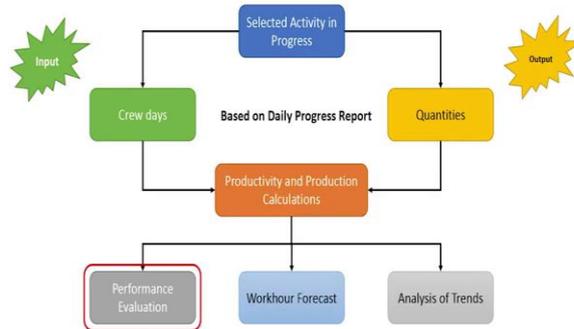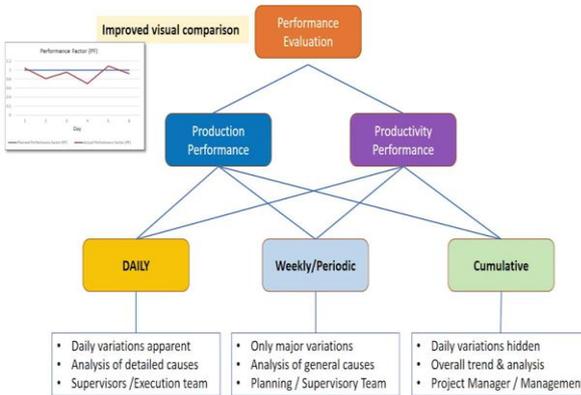**Introduction to Lean Construction**
Professor Koshy Varghese
Department of Civil Engineering
Indian Institute of Technology, Madras
Module 1, Lecture 21
Productivity and production Calculations:
Performance Evaluation

(Refer Slide Time: 0:23)

We now move to this performance evaluation block of this framework and it is the same data. The same structure only thing is the way we calculate certain things change and we have to will kind of discuss this after we cover this as to what actually what is actually the difference.

(Refer Slide Time: 00:41)

So, when we look at performance evaluation instead of using what do you call it productivity in it is our production in its numerical form, we are going to try to get a factor. So, we are taking actual productivity by planned productivity as a productivity performance. So, this is productivity performance. And the same thing will be there for and the same thing we would get performance factor for production will be actual production divided by planned production. And, so if the performance factor is greater than one what does it mean?

Student: Better.

Professor: Better that means my actual is better than flat. And here is a table it is I think part of the earlier table where we are showing the same sequence only one week of data is there. So, you can see here actual work done. We have 124 we had calculated as the…

Student: Actual productivity

Professor: Actual productivity and the productivity, so, if I divide 124 by planned productivity was 120, I will get my performance productivity performance is 1.04. Similarly, my actual work done is 6589 divided by 4167 is my required daily production, I will get my production value. So, these are the two factors that is performance for productivity and performance for production.

(Refer Slide Time: 2:33)
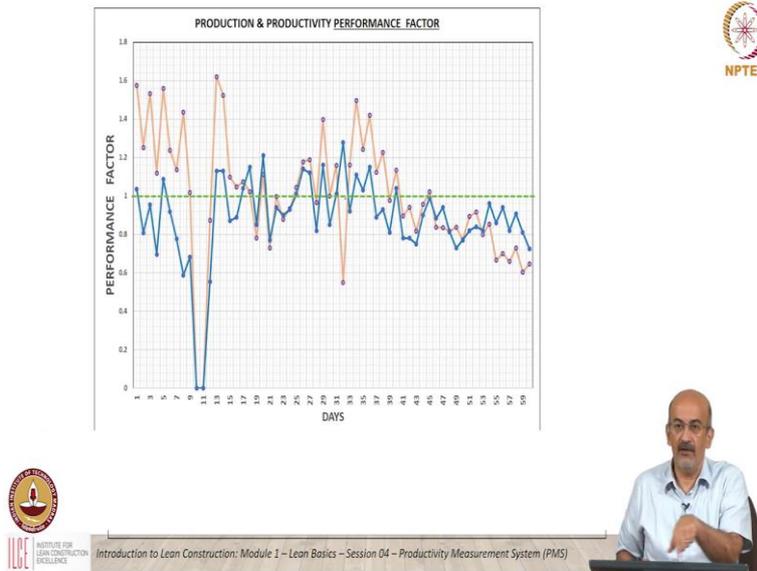
Now, all I do is take the same data and put it into a performance factor graph, so, this shows the daily variation in performance, now so, what is the difference between the graph, we saw here on the graph when we saw in the productivity context.

Student: If there is two lines for production.

Professor: Correct there, there is two benchmarks here that both benchmark is one, the one is the same and your visual comparison is a bit easier to see where was it. There you had to look at the 120 and the production requirement and then kind of eyeball what it is here when you are looking at it visually this is a bit easier to see the difference.

(Refer Slide Time: 3:15)
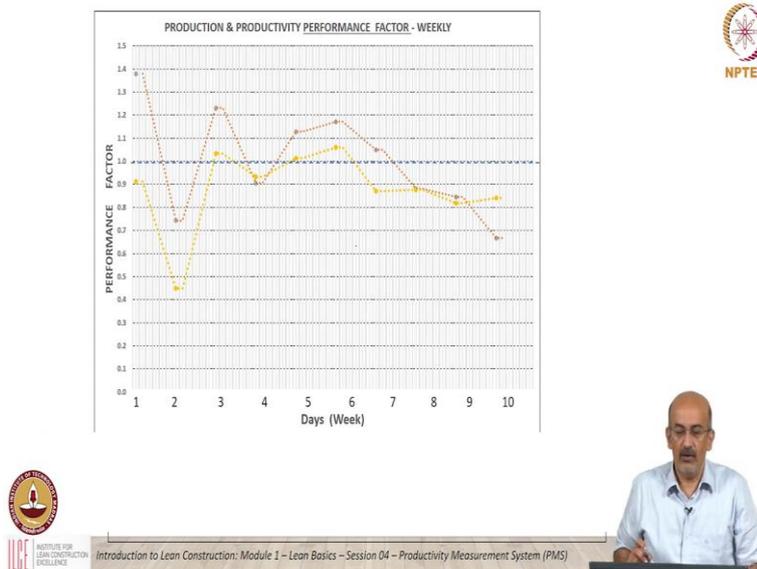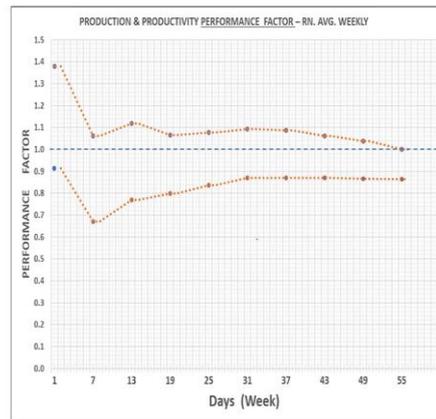
This is the same issue on weekly but individual weekly. Here it will be the same thing. It will be going back and this is the cumulative week.

Student: ok

Professor: So again, you can see that so this is the production and this is productivity. So, I do not need two axes. There is one axes with the factor and I can visualize what was it? So, as far as this axis goes it, we are just taking the ten weeks directly. So, it is not, it is, do not look at days, it is just the excel compressed it and this is the ten weeks of data directory. Same thing with a cumulate.

Student: We need both right, sir. We need both this one. And we say performance factor one and then comparing both the parameters production and productivity in a single graph.

Professor: No, when you say both you mean production and productivity or you mean weekly absolute values and factor values. What did you mean?

Student: No sir, if you look at particular this graph, performance factor one. That is our target, whether it is a productivity or production. So, that is where we compare already.

Professor: Correct.

Student: But if I want to go into the details of productivity and production, then I have to follow the previous one.

Professor: What do you mean by detail?

Student: So how much actually.

Professor: If you want the numerical value, you definitely have to go to the earlier one, this one gives you whether I am meeting my target or not. And because both are on the same axis and the same graph, it is visually easier to mark.
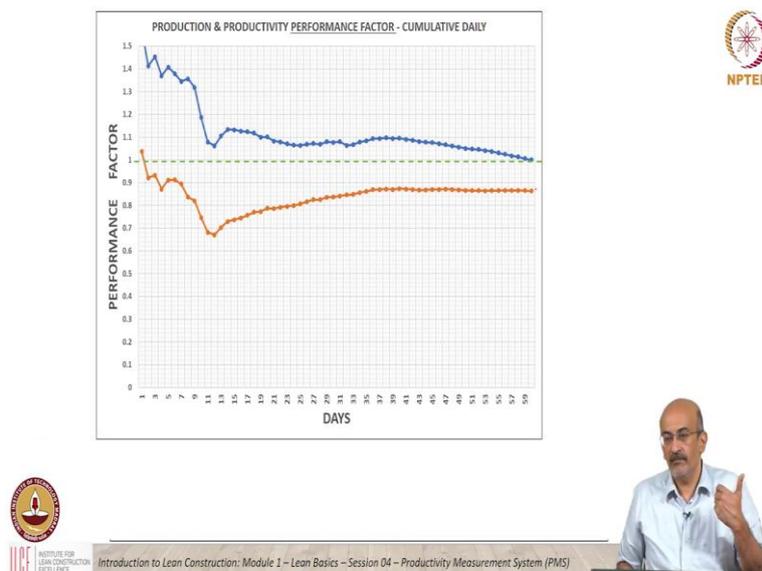
Student: This can be used a little bit about the management and the previous one.

Professor: No, also if I use if I go here, it is the same information this is high variation, but with the same benchmark same one. So, this would be used at the crew level.
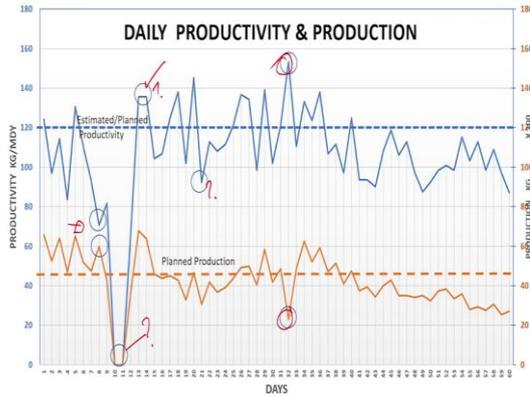
(Refer Slide Time: 5:33)
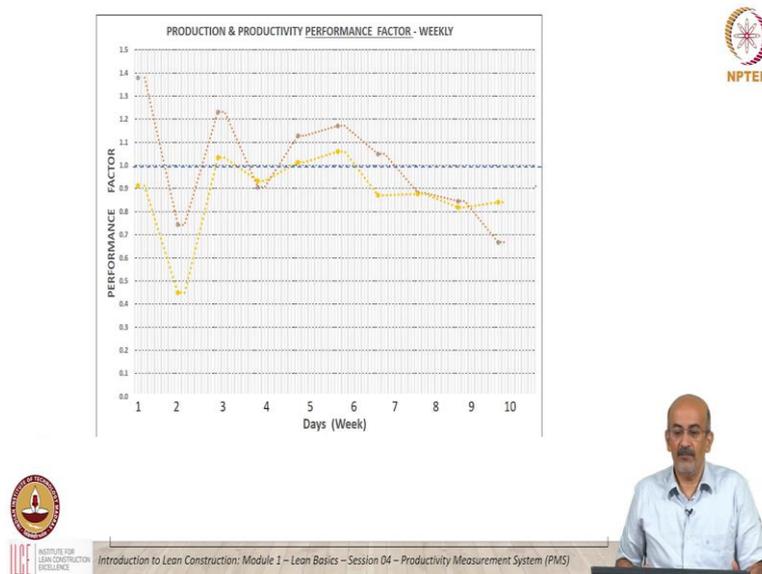
This would be used at the planning level, this would be used at the management level. So, the performance factor is viewed as being more visually interpretable than the, what do you say this, because here I have to I have to look at production axis, productivity axis, but this all this data is a data the same or different, same data, exactly the same, and again, these are the options. If somebody, if one team is very comfortable with this, please go ahead and use there is nothing to stop you from using.
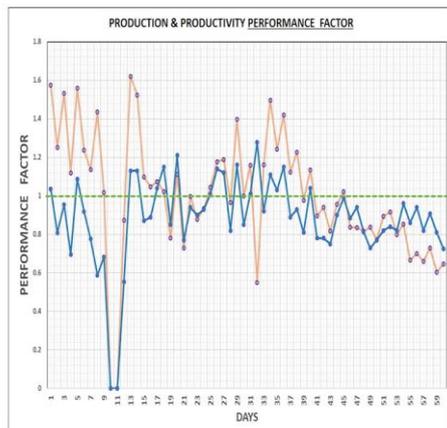
(Refer Slide Time: 6:14)
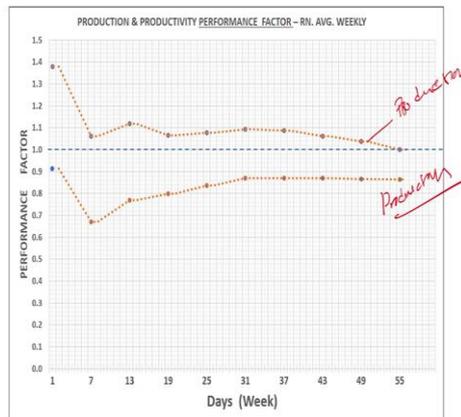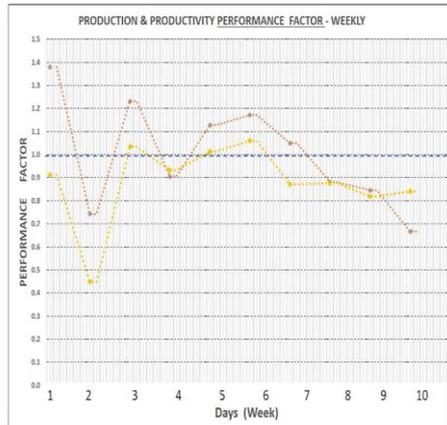
But in general, globally, this is being viewed as being the more common way of reporting the productivity and the trends of productivity, whether I am using this, this.

(Refer Slide Time: 06:26)

Quiz

1. Consider the following statements and select the correct option: with respect to performance evaluation

Statement 1: When performance factor for productivity = 1, then production should be 1

Statement 2: When performance factor for production = 1, then productivity should be 1

Statement 3: Performance factor for productivity and production always same

Statement 4: Performance factor for productivity and production need not to be same

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

e) Only Statement 4 is True