

Organizational Design Change and Transformation
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Module - 08
Lecture - 36
Organizational Design and Technology

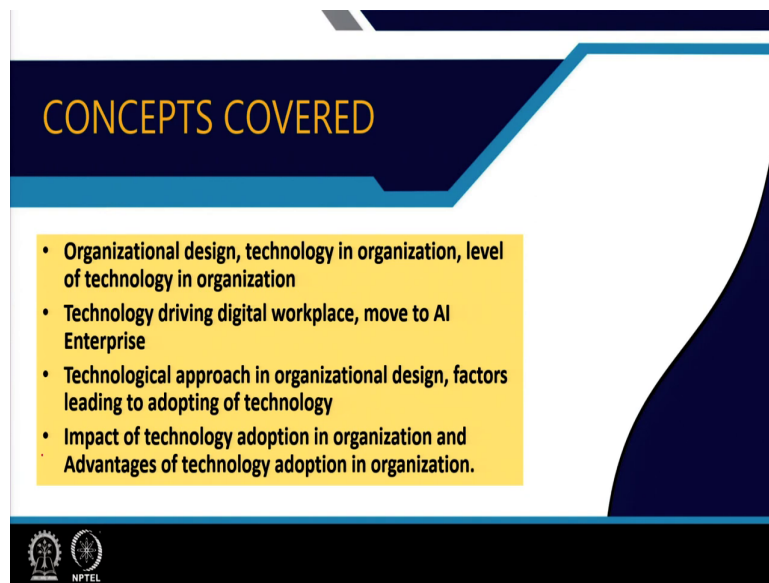
Welcome to module 8 of this course Organizational Design Change and the Transformation. In the previous module, we were essentially looking at Organizational Culture. So, how do we transmit the organizational culture, we also discussed about organizational climate and all the perspective.

Now, today's, we are starting from today in this particular module we are going to discuss about how organizational design has to evolve and also observe the technological development happening in a organizational setup. So, as we all know that you know we have been experiencing technologic disruptions so often now, right. So, just reflect back few years ago how was the organizational functioning, or how you as an individual you know functioning everyday affair.

For example, you look at your mobile phones, you know there is smart phone for everything we are using applications. For example, even a payment transaction, we through go to a UPI or a digital transactions. Even you know e-commerce platforms have come where we are buying things through a technology based platforms.


Now, these evolutions are changing and it is making a lot of disruptions. Now, eventually this kind of a technological development will also have lot of changes you know workplace as well. Now, in this particular module, we are going to discuss essentially on the connection between the technology and organizational design.

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CONCEPTS COVERED

- Organizational design, technology in organization, level of technology in organization
- Technology driving digital workplace, move to AI Enterprise
- Technological approach in organizational design, factors leading to adopting of technology
- Impact of technology adoption in organization and Advantages of technology adoption in organization.

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So, what we are going to discuss in today's lecture is that we are going to discuss about, ok; how technology are you know integrated with that organizational design. We are going to discuss about how technology is driving the digital workplace. And also, now moving from you know move to AI base enterprises and you know we are also going to discuss about technological approach in organizational design, what are the factors that is leading to adopting of technology.

See, for example, what we are actually seeing know, as an employee we are already been working in a company when new technology comes up and are naturally the challenge is that how do the employees adopt the new you know technology. So, we are also going to discuss about what are the factors that enable organization to adopt the technology.

And we are also going to discuss about impact of technology, adoption in organizations, and of course, what are the advantages of technology adoption in the organization. That is what we are essentially going to cover today.

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Organizational Design and Technology

Business transformation, has some readiness factors like governance, accountability, IT enabled capacity to execute, system based operation, machine learning, etc. In all these aspects the organizational design and technology are very closely related with each.

Technology is all around us; it has a number of different impacts on organizations. For one thing, it can impact the structure of an organization. This means introducing new technology to employees through training. Often this requires that more information technology (IT) professionals are added to a workplace.

The slide features a hand-drawn diagram in red ink on the right side. It consists of a central box with a downward-pointing arrow. Above the box is a circle containing the word 'Technology', with the word 'Design' written to its right. Below the box is another circle containing the words 'Technology' and 'End-user'. The diagram suggests a flow from Technology/Design through a central process to the final Technology/End-user stage.

The slide also includes a small video inset of a man in a pink shirt speaking, and the NPTEL logo at the bottom left.

Now, let us start with you know basic understanding. Now, if you look at either you are talking about a business transformations or even to some factors like a readiness factors like a governance or accountability or a IT enabled capacity to execute, system based operations or even talking about a machine learning. Everything as certain component of organizational design and technology, as they are you know closely connected because let us say we are introducing a technology.

Now, technology, where do we introduce? You know we are introducing a technology within an organization set up. Now, you look at two ways, one is you might introduce a technology to an within an organization or probably you are creating a technology for your end user.

So, now, in either side we are seeing this you know technology are entitled. Now, when we are seeing you know either you are you have been introduced with a new technology or probably you are introducing a new technology to your end consumer or a users. Then, obviously, you see that there exists a existing design, as you know first 6 modules you would have discussed about design and structural perspective, how does the structure begins.

Now, the moment you are introducing new technologies the way you been conducting your business or the way you are conducting your day-to-day affairs and activities might get altered. The reason is that technology is going to either simplify refine or alter the existing way of doing. So, in this way, if you look at there is always a connections with a technology and an organizational design.

So, now, if you look at technology, you know now technology is all around us you know, it has different impacts on organizations. You know looking at you know maybe from an operational perspective, maybe from you know improvement perspective, or maybe from a product perspective, we always see that you know technology has lot of different impact on an organizations.

So, it can impact this structure of an organization as I just was explaining that as we introduced any technology there is always a scope for any change in the structure, right. You know because when you also introduce a new technology we have to train a employees. Now, you are also have to you know induct those technology into your organization, then you need to employees you learn, and know how to handle this technology, use this technology.

Then, this also more often we requires more information technology professionals because we are looking at you know more technology things are coming up or technology has actually evolving or even changing the way organizational functioning. So, this give us a premise or to

accept to facts that yes, you know technology and design can has to go hand in hand and technology is going to definitely have an impact on the design.

At the same time, design has to provide a scope for a technology to penetrate and get used in an organization. That is why the connection of technology and organizational design comes into a picture.

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Concept of Technology in Organization

Organizational technology is the sum total of man-made devices/machines or developed processes that alter, refine, or create new goods and services delivered by organizations.

It impacts the composition of the workforce like, makes organization to recruit and hire workforce from across the countries, changing the workplace for employees, and allowing employees to work from anywhere at any time.

The American Heritage Dictionary defines technology as "the application of science to industrial and commercial objectives"

Remark

The slide features a background with a blue header, a white body with a yellow text box, and a dark blue footer. It includes a speaker's video feed in the bottom right corner and the NPTEL logo in the bottom left corner. A hand-drawn red box labeled 'Remark' points to the second paragraph.

Now, let us try to understand the organizational technology. Now, we are talking about a technology, now we are trying to understand what is this organizational technology. See, organizational technology is viewed as some of total where man made may be may be a device or a machinery or may be a system or any process has been developed that is essentially for what?

Either to alter or refine or create a new goods or a services delivered by the organization. Or we are talking about an organizational technology. Or sometimes we will also be get used within the organization itself. So, now you know what does it do? When we are talking about this technologies, either it is going to alter, refine or introduce new goods or services.

Now, what does it do? You know it has impact on composition of the workforces, in what way? Like, you know it makes organization to recruit and hire work one of employees from across countries because probably some country have you know developed skill set of the employees are available in certain countries.

You need to hire employees across countries. Changing the workplace for employees, and of course, allowing employees to work from anywhere we are talking about remote work where the talents are available across the globe. And I am going to tab this you know use of technology and in terms of hiring the employee from anywhere where they are located, you know irrespective of the place or a country or a region they belong.

Now, to just to understand the simple definition of you know technology, the application of science and industrial, to industrial and commercial objects. That is why we are trying to see you know what is the technology. Technology is always about an application of science a for a commercial activities or a business organizations.

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Level of Technology in Organization

The technologies exists in the organization at three levels such as –

- **Individual level:** It is related to the personal skills, knowledge, and competencies being possessed by an individual.
- **Functional level:** This is the techniques and procedures a group or team in an organization works out to perform their work and create values.
- **Organizational level:** It is related to the way that an organization adopts to convert inputs into outputs by making mass production and crafts work.

The slide includes a hand-drawn diagram on the right side showing a box with an arrow pointing to it labeled 'Input', an arrow pointing away from it labeled 'Output', and a bracket below it labeled 'Process'. There are also some scribbles and the word 'Conversion' written above the box. The slide also features a small video inset of a man in a pink shirt and the NPTEL logo at the bottom left.

Now, let us try to understand what are the level of technology been used in an organization set ups, right. Now, if you look at there are 3 levels, one is first is at that individual level. So, what are the technology we are talking about in individual level? So, individual level technologies are one which are related to you know personal skills, a skills of an employee or a knowledge or a competencies being used by the individuals. So, that is an individual level technologies, right.

Then, comes a functional level. Now, functional level is one level high where we are talking about functional means, there may be a group or a division or a department or a functional unit or a strategic business unit. That is where we are talking about a functional level. This is a techniques or a procedure, a group or a team in an organization works out to perform their

work and create values because they are essentially using it toward a better performance or carrying the business effectively.

Then, comes the next level is the you know higher level where organizational level technology, where we are talking it is related to the way that organization adopts to convert inputs into output, right. So, if you look at there is an input, here comes the organizations, there comes the output. So, here I have opened the conversion, right.

You will have input, then output. It is applicable for even for manufacturing as well to the service industry, right. So, you are trying to convert and then try to give you an output. Output can be a product, output can be goods, output can be a service, alright. So, it can be in any firm.

So, organizational level what do they do? They use the technology to see the how well they effectively used to you know convert this input into an output in terms of a product service or a goods in whatever form the organization exists in firm.

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The slide is titled "Technologies Driving the Digital Workplace" and is divided into three main sections, each with a list of technologies:

- Exploiting Information**
 - Ambient knowledge
 - Embedded analytics
 - Production studio
- Enablement of Citizen**
 - Micro-learning
 - Process hacking
 - Silo-busters
- Mobile Productivity**
 - Immersive technologies
 - Office landscapes
 - Personal cloud
 - Virtual personal assistants

Handwritten red annotations include:

- A box around "Exploiting Information" with the text "AP based Social Network".
- Arrows pointing from "Job description" to "ATS" and "Resume".
- A box around "Mobile Productivity" with the text "Onboard VR".
- Other notes include "Elusmate" and "Filter".

The NPTEL logo is visible in the bottom left corner of the slide.

Then, now, we are also trying to look at now how technologies driving the digital workplace. We are all talking about the digital work places. Now, if you look at you know a largely 3 important aspects, one is about you know exploiting information's. Now, this technologies giving you know access to enormous amount of information. You know where we are talking about embedded analytics, it is trying to give you some prediction information, ok.

So, you know it gives you certain, ok what is the trend, what is the pattern, it gives you so much of information's where it uses you know big data analytics, where you use large amount of large quantity of data been used to give certain information's about the insights to the users or for the organization, how you can effectively use those information.

Then, enablement of you know citizens were individual like you know we are talking about the micro learning, you know so, giving more insights and information's with relation to

enabling the citizens to using through the digital work places. Now, comes mobile productivity where we are talking about you know immersive technologies, personal cloud and we are also talking about you know virtual personal assistants.

Now, if you look at you know which is there are lot of technologies which are come up which are making a work place make a more digital. Now, for example, earlier organization used to you know hire people. Even for the elimination level, they used to you know better through a physical or maybe some individual will be engaged in the job to shortlist the candidate, whether this skill of being given in their curriculum vitae or a CV or a resumes matching with my current requirement now.

So, now, comes an automation, right. Where there are you know application tracking system available, this ATS we call. Application tracking system, what does it do? So, where the moment you send the lot of resumes are coming. Then, it filters out it, you know it is kind of a funnelling. So, now all resumes are flowing in, the volumes are more, now I have my job descriptions already given.

So, what does it do? It actually matches the you know skill set of the applicants with the current requirement and it only salted you know eliminates, large number of large pool of applicants who are not fitting into or do not possess those skill set and only gives filters out the relevant candidates to sail to the next round, right.

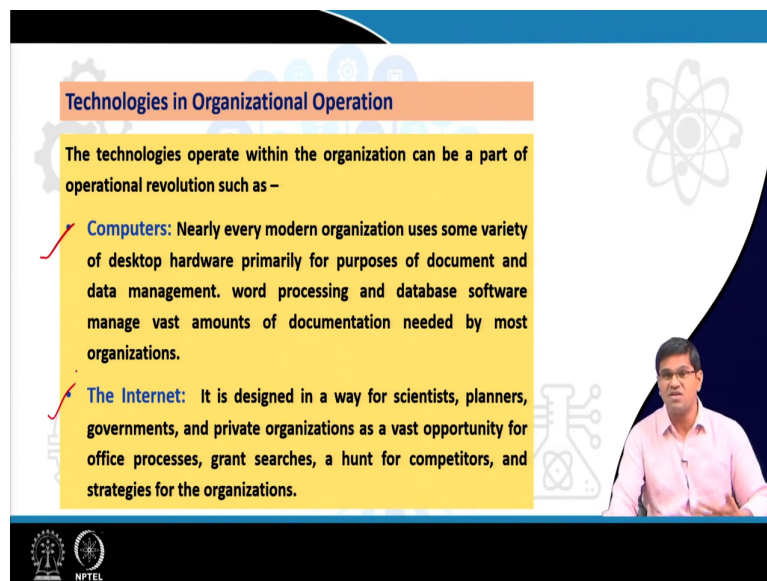
Now, also now see AI based you know initial interviews, initial rounds of interviews are been conducted by AI assisted devices, where it is not that you know employ you know the organization do not involve any people in interviewing the candidates. Rather, it is becoming AI enabled you know initial short you know interactions and discussions. That also tries to understand what type of interest they have, what are their qualifications, what are the skills they have, do they really value for us.

Now, you see look at how effectively this technology been used to make this workplace so digital. Now, even for an onboarding, now the moment you are hiring then comes onboarding. We are talking about you know digital onboarding or VR related you know, virtual reality

tours are being given to an organization, rather than you physically been there in a workplaces to see.

Now, look at you know how the technology has been you know engrossed in an organization set up in all different activities the company does, right.

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Technologies in Organizational Operation

The technologies operate within the organization can be a part of operational revolution such as –

- ✓ **Computers:** Nearly every modern organization uses some variety of desktop hardware primarily for purposes of document and data management. word processing and database software manage vast amounts of documentation needed by most organizations.
- ✓ **The Internet:** It is designed in a way for scientists, planners, governments, and private organizations as a vast opportunity for office processes, grant searches, a hunt for competitors, and strategies for the organizations.

The slide features a blue header, a yellow text box, and a presenter in a pink shirt in the bottom right. Logos for IIT Bombay and NPTEL are at the bottom left.

Now, let us look at now what are the technologies being used in an organizational operations. Obviously, now we are to going to talk about the devices or the IT enable, IT infrastructure or even any kind of technology been used. First of course, a very basic thing is a computer.

So, computer is it is become a part and parts of every organization, right. It is essentially used for maybe a purposes of document or data management or probably for any you know conducting work businesses or even for the day-to-day affair of the organization. So,

computers are very you know basic technologies or the technological device that you have in an organization.

Then, comes the internet where now it is a use to you know for a wide variety of opportunities being applied. Now, as we see you know companies are virtually connected, employees are virtually connected or you know we have been in a different places. And you know most of the service and products being delivered through this internet platform. So, internet is the next type of you know technologies being used in the organization.

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Technologies in Organizational Operation

- ✓ **Social Media:** It is an evolution by most organizations as the technology revolution for being blended with user access to public services. Social media systems provide for user-generated content to be shared across all those on the platform.
- ✓ **E-Government:** It is found in most organizations, including government offices, that they maintain a website through which citizens interact with the government, whether on a social media platform or individually.

Handwritten annotations on the slide:

- Users
- Internal
- External
- Customer/Quasi-customer
- Employees
- Intra Communication

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Then comes you know another aspect you know social media. Now, we look at the social media. Now, you know organization use the social media in multiple ways. One is to you know let us say internal and external, ok. Internal and external, what does it; I am talking

about internal external. Internal is for employees or external is for the customers or maybe an outside world, right.

Now, for the employees, they use it effectively for intra communication sharing information, and also they use how my employees are feeling, how my customers are feeling from a social media. And for example, I have introduced a product or I am delivering a service, and how well my customers are using it, enjoying it, or do they like it do not like it.

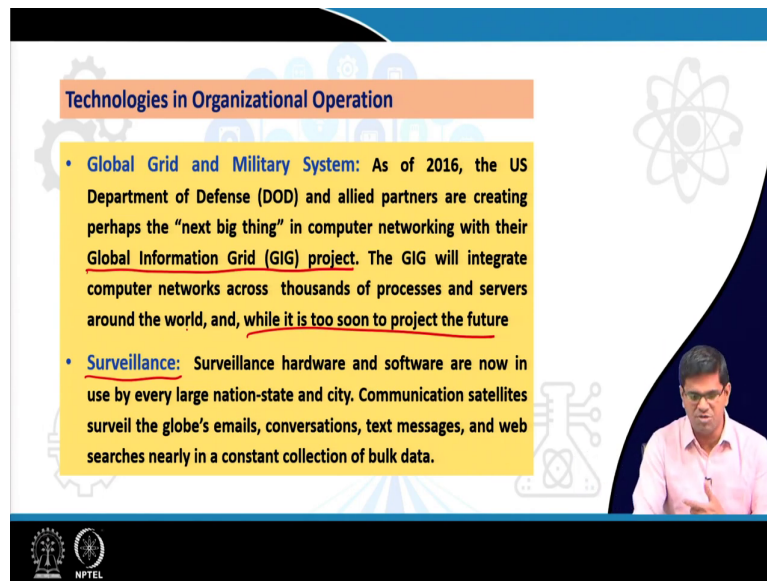
Now, similarly if you look at external, I am able to communicate to my external world talk about my features of the product, features of the service and also talk about my company. Now, so now, there are so many review platforms where it gives a user generated content where this is what we are talking about. Now, see when you are user generated content, now let us say you are talk about an example of e-commerce platforms.

Like you know a Flipkart or Amazon, where you buy a product and before buying a product, what we do? We go to a particular slot and see what type of reviews been given by the earlier people who bought this particular product and what are the reviews are, right. Now, it is called a user generated content.

Now, organization use lot of user's generated content to understand the you know sentiment of my customers or how do they perceive about my company, how do they perceive about my particular product, how do they perceive about my services. Now, technology social media is becoming used in you know at two ways as I said internally as well as externally by the organization.

Then, comes e-government is also kind of you know technology is being used in an organizations, where it is one of the most of the including government offices, they maintain a you know at websites. Now, almost all states in the country are effectively uses the e e-government you know services, where you know you can go you know for all your services you can use the government websites or even the e-debt accounters where you are able to you know avail the services for various aspects, right.

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Technologies in Organizational Operation

- **Global Grid and Military System:** As of 2016, the US Department of Defense (DOD) and allied partners are creating perhaps the “next big thing” in computer networking with their Global Information Grid (GIG) project. The GIG will integrate computer networks across thousands of processes and servers around the world, and, while it is too soon to project the future
- **Surveillance:** Surveillance hardware and software are now in use by every large nation-state and city. Communication satellites surveil the globe’s emails, conversations, text messages, and web searches nearly in a constant collection of bulk data.

The slide features a blue header, a yellow text box for the main content, and a video inset of a man in a pink shirt speaking. Logos for MIT and NPTEL are visible at the bottom left.

Then comes next level of higher level of developments happening around is the you know global grid military system, where US is coming up with this called a project called GIG, which is you know global information grid. They are trying to you know ally with partners with you know various organization to create more information’s or to for the process of it, but now it is. So, we it is too early to understand what are going to impact. But there is also things are happening around.

Now, comes, then comes the surveillances. So, now, you know people use the hardware and software by the large number of people been used. Now, they are been you know the server and the communications satellites are available to survive the emails or conversations or text messages, web searches is nearly you know in a bulk of data being you know surveillance is being been they have been used again you know technology perspective.

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Technologies in Organizational Operation

- **Applied Biophysical Concepts:** Literature focuses on ICT, but the government's role in promoting other technologies has changed and may change society's public and private organizations in huge that are considered in the review of organizational technology.
- **Biometrics:** It represents a revolution in identity management. Nearly all driver's licenses, many credit cards, and organizational badges are encoded with personal unique identifiers, whether by fingerprints or an iris scan.
- **Frequency:** Three frequency development are changing the way of public administration which closely related to biometric identity movement is a frequency tool.

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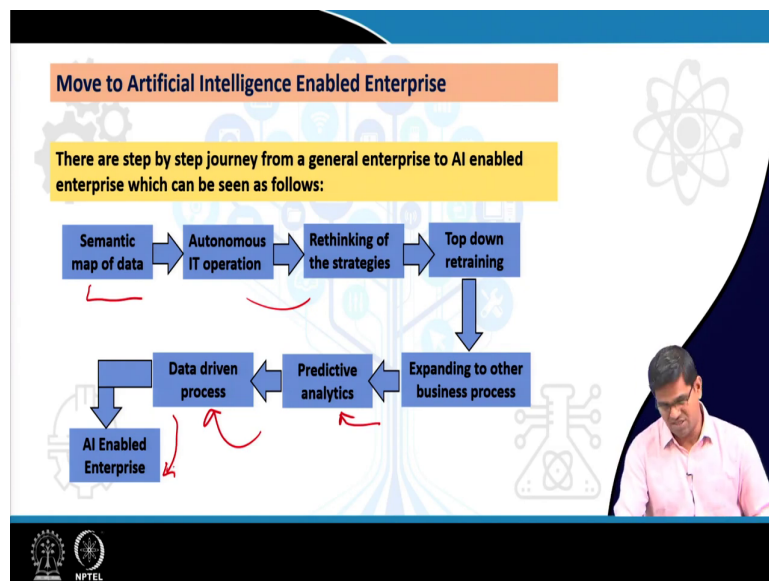
Then comes the you know applied biophysical I will just you know briefly include both of these and then I will move to the next level because this is very generic to specific (Refer Time: 16:17), right. Now, applied biophysical and biometric, you know let us say I talk about the applied biophysical where most of the you know information communication technology literature they are not you know either always focuses on the ICT itself.

But there are something bigger I mean you should also talking about you know application of this technologies in the biophysical fields as well. Now, comes the biometrics. Now, biometric where we are talking about this becomes an identity management. Now, you see in an organization set up not only in an organization where you use a swipe card or a thumb impression or a finger prints been used for you know identity management, right.

For you to recognize you now, this biometric or a sensor based or the information, IRS based things are integrated into various aspects, right. Where you are talking about you know driving license to many credit cards and various things they are actually using this biometrics has been applied for various other purposes and for the application perspective as well.

Then, comes the frequency 3 frequency developments are changing the way you know public administration is happening. So, it is closely related to how the biometric moment is happening with the frequency tools where you know it is been you know extensively used in an organization set up, ok.

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Now, as so far we have discussed about what are the type of a technology or a technology devices or you know services been happening in a workplaces or how they have been using it.

Now, we are trying to you know understand, so how an organization are moving towards a enabled enterprises.

So, now if we see you know, so we are looking at all this step by step journey from a general enterprise to an AI base, you know artificial intelligence based enterprises. Now, you see you know just schematic map of data to an autonomous IT operations creating more autonomous. Then, revisiting the strategies of business, how do you operate.

Then, top down retaining, going to the expansion of to the other business processes, not only restricting one business processes going to you know various aspects of the business process. Then, moving to a predictive analytics with using the lot of data existing data then you are using the predictive analytics what is the likelihood of a particular thing to occur. Then, comes you know data driven processes that leads to an AI driven.

Now, unless otherwise know for an artificial intelligence, we are talking about large amount of data has been used. Now, organizations are also you know look (Refer Time: 18:39) wanted to you know realize the benefit or use the AI based systems or a devices or services effectively in their workplaces to get the maximum benefit in the workplaces. Or at least in various business process or domain wherever it is applicable. Companies or organizations are moving to AI enabled enterprises.

So, where this is there is huge amount of you know saving and the benefit of using the AI based enterprises and also it reduces lot of biases. Because now what does this AI enabled enterprise does know, it you know learns the machine learns and then it is able to predict, right. We are talking about training the machine to predict and understand how things are happening, and then accordingly the machine will respond to the situation.

So, now organizations are also effectively using by moving from one step to two and moving towards AI based enterprises.

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The slide is titled "Technologies in Organizational Effectiveness". It contains the following text:

There are various organizational activities where technologies have an effective role to play. Such as-

- **Input:** It is at work entering the stage to handle relationships with each organizational function with that of outside stakeholders.
- **Output:** It allows all organizations to dispose of finished goods and services to the external stakeholders effectively at the work leave stages.
- **Conversation:** In this phase, conversation is observed to transform inputs into outputs

Handwritten red annotations include arrows pointing to the text, a flow diagram with boxes and arrows, and the word "power" written near a box. A presenter is visible in the bottom right corner of the slide frame. The NPTEL logo is in the bottom left corner.

Now, what are we going to discuss about the you know; so, technologies in organizational effectiveness. You know there are various organizational activities where let you know this technologies have an effective role to play know. It has a lot of important role to play.

Now, let us look at from input wise, you know where if you remember in the previous you know sections I was discussing about the input conversion and the output, right. Now, this input output conversion. Now, so, what type of an effectiveness this technology has in the input process? You know it is at the you know work entering the stage to handle the relationship with each organizational function with that of the outside stakeholder.

So, now the technology has been used in handling relationship with each organizational function, where we are (Refer Time: 20:16) function (Refer Time: 20:17) multiple functions

available. In the first half of the course, you would have learned about various functions and department divisions are available.

Now, how the coordination or communication happening, where technology has been effectively used even for the you know coordination sharing of information, communications. And of course, also with the outside stakeholders not only about within the organization setup, even the outside organization setup.

This technology has been used effectively to you know have the communication and also to share the information and also talking about using of resources or sharing of resources through technology based things. Now, comes the output side. So, what does it actually do? It allows all organization to dispose of the finished goods.

You know dispose means you know effectively you know sending out the finished goods or services to all external stakeholders at the you know; so effectively. That is why you know technology has been used. You know how effectively you are going to use the technologies to make a you are able to deliver it your product or services to the external stakeholders. Or maybe probably we are talking about our customers and consumers, how we are going to you know effectively do their job using the technology.

Now, technology is actually helping in various forms to you know ensure that organizations are able to be more effective and productive in terms of delivering their produced goods and services to the end consumers or the users. Now, if you look at the you know technology, now we are talking about supply chain analytics are coming up.

You know technology has been used to see how you can you know deliver the product or goods in a shorter time or probably most effective way of you know managing the supply chain to reach the end consumers, right. So, now when I say supply chain we are talking about from raw materials to you know input to the output, right. Output are reaching the end users. So, all this chain of connections will be you know supply chain.

You know at the moment you are starting from the input raw materials to reaching the organization in the production process, and the production process is out then moving to the warehouse, from warehouse to the you know retailers, maybe the retailers to the you know end users, right.

Now, there are so many levels where technology is been effectively used in to see how effectively you will be able to you know deliver to the end consumers. Then, comes the conversion process. The you know transformation of input to the output from the raw material to the finished product or goods or services where technology has been having lot of impact on the conversion process as well.

You know in in terms of you know machineries, in terms of you know technologies, in terms of you know IT enabled systems or a devices in which firms you see that know the technology has been effectively helping the organization to transform the input to an output or the end product itself, ok.

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Technological Approaches in Organizational Effectiveness

The approaches that increase effectiveness and measure using technology can be put down as follows:

- **Technical Approach:** It is used for increasing efficiency and quality by reducing costs ✓
- **Internal Systems Approach:** It allows all organizations for innovation, product development, and reduced development time.
- **External Resource Approach:** It is for managing and controlling the outside stakeholders.

Handwritten notes on the slide include: "Mass production" with arrows pointing to "Cost" (decreasing), "Quality" (increasing), and "Problems" (decreasing). There are also two red arrows pointing upwards towards the words "efficiency and quality" in the first bullet point.

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Now, so now, we were discussed about (Refer Time: 23:08) technological effectiveness, now we are going to discuss about technological approaches in the organizational effectiveness. You know these approaches essentially increase the effectiveness in a workplace and also by using the technology. You know we will look at you know first is a technological approach, technical approach. First is a technical approach.

It generally this technical approach is used essentially to increase efficiency and quality by reducing the cost. You know you use the technical approach where whereby you can see can I reduce the cost, increase the efficiency, the technical approach mostly you know focus on can I reduce the cost at the time same time increase the efficiency and also the quality. Because now they use the technology effectively to increase the efficiency and of course, the quality also.

Now, you look at you know the missionaries are used, and you know less human interventions are trying to reduce the errors or the defects on the product you know automations all this been effectively used to increase the efficiency, and the quality of the product at the same time reduce the cost.

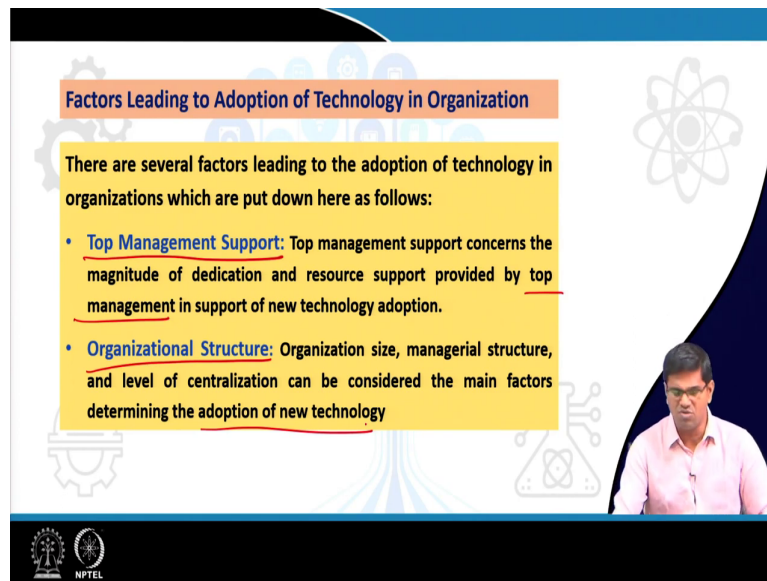
Now, see technology will help in a mass production. So, technology is effectively used in a mass productions. When the mass production happens of course, it will reduce the cost. So, cost of you know production. So, this will also be beneficial for both the users as well as the producers, right.

Both of us will have an advantage because when your you know production cost goes down your price will go down for a user, right. And for a producers of course, you know you can have a you know you can even sell it and reduce the margin. So, both of us have a you know benefit of you know using this technology, if you are able to increase the efficiency and the quality of the product.

Now, comes the internal system approach. So, it generally allows organization for coming up with an innovations or a product development and reduced development time. So, where internal system approach is essentially focusing on 3 important thing. As I was talking about focusing on more innovations, bringing up you know innovative products or a services.

Then, comes you know coming into the new product development also reducing the development time. You know can you bring the development time in a shorter span of time. Then comes external resource approach. It is for generally for managing and controlling the outsider stakeholders. So, outside stakeholders where this is how this technological approaches are coming into a picture.

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Factors Leading to Adoption of Technology in Organization

There are several factors leading to the adoption of technology in organizations which are put down here as follows:

- **Top Management Support:** Top management support concerns the magnitude of dedication and resource support provided by top management in support of new technology adoption.
- **Organizational Structure:** Organization size, managerial structure, and level of centralization can be considered the main factors determining the adoption of new technology

The slide features a blue header, a yellow text box, and a speaker in a pink shirt in the bottom right. The background includes faint icons of gears, a lightbulb, and a network diagram. The NPTEL logo is visible in the bottom left corner.

Then we are going to now so far we discussed about technology various technologies being used in an organization setup, moving to AI based enterprises or probably we talked about what are the technological approaches in terms of input conversion output all that we discussed.

Now, we are going to discuss about factors leading to adoption of technology in organizations. Now, what we are saying you know, though we are concerned, we are talking about your technologies inevitable and technology is been introduced effectively in organizational setup. But it is not always so smooth as we perceive because the moment you are introducing a new technology.

Let us say you are a working professional or probably you are a student. Now, your organization or institute introduce a system which are maybe in a long run, it is going to be

more effective for an organizations or probably reduce certain you know increase the efficiency or you know maybe even increases systemic processes as well.

But probably as a user, you might not accept or adopt the technology in a first instance. You know you might have to look at what are the you know use of this, will I have any you know impact of using it, will it have a negative consequence on me. So, there is always a resistance part of the you know employees as well you know to adopt the technology.

Now, we are going to discuss in what way organization can actually smoothly make this adoption of technology happens in the workplace. The very fundamental and very important is the top management support. So, top management support will actually is very very critical for a technology adoptions because it concerns the magnitude of dedications resource support provided by the top management, right. Say I want to introduce a new technology.

Now, the top management support, you know we are talking about a bosses or a leaders of a company. So, they have to provide support in form of you know accelerating this idea or supporting this idea, not only about that, allocation of resources. Unless they do not allocate resources, you cannot effectively implement or bring in a larger level and scale up the (Refer Time: 27:37) technological penetration within the organization.

Then comes organizational structure. Now, you say you know organizational structure in terms of the size or a managerial structure or maybe you know level of centralization, can be an important factor in the adoption of new technology, right. Your structure has to allow or maybe for example, let us say you are introducing new technology, you need additional employees, who can who are good at this technologies who can train the employees.

Or probably once you introduce a technology where maybe resizing maybe you wanted to make the tall structure to a flat structure or a small structure. Now, this this organizational structure should facilitate the technological adoption to take place.

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The slide features a title bar at the top with the text "Factors Leading to Adoption of Technology in Organization". Below the title, there are two bullet points on a yellow background. The first bullet point is "Organizational Culture: organizational cultures shape the way in which organizations choose to use technology. Specific technology-related elements of culture, such as user attitude to technology, change attitude, and awareness, are also important considerations in this context." The second bullet point is "Technology Readiness: Technology readiness is the technological capability present in the organization for the active adoption of any new technology. While organizational factors play an important role in facilitating the adoption of new ITs, this is achieved by preparing the organization to be ready to accept new technologies". To the right of the text is a video inset showing a man in a pink shirt speaking. The slide also includes a logo of a stylized atom in the top right and the NPTEL logo in the bottom left.

Factors Leading to Adoption of Technology in Organization

- **Organizational Culture:** organizational cultures shape the way in which organizations choose to use technology. Specific technology-related elements of culture, such as user attitude to technology, change attitude, and awareness, are also important considerations in this context.
- **Technology Readiness:** Technology readiness is the technological capability present in the organization for the active adoption of any new technology. While organizational factors play an important role in facilitating the adoption of new ITs, this is achieved by preparing the organization to be ready to accept new technologies

Then comes organizational culture it is very very important. And as we studied in the previous module organization culture is very important. What is you know shared believes or a values my employees has towards any new technologies been introduced. You know whether they are happy to use or whether the culture is very promoting, they are always you know exploring things, accept new way of doing things, you know always enjoy you know using new technology, right.

Then comes a technology readiness is my an organization has a technology readiness; you know which is its essentially talking about; what is this technology readiness? It is essentially talking about technological capability present in the organization for the active adoption of a any new technology concept. So, it is generally talk about do you have a capability, technological capability to you know adapt a new technology only introduced.

So, technological capability in terms of you know IT infrastructure, in terms of IT you know using in IT knowledge of your employees whether your employees have a adequate knowledge and also the infrastructure and other things are available to adapt a new technology. That is called we are talking about a readiness.

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Factors Leading to Adoption of Technology in Organization

- **Internal Expertise:** Individual-level IT knowledge, skills, abilities, and other capabilities play a vital role in how IT and other cultural routines play out. Internal expertise relates to the specialized human resources present in the organization for assisting in adopting new technology
- **External Factors:** Many factors external to the organization might also influence the adoption of new technologies and influence an organizations information management capability overall.

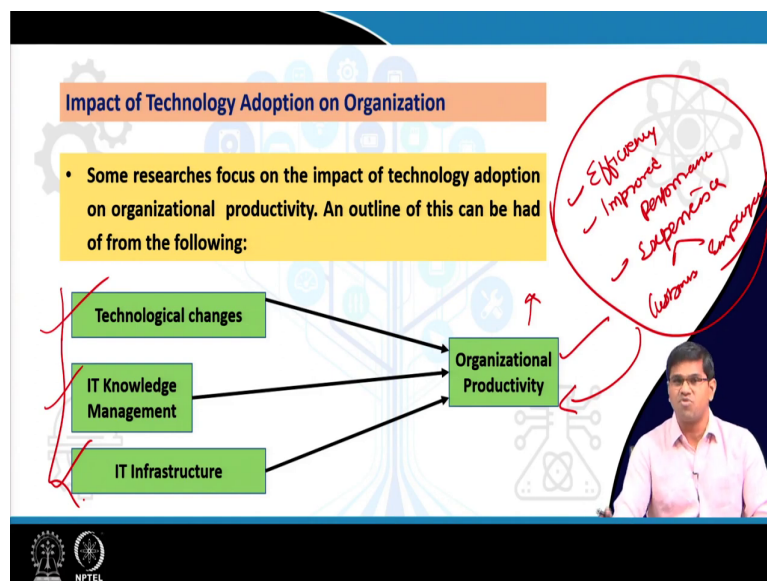
The slide features a blue header with the title, a yellow background for the text, and a video feed of a presenter in a pink shirt. The NPTEL logo is visible in the bottom left corner.

Then comes internal expertise. So, individual level IT level knowledge, skills, and abilities are required because when you are introducing new technology you want your employees are already having certain awareness, required knowledge to use it and perform well in a organization.

Then comes external factors. There can be you know many external factors will influence you to know use the adoption of technology. Maybe you know if you look at there can be you know compulsion, the external factors may demand you to use this technology.

Let us take an example of you know we are doing a you know community in outbreak, where many organizations move from you know physical work set up to the remote work setup. It is like an external factors are also influence you to adopt the technology. Whether you like it or not you have to survey in the business, so you have to quickly transform yourself to use the remote work setup. That is why we are talking about external factors also leads to a better adoption of technology in the organizations.

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So, now, look at you know there are impact of technology adoption on organizations. See generally if you look at you know when you are able to adopt the technology effectively, you

have more organizational productivity. Because we are talking about technology adoption is very critical, we are talking about technology is going to support either way of increasing your efficiency, right. Then, improved performance.

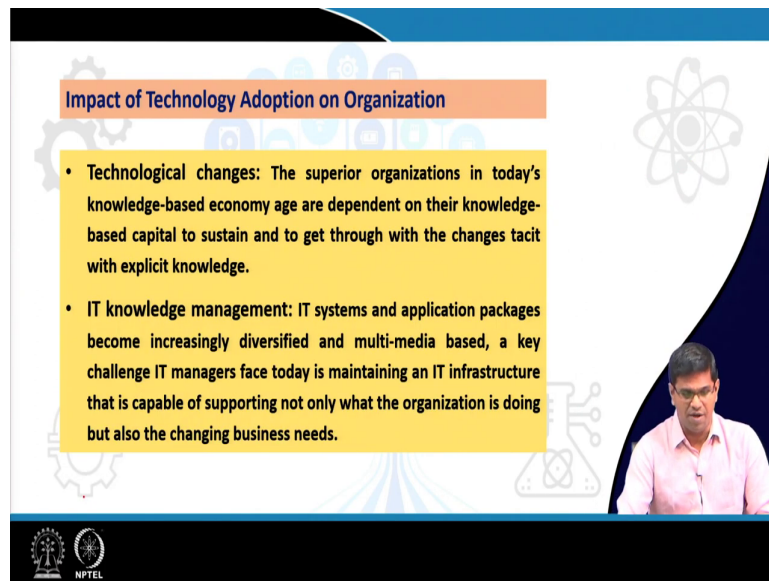
And of course, it can create better experience, right better experience for both customers as well as to employees or internal stakeholders. So, given this you know implications or impact of it, it is very important. You know we are talking about this will obviously, lead to a organizational productivity.

So, now, we are talking about what are the factors, you know we are talking about technological changes, whatever the changes you wanted to implement in your workplaces to increase the organizational productivity or IT knowledge management. Because when you are introducing a new technology, do you have as an organization you know IT knowledge management?

Do you have a system or a system is established to you know store the knowledge, then transfer the knowledge? And we have a people who can train the people make the people use the technology, then of course, providing the necessary IT infrastructure. For example, even when talking about you know laptop or a computer basic you know IT infrastructure, then providing internet or you know dome you know then (Refer Time: 31:44) you know Wi-Fi devices; whatever it is all we are talking about you know IT environment modem. So, many things we are talking about IT resources.



Now, these 3 are very critical into increase the organizational productivity, ok.

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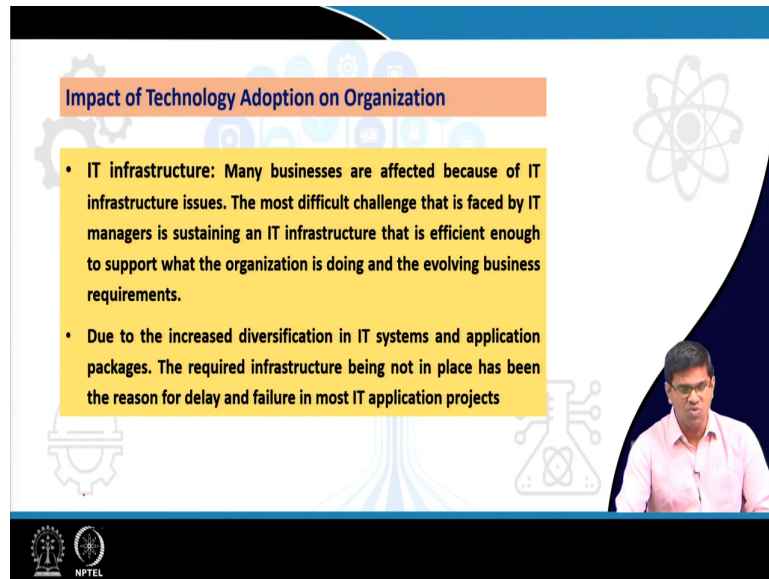


Impact of Technology Adoption on Organization

- **Technological changes:** The superior organizations in today's knowledge-based economy age are dependent on their knowledge-based capital to sustain and to get through with the changes tacit with explicit knowledge.
- **IT knowledge management:** IT systems and application packages become increasingly diversified and multi-media based, a key challenge IT managers face today is maintaining an IT infrastructure that is capable of supporting not only what the organization is doing but also the changing business needs.





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Impact of Technology Adoption on Organization

- **IT infrastructure:** Many businesses are affected because of IT infrastructure issues. The most difficult challenge that is faced by IT managers is sustaining an IT infrastructure that is efficient enough to support what the organization is doing and the evolving business requirements.
- Due to the increased diversification in IT systems and application packages. The required infrastructure being not in place has been the reason for delay and failure in most IT application projects



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Advantages of Technology Adoption in Organization

Adopting technology in organization has several benefits which may be pointed out as follows:

- **Boosting organizational productivity:** The rapid evolution of technology has led to a seemingly endless number of products and solutions on the market. Adopting and implementing technology across all parts of the organization can help everyone perform their best and boosting up the productivity.
- **Enhancing collaboration:** Technology as a business strategy also helps with customer collaboration. Consumers grew more comfortable with online shopping during the pandemic

The slide features a blue header, a yellow text box, and a video inset of a speaker in a pink shirt. The background includes a stylized atom icon and gear icons. The NPTEL logo is visible in the bottom left corner.

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Advantages of Technology Adoption in Organization

- **Selecting targeted technology solutions:** The rapid evolution of technology has led to a seemingly endless number of products and solutions on the market
- **Set long-term goals:** A solid business plan should include a series of short-, medium- and long-term goals, along with a road map for achieving them adding technology as a business strategy
- **Security improvement:** Today's cyber attackers are more sophisticated than ever, and an old-fashioned security posture that relies solely on firewalls and antivirus software is no longer sufficient.

The slide features a blue header, a yellow text box for the bullet points, and a video inset of a man in a pink shirt. The background includes a stylized atom symbol and gear icons. The NPTEL logo is visible in the bottom left corner.

So, this is what we discussed now. So, now, you know what are the advantages of using this you know technology in an organizations? It will obviously, it will increase the organizational productivity as I was discussing. Yes, it will increase the efficiency productivity and it does a lot of you know benefit for an organization in terms of revenue, in terms of a profit, in terms of a growth as well.

And it will enhance the collaboration because as you have seen the technology always enhance the collaboration, and it goes with you know more avenues looking up more collaboration possible to improve your organization from one level to the next level. And of course, you know selecting a targeted technology solutions, we see that you know certain times you go through certain challenges.

Maybe you can using a technology that you will be able to draw solution for a certain challenges that you face in an organizations. Then, setting a you know short term or a long

term goals, when solid business plan should discuss about a short term and medium term long term goals, that will actually add value by using the technology.

Then, security improvements, we are talking about you know cyber-attacks. Now, technology protects the information's or the data you have, right. Maybe about your customer or your own you know information are being protected by using the technology, ok.

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The slide features a dark blue header with the word "CONCLUSION" in yellow. Below the header is a yellow text box containing the following text: "This lecture session has covered organizational design, technology in organization, level of technology in organization, Technology driving digital workplace, move to AI Enterprise, technological approach in organizational design, factors leading to adopting of technology, impact of technology adoption in organization and advantages of technology adoption in organization. Hope the learners will enjoy the learning all about these." In the bottom right corner, there is a small video inset showing a man in a pink shirt speaking. At the bottom left, there are two logos: the Indian Institute of Technology (IIT) logo and the NPTEL logo.

So, now, we have do in this particular lecture what did we discuss? We discussed about essentially what is technology, how this organizational technology has been used and what are the various I you know technology devices are been used in an organizational setup. And we also discussed about what are the factors which are critical for the technology adoption in a workplaces and obviously, we discussed about the advantages of technology adoptions.

So, in the subsequent lectures, we will see how this you know technology and you know technological complexity has an impact on the design of an organization, how we in this particular lecture it is kind of an introductory lecture, where we understood, yes technology and design are critical component. And technology is inevitable in an organization setup.

Now, in the subsequent lectures we will see how this technology in an workplaces alters or impacts the design perspective and also how does it going to provide or increase the

effectiveness for the workplaces in combination of the design and structure perspective. That is what we will see in the subsequent lectures.

See you in the next lecture.

Thank you.