Business Data Management
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Lecture - 2
Scatter Chart Presentation

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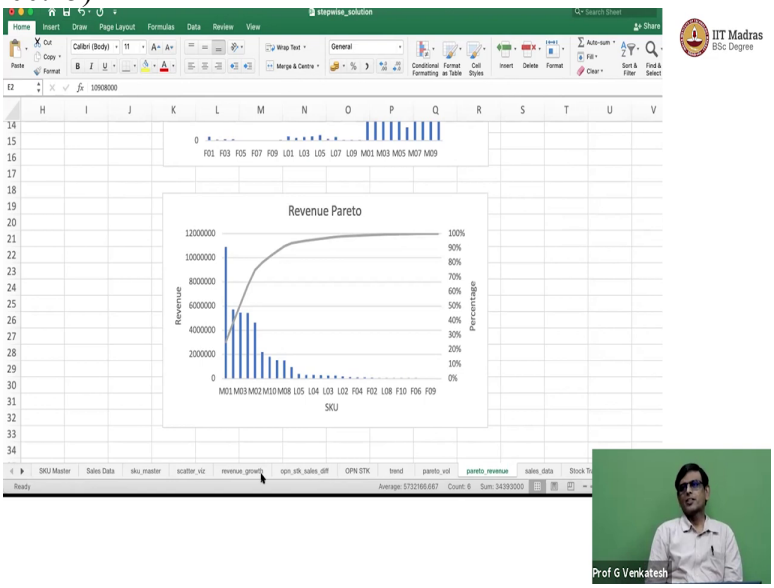

Professor Omkar: So, I think this revenue pareto looks better but can we see both of them together? Probably after we look at them together, we will be able to answer the question which was asked about how do I organise the FC. Let us see if, if we can plot them together on one graph, is it possible?

Professor G. Venkatesh: You cannot do a pareto, in pareto you need only one axis. So, it is difficult to do 2 dimensional, I guess you can do something. So, you need a 3 dimensional picture or something. But if you want to try a scatterplot type of thing maybe we have done that, we did that scatter plotting of volume on one axis and revenue on the, maybe that is useful right?

Professor Omkar: Yeah.

Professor G. Venkatesh: It will not give you pareto, but at least it gives you a distribution of the things on 2 dimension.

Professor Omkar: Yes, that should have, that is true.

Professor Milind: Okay,let us look at the scatter.

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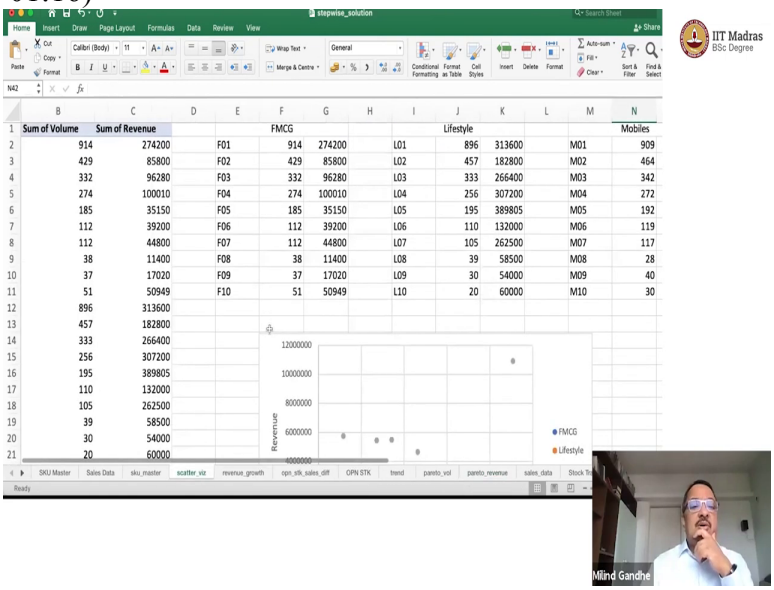

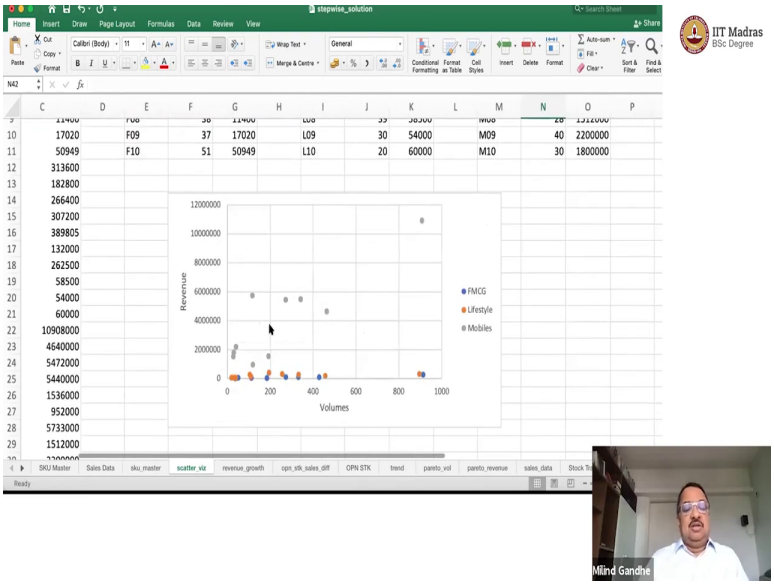

Professor Milind: So, again, Omkar this is what we did. Basically, looked at sum of the volume and sum of the revenue for the 30 SKUs.

Professor Omkar: Yes.

Professor Milind: And then what we, what we have done is we have plotted the revenue on the y axis and the volume on the x axis.

Professor Omkar: Okay.

Professor Milind: So, the blue dot is basically SKUs.

Professor Omkar: Yeah.

Professor Milind: The orange dots are lifestyle SKUs and the gray dots are the mobiles SKUs.

Professor Omkar: Yes, this looks interesting, but I think there is something which is happening here. All barring the three of the highest volume SKUs, one from each BU is getting aggregated in one corner of the graph itself. So, maybe if we can [Non audible]

Professor G. Venkatesh: We have a scale, we have a scale problem because one item in each of these SKUs is scaling quite dramatically right?

Professor Omkar: Yeah, outliers, can we do that?

Professor G. Venkatesh: The outlier so do we want to remove the outlier and examine what is remaining, I mean does it make sense?

Professor Milind: Okay, yeah. Okay let me do that and come back. .

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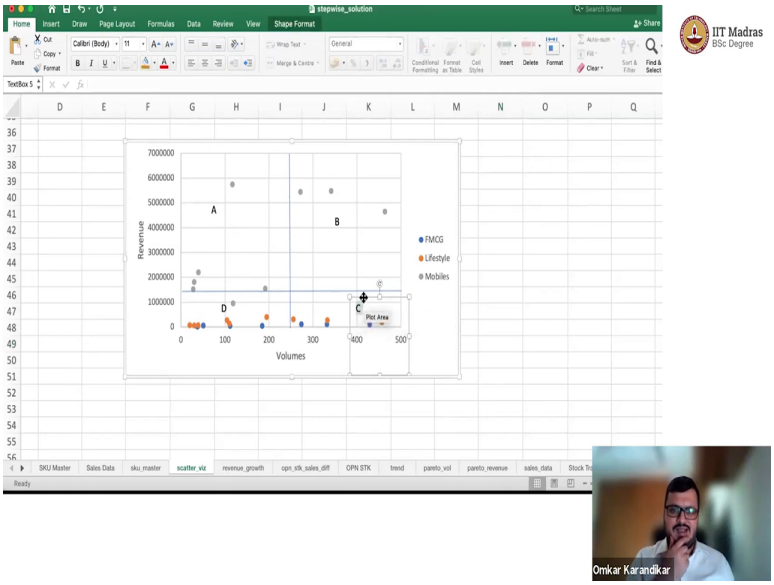

So, this is what I did G.V. and Omkar, I removed the top selling SKUs in each of the business lines. And now actually a little bit better spread.

Professor Omkar: Yeah, this looks much more evenly spread. Let us, I think this is more useful for answering the question which was asked to us by Mr. Shastri right? We wanted to organise his FC in the best possible way. So, let us say draw a couple of lines, let us say start with a vertical line between let us say somewhere between 200 and 300 volume. This way there is a bit of the SKUs which are moving fast. Let us say anything about 250 is what we will call a fast moving SKU, these are the SKUs.

Professor Milind: So, shall we draw it here?

Professor Omkar: Yeah, yeah yeah that should be good.

Professor Milind: Something like this?

Professor Omkar: Yes. So, ideally, it is a fast mover. So, I should store this as close to the draw as close to the processing area as possible within my FC. So, I can offer a better speed, I will have much lesser efforts for picking, so that is a very good card. But I look at it, I can see a clear cut differentiation between the SKUs, let us save which are about I think one thing will help if you put commas there.

Professor Milind: Okay.

Professor Omkar: But if I draw a horizontal line also somewhere between 10 and 20, then that will give me, I think all of them are mobiles, right?

Professor Milind: Yes.

Professor Omkar: Up there.

Professor Milind: Yes, that it does seem like that.

Professor Omkar: Yeah, so all of them are actually high value items, right?

Professor Milind: Right.

Professor Omkar: So, I will need special type of storage, I will need to keep them in lock and key or a case pallet or something which will give me more security in terms of their storage. Right?

Professor Milind: Yeah.

Professor Omkar: Once on the right, it needs a secure storage near [Non audible] but, but once on left we will need probably secured stores but it can be anywhere. If it happens to be close, I am fine. But which ones on left but bottom corner, the fourth quadrant, that we have, third quadrant that we have, they can be scattered anywhere [Non audible].

Professor G. Venkatesh: Omkar you are going too fast for me just, just let us go slowly. So, what you are saying is that I have drawn a vertical line at 250 line, right?

Professor Omkar: Yes, yeah, yeah.

Professor G. Venkatesh: Now what are you saying that once the SKUs which lie to the right of the line are high volume SKUs.

Professor Omkar: That is right.

Professor G. Venkatesh: So, what did you say we should do for them?

Professor Omkar: So, ideally, they should be close to the processing area.

Professor G. Venkatesh: They should be closer to the customer, you are saying?

Professor Omkar: Within FC, I will store multiple SKUs everywhere.

Professor G. Venkatesh: Okay.

Professor Omkar: Now the fast movers if I store closer to processing area, processing area is where I pick and pack and dispatch to customer.

Professor G. Venkatesh: Oh, there is something else called processing area.

Professor Omkar: Yes so when you order, you have to make your mobile phone I will not dispatch that to customer, I will put it in a box I will put something.

Professor G. Venkatesh: You will put it in a box and all that yeah, okay.

Professor Omkar: I will put some bubble wrap around it, put it in a box, send it to the customer.

Professor G. Venkatesh: Correct.

Professor Omkar: So, that that is a packing area.

Professor G. Venkatesh: usually where is that? If you said [Non audible] Valley there will be [Non audible]

Professor Omkar: No, each FC will have it.

Professor G. Venkatesh: Each FC will have? Okay.

Professor Omkar: Has a storage zone and there is a processing zone.

Professor G. Venkatesh: Processing area, so inside oh I understand. So, inside the FC you are saying, you will store these SKUs closer to the place where the packing is going on.

Professor Omkar: Correct. You know that which is the best FC I can give an example about?

Professor G. Venkatesh: Haan?

Professor Omkar: It is your kitchen.

Professor G. Venkatesh: Okay, okay.

Professor Omkar: Right? Because all the food is.

Professor G. Venkatesh: I see, okay.

Professor Omkar: Yeah, there is, there is food storage, there is a raw material storage, right? Oh right there will be rice, ghee, and dal.

Professor G. Venkatesh: Everything nearby.

Professor Omkar: Processing area is where your platform is, processing area is where your stores are.

Professor G. Venkatesh: I see, like that. So, you are saying that wherever packing is being done inside the FC.

Professor Omkar: Yeah.

Professor G. Venkatesh: I need to store, I cannot have all the SKUs sitting near the packing.

Professor Omkar: Correct.

Professor G. Venkatesh: So, those, those SKUs which are moving in very high volume, you want to keep them [Non audible]

Professor Omkar: It will be closer to your packing area.

Professor G. Venkatesh: Packing, where they are doing the packing.

Professor Omkar: Correct, so what is close to your stove is, your salt and your aata and stuff, right?

Professor G. Venkatesh: Haan right, yeah

Professor Omkar: The closest to the stove, because that is used most often, right?

Professor G. Venkatesh: So, this vertical line has helped us to understand how to organise the SKUs inside the FC.

Professor Omkar: Inside the FC, yeah.

Professor G. Venkatesh: The ones to the right will be closer to packing area and the ones to the left will be [Non audible].

Professor Omkar: Right, correct.

Professor G. Venkatesh: Oh, okay, I see.

Professor Omkar: Correct, yeah?

Professor G. Venkatesh: Now you drew over another line while I was talking

Professor Omkar: Yes, so horizontal,

Professor Milind :horizontal line also I have drawn.

Professor Omkar: Horizontal line talks about the SKUs which are precious, need a special storage.

Professor G. Venkatesh: Precious, costly, costly, okay, right.

Professor Omkar: Or they need special storage essentially. For example, in kitchen even if I use cheese every single day in my sandwich, I will not keep cheese next to my stove, right? I will still keep it in refrigerator.

Professor G. Venkatesh: Fridge only.

Professor Omkar: Yeah, It is a lock and key. For, for that matter mobile, however small cost or however big it is, I will still keep it in an area which is secure, which is lock and key.

Professor G. Venkatesh: Secure area.

Professor Omkar: Because even if a single mobile is lost, it is a huge financial loss to me.

Professor G. Venkatesh: Right, right high value items, things which are generating a lot of revenue, you want to put those SKUs in a secured zone in a secure place.

Professor Omkar: Correct.

Professor G. Venkatesh: So, it may not be close to the packing area.

Professor Omkar: Will happen to be close to packing area.

Professor G. Venkatesh: Maybe close to the packing

Professor Omkar: That will be dictated by okay so if I look at the grid again. Let us say, there is quadrant 1 2 3 4. Quadrant 1, I will be secure but anywhere.

Professor G. Venkatesh: label it with some text.

Professor Omkar: Yep, that is yeah, we need ABCD or some something like that, so that we can refer to that.

Professor Milind: So, I will recall this A.

Professor G. Venkatesh: Okay.

Professor Milind: I will call this B maybe?

Professor G. Venkatesh: Yeah.

Professor Milind: And we call this, C.

Professor Omkar: Alright.

Professor Milind: And I will call this D.

Professor G. Venkatesh: Okay, okay, let us call these quadrants. Now, we already said something about B and C together, that will be close to packing area.

Professor Omkar: Yeah, so I said something about A and B together.

Professor G. Venkatesh: Secure A, is what you said.

Professor Omkar: No, A and B is secured area, B and C closer to packing area.

Professor G. Venkatesh: Alright.

Professor Omkar: A happens to be the stepchild that can be anywhere.

Professor G. Venkatesh: B can be anywhere, yeah D we do not care.

Professor Omkar: Maybe just need to move C a little bit I think, it is not coming clear wherever the quadrants are. Yeah, this is better.

Professor Milind: Now, now, Omkar do you want to explain what is A B C D?

Professor Omkar: Yes, we will, we will do that again. So, now that we have drawn the lines, let us name these quadrants ABCD, so that we can refer to them. Now, let us look at this. So, the SKUs which fall on the right side of vertical line, which are in quadrant B and C are all the SKUs which are moving faster. So, if I store them within, within a fulfilment centre, I like to store them close to processing area.

Now, if you want to ask what is processing area? Essentially, that is a process that is the area where your order will be packed, it will be bubble wrapped and packed in a box , or a polythene bag and it will be dispatched for your destination. So, only the FC will be divided into two parts. One is which is storage area, one which is processing area. Now, orders which are faster need to be close to processing area.

However, if I want high value items, let us say whatever is about the horizontal line, all these items are high value items, you are talking about maybe 15,000 plus cost for a single item. So, I do not want to lose them. So, ideally, what I will like to do is I will like to put them in a secured storage. Now, secured storage could be almira with a lock and key, or it could be a caged pallet, it could be any form of security.

However, I will like to keep them safe, yeah. Else, if I want to organise the FC which Mr. Shastri was asking, I would rather keep items in quadrant C, very close to dock, very close to processing area. Items in quadrant B, very close to processing area again but in a secured storage, quadrant A I will like to keep them secured but it could be anywhere in FC. And items in D could be literally anywhere in FC, wherever I have space now.

I cannot keep constraint for all, so that D's are the fillers, they can form anywhere, they can fit anywhere. So, this is typically how I will organise my FC so that my cost of picking is least. So, that the person will not have to travel all the way in the depth of FC to pick up something which is required more frequently. And I do not want many people to move around that area again and again. And hence I will, I will organise my fulfilment centre in this way. So, that I get maximum cost efficiency from picking perspective, which I will pass on to my customers for best price.

Professor G. Venkatesh: It is very interesting, yeah, we did not expect that really generate so much inside from this scatterplot. But it was nice, very nice.

Professor Omkar: That is the story part. At the end of the day, if they do not imply something on ground, doing data analysis is of no use.

Professor G. Venkatesh: No use, yeah.

Professor Milind: Omkar you also said something if that stuck me, you said always put commas in these numbers.

Professor Omkar: Yes, absolutely. That readability is very important. I keep on saying this often and often, my consultant in me always bothers myself about it. I just use currency format. Wherever your secure data is there, just use currency format.

Professor Milind: Yes, I will just make this. So, I will pick this and I once you do not feel like.

Professor Omkar: You do not need to change it here. Just go to the source data..

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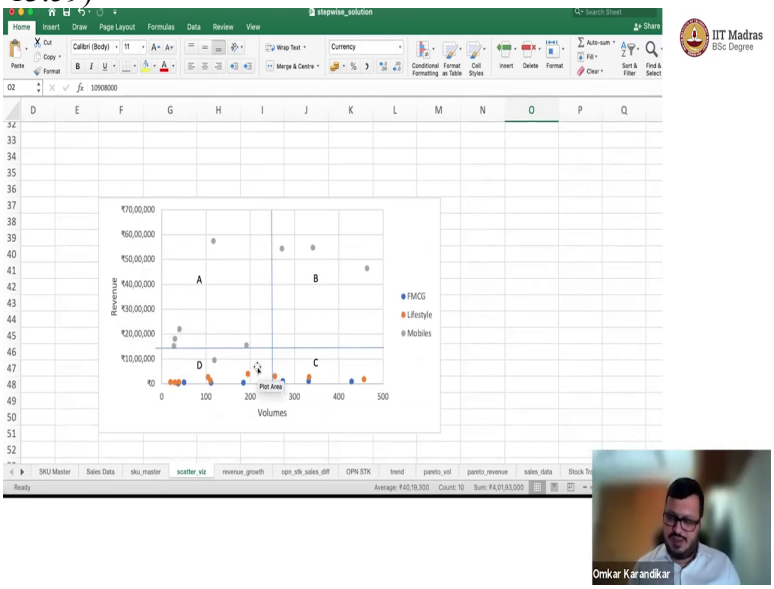

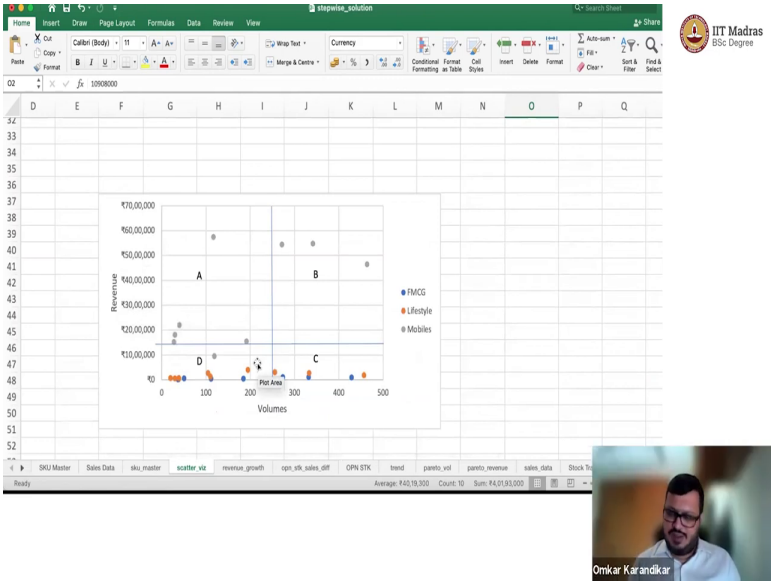

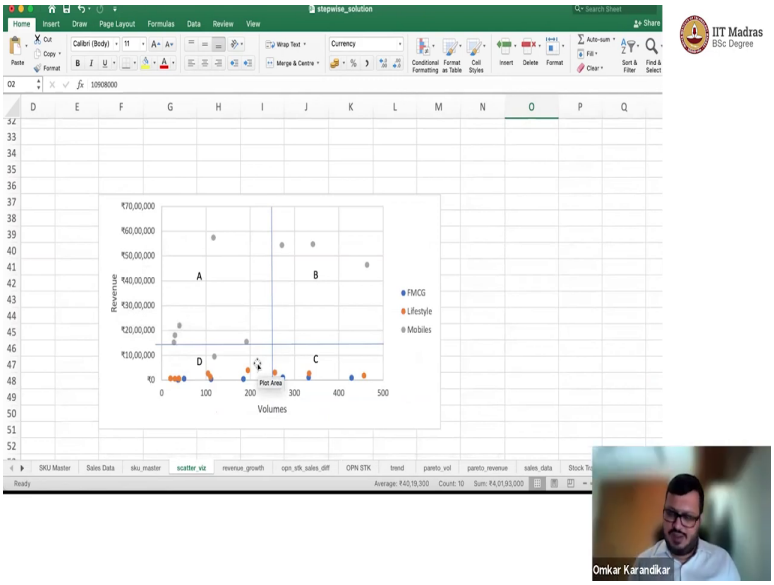

Professor Milind: Okay, okay. And this is all my source data.

Professor Omkar: Yeah, yeah, your just this and make in general currency with 0 decimals.

Professor Milind: Currency with. I do not have it.

Professor Omkar: Oh, I thought so, Currency is coming, with rupee symbol but that is fine, that should be okay.

Professor Milind: That is okay. And this I will now take this and I will pay this here. It was here.

Professor Omkar: Yeah.

Professor Milind: Okay.

Professor Omkar: And, yeah, so it totally gives me readability. I can see immediately it is number 1 crore.

Professor Milind: Right.

Professor Omkar: So, otherwise, I will have to stop and count zeros and counting zeros is not easy.

Professor G. Venkatesh: You make mistakes, was not that you make mistakes?

Professor Omkar: Yes, yes.