

Organization Management
Prof. Vinayshil Gautam
Department of Management Studies
Indian Institute of Technology, Delhi

Module No. # 03

Lecture No. # 30

**Environmental Analysis Techniques and
Impact for Organization Growth**

I would like to begin my presentation to you with a very clear cut understanding, that the word environment here is not environment the way it is being used today in the media.

The environment today has to do with ecology, forests, rivers, air, and kind of soil, and **what have you** so on. The way in which we use the word environment in organization management has to do with the environment in which the organization operates; that is, the factors exogenous to the organization which effect the functioning of the organization. Now, what could be these factors? These factors would be government policy, the labor availability, the availability of raw material, transportation systems; anything which is exogenous to the organization and its work functioning but effects the organization is what we will be talking about.

Organization for their purposes is conditioned by the location where it is embedded; what is in the physical system and in the abstract system; for example, law is an intangible but it is very relevant to the way an organization works; it effects labor, it effects safety, it effects retirement, it effects social welfare, it effects working conditions, and all of this is from the legal system. Now, there are certain techniques through which the environment permeates the organization and therefore the organization response to it. We shall look at them very briefly.

(Refer Slide Time: 02:33)

Organization's Environment

Environment has been traditionally defined as all that is outside the boundary of an organization. Like..

- Customers
- Vendors
- Competitors
- Regulatory Agencies
- Financial Institutions

But they are not mutually exclusive as environment does seep into the organization through all that enters it...

- Through the workforce
- In terms of quality of the raw material procured

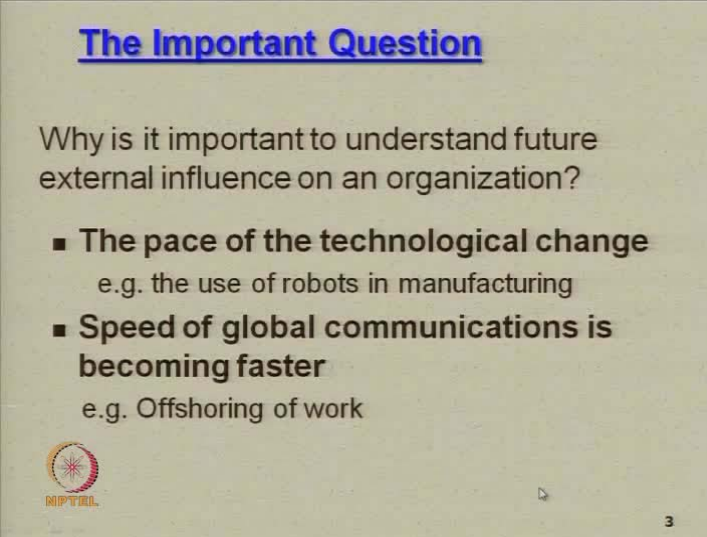
2

An organizations environment has traditionally been defined as all that is outside the boundary of the organization like customers, vendors, competitors, regulatory agencies, financial institutions and this will be just an illustrative list. Like this, there are so many lists in management; this is neither exclusive nor exhaustive, it is indicative.

These are the types of factors which effect the organization, but they are not mutually exclusive as environment does seep into the organization through all that enters it. In other words, there are careers of the environment into the organization, much of it is carried by the employees and touches the employees; it can enter the organization through the supply chain management, it can enter the organization via the openings which are available for customer interaction.

So, no organization is totally closed or ended, but there is always a linkage what you can call it drawbridge, which links the castle of the organization to the environment, just as even in a castle food supplies have to come in, people have to go out; and there all types of reasons why there are drawbridges, so that people can enter the castle, go out of the castle. So that is the physical analogy - limited as it may be - used to understanding the organization, how organization will be effected by the environment which will be outside.


(Refer Slide Time: 04:35)



The Important Question

Why is it important to understand future external influence on an organization?

- **The pace of the technological change**
e.g. the use of robots in manufacturing
- **Speed of global communications is becoming faster**
e.g. Offshoring of work

 IIT BOMBAY

3

So, one goes on to expend **to be** through the workforce in terms of the quality of the raw material procured. The important question is - why is it important to understand the future external influence on an organization?

Now, this is very important for you to understand; what you are learning today is the distillation of past experiences, otherwise you cannot be taught. Your books reflect that; the journal papers reflect that - all journal papers are built upon experience of yesterday; your websites reflect that - now, how updated is the website? The concept of online is a myth, there is always a transmission time between something happening and it getting on the web.

Just as we have explored so often in this class, all these myths with which we riddle our knowledge - obvious result of an interaction like the ones which we have in this sessions - should be to get your lenses clear. Let me give you another example - everyone is talking often about knowledge economy, we are living in an era of knowledge economy; it is so fashionable, now nobody even pauses to think about it.

Let me put your poser - has industrial economy disappeared? Has agricultural economy disappeared? Is there is no service economy? So, what is meant by saying we are living in any era of knowledge economy? This is pure scholastic fantasy; you keep drumming it up and you drum it up so often you have started believing it and I have given you the example of the earth, the sun and time.

So, similarly, online, which having another one of the fanciful concepts, the truth is there is nothing online; it has to be transmitted onto the media from which you are reading. Two things happen: all transmissions take time, some more, some less, but there is no such thing as instant transfer and you must understand this concept; even my voice does not reach you instantaneously, there is a transmission time, and wherever there is a transmission loop, there are transmission losses both in terms of specifics and the virtual character of it.

Let me explain, there is a world of a difference between your hearing something directly, and hearing a report on what has happened; because, on anything which you can hear directly, you are an interface to the event; if you are seeing it, you are a witness to the event, but if somebody is reporting it, he may be a very honest man but he is reporting it as per his understanding of what has happened. So, promptly there is a refraction; you are listening to version as understood by him; during my consultancies, for example, I observe this very carefully and it is a very important feedback to me.

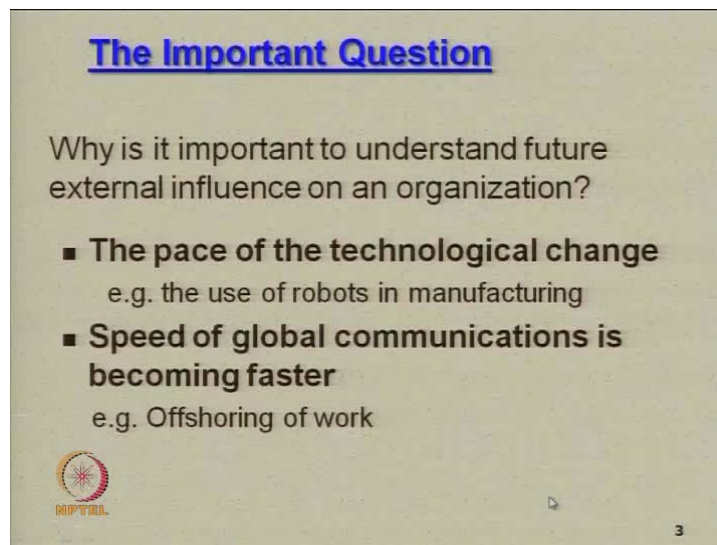
Every session which I have, in fact every conversation which I have, has somebody taking down notes, it is called **aid** - which we do not call it as minutes - we usually call it as memory aid and it is always done by the recipient. If he uses somebody to take the notes, then I deal with the person who takes the notes, the notes must be approved by the recipient of the conversation; and then he sends it to me, I never edit it, because for me it is important to understand what is it that he understood what I was saying. Please note that very carefully, more important than what I said is what he thought I said. Therefore, for me it is to be effective as a consultant, I must be clear on what did he understand rather than what I think I said; there is a difference of class in the two categories.

I find it necessary, session after session, to alert you people to this possibility, because one of the legitimate outcomes of an interaction with me or listening to me must be a value addition to your cognitive level; if there is no value addition in listening to these sessions, then I personally think you are wasting your time. The value addition has to be not only in terms of knowledge and information, but also in terms of finesse and precision.

My submission therefore is - be absolutely clear on the fact, that what you are learning today is essentially the essence of the experience of the past. Therefore, the past cannot be wished away, it lifts through the present and I have said this to you before.

Interestingly, what you are learning today will be used only in the future. Now, here is the catastrophe that future at the moment is unknown, that future at the moment is unpredictable; so what is it that you are doing? You are trying to prepare for coping and being useful in an unknown scenario on the basis of dated information and knowledge where you are spending your time today. Now, I do not want you **to come it upon** that not only you, all process of education is that way.


(Refer Slide Time: 04:35)



The Important Question

Why is it important to understand future external influence on an organization?

- **The pace of the technological change**
e.g. the use of robots in manufacturing
- **Speed of global communications is becoming faster**
e.g. Offshoring of work

 NPTEL

3

Therefore, what is a good teaching? Something which equips you to learn, something which equips you to grow, something which equips you to source information as per the requirements of the times, something which teaches you how to think. Therefore, the teaching method is important; something which I often use in a class, there are committed assignments which are given, which have to be done; there are optional assignments, which carry weightage if you do it; and above all there are tasks which are neither committed nor waited; you do it because you want to do it and it is **them** that I really respect, because they are preparing for the future, as they should prepare for the future.

A preparation **for which is a preparation** for the examination is the lowest quality of preparation; a preparation which is based on merely absorbing all the information which is fed, is a higher level of education, but it still fairly poor quality. The best quality of education is an education which equips you to learn wherever you are, however you are, and you know how to get that information, and more than that, you know what to make of that information; if you can do that, you are prepared for the future.

Life cannot be a simple calculus of placement; if you cannot even be sure of the love and affection of the person you care for, how sure can you be of a placement and how far one's placement will go; but is a poorer quality of mind which chases the placement, it is important, but it is equally important to ask how far would that take you. Can you depend upon that placement for a lifetime? Is that placement something which will be so attractive that you will give up everything for that, no, that is not how placements go.

Placements are usually what you think is the best option you have been given; that is what it is **to do** and how long does it last? Hence it is important to understand what environment is and what are the techniques you use to understand the environment? Because in your world of work, the environment will be so changing that unless you are equipped to grow with the environment and cope with the environment, you will be **dysfunctional**. Imagine a person who did his MBA in 1990; he had not heard of liberalization in India, he had not heard of **direct forest** before the foreign investment the way it is today, he had not heard of the kind of issues which will govern corporate sector. But a person who was a 23 in 1990 will be 43 today, presumably at the prime of his middle career bursting out into the top, if not at the top itself and what would he be asked to handle?

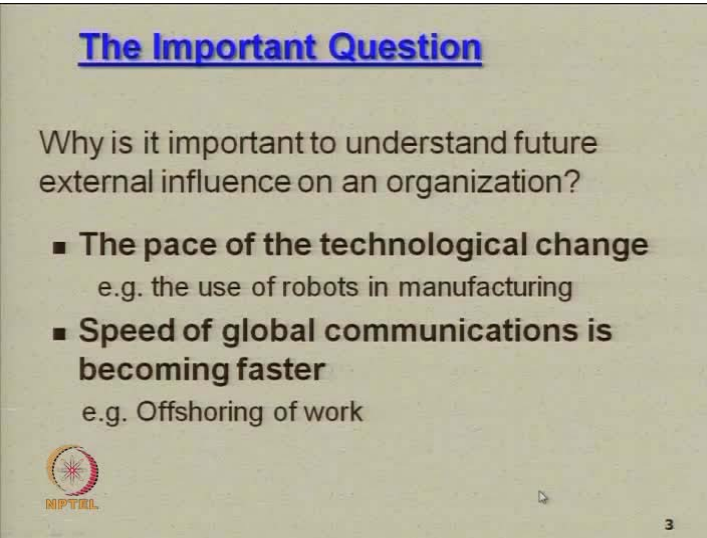
Everything say - what he has learnt? So, how good is he? And why do you think people tumble off a career? Because of their inability to grow and yet such is the irony of human life that when you tell them, people fall asleep; they cannot be prepared for what they cannot grasp and fall asleep; I mean, their mental tuning is cut off, because I can only think to understand what is at their **nose** and as everyone else knows **nose** does not go very far.

Therefore, through the session, like every other session, I will be not talking to you of the present day environment, which of course I will be talking but I will be also talking

to you about the way the environment which effects the organization and I can do **know** better than to talk to you about some of the techniques which organizations need to cope with that kind of environment.

What are the things which are most significant in the environment? To my mind, one of the most critical factors is technological change; there was a time when fossil energy was the key; there is one time when everything was driven by coal; then everything driven by oil; then they started talking of renewable sources of energy. Today, it is quite obvious, the future is going to lie in atomic energy and commercialization of atomic energy is going to be one of the keys to human development, and even that would not last eternity; before you know, atomic energy would have been taken over by something else.


(Refer Slide Time: 04:35)



The Important Question

Why is it important to understand future external influence on an organization?

- **The pace of the technological change**
e.g. the use of robots in manufacturing
- **Speed of global communications is becoming faster**
e.g. Offshoring of work

 3

Nobody knew in 1960 that oil will have to be phased out, oil was fashionable; in less than 50 years, it was quite obvious, the future of this planet or the industry cannot be oil based.

How does a source of energy effect an organization? The kind of energy which you use determines the kind of man hours you need; if you are using coal based energy, you need larger man hours than if you need if you use oil based energy, and if you use electrical energy you need even less man hours. Therefore, it has everything to do with the number of people you employ; it has everything to do with the kind of job design you will have; it has everything to do with the task distribution or manpower allocation than that would

need, and what is the most important? It has everything to do with your throughput processes.

Coal based energy creates soot, electrical based energy does not; so, there is at once a correlation; if you use coal based energy, then it is one of the prime responsibilities of the organization not to dump the soot into the environment. So, all steel plants which draw heavily upon coal have therefore a afforestation scheme or a program which leads to creation of green environment around; that is the way of compensating.

But you do not need to do that; say if your plant is based on electrical energy, these illustrations are meant to show you, how your source of energy affects the organization in many direct and tangible ways; not only that, you will discover that the kind of changes in the environment cause basic changes in the type of technology you use. Therefore, upscale ability of technology may not be the answer, because the basis of technology may itself change.

Upscale technology **in the same silo, in the same broadband**, if the source of energy changes, no upscale ability is possible; you have to change the technology; I hope that point is communicating to you, **be that as it may** I wanted to point out to you that the pace of technological change effects energy, but that is not the example I have given here; **there will may be** this is another kind of technological change, robotics is a major technological innovation.

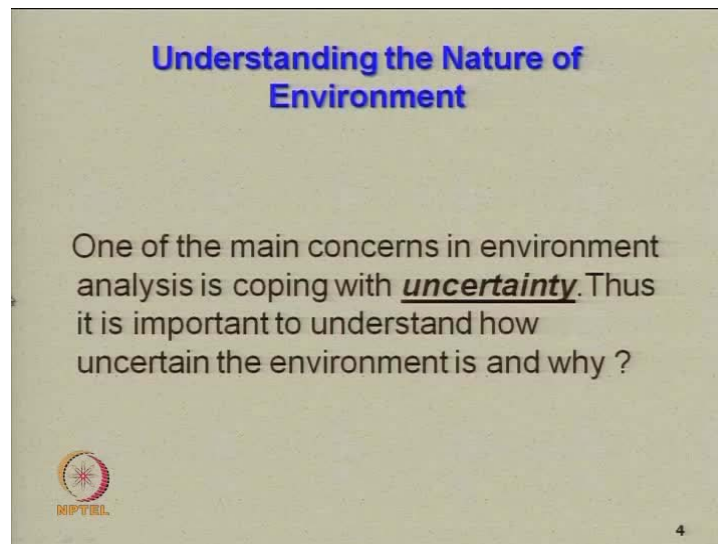
Today, many medical centers, in certain types of surgery are using robotics; the actual surgery is guided out by a robot and robotics is not just in medicine, it is also there in manufacturing; even otherwise, a simple plant like that of a motorcycle is now using robots. Now, that is again a way where technological change of the environment makes an impact on the organization itself, but what happens if your plant is embedded? It an environment which is technologically backward, go back again to that example which surfaces every once in a while - you cannot run faster than the train you are on.

Your organization cannot be more technologically advanced than the environment in which you are in. Who is going to maintain that technology? Where will that technology come from? And ultimately, technology adaptation and technology adoption is a factor of its surface ability and it is the way it can be maintained.

Who wants technology which has a huge problem in its maintenance need? No technology provider, no equipment provider will ever provide the equipment or technology in a distance, where it is not economical to maintain it and if the payments for maintaining it are more than what the profits of the company are, clearly the technology is not worth it, which is why a lot of solar gadgets never took off; they were economically simply not feasible; solar cooking is a great example - people have been talking solar cooking for 40 years, households have not adopted it any in any major way.

So, you may make sense in one aspect of technological innovation, ultimately what will maintain its maintainability, and how do you sustain that kind of equipment? Then, again, speed of the global communication is becoming faster and therefore at times it is more economical to offshore work or outsource work, which explains the end many of the industrial developments which have taken place in Mexico, in India, in China, and many other places. In fact, there is the whole economy of outsource which has to do not just with labor prices as the popular notion, but has to do with the kind of material and the kind of quality which the outsource centers can produce.

(Refer Slide Time: 26:29)



One of the main concerns in environment analysis is coping with uncertainty and I have just explained to you the uncertainty; as everyone knows there is this huge risk of climate change; you may disagree about the quantum, but there is no doubt about the effect that there is global warming taking place and to put it in simplistic terms of everyday

communication, a simpler consequence of global warming would be the melting of the glaciers and one of the simple impacts of the melting of the glaciers would be that certain rivers will not run in certain times of the year, because all rivers originate in some ice formation, **all major rivers any how**; you have hardly heard of a river which has burst of the earth and then become a river.

So, either it comes upwards down flowing or it will comes bottom up; now the examples bottom up or not many if there are any at all. Therefore, plants which need water, further manufacturing processes and therefore deliberately role choose the site near water bodies may have to seriously think of either diversifying or closing down or shifting.

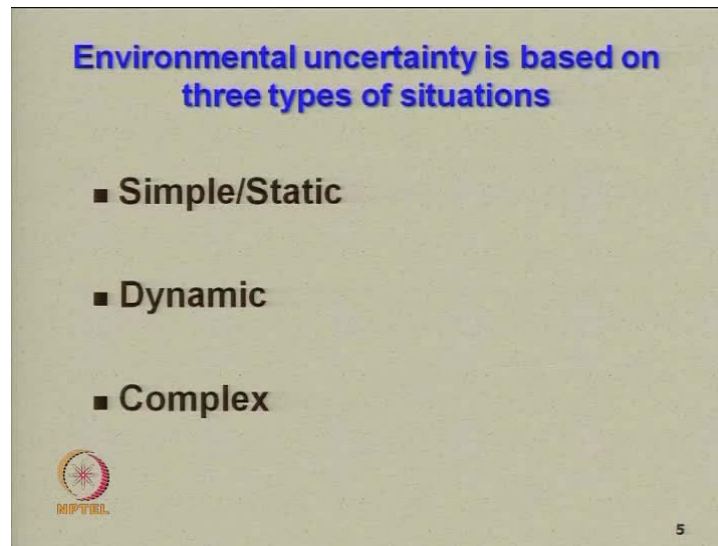
So, there is an uncertainty about the environment; **in very basic ways, there** is uncertainty of life and limb; at no point of time in human history was the whole planet riddled with so many **subversions**, with so many varieties of technologies being used trying to support civil government anywhere in the world, not just one country; you name a country and the country is faced with issues of **subversion**, you can call it terrorism, you can call it Naxalism, you can call it sabotage, you can call it foreign infiltration, you call it what you will, that the common characteristic is the same civil society is threatened by a group of people who can veiled arms and ammunition and it is always the innocent who will suffer; in fact, it is hurting the innocents which give them headlines.

Now, this is not the best place to discuss it, but you cannot have an industrial growth or economic development with social turbulence of this variety; so it is yet another uncertainty. You can have physical uncertainty if your government is running over 10 percent of physically dead which government of India is running. What kind of change would FDI cause? It is important to understand that you may keep patting yourself in the back and claim whatever you want; after all, there is no regulation on claims, and aspirations and dreams. The fact is all your growth is going to be absorbed by the physical deficit and how many people are talking of it and that physical deficit keeps escalating every year.

Now, if you have that kind of a situation that is an additional factor in the uncertainty with which the industry will have to contend. There is this uncertainty about labor, you recruit people and suddenly there is a movement you know - you must speak this language, you must be born here, you must have that **kind of a**, forget where the claims

but it shakes up your entire labor market; another uncertainty which you have to deal with and I could give you more examples, so I have talked of the climate, I have talked of finances, I have talked of security, I have talked of ethnic issues and the numbers can be multiplied.

(Refer Slide Time: 33:04)



The basic point remains environment analysis has to do with coping with uncertainty. So, what good is your learning management today of an era where say terrorism was not such a big story; the kind of assumptions of that time are not a valid today, which is why it is one of my postulates that management theory has to be constantly rewritten. If you are trying to solve tomorrows problems with yesterday's tools, all I can say is good luck to you. Thus it is important to understand how uncertain the environment is and why, which is what leads to a discussion on the topic like the one which we are currently seeking to understand. Environmental uncertainty is based on **three** types of situations; it can be simple or static.

Now, it is again true that simpler the life, the stabler it is. Now, if your household believes in self-help and you do not need help from outside and you do not need servants, then you do not have to worry is a maid coming or not, the dishes going to be washed or not, who is going to wash the cloths? Who is going to do the dusting? You are doing to yourself, you are living at a very simple scale. Then we say no, I am not go to help, I am going to use technology; so I am going to have a vacuum cleaner and I am

going to have an aquifer and I am going to have an electrical cooking space and I am going to have whatever other gadgets, everything from geyser to your cooking gadgets - you name it; then the gadgets start needing maintenance, and then the warranty runs out, and then again the same cycle begins, and you discover it was easier to hire a maid than to look for a maintenance engineer for your RO; because the RO man comes after calling him four times spread over 10 days and then he says, now I have opened it, so it would not work; now another week, but what you need is a change in filter. Now, the filter is to be changed, where do I get a filter? The filter supplies not yet come, you wait for a week; would need be simpler just to have a [FL] a picture it is gone totally out of fashion, who keeps a picture now? So, people deserve the misery the cause upon themselves; they say technological advantage is development, God bless you going for more development; I am not going to come and ask you.

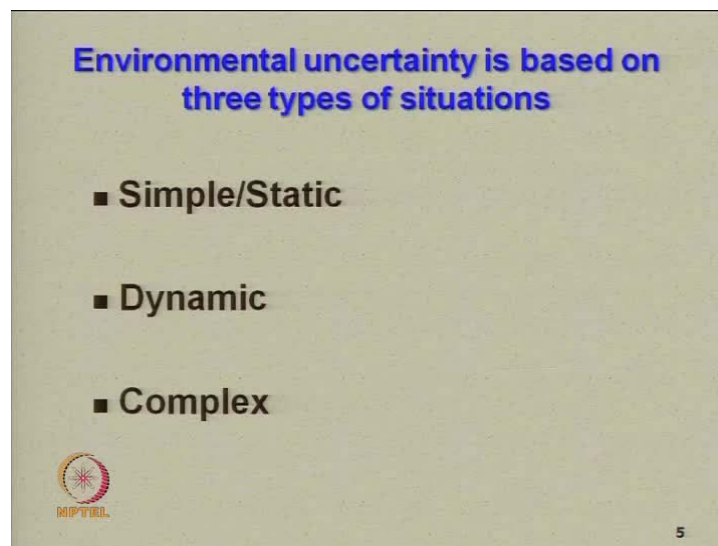
Now, which side of the technological spectrum you stay is a personal choice, it is not for me to push you or to prompt to you; it is not even my job to help you to choose, you choose whatever you want; all the time I saying is whatever you choose has a price; you keep a simple Nano, there is nothing to maintain. You get a grand BMW and then you have to go to Germany to get it for yourself; of course, you pay for it, because if they did not pay you, who will go to Germany and then of course, give you large warranties for it; but the sheer pleasure of having a car with simple technology is - you can repair it anywhere; even if you have car with 9 cutouts is so much simpler to maintain than if you have a car with 27 cutouts and there are cars with many more cutouts. If you do not understand, what a cutout is, you do not deserve to be around in a technologically, I am not even going to explain it or attempt to explain it.

What I am saying is the environmental certain certainties based on three types of situations. The first is simple, the simple you remain the easier it is; you wear a dhoti, you wear a veshti, then you do not have to worry about getting a tailor and stitching your trousers to your size, and of course, dhoti has gone out of fashion. Now, that it has become a sign of cultural backwardness, till of course you become really socially powerful, then you wear the dhoti as an in and then you show to everyone how Indian you are.

Perchance most of us are in no danger of graduating to that level of influence; we spend looking for a tailor, then fretting over it and then finding that all the stitching is done by

such weak thread, that the whole thing keeps opening up all the time. You do not need a survey to know this. So, who prevented you from living like Gandhi did, no one; but Gandhi was an exception, we do not live like Gandhi, we must live modern. Therefore, you know, you buy this brand, you buy that brand, you do choose everything from bows and arrows - so far as the shirt is concerned - and you wear this kind of jean and that kind of jean, and I would not name any brand, because it is very fashionable and if they do not tear, you tear it to appear modern; there is a price to pay on whether you choose for static or simple life - this is what I am trying to put across to you and my proposition is very simple - if you want an uncomplicated life lead life at a simple level.

(Refer Slide Time: 33:04)



If you do not need margarita, you do not have to go looking for what cocktail in combination it would be; you can have just the tequila instead. Now, do not ask what tequila is - a single drink which is any day quicker than a cocktail. And for those who are teetotalers just equally welcome to the club, it is always possible to have a simple drink there to rather than a fruit punch or even more a mock tail, because fixing a mock tail is itself a fine art. So, the question is not whether you are a teetotaler or you have whatever life has to offer; the question is - at what level of simplicity do you lead life?

Now, if you think everything else is rotten and you are the one who is correct - bless you is my answer, but pay the price for it which life will extract anyhow and this is the environment. Then uncertainties based on dynamics; if you want to live in a dynamic

mode, you know this is the color which goes with a party dress and if the party is in autumn, it is one type of color; for those of you who are fashion fiends, you will please listen very carefully and if you are going out for lunch, what do you wear, what kind of [choodi] you wear and what kind of pen you carry, and I even told why some people who kept at demonstration, you can alter the case of your mobile, you know with a blue dress you get a blue mobile, how delightfully pretty. Now, why should I have any problems with it, but you are adding to the trappings and the more trappings you add, you suddenly discover, that you are wearing on a magenta colored suit, gods looks adieus.

But, I have seen people with a magenta colored suit and the men have magenta colored mobile and he forgot to buy the magenta colored cover, so they are running around - what will be a shop open just now, I can get a mobile cover; why do you want it? Very simple; I want to wear a mobile, wear a mobile; remember it is an apparel; apparel is anything which you carry on a body; I want to wear a mobile with a magenta top; my answer is keep a mobile case on your belt and cover it up with your safari like I do; nobody knows the color of your mobile and any outsides are relevant; no dock you leave it you lead a very simple one.

You know, you have to come out as classy; so you wear a magenta colored suit with a magenta color mobile and that is called being dynamic.

In other words, convert that into a serious environmental issue; it is the kind of manufacturing that you are in, it is the time kind of goods that you are producing, it is the kind of industrial environment which will determine the kind of uncertainty depending upon a how dynamic or how non dynamic it is.

Similarly, the complexity varies, the complexity varies in many ways, which you can imagine and I have been trying to give a several illustrations - some frivolous, some serious, some from individual life, some from social life and indeed some from industrial environment.

(Refer Slide Time: 42:00)



Simple/Static Situation

- The environment is relatively simple to understand and not undergoing any significant change.
- Technological processes may be simple and markets fixed over time
e.g. raw material suppliers, mass manufacturing companies

 IIT BOMBAY

6

Now, let me walk you through this, what is a simple or a static situation the environment is relatively simple to understand and not undergoing any significant change. In other words, a simple and static situation is a stable environment, which is considered a backward index; just recall that advertisement where this distinguished film stars comes across on the screen riddling the concept [FL]. You see the problem of life is people become [FL] [FL] means satisfied; so he does it with all his player and all his charm and he just equates and he says the problem is [FL] and of course it is all in Hindi; so I do not want to put it all in Hindi, but I cannot find the translation of the word [FL] which is why I had to use by language **move to con** and that is this become more on satisfied, the more unsatisfied you get, the greater development you will have and the greater development you will have by the product which I am selling.

Now, if you fall for that kind of an ad, god bless so you; so you should find a village were nothing has changed for 20 years is a how backward, terrible and **of course, that word – terrible, has to be put with a extract terrible that terrible** becomes even more terrible; then you go for a dynamic environment, you change your mobile cover every party, what is the problem? All I am saying is static environment, stable environment will have one set of managerial tools and an environment which is unstable will have something which is very different in terms of managerial tools.

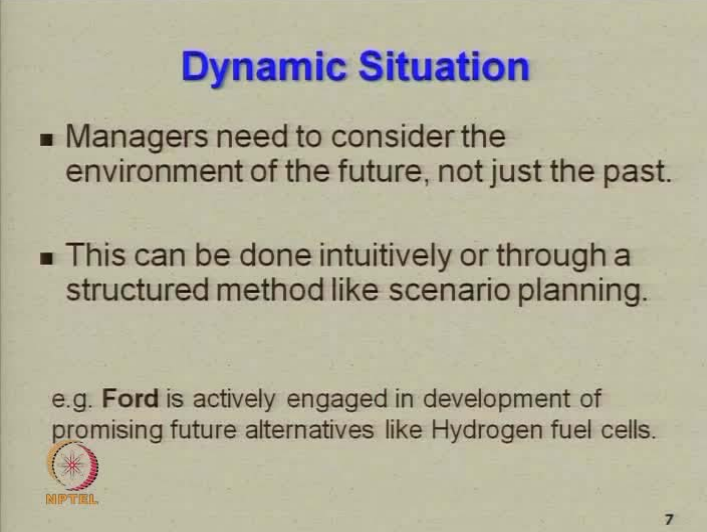
It is a very simple proposition which I am trying to make; I am not trying to make your life simple; I am not trying to make your life complicated; you lead your life at the level of complexity which you are comfortable with. And my answer is God bless you.

But I have in obligation through these sessions to show that there are consequences of that kind of stability and that kind of turbulence, and it cause for different management techniques; that is all I am trying to say.

Technological processes may be simple and markets fixed over time; for example, raw material suppliers, mass manufacturing companies, and a lot of industries have therefore choose fixed by the raw material supply; rubber is a great example, cotton is an another example, where the price of the raw material determines the fortune of the company and where all types of factors come in from local ones to international ones.

There was a stage 5 years ago, where I was clearly of the view that no matter how you ran a tire company, you could not make profits; because, the prices were not only continuously fluctuating, but there were would been artificially pushed up; the same is true of the story with the cotton. The long and short of it is your raw material supply is a major determinant of the kind of techniques you will need to cope with the environment, because a raw material comes from the environment.


(Refer Slide Time: 45:40)



Dynamic Situation

- Managers need to consider the environment of the future, not just the past.
- This can be done intuitively or through a structured method like scenario planning.

e.g. **Ford** is actively engaged in development of promising future alternatives like Hydrogen fuel cells.

 NPTEL

7

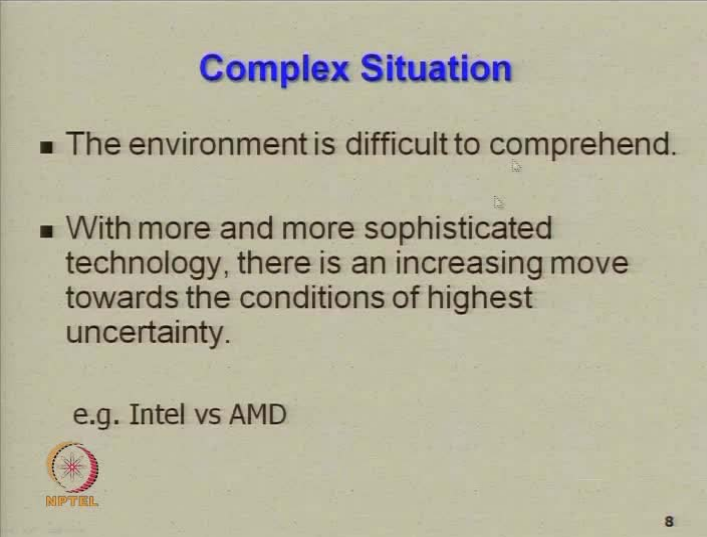
The dynamic situation where managers need to consider the environment of the future, not just the past - now, this is very important. When you look at the mirror and admire yourself at the age of 21, spend some time to visualize how you will look at the age of 31, and the age of 41 and by the time you will think of yourself at the age of 91, you may not even be alive, you would like to put the mirror away, you will not always be as sweet as charming as you are today; no chance for that; you need some kind of an eternal beauty, which you will always attribute to the person you love, but you also know it is a false compliment; nobody had eternal beauty.

But it is nice to hear from (()) the person whom you want to be admired by - you are eternal beauty, you are the eternal woman, you are the eternal man, that is alright for poetry writing and poetry is a lovable thing.

Management deals with the greater reality contact and reality perception that is what I am trying to tell you. In other words, the managers needs to consider the environment of the future, not just of the past and I have already remarked upon it and your ability to envision the future will be your ability to prepare, to cope with. This can be done intuitively or through a structured method like scenario planning.

Ford is actively engaged in development of promising future alternatives like Hydrogen fuel cells. Now, it is a very necessary to give an example, you know where this example comes and you believe it more readily; if I give you an example from Tiruchirappalli or Batenda, you would say - my God, what kind of a management instruction is this; if it is Ford then the world is at peace; if Ford is doing, it must be right. Therefore, I decided to cope with Ford; so you cannot question that; therefore, I am on the right track by telling good learn to envision the future, learn to prepare for it and you cannot fight tomorrow's problems with yesterday tools and that paradigm stands throughout the session and in fact even beyond.


(Refer Slide Time: 47:55)



Complex Situation

- The environment is difficult to comprehend.
- With more and more sophisticated technology, there is an increasing move towards the conditions of highest uncertainty.

e.g. Intel vs AMD



8

Finally, you have a complex situation; the environment is difficult to comprehend. It always much easier to become wise after the event; after the event is over, everyone knows what the solutions are; it is like playing cards, when you have seen what the other person's card is, that you know whether to declare or not to declare; the art lies in knowing what the other person's card is, without your sign. Now, that is not what I am talking about, but it will surely be your escort from getting **from** the known to the unknown. You will understand cards, you will not understand an industrial example and the industrial example here would be learn to forecast technology, do future scenario building, do your exeter pollution method and these are all techniques for getting into the future.

So, Intel versus AMD is a very good example. I am going to come back to more of this shortly, when I will discuss with you the external factors that influence change which fall into four categories.