Business Data Management
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Portfolio Management Working

Professor G. Venkatesh: Milind, I think we have done some revenue analysis of this case overall, but it might be useful to do it by gear assembly of this analysis.

Doctor Milind Gandhe: Yes, so one of the things I was thinking, GV is, if, when we look, when we were discussing with Omkar, there was a pattern that we saw, when we looked at it by SKU, when we plotted by SKU, revenue versus quantity, if you remember.

Professor G. Venkatesh: 4 quadrants, very nicely it plotted the four quadrants, A, B, C, D and all.

Doctor Milind Gandhe: Correct. So, I was very curious to see, what happens if we try the same analysis.

Professor G. Venkatesh: He called it something. He said it is Product Portfolio Analysis.

Doctor Milind Gandhe: Correct, correct, correct. So, he was talking about starts and dogs and so on.

Professor G. Venkatesh: Yes. The idea was more about trying to organize his centers, dispersion centers so that he can identify what can be kept, we did not even know that such a thing is possible.

Doctor Milind Gandhe: Right, right, right.

Professor G. Venkatesh: We divided into four quadrants, it turned out these 4 quadrants means something in terms of organizing the data center. Not data center, distribution center.

Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: We must process what is kept there, processing area, what is kept outside a processing area.

Doctor Milind Gandhe: He used that term. High volume, low revenue, he would keep near the packing center. High volume, high revenue, he would keep in a secure area near the packaging center, etcetera. That is what we came up with.

Professor G. Venkatesh: All those kinds of interesting things.

Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: And of course, there is no, that kind of thing is not here. In gear assembly, we are not likely to see all that.

Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: But still, what you are saying is that trying to do this chatter plot or something.

Doctor Milind Gandhe: Yes.

Professor G. Venkatesh: No, no. We will have to see. Let us do it and present it and then get some insights by taking to Siva.

Doctor Milind Gandhe: Siva, yes.

Professor G. Venkatesh: Maybe he will say something. We will see. I think it any case it is worth looking at.

Doctor Milind Gandhe: So, so let us try that. We will, what we will do is, we will plot revenue, against volume, against quantity by gear assembly.

Professor G. Venkatesh: This time instead of SKU, we are using gear assembly.

Doctor Milind Gandhe: Yes.

Professor G. Venkatesh: There, he had, we had 30 SKUs, here we only have 10.

Doctor Milind Gandhe: Correct. Correct.

Professor G. Venkatesh: That scatter plot should be interesting. Let us see. Yeah. Let us do it.

Doctor Milind Gandhe: As usual, I think, GV, the most logical thing to do is to first insert a pivot table?

Professor G. Venkatesh: Pivot table has become our go-to weapon.

Doctor Milind Gandhe: Go-to tool.

Professor G. Venkatesh: Sorry, tool of choice.

Doctor Milind Gandhe: Yes.

Professor G. Venkatesh: If you do not know what else to do, use a pivot table.

Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: That is the mantra. Yes.

Doctor Milind Gandhe: And so now what we want is rows should be, no, what should we do? We want rows are gear assemblies. For each gear assembly, we want to see total of revenues…

Professor G. Venkatesh: Total of revenues and total of…

Doctor Milind Gandhe: And total of sales.

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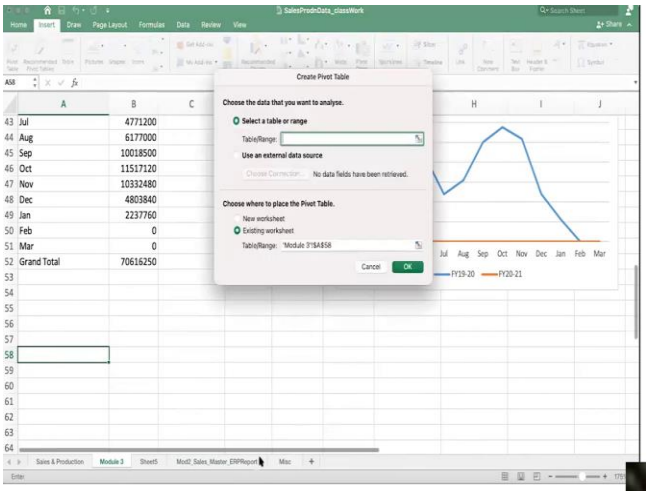
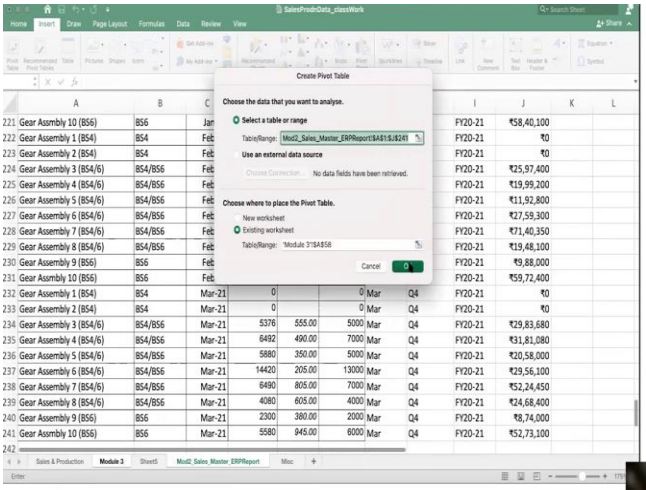
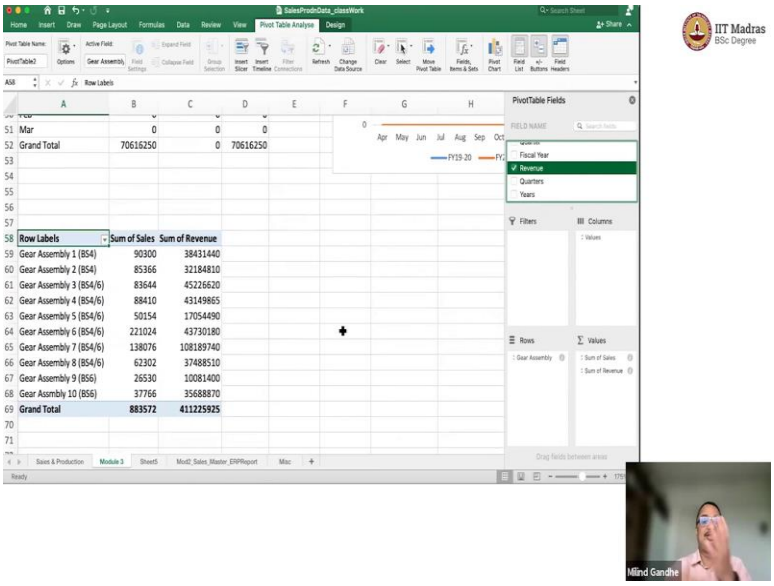


	A	B
43	Jul	4771200
44	Aug	6177000
45	Sep	10018500
46	Oct	11517120
47	Nov	10332480
48	Dec	4803840
49	Jan	2237760
50	Feb	0
51	Mar	0
52	Grand Total	70616250



	A	B	C	D	E	F	G	H	I	J	K	L
221	Gear Assmbly 10 (BS6)	BS6	Jan						FY20-21	₹58,40,100		
222	Gear Assembly 1 (BS4)	BS4	Feb						FY20-21	₹0		
223	Gear Assembly 2 (BS4)	BS4	Feb						FY20-21	₹0		
224	Gear Assembly 3 (BS4/6)	BS4/BS6	Feb						FY20-21	₹25,97,400		
225	Gear Assembly 4 (BS4/6)	BS4/BS6	Feb						FY20-21	₹19,99,200		
226	Gear Assembly 5 (BS4/6)	BS4/BS6	Feb						FY20-21	₹11,92,800		
227	Gear Assembly 6 (BS4/6)	BS4/BS6	Feb						FY20-21	₹27,59,300		
228	Gear Assembly 7 (BS4/6)	BS4/BS6	Feb						FY20-21	₹71,40,350		
229	Gear Assembly 8 (BS4/6)	BS4/BS6	Feb						FY20-21	₹19,48,100		
230	Gear Assembly 9 (BS6)	BS6	Feb						FY20-21	₹9,88,000		
231	Gear Assmbly 10 (BS6)	BS6	Feb						FY20-21	₹59,72,400		
232	Gear Assembly 1 (BS4)	BS4	Mar-21	0		0	Mar	Q4	FY20-21	₹0		
233	Gear Assembly 2 (BS4)	BS4	Mar-21	0		0	Mar	Q4	FY20-21	₹0		
234	Gear Assembly 3 (BS4/6)	BS4/BS6	Mar-21	5376	555.00	5000	Mar	Q4	FY20-21	₹29,83,680		
235	Gear Assembly 4 (BS4/6)	BS4/BS6	Mar-21	6492	490.00	7000	Mar	Q4	FY20-21	₹31,81,080		
236	Gear Assembly 5 (BS4/6)	BS4/BS6	Mar-21	5880	350.00	5000	Mar	Q4	FY20-21	₹20,58,000		
237	Gear Assembly 6 (BS4/6)	BS4/BS6	Mar-21	14420	205.00	13000	Mar	Q4	FY20-21	₹29,56,100		
238	Gear Assembly 7 (BS4/6)	BS4/BS6	Mar-21	6490	805.00	7000	Mar	Q4	FY20-21	₹52,24,450		
239	Gear Assembly 8 (BS4/6)	BS4/BS6	Mar-21	4080	605.00	4000	Mar	Q4	FY20-21	₹24,68,400		
240	Gear Assembly 9 (BS6)	BS6	Mar-21	2300	380.00	2000	Mar	Q4	FY20-21	₹8,74,000		
241	Gear Assmbly 10 (BS6)	BS6	Mar-21	5580	945.00	6000	Mar	Q4	FY20-21	₹52,73,100		



Doctor Milind Gandhe: GV, we will just first insert a pivot table.

Professor G. Venkatesh: No, the data for us is going to come from, did we create a thing with sales and with revenue and the thing…

Doctor Milind Gandhe: Yes, we did it. We did create SUM of revenue, but it may be just simpler to put everything in a new pivot table. It will not be very difficult.

Professor G. Venkatesh: Let us start with a new one.

Doctor Milind Gandhe: You can just say insert a pivot table, and as usual, select the entire data, just select the entire data. And now, what we want to do is to have gear assemblies as rows.

Professor G. Venkatesh: Gear assemblies as rows, yes.

Doctor Milind Gandhe: And we will have sales, sum of sales as one of the computed columns. And sum of revenue as the other computed column.

Professor G. Venkatesh: Yeah.

Doctor Milind Gandhe: This is, now have got the basic thing that we need to plot.

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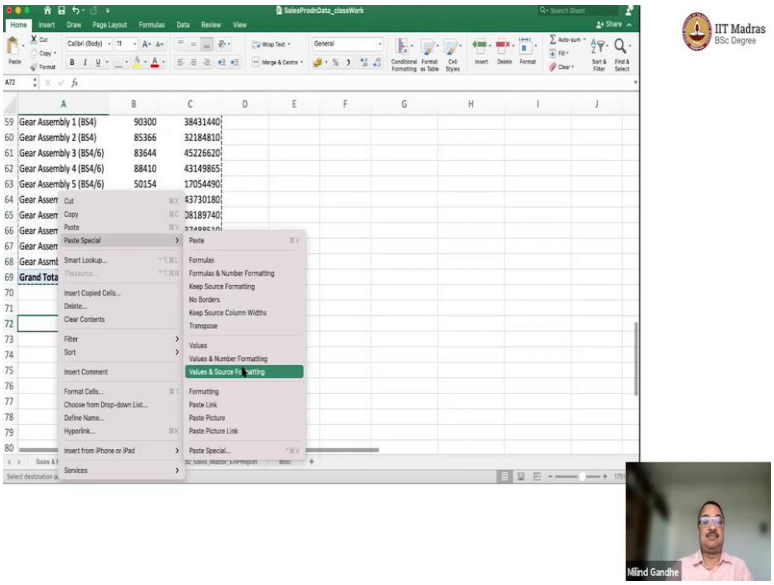

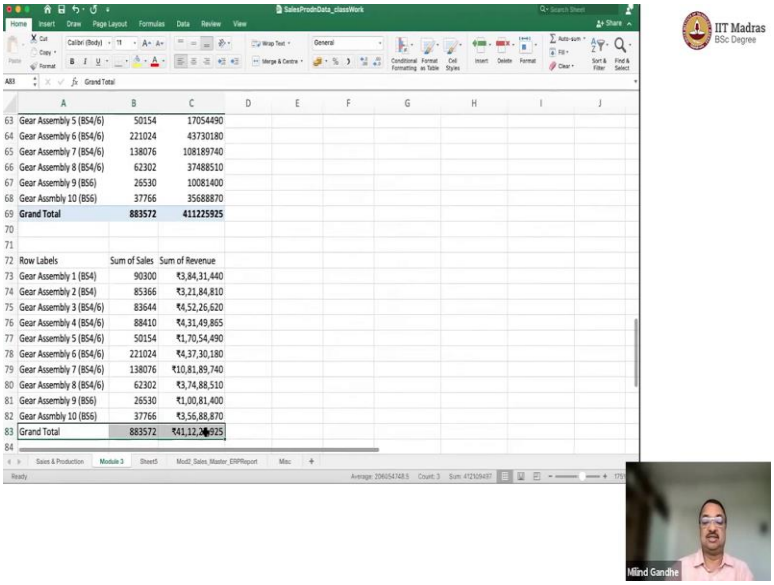

Doctor Milind Gandhe: Now the only thing that we need to do, GV, if you remember from last time, unfortunately from pivot tables, we cannot generate graphs. We will have to cut and paste this as values. And sum at the revenue as currencies as usual. And we do not really need grand total here when we are drawing the graph. We can delete this.

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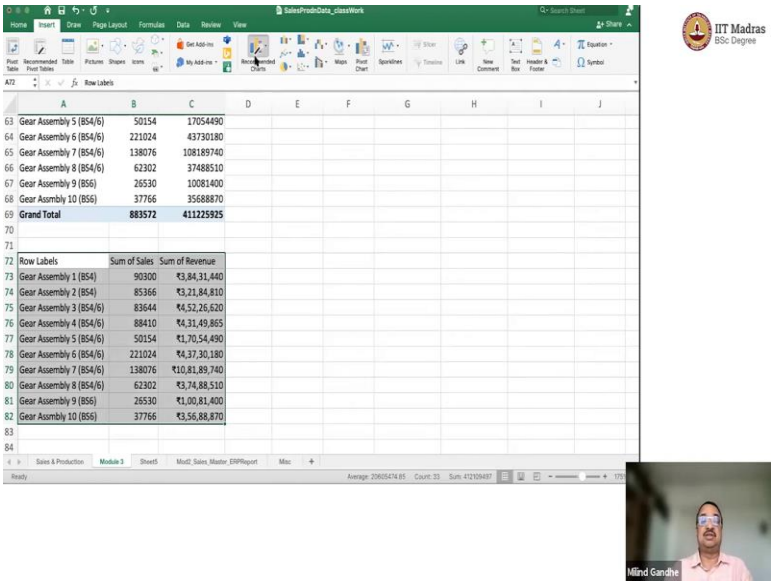

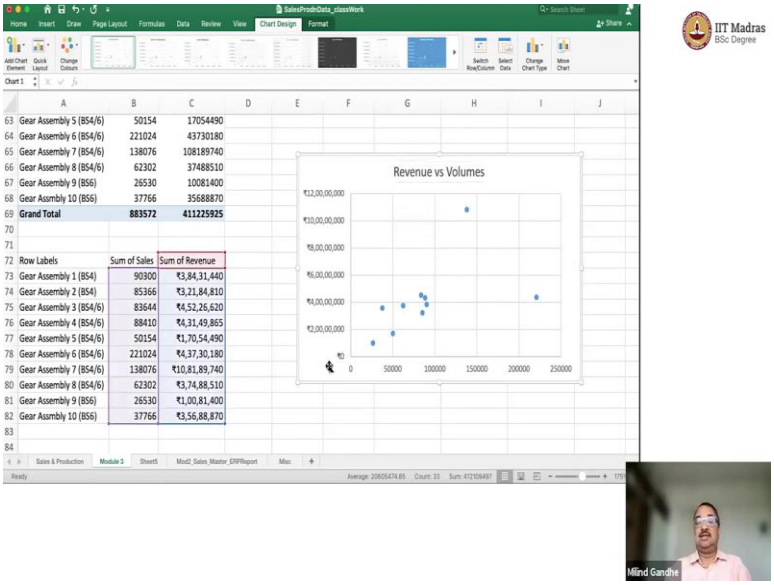

Doctor Milind Gandhe: And now, let us insert a graph. And when we go to insert, recommended chart, let us see what they have.

Professor G. Venkatesh: It will draw a line.

Doctor Milind Gandhe: Have a scatter. Can we just pick this?

Professor G. Venkatesh: Yeah.

Doctor Milind Gandhe: So now we have, I think the label of the chart is wrong. We wanted to call this revenue versus sales.

Professor G. Venkatesh: Sales is a confusing thing. It is alright now.

Doctor Milind Gandhe: Let us call it revenue-volume.

Professor G. Venkatesh: Yes, volume, I think you should call it.

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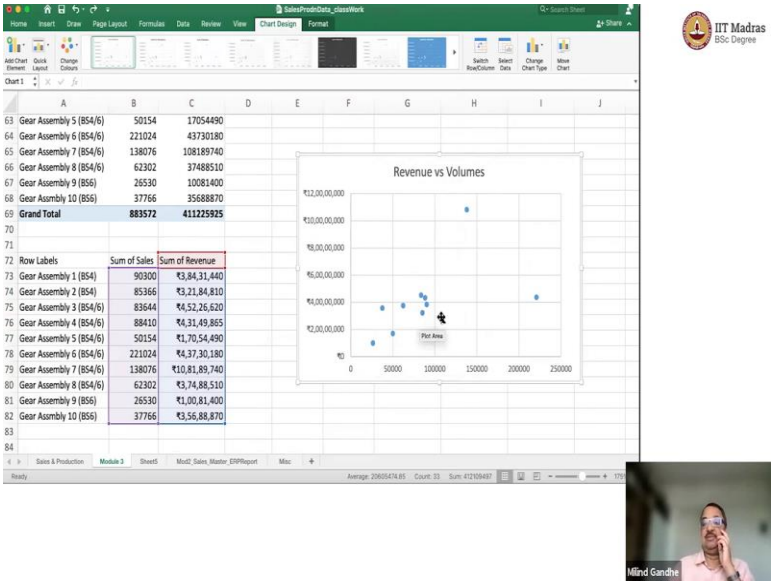

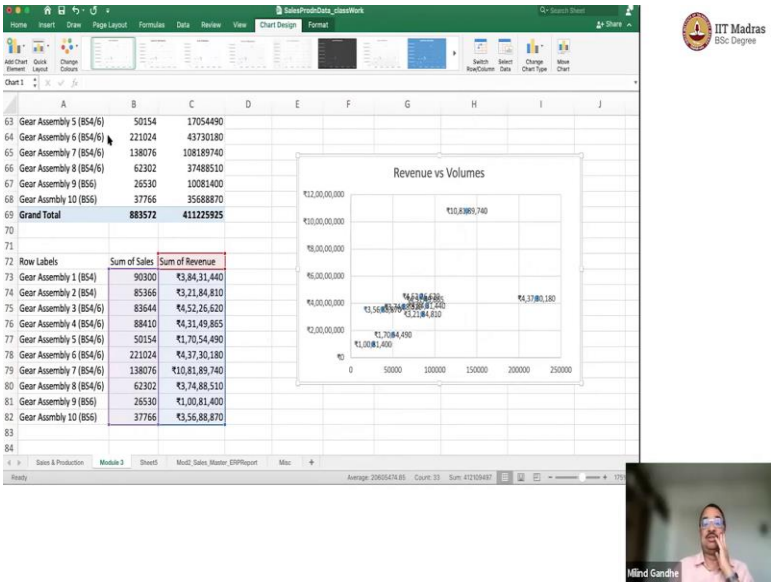

Doctor Milind Gandhe: GV the only problem now we have is that this, these dots, we do not know which gear assembly they stand for? Now, one thing of course, we can do is we can add a data label. But if we do that, let us, let me show you what happens.

What will happen is that revenue comes as a data label. But that is not what we want as a data label.

Professor G. Venkatesh: On the category.

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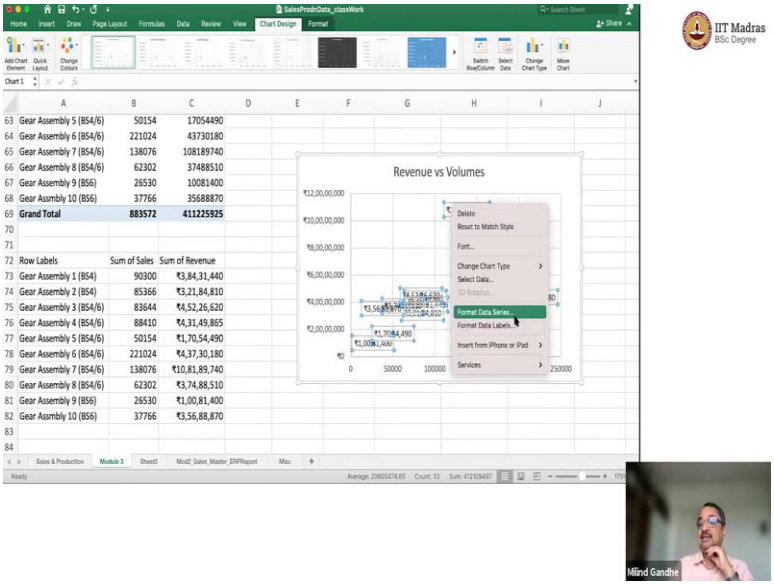

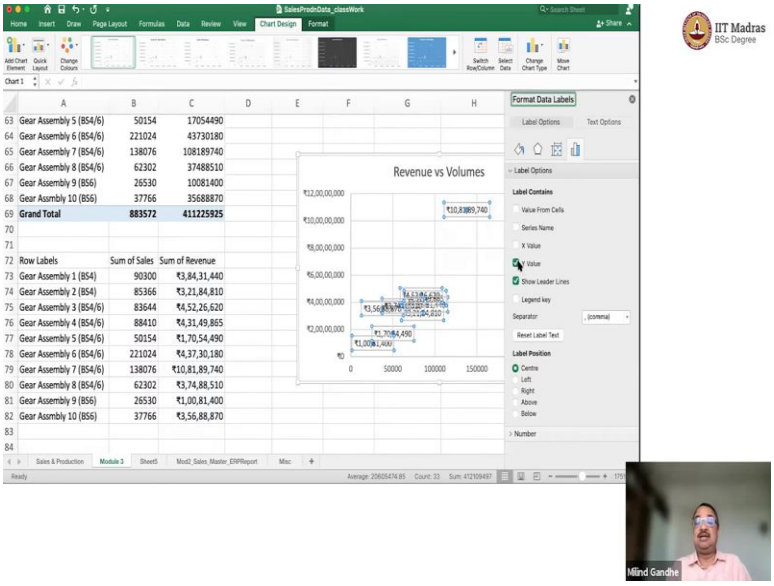

Doctor Milind Gandhe: Yes.

Professor G. Venkatesh: We want column A. We do not want column…

Doctor Milind Gandhe: Exactly. You do not want to pick up from column C, we want to pick up from column, somewhere else. You can select all the data labels and you go into format data labels.

Now, what it is saying is, the data label contains y value.

Professor G. Venkatesh: Yeah.

Doctor Milind Gandhe: We do not want a y value. So, let us remove it.

Professor G. Venkatesh: We want value from [Not Audible] versus, series name, not series name. What is series name?

Doctor Milind Gandhe: And then, no, no, no, you want to say value from sales.

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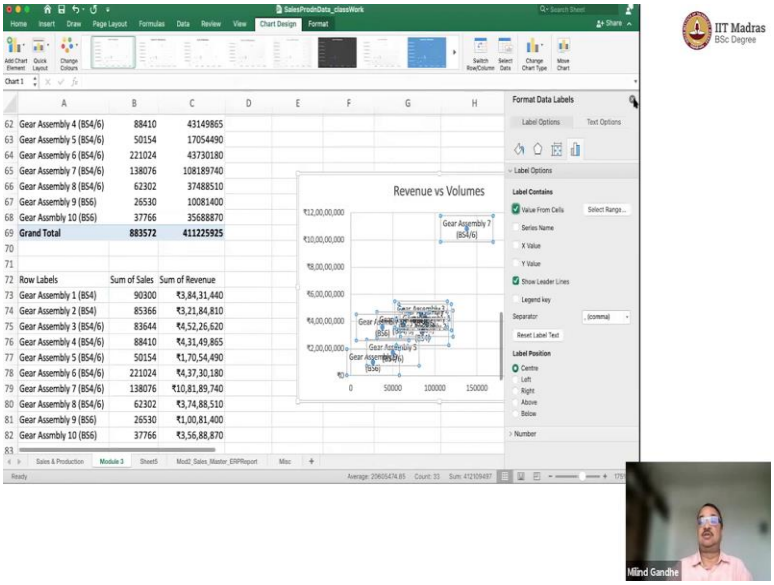

Doctor Milind Gandhe: And from these, here, we can now pick. This should do. Now let us see if it comes. That looks better. Only thing is, it is looking a little cluttered.

Professor G. Venkatesh: You must put it, you must put it somewhere else, not on top of it. You must put next to it.

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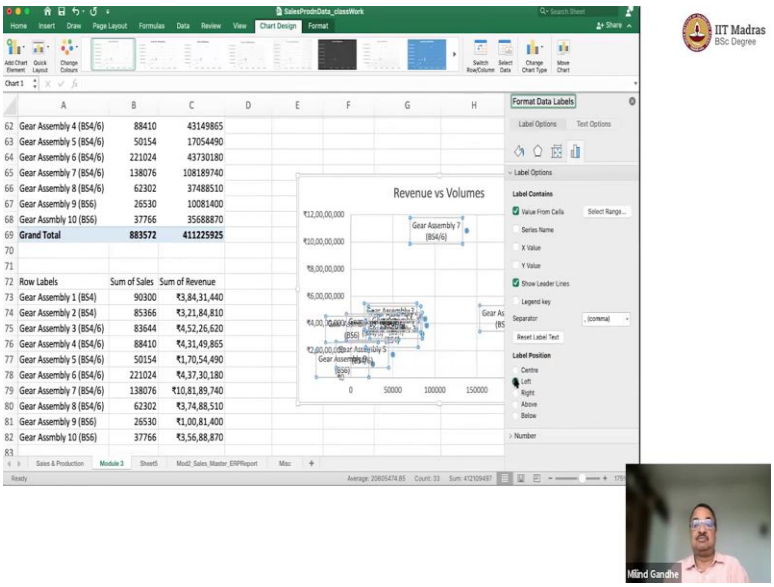
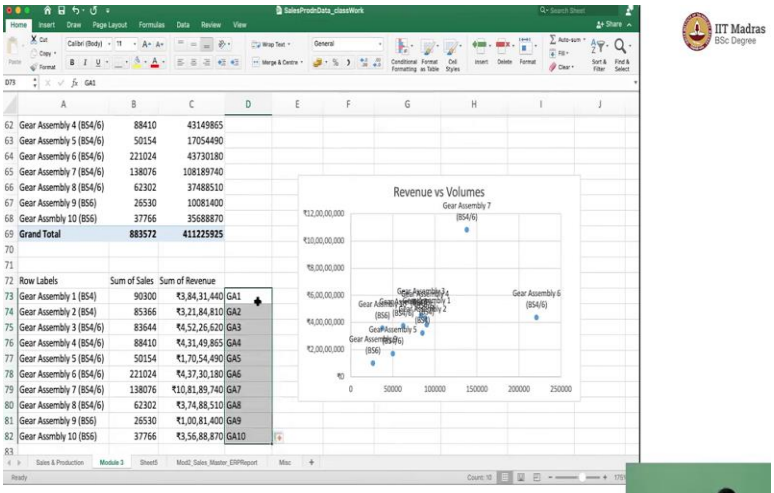


	A	B	C
62	Gear Assembly 4 (BS4/6)	88410	43149865
63	Gear Assembly 5 (BS4/6)	50154	17054490
64	Gear Assembly 6 (BS4/6)	221024	43730180
65	Gear Assembly 7 (BS4/6)	138076	108189740
66	Gear Assembly 8 (BS4/6)	62302	37488510
67	Gear Assembly 9 (BS6)	26530	10081400
68	Gear Assmbly 10 (BS6)	37766	35688870
69	**Grand Total**	**883572**	**411225925**
70			
71			
72	Row Labels	Sum of Sales	Sum of Revenue
73	Gear Assembly 1 (BS4)	90300	₹3,84,31,440
74	Gear Assembly 2 (BS4)	85366	₹3,21,84,810
75	Gear Assembly 3 (BS4/6)	83644	₹4,52,26,620
76	Gear Assembly 4 (BS4/6)	88410	₹4,31,49,865
77	Gear Assembly 5 (BS4/6)	50154	₹1,70,54,490
78	Gear Assembly 6 (BS4/6)	221024	₹4,37,30,180
79	Gear Assembly 7 (BS4/6)	138076	₹10,81,89,740
80	Gear Assembly 8 (BS4/6)	62302	₹3,74,88,510
81	Gear Assembly 9 (BS6)	26530	₹1,00,81,400
82	Gear Assmbly 10 (BS6)	37766	₹3,56,88,870
83			



	A	B	C	D
62	Gear Assembly 4 (BS4/6)	88410	43149865	
63	Gear Assembly 5 (BS4/6)	50154	17054490	
64	Gear Assembly 6 (BS4/6)	221024	43730180	
65	Gear Assembly 7 (BS4/6)	138076	108189740	
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69	**Grand Total**	**883572**	**411225925**	
70				
71				
72	Row Labels	Sum of Sales	Sum of Revenue	
73	Gear Assembly 1 (BS4)	90300	₹3,84,31,440	GA1
74	Gear Assembly 2 (BS4)	85366	₹3,21,84,810	GA2
75	Gear Assembly 3 (BS4/6)	83644	₹4,52,26,620	GA3
76	Gear Assembly 4 (BS4/6)	88410	₹4,31,49,865	GA4
77	Gear Assembly 5 (BS4/6)	50154	₹1,70,54,490	GA5
78	Gear Assembly 6 (BS4/6)	221024	₹4,37,30,180	GA6
79	Gear Assembly 7 (BS4/6)	138076	₹10,81,89,740	GA7
80	Gear Assembly 8 (BS4/6)	62302	₹3,74,88,510	GA8
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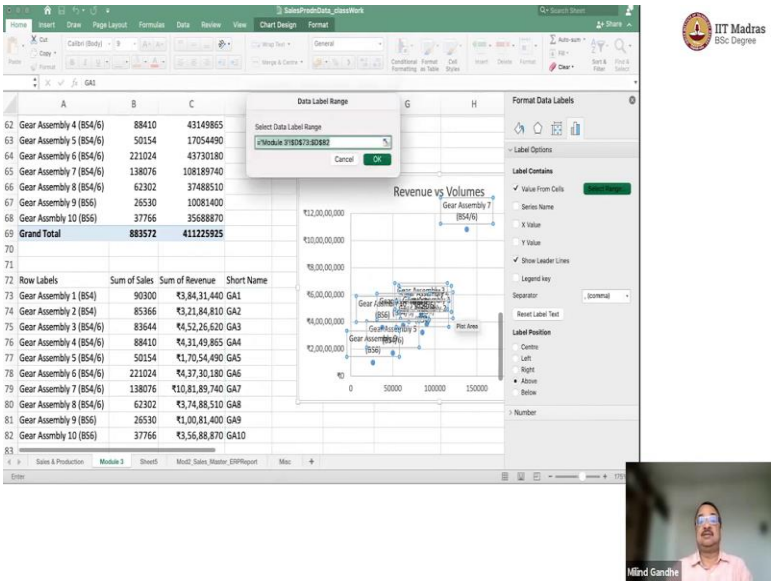
82	Gear Assmbly 10 (BS6)	37766	₹3,56,88,870	GA10
83				



Doctor Milind Gandhe: Let us, let us format the data labels once again and maybe we do it, but it is still cluttered. We have tried above. So, the other thing that we can do in such a case, so you, what you will find is that some of this is going to always be cluttered because the points are all bunched together.

Professor G. Venkatesh: And we do not need to call it gear assembly. Can we not just write…

Doctor Milind Gandhe: GA 1, we can do that. That, that is a good solution. Instead of this, we can do it like this.

Professor G. Venkatesh: That would be better.

Doctor Milind Gandhe: Let us try that.

Professor G. Venkatesh: Did you pull it? Nice. Yeah, let us use that series, that is better.

Doctor Milind Gandhe: Yes. We can do that, we can format data labels and we had said, we will select it from this instead of that, we will select it now from the short name. That is better. That is somewhat better. It is still a little bit of a problem these points are all cluttered together.

Professor G. Venkatesh: Yeah, correct.

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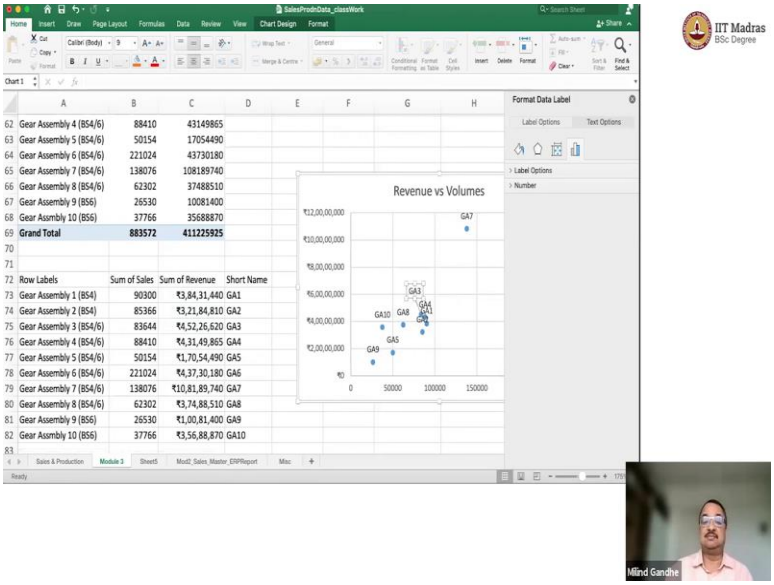

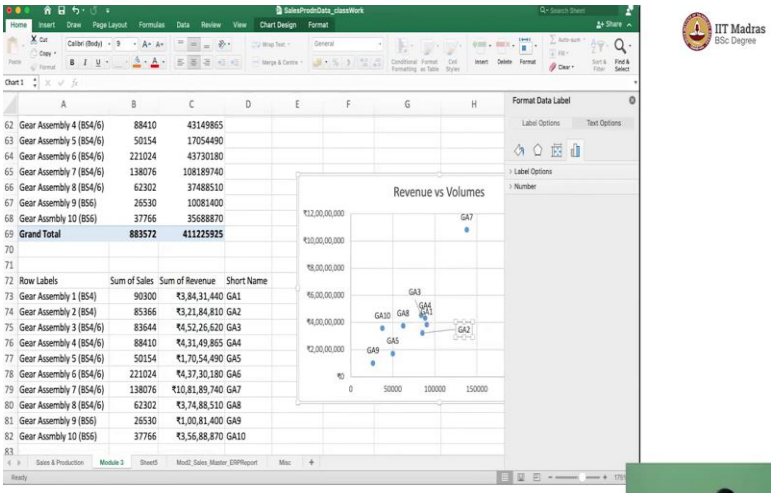

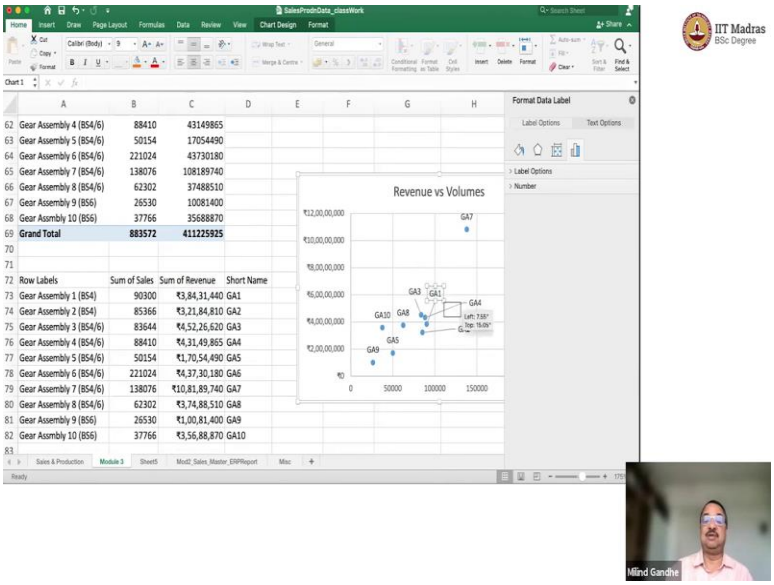

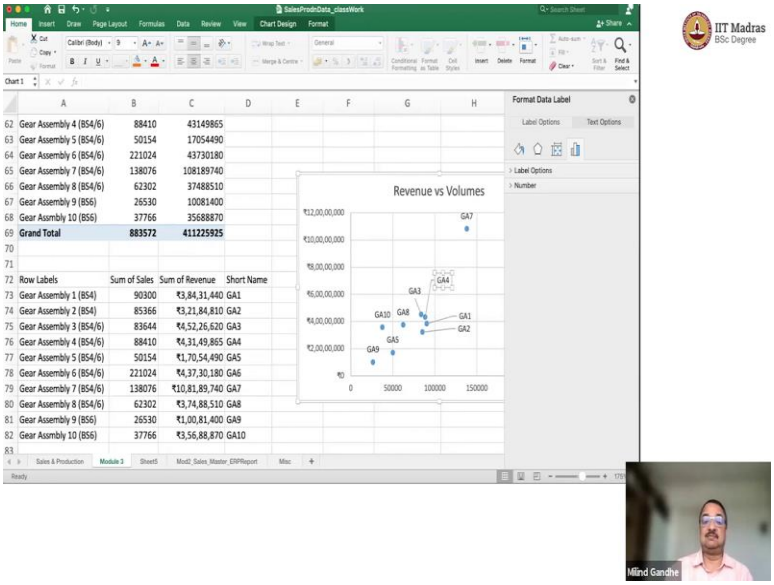

Doctor Milind Gandhe: For that, there are 2-3 things that we can do. One is we can take individual points. Instead of selecting entire data series, we can select the data label for an individual point, and format it differently. Or we can move the data label a little. And then it does a column.

Professor G. Venkatesh: Nice. That is nice. That is nice.

Doctor Milind Gandhe: Something like that. It is a little clumsy, what I have done, maybe we should do it like this.

Doctor Milind Gandhe: Now, the other thing we can do in this, GV, is, I was thinking, so of course, when we were discussing with Omkar, we had put some horizontal and vertical lines trying to create some quadrants, right?

Professor G. Venkatesh: We should try and draw a line, yeah. In this case, horizontal, what does it mean? There are two outliers, 7 and…

Doctor Milind Gandhe: Correct. 6 is an outlier and 7 is an outlier. But to me, in this case, what it seems to me is that most of these points seem to lie on the diagonal.

Professor G. Venkatesh: Looks like it. There is a line between, there is a correlation between, except for 7 and 6, which are outliers, all the others, there seem to be correlation between number and revenue. The prices are roughly similar. That is what it means.

Doctor Milind Gandhe: Roughly similar, looks like, no?

Professor G. Venkatesh: Yeah, yeah.

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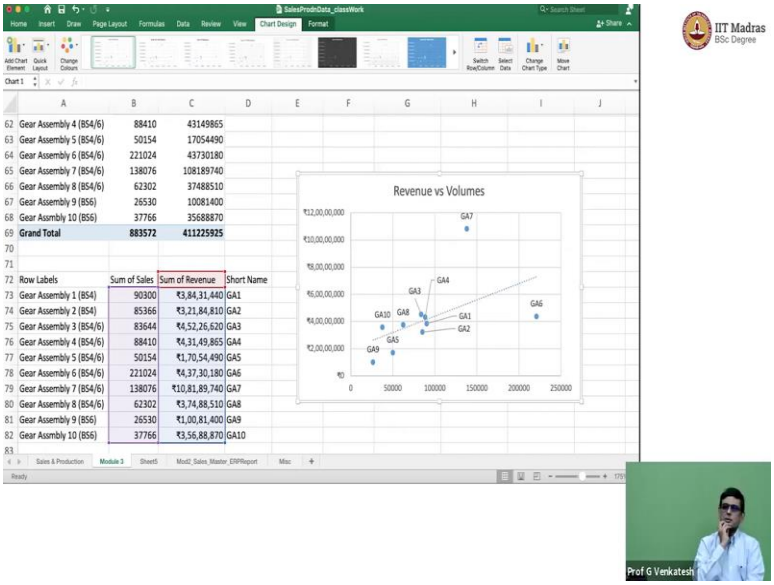

Doctor Milind Gandhe: Maybe we can just draw a trend line.

Professor G. Venkatesh: If you try and fit for, leave that 7 and 6. Can you do that? Can you draw a trend line for the remaining?

Doctor Milind Gandhe: Let us try, First, let us just include everything and then we will see how to exclude something. We will add a chart element and we can add a trend line.

Professor G. Venkatesh: Looks like if you draw a trend line including 7 and 6 also, it will be same as without 7 and 6 because 7 and 6 seem to be on either side of the trend line.

Doctor Milind Gandhe: At least it looks like that, no? But let us try. We will draw a linear trend line. I think, it seems like a linear trend.

Professor G. Venkatesh: What did you do for trend line?

Doctor Milind Gandhe: What we did was, we add a chart element, and in that you will see there is an option called trend line. And trend line will allow us to do four things. We can put a linear thing, we can put an exponential trend, we can put a linear forecast or a moving average.

Professor G. Venkatesh: Linear trend.

Doctor Milind Gandhe: We will, I think linear we will do. GA 7 does; indeed GA 7 and GA 6 do fall on either side of the trend line.

Professor G. Venkatesh: It is alright.

Doctor Milind Gandhe: GA 7, however it is quite far away from the trend line. So, it is there. Very, very big outlier. GA 6 does not appear to be that much of an outlier. GA 7, I think, GV, the price must be quite high because the volume is not that much, but the revenue is quite a bit.

Professor G. Venkatesh: It is second largest in terms of volume also. it is M01 or something, whatever that mobile phone was there. In the fab mart. This guy is, is gears equivalent of M01 is GA 7.

Doctor Milind Gandhe: Yes. And there is some orange mobile which was some GA 6 equivalent. No, no, that was, orange mobile was high revenue, but low volume. This is high…

Professor G. Venkatesh: Volume.

Doctor Milind Gandhe: Low revenue, high volume. Something like that.

Professor G. Venkatesh: This was good. This presented, let us show it in.

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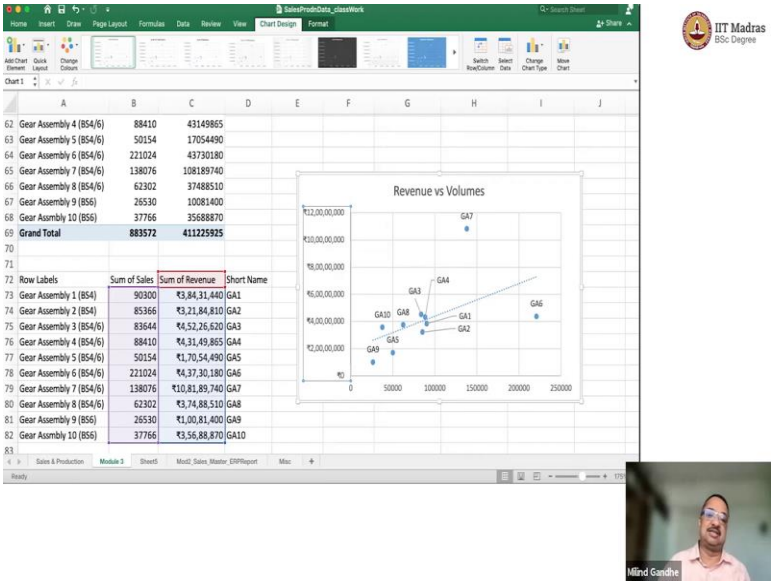

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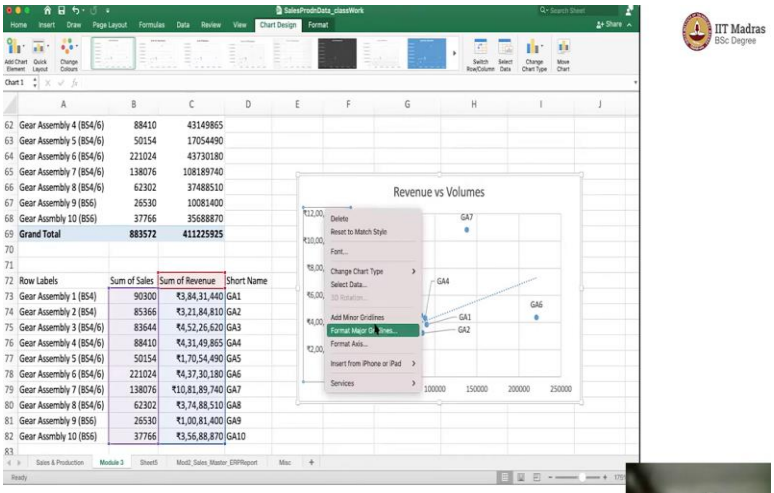
66	Gear Assembly 8 (BS4/6)	62302	37488510	
67	Gear Assembly 9 (BS6)	26530	10081400	
68	Gear Assmbly 10 (BS6)	37766	35688870	
69	**Grand Total**	**883572**	**411225925**	
70				
71				
72	Row Labels	Sum of Sales	Sum of Revenue	Short Name
73	Gear Assembly 1 (BS4)	90300	₹3,84,31,440	GA1
74	Gear Assembly 2 (BS4)	85366	₹3,21,84,810	GA2
75	Gear Assembly 3 (BS4/6)	83644	₹4,52,26,620	GA3
76	Gear Assembly 4 (BS4/6)	88410	₹4,31,49,865	GA4
77	Gear Assembly 5 (BS4/6)	50154	₹1,70,54,490	GA5
78	Gear Assembly 6 (BS4/6)	221024	₹4,37,30,180	GA6
79	Gear Assembly 7 (BS4/6)	138076	₹10,81,89,740	GA7
80	Gear Assembly 8 (BS4/6)	62302	₹3,74,88,510	GA8
81	Gear Assembly 9 (BS6)	26530	₹1,00,81,400	GA9
82	Gear Assmbly 10 (BS6)	37766	₹3,56,88,870	GA10
83				



	A	B	C	D
62	Gear Assembly 4 (BS4/6)	88410	43149865	
63	Gear Assembly 5 (BS4/6)	50154	17054490	
64	Gear Assembly 6 (BS4/6)	221024	43730180	
65	Gear Assembly 7 (BS4/6)	138076	108189740	
66	Gear Assembly 8 (BS4/6)	62302	37488510	
67	Gear Assembly 9 (BS6)	26530	10081400	
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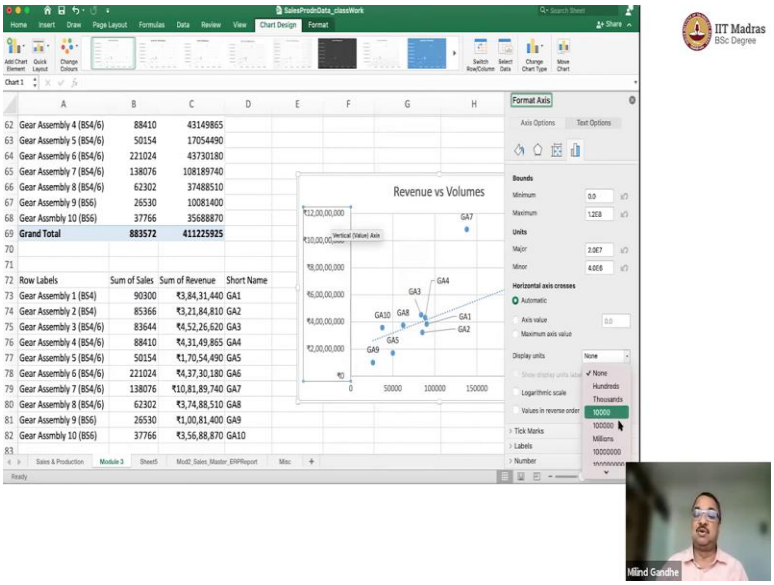
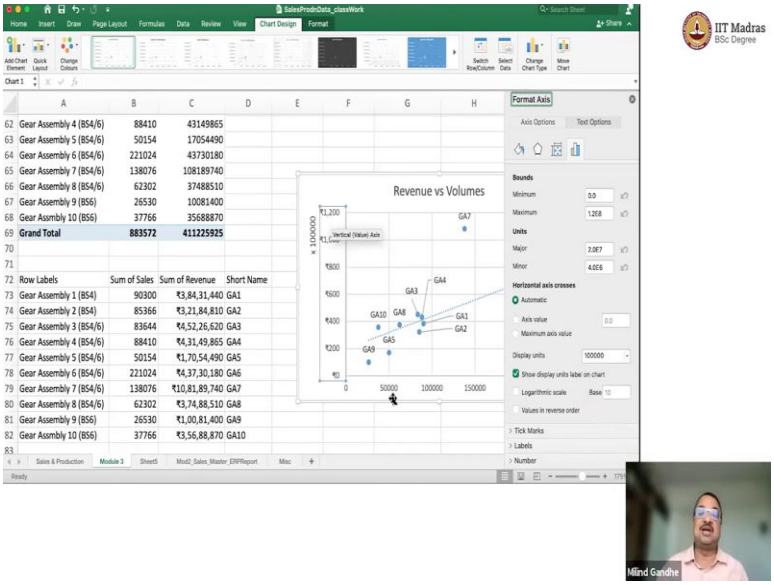
77	Gear Assembly 5 (BS4/6)	50154	₹1,70,54,490	GA5
78	Gear Assembly 6 (BS4/6)	221024	₹4,37,30,180	GA6
79	Gear Assembly 7 (BS4/6)	138076	₹10,81,89,740	GA7
80	Gear Assembly 8 (BS4/6)	62302	₹3,74,88,510	GA8
81	Gear Assembly 9 (BS6)	26530	₹1,00,81,400	GA9
82	Gear Assmbly 10 (BS6)	37766	₹3,56,88,870	GA10
83				





Doctor Milind Gandhe: No, one of the things that we can do is to make the y-axis readable. Right now, we are presenting the y-axis in rupees. But we can also present it lakhs of rupees. So, what we can do is, if we select this entire legend on a y-axis and we right click it, we can, yeah, we can pick format major, format axis.

And, we will say display units. If you see display units currently is None. We want to say 1 lakh.

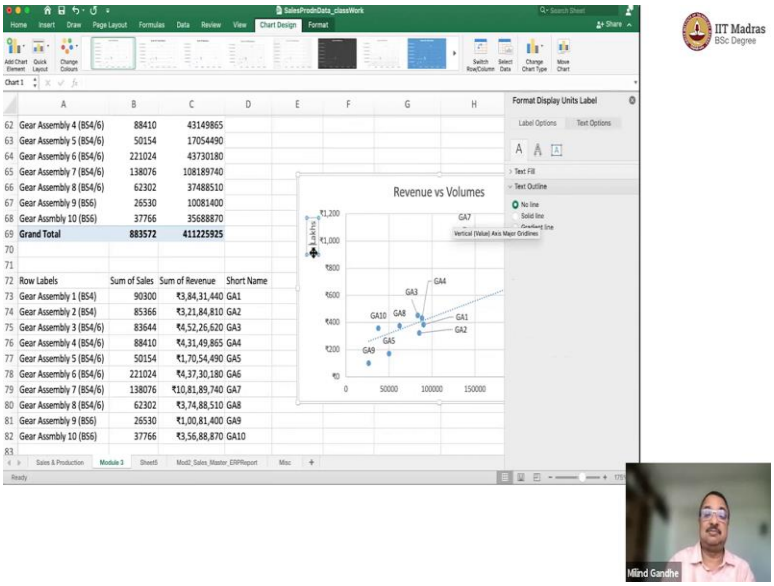
Professor G. Venkatesh: Yeah, I see, it gives you 100,000. Wow.

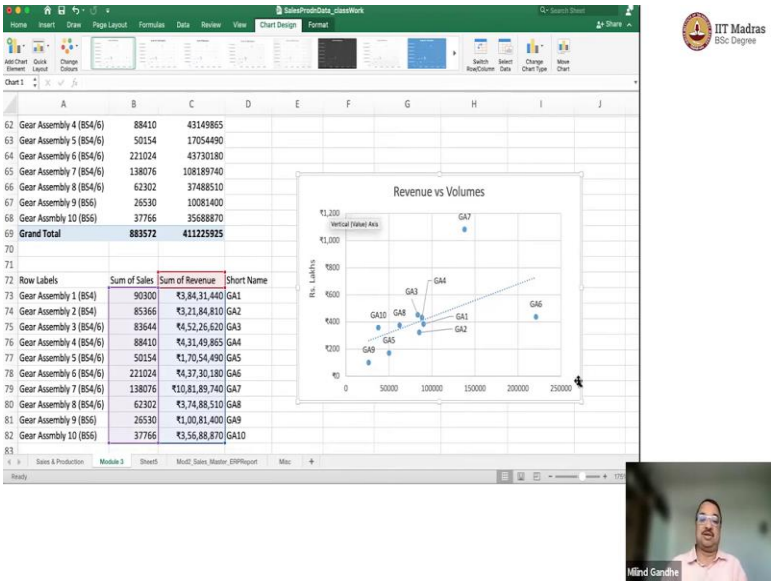
Doctor Milind Gandhe: If you say 1 lakh…

Professor G. Venkatesh: It gives you 100,000.

Doctor Milind Gandhe: It gives you 100,000. Same thing. So now, you can see that these 200 lakhs, 400 lakhs. And how do you know? Because here it has said into 1 lakh. So, this is 200 lakh, 400 lakh.

Professor G. Venkatesh: Can you change it into 1,000 to write lakhs over there, instead of that? (Refer Slide Time: 16:38)





Doctor Milind Gandhe: I can try. Let us see, you can just edit it.

Professor G. Venkatesh: Nice.

Doctor Milind Gandhe: Rupee's lakh. And maybe let us just move this a little bit close so that, and then of course, the students might want to play around and make this a little more pretty. We can say that the x-axis is quantity and the y-axis is revenue and so on.

Professor G. Venkatesh: This is good. I think this is good. I think we have got onto a good state. This one, we should show it to him. I know some insights may be there. I do not know why there, because GA 9 is that new product. So, that is why they are doing it. It looks like it is neither revenue nor.

Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: Whereas some others like GA 2 is also some very uninspiring…

Doctor Milind Gandhe: GA 2 is middle of the road. GA 5 is perhaps a little uninspiring.

Professor G. Venkatesh: GA 5 is also, GA 5, I do not know why they are doing GA 5. They should drop GA 5. Yeah, GA 5 they should drop.

Doctor Milind Gandhe: These four seem to be sort of clustered together, GA 1, GA 2, GA 3, GA 4.

Professor G. Venkatesh: They are clustered together. GA 8 and 9, they are new products. GA 8, 8, 9 10 are, I think…

Doctor Milind Gandhe: Ninth and tenth. 9 and 10 are there.

Professor G. Venkatesh: [Not Audible] are BS 6 products so we will ignore them.

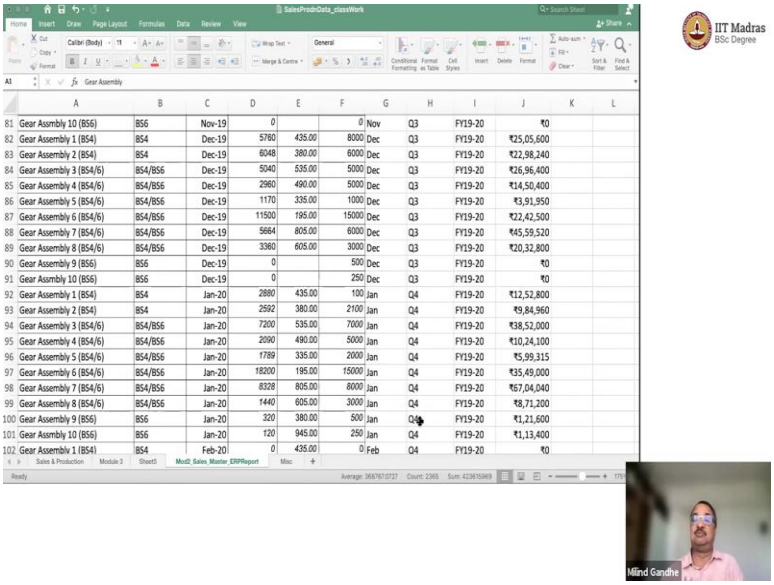
Doctor Milind Gandhe: Correct.

Professor G. Venkatesh: 5 and 8 are not very interesting. And 6 and 7 are stars. They are the ones.

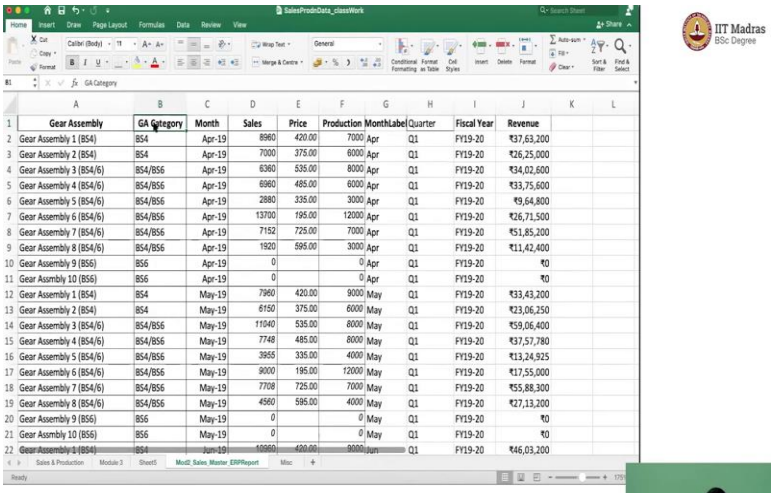
Doctor Milind Gandhe: Clearly.

Professor G. Venkatesh: Alright. This is good. Let us go show it to him.

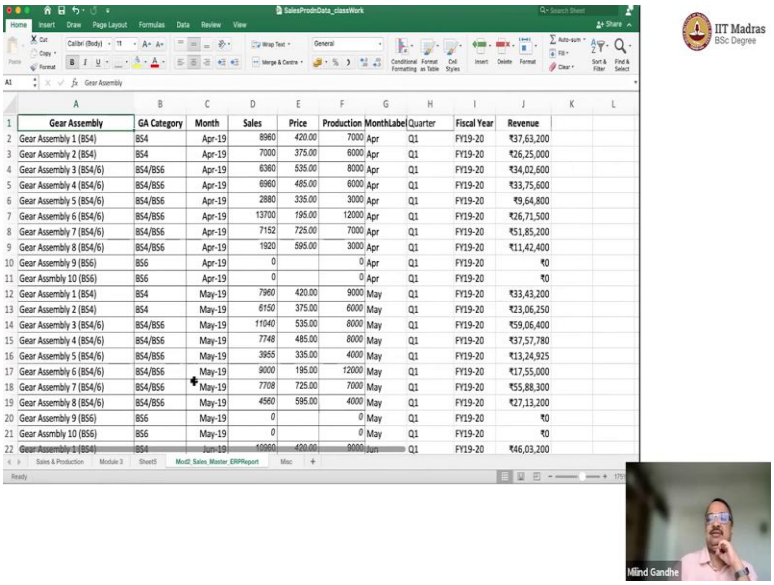
(Refer Slide Time: 18:36)



	A	B	C	D	E	F	G	H	I	J	K	L
81	Gear Assmbly 10 (BS6)	BS6	Nov-19	0		0	Nov	Q3	FY19-20	₹0		
82	Gear Assembly 1 (BS4)	BS4	Dec-19	5760	435.00	8000	Dec	Q3	FY19-20	₹25,05,600		
83	Gear Assembly 2 (BS4)	BS4	Dec-19	6048	380.00	6000	Dec	Q3	FY19-20	₹22,98,240		
84	Gear Assembly 3 (BS4/6)	BS4/BS6	Dec-19	5040	535.00	5000	Dec	Q3	FY19-20	₹26,96,400		
85	Gear Assembly 4 (BS4/6)	BS4/BS6	Dec-19	2960	490.00	5000	Dec	Q3	FY19-20	₹14,50,400		
86	Gear Assembly 5 (BS4/6)	BS4/BS6	Dec-19	1170	335.00	1000	Dec	Q3	FY19-20	₹3,91,950		
87	Gear Assembly 6 (BS4/6)	BS4/BS6	Dec-19	11500	195.00	15000	Dec	Q3	FY19-20	₹22,42,500		
88	Gear Assembly 7 (BS4/6)	BS4/BS6	Dec-19	5664	805.00	6000	Dec	Q3	FY19-20	₹45,59,520		
89	Gear Assembly 8 (BS4/6)	BS4/BS6	Dec-19	3360	605.00	3000	Dec	Q3	FY19-20	₹20,32,800		
90	Gear Assembly 9 (BS6)	BS6	Dec-19	0		500	Dec	Q3	FY19-20	₹0		
91	Gear Assmbly 10 (BS6)	BS6	Dec-19	0		250	Dec	Q3	FY19-20	₹0		
92	Gear Assembly 1 (BS4)	BS4	Jan-20	2880	435.00	100	Jan	Q4	FY19-20	₹12,52,800		
93	Gear Assembly 2 (BS4)	BS4	Jan-20	2592	380.00	2100	Jan	Q4	FY19-20	₹9,84,960		
94	Gear Assembly 3 (BS4/6)	BS4/BS6	Jan-20	7200	535.00	7000	Jan	Q4	FY19-20	₹38,52,000		
95	Gear Assembly 4 (BS4/6)	BS4/BS6	Jan-20	2090	490.00	5000	Jan	Q4	FY19-20	₹10,24,100		
96	Gear Assembly 5 (BS4/6)	BS4/BS6	Jan-20	1789	335.00	2000	Jan	Q4	FY19-20	₹5,99,315		
97	Gear Assembly 6 (BS4/6)	BS4/BS6	Jan-20	18200	195.00	15000	Jan	Q4	FY19-20	₹35,49,000		
98	Gear Assembly 7 (BS4/6)	BS4/BS6	Jan-20	8328	805.00	8000	Jan	Q4	FY19-20	₹67,04,040		
99	Gear Assembly 8 (BS4/6)	BS4/BS6	Jan-20	1440	605.00	3000	Jan	Q4	FY19-20	₹8,71,200		
100	Gear Assembly 9 (BS6)	BS6	Jan-20	320	380.00	500	Jan	Q4	FY19-20	₹1,21,600		
101	Gear Assmbly 10 (BS6)	BS6	Jan-20	120	945.00	250	Jan	Q4	FY19-20	₹1,13,400		
102	Gear Assembly 1 (BS4)	BS4	Feb-20	0	435.00	0	Feb	Q4	FY19-20	₹0		



	A	B	C	D	E	F	G	H	I	J	K	L
1	Gear Assembly	GA Category	Month	Sales	Price	Production	MonthLabel	Quarter	Fiscal Year	Revenue		
2	Gear Assembly 1 (BS4)	BS4	Apr-19	8960	420.00	7000	Apr	Q1	FY19-20	₹37,63,200		
3	Gear Assembly 2 (BS4)	BS4	Apr-19	7000	375.00	6000	Apr	Q1	FY19-20	₹26,25,000		
4	Gear Assembly 3 (BS4/6)	BS4/BS6	Apr-19	6360	535.00	8000	Apr	Q1	FY19-20	₹34,02,600		
5	Gear Assembly 4 (BS4/6)	BS4/BS6	Apr-19	6960	485.00	6000	Apr	Q1	FY19-20	₹33,75,600		
6	Gear Assembly 5 (BS4/6)	BS4/BS6	Apr-19	2880	335.00	3000	Apr	Q1	FY19-20	₹9,64,800		
7	Gear Assembly 6 (BS4/6)	BS4/BS6	Apr-19	13700	195.00	12000	Apr	Q1	FY19-20	₹26,71,500		
8	Gear Assembly 7 (BS4/6)	BS4/BS6	Apr-19	7152	725.00	7000	Apr	Q1	FY19-20	₹51,85,200		
9	Gear Assembly 8 (BS4/6)	BS4/BS6	Apr-19	1920	595.00	3000	Apr	Q1	FY19-20	₹11,42,400		
10	Gear Assembly 9 (BS6)	BS6	Apr-19	0		0	Apr	Q1	FY19-20	₹0		
11	Gear Assmbly 10 (BS6)	BS6	Apr-19	0		0	Apr	Q1	FY19-20	₹0		
12	Gear Assembly 1 (BS4)	BS4	May-19	7960	420.00	9000	May	Q1	FY19-20	₹33,43,200		
13	Gear Assembly 2 (BS4)	BS4	May-19	6150	375.00	6000	May	Q1	FY19-20	₹23,06,250		
14	Gear Assembly 3 (BS4/6)	BS4/BS6	May-19	11040	535.00	8000	May	Q1	FY19-20	₹59,06,400		
15	Gear Assembly 4 (BS4/6)	BS4/BS6	May-19	7748	485.00	8000	May	Q1	FY19-20	₹37,57,780		
16	Gear Assembly 5 (BS4/6)	BS4/BS6	May-19	3955	335.00	4000	May	Q1	FY19-20	₹13,24,925		
17	Gear Assembly 6 (BS4/6)	BS4/BS6	May-19	9000	195.00	12000	May	Q1	FY19-20	₹17,55,000		
18	Gear Assembly 7 (BS4/6)	BS4/BS6	May-19	7708	725.00	7000	May	Q1	FY19-20	₹55,88,300		
19	Gear Assembly 8 (BS4/6)	BS4/BS6	May-19	4560	595.00	4000	May	Q1	FY19-20	₹27,13,200		
20	Gear Assembly 9 (BS6)	BS6	May-19	0		0	May	Q1	FY19-20	₹0		
21	Gear Assmbly 10 (BS6)	BS6	May-19	0		0	May	Q1	FY19-20	₹0		
22	Gear Assembly 1 (BS4)	BS4	Jun-19	10960	420.00	9000	Jun	Q1	FY19-20	₹46,03,200		



	Gear Assembly	GA Category	Month	Sales	Price	Production	MonthLabel	Quarter	Fiscal Year	Revenue
2	Gear Assembly 1 (BS4)	BS4	Apr-19	8960	420.00	7000	Apr	Q1	FY19-20	₹37,63,200
3	Gear Assembly 2 (BS4)	BS4	Apr-19	7000	375.00	6000	Apr	Q1	FY19-20	₹26,25,000
4	Gear Assembly 3 (BS4/6)	BS4/BS6	Apr-19	6360	535.00	8000	Apr	Q1	FY19-20	₹34,02,600
5	Gear Assembly 4 (BS4/6)	BS4/BS6	Apr-19	6960	485.00	6000	Apr	Q1	FY19-20	₹33,75,600
6	Gear Assembly 5 (BS4/6)	BS4/BS6	Apr-19	2880	335.00	3000	Apr	Q1	FY19-20	₹9,64,800
7	Gear Assembly 6 (BS4/6)	BS4/BS6	Apr-19	13700	195.00	12000	Apr	Q1	FY19-20	₹26,71,500
8	Gear Assembly 7 (BS4/6)	BS4/BS6	Apr-19	7152	725.00	7000	Apr	Q1	FY19-20	₹51,85,200
9	Gear Assembly 8 (BS4/6)	BS4/BS6	Apr-19	1920	595.00	3000	Apr	Q1	FY19-20	₹11,42,400
10	Gear Assembly 9 (BS6)	BS6	Apr-19	0		0	Apr	Q1	FY19-20	₹0
11	Gear Assembly 10 (BS6)	BS6	Apr-19	0		0	Apr	Q1	FY19-20	₹0
12	Gear Assembly 1 (BS4)	BS4	May-19	7960	420.00	9000	May	Q1	FY19-20	₹33,43,200
13	Gear Assembly 2 (BS4)	BS4	May-19	6150	375.00	6000	May	Q1	FY19-20	₹23,06,250
14	Gear Assembly 3 (BS4/6)	BS4/BS6	May-19	11040	535.00	8000	May	Q1	FY19-20	₹59,06,400
15	Gear Assembly 4 (BS4/6)	BS4/BS6	May-19	7748	485.00	8000	May	Q1	FY19-20	₹37,57,780
16	Gear Assembly 5 (BS4/6)	BS4/BS6	May-19	3955	335.00	4000	May	Q1	FY19-20	₹13,24,925
17	Gear Assembly 6 (BS4/6)	BS4/BS6	May-19	9000	195.00	12000	May	Q1	FY19-20	₹17,55,000
18	Gear Assembly 7 (BS4/6)	BS4/BS6	May-19	7708	725.00	7000	May	Q1	FY19-20	₹55,88,300
19	Gear Assembly 8 (BS4/6)	BS4/BS6	May-19	4560	595.00	4000	May	Q1	FY19-20	₹27,13,200
20	Gear Assembly 9 (BS6)	BS6	May-19	0		0	May	Q1	FY19-20	₹0
21	Gear Assembly 10 (BS6)	BS6	May-19	0		0	May	Q1	FY19-20	₹0
22	Gear Assembly 1 (BS4)	BS4	Jun-19	10960	420.00	9000	Jun	Q1	FY19-20	₹46,03,200

Doctor Milind Gandhe: How the category business has moved over the years.

Professor G. Venkatesh: Let us, you can stop sharing…

Doctor Milind Gandhe: Call out the fact that this 4 has gone to 0 and GA6 is jumping from one financial year to the next financial year.

Professor G. Venkatesh: Yes. This row.

Doctor Milind Gandhe: Rows will be GA9.

Professor G. Venkatesh: GA category.

Doctor Milind Gandhe: Okay.

Professor G. Venkatesh: But we want to see year, year-wise right, not month-wise, year-wise is good enough. Month-wise is too much detail. Year-wise.

Doctor Milind Gandhe: No, month will be too much detail. Let us look at it year-wise.

Professor G. Venkatesh: 19-20 and, yeah.

Doctor Milind Gandhe: We can take fiscal year as columns, maybe.

Professor G. Venkatesh: Fiscal year as column and GA category as row.

Doctor Milind Gandhe: As row.

Professor G. Venkatesh: And what would be the cell? The pivot table, what would be the cell? Sum of revenues. Revenues, you want to see.

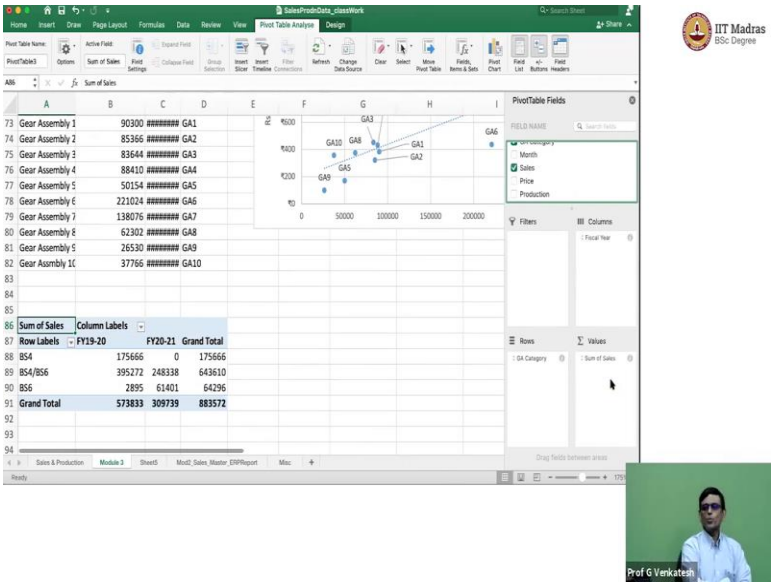
Doctor Milind Gandhe: What we can do is sum of sales, maybe, initially.

Professor G. Venkatesh: Sum of quantity.

Doctor Milind Gandhe: We can do either one.

Professor G. Venkatesh: Revenue is, yeah okay. We will do sales.

(Refer Slide Time: 19:56)



Doctor Milind Gandhe: Let me insert a pivot table as usual. By now, I think the students should get used to creating pivot tables like this. The advantage of putting multiple pivot tables on the same sheet, so by the way, GV, is typically the size of the excel sheet will be smaller because the excel sheet will then tend to reuse the internal data structures for the pivot table.

Professor G. Venkatesh: Obviously, such intricacies, okay.

Doctor Milind Gandhe: What did we say, we said GA categories will be rows, and we said fiscal years will be in columns. And then we wanted revenues as well. Sum of revenues.

Professor G. Venkatesh: Not sales.

Doctor Milind Gandhe: You wanted sales.

Professor G. Venkatesh: Quantities, quantities. Volume. Sales.

Doctor Milind Gandhe: And then maybe the students can then play around to figure out what is a neat graphical way to perhaps represent this. They can try that. And I think it might also be interesting to the students to see what happens if we see revenues instead of sales, or if we look at production instead of sales.

Professor G. Venkatesh: Yeah. But what is this, what is this saying? It is saying anything, or not saying anything? It is saying. BS4 went from 175, 175666 units to 0. BS6 went from 2895 to 61, so that is obvious. But…

Doctor Milind Gandhe: This is going down. BS6 is going down.

Professor G. Venkatesh: Decline. So that is the trend. So that has, because of COVID. So BS4.

Professor G. Venkatesh: Because of COVID, we are seeing, BS4, we are seeing only the, BS4 has been faced out. That is what we are seeing, BS6 we are seeing rampant.

Doctor Milind Gandhe: Correct. And it is also possible that if there was no COVID, then perhaps BS6 could have been higher.

Professor G. Venkatesh: May have been higher, year.

Doctor Milind Gandhe: Right? But hopefully, the impact of BS4, BS6 is only in COVID.

Professor G. Venkatesh: Okay. Alright.

Doctor Milind Gandhe: You know, like I said, the graphical representation of this, maybe the students can try out. And they might also want to play around with changing this to production and all to, revenue, and some of the other parameters.