Understanding Design Thinking and People Centered Design
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Lecture-13
Concepting and Building
Bundle Ideas and Create a Concept

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Now we are going to speak further about, how do you then take these ideas and bundle them and create a single concept. So, you and your team of 5 people or whatever the number of people have this huge bunch of ideas and if you ideated it some more may be you would come up with even more ideas, right? So, how do you then take these and distill them, crystallize them into one concept.

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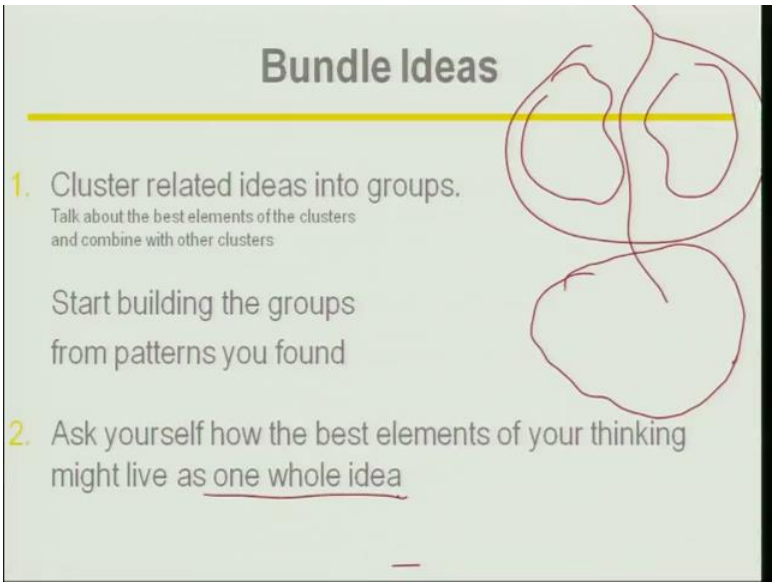

So, what is the notion of bundle ideas that you cluster related ideas into groups, form cluster of ideas and talk about the best elements of the clusters? So, put them in a cluster and then discuss them and try and understand what is you know working about them, what is the good points, what are the you know drawbacks and things like that and then combine with other clusters if necessary.

Sometimes you may even take a large cluster and break it up in two clusters where you say this part of it really means this and this part of it means something else. Start building the groups, as you pull all these clusters together; start to build the groups from where, from patterns that you found, you will see some patterns emerging as you start to form these clusters. There are certain you know things that are surfacing much higher than others and then ask yourself how the best elements of your thinking might live as one whole idea. Remember the design insights we spoke about, all the insights that were related to what you got back from the user, from your understanding of the user, from your analysis of the different types of users that you have studied based on those insights think about how your cluster, your one whole idea could come together as a result of satisfying those insights.

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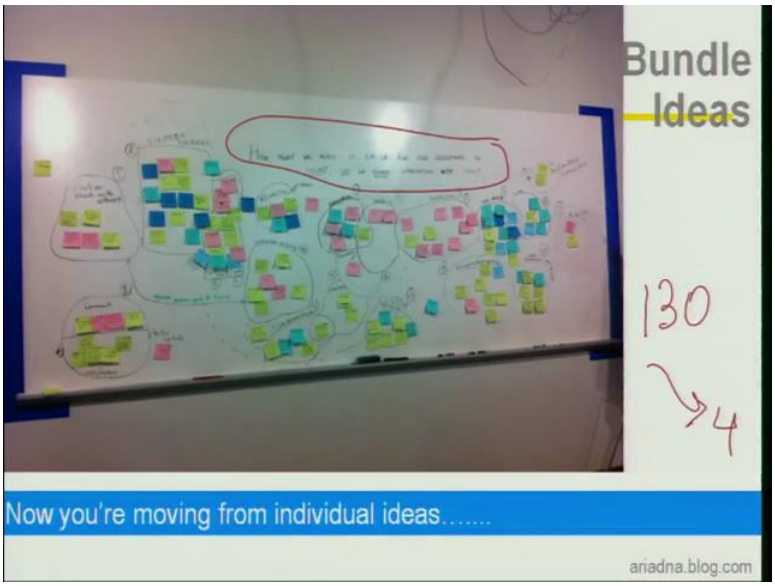

So, you would bundle all these ideas together and this was a particular problem in which the idea was that how could we make it easier for our customers to collect use and share info with their CEO. This is the product in question, the idea in question whatever it is this is you know some idea that is put up on the board and then everyone is ideating, you can see that everyone has put up their ideas and then clusters have been formed with it. So, some of the clusters that have been created are shared folder, tracking the activity, mobile etcetera these are the some of the names that have been given to the cluster. Now the important point to note is that in a matter of less than 3 hours with 13 people ideating, 130 ideas were clustered and brought down to 4 ideas.

So in less than 3 hours with 13 people ideating, you can see how powerful it is, if you think about in an organization the notion of spending three hours or even an hour can generate a lot of information, you know the ideas were probably generated in much less time. Think about how powerful that is; that it can give you all these ideas that can perhaps then lead you on another path of may be a wonderful disruptive innovation for your organization.

So, what is happening now is you are moving from individual ideas onto full on solutions through bundling. Now with all these bundles you are going to move towards one holistic solution.

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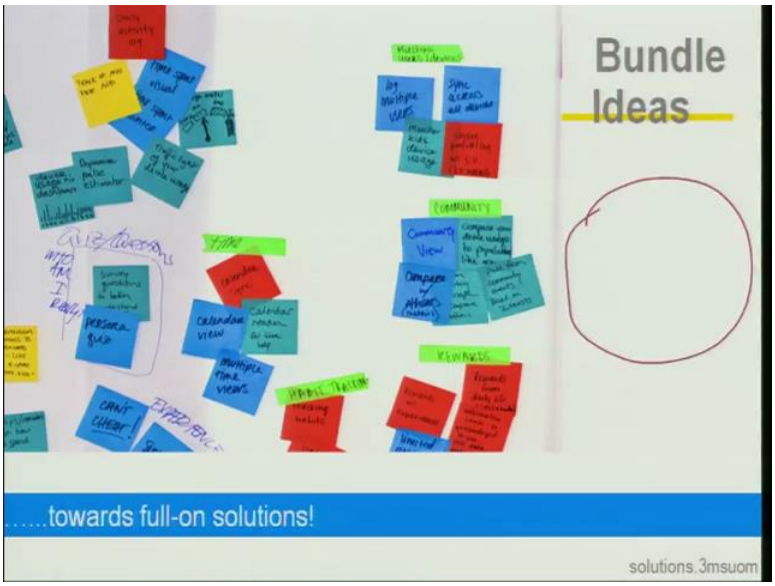

Here is another example where you know the ideation was in order to draft your presentation if, I want to draft my presentation.

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If I want to give a big presentation and I am trying to draft my presentation what are the different aspects of it, what are the different things I might want to create the content may be the way it is delivered, when it would be delivered lot of issues around creating a presentation. So, this was you know trying to first ideate on all of those and then pull

them together and make clusters out of those. So, this is pretty much how it goes where you created clusters and then you name the clusters.

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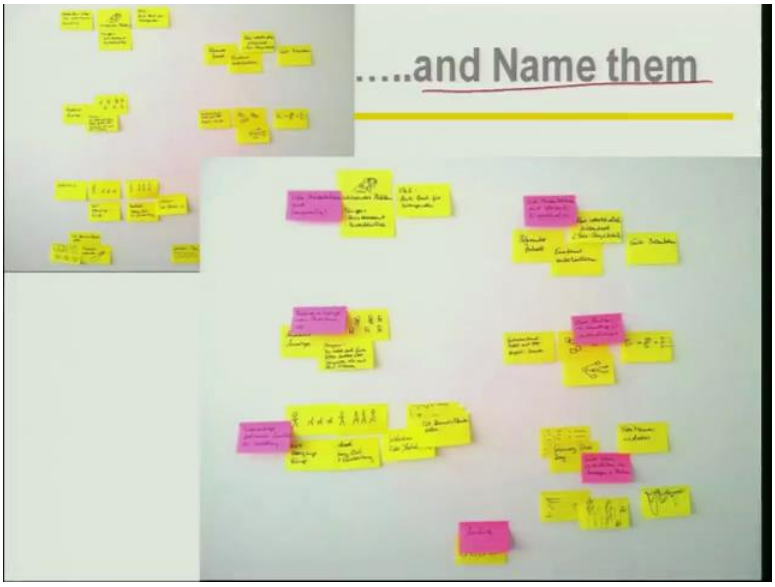

Now this was an example where you know it was an ideation activity trying to think and project what could be the research challenges that could be prevalent in 10 years time.

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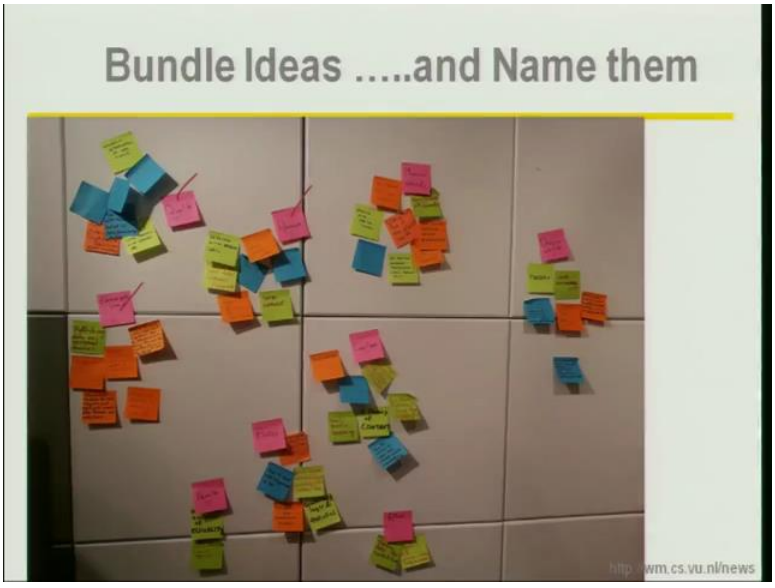

So, this is what the team was trying to ideate on that would be possibly the research challenges that would be prevalent in 10 years time. So, this is what they did they went through a whole lot of ideation then they clustered all the ideas together and then the

different names were given to it such as quality, dynamics, ease of use, ethics and things like that quality, dynamics, ease of use etcetera and then the team was trying to look at these and say who is working on these problems today.

So, this is the exercise that the team was going through again bundling the ideas and naming them. So, you can see through the examples that I have told you that it is applied in so many different contexts to so many different kinds of problems. It is not just for product or service ideation, in trying to create a presentation, in trying to think about how your customers might create and gather feedback for their CEO, in trying to project what may be the key research challenges that may be prevalent in the future. So, lot of different context and problem situations lend themselves very well to this approach.

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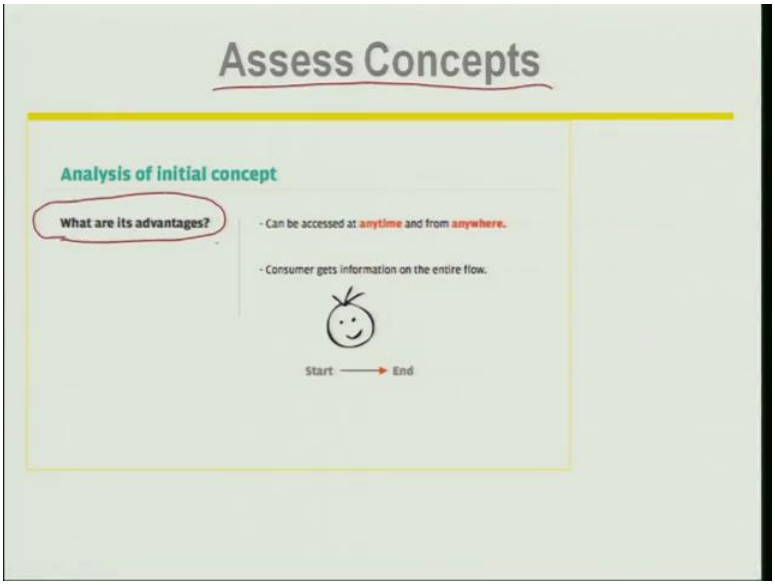

So, this is an example of you know trying to assess the concepts where you would now take these themes and say which ones make sense as you try and move towards a holistic solution.

So, one of the ways and this is from the example of the project which was on e-waste, electronic waste. So, analyzing that concept one of the approaches, they were taking in order to assess the concepts was what are its advantages; what are the advantages of the concept that we are thinking about and what are the disadvantages.

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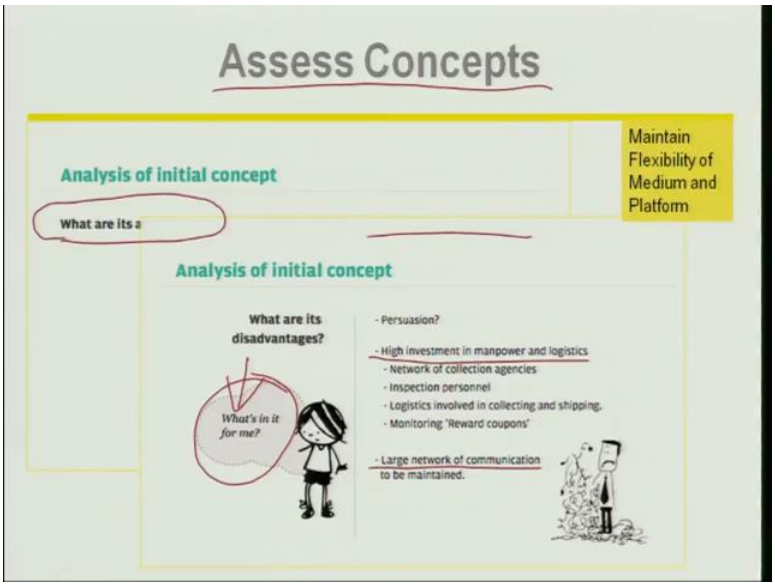

Some of the advantages is that consumer gets the information anytime from anywhere, they get the information of the entire flow from start to end etcetera. The disadvantages of the particular solution they were talking about is perhaps its high investment, large network of communication to be maintained etcetera and another thing that I would like to point you to is this notion of what is in it for me, it is a very powerful idea that you need to think about when you think about the different stakeholders involved and this is a good time as well to think about it that the different people who are impacted by this problem and who impact this problem. If they were to ask the question about your design concept that you have arrived at what is in it for me, why should I buy into it right, what is the benefit to me then that is a hard question that pushes you to answer what is so great about the design that you have pulled together. So, you know this is one of the criteria to maintain flexibility of the medium in the platform.

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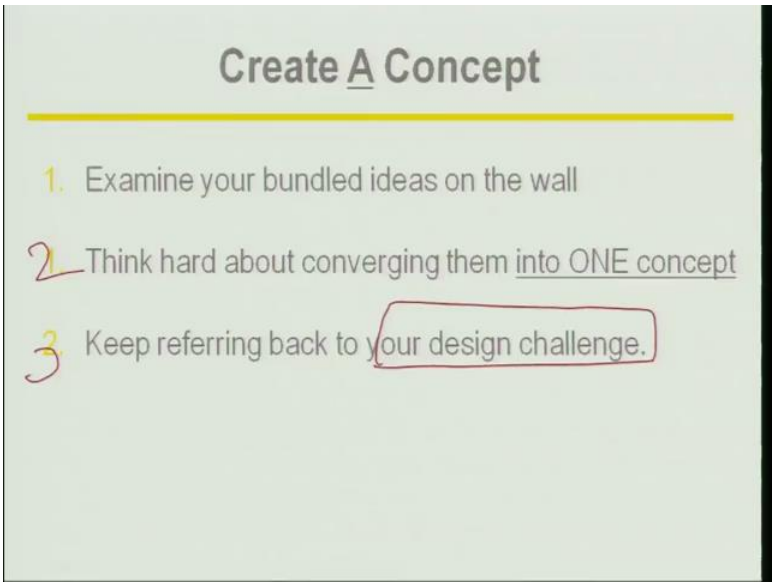

Anyways so, we are moving into creating a single concept now. So, examine your bundled ideas on the wall, think hard about converging them into one single concept, think about everything you see on the wall, how would you pull them all together into one concept, keep referring back to your design challenge and it is a very good idea to have your design strategy statement out there right. We are creating a dash that does dash for dash, so the minute you are looking at your concept; you are reflecting and introspecting and saying does this really do whatever it is that we have said we wanted to do; does it do it for the people that we committed that it is going to do it for. So, this helps you assess your concept, this helps you look at your concept and try and shed light back on it to say well is this in the direction in which we wanted to be.

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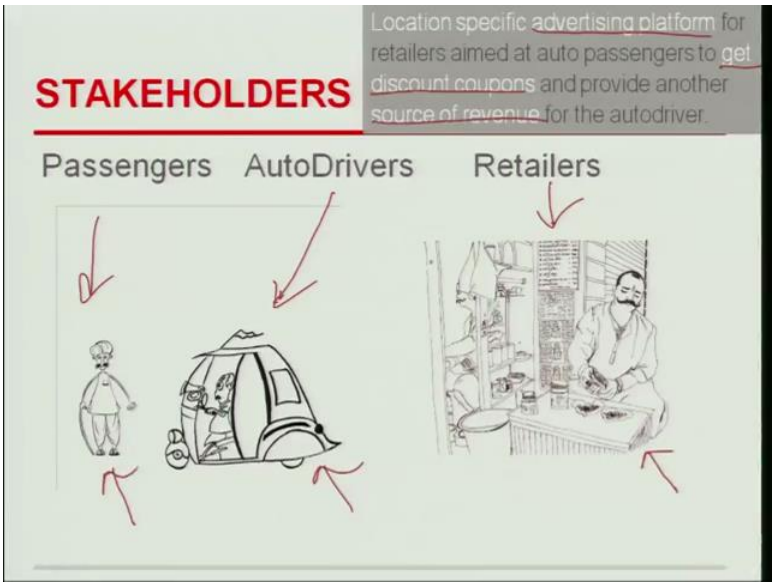

I am going to show you an example of a project in which the idea was location specific advertising platform for retailers, aimed at auto rickshaw drivers. So, it would be sitting inside the auto rickshaw; auto and the customer the passenger of the auto would get discount coupons, the auto driver would get a percentage, so it would become a source of revenue for the auto driver and the advertising platform becomes a source of revenue for the merchant; for the retailers. So, there is your passenger, there is the auto driver and there is your retailer. So, we want to service and through our research, through our analysis and everything we have understood the needs and criteria motivations goals of each of these stakeholders and we have created a statement that tries to service each of these people.

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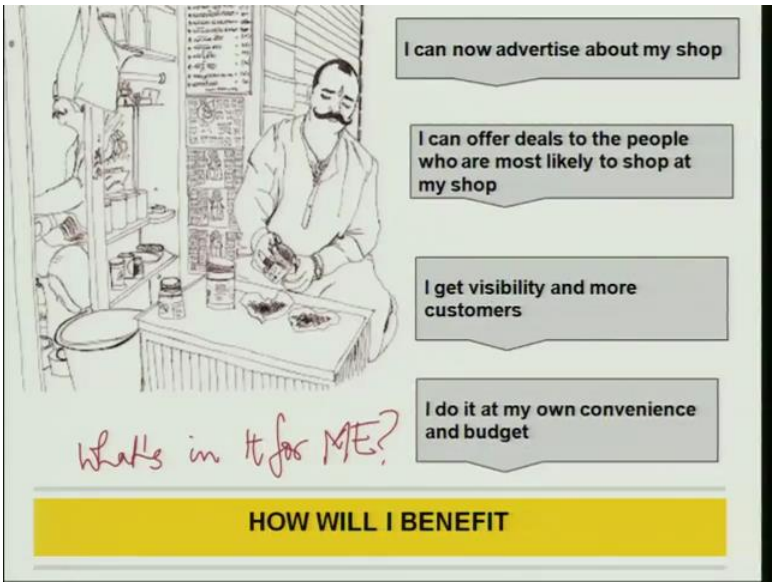

So, this is the analysis that we are going through at this stage on the design concept we had created, how will I benefit in other words what is in it for me right. So, if you think about the retailer the shopkeeper who is putting his ad on that platform. So, what is he saying I can now advertise about my shop, I can offer deals to the people who are mostly likely to shop at my shop, I get visibility and more customers, I do it at my own convenience and budget alright.

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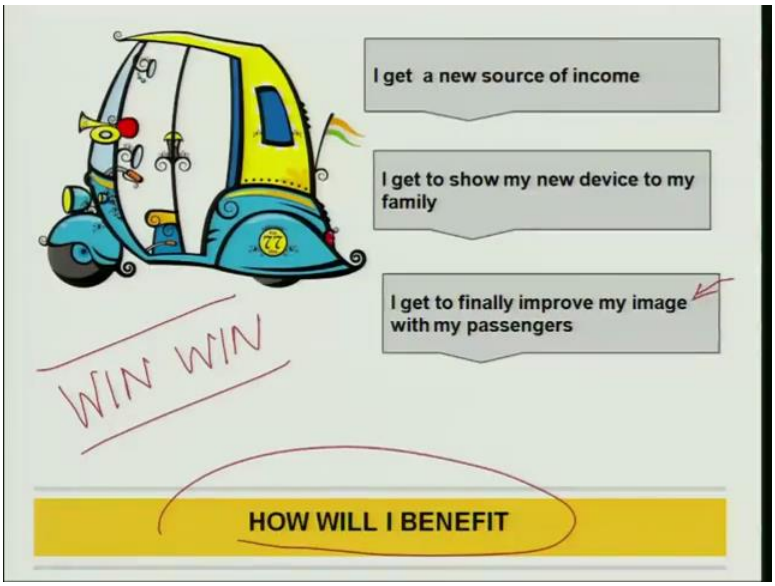

So, what is in it for me these are the things it is satisfying, what about the auto driver he is asking what is in it for me, I get a new source of income and part of this the earlier research about this started out as the fact that auto drivers are so nasty that they overcharge customers and they harass customers and everything with deeper research with deeper you know probing and questioning it was understood why they overcharged customers, what is their pricing model and what it costs them to have an empty ride.

So based on that understanding you know this concept was developed that would work to their benefit also; the best designs are the ones that are win, win, win for all the stakeholders; each of the stakeholders has a win. So, I get a new source of income I get to show a new device to my family right. It is very exciting something that makes him feel very you know good about this whole thing and I get to finally, improve my image with my customers. Remember the auto driver also for various reasons is sometimes compelled to behave the way they do and while it upsets customers they are concerned about their image.

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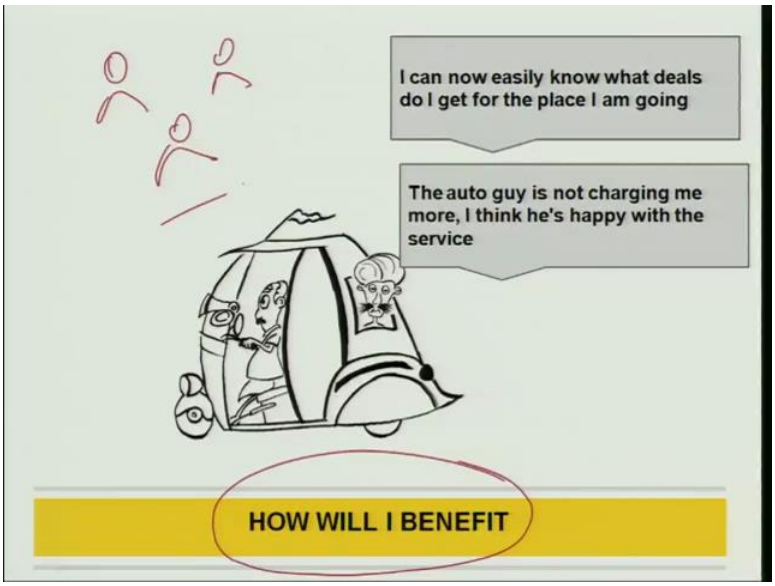

So, it will help me improve my image now what is the customer saying I can now easily know what deals do I get for the place I am going. So, when the customer defines the destination you know some of the deals that are available become visible to the customer. The auto guy are not charging me more, I think he is happy with the service,

so everyone is happy right. So, we were able to answer this question what is in it for me for all the three key stakeholders and based on that the design was assessed.

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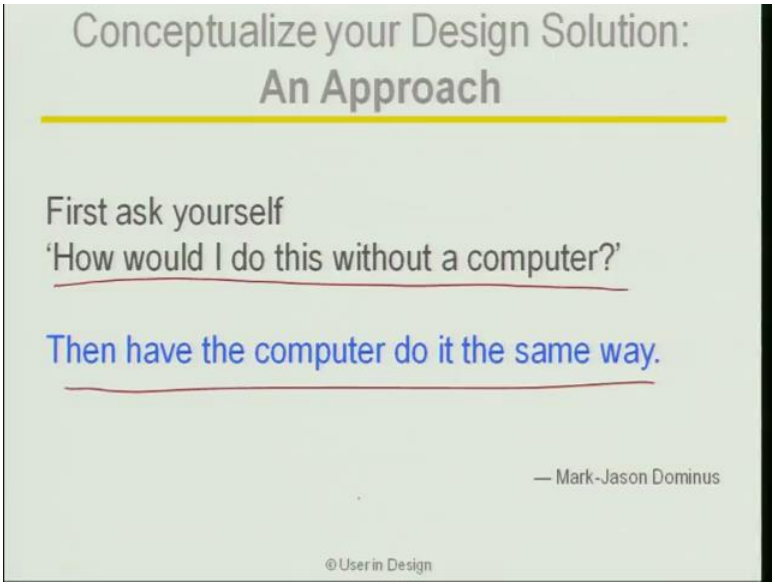

Now, in today's day of everything being in your computers, everything being you know digital of course, it has to be digital it will be digital, but there is something very nice, very comfortable and very sort of inspiring about the paper and pen. So, one approach that is suggested is first ask yourself when you are coming up with the design solution, first ask yourself how would I do it without computer; even though you are coming up with a digital solution it helps to iron out some of the creases in the idea.

First ask how would I do it without a computer then have the computer do it the same way because in working with a computer right away or thinking about this only from the digital perspective or only on the computer sometimes some of the nuances, the flow of creativity that happens so easily, that happens so comfortably with a paper and pen, do not necessarily happen the same way when you sit at a computer with a tool. So, this is a suggestion and approach that it works really well. First think about how you would do it without the computer and then do it with the computer.

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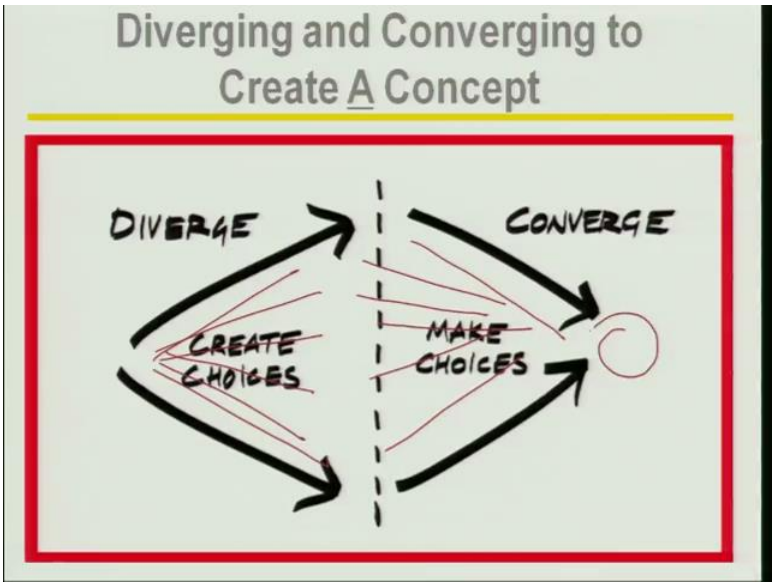

So, this is what we are doing again, if you remember you know we are diverging because we created all these different concepts and choices and then as a team, we are making choices which is when we are narrowing this down again this was a broadening activity and then we are narrowing it down to a converging part.

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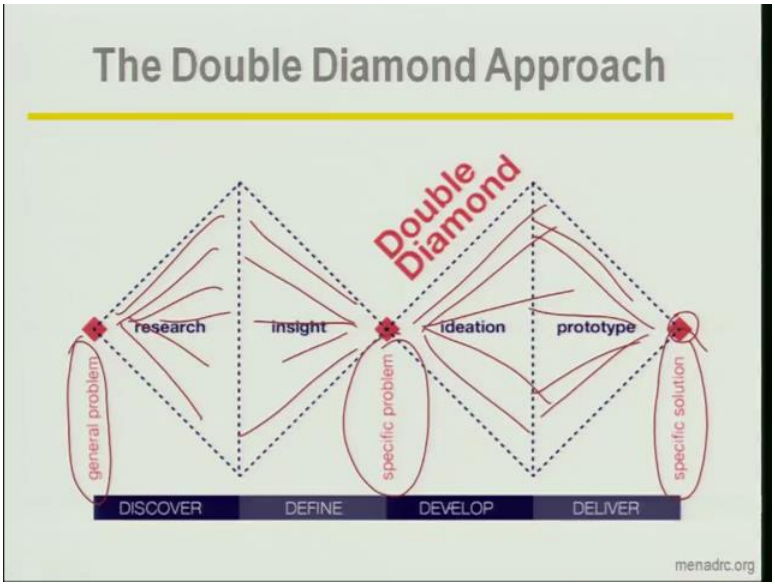

So, the double diamond approach as it is called which I sketched out for you earlier. So, we start out with a generic problem and then arrive at a more specific problem through the divergence in research and then, the convergence in the insights and then in ideation

we again diverge and then again we converge when we create our prototype and this we arrive at a specific solution right a generic problem, a specific problem and a specific solution through discover define develop and deliver phases of the design process.

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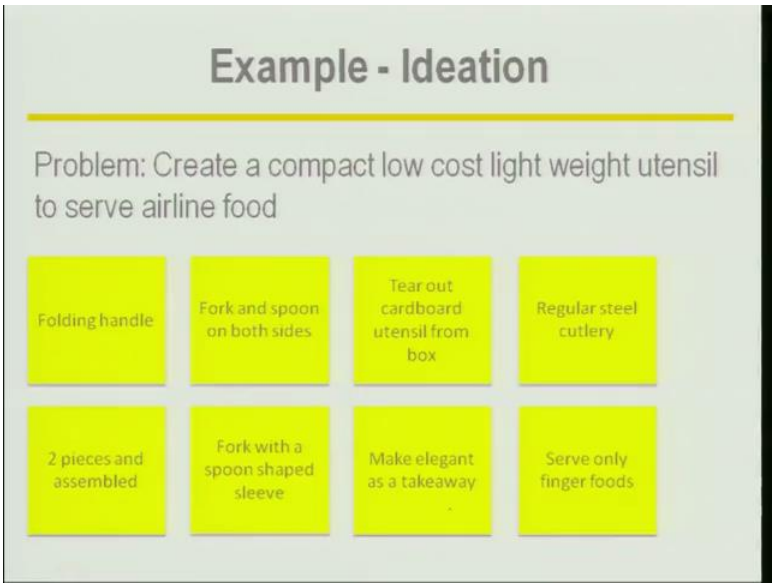

Now, remember the example I showed you about the airline the utensil to serve airline food right. Let us say we look at that as a problem and we look at our problem statement as create a compact, low cost lightweight utensil to serve airline food. When we think about this, we would start ideating, so what are some of the thoughts; let us go through this is like a after the fact ideation exercise that we are going through that it perhaps it should have a folding handle because we wanted it to be compact right perhaps it needs to be in two pieces and then we can assemble it together.

So, it is space saving perhaps it has a fork and spoon on either side, perhaps it is a fork with a spoon shaped sleeve it goes on the fork. So, you put that sleeve on and then you know; when you need a fork you take off the sleeve and you do not need the fork you put on the sleeve May be you tear out a cardboard utensil from the box, may be you can create a spoon or a fork or something that helps you eat that would be a tear out from the box, may be you can make it elegant and very interesting design, that becomes a feature and it becomes a takeaway; the customers will take it home as a memento may be you just use regular cutlery why we are breaking our heads over all this, let us just use regular steel cutlery. Maybe we serve only finger foods do away with all this problem of low

cost lightweight utensil blah, blah we serve only finger foods that is a solution too. So, you can see how we are thinking of different ideas right.

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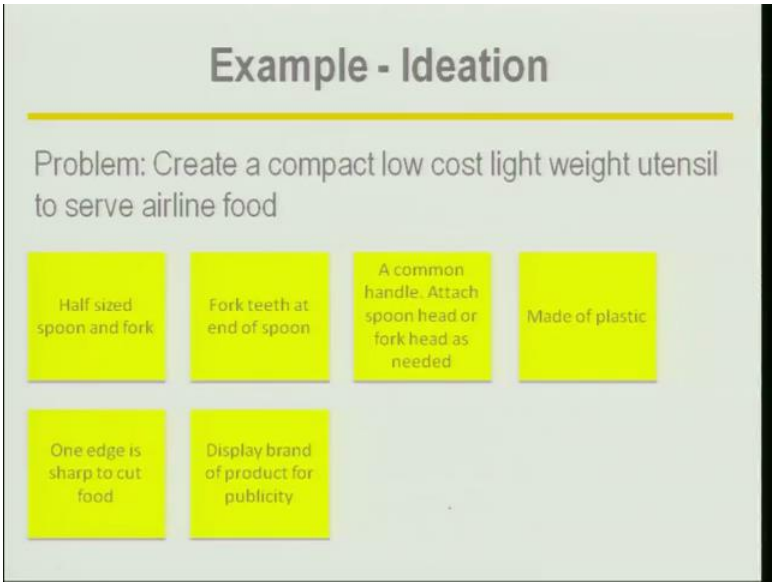

What else may be there would be fork teeth at the end of a spoon, may be both would have a common handle, may be you attach the handle to the spoon when you want to use the spoon; may be you attach it to the fork when you want to use the fork. It should be made of plastic I guess, if we want it to be lightweight. May be we have a half sized spoon and fork; a small sized spoon and a small sized fork with which we can eat right may be one edge is sharp to cut the food right? May be it displays the brand of the product for publicity that we want to make a big splash out of this.

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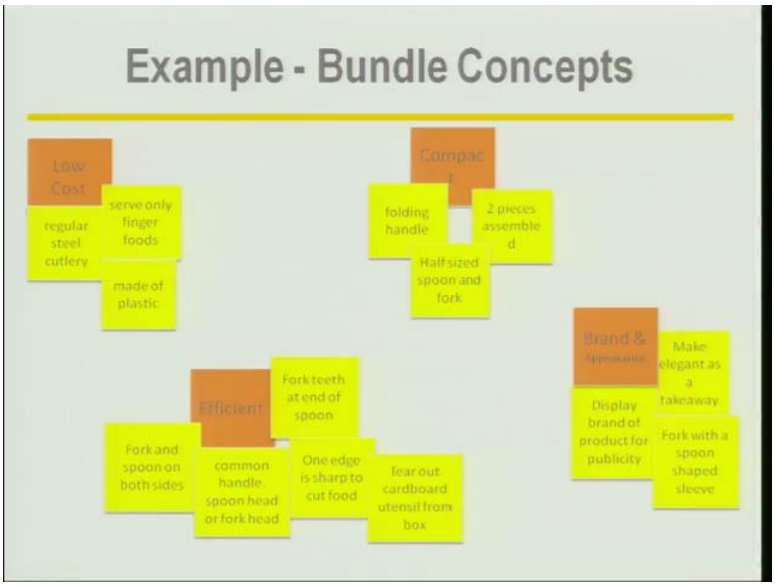

So, these were all the different ideas that came out when thinking about what are the different ways and this was about a seven minute activity right perhaps, if we spend some more time there would be more ideas, so how do we bundle these concepts. So, we take these and then we start clustering them things that seem to look like they belong together right and then we start giving names to those clusters; low cost, compact, efficient, brand and appearance. So, these are the characteristics these are the specific names that we give to the clusters and then we know what the solution is.

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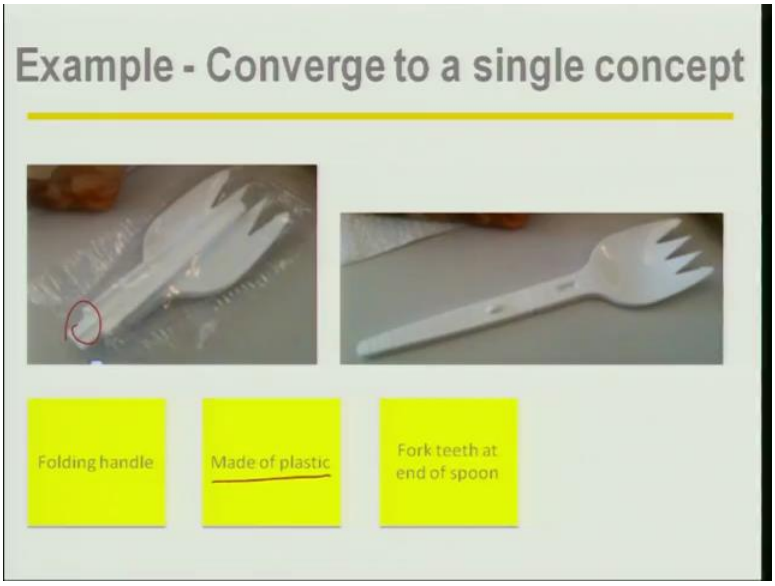

So, these if you think back after the ideation process these were the key features that made it to the product, it is a folding handle as you can see, it is made of plastic and there is fork teeth at the end of the spoon. So, you can see how we went through the process in order to arrive at something that was very nice and simple solution to could be a sticky problem.

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Now, as we understand this whole process of ideating multiple solutions and then clustering them and forming a theme and then coming up with a single concept, I would like to introduce you to the concept of affordance. What is affordance means; affordance means that whatever you design, the possible uses of your product must be immediately obvious, when you look at the product, when you touch it; it must be immediately clear for you what that product does, which is also called intuitive. So, this as you are creating your single concept this is an important point to keep in mind that it must not just satisfy those criteria, it must also be very apparent in its design that is the mark of a good design that when you look at it, when you touch it, when you feel it; immediately you know what it is meant to do.

Now, this notion of affordance has been studied extensively by Donald Norman. By the way Donald Norman is one of the very important figures, who was one of the initiators of this profession and he wrote this book one of the first books that became very popular. It was initially called the psychology of everyday things thereafter successive editions

and there have been several editions came to be called the design of everyday things. So, one of the examples he uses in that book to speak of the notion of affordance is door handles. So, this is the instruction manual of the door handle why do we need an instruction manual right. Why do we need next to the lift where it says push up to go up push down to go down right? So, this is not readily apparent that what are we supposed to do with it, when you look at the handle perhaps the more natural notion is to pull it when you see a handle right there they feel the need to put push over here. So, over here you can see this side says pull and this side says push, so it comes with an instruction manual a label with it.

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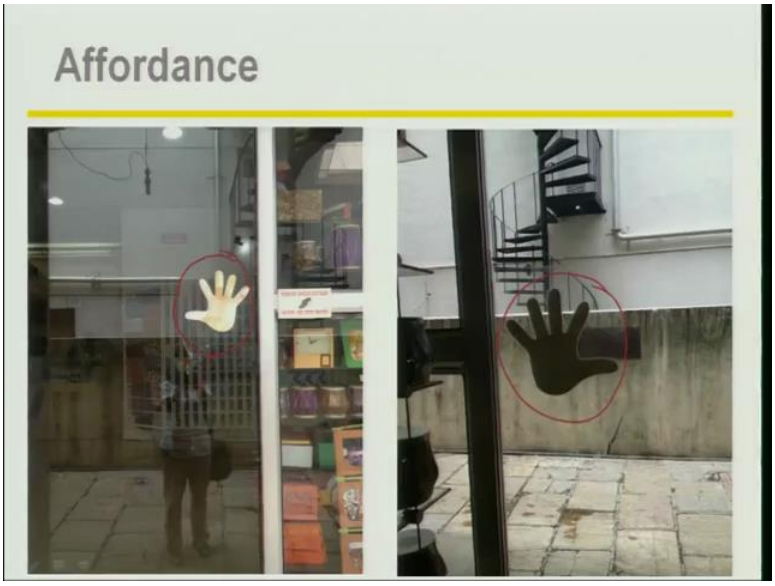

Now I want to show you this example that, I saw in a store which is a very simple design right it was a cutout of the hand and it was put on the glass door that is all it had. So, through that it was telling you put your hand on it right and push and likewise on the other side. So, a simple elegant solution and it did not need any instruction there are no instructions over there, you can see that as soon as you look at it you tend to put your hand on it.

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So, that is affordance where it becomes apparent to you as soon as you look at it what is the function of this product. Look at this this is in the bathroom of a very large airport, so as you know in a large airport there may be so many, many bathrooms right; why is this additional latch there perhaps this does not convey adequately that this is locked, is it locked is it really locked, oh my god are you sure it is locked how do you? I know that it is locked right.

So, there is this little knob that you have to press which is not apparent to a lot of people and even when you press it is not very clear when you look at it is, it in the lock position or is it in the unlock position, no one wants to be in the bathroom with the door unlocked and you have this additional product and if you now can think about maybe there are 50, 100, 200 such toilet stalls in the airport, think about how much additional cost is going into every door with this additional equipment in order to make this a foolproof; a reliable not even foolproof a reliable lock right where I know that yes, it is locked like in this one you know I can see if it was in this position, it is unlocked because there is a gap over here.

But now in this position it is locked because it is the spindle has run through. So, it is very clear that it has strong affordance. Now this is the front of a microwave and it takes people a long while to understand, where is the door right; it is not apparent at all every one's you know trying to push here, push their look on the side, press on this the door

does not open well it. So, happens that you need to go underneath this handle which has you know the little texture you need to put your hand underneath that and then you would find the gap over there and you pull it; poor affordance.

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Now, let us look at this product was it is it obvious what you must do with this when, you look at it and you open the rack and you find both these parts moving, you pull them and voila there is your fork and the handle and the fork with the; spoon with the fork head and is it obvious, now how you have to use it right. So, this is good affordance and you can see that this can be built into the product; this can be ascertained through usability testing which we will understand. If you know took a prototype of this let us say before this went into production and you made millions and millions of pieces of it, you put in front of people the prototype and just find out see if they can open it, see if they can figure out what it is, see if they can you know put it together and know exactly what it is meant for, so that is the point about affordance.

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Now I would like to bring you back to the Pepsi co, example that I gave you earlier that they are one of the leading companies really forging ahead in the area of bringing in innovation and bringing in people centricity into their organization. Again let me remind you that if you look at these products, a lot of people would say innovation cannot be done, there is nothing to innovate in these right.

So, what did Pepsi co do specifically for women; they went through research and they found out a lot of things about women's snacking habits that are very different from men's. They wanted to start a new line of products for women, they say their old approach was shrink it or pink it which means, if it is for women make it smaller or make it pink in color that was the standard formula. Well that is not what women wanted and there is a lot more to designing for women than, just making it smaller and making it pink.

So, they say that we put Doritos which is one of their very popular chips, put it in a pink bag and say it is for women. How it would be innovative right for long it went on that way, they put it in shrink it or pink it right then, how do you be innovative, how can you be innovative in this kind of context with these kind of products what did they do, they went and they spoke with women and they tried to understand what are women's behavior, characteristics.

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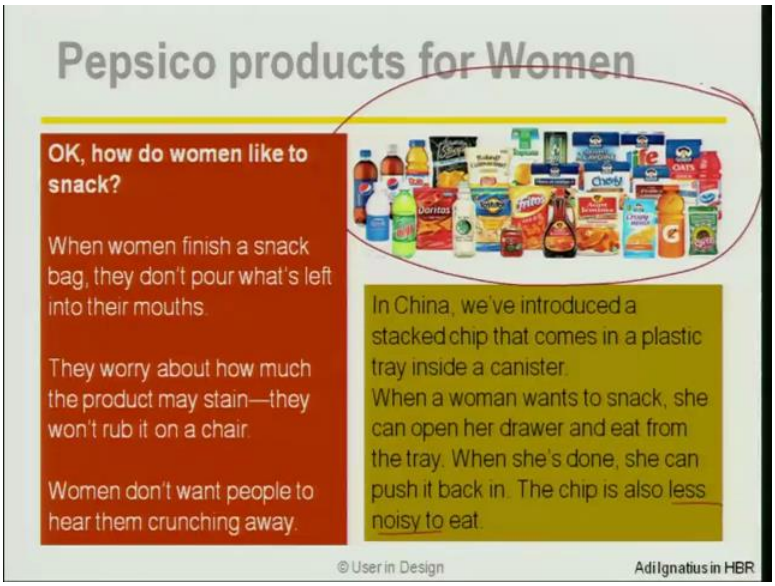

So, how do women like to snack when women finish the snack bag they do not pour what is left into their mouths, they would not take it and pour it which men tend to do this is what their research told them that men often do that. They worry about how much the product may stain; they would not rub it on a chair or on their jeans. They would worry if, they are eating a particular snack is it giving a stain on the hand, they do not feel comfortable when people can hear them crunching, men do not think anything of it. But women according to their research do not like people to hear them crunching away at something.

So, they say that in China we have introduced a stacked chip which comes in a plastic tray inside a canister, so it is in a canister so that it can be wrapped up again why because when a woman wants to snack, she can open her drawer and eat from the tray when she is done, she can push it back in; she can push the tray in she can close it and put it away and the chip has been designed to be less noisy to eat. So, the chip is been designed to be less noisy to eat, so for those who of you who are thinking you know innovation is only for particular people, it is only for particular things; think again you know, in a range of products like this there is tremendous innovation going on at Pepsi co.

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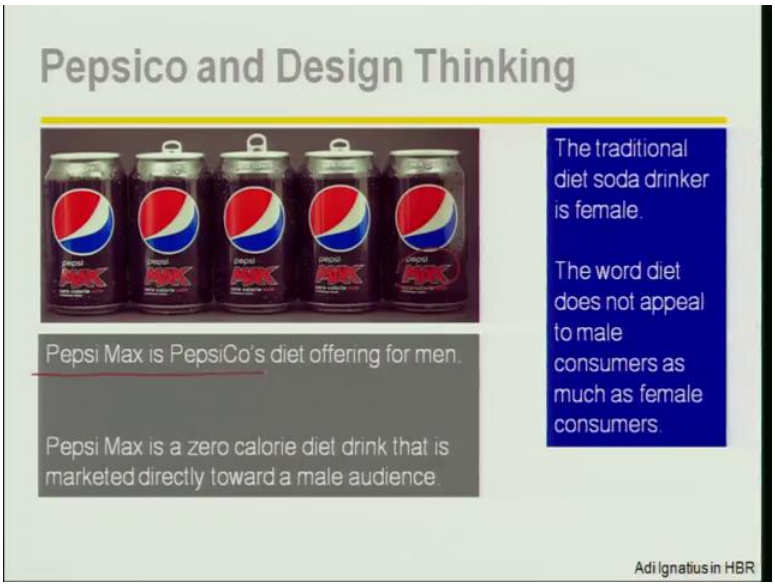

Now, one of the other things they found out about men, they found out that you know traditional diet soda drinker is female. The word diet does not appeal to men as much it is much more appealing to females and so they said let us come up with something targeted at the men. So, Pepsi Max which is Pepsi co's diet offering for men, it is a zero calorie diet drink; that is marketed directly towards a male audience, so you know they call it max they do not call it diet.

So, this is how you can see within constraints remember we talked about constraints and there are many people who say this has too many constraints, I cannot innovate in this, I need much more flexibility and much more freedom to innovate. Well guess what, if you do not think these are constraining circumstances then think again these are tremendous brilliant innovations within very very constrained settings, so Pepsi Max, Pepsico's diet offering for men.

So, that brings us to the end of the subsection called bundle ideas and creates a concept. So, far you had seen how we started out with our insights and then framed questions like how might we; in order to help us ideate and then we found different ideas, idea generation techniques and out of those there is one idea that we took forward called the top 5 ideas and then we also learnt how do you as a small team within a limited period of time very quickly come up with a huge bunch of ideas right bunch of ideas that you can then look at prioritize and choose and pick and then take them and put them up and as a

team which again remember, what I told you earlier that a team becomes much better as evaluators.

So, idea generation is good to do it individually and therefore evaluating fall back on the team because you get various perspectives that can put their heads together on benefits and drawbacks and things like that. So, using all that we now start converging and start to create a concept and after this, we will learn how to create storyboards and also we will learn about prototyping our concepts.