BUSINESS MARKETING - TECHNOLOGY FOCUS

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Lecture 02: Tech Marketing

Hello, welcome to our second session of this course on technical marketing, technology marketing, industrial marketing. B2B marketing or simply B2B. As I mentioned in the last session, we will be using these terms interchangeably and synonymously. That means we will not make the old distinction of between, say, industrial marketing and B2B marketing. Initially, maybe 10 years back, the term industrial marketing gave way to the new term B2B or business-to-business marketing because at that time we started looking at marketing not only of industrial products but we also started looking at various kinds of institutional marketing like marketing of healthcare services or marketing to healthcare organizations and or marketing of consultancy or marketing of information technology or marketing of information technology services.

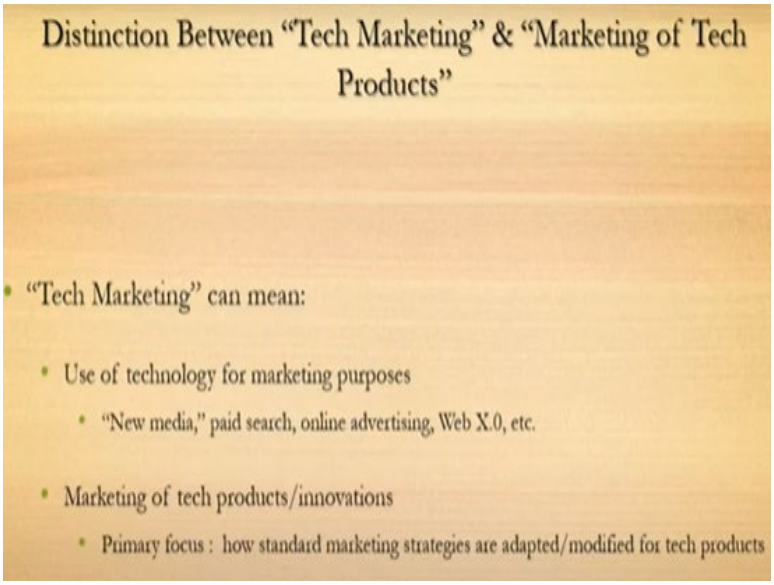
So, at that time, it was thought that business marketing or business to business marketing will be a better coinage than industrial marketing. But today, these definitions seem to be all overlapping each other and their borderlines are quite diffused. So we will use these terms interchangeably and synonymously. That means we will convey the same meaning when we use any one of these terms.

Fundamentally we are looking at organization to organization marketing, and marketing of goods and services, tangible and intangible products, and we were looking at various special instances of on this general canvas. For example, in this session, I'm going to spend time on marketing of technology products and systems, like the marketing of a computer system to an institution like, say, IIT Kanpur or marketing of a broadband network to a large organization spread across the nation or we are looking at the mobile telephony infrastructures be it the towers or various kinds of transmission receiving equipment and so on. So these technological products and systems have certain characteristics and certain interesting nuances like the life cycle and therefore these

instances, these particularities, these differentiated characteristics influence the way marketing is conceived and executed.

And we will spend some time on those topics in a couple of sessions. So, let me mention another thing. In general, for most of the sessions, as the anchoring textbook, I will be using this book called Business Marketing by K.K. Havaldar. This is published by Tata McGraw-Hill.

But I will often also use extracts from a book by Anderson and Narus on business marketing or another book by Vitale, Professor Vitale, both Vitale's book and Anderson Narus book are published by Pearson and I will be using some diagrams or some interesting concepts brought out by these publications. But in general if you follow this book that is Business Marketing Texts and Cases then that will be quite sufficient. But in this lecture and maybe part of the next, I will be using some concepts brought out in another book also published by Pearson Publications. And that's a book called Marketing of Technology High Tech Products and Innovations, written by Jackie.



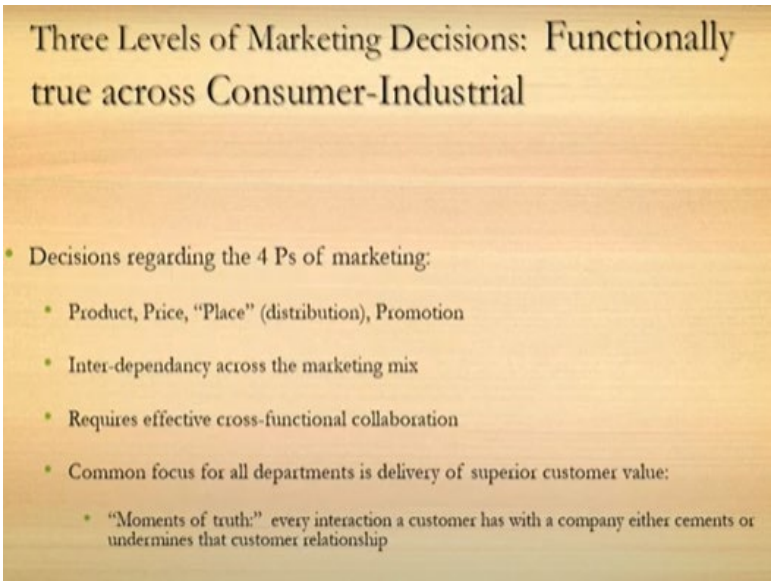
The exact title is Marketing of High Technology Products and Innovations. Okay, so the exact name of the book is Marketing of High Technology Products and Innovations. This is written by Jakki Mohr and Sengupta and some other authors. This is also published by

Pearson. But of course, you do not have to buy that book, though the book is also available from the Kindle for download.

But I will be only using certain concepts. So what if you follow this lecture and follow the PowerPoints, that will be enough. But the Jakki Mohr, Sengupta book is a reference. Those of you who are interested particularly in these topics, you work in such industries, you might like to look at that book. So, Technology marketing and marketing of technology products, these are not interchangeable terms.

Technology marketing can mean use of technology or technical marketing, tech marketing will mean use of technology for marketing purpose. For example, now the social media or different kinds of search engines or different kind of online advertising or interactive web services are are being used in marketing. Later on when we discuss marketing communication today, we will touch upon these topics. So that is the term tech marketing or technical marketing. But marketing of technology products means the marketing of products which are enriched with technology and therefore the marketing of such products like for example even this phone that I use or my tablet or my laptop, these are all examples of technical products or technology products.

But of course, we will be discussing not these kind of retail items that much, but we will be discussing technology endowed products and systems mostly purchased by large or medium or small organizations for business purpose, official purpose. And these kinds of products which are more systems oriented have both tangible or intangible hardware and software elements pose some particular challenges and that is the area we want to focus in the current discussion.



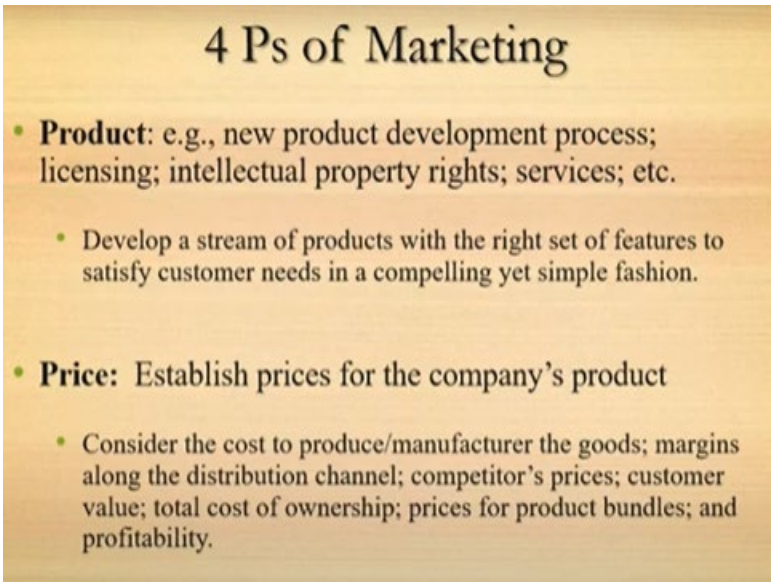
We have discussed in the previous session some of the fundamental premises of marketing, like the marketing mix or four Ps, the product, place or price, promotion, etc. We have discussed the interdependency across the marketing mix. And in today's topic, this technology or technical product or high tech product marketing, these interactions are very important because not all the P's have the same weightage when we look at different classes of products and services. So we will see how the importance of one changes with respect to the other.

But something is very important that in technology products like a broadband network across the nation for a large organization, the marketing of such system oriented products and bundle of services need a lot of inter functional collaboration. Means, the marketing organizations, finance department, sales department, marketing function, even operations, even R&D, they all will get involved in various kinds of large project-oriented marketing. And therefore, it is also important that the dynamics of organizations come to play an important part in these kind of marketing activities. Because to deliver superior customer value, just one department cannot accomplish the objective.

So all the different departments will have to coordinate, synchronize their actions and their intentions to achieve the organizational goal and achieve customer satisfaction. So, delivery of value which we discussed. If you remember, we concluded the last session by saying that the most important two focus areas of business to business marketing are

relationships and total offering or complete solution orientation. So, Moments of truth, this is a quite popular coinage in service industry where basically meaning that the moments of interfaces between the customer and the product of the system or the service are instances where the elements of customer satisfaction, customer delight are created.

And to make these moments of truth successful, as I just now mentioned, different departments in the marketing organization will have to coordinate their actions so that ultimately the customer's objectives are fulfilled. Not the marketing organization's objective, but more importance have to be given to customer's objectives and customer's business success criteria. And to achieve that, all the different departments in the marketing organization will have to play the part.



So the four P's of marketing remain more or less the same in case of these technology products, technology endowed products, technology enriched products and systems. But there are some interesting areas like the licensing aspects, services, intellectual property aspects. They are important characteristics when we look at product marketing in this domain. And we will discuss it briefly in these two sessions and even later on when we look at the impact of technology life cycles.

The development of a successful stream of products in technology domain need creation of a basket of features, services to deliver the bundle of values which will satisfy the

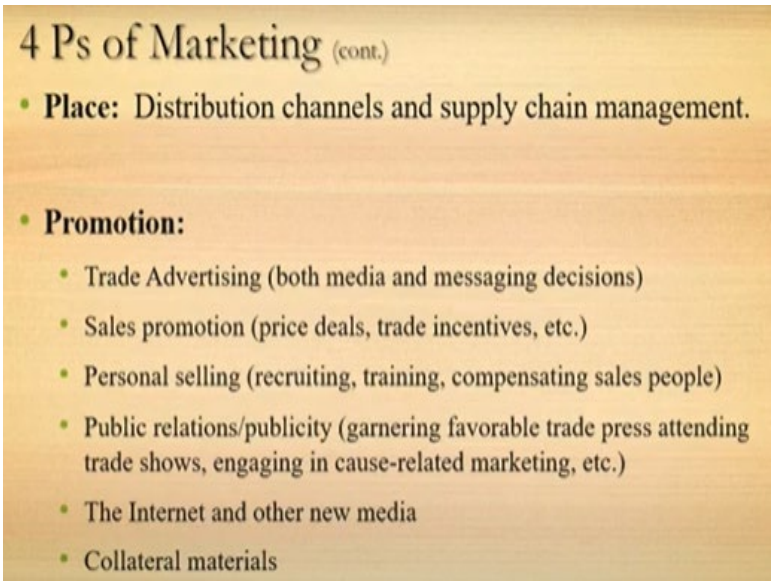
customer needs. And therefore, this multiple parts that constitute a total offering which replaces the ordinary product concept will be very important in discussing product marketing in this domain.

Similarly, price. will not only be a cost plus approach or competitive parity approach, but again, price here will have a lot of intangible elements which will finally deliver the customer satisfying value basket. So, customer will often evaluate what we call the total cost of ownership. That means not only the first price the customer pays, but also all the costs the customer organization will have to bear over the life cycle of the product. So that's called the Total cost of ownership, that means post-purchase services, installation costs, warranty costs, spare part costs over the life cycle. These are all considered together when business customers evaluate the price.

And that changes everything, the pricing objectives. Sometimes an industrial organization will look at price using the model of what we call the razor blade model. That means as it happens in the marketing of shaving razor and blade, the marketing organization will charge minimum for the razor, but will recover their target margin from the sale of the blades over the life cycle of that razor.

So when you look at, therefore, pricing of technology products, one will have to take often a long-range view or a layered view, the product Initial price as well as all the different services and spares etc. which will be or consumables which will be going into the products use. Therefore price here will be definitely a long term concept or a systems-oriented concept as opposed to the consumer products.

So when you market a broadband network system, your pricing approach will be quite different from that of a toothpaste or a packet of biscuit.

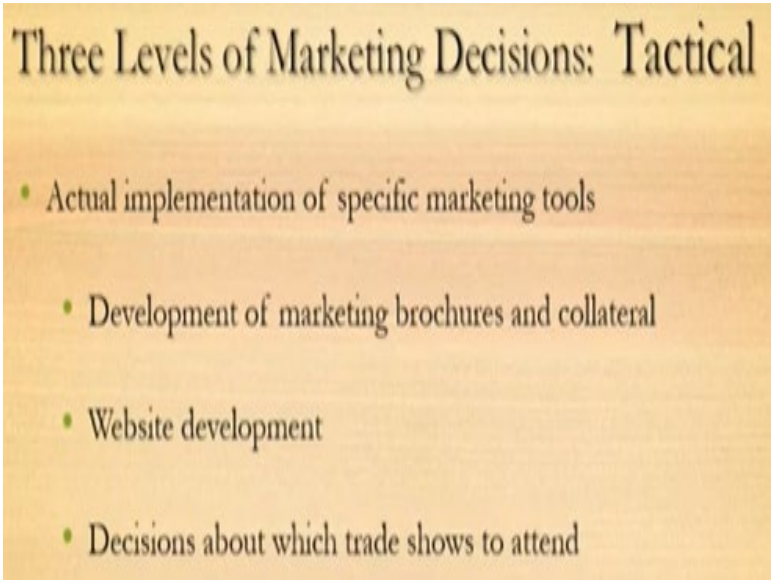


Distribution channels will be quite intricate will be a very significant part of value delivery because the distributors, when we discuss the channel aspects in marketing, we will discuss it in detail that how some very significant roles are played by the distribution partners. They actually become the value delivery partner. So they are often called system integrators in this kind of marketing.

We will discuss that in more detail. At this moment, let me say that distribution channels and supply chain management are multilayered and offer customer satisfaction elements directly. In case of consumer products, they are often invisible. The supply chain partners are often invisible. But in case of industrial products, they are often quite visible and deliver value explicitly.

The promotion, the other P in marketing mix also may be different in technology products because as opposed to advertising, personal selling or technical seminars or demonstrations, trials, all of these will play important parts. And with the advent of new media, we are also seeing usage of lot of demonstrations online through videos. And even the whole user manuals are put online with lot of demonstrations videos. And these are changing the way promotion are done because so promotion in case of consumer marketing is often a takes place significantly in the pre purchase stage. whereas promotion becomes an integrated part of the product over its lifetime and customer may be going back to the vendor company website for various usage tips or troubleshooting

tips or various kinds of service suggestions and methods and therefore this whole area of marketing communication is again a long term process in case of technology marketing.

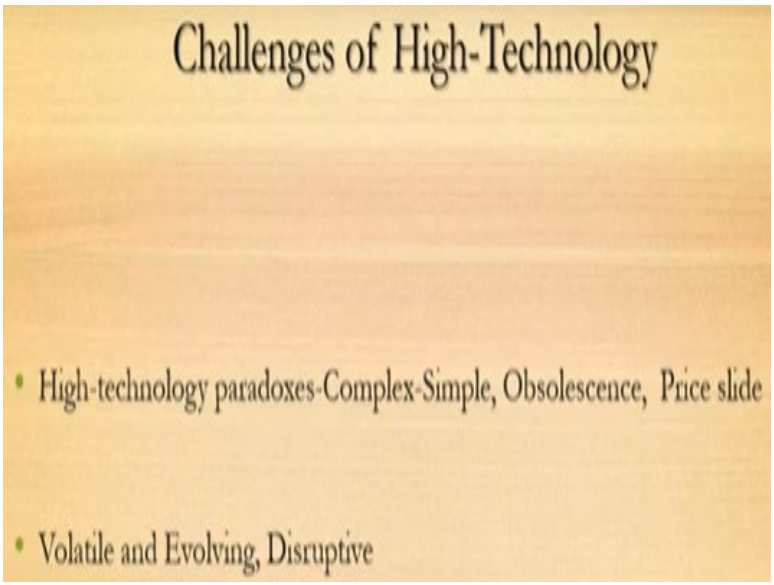


So, the three levels of marketing, like the tactical level, are more or less the same between consumer marketing and industrial marketing of technology, products, and systems. But there are differences like the marketing brochures and collaterals play a very important part because the Information search is quite intense for technology products. So the customer needs a lot of knowledge transfer at the pre-purchase stage for making up his or her mind.

And comparative decisions are made. So a lot of very solid information with respect to usage, with respect to technical features, etc., are all provided through the marketing collaterals, the brochures, the manuals, and so on. The websites now play a very, very important part because instead of delivering booklets and manuals, a lot of information are now provided by the vendor's websites. So the websites have now become very important in the tactical marketing in technology products.

And trade shows also are play a much more important part. Trade shows for many, many staple products, consumer products, do not play any significant part. Maybe for consumer durables or for what we call the shopping products, trade shows may play some part, but

in technology products, the trade shows play a very significant part. So the tactical part of marketing, mostly same, but there are significant differences.



The challenges of high technology are quite interesting and we will spend a few minutes on that. The first interesting concept to consider here will be the paradox of technology. The paradox of technology is that if you take any of the technology products of today, take for example this tablet. Now, the tablet is very simple, very easy to use. The ease of use becomes a significant part of marketing of such a device.

And as I have mentioned before, this device represents a lot of tangible aspects like its shape, size, form, color or brightness and so on. But it also has a lot of intangible elements in it in the form of the software which is embedded in this. And the key focus is always in creating an easy to use friendly user interface. But if you open this product, it will be a very complex product.

In fact, in many of these devices, servicing or repair become an extremely difficult task. So they are often built to last for a long time. But once they go, they develop some trouble, one may just simply replace instead of trying to repair because the inside, they are extremely intricate and complex. So this simple to use friendly interface and complex structures inside in the same product represent one of the paradoxes in technology products.

For example, the obsolescence, there are many products which are going through rapid changes today. And these rapid changes, for example, this mobile phone, today people change their phone in two to three years. And because they go through so many different changes in short periods of time, the existing phone that you have may become obsolete. So this obsolescence is another interesting aspect that you will have to build into your marketing strategy.

And then we will discuss shortly a concept like Moore's Law, which fundamentally says that the price of a bundle of value like this consisting of tangible and intangible parts, hardware and software, etc., will be sliding quite quickly over time. So the features contained in this product if today I buy it at X, very soon this bundle with a lot of additional features and a lot of additional facilities for the customer will be available at almost that same price or this bundle or this model as we call it will soon be available at a much cheaper price.

If I purchase this at 30,000 rupees, this same set of features in this same size of phone, two years later, may be available at 15,000 rupees, at almost half the price. So this price slide over time for technology products also pose some intricate challenges. And also this happens because these technology products are rapidly evolving. There are a number of generations, as we say, that come into play over a span of time.

So first generation, second generation, third generation. So that's happening in almost all technology-oriented devices and systems. And sometimes these products are disrupted. Take, for example, a camera. If you go back 10 years, the camera industry was continuously developing high-tech features and more and more features in smaller and smaller sizes and in lighter and lighter devices.

So miniaturization, personalization, all these played very important part. So at that time, they were developing high-powered cameras which you could easily carry. So if you go back just 15 years, if a particular type of camera for taking movies, consumer, first of all came cameras which were originally used by professionals, expert users. Then came cameras which had such easy interface that even children could use them. But yet cameras were becoming easier to use but with lot of high-tech features built inside. So it

followed that trend. the property that we just now discussed, that simple to use friendly interfaces, but more and more complexity inside.

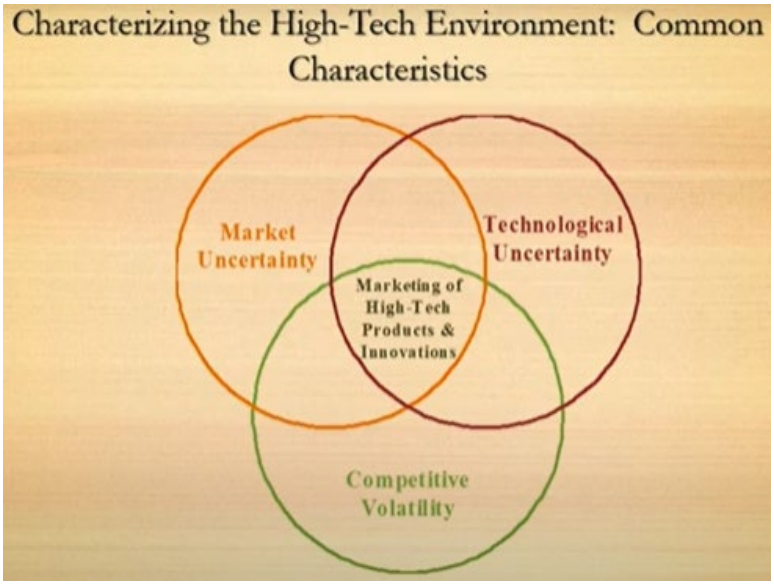
But at that time, camera industry was thriving. But five years back, or maybe it started happening 10, 12 years back, the cameras which were part of a phone initially very simple, soon became very powerful and today therefore a smart phone can contain such a powerful camera that many owners will no longer be interested to buy a separate camera device. In fact, many consumers have powerful cameras lying around and not used because they are most of the time using the camera in this smartphone, which they can very easily carry around in their pockets or bags. So you see, the smartphone, in a way, has disrupted.

This is what we mean by the disruptive feature of technology products. So they are often superseded by devices coming from another industry or another type of device. Take for example television. Television is now to retain customers. They are becoming bigger and bigger, thinner and thinner, and smarter.

But yet, it is a moot point that whether five years from now, customers will be mostly consuming digital content on a device like this and will be seldom using their television. So today almost all content delivery companies are quite intensely working on delivering their content on a device like this. As opposed to the television, television is still very important for reaching out for the content companies to reach out to the customer. But this is offering serious disruptive challenge.

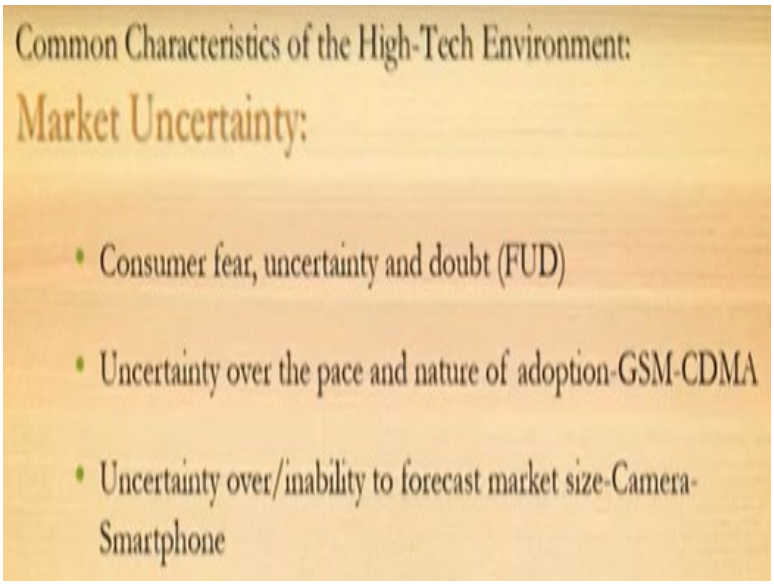
So that's a very interesting aspect and therefore the pricing of television today which is a technology product, technology endowed product, quite a bit of technology goes in today's television set, faces an intense competition from a device which earlier was only for communication. So, Television earlier was for entertainment, very clearly defined, a defined set of bundles, and people didn't confuse televisions with telephones, which were primarily for communication. But today, it's very complex.

And one doesn't really know that which device will evolve in which direction and how they will retain significance for the customer.



So the main characteristics of high tech environment creating a lot of marketing challenges and marketing complexities are this particular diagram that you have in front of you, where three types of uncertainties and volatilities are depicted. The market uncertainty, the technological uncertainty, and competitive volatility including disruptive competition coming from another domain, as we discussed in case of the television and telephone just now.

So the marketing of high-tech products and systems and all innovations in this domain have to consider all these three different kinds of uncertainties and volatilities, marketing uncertainty, technological uncertainty, and competitive volatility.



So the market uncertainty, that means markets overlapping, one kind of product becoming obsolete and another kind of product taking over, prices sliding rapidly, the user interfaces focused on becoming simpler and easier to use, the customers worry about complexities, servicing, all these create different kinds of marketing challenges.

For example, maybe 20 years back, there were a lot of marketing tussles between two opposing, two competing standards in mobile telephony, one called GSM and another called CDMA. CDMA had lot of technical nice features, but GSM through various marketing strategies, particularly because of the network effect, which we will, the network externality, which is a concept that we will soon discuss just now. The GSM became more popular.

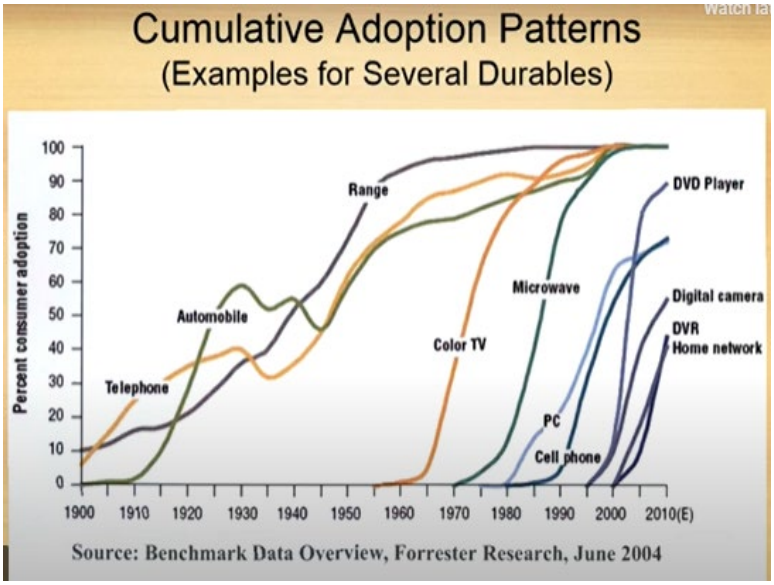
Though it originated in Europe, it spread across Asia. And then America, which was dominated by CDMA, also started accepting GSM. And GSM became the most overwhelming standard. So products which use the GSM technology started rapidly increasing their volume. And CDMA, though, had superior technical features in many areas finally had to give way.

But interestingly, as the technologies evolved more, we soon had platforms which integrated both. And today that GSM-CDMA tussle in the era of 4G and 5G standards of communication, mobile communication, no longer carry that competitive intensity

because they have now become, they have merged in many ways. So there are no distinct CDMA companies and GSM technology using companies.

They have now become all blended together. So, therefore, this adoption of mobile telephony standard and the technology and the products using those technologies have changed and evolved. And finally, in a way, the tussle has disappeared. So the forecasting which we will briefly discuss in this session and maybe discuss in more detail when we look at marketing research in the B2B domain becomes very difficult because of this volatile nature and evolving nature. and overlapping and boundary crossing nature of technology products.

Example will be which we just now discussed. The cameras giving way to smartphones or televisions giving way to personal screens like the tablet.



Also, interesting for high-tech marketing technology product service marketing is this fact represented in front of you by these graphs which shows cumulative adoption patterns of technology oriented products and systems so the growth that was achieved by landline telephones or the growth that was achieved by automobiles. For example, over 50, 60, 80 years can easily be compared with the almost exponential growth, very rapid growth achieved by cell phone, mobile phone or microwave ovens and domestic devices or DVD players over just maybe 5-10 years of time.

But take for example DVD players. This diagram was created in 2004. If you look at the DVD player graph towards the right-hand side, already in 2004, even though DVD players came into the market maybe around 2000, just in four years, the growth was leveling off. And today, most households have their DVD players languishing. Many computers no longer have an inbuilt DVD player.

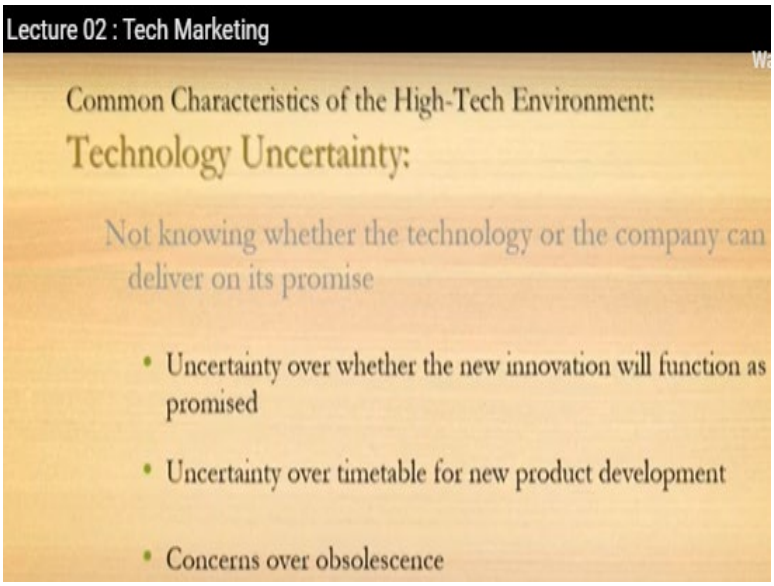
In fact, they are on the way out because the whole mechanism of content delivery has gone through huge transformation. So people now just download the content necessary from various kinds of online services and they no longer possess a DVD player needing maintenance of a library of DVDs. So neither DVDs are produced and marketed today. They are just available from old stocks maybe and they have given way to online content marketing and in fact DVDs you have to buy and possess so there was transfer of value through a physical entity which was the DVD but today that same content you don't need to possess. You can just download it and use it or you don't even have to download it. You can just consume it online. And once you have seen the movie, once you have listened to the song, you are satisfied. You can go back to it anytime you want. Therefore, you no longer need to buy a physical product.

And DVDs, in 2004, this graph was made, which showed the fantastic rise of DVDs in just five year's time. And today we are in 2022, just after about 15, 18 years that product has almost become obsolete. Not only the DVD players, but the DVDs and all associated usages, whether in a computer, whether at home, whether inside your laptop, they have disappeared.

So, this adoption pattern and the rapid acceleration of the market expansion is a very distinctive part of technology, product and service marketing, which distinguishes it from the marketing of staple consumer products like sugar or biscuit or beverages. So, markets can be created and expanded over just a short period of time and the whole as you as we will just now see that earlier the technology life cycle graph we used to call it the S-curve because they had very distinct stages of birth, growth, saturation, decline, and so on. And that has given way to this kind of, as you see on your screen, if you see all the graphs on the right-hand side, they are like hockey sticks, as opposed to the S-curve spanned over a.

So if you see the graphs on the left-hand side, like that of the automotive or that of the telephone, we see a distinct S-like shape. And whereas the graphs on the right-hand side, they're distinctly like hockey sticks. That means they're born and they achieve maturity over just two to three years, and then they disappear. And so all the P's in marketing of such products and services, be it price, be it promotion, the bundle that goes, the nature of the product, the total market offering, they all are quite different in technology, products.

And so this graph, this diagram, explains to you very succinctly a lot of distinctive features of technology marketing or marketing of high-tech product systems or innovations.



So technology uncertainty we have discussed. This slide sort of captures the key points. So this is the concern over obsolescence which overshadows all the other features. And as I discussed that the technology uncertainty is not confined to one particular product domain because one sort of technology products can be subsumed by another kind of technology product. And so one segment may disappear and the other segment may actually embody that.

Like, for example, as I discussed, the camera, which was a distinct domain, the phone, which was another distinct domain, are now today fused together in this device and therefore, one has been subsumed by the other.

The competitive volatility is therefore depicted by these changing rules of the game, the your competitor may become tomorrow your collaborator and some completely different industry player may become your intense competitor as it is happening in the television industry. So the television industry is now where the television companies are now quite threatened by companies which were earlier maybe information appliance companies like computer makers or phone makers.

So telecom device manufacturers are now threatening entertainment device manufacturers and so on. And that is what we discussed a little while back, that the product forms are evolving continuously and that creates another kind of competitive variation. So there are competition between product classes as opposed to different brands within the same class. And convergence happens.

Another very interesting concept, like maybe 20 years back or maybe 15 years back, there were two separate terminologies, information technology and communication technology. Today, most of the time, we say ICT. Information and Communication Technologies have converged. And most devices and systems today are having contributions from both of these different technologies. So information, communication, two separate technologies get fused together and become ICT or information communication technology, convergence.

So to end, I will present to you another interesting phenomenon that will have to be considered by marketers for technology products and innovation is the concept of myopia. This was a terminology in marketing introduced by the classical writing of Ted Levitt. So he coined the terminology marketing myopia. And he gave great examples, like at one time, the transportation across America, which is not America, which is a continent, a huge country, it depended a lot on horse buggies, carts which were drawn by maybe six or eight horses.

So to reach the horses and drive them, the coachmen, they used long whips. And Ted Levitt shows that how companies focused on making better and faster horse buggies and longer and lighter whips for the coach people, coach drivers. But all these products and their developments became completely subsumed, completely replaced by the advent of railways. And the railways became the main platform for transportation. So companies which were in horse-driven coachmaking defined themselves myopically, that means with a very narrow and close vision, defined themselves as manufacturers of coaches or even the railways became soon obsolete because of the advent of the air transportation, airlines and cheap commuter commutation using aeroplanes. And people stopped using railways.

So, railways were no longer carrying passengers across the continent of America. And so Ted Leavitt very clearly said that you have to very scientifically or with a long-range

vision define your domain or what you are marketing. So you have to understand that you are not marketing railway coaches or railway engines or railroad service.

But you have to define yourself as a transportation industry. And that way, different technologies may come, but you will be able to carry on with your relationship with customers by migrating, by evolving from one technology platform to the other technology platform if you have defined yourselves without myopia. And the other important aspect as very ably exemplified by Intel is this concept of creative destruction, that it is often important for you to obsolete your own products rather than wait for somebody else to come and make yourself obsolete.

So Intel, for example, obsoleted their own very profitable, very successful line of microchips and came with a completely different series, and the old series were no longer of, so they had this whole 8085, 8086, and all those different devices, but then they came up with a completely different range Pentium. And then even Pentium has now given way to different generations. And so they are no longer now giving names to devices, but they are giving devices are now less important than generations of technology represented by those devices.

So, with that example of Intel, which has completely revolutionized the definition of a product from a physical entity, to a more platform concept of technology is where we will end this particular set of discussion. And we will continue with the features of technology-oriented marketing, marketing of technology products and systems, and the distinctive features to the next session. Thank you.