Introduction to Lean Construction
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Module 1
Lecture 35
Illustration: Value & Value Stream in Food Delivery

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So, now let us just look at take an everyday example. So, this is all of us are familiar with this in some form or the other. So, this is basically delivery of food that I want to order from a restaurant, what are the options I have? So, today you can see the icon, so we will start with what image you see here. So, you can see a person actually gets on the phone here, and places an order. The person at the restaurant takes the order, and then the order goes to the kitchen. From the kitchen, once the food is ready, it is given to the delivery person.

The delivery person delivers it and hands it over to the customer; and value is somewhere created. So, the first question I have is there a process in this? Can you see the process? There is a process. So, when we take the phone and call or when we use Swiggy or Zomato; we do not we are, we do not see the whole process. But we know that we do something on our phone, we hit the order button; and then might be we tracked someone and a half an hour later food comes to

us. But, there is a process which is in place, or you know it is initiated, when we start when we hit the order button.

So that process is important to see. Now, who are the stakeholders or customers in this process?

Student: Everyone, everybody from individual.

Professor: Actually, everybody, everyone, is there a stakeholder; everyone has get some value out of this process. But obviously, in many ways, we look at the customer; the end customer as the person who gets value. But in between there are customers and all of them have to; they get handed over something from A to B; and there is that is the in-process customer. There is an end customer; but there is also in process customers. Let us go to question three, what is the value at each stage of the process? Let us look at the end customer.

What is that is there value added to the customer at each stage? What so? So if I take stage one or stage two, let us say. What is the value to the customer? Or what would be customer satisfaction in stage two? What is value? What how would the value be compromised?

Student: Whatever he is thinking to have same item is there or not? Or some new item, which maybe new to him, maybe introduced by that person; because instead of that you can order this. Professor: right.

Student: So like that.

Professor: Yes, agree that is going to one level higher. I am even looking at basics of is the person entering what I ordered. Am I communicating clearly to the person; and you can see here this is being done through a phone call. If you have done phone call ordering before I have done, I have found that out of 10 times, there will be at least two-three times when there is some error on the other side; either a number of items are less or there is a slightly different item that comes. So, my value if I assume that my value here is getting the right item ordered one, or there is even another problem in value here; you can see potentially the customer is looking at the screen to see the menu.

So, I am going into the website of a restaurant looking at the menu and then placing the order. How can I improve value at this stage? Simple.

Student: directly asked what are the options.

Professor: should I directly ask or are we already using a process which improves value today? If I go into Swiggy or Zomato I do not have to call anyone. Now, everything is it is the information is available to me, so I have given more value to the customer by making all the information available at the customer's fingertips, without having to contact anyone, without having to. So, that is also value. Then, what are the chances that there will be a communication error and I make a mistake?

Student: Eliminate.

Professor: Eliminate. the only error is if I press something wrong and that is up to me. So, we are taking almost taking this person outside the telephone operator, outside the out of this process. And at the same time, we have added value to the customer; because the customers almost going to get error free ordering, as far as from that value perspective. Because, there are several other values also; but from that value perspective, they are going to get error free order. What is then, if we go here is the value in the cooking step? What is the value to the customer here?

Student: And here whatever he is asking whether the same food, same taste.

Professor: What is the same thing? So there can be miscommunication in every step; so that is what. What else is the value here?

Student: They are invisible customers.

Professor: Now, they are invisible; but what so if I look at this as a value stream; and I look at the end customer, what value does this step add? We said this ordering steps value is to make sure that the right quantity, the right thing, price is also known. All of this is now transparent in the current form of order. In the earlier form ordering even this was fairly advanced; I could take a phone and call, and someone would deliver. But, current form which is even more advanced. What is the key value in the kitchen?

Student: Within the time.

Professor: Time?

Student: Within the.

Professor: What about the taste?

Student: Taste.

Professor: Yeah, that is that is the core, right? So, I can give my, you can give me the right order, right this, right that. But if it is taste bad, then the whole thing is absolute. So, to me this is the very very very important steps that that except that adds value to the whole process.

Student: Actually, it will suppress the hunger.

Professor: It will; if it is hunger that is one thing. But is it taste, then you have to look at quantity and quality.

Student: Both, that is right.

Professor: Right. But then again, so if you look at; so then it depends on your customer. Do you want quantity or do you want quality? But I think there is some amount of quality which all of us experienced.

Student: Yes.

Professor: expect out of something and not just quantity; so, this is a key step. But you can see obviously value is added here; is it only processing in time value. So there is time, there is quality and just quantity; time means the kitchen has to operate in a reasonable time. Then, there are food desk, temperature, spiciness; we are all putting that as quality.

Student: I think the first part I understood, when you say the time; that is there actually is evident. But the second one.

Professor: So, as so I can the book.

Student: Are we comparing it with the feedback part of the customers going.

Professor: No, no I am only comparing it that. For example, if you are going to make a product, you can make the product fast; do not worry about food, I am taking the another product. But, I make a product which is damaged; so value has not been added correct; it has to go for rework. Student: Supposing paratha, the paratha is taken.

Professor: So, so I put too much salt in the food; I can not eat it or I give you a pizza which is not cooked; quality is bad, so that is also value.

Student: So, the situation was seen before, even someone is ordering.

Professor: No, no no we are only looking here as to what is the value added in the kitchen; we are not saying earlier versus now. We are only looking at what is the value added in the kitchen. Now, we come to the delivery person gets it, what is the value added in delivery?

Student: Actually, he will give the food to; once again the same dimension of time.

Professor: So, now it is again time; once a person starts, I wanted to I want this thing to occur in a reasonable time. There is value, there is already value that I do not have to go and pick it up; somebody is bringing it to me, giving it to me, there is a definite value. But, that value is enhanced; it is given in a reasonable time. And you can see some of the several of the apps say, if it is not within so much time; we will free, we will refund, or we will give you a discount. Or, we will do this because they understand that value is being compromised; and you need to get this.

And ultimately, you can deliver, do you want a reasonable service. So, here you want the, when we again do an app based ordering, we asked how the service was delivery work, all that is value. So, we again we have looked at this question. We have looked at delivery of value through each of the steps. If we look at now who is responsible for the improvement of that?

Student: Ultimately the customer.

Professor: Is the customer responsible for the kitchen? We come back to this question; we will come back to this question, can the customer improve his or her own value?

Student: Sometimes.

Professor: In a way, yes; but when which step here; so now you have this value stream. Now, now the first question is you can see value in each step. You can see the process.

Student: Yes.

Professor: You can see the value stream.

Student: Yes.

Professor: That is the intent of this discussion to be able to see how value is added in a value stream. Now, in this value stream, how can a customer increase the value of their own value? What is the role of the customer?

Student: Based on the order what they receive in the last? So, they can get a feedback. That is one part; but that does not increase the value in this process.

Student: Whether they ordered actually the correct thing.

Professor: If they have ordered the correct thing, it is a responsibility of others in the process to give to get the, to give me what I ordered.

Student: In the case the part of whoever involved in the value stream is everyone is going to be responsible.

Professor: Exactly, now when we say who is responsible for improvement? If, I look at the kitchen who is responsible for entering value in the kitchen?

Student: The cook.

Professor: The kitchen manager, all of that. Who is responsible for ensuring that delivery is on time?

Student: Delivery boy.

Professor: Delivery boy, whatever path he chooses. Now, if I asked the cook to make a process improvement for this whole value stream can the cook do it?

Student: No.

Professor: No. The Cook has no control on the delivery boy; the cook has no control on the ordering. The cook says no, I am going to do a online platform for ordering; no, it does not; he or she does not have. So, this is when you say who is responsible for the improvement; the cook might be responsible for the micro level stream in the cooking part. Or, the delivery boy might be responsible to ensure that timely delivery is done; or as to the best possible.

But, there is top management which is responsible for this whole stream, and they are the ones who can then look at it from the micro perspective. So, I think the example kind of illustrates what some of the concepts which you discussed earlier.

Student: Like Zomato or, what they are looking at as a process.

Professor: Correct, they are looking at the process. I mean, you can take several examples today. Even if you take conventional taxi ride versus overall, all of these have value streams in it. And these streams have been optimized not only at the at the micro level, but also the macro level; and you can see all these apps come up with the improvements. Now for I mean, we can go on discussing this; there is so much so much. I mean which is so dynamic and it is interesting to see that people are actually using this.

Student: And the contribution at the macro level, it is extremely high; the involvement of uber.

Professor: Correct, correct. So, so if you have macro level changes, the improvements can be high; the savings can be high, value additions can be much easier. Now, here is this question another question. What is, what do you think is process time here? And what do you think is lead-time?

Student: The process time will be different from each process; there are several process.

Professor: And there are processes, yes.

Student: And for lead-time also, it depends on the previous work process.

Professor: So I can have two things; one is I can say process. So, basically within the process, my process time is how much time does it actually take to cook there. The lead-time will be when does the order come in and when does the cooked item go? That is a total amount of time it spent in the kitchen; the cooking time is just the process. If I look at it from the whole whole process perspective, the lead-time is from when I placed the order

Student: when I get the order.

Professor: to when I get the order; and the process time is. Is not visible to the customer, but the amount of time each person actually spent adding value to your product.

Student: Yes.

Professor: So, what is, so if you take process time and lead-time, what do you think will be the fraction which, which will be greater first of all?

Student: Lead-time.

Professor: Lead-time will be greater than process-time. And a lot of times you will find that process time is only a fraction of the.

Student: Lead-time.

Professor: So, this is where.

Student: to reduce the lead-time actually.

Professor: You should be able to reduce the lead-time. So, what is so you have process time plus x is equal to lead-time. What is x?

Student: Idle time, waste.

Professor: Waste, basically it is waste. So, process time plus x is equal to lead-time; so that x is the waste in the process. And that should also be we should try to eliminate.

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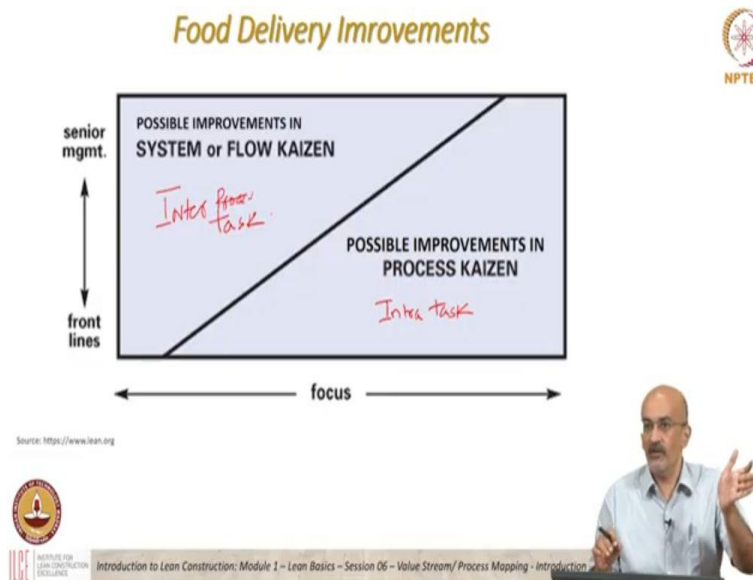
So, if we go back to this figure, we talked about. When we look at system level, there were you have a lot of things. When we want to look at it from, I am just writing about inter-process. Inter or I would say inter task; each task we want to look at it from big picture. Here is within task, within a task. And obviously this is not just inter-task, but it is also integration across task. It need, I mean my data flows, this that all of it would be at a senior management or a system.

Student: (more or less) system.

Professor: System, so it is it is again important to have these two views; improvement in either one is always welcome. But, you remember the rowing example, over improving your one does not help the overall system.

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Quiz

1. Consider the following statements and select the correct option: with respect to value stream mapping (VSM)

Statement 1: Senior management has the capability of influencing the System

Statement 2: Frontline has the capability of influencing the process and within

Statement 3: Senior management looks at the processes at the macro-level (inter-task)

Statement 4: Frontline looks within the process at the micro-level (intra-task)

a) All Statements are True
b) All Statements are False
c) Statements 2 and 3 are True
d) Statements 1 and 4 are True
e) None of the above

a) All Statements are True