between the 2 arises from the

kind of customization that happens and the kind of company capabilities that are required to customize the product.

So, there are factors of differentiation primarily 6 the first is the Product variety, the commodity chemicals are standardized products and they are applicable for a whole lot of industries on the other hand specialty chemicals are customized products. For example, for the paint industry for the pharmaceutical industry and so on.

There is a base for differentiation in any industry in the case of several industries; we have seen that the base for differentiation varies from product specifications to pricing power to niche positioning and customer service various other parameters. In the case of base commodity chemicals as the word suggests the base for differentiation is in terms of pricing.

Whereas in the case of specialty chemicals it is the R&D capability of the company together with the quality consistency that supports specialty chemicals. Market structure any commodity industry draws in large number of players for the reasons that technology is commoditized B barriers to entry are lowered and 3 there would be opportunities for entrants to come in at different levels of production.

The market is already established for base commodity chemicals. For specialty chemicals the competition is limited, but at the same time to enter that market that it requires greater capabilities on the part of the firm. As far as the switching cost is concerned one can alter from one commodity chemical to another commodity chemical.

Customers generally prefer low-cost suppliers because of the standardized products. In specialty chemicals the switching costs are moderate one I would not say that one cannot switch one specialty chemical to the other or one manufactured to the other. However, the switching costs are moderate and there is a long approval process to get a specialty chemical listed as a vendor.

Whether it is in Indian company or whether it is a US company the core growth driver for commodity chemicals is the cost leadership. Whereas, the core driver for specialty chemicals

is the innovation driven high R and D economies of scale will have strong influence in the viability of the commodity chemicals business.

Because the products are standardized the product is amenable to higher economies of scale, but with low margins. Whereas, in the specialty chemicals the benefit of the scale is limited because, the portfolio by definition is of high variety and low volume. So, this is the characteristic of the specialty chemical industry.

Whenever you look at any product you will get this kind of classification, let us look at innovative form of molecule and generic form of molecule. An innovative form of molecule would be highly customized towards the disease pathway and there will be one at best another 5, 6 all developed by big pharma under patented monopoly.

On the other hand, the generic molecule would be a standardized product which is already developed to a product which has been approved and has been in the market for the monopoly period and is now of patent protection. The basis for differentiation in respect of the specialty pharmaceutical is in terms of the R and D innovation, the creativity and it is uniqueness in addressing the disease pathway.

Whereas the base for differentiation for commodity pharmaceuticals or generic pharmaceuticals is nothing but pricing. The market structure for big pharma is in terms of fewer players offering customized innovative products. Whereas the market structure for commodity pharmaceuticals or generic pharmaceuticals is characterized by a large number of players.

The generic pharmaceuticals business is characterized by low switching cost; the prescription is only in terms of the generic name therefore people can switch from one kind of manufacturer to another kind of manufacturer. On the other hand, in big pharma switching costs are very high because there are no alternatives available. In fact, switching itself is prohibited in case of certain products.

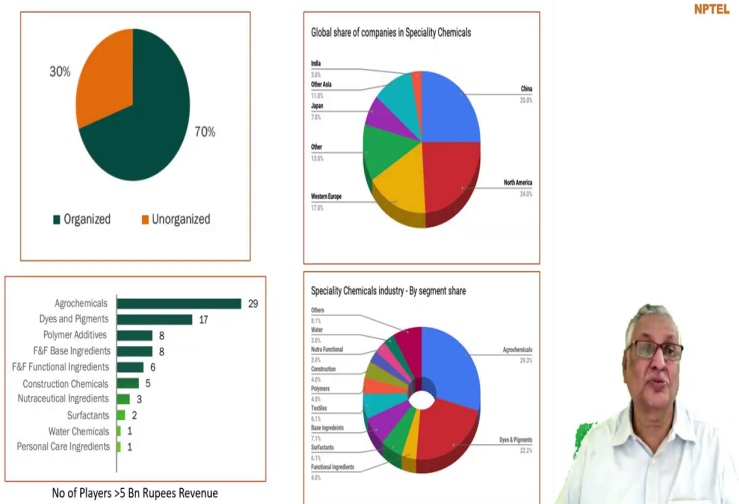
The core growth driver for specialty pharmaceuticals is innovation and clinical capability. Whereas, in the case of commodity pharmaceutical it is the cost leadership and the ability to maintain quality at low costs. Economy scale is very important for commodity pharmaceuticals they are standardized therefore high level of production can take place and any generic market explodes after the patent protection expires.

As far as the specialty pharmaceuticals or the innovative pharmaceuticals is concerned the benefit is limited because, there will be fewer companies operating in the market and the portfolio is not as broad as in the case of pharmaceutical that is in the generic career. And this differentiation can be applied between a light commercial vehicle and a medium commercial vehicle between a 2 wheeler and passenger car.

Or one type of passenger car and the other type of passenger car and so on. It can be applied in respect of a branded product such as Mercedes Benz car and done relatively less branded product such as a car which is obtaining in the market such as Skoda. So, the differences have to be appreciated and adroitly apply to different customer groups.

(Refer Slide Time: 08:29)

Global and Indian Market Overview



When you look at the specialty chemical industry 70 percent of the market is organized and why is it organized? Because of the very special nature of the chemical and also the regulatory pathway involved in approving a product also the environmental and safety concerns required that the products are manufactured with certain base level of capability and environmental compliance, 30 percent of the market is in the unorganized sector.

There are players in different sectors which require specialty chemicals, agrochemicals, dyes and pigments, polymer additives, F and F base ingredients, F and F functional ingredients both relating to the food industry, construction chemicals, nutraceutical ingredients, surfactants, water chemicals, personal care ingredients all of these are reflective of the specialty chemical end usage there are several players whose turnover is more than 5 billion rupees.

When you look at the global production and global sale of specialty chemicals you will note that China is the dominant manufacturer and North America comes very close China has 25 percent market share and North America has 24 percent market share, Western Europe comes the third at 17 percent.

So, together 66 percent of the market is catered to by the developed world and China if you add Japan the developed world has got even higher share. India is at a low 3 percent and that is why there is so much potential for the development of specialty chemical industry that is organized in a proper manner.

And in terms of the segment share for the specialty chemicals agrochemicals is the largest usage segment that is followed by dyes and pigments. And then we have a base ingredients textiles, surfactants in the 6 percent above area and functional ingredients textiles, polymers those are all other important activities which are connected with specialty chemicals.

(Refer Slide Time: 10:49)

Industry Structure – Major Players



The industry structure in terms of the major players is shown in this slide there are companies which are world scale in the Indian specialty chemical industry Atul Industries, Vinati Organics Limited, Deepak Nitrate, Aarti Industries, Balaji Amines Limited, Bodal Chemicals, Sudarshan Chemical Industries we covered.

The case studies earlier Galaxy Surfactants, Pidilite these are all companies which have got specialization in specialty chemicals. BASF is a company which has German based and it has got leadership position globally, SRF is another specialty chemical company which has taken strong position in the Indian specialty chemical industry.

(Refer Slide Time: 11:29)

Industry Structure – Major Players

Aarti Industries	<ul style="list-style-type: none">Worldwide, 75% of the portfolio is ranked in the range of first to the fourth position covering a market share of 25-40% in each case. Ranked third in chlorination, fourth in nitration and second in Ammonolysis and hydrogenation.
SRF	<ul style="list-style-type: none">Occupies more than 50% market share in domestic refrigerant market.
Vinati Organics	<ul style="list-style-type: none">Represents 65% of global market in Isobutyl Benzene and ATBS while in Isobutylene represents 70% of the market share.
Sudarshan Chemicals	<ul style="list-style-type: none">Ranked fourth worldwide in pigment manufacturing.
Atul Ltd	<ul style="list-style-type: none">Mostly focused on Aromatics with a 95% market share in p-AAI and around 75% market share in p-AA which are used in healthcare, food industry and sanitizers.
Deepak Nitrite	<ul style="list-style-type: none">Engaged in industrial intermediates and holds a global market share of around 60% in D.A.S.D.A., used in manufacturing of dyestuffs and optical whitening agents.
Naviti Fluorine International Ltd	<ul style="list-style-type: none">Engaged in manufacture of Fluorine and attains a market share of 35% in Fluorochemicals.
Galaxy Surfactants	<ul style="list-style-type: none">Has a customer base of 1750+ which includes Colgate, Dabur, Loreal etc and is spread over 80+ countries. Has 15% global market share in Phenoxethanol which is used in manufacturing of soaps and perfumes.



So, the reasons for their dominance are discussed here Aarti Industries worldwide 75 percent of the portfolio is ranked in the range of first to the 4th position covering a market share of 25 to 40 percent in each case. And the competitive advantage for specialty chemical industry players comes from their specialization in the chemistry.

This company or the industries is ranked 3rd in chlorination, 4th in nitration and second in ammonolysis and hydrogenation. SRF occupies more than 50 percent market share in domestic refrigerant market, Vinati Organics has 65 percent of the global market in isobutyl benzene and ATBS while isobutylene it has 70 percent of the market share, all because of the scale and the manufacturing process specialization.

Sudarshan Chemical is ranked 4th worldwide in pigment manufacturing, Atul Limited is focused on aromatic products 95 percent market share in p-AAI and 75 percent market share

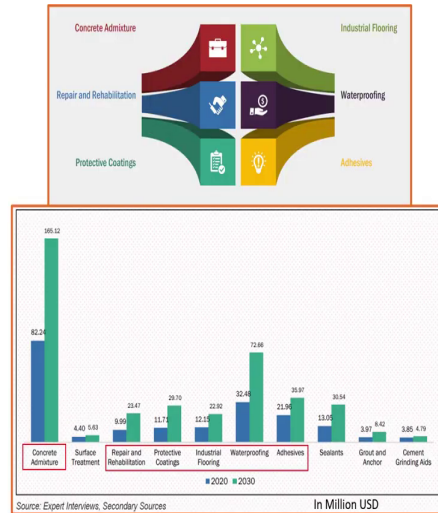
in p-AA. And these products are used in healthcare food industry and sanitizer's. Deepak Nitrite is engaged in industrial intermediates it holds a good global market share of around 60 percent D.A.S.D.A which is used in the manufacture of dyestuffs and optical whitening agents.

Then we have Navin Fluorine International Limited which is engaged in manufacture of fluorine and attains a market share of 35 percent in fluorochemicals. The fluorochemical chemistry that is the specialty of Navin Fluorine has the title itself indicates. Galaxy surfactant has got a range which has very high customer base.

It has a customer base of 1750 plus which includes most tooth plays players and chemical product players such as Colgate, Dabur, Loreal etcetera and it is spread over 80 plus countries has a 15 percent global market share in phenoxyethanol which is used in the manufacture of soaps and perfumes.

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Construction Chemical Types



There are many chemical types as I said Construction Chemicals is one of the chemical types, as you can see from this chart construction chemicals themselves or in terms of different categories. We have chemicals which go into the concrete admixture, chemicals which help us in repair and rehabilitation you would have seen advertisements saying that application of this chemical will reduce or remove water seepage.

Then you have protective coatings what you apply on the steel structures, mild steel structures and various other structures where which need rust protection or decoration then you have adhesives PI industries products are all adhesives, Pidilite industry products are also in the range of specialty chemicals providing several of these kinds of products.

Waterproofing is an important application of construction chemicals, water proofing is done before the final cementing of the terrace is done through tiles, then you have industrial

flooring particularly. The factory floors which have epoxy coatings when you look at the turnover the growth is expected to be in several segments, concrete admixture is likely to have 2 X growth.

Similarly, waterproofing would have 2 X growth. In fact, the number of segments which are going to have 1.5 to 2 X growth is indeed large repair and rehabilitation, protective coatings, industrial flooring, waterproofing, adhesives are all likely to have 1.5 to 2 times the growth. Sealants are also extremely important although their turnover may not be as high.

So, the message which comes from this chart is that every segment of specialty chemical industry does offer it is own scope. Therefore, understanding of the structure at the overall specialty chemical industry level as also at the sub industry level is important for strategies.

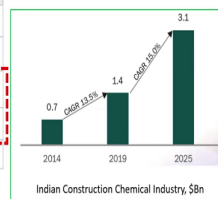
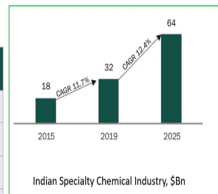
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Specialty Chemical Industry – Market Size



Segment	Market Size (USD bn)	2014-2019 CAGR	2019-2025 CAGR	Entry Barriers	Product Diversification	Presence of Indian players	Est. market growth potential	Overall Impact
Agrochemicals	9.2	10.0%	12.0%	H	M	H	M	●
RAF and Nuts Pigments	2.4	16.1%	17.1%	H	H	H	H	●
Dyes and Pigments	7.0	7.8%	10.0%	M	M	H	M	●
Personal Care Chemicals	1.0	15.5%	15.0%	H	H	L	H	●
Surfactants	2.0	6.4%	11.0%	M	M	L	M	●
Textile Chemicals	1.8	10.4%	11.5%	M	M	L	L	●
Construction Chemicals	1.4	13.5%	15.0%	H	M	L	H	●
Polymer Additives	1.3	12.8%	10.0%	L	M	M	M	●
Water Chemicals	0.8	14.9%	15.0%	H	M	L	H	●

H - High, M - Medium, L - Low



Let us look at the market size of the specialty chemical industry in terms of the segments of the various constituents in terms of the size of the market agrochemicals lead the field. It has got 9 billion dollar market size with a CAGR of 12 percent that is forecast and are there entry barriers yes they are high is it required to be specialized in terms of product portfolio medium.

The presence of scaled up Indian manufacturers there are many companies which are specializing in agrochemicals. In fact, that is the first category of specialty chemicals that has taken off in India, then is that growth potential in the end market certainly, yes. Is this attractive again as the full black circle indicates it is fully attractive.

When you look at the F and F and Nutraceutical segments the market size is not as high as the agrochemicals, but the growth rates are high. The potential to enter this market is challenging because of the nature of the end products which require highest level of purity and human safety, but the overall attractiveness is high.

When you look at the dyes and pigments segment you will find that the market size is pretty attractive at 7 billion dollars, but the growth rate is not as high as what exists for the F and F and neutral segments. The entry barriers are medium product specialization medium presence of scaled up players is very high and end market growth potential is medium. Yet because of the share market size it is attractiveness is high.

Personal care chemicals are the ones which are going into the perfumes ingredients, lipsticks, balms and so many other things it is a growing market 15 percent is the forecast CAGR. Where the entry barriers are high, so are the product specialization barriers the presence of scaled up Indian players is pretty low and the end market growth potential is high it is also an attractive industry to operating.

Surfactant is a product which goes into toothpastes and other hygiene products; market size is relatively better than personal care chemicals, but much lower than the agrochemicals at 2

billion dollars. The growth rate is poised to pick up in the years to come entry barriers are of medium scale and product specialization is also of medium scale.

There are not many companies present in India in this segment and the end market growth potential is also as per the growth potential of the segment. Therefore, is it fully attractive not really, but at least 75 percent it is attractive. When you look at textile chemicals it is again a medium sized market with reasonably high growth of 11.5 percent with different characteristics on the industry structure.

Construction chemicals is another high growth market, but low volume base. It has got high entry barriers and high-end market growth potential, but has opportunity to enter, because not many companies are present in this industry. Polymer additives is another specialized area which has a market size of 1.3 billion dollars and a growth rate of 10 percent it has got it is own varying entry barriers etcetera.

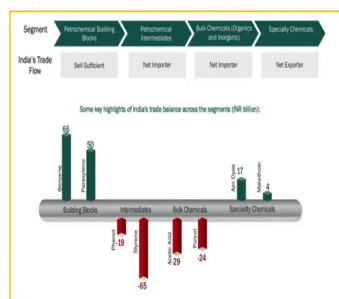
It is not as attractive as the rest of the chemical industry constituents. Water chemicals again is 75 percent attractive because although the volume base is low or the revenue base is low it has got high growth potential, it has high entry barriers, it has attractive because not many players are present in this segment and market growth potential is also high.

So, when you call characterize a particular industry and it is segments on the basis of key factors of structural strength entry barriers, product specialization, presence of scaled up, Indian players, end market growth potential you can understand which industrial segment is appropriate for entry and that decision is also subject to the kind of technological and intensive capability and investment capability that you have.

So, when you look at the overall Indian specialty chemical industry it has been consistently growing and it can be expected to be doubling every 6 years or so. And within that the construction chemical industry is also following a similar pattern of doubling every 6 years or so.

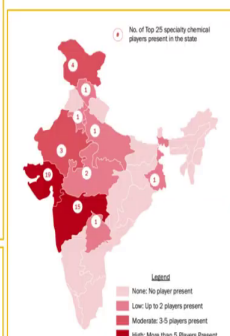
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Indian Specialty Chemical Industry - Spread



Key Characteristics of Indian Specialty Chemicals Industry:

- Strong export presence
- Strong growth potential in domestic market
- Lower focus on R&D activities
- Emergence of business focusing on sustainable chemistry



So, what is the spread of the Indian specialty chemical industry, the specialty chemicals do not happen by themselves they require other building blocks which come from petrochemical building blocks, petrochemical industrial intermediates, bulk chemicals organic and inorganic.

So, if you want to look at the entire value chain from the beginning of the petro product manufactured to the specialty chemicals delivery, you will find that the petrochemical building blocks are the ones where we have self-sufficiency. In the case of intermediates, we are a net importer getting several of the intermediates from China.

When you look at the bulk chemicals organic and inorganic here again China scores high in terms of the exports to India and in terms of the specialty chemicals despite the import dependence on China we are able to export our finished specialty chemicals. The situation is

same in respect of the pharmaceuticals as well we are dependent on China for a number of APIs and a number of intermediates.

Yet we are able to have export of formulations to a much greater level than China has been able to get. The trade balance of these classifications of the value chain is demonstrated here, you have building blocks at positive trade balance, specialty chemicals at the positive trade balance, but intermediates and bulk chemicals being at the negative trade balance.

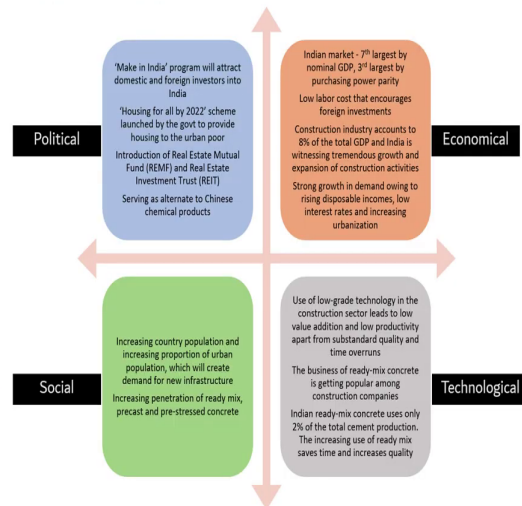
So, the key characteristics of the Indian specialty chemicals industry or in terms of strong export presence. Strong growth potential in domestic market, lower focus on R and D activities emergence of business focusing on sustainable chemistry. Sustainable chemistry is one of the very intrinsic and essential feature of the specialty chemical industry.

Whoever is able to provide green chemistry or sustainable chemistry is likely to find favor with the global buyers. When you look at the dispersion of the industry you will find that the western part of the country has got the maximum concentration of the specialty chemical manufacturers, followed by the state of Gujarat and then you have got Madhya Pradesh and Northern India having this level of specialty chemical presence.

Industry clustering is also one of the important aspects of study of the structure of an industry.

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Strategic Positioning - PEST Analysis



So, how do you do strategic positioning for the specialty chemical industry? Politically the make in India program is going to attract lots of domestic and foreign investors into India, housing for all by 2022 scheme and its extensions will provide housing to the urban poor. The entire infrastructure and construction expenditure is going to lead to higher demand for specialty chemicals.

Introduction of real estate mutual fund and real estate investment trust will shift towards more formal methods of construction, therefore much better regulated and much better developed raw material ingredients of it is specialty chemicals is going to be an important ingredient. And the China Plus One with specialty chemicals serving as an alternate to Chinese chemical products is going to also influence the growth of this industry.

In terms of the economical aspects Indian market is the 7th largest by nominal GDP third largest by purchasing power parity, we do have low labor cost which will encourage foreign investments. Construction industry itself is a huge industry it accounts for 80 percent of the total GDP and we are expected to have even more impressive growth in the construction industry.

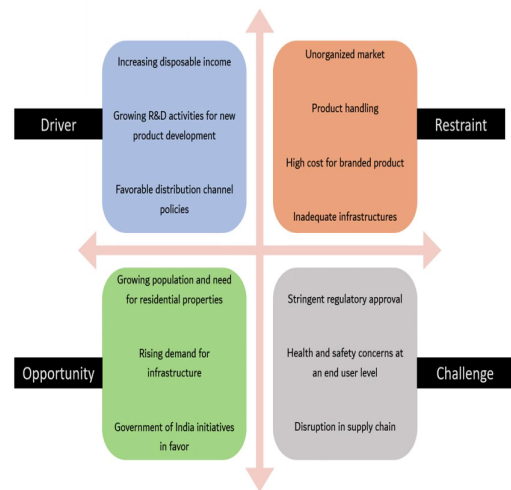
Rising disposable incomes low interest rates and increasing urbanization will also be the factors which are going to give a feel to industries, such as construction and real estate. In terms of the social factors increasing country population increasing proportion of urban population that is urbanization, these will create demand for new infrastructure and increasing penetration of ready to use ready mixed concretes, precast and pre test concrete is going to lead to a different way of construction.

And this will give flip to the specialty chemicals, because they have got a big role in terms of binding capability of these cements. Then in terms of technology there is a technological gap construction companies still use low grade technology in the construction sector and this has led to low value addition and low productivity apart from substandard quality and time overruns.

The business of ready-mix concrete is getting popular amongst construction company's Indian ready-mix concrete uses only 2 percent of the total cements production. So, you can imagine the kind of scope which is there in the construction business for specialty chemicals. The more the ready mix is used the more the cost efficiency and safety of the construction industry and that would be a trigger for the growth of the specialty chemical industry.

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Strategic Positioning - DROC Matrix



So, how do you position this product the drivers, the restraints, the opportunity and the challenge the drop model. The drivers are increasing disposable income growing R and D activities for new product development and favorable distribution channel policies, because the distribution system is itself evolving from the traditional wholesaler, retailer kind of distribution market we are going to have strong CFAs and strong distributors, but lot of activity at the retail level to generate the demand.

Similarly, you are going to have channels such as modern trade and digital channels taking over some of the aspects of traditional, distribution this is going to be a driver. The restraints are in terms of the largely unorganized market which still exists, therefore the cost advantage and the dynamism they display. The product handling capabilities within the industrial system does not seem to be fool proof.

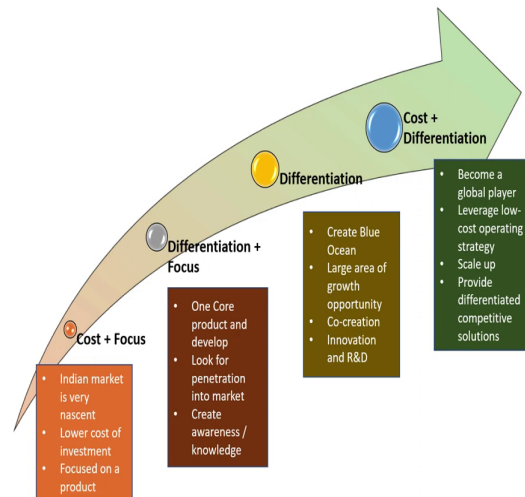
There is lot of leakage and wastage the high cost for branded product is always compared with the low cost of the unbranded substitutes and the inadequate infrastructures be it the road transport or the ports or the intermodal logistics terminals, there is something more that needs to be covered in terms of the futuristic development.

The opportunities are certainly there growing population and need for residential properties, rising demand for infrastructure with the new kinds of public buildings or dams and things like that and the government of India initiatives in respective of new factory constructions PLA schemes and so on. The challenge is to get the stringent regulatory approvals in India as well as abroad.

There are health and safety concerns at the end user level, what kind of chemicals are being used are those chemicals going to be released into the environment as the products are used and is there any cancerous effect because of that and the disruption in supply chain. So, the chemicals are expected to go through the same kind of testing rigor and assurance that a typical pharmaceutical ingredient must go through.

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Competitive Strategy For Growth



So, what is the competitive strategy for growth? We have looked so far at the structure of the industry and the various parameters that define the structure there are 4 types of competitive strategies that could be adopted by this industry. One cost plus focus Indian market is still very nascent at just 3 percent of the global market, there is a comparatively lower cost of investment in India.

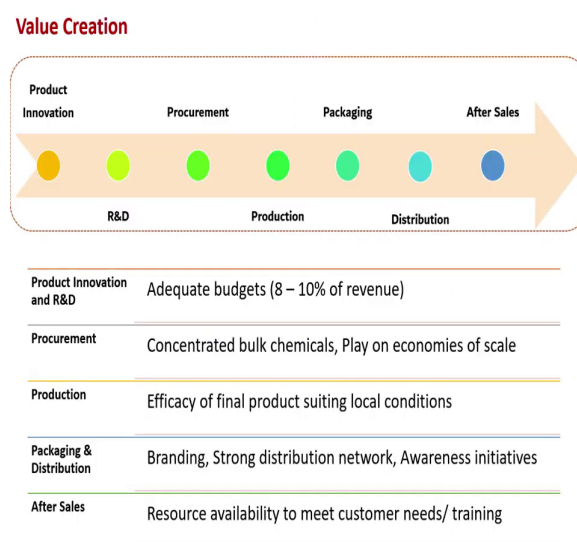
And when you focus on a single product or a single product cluster you will be able to implement cost advantage plus focus advantage strategies. You can also achieve differentiation plus focus you take one core product and develop look for penetration into market, create awareness and knowledge this happens through differentiation and focus.

SRF is a classic example of focusing on one type of product and assuming a leadership position in that product. Next you have the differentiation strategy where you create a blue

ocean strategy develop a large area for growth and co create the experience with the customers and finally base yourself on innovation and R and D to be able to drive growth.

Finally, cost less differentiation become a global player leverage low-cost operating strategy, scale up the operations provided the demand exists then provide differentiated competitive solutions to the customers.

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So, the value creation vision for the specialty chemical industry is as follows in terms of 3 main blocks of the value chain, the first R and D you got to start with product innovation and then product development. Production includes procurement the actual production and packaging and there again there is scope for value creation and later on distribution comes and then after sales comes.

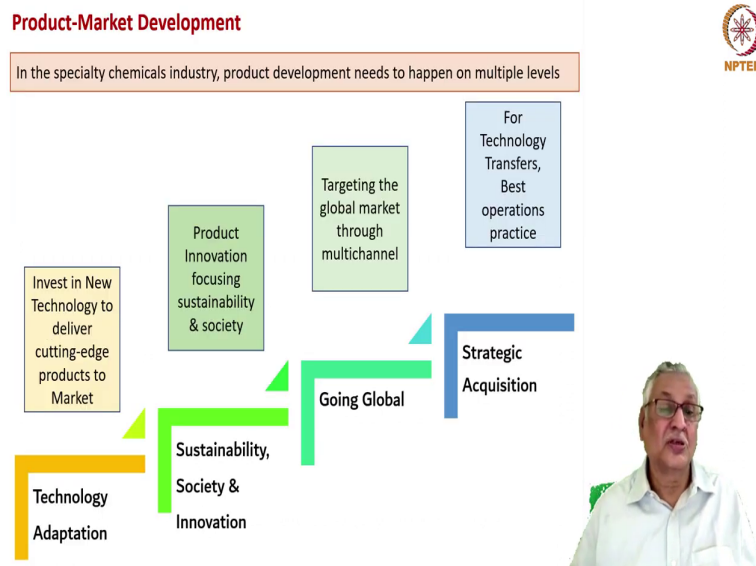
So, for product innovation in R and D you need to have budgets which are internationally competitive Indian companies tend to spend around 1 percent of their budgets on R and D expenditures. However, for a specialty chemical industry to be globally competitive you need adequate budgets of the range of 8 to 10 percent of revenue.

The procurement is also very important, procurement of concentrated bulk chemicals and the play on economies of scale that is if you are a high scale specialty chemical manufacturer you would be able to get better pricing and also assured supply from the concentrated bulk chemicals.

Production efficacy in terms of the final product suiting local conditions is another important consideration, the specialty chemicals have to be packaged well they should be weather proof and they should be leak proof, they should be visually appealing and they should be able to handle the rough handling that happens in multimodal transport or in cross border transport.

Therefore, branding strong distribution network and awareness initiatives are very much required for good transportation practice in this product range. After sales service is important because these are the resources that will bring additional sales for the company, so resource availability must be ensured to meet customer needs and customer training.

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Product market development will similarly be stair cased it has to happen on multiple levels. Technology adaptation happens in terms of investing in new technology to deliver cutting edge products to the market, sustainability, society and innovation appears through product innovation focusing on these parameters.

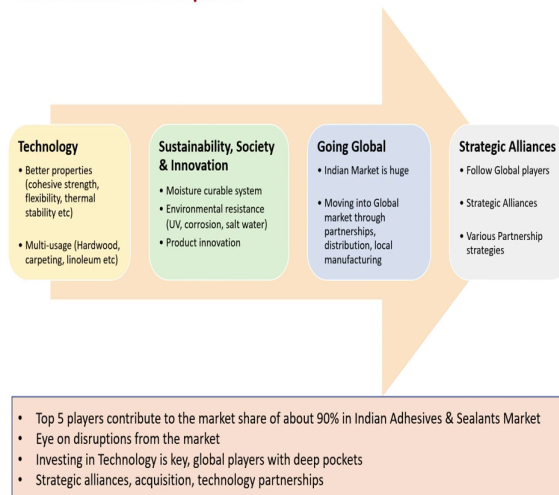
Globalization is possible when global markets are targeted through multi channel thing, you need not go in this starting phase directly to the US market and try to sell this product to all the users. Instead you may take up a channel that is going to be helpful in distribution, you can have a strategic alliance with that partner.

And then understand the market start producing products that are relevant for the market and at some point of time decide that you would be standalone. And finally in order to reduce the time of growing in a market and also to take advantage of the vacuum that is getting created.

Because of the China one policy you may like to go in for strategic acquisition and that helps not only in terms of capturing the market gap, but also in terms of providing access to technology transfers and best operations practices of the companies that are acquired or aliased with in the developed world.

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Product-Market Development



So, what are the specific features of product market development? Technology rules the roost the chemical has to lead to better properties cohesive strength, flexibility, thermal stability etcetera. It should be capable of multi usage hardwood carpeting and linoleum etcetera in the

past we used to have paints which are dedicated for wooden surfaces, paints which are dedicated for steel surfaces and so on.

Today we have paints that can be used for all the types of surfaces. Sustainability society and innovation you should have systems which will take away the pain points of chemical production and distribution, you need to have moisture curable systems, you should have environmental resistance built into the chemicals technical specification profile, against ultraviolet, corrosion salt water

And you name them it should be happening because. Specialty chemical is the first protective coat that is applied over the product then product innovation. Going global Indian market itself is huge should we move into the global market yes we must, because when you move into the global market you try to understand you get to understand the latest technological trends that are prevailing in that market and that helps you diversify upgrade your product range and meet the requirements seamlessly.

Strategic alliances are very much required in this industry it is no time to rediscover the wheel as for the specialty chemical industry is concerned. You got to follow the global players; however, you should put your stamp of contribution through strategic alliances as well as various partnership strategies.

As a matter of interest top 5 players in the industry contribute to the market share of about 90 percent in the Indian adhesives and sealants market. There could be disruptions from the market because whenever a company is in the exalted position of high market share there is always going to be competition from the lower end of the market. So, one should keep an eye on the disruptions for the market.

Investment in technology is the key because global players are operating in this industry and they have huge huge deep pockets. Then a clever way of expanding the business while the going is good or going is the tough comes from your ability to have strategic alliances

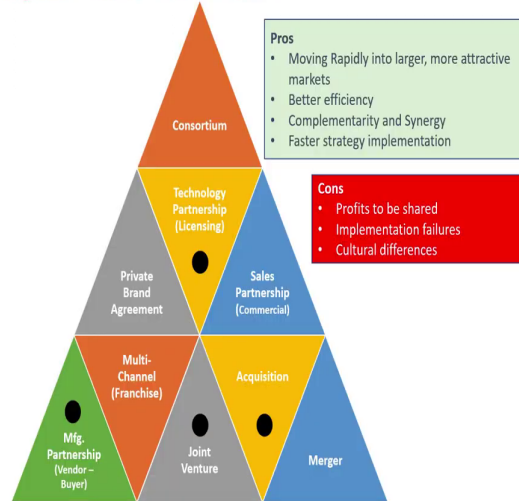
acquisitions technology partnerships and things like that that is where the automobile industry has succeeded in terms of continuously accessing technology.

To the level that it is almost self-sufficient Euro 6 engine is supposed to be very challenging to develop, therefore Ashok Leyland has given the task to a reputed design studio outside. However, the company also has developed its own Euro 6 range and that has provided great strength to the company in navigating through the adverse market conditions of the COVID times as also the new demand escalation times or the current times.

So, the ability to do strategic alliances acquisitions technology partnerships and so on, is vital to the profile of a strategies undertaking product market development in the specialty chemical industry.

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Strategic Alliances – Domestic & Global



So, what kind of strategic alliances could exist? You could have a consortium, you could have technology partnership which is the most well-known licensing, you could have private brand agreements, you could have sales partnership, you could have multi channel partnership and you could have acquisition partnership.

In terms of the operations, you can have manufacturing partnership vendor buyer relationship, you can have joint venture and finally you can have venture. Each of these aspects will be discussed by me in subsequent slides, but suffice it to say that this entire value chain of specialty chemical manufacture can be segmented.

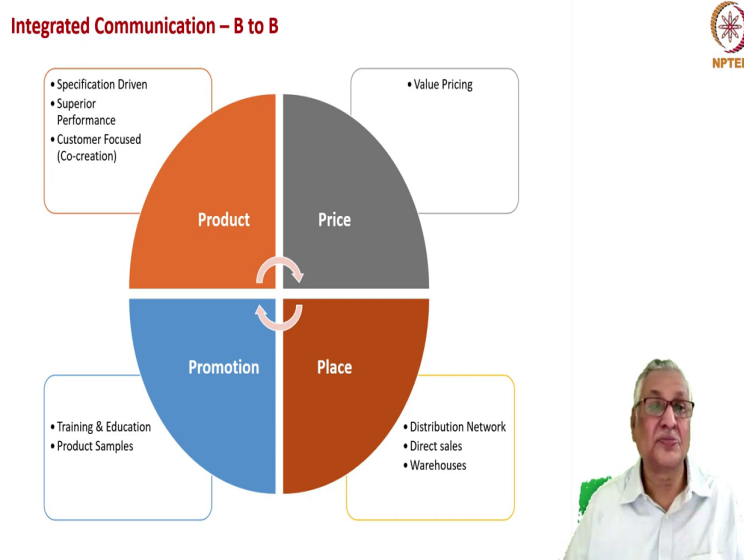
And the right alliances and right market arrangements as well as right integration arrangements can be found based on a deep study of the industry structure as well as the supportive industry structures. The pros of alliances are very clear it helped the company move rapidly into larger and more attractive markets.

They ensure better efficiency there is complementarity and synergy and finally there is faster strategy implementation, the cons are that you got to share the profits. If you look at the previous model wherein you supply the product to a generic distributor and then price it at cost plus, plus being very marginal 10 percent.

And then the overseas marketer applies his or her own generic distribution margin and then shares the profit, the profit obviously is lower than what you would have got had you put your foot in that market. However, there are other qualitative aspects which are involved in making those decisions, that is why I said that business development in specialty chemical industry or any other industry is as much an art as a science.

Ultimately the chemistry you have with the management of that company as well as the promoter of that company is going to be the clinching factor in terms of the viability and workability of strategic alliances.

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Once you decide to be in the specialty chemical industry with the kind of network supports that are going to be in place, you require integrated communication on a B 2 B basis. Because most of the specialty chemicals go directly to the businesses be it the core distributorship or the OMCs for the biodiesels the shift is essentially in terms of integrated communication.

The product based integrated communication must be specification driven must highlight superior performance and it must be customer focus. The specialty chemical industry has the opportunity to co-create use of these chemicals in various industrial activities. The second one would be pricing value pricing; it is not the lowest cost pricing. But it is value pricing and the third is the place where you would like to keep your products.

The distribution network the direct sales at the warehouses are the key places, where you keep your products and finally promotion is in terms of educating the customers in terms of their

requirements, educating the customer in terms of the capabilities of the firm and providing product samples which they could try out. The group believed to the extent they were experience that this kind of model will work very well with the specialty chemical industry as well.

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Integrated Communication – B to C



Suppose your product is a B to C product that is a specialty chemical which serves day to day pharmaceuticals or a specialty chemical which supports the writing pens, which supports the typewriting work, which supports academic activity in general. You will find that the level and the intensity of collaboration competition are directly and overwhelmingly different.

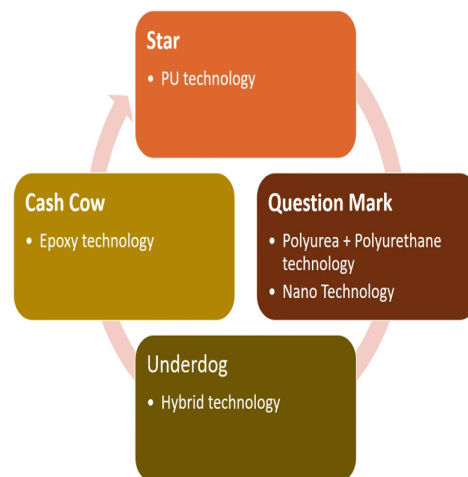
So, at a product level you will have a diverse product portfolio based on the strong R and D that you have. Price will of course, be based on penetration pricing, but the better quality will be offered along with the lower price compared to small players. In terms of the place the

traditional distribution system will continue to be in the mainstay wholesaler's retailers on one hand and hypermarkets and supermarkets on the other.

So, this kind of differentiation is something which is going to help the people who have started the industry, but are not able to scale it up to global standards nothing is lost. These are the 4 features that are available to explore and take the right landings. Then promotion comprises, Ad campaigns, social media, brand awareness and similar marketing applications that companies adopt.

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Pricing (BCG) Example - Protective Floor Systems

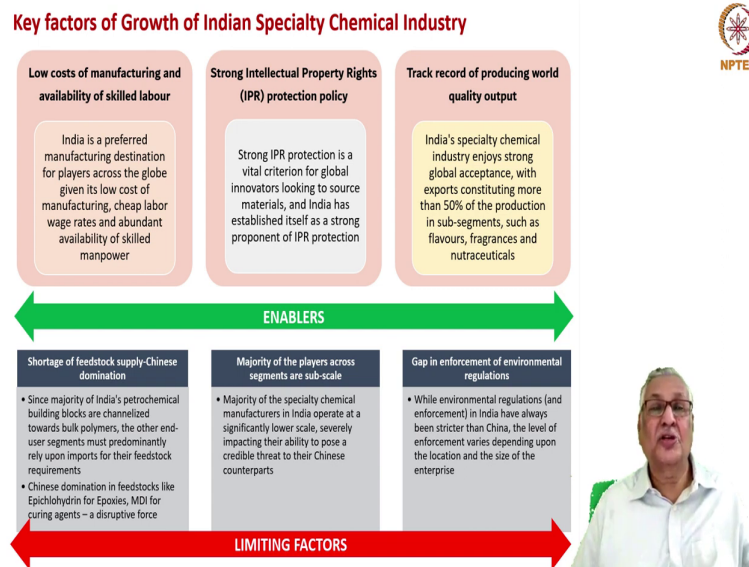


To get at pricing you need to understand what is being contributed by what product? So, in the specialty chemical industry and in the subs segment of that industry namely protective floor systems, you have got star products such as covering products which use PU

technology, you have cash cows which use Epoxy Technology, you have question marks which use combinations of polyurea and polyurethane technology.

And those products could be the blockbusters for the Indian specialty chemical manufacturers and those who lead the sales and marketing effort for those kinds of products are likely to be the winners in the career competition. And of course, you have underdog which is hybrid technology which carries and makes a mishmash of all the available technologies all the available marketing approaches and really does not know where you really need to go in terms of handling that product.

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There are key factors of growth for Indian specialty chemical industry, we must be happy about the likely growth potential. The first low cost of manufacturing and availability of skilled labor there is no doubt that the world looks at India as a preferred manufacturing

destination. They were looking at India only as an it hub, today it extends to manufacturing destination approach and tomorrow it could extend to the R and D activities.

Low cost of manufacturing cheap labor wage rates and abundant availability of skilled manpower or the assets which need to be protected and projected as we move forward. Second strong intellectual property rights IPR protection policy. From filing process returns and challenging product patents in the 1970 India has come a long way for a unified patent regime which includes product patents, process patents and various other patents.

And also, it has got a very clear demarcation of responsibilities of the site the quality and the consultants and the site has to take care of the quality production at the site level. And the enablers for this are many and those enablers have to be understood when we come to the enablers, the Indian specialty chemical industry also enjoys strong global acceptance as much as 50 percent of the production is exported.



It is exported as ingredients for flavors, fragrances and nutraceuticals, the track record of producing world quality output speaks for itself. But there are issues there is a shortage of feedstock supply which is dominated by China. So, the majority of India's petrochemical building blocks or channelized towards bulk polymers, the other end user segments must predominantly rely upon inputs for the feedback and feed forward.

Chinese domination in feedstock's like epichlorhydrin for exports MDI for curing agents which is a disruptive force is to be taken into account. And if these shortages and the nomination impact or not addressed Indian chemical industry despite the local investments may find itself at the end of the journey.

Therefore it is important that the business development must focus as much as on a external demand as it focuses on internal demand and of course together with the causative features. Majority of the players are subscale in this segment which is one of the reasons why the companies which I have mentioned here have all the possibilities to become number 5 growth makers provided they play their game well.

Then you have gaps in the enforcement of environmental regulations, Indian environmental regulations have always been stricter than China; however, the enforcement varies depending on the location and the size of the enterprise. For example, the regulation relating to the release of toxic fumes and diesel fumes and chemistry fumes to market has got its own deleterious implication on the product that you have.

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Summary

- Shift in customer preference**
 - Customers are increasingly getting interested in environmentally friendly and socially responsible products and services. Moreover, they are becoming conscious of health and hygiene and are demanding milder and safer products with pure ingredients
- Increasing per capita consumption**
 - The current per capita consumption of chemical products in India is about one-tenth of the global average and is expected to double by 2025
- Digitalization and Industry 4.0**
 - Digitalization offers competitive advantages through improved horizontal and vertical integration, a new definition of operations management, and innovation and new digital business models. Chemical companies are implementing digitalization initiatives and tools in their supply chains, demand planning and pricing strategies
- Increasing M&A and investment-related activity**
 - Downstream value-added opportunities, the continued strength of specialty chemicals and realignment of portfolios are the key drivers of strong M&A and investment activities
- 'China Plus One' strategy**
 - Consolidation in the industry, environmental reforms and tightened financing is changing the structure of China's chemical industry, resulting in uncertainty for companies dependent on the country for their supply of raw material. In addition, the COVID-19 outbreak has compelled companies to move their supplier base and look for alternative locations such as India that offer the advantage on low-cost labour and favorable investment policies
- Innovation and sustainability**
 - Adding value by balancing the economic, social and environmental impact of the pandemic is becoming an overarching management principle in the chemical industry value chain. Chemical companies are incorporating sustainability and green-chemistry initiatives by constantly improving products, technology and processes, and working closely with customers and suppliers across their value chains

So, in summary we can think of 6 factors there is a clear shift in customer preference, customers are increasingly getting interested in environment friendly and socially responsible products and services. Chemical product by definition is not environmentally friendly and socially responsible, they affect the environment together and they are also challenging in terms of the workplace safety.

However, most companies are now becoming conscious of health and hygiene and are demanding milder and safer products with pure ingredients, because this is where the trend of the world is also going. Second increasing per capita production, the current per capita consumption of chemical products is just one tenth of the global average. Therefore, there is a huge potential to double this consumption.

And this offers great scale up and scope of opportunities for the specialty chemical industry. Digitalization and industry 4.0 is another thrust area we can have horizontal and vertical integration a new definition of operations management, participation in reverse actions and digital auctions and creation of new digital models overall.

Chemical companies are implementing digitization initiatives and tools in their supply chains, demand planning and pricing strategies. Whenever you deal with a fluid be it the oil or the chemical, there is the potential for leakage, that leakage could be due to the nature of devices used transportation used or by deliberate fraudulent activities.

Digitization helps in providing things like digital seals and ensuring seamless transportation from the ship to the factory and from the factories to the various distribution end points. There is also going to be increasing M and A and investment related activity.

As you would have seen this is a scale intensive industry the greater the scale, you have the greater the specialization, you have you would have greater capability to operate in the global markets. Therefore, there are enough downstream value-added opportunities which could increase the strength of the Indian specialty chemical industry.

Therefore, companies must look at realignment of portfolios from time to time and these would be drivers for strong M and A and investment activities of all the factors. China Plus One strategy is the most important one. Consolidation in the industry environmental reforms and tightening finance is changing the face of China's chemical industry.

This has resulted in uncertainty for companies dependent on the country for their supply of raw materials, 24 percent from the United States is dependent on this. Similarly, from the Western Europe a huge demand position exists, Japan has got a huge demand position.

Almost 70 to 75 percent of global chemical demand from the developed world can be catered to by India which means that there would be unimaginable increase the scope scale and extent of the specialty chemical industry. In addition, COVID 19 kind of outbreaks have different impacts in different areas of the world.

Right now, China is locking down on it is industrial production and slowing down on it is economic growth because of it is 0 COVID policies and that has got implications for India in terms of ramping up it is production. And that must not be linked only to the pandemic, but it should be linked to the sustainable factor advantages and production advantages of the Indian specialty chemical industry and that alone will attract investments into this and in doing so we must protect our low-cost labor image.

Then we have innovation and sustainability which could offer significant capability. Companies are going to invest in India not merely because of the labor cost arbitrage or just as hedging option against China. But essentially for taking the product portfolio into the future, that is where R and D and innovation on the part of the Indian specialty chemical industry would come up.

We have to move up the value chain from low innovation products to high innovation products, while incorporating the considerations of sustainability and green chemistry and this will lead to continuous improvement in products, time to time breakthrough disruptions in the products and greater manufacturing process controls as well as safety controls.

And this once it happens through interactive customer management and suppliers across the value chains would provide a strong foundation for the specialty chemical industry of India to take up the next journey. Therefore, anyone who is doing strategy has to understand the

overall environmental factors, the structural dynamics of the industry, the strategic positioning that is possible for different types of companies.

And the drivers for the strategy to be a sustainable strategy and the approach to achieve competitive advantage of such strategies. Therefore, the strategies has to understand the industry in all it is breadth and depth and make the decisions on the requirements on the growth and that is how you make your decisions, towards vertical integration, towards expansion towards diversification in capital intensive and technology intensive industries.

Such as specialty chemicals where we have still a huge headroom to grow based on the unmet Indian demand as well as the global demand. Thank you with this we come to the end of the lecture and I look forward to seeing you in the next class. The next class will focus on 2 industrial segments and it will demonstrate further how product clusters lead to market clusters.

It also will demonstrate through the other example how the entire value chain of an industry even in a high technology industry would lead to market presence across different customer groups and across different value chain compartments. So, those 2 case studies also will be of interest to you.

Thank you.