Design Thinking
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Analyze – Part 01 Multi-Whys

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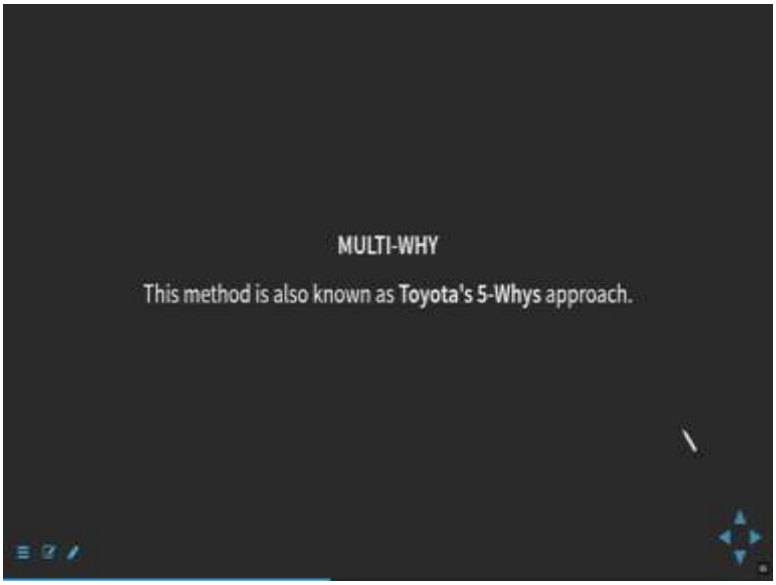

Welcome back to the session on design thinking. This particular topic we are starting now is called Multi-Why, also popularly known as 5 Whys. This was coined by Toyota in the 70s and became very popular in the shop floor. It's a very kid like method, we looked at it in the past as well. We showed you an example. We are going to deal with this method in a little more detail as to what these 5 Whys actually means. So it could be a series of Whys, one after the other.

The question why this happens? Why this happens? And it keeps drilling down. Now there is a chain of Whys that you can construct, build so that it all forms a logical, a connected logical Reasoning to that. So you have to assume certain things initially and you can get it correlated when you talk to a customer, you talk to some experts, whether this actually makes sense. Or you can even go back to the field and get some data to correlate that.

So I'll give you a very very simple way to test this, also graphically you can represent this. It is much easier to understand that way. So like I said this is based on Toyota's 5 Whys approach, we will use it for our own convenience.

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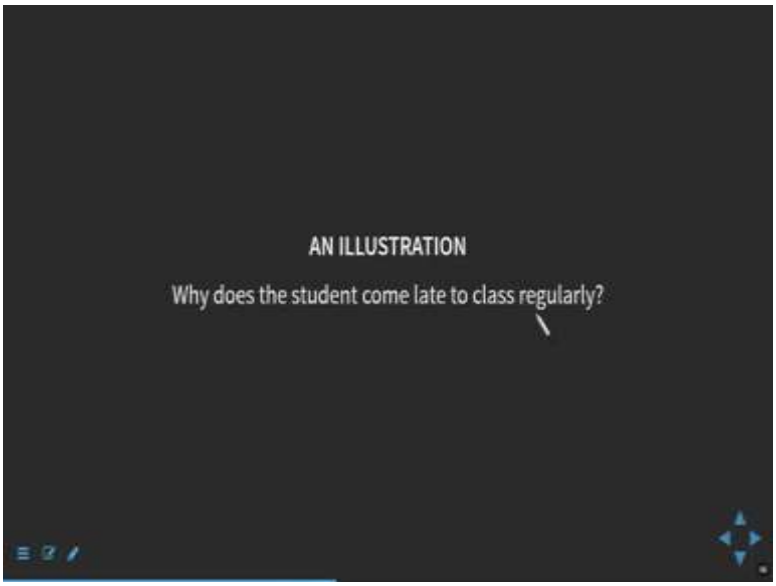

So we go back to this illustration of my favourite student who used to come very late to class and very regularly at that. He was a regular at coming late to class. Now let us wonder why he was able to do this. So I just wanted to get to the bottom of it. Yes, I wanted to give the student a hard time. As you heard me say earlier, so that is what we will look at as an illustration just to begin with so that anybody with any context can understand this example as to how these 5 Whys work.

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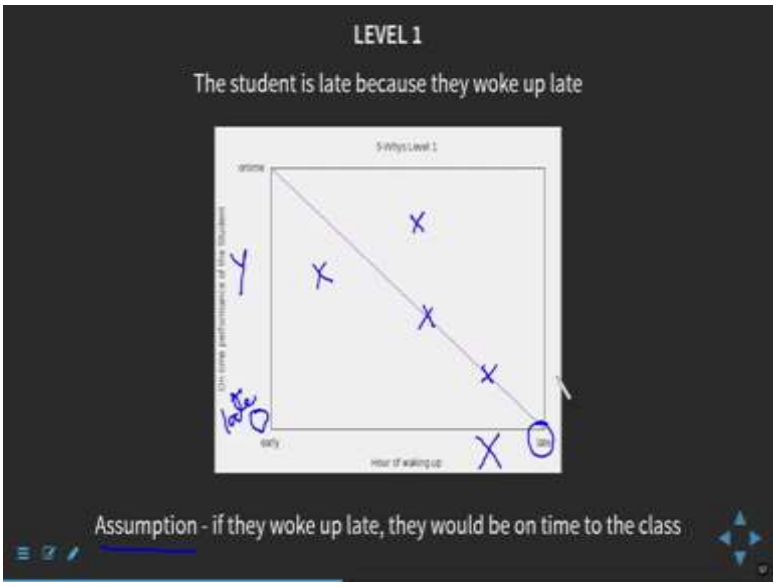

To look at it first at level 1, the basic premise, the first Why, the answer of why does the student come so late to class so regularly is because they woke up late. Let's look at this in a graphical format. Here is the time he wakes up. So it's very late that he wakes up and hence actually comes to class late. So this is late also. So he comes to class late because he woke up

late. So that's the relationship between what you see on the x-axis, x-axis here at the bottom and at your left is the y-axis where you are tracking on-time performance of the student.

Now he has come late to class because he is late to wake up, as simple as that. Now again, this as I have marked at the bottom here is an assumption. I wonder if that is the truth but that's what he told me, so I will take it at face value. Now if I were analytical about this, very methodic about this, I would track him on a day-to-day basis on whether he actually shows up at what time does he show up, you know you can put plots here and see it actually marks at what time does he go to sleep and what time does he wake up.

So you can be analytical about this and actually do a plot and see if it actually matches up. So this is one way of doing it. So, but still the assumption is that if they woke up early, they would be on time to the class. So that's the assumption I have, okay. So with this when we carry forward, now why, it brings the next question, why do they wake up late like this? You know If you want to come on time in class, they should wake up early as simple as that but apparently not.

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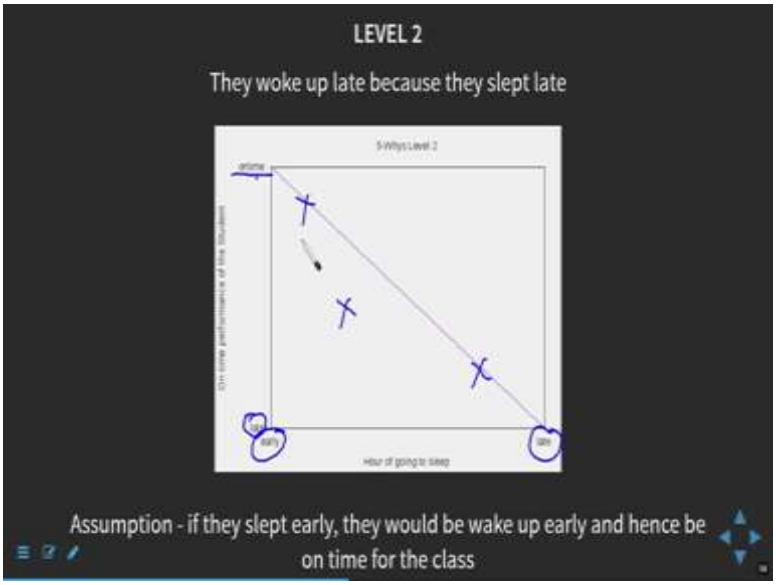

So it brings us to the next level of why reasoning? So they woke up late because they slept late, okay. So he woke up at say 8 am for 8.30 am class that's too late. Why? Because he has slept at 4 am in the morning. So that's too late, he is not getting enough sleep, that's why. So here if you look at my x-axis again, here the late hour of sleeping, of going to sleep actually impacts his performance to class, he is late.

Now if we were, if the other side of the spectrum is that if he wakes up early, he will be on time to class and keep me happy in the process. So this is the level 2 where he is late to go to sleep and he is late to class. If he is early to go to sleep, he will be on time. And again here the assumption now added to the first level of reasoning, they slept early, they would wake up early and hence would be on time to class, so as simple as that. So this is our assumption. Again to be tested, you can be analytical about it, you can take data points and verify if this is really the truth or is there some kind of dependency. You can be analytical about this.

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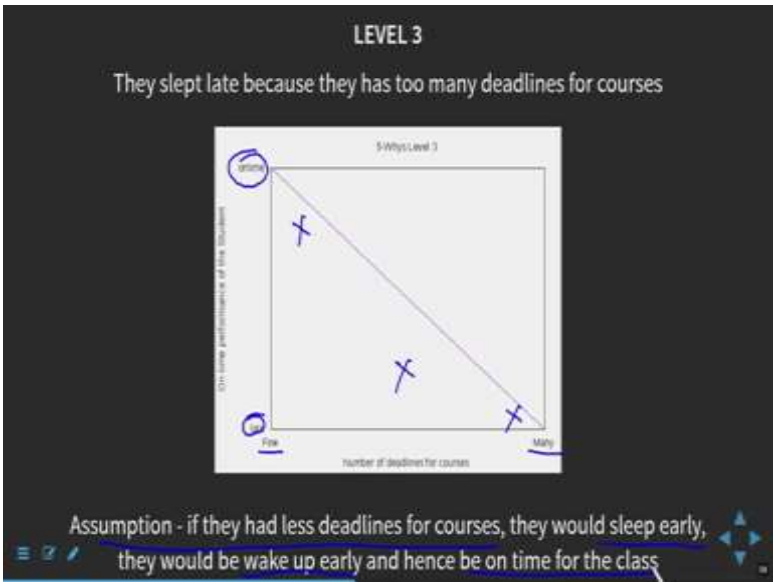

Okay, now to take this rationale the next level, so this is the level 3 where well, I asked him and he said well, I know I have lots of courses, your course is not the only one I take, I have management, I have this, I have that. So he enumerated about 10 courses. Oh boy! So 10 courses means 10 deadlines. So he has way too many deadlines and hence he is late to class. You can see the rationale lead me to belief that since he has signed up for too many classes, courses and hence he has too many deadlines and hence he is late to bed and hence late to wake up and hence he is also late to my class.

So the simplest solution for him is to enrol for very few classes and he would actually show up on time. Again, in the past if you have some data, you can track his on-time performance to see if he is on time, if he has taken fewer courses, if he is late in his average number of courses and he is very late because he has too many courses. So this could be the level of reasoning, and so on and so forth you can keep going down.

So actually solution here is no big deal, you can actually boil it down to how might we reduce the number of courses that he enrols, so that he shows up on time in class? So the performance that I am monitoring in this case of the student is his on-time performance and the variable that we have will let him enrol for many courses or enrol for very few courses. So as I said, this relies on the assumption that if they had less deadlines, they would sleep early and if they slept early, they would wake up early and if they wake up early, they are on time for the class. There is a huge line of reasoning which is built on top of that. So all this has to be true for our on-time performance to be on.

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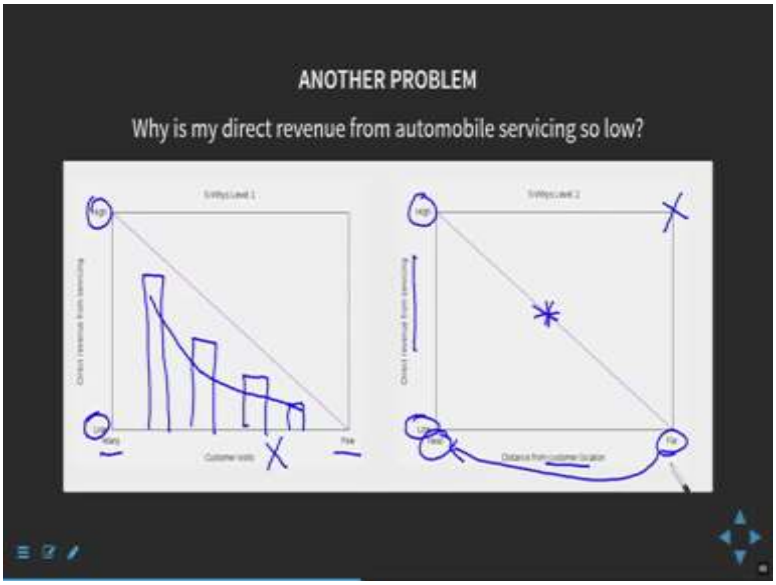

So I will take another problem, this time a more serious problem to illustrate how these 5 Whys work. In another example, I had a client who had primary revenue coming from automobile servicing. So he used to do his servicing overhaul of vehicles and that's where his revenue came from, he was running a dealership not too far from here. And all his revenue actually came from the servicing of two-wheelers. Now I one day noticed that he was not too happy with the way his business was being run. He looked sad and I said, so what's up? Why are you sad? Can you explain?

And he told me well, my direct revenue, he was looking at a big spreadsheet in front of him and he said look at this, the revenue seems to be dwindling. I said, Whoa! Yeah, it is a serious problem, I can understand. Now can you explain to me what's happening? Why is your direct revenue from automobile servicing which I knew he was doing is so low? So upon grilling, he told me well, if I think about it, it's I noticed that after say the 2nd or 3rd year of owning of a vehicle, these customers start dropping off coming to my work shop and they go elsewhere, say find a local mechanic and get their servicing done.

So I said, wait wait wait wait wait a minute, let's analyse it one by one. So I had 5 Whys in mind, the multi-Whys in mind, so I took him down slowly and I asked him, so let's face a question. Why is your direct revenue from automobile servicing so low? Now give me a single line answer. And his answer was customer visits are few, are fewer than they used to be. Fine, so I put it on the plot as you can see. This is the similar plot that you saw with my student case. On the bottom axis or the x-axis, you find that the customer visits, these are customer visits, when they are few, you have low revenue.

That's what my friend told me, my client who is also my friend, good friend. So he told me that when we have fewer customer visits, the revenue is low. So the opposite is also true. So when we have many customer visits, if they keep coming, and there are many of them, many of the customers who are coming in regularly, then my revenue is very high. So that's linear relationship as we have plotted it. The reality may not be as simple as this, as straightforward as this, as linear as this. But it's something for you to start working on. This is easy to understand.

So you can actually plot, say a histogram plot of you know so many visits and so much is my revenue. You can actually do that, you can even put a revenue something like that and actually track it much more in detail and see the correlation for yourself. So this is easy. How do you do this histogram plot? Well, take a piece of paper, every time a customer visits, note it down and see how much revenue you get out of this. That's what I told my friend. And we actually found out that this was related. So this our first level of reasoning was true.

So I said okay, one way is to just stop here and say how might we increase the customer visits to the workshop. Well, he said I could run promotions, I could run free labour week so that anybody who walks in with their vehicle, old vehicles in particular, gets the labour for free. That means there are lots of people would show up and actually my revenue would go up. So that is one straightaway solution that he was thinking of. Or he could say this is his other long-term vision. This is a short-term which works. Every time a promotion runs, he has revenue and it just dwindles out because they go back to their local mechanic. As long as the promotion runs, they are fine.

So the question to ask right now would be, why don't many customers show up, thus which will result in my high revenue? So the answer from him, his own mouth: this is my customer, so I am doing, tracking the customer. He told me well, some of them live very far away from where I have my workshop and I noticed that only people who live close by, they visit me often. So that was his reasoning. So I said okay, let's, that brings me to the second plot which is the distance from the customer location. If it's far away, my revenue is actually low.

And hence the opposite of that, my corollary to that would be if they are nearby, then my revenue is high. So this is the direct correlation of what I heard from him as the reasoning to low revenue is related to far distance from the customer location. So that was my second level of reasoning. Now you could go three levels, four levels and get more out of this case. So here again you could stop and say can I, how might we actually decrease the customer location distance from where his workshop was?

The answer was already on top of his mind saying well, I could have many more workshops in different parts of the city and here we get into a problem. Okay, so that could be one solution if he can afford that. That is, or if he could tie up with somebody who has, or with even these local mechanics, I mean why treat them as competitors. You could treat them as your collaborators and say hey, if these guys show up, I am ready to give you certain percentage, I am ready to give you my portion of the revenue if you can also direct them to me. So we could actually have an arrangement.

So here the stress is not on the idea or the cleverness of the idea but the approach in moving this far distance from customer location to near distance from customer location. So your ideas have to be in this so that you can increase your revenue. So, on the x-axis if you notice, we are looking at it from the customer point of view. And here I am looking at from the company perspective, the other side of the parties. So these two guys are at conflict. If you look at it from one point of view, they are actually competing and hence you would have to look at it from both sides and see to that, that both of them, both of these guys are satisfied.

So in this we are not looking at what is absolutely clear even in this case or in my student's case, is that we are not looking at an optimal solution. For example, we could settle at, well, if they are just halfway mark, and if I can get portion of the revenue, it's okay with me, then that would be a compromise. If it works for you, fine, good. If the problem conditions allow

you to go for a compromise solution, so be it. But here as innovators, as design thinkers, we are sort of want to have the cake and eat it too.

Like, you heard Ashwin comment at some point of time, the same applies here, is we want both high direct revenue from servicing as well as distance from customer location to be far. So they can be where they are and still I should be able to get revenue. Now, I have seen a few automobile, particularly in the four-wheeler segment adopt this as a pick up and drop. So the customer could be wherever they are and their vehicle could be better, we do not need the customer to come all the way to the workshop which is the root of the problem really, and that it is not the distance from customer location but distance that the customer travels.

So the wording can actually change. And if you change that, you can actually get a solution in the form of, well he doesn't or she doesn't have to travel, they do not have to travel all the way to the workshop. But you, the servicing people can actually go to the location, pick up the vehicle and drop it off at the end. Ok, and now that leads us to the next level of conflict also saying now how am I going to get enough people, if there are too many people asking for the service, how might I, how might we enable the fact that we have so many service people going all over the city, wherever the customers are, picking them up and then dropping off at the end of the day. Ok!

So that would be another, the next problem statement. So we traverse these level by level using these charts as well as using the levels of Whys, different Whys and figuring this out for yourself. So in the next segment we will actually be looking at conflicts arising because of solutions that you have introduced. That, you know even at the earlier level we introduced a concept, a solution of brand promotion and that led to labour cost, revenue loss for you. If you remember my solution, just to have free labour week and that week I actually lost revenue from labour.

Now how might we retain this labour cost and yet have my high revenue, yet bring the customer more often in this case? So that's a conflict to be addressed which is what our next would be.

Thank you.