Designing Work Organization

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Lecture 45

Design Thinking for Innovation-2

In this particular session on the design thinking for innovation two, we will talk in detail about the theories and practices of design thinking, practices of integrating design thinking in the strategic innovation. Design thinking is evolving as a strategy assist for the innovation, then the divergent thinking and the strengthening our thinking through the processes, enter the need for a new design thinking. We need to allow the creative flow to emerge and seek the experienced design thinkers and as usual case study, research paper and the book recommendations and references. Now, whenever we are talking about the theories and practices of the design thinking, different theoretical perspectives have been used in research into design thinking. And one stream of the research through protocol analysis to catch the ways designers are making these sense of their own working processes, another examines methods for the teaching designedly thinking to design students. So, through normative design based protocol, design thinking is much younger than the design thinking is there, but it has a grown rapidly.

In one interpretation, design thinking may also be a way for managers to understand design in a more straightforward way than the through the design management discourse that is built on a managerial platform. When design management started as an academic area in the 1970s, it was taught by the designers aiming to help management scholars and the practitioners understand what design is and what is relevant to the organization is there. In the theory of thinking the modes building on these Guilford's studies, there are the three basic modes of thinking are there analytical, judicial and synthetic. So, analytical thinking is the process for the separation of things from the visible relationship in the process and production in the organization.

Judicial thinking is comparing and making the judgments based on in-depth analysis in the thinking and the synthetic thinking is the process to combine two things and ideas with the intention of making the new process and the combination. Theory of creative blocks are there, according to this theory, there are the barriers to the creativity of the individual and the individual expresses inability to access creativity and hence there is a block created

in the creativity process of the individual. Now, these are theory of problem solving there are the three types of the problems, they are analytical, judicial and synthetic. The concept of analytical problem includes the precise challenges and solutions which are based on the small number of the challenges and have the precise way of working on the challenge. Judicial problems are the influenced by the complex challenges and which require solution that require correct direction based on the problem statement present through the complex challenges.

So, synthetic problems are the based on the open concept that has various ways of working of resolving the problem. Theory of creative process is the choice between these the inner and the outer, conscious and the unconscious mind of this individual through the process of reflection and the active collaboration of the individual. Theory of creative thinking education and the meta cognitive control. So, according to the theory creative thinking is increased through the creative education and supports in the creating higher creative achievements among the individuals. This process also increased the individual creative potential and supports in developing the right mindset for the creativity of the individual.

Practices of the design thinking, at this stage the processes are presented from the perspective of the designers and the consultants. So, design ideas from the perspective of the designers show that ideas are used for customer problem as this is driven by the organizational culture. Therefore, design thinking has an impact on the culture of the organization and the designers need to consider the impact of the design thinking on the organization. So, design thinking from a consultant's perspective demonstrates that the supporting design thinking in providing support for the complex business issues and providing the solutions to complex business problems in the organization. Team based design thinking has a direct impact on design thinking process of the organization.

Following aspects are to be taken care in the design thinking of an organization. Building the right type of the team, or team members from diverse background and the specialization support in providing the solution to the challenges faced by the design team. So, right from culture the involvement of the team members are is an important component for the developing the right culture. Hence, the rules regulations and the processes of the team have an impact on developing the right culture. The team therefore, design thinking team needs to have the right culture for the developing the right directions in the team process   of   the   design   team.

Development of the higher inclusions, cohesion, interaction and the confidence support in the developing the effective team for the design thinking is there. The effective communication among these members supports in sharing the ideas and solutions for the design teams in the design thinking. The role of the leadership is an important aspect in

design thinking. Team leader supports and encouragement support the design thinking team in the organization. So, practices of the integrating design thinking in the strategic innovation is the design thinking in the strategic innovations has the four practices, they are reviewing, simulating, conversing and the collaborating.

First we will take the reviewing. So, design thinking is based on the data collected through the various sources which include the customers, employees and others stakeholders. Based on the data collected, prototype is developed through the concept of design thinking and this development support in development of the right strategy for the innovation in the organization is there. Simulating is the concept of the simulation that provides insight on the experience of the individual in the real world of the business. Simulating opens up strategy practices because it provokes managers to form an empathetic engagement with the customers experience thereby making the market context immediately appraisable.

So, conversing was the particular important in enabling collective reflection and the getting agreement between the participants with the diverse understandings of the strategy. In other words, this aspect of the design-lead, strategizing amplified managers' attention to the real fit within the product market fit is there. This practice was the especially useful when the teams were dealing with the complex issues that could easily be forgotten or lost in the conversational dialogue rather than trying to empathetically understand each manager's perspective (as in the conversing practice) the focus is the collaborative transform was on the generating a shared solution to a complex problem. So, design thinking is evolving as a strategy assist for the innovation. So, how do you create a strategy for guaranteeing that innovation and creativity flourishes in your organization? So, here is a diagram.

Now, here you see right from beginning we have seen that is the design thinking is starting from this R and D (research and development) and then it goes for the production. Then it is going for the marketing and then it is the customers. This is the basic diagram, we have models and concepts we have thought about. Now, here when we talk about it is a strategy. So, where the strategy will be started? The strategy will be started into the research and what is the research? Research is the exploring, discovering and therefore, in that case you will find that is the this research will start into the uncertainties.

Now, when you are starting with the dimensions influencing as an uncertainty, then you have to plan a strategy. So, a strategy for that innovation and creativity, this innovation. So, this uncertainty is going for this part of this research, which is leading towards the innovation. Now, here when we are talking about the formulation from these uncertainties research into a product as an innovation, then definitely in that case, we have to understand that is the what research strategy is required by the organization. So, in the case if we talk

about this particular uncertainty to the clarity is and that is why you find it is given like this because it is uncertainty is there, and then it is making the finally, it is come out with the   solution   and   that   solution   is   the   innovation   is   there.

 During this process, you develop a prototype and here this is the totally the design thinking strategy will be there. So, it is going from the uncertainty to the clarity is there. So, whenever we are talking about, towards from the uncertainty towards the clarity or the focus is there, then we will say that it is going for the innovation is there. Now, beyond making the objects are there. So, organizations are pushing hard to get the DT instilled in many parts of their business and they want their people to think the designers and understand   how   to   apply   the   basics   of   these   design   principles.

 It provides a unique edge to understanding the problem, challenges and issues, a powerful competitive edge is there. So, increasing the design way of thinking can be applied to solutions for the procedures, system resolutions, customer and user experience is there. So, it moves from finding the desirable solutions for the product, service and experiences there. Now, here we have to also understand that is it is not necessarily that it will start with the new term thinking only. It might be that is a thinking is already having the direction   of   the   desirable   solution.

 The direction means here, suppose in the production is there, I would like to share one example. I was working with these SOA industries of the Sriram group and they were in the hexane losses were very high in the production and we were looking for the solution, that is the during production process the hexane losses are to be less. So, then it was a desirable solution was looking forward for that particular experience or you can say that is a process while developing that particular product that is the SOA oil. So, here if you are going into the desirable solution, then it pushing into the contributing to solve more complex problems and therefore, that problem was solved by technical changing the process of the technical production process and then the hexane loss was reduced. And here we will find that is, many times this particular desirable thinking are the solution that gives you   direction   towards   the   formation   of   a   strategy.

 So, here the design thinking is evolving as a strategy assist for the innovation is there. The growing appeal of the design thinking that comes from its capability of the combining imagination and intuition and by applying a certain logic and a systematic reasoning to the explore possibilities are there. So, possibilities of what could be and what is the coming closer to the point of providing the desired outcomes that enhance, solve, benefit organizations and the end users are there. So, here whenever we are talking about the design thinking then these goes with the imagination and intuition is there and this imagination and intuition of the brain it going for the application as a product is there. So,

that could be the what is the coming closer to the point of providing the desired outcomes and these enhance, solve or benefit organizations by the end users the customers are there.

So, design thinking employs the divergent thinking because it cannot be only the linear thinking and as a way to ensure that many possible solutions are explored in the first instance and then this convergent thinking is a way to narrow these down to a final solution. So, here we are thinking of the number of alternatives and therefore, it is becoming that there are many possible solutions, that they are coming and when these solutions are coming they are becoming this convergent thinking, and this convergent thinking is that whatever you are not thinking to a convergent thinking that you will find as a final solution. So, divergent thinking is the ability to offer the different, unique or the variant ideas adherent to the one theme, while the convergent thinking is the ability to find and realize the best ideas or solutions to the given problem is there. So, here we will find out that is the how we are going to identify that this convergent thinking will be making the ability and therefore, related the best idea solutions to the given problem is there and this process of design thinking which is we are taking towards the convergent thinking is there and that makes an organization to organization the difference is there in the manpower is there. So, the best friend of the innovation, strategically and the tactically is there.

So, whenever we are talking about the design thinking is applied to business other social issues are there and it is by making the creativity logical. It will not restrict only to the economic or the social is there, design thinking is naturally applicable to the technical aspects also and then it is also applicable to the number of dimensions which are related to the problem of the political also. Therefore, in this case you will find it is a design thinking it goes with the social, political, economical, technical. So, it is by making the creativity logical you have its power of contribution. So, it can transform our innovative solutions.

So, the design thinking is a highly creative problem solving approach with a toolkit of the methods are there, but more a specific mindset where the adopting is constant if the same process gets repeated too often. So, it may bring only the same results or the dampens the potential to spark the different ideas and the solutions are there. So, design thinking is something for two prescribed does the process is there. So, design thinking needs the creativity within itself bringing the different framing concepts to the different stages of the thinking through process is there. So, here if we identify that is the whenever we are talking about a specific mindset then in that case we have to open we have to open to bring the many, many ideas and these ideas may be evaluated and the best idea will be taken as a solution.

So, it is all about the human centered innovation is there. So, design thinking works best

when it comes to the creating on the human sense of the things and tackling the challenges in a way that the best meets the human needs regardless of the scope and authority of the challenge is there. So, therefore, in that case it will be always found that is the how we are going for the identifying the human needs are there. And naturally a comfort controlled or technical or the linear approach is no longer able to graph with the newly complex and sensitive needs of the modern society is there. As I earlier mentioned that is the whenever we are talking about this control or the linear approach is there which will not be working now, and then we have to think into the divergent thinking and then this divergent thinking which we have to convert into the solution product or the services.

So, it starts with an intention, a desire. So, therefore, desirable solution a need or the yearning towards a better situation or the state like for example, we talk in the areas of the food, energy and water. So, we think about that is the how we can do these better situation in the states. So, we do not know whether this is a mere dream or a practical and the viable part to take, but a design thinking gives us the tools to explore what could be is there. So, therefore, whenever we start in the uncertainty, so therefore, it is the beginning of a dream, because the dream to convert into the practical in reality that is giving us the challenge and that could that challenges will be required to explore that is what could be there.

Now, whenever we are talking about design thinking it will be a holistic approach to the challenges there. So, it is a best suited to addressing the problems where multiple sphere collides at the intersection of the business and the society is concerned. Nowadays, when we are talking about the waste management, when we are talking about the water reaches is there, when we are talking about the food processing, so, alternate energy. So, these all spheres where the society is the number of stakeholders they collide with the business and the logic and the emotion that is also becomes because when you are converting a divergent thinking into a convergent thinking, so, logic and the emotions will play their roles. So, these rational and creative human needs and economic demands that will be the between the systems and the individuals will be there.

So, this equally applicable to the human needs and the economic factors also. So, we would most likely not require design thinking to tackle the 10 problems that is a problem that are simple and that have fixed and the known solutions unless we were seeking a novel or innovative means to solving the problem with a different desired goal, then the typical available solutions are there. So, therefore, if you want to go by a typical solution, then definitely in that case you do not need to go for the design thinking because you are having the traditional solution with you and then you want to proceed in your business or in your society with that traditional solution. But if you want to go on that you are seeking for a very innovative idea, then if your desirable solution is motivating you to come for a different idea, then definitely in that case you will find that is the design thinking and that

will be creating more and more the creativity and the thinking process in the number of directions. So, it is not just a process and design thinking as we talk about that is it is an interaction, and this design foundation interaction here we start with these empathy.

So, that is why it has been mentioned that is it is the becoming the mind, human brains. So, these empathy and this is giving you this particular trigger or the understanding that there is a problem and there required a solution is there. So, therefore, here what how do you go about it. So, you go for this particular desirable solution. So, you start from desirable solution and these desirable solutions that goes into the brain with the help of new ideas and new products you are developing.

So, this desirable solution, this is human brain and there you are creating the new ideas. These particular, these learning or the thought process or what you are studying is and that is giving you the concern with the thinking and other side this is providing a solution also. Here we have to also understand that when this type of the readings are there, then these intellectual thinking will create a solution which will be applicable maybe as a prototype is there. We have talked about this, that is the when we are reaching to the end product how the prototype is making the difference and then you can experiment on it. So, therefore, these are a set of steps are there.

So, here we will find out that however, design thinking is not necessarily only to be understand as a process or the method for solving the set in stone collection of problems. It is also a mindset that can be applied in almost any scenario where the innovations or the thinking differently is required. It can be also combined with other methodologies, business strategies, social innovation models and the management practices. So, it is something that changes depending on its context and can use tools and techniques from the other disciplines are there. Now, when we are making the strengthening our thinking through processes, then it takes the constant creative work.

And these continuity of these creative work blending design and the business thinking will go on and those organizations which do not make design thinking only in the case of the problem, but they are having a culture. A culture is created in the business thinking and various techniques and the frameworks for the different scenarios that need to move from what is correct answer is there. So, often they plan sending us to the many solutions possibilities and they take innovation out to new realms of the solutions are there. And here those meet a more integrative thinking that connects ideas more to the customer needs are there. So, whenever we are enter into the need for a design thinking, so it can play a richer role and be a more powerful contribution contributed to the biggest problems, but it needs to evolve and be seen in a wider context and not seen as a specialized, narrow and limited.

It can connect to a wider universe of the problems in the complexity of design itself. Over the centuries it is broke out of the past confines. Design thinking makes us all design conscious. So, if we allow to it, it is the human centered designs that can draw out of the best of our thinking. If we do allow it to, then this design thinking encourages us to abandon the linear thinking and keeps us constantly undergoing that looping circularity as the expected process and that needs to reset mindset significantly.

Design thinking needs to evolve in our minds away from those past experiments limited to narrow, linear paths of the design thinking. Understanding is highly liberating, sometimes scary, but deeply satisfying when you truly breakthrough a complex problem. So, we need to allow the creative flow to the emerging and seek experience or design thinkers. So, goodwill trained design thinkers are the schooled to be naturally creative thinkers and that is their space they need to extend their toolkit of methods and these tools to produce the new values through the approaches they undertake. And they thrive in the ambiguous recognition in the growing complex problems and there will never be a concrete set of the predictable answers.

So, design thinkers work through the messy and unpredictable business typically for the innovation and discovery analyzing and synthesizing to push those unpredictable surprising creative outcomes. To achieve this, design thinking cannot be a prescribed step by stable detailed process it simply passes through the stages, loops back when the necessary and moves forwards when it seems right. Now, here I would like to take this particular case study of the southern discomfort and in here the Jim Malesckowski remembered that call two weeks ago as if he had just put down the telephone receiver. I just read your analysis and want you to get down to Mexico right away, and Jack Ripon, his boss and the chief executive officer, had blurted in his ear you know we cannot make the plant in the Oconomo work anymore.

The cost are just too high. So, go down there, and check out what your operational cost will be if we move, and report back to me in a week. As the president of the Wisconsin Specialty Products Division of Lamprey Incorporated, Jim knew quite well that the challenges of the dealing and with a high cost labor in a third generation, that is the unionized US manufacturing plant. So, and although he had done the analysis that lead to his boss knee jerk response and the Call Still stunned him. There were 520 people who made a living at Lamprey's Oconomo facility. And if it closed, most of them would not have a chance of finding the another job in the town of the 9,900 people.

So, instead of these dollar 16 per hour average wage paid at the Oconomo plant and the wages paid to the Mexican workers who lived in the town without sanitation and with an

unbelievable toxic influence from the industrial pollution would amount to about a dollar 1.60 an hour on average. And that would be a savings of the nearly dollar 15 million a year for the Lamprey to be offset in part by the increased cost for the   training, transportation and the other matters. After two days of these talking with the Mexican government representatives and the managers of other companies in the town, Jim had enough information in develop a set of the comparative figures of the production and the shipping cost. On the way home, he started to outline the report knowing full well that unless some miracle occurred he would be unleashing a wizard of the pink slip for the people   he   had   come   to   appreciate.

  The plant in Oconomo had been in the operation since 1921, making special apparel for these people suffering from the injuries and the other medical conditions. Jim had often talked with the employees who would recount stories about their fathers or grandfathers working in the same Lamprey company plant. The last of the original manufacturing operations in the town is there. But friendship asides the competition could have already edged past Lamprey in terms of the price and were dangerously close to the overtaking it in the product quality. Although both Jim and the plant manager had tried to convince the union   to   accept   the   lower   wages   union   leaders   resisted.

  In fact, on one occasion when the Jim and the plant manager tried to discuss a cell manufacturing approach which would cross the employees to performs up to three different jobs, local union leaders could barely restrain their anger and Jim thought he sensed an underlying fear, meaning the union reps where representatives were aware of the at least some of the problems. But he had been unable to get them to the acknowledge this and move on to the open discussion. A week passed and Jim had just submitted his report to his boss. Although he did not specifically bring up the point, it was apparent that the Lamprey could put its investment dollars in a bank and receive a better return to than what it is Okonomo operation was currently producing. And the next day he would discuss a report with the CEO, Jim did not want to responsible for the plants dismantling, an act of the personally believed would be the wrong as long as there was a chance its cost can be lowered.

  But Ripon is right, he said to the himself, the cost are too high, the union is unwilling to cooperate, and the company needs to make it a better return on its investment, if it is to continue at all, it sounds right but feels wrong, what should I do? So, therefore, from this case study you can identify that is the how you are to think about this particular problem and the provide the solutions is there. This is the research paper design thinking is the ambidextrous which you can refer and can find out that is the how the design thinking that can help to identify the solutions to the problems is there. This is the book recommended design   thinking in the innovation in learning. This book will help you with the

understanding that is how one can find out the ways in the difficult solutions and can promote the design thinking is there. And here this how innovations in education and educational policies that create new pathways and partnership for the educators are there.

These are the references for your further readings I am sure it will help you to understand more in details about this particular concept. Thank you. Thank you.