**Business Data Management**
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**Lecture 7**
**Scatter plot of sales and revenue**

Professor G Venkatesh: So, there are two, looks like there are two dimensions, one is unit volume, another is revenue. And so, either, we saw either what is happening along the revenue curve, or we saw what happened along the unit volume thing? I like to see both of them together. Is not it interesting to see both together somewhere?

Professor Milind Gandhe: Let us see. Let us see, shall I to try that? We will we will try that. I have not done it. Let us, let us see what happens.

Professor G Venkatesh: So, it sounds right because when you see together, something might be doing well in terms of revenue, something else I saw that there was this item, F something I do not recall, which was doing well in terms of volume, the top in terms of volume.

Professor Milind Gandhe: We had a lot of volume, but not too much revenue.

Professor G Venkatesh: But M01 was doing well in terms of revenue and volume. Forget that. Something else can be doing well in terms of revenue, but low volume, so it could be high revenue, low volume, and high volume, low revenue, we could have like that.

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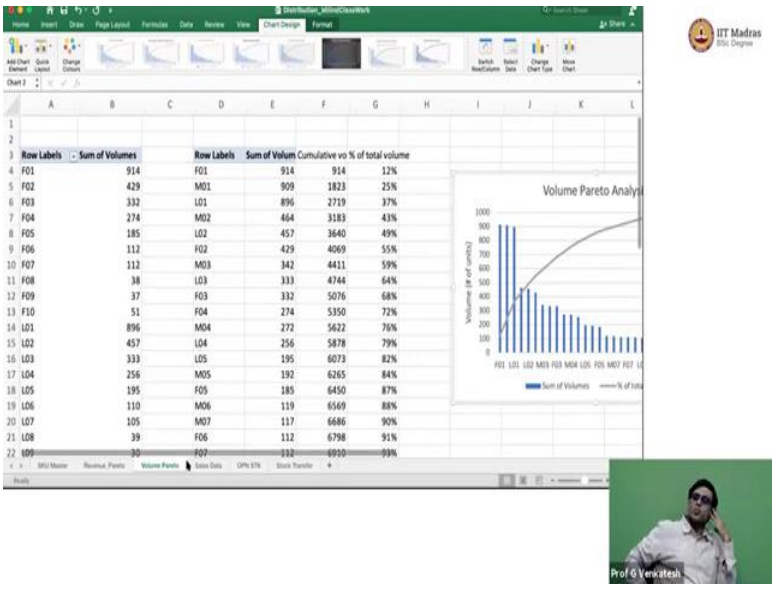

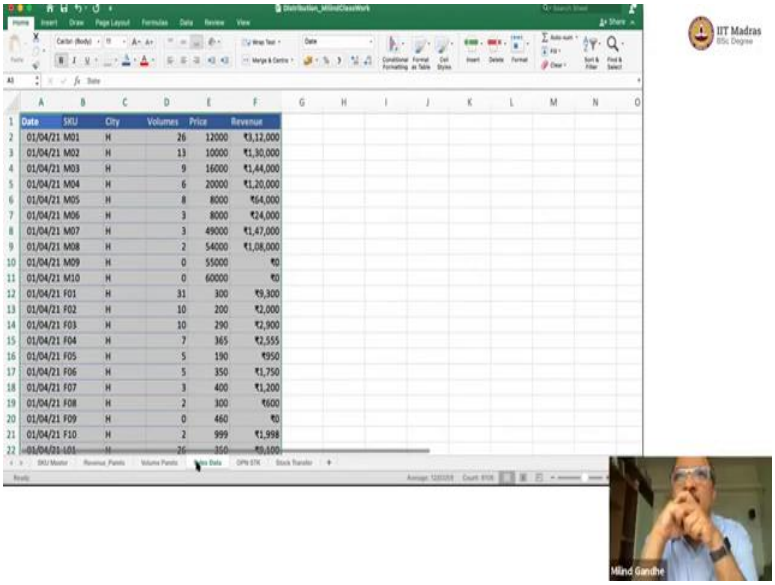


Professor G Venkatesh: Now this Pareto thing does not, this graph, this cumulation graph does not allow us to see that kind of thing picture.

Professor Milind Gandhe: No, no, no, it does not.

Professor G Venkatesh: So, you need some way of depicting two dimensional something, some two dimensional thing, where you plot on one axis volume; another axis you plot revenue.

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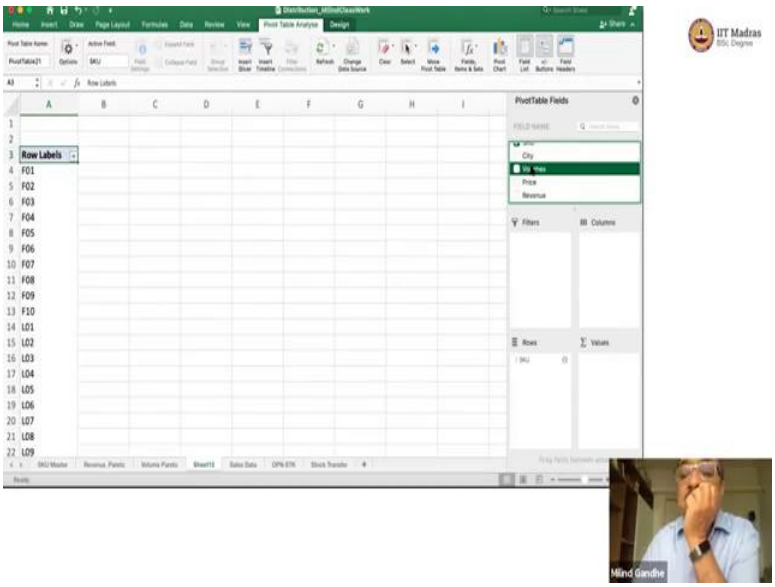

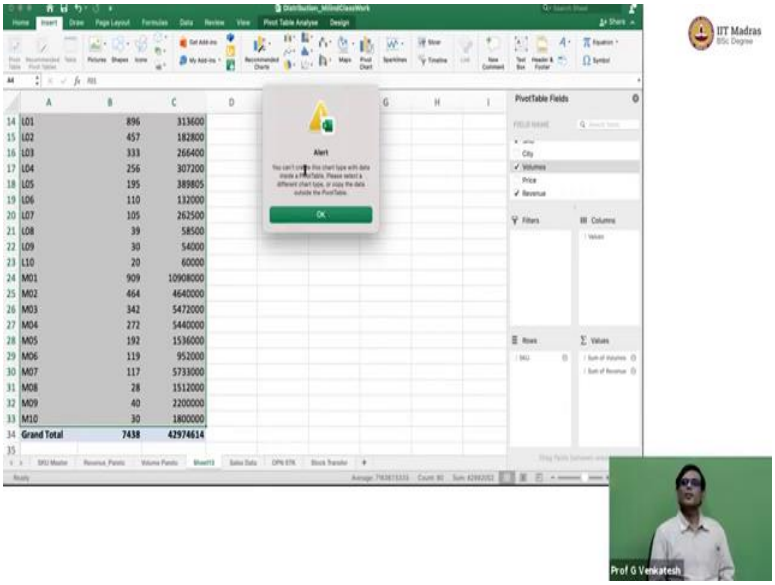


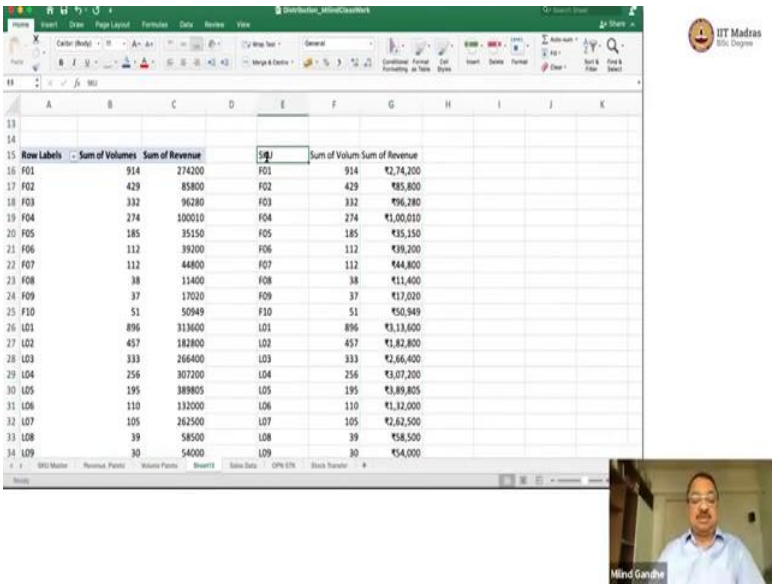


Professor Milind Gandhe: So, let us do one thing G V, let us go back to the sales data. And as usual, we look at a pivot, we will put a pivot table. And we will take SKUs, we will take, or I need to increase volume, increase size. So, the rows are SKUs. And now let us try and look at both volumes and revenue. You can do both.

Professor G Venkatesh: You can put both?

Professor Milind Gandhe: Yeah, you can. And now let us see what kind of a graph they recommend for this. They are not recommending anything. No, it is still not recommending. I think there is a graph called scatter plot. It is a 2d graph. Let us see how that goes. Oh, it says you cannot pivot create this chart from data inside of pivot table. Or copy this data, just got to do copy, copy, paste. That is what, that is the issue.

Professor G Venkatesh: And then we need to sort it or something before we do this or we do not need to sort it, that thing we will take care.

Professor Milind Gandhe: Yes, sorting may not be possible G V, because we have got two axes, to paste special values and we forgot to do this, we always, formatting. This is SKU. So, now we have got the table outside the pivot. Now, let us see if this recommends a good chart.

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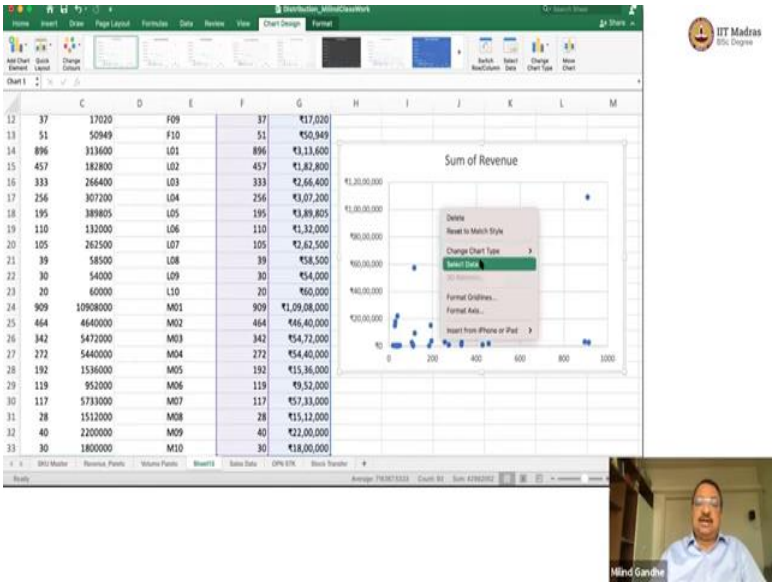


Professor Milind Gandhe: But this does not look like a good chart.

Professor G Venkatesh: I cannot see the recommended chart, whatever it is.

Professor Milind Gandhe: Oh, you cannot see it.

Professor G Venkatesh: Not popping up here but whatever it is, if it is not recommending the right one, choose the scatter plot.

Professor Milind Gandhe: It does recommend, the third in the recommendation is something called a scatter. So, let us look at this one, this one I think looks good. So, can you see this graph that has been inserted?

Professor G Venkatesh: Yeah, I can see it. Yes.

Professor Milind Gandhe: So, something but the problem G V is that there are too many of these dots, I do not know which dot corresponds to what.

Professor G Venkatesh: You have to explain what is this, what is this chart now? So, I can see that on the row you have volume that is the unit volume.

Professor Milind Gandhe: On the X axis, I have volumes.

Professor G Venkatesh: And the Y axis is revenue. We can see that yeah, that is right. And each dot is one, one dot is one SKU.

Professor Milind Gandhe: Each dot is one SKU.

Professor G Venkatesh: It says if you put on, if you go to the… What does it say? It says some of… it says, it says, it is saying what it is. So, it is plotting each SKU as one dot in this, and it is placing the dots, so it is creating a graph, it is plotted, it is creating a graph where the x value is the unit volume, y value is the revenue and it puts the dot in the right place. Very nice. This is nice.

Professor Milind Gandhe: I see a problem. I am not happy with this G V, the only problem is that you know, you have got 30 of these dots and I do not know which one is FMCG, which one is lifestyle, which one mobile.

Professor G Venkatesh: Can I get colored?

Professor Milind Gandhe: Let us, let us, shall we try that?

Professor G Venkatesh: Yeah. How do you do that?

Professor Milind Gandhe: So for that, what we will need to do is we will have to look at the data. So, there is a, let us try and see if we can do it in a simpler way.

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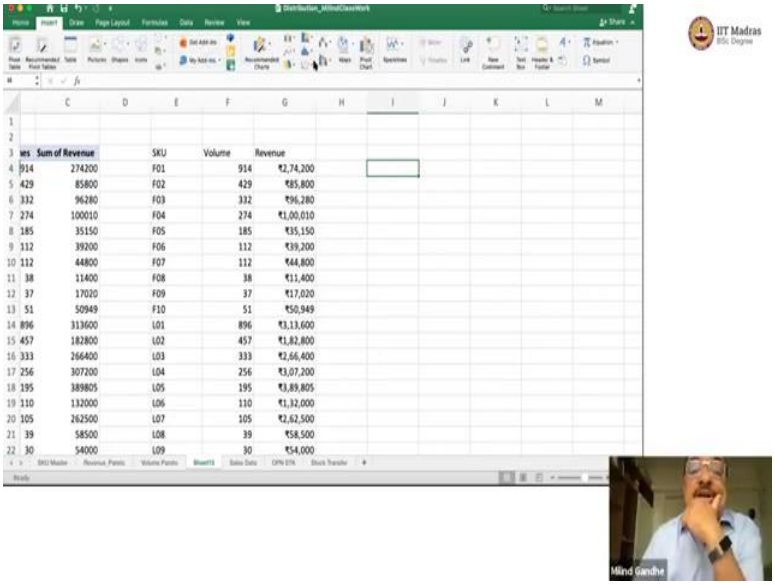


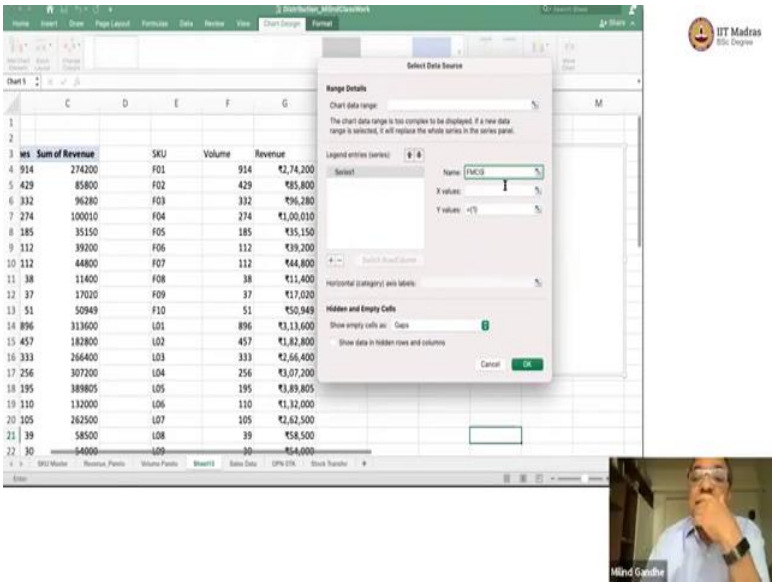


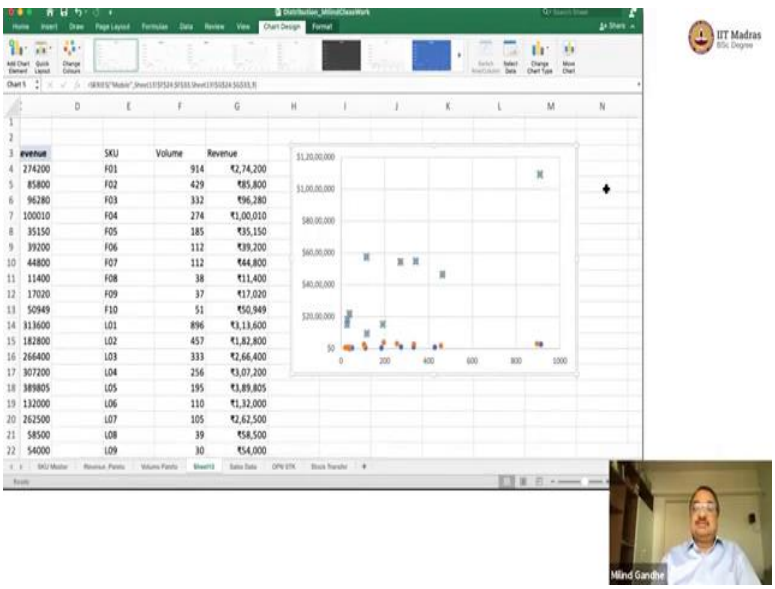

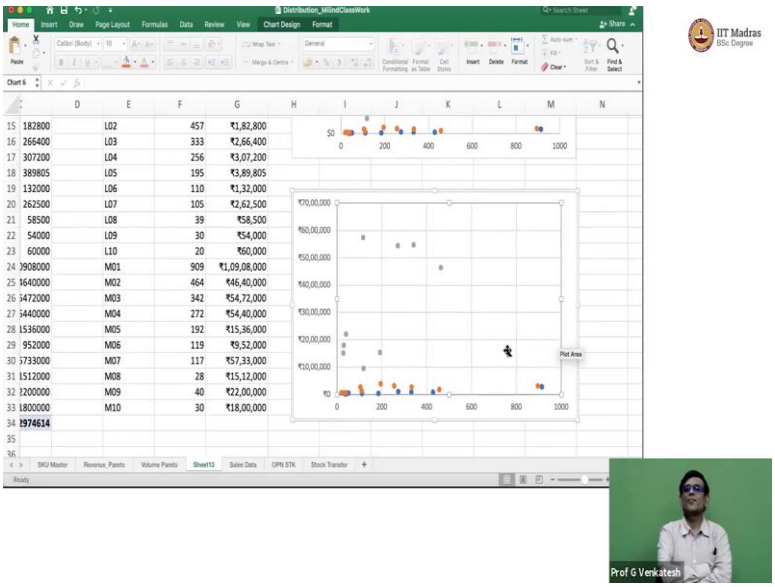


Professor Milind Gandhe: So, what we will do is I will delete this chart for now, automatically generated did not give us too much information G V, let us try and see if we can create in the same scatterplot if we look at lifestyle, mobile and FMCG separately. So, now the way to do that is first we will insert an empty setup chart.

Professor G Venkatesh: What do you want to do, you want to create a single scatterplot in which… earlier it was there but you want to know which dot is FMCG, which dot is lifestyle?

Professor Milind Gandhe: Correct.

Professor G Venkatesh: So, you would give them different colors, you will color them differently?

Professor Milind Gandhe: Yes, we will show different series in some sense.

Professor G Venkatesh: Different series will give a different color. You want to separate the series for fashion from the lifestyle from the FMCG, from FMCG from lifestyle from mobile phone?

Professor Milind Gandhe: Yes. So, what we will do is now let us, I have inserted an empty scatterplot, let us first select data, so we have to tell it where to find a data. So first let us add one series and the first series the name of the series will be FMCG, in which we will first plot the volumes of the FMCG, those are the x values. And then we want to plot the revenues. So, let us now plot the revenues of FMCG.

Professor G Venkatesh: As the Y axis, y series, so x values are the volumes, y values are the revenues.

Professor Milind Gandhe: Let us just see temporarily what happens, we got something.

Professor G Venkatesh: Now, you want to put another series, you want to do a second series.

Professor Milind Gandhe: I want to put another series, I want to now show the data for mobiles, no actually lifestyles. So, let us add one more series here. You can see this plus, this will allow you to add one more piece. Now, this series we are going to come lifestyle products. And this we will again remember X axis is volumes. So, we will select volumes and Y axis is revenues. Shall we see what happens?

Professor G Venkatesh: Yeah, wow, it gives two colors. So, we got nice. This looks nice. It is better than the other one.

Professor Milind Gandhe: Now, let us see what happens if we add a third…

Professor G Venkatesh: We will mobile phones this entire diagram will get squished because mobile phone has got everything.

Professor Milind Gandhe: Correct. Let us see mobile. I hope the students are following what I am doing G V.

Professor G Venkatesh: I think so. Yeah. I mean, I am sure they can always look at this video slowly, pause it and look.

Professor Milind Gandhe: See, what happened.

Professor G Venkatesh: It got whatever earlier. Nice diagram you had it got squished to the left corner. Mobile. All the big numbers are mobile. That is why.

Professor Milind Gandhe: Because of this guy, actually this one single guy is sort of… Special M01, yes.

Professor G Venkatesh: Can we remove that item?

Professor Milind Gandhe: Do you think I can just delete this one point?

Professor G Venkatesh: Can we do that?

Professor Milind Gandhe: Let us, let us see. No, I think it is selecting the whole thing. Let us, let us try and see if we can create a scatterplot with just these three points missing, these ones on the right. This one, this one and this one. Or I can, I can just remove this one also, that is

not a problem. Let us, let us just do that. Let us copy this scatterplot and create a copy for comparison. And now we want to delete just this M01 we want to delete G V.

Professor G Venkatesh: Just delete that.

Professor Milind Gandhe: Let us look at data. And for mobile, what we will do is instead of starting from F24. We should start from F25…

Professor G Venkatesh: Conveniently it was a first item. So, you could do that. Otherwise, we cannot do it. Get it sort it, then we will do.

Professor Milind Gandhe: So, now if I do this, now it looks a little better. But nonetheless, because I have mobile it is still on the y axis is sort of squishing everything to the bottom. So, let me do a third thing, I will copy once again, this chart.

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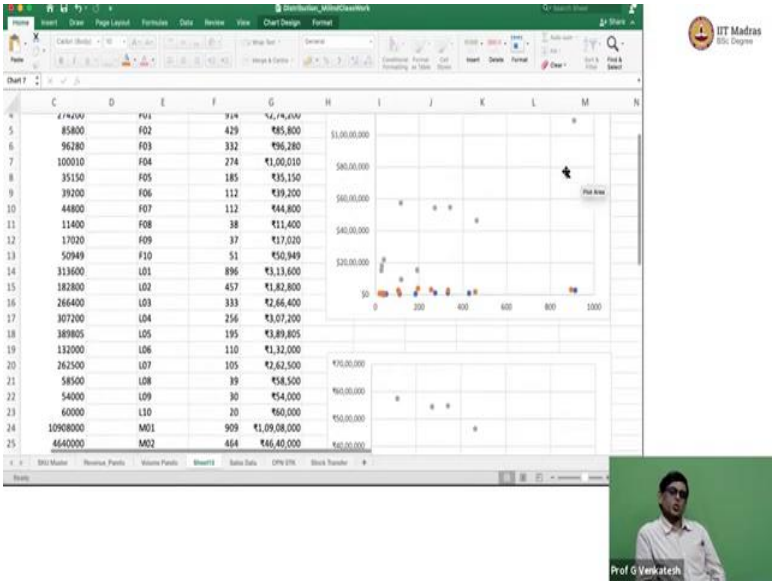

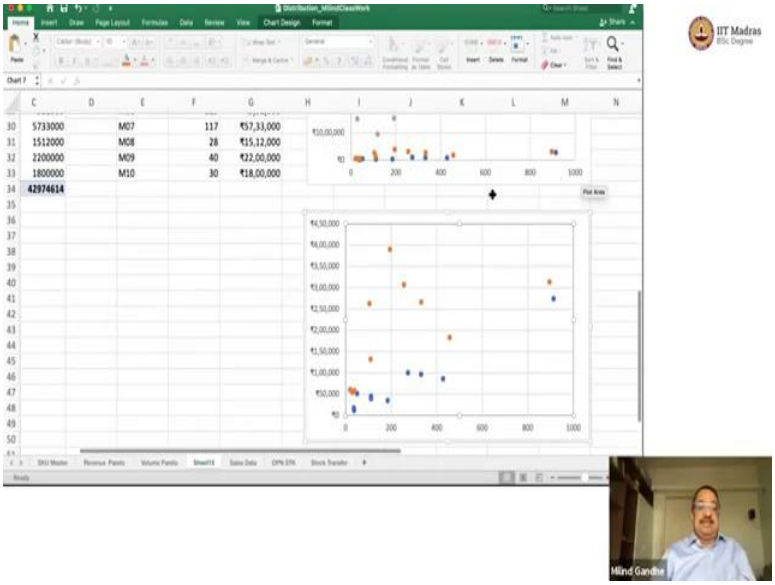


Professor Milind Gandhe: Let me copy this entire chart. And just for comparison, so that we have let us remove the mobile series altogether. And now you will see.

Professor G Venkatesh: This is a nice chart.

Professor Milind Gandhe: So, you can see the comparison between the three charts. The first is on the...

Professor G Venkatesh: It is clear that there are there are units, which are high volume, there are units which are high revenue. The ones which are on the right side are high revenue, ones, which are on the top are high volume, oh sorry, the ones on the top are high revenue. The ones on the right are high volume. And then there are some which are neither revenue nor volume, which are uninteresting. We do not care about them. So, I guess, when we presented to what I like, want to make a decision what to do with high revenue items, high volume items. Something.

Professor Milind Gandhe: Yeah. The key thing I think G V and now we begin to get an insight into why they are so worried about M01. You can see the M01 is both high volume and high revenue. It is on the top right.

Professor G Venkatesh: Yeah. Good. I think these charts we should show to him, we will see what insights come.

Professor Milind Gandhe: Yes, yes.