Introduction to Lean Construction
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Module 1 Lecture 40
Flow Process Chart, Symbols, Process mapping – steps and timing, Measurement metrics

Good day everyone. Welcome to this session. In this session we will cover process mapping, which is more of an extension of the previous session on where we learned value stream mapping.

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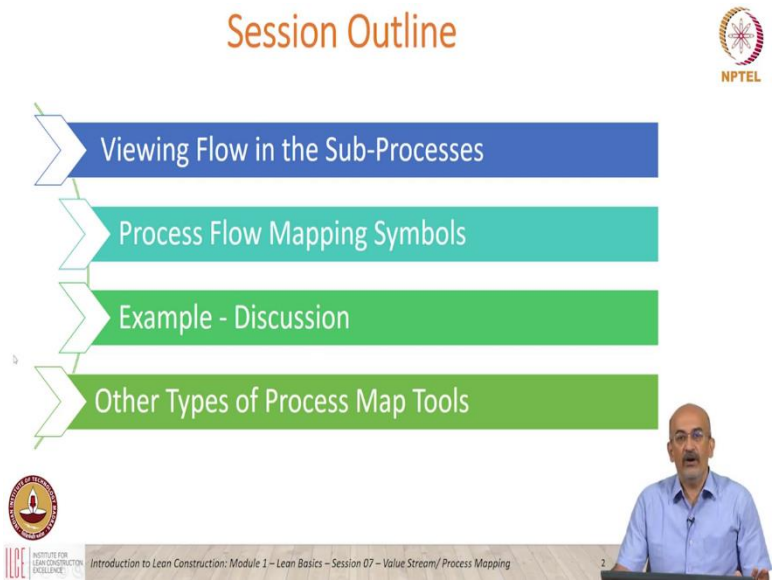

Now, this is, these are the topics we will cover today, we will look at flow with respect to sub processes. If you recall, that is where process mapping was applied. We look at the symbols for process mapping, we go into examples and discussions and then we kind of show you, what are the other process mapping tools that are available, a little bit of an introduction to an area of usage of other tools.

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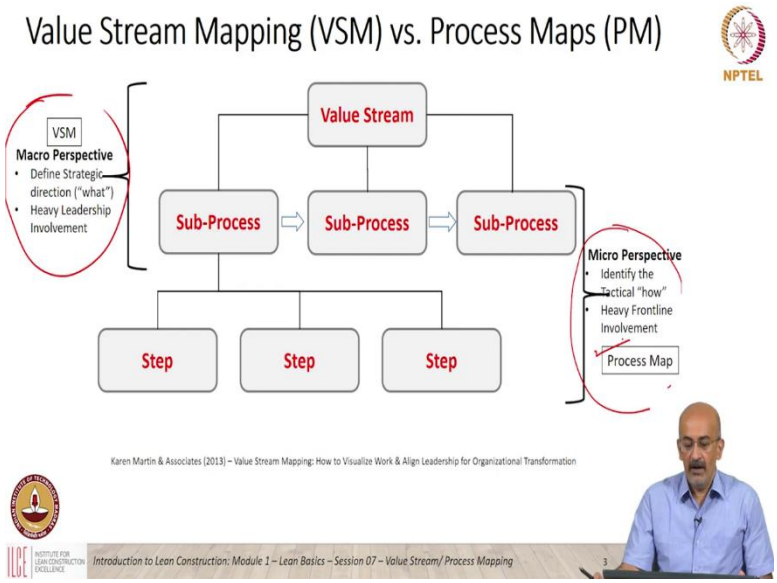

Now, if you recall this slide from the previous session, we talked about how there is a macro and a micro perspective when we look at a process. So, we looked at value stream mapping, as being able to map the macro perspective, where we are defining strategic directions and we talked about a lot of leadership involvement in this. Today we are going to look at from micro perspective and look at process map as a tool to be able to map what is at the micro level.

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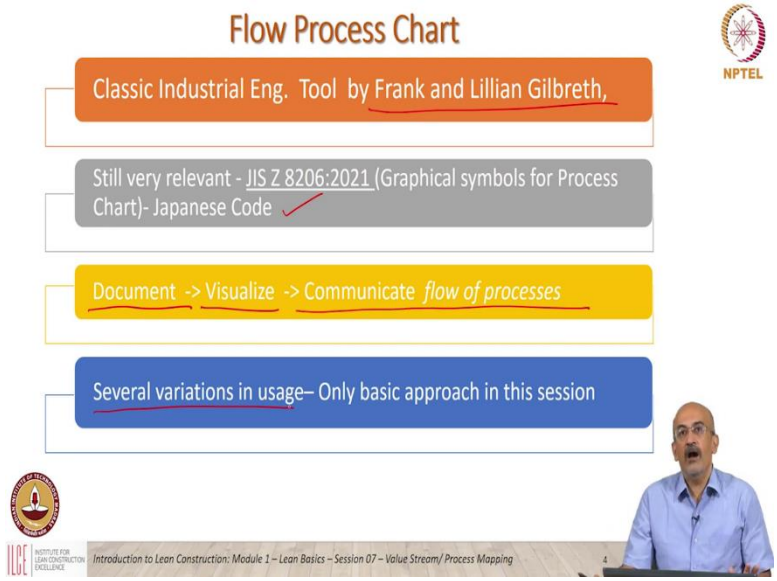

So, if we go into what is a process chart or a flow process or process flow chart, we have, it is one of the older tools. It is a tool that was developed by Frank and Lillian Gilbert. If you remember when we talked about the history of management, they were one of the initial contributors to scientific management. And the flowchart or the process chart was one of the

tools they use to kind of being able to define, how work flows from people to people or station to station.

But even though it was defined in the early 1900s, it is still very relevant. You can see that the Japanese code, 8206:2021 defines what the symbols are for a process chart, because people it still used to be able to understand the details of a process, the value it creates is you are able to document the process properly, you are able to visualize it communicate the flow of the process at a micro level. And this is what as we have learned before once you are able to document and visualize it, people understand the bigger picture and we are able to bring about improvements in what needs to be done.

Now, as I just mentioned earlier, there are several variations and usage, there are several types you will see several forms of process charts, some variations and symbology, some different approaches that are used. We will be only covering the basic approach in this session the most basic approach to start as an introduction. But depending on the problem you face depending on the requirements in your organization, these can be extended based on what is available, you know in general out there.

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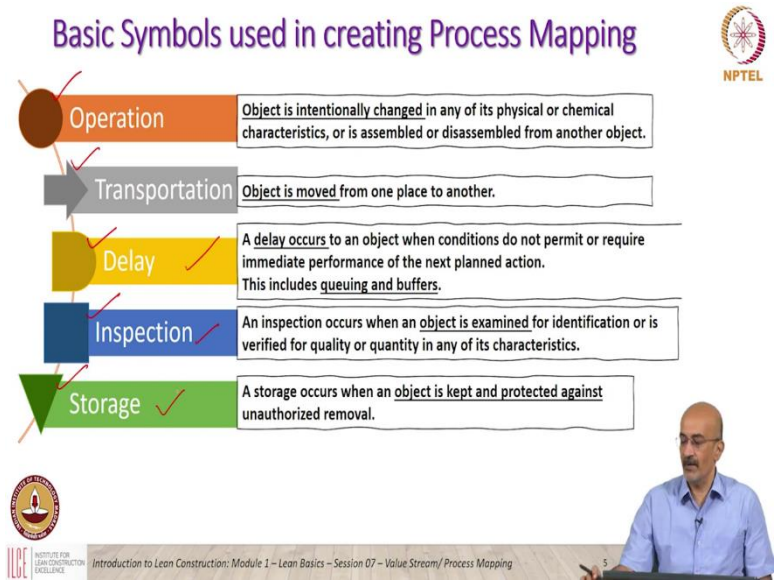

Now, this, these are the basic symbols of a process chart. So, you can see there is a symbol for Operation, symbol for transport, a symbol for delay, inspection and storage. And you have seen, you can see that the definitions of each are given next to it, which basically I think is very intuitive, I have only given these definitions so that you can have a formal definition, but

obviously an operation means that something is being done to it to change it, transportation is movement from one place to another.

A delay is occurring when there is a queuing or buffering or there are some delay between processes that is where the delays is occurring. Inspection is, when inspection takes place during after some kind of operation is done, inspection is done to make sure it is relevant and the quality or the specifications are met. Storage is when the object is actually stored there is a requirement to store it and keep it for the next phase of a transportation that is storage.

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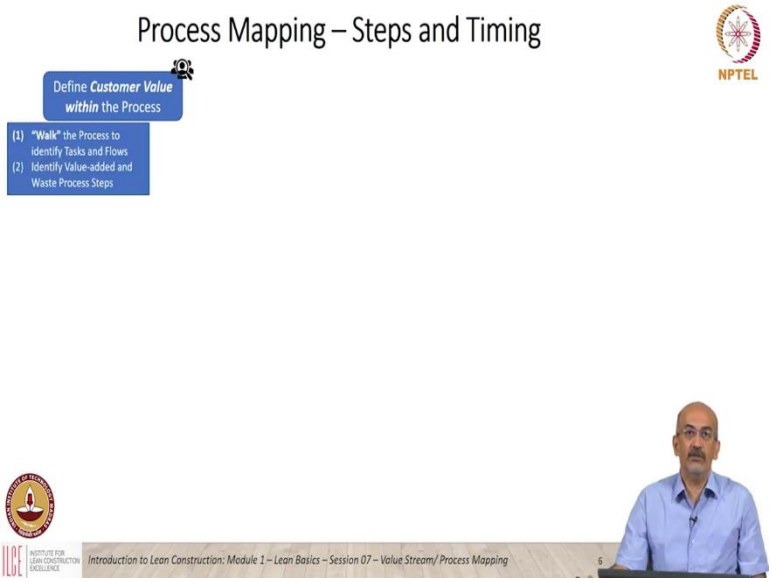

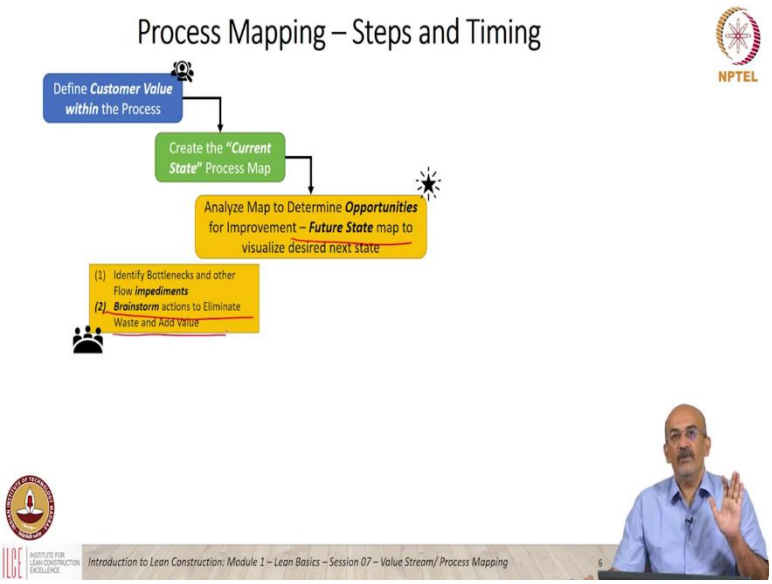

Now, what we are trying to do in a process map is to be able to use the symbols to be able to show, what is happening in a sub process or in the details of a sub process. So, if we look at the way we develop a process map, it is very similar to the way we do a Value Stream Map.

We actually have to go into the details of the process or to the sub process identify what is happening, look at what the value added of the process steps are, we had to create the current state process map, we had to gather data on time and all of the details, we have to look at you know the opportunities for improvement do the future state map very similar to the Value Stream Map.

We have to through identifying bottlenecks, you know, look using the process map as a visual platform to brainstorm with a team. So, this is something that people have time and time again said is very useful. The minute we develop a process map, the operators know, that look, these are the things we should not be repeating or should not be doing, there is immediate waste in this process. So, being able to brainstorm is definitely, one of the keys to be able to visualize and collaborate on eliminating waste.

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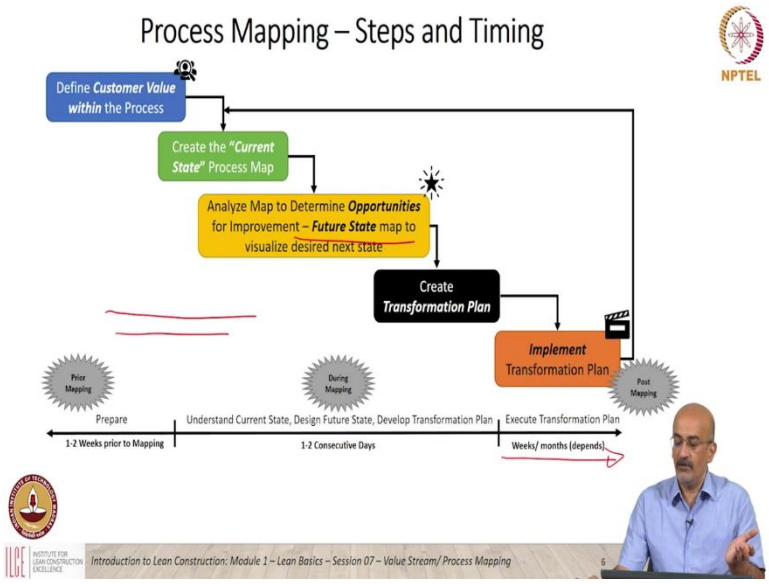

We should be able to then create the transformation plan and implement the transformation plan. Now, when we compare a process maps plan to a value stream maps plan, a process map scope is much smaller. So, in general, it is easier to do the transformation for a process plan. Now, from a timeline perspective, when we look it is the timelines are generally shorter, you have one to two weeks prior to mapping, one to two consecutive days to do the actual current state mapping and then to execute again it depends on the organization and the way we need to way to kind of transform our future plan to an implementation.

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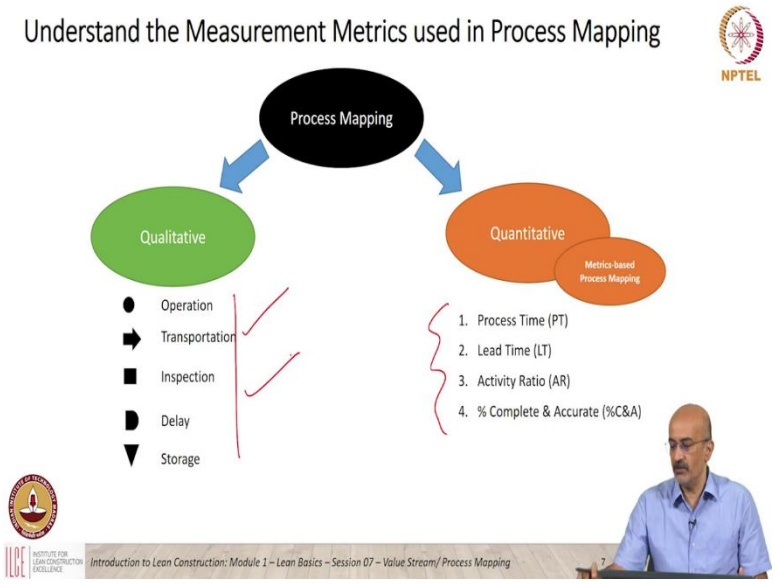

Now, when you look at process mapping, again you can have a qualitative or a quantitative output. In addition to using these operators, which has little I mean, there is a qualitative element and there is also some elements on which we count and make it quantitative, you can have a much more metric based approach like we did for VSM like it and we discussed earlier.

What we are going to do in this lecture is more focused on the qualitative aspects, the fact that when we say this is qualitative, the visual aspect of being able to characterize the processes in these terms we are able to get a better understanding of what is happening. And once you get a better understanding of what is happening, then change you are bringing about or identifying waste becomes easier. That is where we really find the value of a process mapping.

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Quiz

1. Consider the following statements and select the correct option: with respect to process mapping (PM)

Statement 1: The development of the AS-IS (current state) PM is optional

Statement 2: Process mapping can be analyzed through qualitative and quantitative measures

Statement 3: Process mapping requires heavy frontline involvement

Statement 4: Process mapping requires heavy leadership involvement

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

c) Statements 2 and 3 are True

Supplementary Module

Link (to read and contribute)
https://tinyurl.com/yzwg7atz