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Week - 06 Business and Market Segments Lecture - 27 Market and Product Segmentation

Hi, friends. Welcome to the NPTEL course Business Development: From Start to Scale. We are in Week 6, discussing the theme of Business and Market Segments. In this lecture, the 27th in the series, we have the topic of Market and Product Segmentation.

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We have considered market segmentation in great detail. However, in real time practice many marketers and sales people confuse product segmentation with market segmentation. Let us look at the example of commercial vehicles. Commercial vehicles are nothing, but trucks GVW is the nomenclature that is the gross vehicle weight that can be carried by the truck that indicates the trucks classification.

A 3 to 4 tonne GVW truck is usually referred to as belonging to the SCV segment. In fact, it is the last mile delivery segment. The 5 to 8 tonne GVW trucks are referred to as the LCV segment that is the light commercial vehicle segment. In fact, this segment is the intra-city, short haul segment that is within city short haul segment. The 9 to 12 tonne GVW trucks are referred to as belonging to ICV segment, the intermediate commercial vehicle segment. In fact, it is the city suburb that is city to suburb medium haul segment.

The popular 14 to 28 tonne gross vehicle weight trucks are referred to as medium commercial vehicles or MCV segment. It is the inter city long haul segment. The 30 to 45 tonne GVW trucks are referred to as the HCV segment, the heavy commercial vehicle segment. In fact, it is the national haul segment. Then we have segments belonging to tippers, dumpers, tractor, trailers, etcetera.

These are referred to by the product nature, but actually in terms of the segmentation it is construction segment, coal segment, etcetera. It is practical to think of products as surrogates of respective market segments that is products are seen to be the descriptors of the market segments. However, the underlying application and usage segments must not be lost sight off. There is also another twist to this story of segmentation by product when we say gross vehicle weight it means the unladen weight of the vehicle as well as the payload of the vehicle.

However, a company can have competitive advantage in designing a product with the lowest possible unladen weight and the highest possible gross vehicle weight that there lies the design superiority of the company. When a company is able to do that, it is quite possible that a 3 to 4 tonne GVW truck of a company which is supposed to fall into the SCV segment could actually fall into the lower end of the LCV segment. These kinds of capabilities exist with companies to derive competitive advantage.

So, the question which the designer and the marketer would have before them is the following: should we discuss the segmentation of commercial vehicles in terms of the gross vehicle weight or in terms of the pair load capability. Another question that comes up is should we discuss the segmentation in terms of just the weight characteristic or the delivery characteristic.

That way, when we look at product segmentation and market segmentation, you will find the need to discuss and debate segmentation both reference to product and with reference to market pretty closely and in a detailed fashion. The underlying application and the usage segments must not be lost sight off. That is the lesson from this slide.

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Let us look at why market segmentation is important for business strategy. Airlines have for long segmented their travellers based on their income, status and purpose. The three classes that are found usually in airlines are first class, business class and economy class. First class is for the super rich passengers; business class is basically for the corporate passengers and economy class is for everyone else.

However, the desire of the segment customers to have exclusivity – door to door, and the adversity of COVID-19 provided a new opening for private and chartered jet services. Business strategy coupled with changing customer needs helped private jet manufacturers and chartered service operators drive growth in the niche segment. So, the segments have disappeared in a manner of speaking, but actually they have converged in terms of more exclusive and more uber experience for the travellers.

Market segmentation has to be reviewed from time to time from the perspective of business strategy. A few times, rather than market strategy, business strategy is required to address the needs of segment customers.

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Then we have the low-income market segments for frugal innovation which point us towards the need for more accurate and more granular bottom of the pyramid classification. In fact, Dr. C. K. Prahalad's landmark book, The Fortune at the Bottom of the Pyramid, opened the eyes of companies to the immense aggregated purchase power of the world's poorest citizens who earn less than US dollar 2 per day.

Many companies developed products symbolically, some opportunistically and a few other strategically. Let us look at the strategic development of products which cater to the poorest of the poor through frugal innovation. We have the Velvette shampoo sachet which was launched in India. It is a low-cost package pioneered by S. A. Rajkumar the entrepreneur.

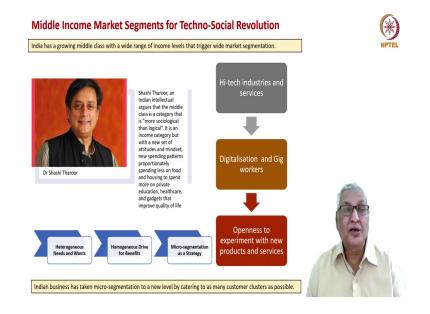
Thereafter Cavinkare entered the system and brought out the revolution of the smallest packets. We have the general electric a global major in various kinds of diagnostic equipment

coming to India and then the team developing a low cost affordable ECG which can be applied in the most remote rural areas as well.

In an era where full line airliners were popular, Air Deccan came in as a low cost airlines and that concept was pioneered by Captain C. R. Gopinath. Mittikool is a low-cost clay fridge for rural areas without electricity. It has been developed by a start-up. Corosure has been a low-cost RT-PCR test kit for corona, developed in 3 months with IICMR guidance and approval by IIT, Delhi.

Then we also have this famous low-cost versatile Jaipur Foot invented by Dr. P. K. Sethi. It is possible to segment the market in terms of its low-income characteristics, but in terms of various product segments. Strategic marketing must therefore, explicitly address the low-income categories of the population with frugal innovation.

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What about middle-income market segments will these segments lead to a techno social revolution. India has a growing middle class with a wide range of income levels that trigger wide market segmentation. Dr. Shashi Tharoor is a well-known literary expert as well as a politician. He argues that the middle class is a category that is more sociological than logical.

It is an income category, but with a new set of attitudes and mindset, new spending patterns proportionately spending less on food and housing to spend more on private education, healthcare and gadgets that improve quality of life. He argues therefore, that the middle class has got a framework of thinking and a framework of attitudes and it is achieving a consistent shift in the mindset from basic needs to more evolved needs.

When you look at high tech industries and services offering as a host of products and when we look at digitalisation and gig workers coming into play in a large spectrum of services. The society itself as well as the industrial economy is showing greater openness to experiment with new products and services.

So, when we have heterogeneous needs and wants and we have a homogeneous drive for benefits micro segmentation emerges as a strategy. Indian business has taken micro segmentation to a new level by catering to as many customer clusters as possible. When you look at hair oils we have got 100 ml hair oil as well as a 1000 ml hair oil. The spectrum is indeed enormous.

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What about high-income market segments? It has a lavish spin on tradition high net worth individuals and the uber-rich in India have emerged as unabashed brand-conscious spenders. We have destination weddings taking place in palatial 5 star hotels or 7 star hotels.

We have several bespoke brands from Dior to Versace to Hermes dotting the lines of malls. We have luxury automobiles such as Rolls Royce. We have HNI investing made popular by alternative investment funds as well as high-capacity portfolio management services. We have millionaire homes that are being sold in big cities as well as in countries such as Middle East and Dubai.

And then we also have entrepreneurship which is leading to higher level of spending in certain categories. Capital productivity of HNIs spend patterns is unfavourable in a resource

case economy such as India. But this segment does exert a top-down effort even if it is in a trickle-down way.

So, we have low-income market segments, middle income market segments, high income market segments, having their own characteristics and having their own product representations. These we have considered in the last three slides.

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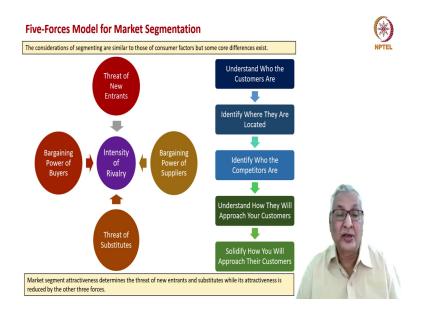


So, the challenge of defining market segments is high. In the realm of strategic marketing, defining a market segment is both an analytical science and an intuitive art. Fundamentally we should identify homogeneity within heterogeneity. There is no doubt that the customers are indeed a heterogeneous lot.

Each individual is different from the other individual. The need pattern is different. However, for marketing purposes we need to develop a homogeneous classification of the heterogeneous set of customers that a company has. Within that we should specify segment defining criteria. The segment should be identified by relatively clear profiling of the customers and their wants and needs, then we must determine the potential.

Identify the current and prospective size of the market. We should segment the market in such a way that we can develop appropriate product and service categories as well as strategies. Understanding a market segment is also akin to understanding an industry. A typical five forces model applies even to a segment within an industry.

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Let us look at this. The considerations of segmenting are similar to those of consumer factors, but some core differences do exist. What is the five forces model? Let us recall every industry in this case every segment would be characterized by five forces. The first is the threat of new entrants; the second the bargaining power of suppliers; the third the threat of substitutes; the fourth the bargaining power of buyers and the fifth intensity of rivalry.

So, it is fundamental for marketers to understand who the customers are. Identify where they are located. Identify who the competitors are. Understand how they will approach your customers and solidify how you will approach their customers, that is you have to approach not only your customers you have to also approach the others customers.

Market segment attractiveness determines the threat of new entrants and substitutes while it is attractiveness is reduced by the other three forces, that is, if there are too many new entrants and if there are too many substitute products the segment becomes less attractive; whereas, the attractiveness is reduced also by the other three forces. Up to a particular point the entry or the substitution in an industry indicates that this market is going to grow to that extent there is an attractiveness in the market segment.

However, beyond a point the flooding of the market segment by new entrants and by the threat of substitutes only increases the intensity of rivalry and if the suppliers in such a market situation have higher bargaining power and if the buyers have got higher bargaining power, then the intensity of rivalry will only accentuate even further.

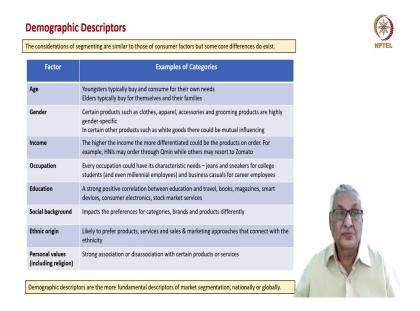
Let us look at the way in which these operates. Let us look at a medical representative detailing a medicinal product to the doctors. The doctors may be in hospitals, they may be in clinics in different parts of a hyper locality. In this case let us say Connaught place in Delhi or Nungambakkam in Chennai etcetera.

The doctor does understand the product characteristics and writes the prescription to its patients, but there is no guarantee that the patients will buy in the place where the hospital is situated. They may not even enter into the hospital pharmacy because of the crowd in the pharmacy. They might prefer to go to their own homes and order with the chemist nearest to the home.

Now, how do you ensure that the customer is rightly located? Is the customer the one who is located in the hospital or the customer is the one who is located at his home? And, who is the service provider the hospital pharmacy or the retail chemist nearer the home and that is the challenge of medical representative in the pharmaceutical industry.

How does the pharmaceutical industry try to address it? By having saturation coverage that is understand where all the patients for a hospital come from and then try to serve the sources as well as the effect area. And, by that hopefully a significant proportion of the patients would be captured.

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Let us look at the demographic descriptors. We talked about descriptors in the previous lecture session in great detail. Let us also note here that the consideration of segment by

demography are similar to those of consumer factors, but some core differences do exist. Let us look at the factors and examples of categories.

Age – youngsters typically buy and consume for their own needs, be it the apparel, be it the chocolates, be it the stationery items they do that for their own needs; whereas, elders typically buy not only for themselves, but also for their families. That is the big difference based on the age.

Let us look at the gender. Certain products such as clothes, apparel, accessories and grooming products are highly gender specific. In certain other products such as white goods there would be mutual influencing. Let us look at income as another factor. The higher the income, the more differentiated could be the products or order.

For example, HNIs may order through Qmin which is a delivery app of Taj Group of Hotels, while others may resort to Zomato or Swiggy. There is an income-based differentiation. Occupation – every occupation would have its characteristic needs. If you are a college going student you would prefer jeans and sneakers, and even millennial employees may prefer jeans and sneakers, but career employees would prefer business casuals. And, if you are working from home there could be a different dress attire.

Education – a strong positive correlation between education and travel, books, magazines and smart devices as well as consumer electronics, and different things such as stock market services does exist. The more educated you are the more likely you are to spend on travel, books, magazines, smart devices and consumer electronics. The more financially savvy you are, the more you are likely to spend on stock market services. So, the educational background has a great impact.

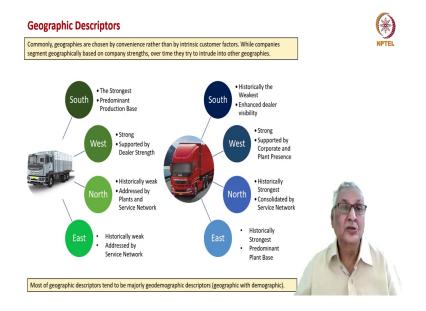
Then there is the social background. It impacts the preferences for categories, brands and products differently. Ethnic origin – people of certain ethnicity will prefer certain products, service and sales and marketing approaches that connect with the ethnicity. People in certain

parts of the country prefer coconut oil whereas, people in other parts of the country use different kinds of hair refreshers or hair grooming products.

Personal values including religion exert strong association or disassociation with certain products or services. Demographic descriptors are the more fundamental descriptors of market segmentation nationally or globally. Licious the famous meat delivery or fish delivery provider app has recently said that given the nature of the religion and the nature of the practices and rituals, virtually one third of the year is not open for what we call non vegetarian food ordering.

Therefore, they have come up with the idea that the markets which are segmented in terms of the vegetarianism or the customers who are clustered around the vegetarian pivot shall be supplied with plant-based meat products. Therefore, they would have a good business strategy rolling out. So, understanding of the descriptor of the customer group is important driver of business strategy.

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Let us look at also certain geographic descriptors. Commonly, geographies are chosen by convenience rather than by intrinsic customer factors. Companies segment geographically based on company strengths, but over time they try to intrude into other geographies.

For Ashok Leyland Limited which is a leading commercial vehicle manufacturer, originally headquartered only in the South and which is now a pan India player the different geographies still represent different foci and different strong points. In the South, it continues to be the strongest commercial vehicle player and it also is the predominant production base for the company.

In the West, it has been traditionally strong and it has been supported by the strength of its dealers. In the North, the company has been historically weak therefore, the company tried to

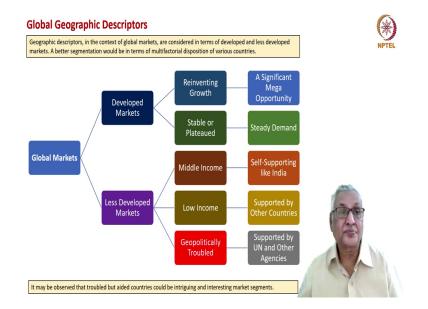
spread itself in terms of the service network and also establish a north based personality by establishing plants in the northern and north-eastern areas.

Then we have got East there also the company has been historically weak and that has been addressed by service network. When you look at Tata Motors, the other leading player Tata Motors and Ashok Leyland have 70 - 30 ratio approximately. In the commercial vehicle industry in the South, Tata Motors has been the weakest historically and it has been trying to address this through enhanced dealer visibility.

In the West, it has traditionally been strong and it is supported by corporate and plant process in that area. It has a huge facility in Pune and it has of course, the Tata Motors and Tata Group headquarters in Mumbai. In the North, historically it has been the strongest and is consolidated by surface network.

Again, in the East it started its life with Jamshedpur based in Bihar, now in Jharkhand of course, and it has been strongest in that treasure historically and it has the predominant plant base even today. Most geographic descriptors tend to be majorly geo demographic descriptors geographic coupled with demographic.

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Let us also look at the global geographic descriptors. Geographic descriptors in the context of global markets can be considered in terms of developed and less developed markets or developed and emerging markets. However, a better segmentation would be in terms of multifactorial disposition of various countries.

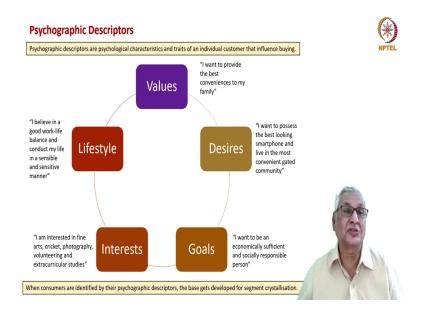
Let us look at this segmentation. Global markets as I said are in terms of developed markets and less developed markets. What are less developed markets? Those which are in the middle-income group, the low-income group and which are geopolitically troubled. In the middle income group, we have India which is self supporting largely self reliant and mostly self sufficient.

In the low income group we have countries which are supported by other countries, even Sri Lanka comes into that play with more recent economic developments. Then we have geopolitically troubled countries which are supported by UNN and other agencies. When you look at the developed markets, we have countries which are reinventing growth on a constant base. United States is trying to rediscover its infrastructure capabilities.

It is trying to rediscover its technological strengths and that provides significant mega opportunity. There are also countries which are stable or plateau most European countries and most welfare economies of Europe there would be steady demand in such countries.

We have to observe perforce that troubled, but aided countries could be intriguing and interesting market segments because the market growth is supported by external income factors and that needs to be taken note of by business strategist.

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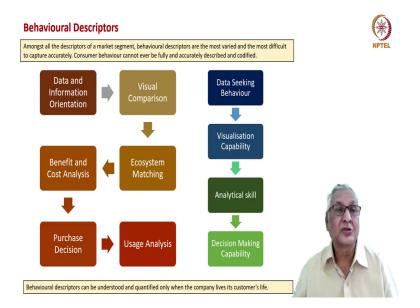


Let us look at psychographic descriptors. Psychographic descriptors are psychological characteristics and traits of an individual customer that influence buying. Values or psycho graphic descriptors I want to provide the best conveniences to my family. I want to write in the best possible car when I travel to the office. These are the values of the person. I want to be always travelling through the public transport system and that is the value system of a person.

Then, there could be desires. I want to possess the best looking smart phone and live in the most convenient gated community. It is a desire. Goals - I want to be an economically sufficient and socially responsible person. That is a goal of being a responsible citizen. Interest - I am interested in fine arts, cricket, photography, volunteering and various other extracurricular studies.

Lifestyle that is another value statement I believe in a good work life balance and conduct my life in a sensible and sensitive manner. When consumers are identified by their psycho graphic descriptors, the base gets developed for segment crystallization. That is the importance of psycho graphic descriptors.

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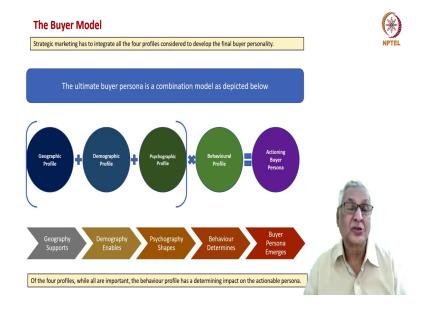
Then we will come to the behavioural descriptors. Amongst all the descriptors of a market segment behavioural descriptors are the most varied and they are also the most difficult to capture accurately. Consumer behaviour can never be fully and accurately described and codified.

So, to understand the consumer behaviour, companies spend enormous amount of time and money to collect data information. Consumers basically are data and information oriented. Some are very quick to have a quick glance of data and information and some people pour over the data and information. They also resort to visual comparison and then they try to match the ecosystem – Does this product match the ecosystem in which I am living.

Then people do a benefit and cost analysis and the purchase decision is effectively made and that leads to usage analysis. This is the movement of behaviour of a consumer as the consumer considers the purchase process. There is this data seeking behaviour leads to the visualization capability which must be supported by analytical skill and finally, having a decision making capability is the test of the purchase decision being in favour of a particular product or not.

Behavioural descriptors can be understood and quantified only when the company lives it is customers life, only when it tracks the consumers journey from awareness to the end point of being a loyal customer of the company and its products. We have seen in the previous lecture towards the end how the journey of marketing or the journey of a customer through the purchase decision moves from the total universe to the awareness universe to the occasional user to the long standing loyal user.

And, for this to be happening we need to understand the behavioural descriptors of customers.



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Strategic marketing has to integrate all the four profiles that I have described so far to develop the final buyer personality and that represents the buyer model. The ultimate buyer persona is a combination model as depicted below. Geographic profile plus demographic profile plus psycho graphic profile into behavioural profile leads to the actioning buyer persona.

The behavioural profile has an amplification impact or effect on the combination of geographic, demographic and psychographic characteristics of a customer. So, it is so much more important therefore, to understand the behaviour. If you look at the order of the ease of data collection, geographic profile is the easiest to collect in terms of data.

Next comes the demographic profile based on the market research statistics or the economic publication statistics. Little more difficult is the psycho graphic profile and that also arises from the way the customer purchases the other products, but how a customer responds to a particular product decision, a particular product display, a particular product advertisement and the follow up, is an entirely unpredictable behavioural attribute.

So, understanding the behavioural profile of the customers with its amplification effect is the most important in developing a marketing model and arriving at the actioning by a persona. Geography supports, demography enables, psychography shapes and behaviour determines the buyer persona. We have to remember this. Geography supports, demography enables, psychography shapes, behaviour determines the buyer persona.

Of the four profiles as I have said, the behaviour profile has a determining impact on the actionable persona and most of the design thinking and most of the market research must be focused on understanding the right behavioural profile of an individual.

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Just as we have the complexity and the challenge associated with consumer markets we also have the requirement for segmenting the business markets. The considerations of segmenting are similar to those of consumer factors, but some core differences do exist. We have geographic considerations such as outsourcing, offshoring and globalization. These influence the geographic considerations.

The demographics are in terms of industry attractiveness, company scale and profitability. These are the influential demographic factors. The strategic considerations are in terms of the business strategy, technology strategy, network strategy and competitive positioning; these shape the business markets and finally, the buying behaviour.

Approaches to buyer selection, vendor development, general purchasing policies, buyer personality and such other factors influence buying. Business markets can be segmented on

the clusters of industrial and business factors as above. So, it is important to understand the segmentation of business markets as much as it is important to understand the segmentation of the consumer markets.

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We have a classic example in marketing tests of McDonald's global menu variations. Food is one of the most important markets for geographic segmentation. Global FMCG firms have validated the concept. McDonald was once considered as a company having uniform culinary approach to its food products. However, that has changed over time.

In the United States it always offered Big Mac, Chicken Mcnuggets, Fillet-o-Fish, egg and fries whereas, in India it has moved to include also McVeggie, Chicken Maharaja-Mac, McSpicy Paneer and things like that similarly in France it has Le McBaguette, Le Croque,

McDo and Le Royal Cheese. Egypt – different kinds of products; Israel again different kinds of product.

While the prefix or suffix of Mac exists the products themselves in its food constitution are significantly different in terms of taste constitution more significantly different. Japan which has its own very distinctive eating habits has different products brought out by McDonald. China – Prosperity burger, Taro Pie, McWings, McNuggets with Chilli Garlic sauce. Brazil – Banana Pie, McNifico Bacon and Cheddar McMelt, Big Tasty and Mexico – Big Mac, chicken fries etcetera.

McDonalds probably has undertaken far more indigenous in India than indicated in the above table. There are many other Indian varieties that McDonald has brought about. It is not only about quick food or restaurant-based food service, the supply of products, the supply of food products or the ready to eat products or ready to process products are also assuming indigenous or Indian hue. (Refer Slide Time: 31:50)

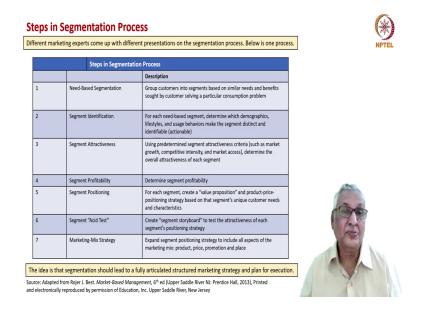


Let us take these examples. Global measures such as Nestle, Kellogg's and Lays have introduced localized brands for India to suit Indian tastes. Maggi has introduced special masala noodles. It also has introduced Maha noodles and also masala veg atta noodles as just examples.

Kellogg's the breakfast cereals company has recognized that upma is one of the most important breakfast products of India rather than fight that product, Kellogg's has introduced its own version of veggie masala burst upma. Similarly, while bringing codes to India it has added a fair dose of masst masala to Kellogg's. Lay's has brought its classic chips in a variety of Indian masala taste.

Product segmentation must necessarily follow proactive market segmentation as demonstrated above localization helps in such an approach.

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What are the steps in segmentation process? We have discussed in depth in the previous lecture as well as in this lecture the various descriptors the various influences for the descriptors and also the segmentation processes themselves. So, there are seven types of steps which are involved in the segmentation process. The first step is need based segmentation.

Group customers into segments based on similar needs and benefits that are sought by customer and it should solve a particular consumption problem for a product or a service. Then you should identify the segment. For each need-based segment determine which demographics lifestyles and usage behaviours make this segment distinct and identifiable. That is actionable for the company.

Then you determine the attractiveness of that segment: using predetermined segment attractiveness criteria such as market growth, competitive intensity, market access and even product profitability determine the overall attractiveness of each segment. Then you deep dive into segment profitability itself determine segment profitability which may comprise more than one product.

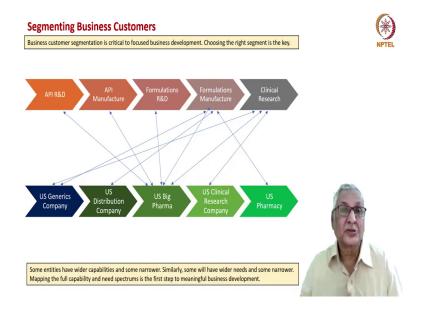
Then you look at the segment positioning for each segment create a value proposition and product price positioning strategy based on that segments unique customer needs and characteristics. You segment and then test it. An acid test is required for every segment that has been developed. Create a segment storyboard to test the attractiveness of each segments positioning strategy.

And, finally, develop a marketing mix strategy expand segment positioning strategy to include all aspects of the marketing mix product, price, promotion and place. The idea is that segmentation should lead to a fully articulated structured marketing strategy and plan for execution. We should not blind ourselves into a simple thesis that every product is a segment, it is not so.

And, every market may consider multiple products which are as close to each other or which are plain substitutes of the other even though they seem to have different method of action and different method of taste. We may have several vegetables, but they are not substituting. The need for vegetables the need for vegetables remains, but the way the vegetables taste and therefore, the preference vary between individual to individual based on the characteristic of the vegetable.

So, to achieve at good segmentation we should understand the product descriptors as well as the market descriptors rather thoroughly.

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You have in respect of the pharmaceutical industry a very good example how business customer segmentation can be achieved and that is the core of business development in the pharmaceutical industry. We have several segments in the pharmaceutical industry first is the active pharmaceutical ingredients that is the bulk drug. It is the basic molecule or the drug substance that makes the drug effective.

However, that powder cannot be taken directly to the patient without some kind of encapsulation or protection and therefore, formulation comes in to the being and that formulation could be a tablet, capsule, then dry powder injection, a lyophilized injection or a syrup it could also be a cream.

Now, API has to be developed in R and D and manufactured in a plant. Similarly, formulation has to be developed in the R and D and manufacture in the facility and the efficacy of the API

as well as the formulation will be found out in the clinical research. Now, let us say you have a US generics company as a potential partner. You have a US distribution company as a partner, you have US big pharma, US clinical research company and US pharmacy.

You can see that different segments of this market value chain are the customer value chain I have got different possibilities to align with different product segments in the pharmaceutical industry. A US big pharma, may have relationship with API R and D, API manufacture, formulation R and D, formulation manufacture and even clinical research.

On the other hand, a US genetics company may have relationships with only formulations manufacturing and clinical research. The US Clinical Research Company and a clinical research activity of the pharmaceutical industry will have close interaction. Similarly, those who manufacture formulations will have a direct linkage with pharmacies in the US and similarly, they will have also linkages with the US pharmaceutical distribution companies.

The linkages are therefore, product driven and they are also market driven simultaneously. Some entities have wider capabilities and some have narrow capabilities. Similarly, some will have wider needs and some narrower need mapping the full capability and need spectrums is the first step to meaningful business development. This is the lesson we gain from the active pharmaceutical ingredient industry as well as the formulation industry.

When I was in Orchid Chemicals and Pharmaceuticals, we are end to end manufacture of APIs and dosage forms. We had alliances with various US big pharma companies for API R and D and API manufacture. We also had relationships with the US generic companies for the formulation R and D and formulation manufacture. We also supported clinical research for certain products.

In some cases, we entered into direct deals with the US distributors because that is the way you can reach the markets faster and in more effective manner.

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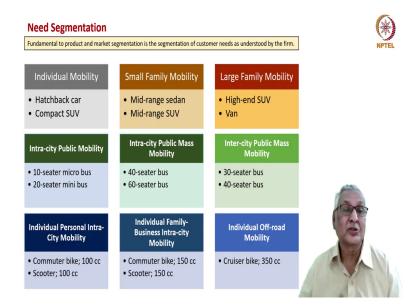
When industries transform, segments boom. I take here four examples from the automobile industry. When an industry is in transition, it results in higher segmentation all across. In the internal combustion engine segment, we have passenger car and utility vehicle taken as examples. In the passenger car segment, you have hatchback with about 1000 cc engine. We have mid sedan 1300 to 1500 cc engine and large sedan with 1700 to 220 cc engine.

In the utility vehicle segment, we have compact SUV which is a 5-seater; we have a mid ranger SUV 5-seater and high-end SUV 7 to 8-seater. Examples you can have Creta, you can have Grand Vitara and you can have Innova Crysta. Those are the kinds of differentiations that are possible. In the top area we can have Alto hatchback; you can have mid sedan Baleno or a product equivalent to that and in the large sedan you can have Kia's products which are famous for their luxurious features.

Then in the passenger car electric you may have different classifications because the power output is different. A hatch back could be powered by 15 to 20 kilowatt hour battery system; mid sedan by 30 to 40 kilowatt hour battery system and large sedan by 50 to 60 kwh system. A utility vehicle electric will similarly have classifications of 5-seater compact, 5-seater midrange and 7 to 8 seater high end SUV.

Again, the power capacity will be higher 25 to 35 kilowatt hour 40 to 55 kilowatt hour and 60 to 75 kilowatt hour respectively. Therefore, the segments which you can see between 20–24 and 20–34 would be enormous because both internal combustion engines based vehicles as well as electric power systems based vehicles would be operating this glimpse of the kind of the segmentation that would be taking place at that point of time.

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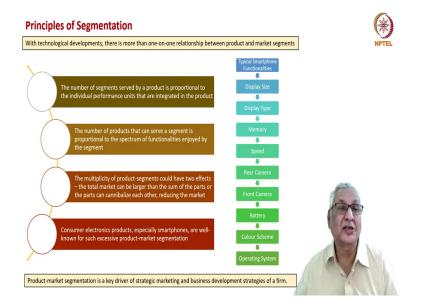
Then when you look at this we also have to see whether the needs have changed over time. There is the need for individual mobility, there is the need for small family mobility and there is a need for large family mobility. The first one will be satisfied by a hatchback car and compact SUV, but when you seek small family mobility you move over to midrange sedan and mid range SUV.

And, when you need large family mobility you will have high end SUV and van. When you look at intra city public mobility you are happy with a 10-seater micro bus and 20-seater minibus and today these kinds of microbus systems are quite popular in Chennai and they are being offered by the public transport corporation.

Then we need intra-city public mass mobility from one end of the city to another end of the city. These are typically by 40-seater buses, 60-seater buses with adequate standing capacity. Then you have inter-city public mass mobility which could be more comfortable 30-seater coach or bus 40-seater coach or bus. Then you will have individual personal intra-city within city mobility which is in terms of a commuter bike of 100 cc capacity or scooter of 100 cc capacity.

Then you will have individual family business intra-city mobility, again commuter bike with higher capacity a scooter with higher capacity. And, when we look at individual off-road mobility you need something like a Royal Enfield cruiser bike at 350 cc capacity. So, needs of the mobility themselves vary based on the constitution of the customer and the nature of application of the mobility requirement. These also need to be studied carefully by the marketing experts.

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So, when we look at all of these things, you feel like developing certain principles of segmentation. With technological developments there is more than one on one relationship between product and market segments. The number of segments that are served by a product is proportional to the individual performance units that are integrated in the product.

That is, if a smart device a smart watch is having 10 types of individual features be it the camera, be it the health companionship, be it the timekeeping situation, being office productive app, whatever be the app the more the number of segments that are served by a product the more dependence it will have in terms of the individual performance units, or rather the more individual performance units you are able to integrate into the product the more segments can be covered by that particular product.

Then the second principle the number of products that conserve a segment is proportional to the spectrum of functionalities enjoyed by the segment. If a particular market segment of let us say a sofa user family has several requirements of recline fixed seating, then leg stretching and massaging and various other functionalities. The number of products that a segment requires or the number of products that a company can use to serve the segment would be proportionately higher.

The multiplicity of product segments that are arrived at by those two principles would have two types of effects. The total market can be larger than the sum of the parts or if the segmentation is not done properly, if the product positioning is not done properly the parts can unfortunately cannibalize each other reducing the market.

Consumer electronics products, especially smartphones are well known for such excessive product market segmentation typical smartphone functionalities on this right side, display size, display type, memory, speed, rear camera, front camera, battery, colour scheme, operating system and many such things are there. Product-market segmentation is a key driver of strategic marketing and business development strategies of a firm.

With this we come to the end of this lecture. I look forward to seeing you again in the next lecture.

Thank you very much for your kind attention.