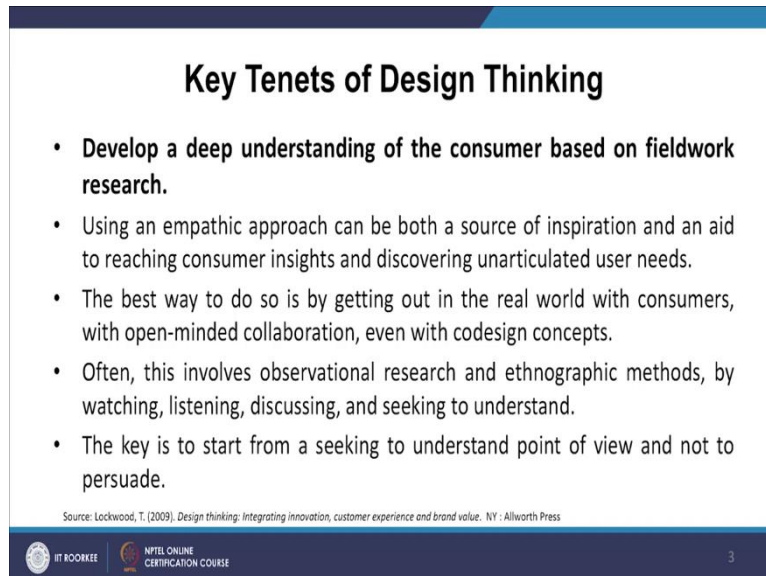


**Product and Brand Management**  
**Professor. Vinay Sharma**  
**Department of Management, Studies**  
**Indian Institute of Technology, Roorkee**  
**Lecture No. 30**  
**Design Thinking – II**

Welcome back, to this section of design thinking, friends. We have set the fundamental thought process around design thinking and the importance of design thinking by discussing a definitional framework by Thomas Lockwood alongwith the objectives of design thinking. And, having gone through some examples which actually are demonstrative of design thinking, let us go into the tenets of design thinking, I have given you a glimpse of tenets in my last video.

(Refer Slide Time: 1:09)



**Key Tenets of Design Thinking**

- **Develop a deep understanding of the consumer based on fieldwork research.**
- Using an empathic approach can be both a source of inspiration and an aid to reaching consumer insights and discovering unarticulated user needs.
- The best way to do so is by getting out in the real world with consumers, with open-minded collaboration, even with codesign concepts.
- Often, this involves observational research and ethnographic methods, by watching, listening, discussing, and seeking to understand.
- The key is to start from a seeking to understand point of view and not to persuade.

Source: Lockwood, T. (2009). *Design thinking: Integrating innovation, customer experience and brand value*. NY : Allworth Press

IT Roorkee    NPTEL ONLINE CERTIFICATION COURSE    3

You see, one of the prime tenets is to develop a deep understanding of consumers based on fieldwork research. I have been talking about a very important element called reflexivity which means taking yourself as the part of consumers or looking at things with their eyes or with their perspective.

These are associated but, slightly different, when you become part of them that means you are discussing them as if you are one of them. While you are looking at things with their eyes in perspective you may imagine that they might think this way (definitely) on the basis of their inputs. But, here, I would request you to think in terms of being a part of your consumers, being a part of that particular research which you are doing about consumers.

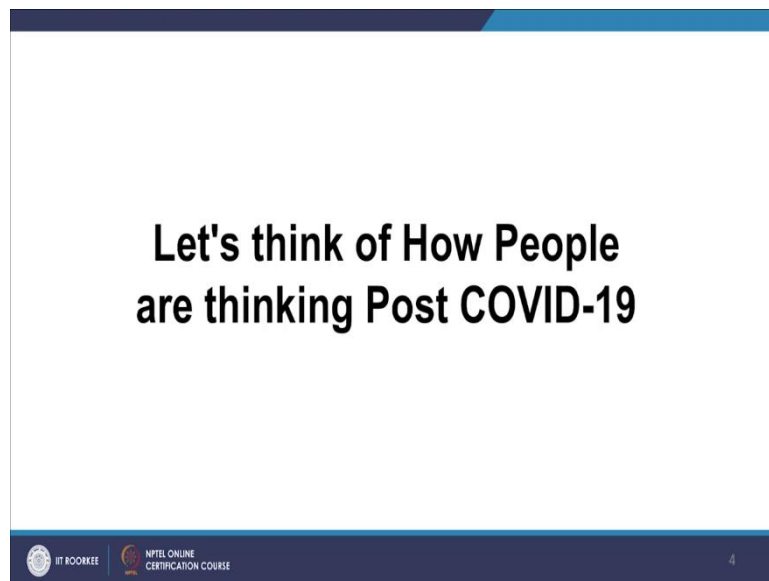
That is where developing a deep understanding of the consumer is based on fieldwork research and reflexive research. Using an empathetic approach can be both a source of inspiration and an aid to reaching consumer insights and discovering unarticulated user needs. You see there are several products, for example, Dean Kamen, (and I will be talking about him, slightly a bit in longer length in the section on innovation) one of the most renowned innovators of our contemporary times designed a climbing wheelchair.

Now, that is a wonderful product, not only in terms of being a product but if you would like to look at things with the perspective of empathy, and understanding the customers' needs. A person who is in a wheelchair wants to climb the stairs, so there can be enablement through ramps and lifts, but if somehow it is not there, so the wheelchair can climb. Now that is the perspective empathy brings to you, and that cannot just come by looking at things with their perspective, but by being one of them, being their part as far as their thoughts, as far as their emotions go, reaching to the hearts of customers, I have been telling you this.

The best way to do so is by getting out in the real world with consumers with open-minded collaboration even with co-design concepts for example is, if you are designing something for children like toys, or rides, or how Disneyland would have come up with somethings? Sometimes I admire, how they have come up so far, bringing in so much for this world. One forgets everything when in Disneyland. They have so many integrated products, they are into movie production as well.

They actually surround entertainment; they are into every form of entertainment and the world of dreams. And often when we talk of getting close to the consumers, often it involves observational research, and ethnographic methods by watching, listening, discussing, and seeking to understand. The key is to start by seeking to understand the point of view and not to persuade reflexivity.

(Refer Slide Time: 5:28)



Let us think of how people are thinking post-covid-19. You see in today's world which is now pre-covid-19 and post-covid-19, most of all, although we all want to forget about it, the point is that things have dramatically changed, our thought process has changed, our perspective about life has actually been restructured in many cases. We are thinking in terms of lots of things which we have been overlooking in due course of time.

So, you see, now the product designers or design thinkers should I say, (because it is much beyond designing a product) would be looking at the upcoming scenario in the world. They would be definitely considering how Covid-19 has impacted the thought process of us human beings for times to come? What kind of lessons we have learned is a different thing, but what is the way of thinking we have developed is the most important thing.

It is just a perspective which can definitely, and then apparently be observed. For example, the way we have started looking towards health insurance, so that is the nearest kind of a thing which we can observe. Then, we have again started thinking about prevention as better than cure. Now, there are several kinds of health maintenance kind of products and services, which are, which have been prominent, but now would become part of our lives somehow.

These are several things just as clues, I would not take you into a detailed discussion on Covid-19 and post-covid-19 only, because we have passed through so much trauma, and hopefully by God's grace, we would not be getting through such kind of a situation in times to come.

(Refer Slide Time: 8:06)

### Key Tenets of Design Thinking

- Collaboration, both with the users and through forming multidisciplinary teams.
- This helps to move a company toward radical innovation, rather than incremental improvement, and of course seeks added value.
- **To accelerate learning through visualization, hands-on experimentalism, and creating quick prototypes, which are made as simple as possible in order to get usable feedback.**
- Since design thinking is focused more on radical innovation, the more experimentation the better, and quick, simple prototypes also help grasp a potential implementation well before many resources are spent in development.

Source: Lockwood, T. (2009). *Design thinking: Integrating innovation, customer experience and brand value*. NY: Allworth Press

IT ROOKIEE NPTEL ONLINE CERTIFICATION COURSE 5

Another tenet is collaboration, both with the users and through forming multi-disciplinary teams. This helps to move a company towards radical innovation, rather than incremental improvement and of course, seeks added value. Now, here is the demarcation actually, and that is why I would be talking about innovation in coherence with design thinking in my subsequent sessions.

Here, I want to emphasize the fact as suggested by thinkers that design thinking focuses upon radical perspective and fundamental changes. Innovation usually talks about incremental perspective, and incremental changes, both are important for product management, but we have to look at them in an integrated sequential manner. I may associate both of these elements with product life cycle and positioning as well, but I think by this time of the course you are quite capable of doing that by yourself.

So, you see to accelerate learning through visualization, hands-on experimentalism, and creating quick prototypes, which are made as simple as possible in order to get usable feedback. I mentioned climbing wheelchairs, there are several other kinds of products, I would be mentioning one of the products in subsequent sessions in innovation, a slingshot by Dean Kamen, for example. It is a water purification system which is very innovative, and it is associated with the fundamental radical thought process, which is radically restructuring water purification, keep that in mind, you may surf about it. Since design thinking is focused more on radical innovation. The more the experimentation, the better and simple the prototypes, which, also help grasp a potential implementation well before many resources are spent in development.

At this juncture, I want you to pause and think in terms of all the elements of product and product management which we have discussed. The terminology which we have gone through, the discussion on product hierarchy, line, width, and so on, and try and imagine that if you are radically thinking in terms of a product, what kind of changes it might bring to several other products, and the way we look at a particular usage for example?

Let me give you a clue. I would not describe it; the clue is headphones. Imagine the time when headphones came in, the rest is history, just think of that intensely and try and observe, the kind of changes behaviourally we have gone through. Have they started focusing on music production with reference to headphones in consideration also. Think of that. Now, let us think of how children can be attracted towards education, for complementing our discussion on collaboration both with the users and through forming multi-disciplinary teams.

There is an interesting and very innovative school near Singrauli in Madhya Pradesh in India, called Veena Vadini school. Go to google and type Veena Vadini school. Mr Birangat Sharma is the founder of that school, and it is one of my favourite narratives. I will be talking about that briefly in innovation but it is a major example of design thinking, wherein, a thinker wants young kids in rural areas to get attracted towards education without any end result in mind. You see education is to enable, that is the simple purpose of education and knowledge, it brings in knowledge, and knowledge propels. So, Mr Birangat Sharma wanted this to be the mainstay.

He visited his village when he was serving the Indian army. A soldier who is concerned about his nation and the development of society, who is trained that way, who has a character imbibed in him, wherein he wants his nation to prosper goes to his own village. He finds that children are not attracted towards education, they are engaged in different professions, which are not healthy for them, which would not enable them in their future, which will deteriorate their health in due course of time. What should he do?

He feels helpless; he is coming back to his unit and reads an article in a magazine, during his train journey. He finds that the first president of our country India, Dr Rajendra Prasadji, used to write with both hands simultaneously. It instigates a thought process in his mind, and after a few days or when he got relieved from his duties, came back to his village and started practising that. Because this idea actually took him to a level wherein he thought of not only attracting the students towards education but enabling them with a different kind of perspective about knowledge, along with giving them additional skills based on this primary

skill, Mr Sharma started innovating upon this idea. Definitely, it was attractive for children, they started attending his school in small numbers. All of them started writing together with both hands and then they started practising writing two different languages and text with both hands simultaneously. It is magical. You just watch the videos on google, those are available there. I was guiding a PhD thesis of one of my scholars who is now an academician, Sumit Mishra, and I motivated him to go there to meet Mr Birangat Sharma during his research.

He went there, and Sumit recorded that on his mobile phone, came back, and showed me those videos. He talked to Mr Birangat Sharma and got so many insights from him. It was interesting to learn how this person, this visionary, or should I say a design thinker single-handedly, in 25-26 years of his journey, enabled hundreds of students, and attracted them towards education. They grew, they became learned people, and now they are capable of writing with both hands. It is doing lots of things for them, leaving aside that their intelligence levels are also getting positively affected probably because of their enthusiasm.

I am not sure about the scientific associations of such kinds of things, as far as brain or intelligence development. That is not my domain, but that can be found through several researches if at all it is there. But again, the point is, this is where the design thinking perspective comes in.

(Refer Slide Time: 17:25)

### Key Tenets of Design Thinking

- Prototypes can be concept sketches, rough physical mock-ups, or stories—or role playing or story boards, for a service design—and always include a form of visualization of concepts, which is the fourth criterion.
- The objective is to take the intangible to be tangible.
- Using visual explanations also provide context, which is greatly helpful when the consumer is a partner in concept development.

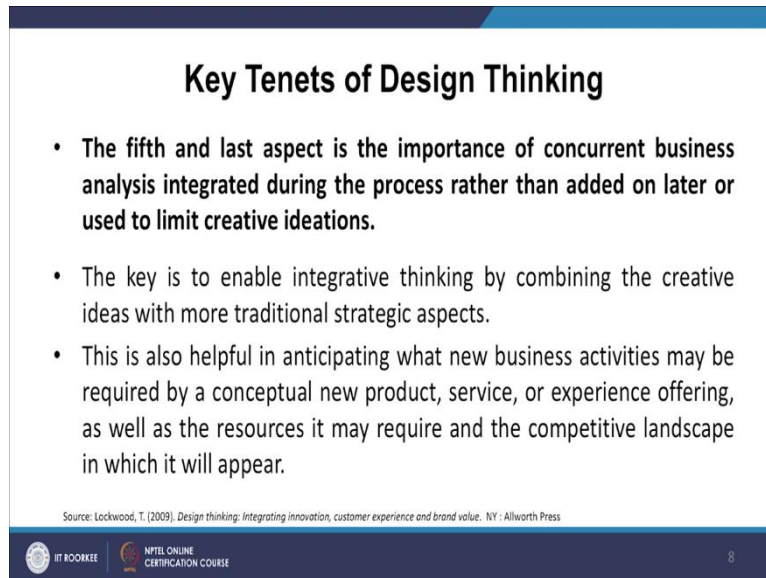
Source: Lockwood, T. (2009). *Design thinking: Integrating innovation, customer experience and brand value*. NY : Allworth Press

IT ROOKIEE NPTEL ONLINE CERTIFICATION COURSE 7

One of the tenets now is that prototypes can be concept sketches, rough physical mock-ups, stories, role-playing, or storyboards, for a service design, and always include a form of visualization of concepts which is the fourth criterion. The objective is to take the intangible to be tangible. The point here is that for example Mr Virangat Sharma developed an art, converted that into a skill, and then converted that into the number of students getting attracted towards education, and passing out of the school.

So, from intangibility to tangibility, I gave you the example of a slingshot by Mr Dean Kamen, and you would realize, that again that is an art skill and tangibility kind of sequence. Using visual explanations also provides context, which is greatly helpful when the consumer is a partner in concept development.

(Refer Slide Time: 18:42)



**Key Tenets of Design Thinking**

- The fifth and last aspect is the importance of concurrent business analysis integrated during the process rather than added on later or used to limit creative ideations.
- The key is to enable integrative thinking by combining the creative ideas with more traditional strategic aspects.
- This is also helpful in anticipating what new business activities may be required by a conceptual new product, service, or experience offering, as well as the resources it may require and the competitive landscape in which it will appear.

Source: Lockwood, T. (2009). *Design thinking: Integrating innovation, customer experience and brand value*. NY: Allworth Press

IT ROOKIE NPTEL ONLINE CERTIFICATION COURSE 8

The fifth and last aspect is the importance of concurrent business analysis integrated during the process rather than added later or used to limit creative ideations. It seems complex, but it is quite simple, and we will talk about this through some examples. You see, here the key is to enable integrative thinking by combining creative ideas with more traditional strategic aspects. This is also helpful in anticipating what new business activities may be required by a conceptually new product service or experience offering.

Paytm karo, remember this? Now, this is what precisely we are talking about. Paytm is not just a product, it is a thought process, it actually encompasses several kinds of design thinking elements. It is not just a payment mode and it has not only positively affected shopping and shopping habits, and I have listed those things in past as well.

You see, mobile wallets, have changed quite a bit as far as the processes go. The direct resultants of mobile wallets are expressed by them in their campaigns, wherein someone does not have spare change to return, so you just pay through Paytm. Those are important apparent aspects associated with mobile wallets.

But, if you will look into the complete domain, the whole lot of a spectrum which they have instigated, they have developed around themselves. So, for example, if you are booking something through that particular platform, what kind of discounts you would get? Now, if you are being offered a particular kind of discount through a particular service, the usage of this service is getting enhanced, and the sales of that particular product are also getting enhanced.



It is such a complete structure as far as this mobile wallet aspect is. This is also helpful in anticipating what new business activities may be required by a conceptually new product or service, experience, offering as well as the resources it may require, and the competitive landscape in which it will appear. How mobile wallets or plastic cards have enabled the kind of banking and finance sector or let us say, how they are affecting positively supporting the banking and finance sector, that can also be seen?

And is it somehow related to putting up a perspective around further employment generation and financial capability or support in terms of financial capability through wallets and credit system, which goes hand in hand, and it reaches towards enhanced consumption as such. If we want to look at it that way then this can also be a perspective, wherein you are visualizing the complete economic contribution one such product may have in due course of time. That can be actually visualized or let us say verified by analyzing what kind of consumption, propulsion these products have done.

When I say consumption propulsion, it means what kind of enhancement in terms of consumption they might have done. So that can definitely be attributed to such kinds of products, and not to mention, that this could have been done only because of the software capability or programming capability of the algorithms or the programmers, who are there.

And just to mention that it also is related to the smartphones we have today, and then the kind of back-end support which all of this is getting from the servers, and the capabilities, and capacities being built by those organizations which are supporting them. It definitely is also related to bandwidth and internet, and so on.

Now, slightly complex kind of thing wherein this kind of discussion on this particular tenet takes us to a thought process. Was it planned sequentially, was someone actually looking at all this in a sequence, or on the other side someone was developing a particular kind of perspective around one thing, and someone was looking at the other thing, and then they collated and collaborated everything with each other?

Meaning thereby that someone was visualizing this kind of financial management system or wallet system, and someone was actually looking at a different kind of programming capability to support this, and then they both came together, both ways it is one or the same things actually.

Because design thinking is a thinking process, which can be emanated from one individual's brain, or so many individuals, they contribute in to reaching a kind of scenario, that is why we say that an era has changed. What kind of future changes this would bring in due course of time? There are several other software capabilities which are being developed to enable this process further.

Then can we think of the fact that all this, which we are discussing here also is positively related to the policy restructuring which countries have done to enable trade between the nations? And just a simple example, a few years back if you were visiting abroad, then you would have a specific kind of debit card or a credit card working for you. Today you have all the cards working everywhere. Today you have a sim card working for you in different zones and domains.

All these things are interrelated to each other, and these are wonderful examples of as far as design thinking, and design thinking capability goes. There are several other things which can instigate our thought process in due course of time. But just to reiterate very quickly in front of you that design thinking is looking at things from end-to-end while imagining the roles of all the people who may get involved in this process in due course of time. What would be the level of their contribution? What would be the enablement that they would be bringing in this all through? And how this whole process would get strengthened?

I would be talking about some wonderful examples, taking your visualization towards extreme aspects associated with design thinking. I would be drawing your attention towards the fact that if you bring in a very small change in an ongoing product, what kind of production process changes go, as I mentioned briefly in the Scorpio example. This is now one of the mainstays as far as design thinking goes.

There are lot many examples if you will go to healthcare, and there are lot many examples otherwise as well. You see, once you imagine that you have a small number of doctors, and a large number of patients, how design thinking is going to help you? Can you introduce a production and operations system for serving your patients?

There are several aspects associated with it. There are very interesting cases which I would be bringing for you to develop a thought process in your mind, so much so that you become a design thinker in earlier stages. I want you to think like that. I will be joining you back with lots of insight on design thinking and innovation and new product development in the next sessions. Till then, good bye.