Business Data Management
Professor G Venkatesh
Doctor Milind Gandhe
Mister Omkar Vinayak Karandikar
E-commerce Data

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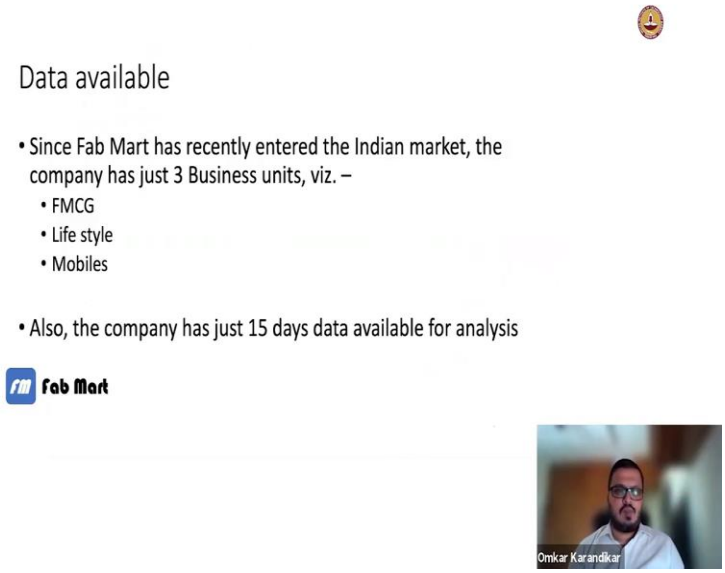

Mister Omkar Vinayak Karandikar: Now we have put together a sample set of data which I believe should be the starter kit for our discussion. So, we will talk about three business lines that we have and the brands that we have and the SKUs that we have and a typical selling price for a particular SKU over in that point. Right now, since we are talking about opening of economy after COVID there is only 15 days of data available with us.

So, within these 15 days of data I think we should be able to see what are the patterns and what are the inferences that we can draw. And once we are ready with that, I think it can be expanded over a bigger period. But, but to keep the data handy and workable in Excel we are talking about 15 days data here.

Doctor Milind Gandhe: So, Omkar can I request you to walk us through the data that is available?

Mister Omkar Vinayak Karandikar: Yes, I will do that. Yes.

Doctor Milind Gandhe: So, I just switch to an Excel.

Mister Omkar Vinayak Karandikar: Sure.

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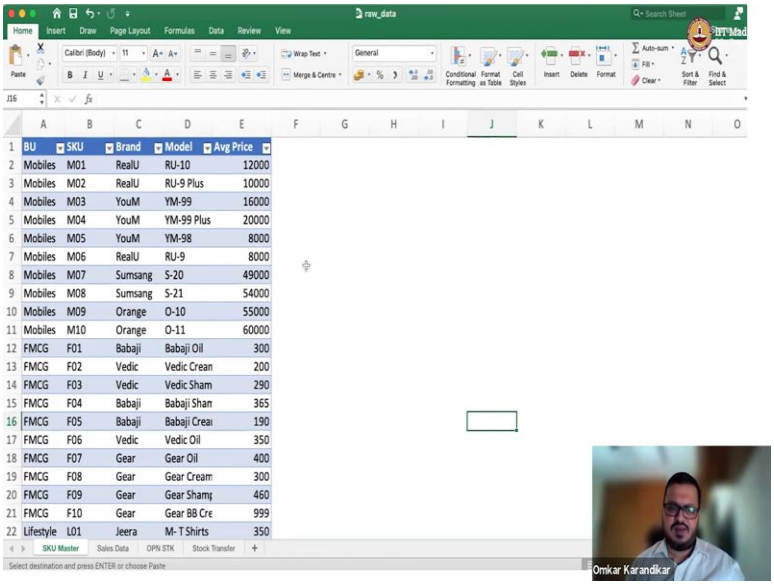

BU	SKU	Brand	Model	Avg Price
Mobiles	M01	RealU	RU-10	12000
Mobiles	M02	RealU	RU-9 Plus	10000
Mobiles	M03	YouM	YM-99	16000
Mobiles	M04	YouM	YM-99 Plus	20000
Mobiles	M05	YouM	YM-98	8000
Mobiles	M06	RealU	RU-9	8000
Mobiles	M07	Sumsang	S-20	49000
Mobiles	M08	Sumsang	S-21	54000
Mobiles	M09	Orange	O-10	55000
Mobiles	M10	Orange	O-11	60000
FMCG	F01	Babaji	Babaji Oil	300
FMCG	F02	Vedic	Vedic Crean	200
FMCG	F03	Vedic	Vedic Sham	290
FMCG	F04	Babaji	Babaji Shan	365
FMCG	F05	Babaji	Babaji Crea	190
FMCG	F06	Vedic	Vedic Oil	350
FMCG	F07	Gear	Gear Oil	400
FMCG	F08	Gear	Gear Cream	300
FMCG	F09	Gear	Gear Shamp	460
FMCG	F10	Gear	Gear BB Cre	999
Lifestyle	L01	Jeera	M- T Shirts	350

Mister Omkar Vinayak Karandikar: So, as we are discussing, we have 4 pieces of data which are probably the starter kit for data that we are talking about. First piece is the SKU master that we have. We talked about this business in mobile, FMCG, lifestyle. We talked about the brands also in the presentation. So here is a detailed set of descriptions for all these points. So, we have 10 SKUs for mobiles, 10 SKUs from FMCG. And I think 10 SKUs from lifestyle as well.

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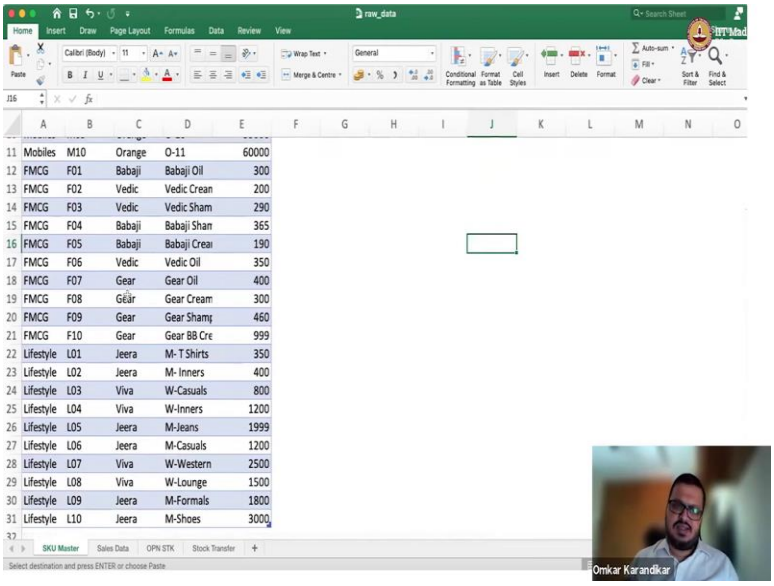
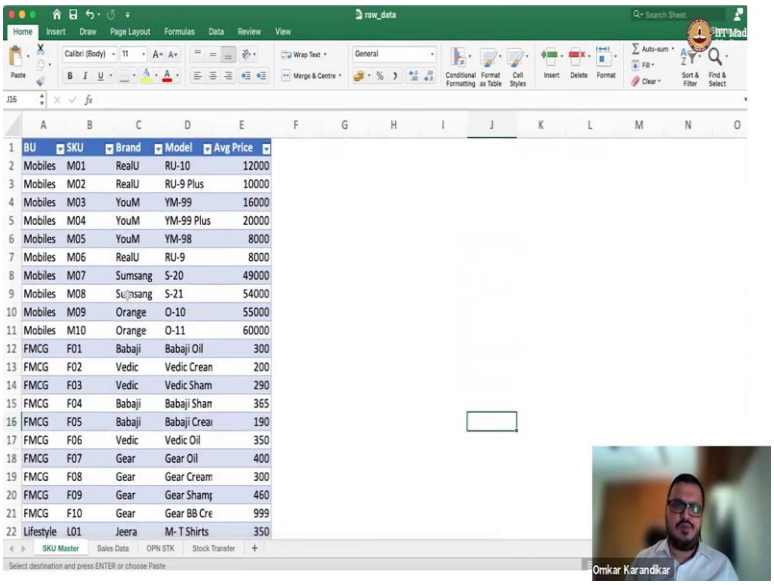


BU	SKU	Brand	Model	Avg Price
Mobiles	M10	Orange	O-11	60000
FMCG	F01	Babaji	Babaji Oil	300
FMCG	F02	Vedic	Vedic Crean	200
FMCG	F03	Vedic	Vedic Sham	290
FMCG	F04	Babaji	Babaji Shan	365
FMCG	F05	Babaji	Babaji Crea	190
FMCG	F06	Vedic	Vedic Oil	350
FMCG	F07	Gear	Gear Oil	400
FMCG	F08	Gear	Gear Cream	300
FMCG	F09	Gear	Gear Shamp	460
FMCG	F10	Gear	Gear BB Cre	999
Lifestyle	L01	Jeera	M- T Shirts	350
Lifestyle	L02	Jeera	M- Inners	400
Lifestyle	L03	Viva	W-Casuals	800
Lifestyle	L04	Viva	W-Inners	1200
Lifestyle	L05	Jeera	M-Jeans	1999
Lifestyle	L06	Jeera	M-Casuals	1200
Lifestyle	L07	Viva	W-Western	2500
Lifestyle	L08	Viva	W-Lounge	1500
Lifestyle	L09	Jeera	M-Formals	1800
Lifestyle	L10	Jeera	M-Shoes	3000



So, these are a set of 30 SKUs which we will talk about each one, as we said belongs to a different brand and hence it has a different aspirational or economic profile. we also are giving you what is the average selling price for a particular SKU. So, if I just have to give an example, I will talk about this mobile , it belongs to that orange brand, O11 is the model and the single unit sells for 60,000 rupees.

Whereas the older model which is O10 sells for 55,000 rupees. Similarly, there will be different SKUs which are different. Then we will go to the other piece which is sales data.

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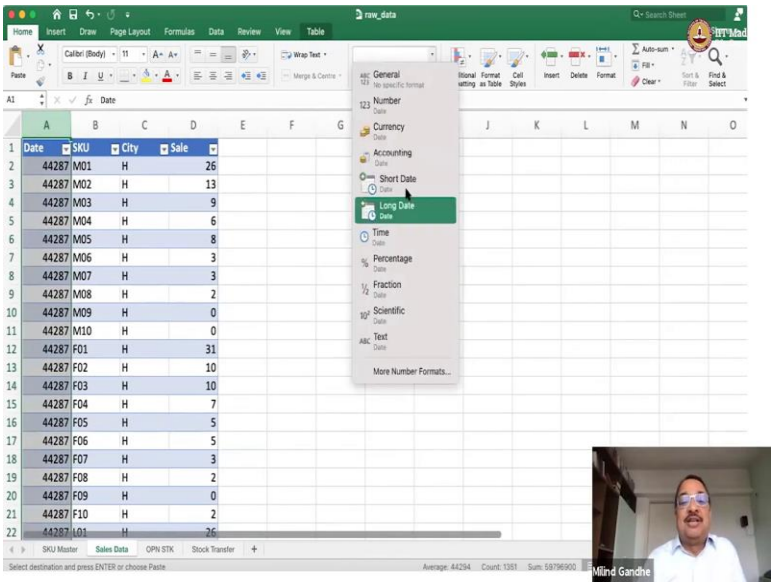

Mister Omkar Vinayak Karandikar: we have data for first of April to 15th of April as you say 15 days of data we have for each of this 30 SKUs we have sales recorded in three cities.

So there is sale which is happening directly from Hyderabad. And there is sale which is happening directly from Madras and Coimbatore. Sorry, Cochin.

Doctor Milind Gandhe: Let me just filter on maybe one SKU. Just because I am finding it a little difficult to understand. So let us just look at M01.

Mister Omkar Vinayak Karandikar: So M01. Maybe if you can put a filter on city also

Doctor Milind Gandhe: let us just look at Chennai.

Mister Omkar Vinayak Karandikar: So, 17 mobiles were sold from city of Madras for SKU M01 on first of April.

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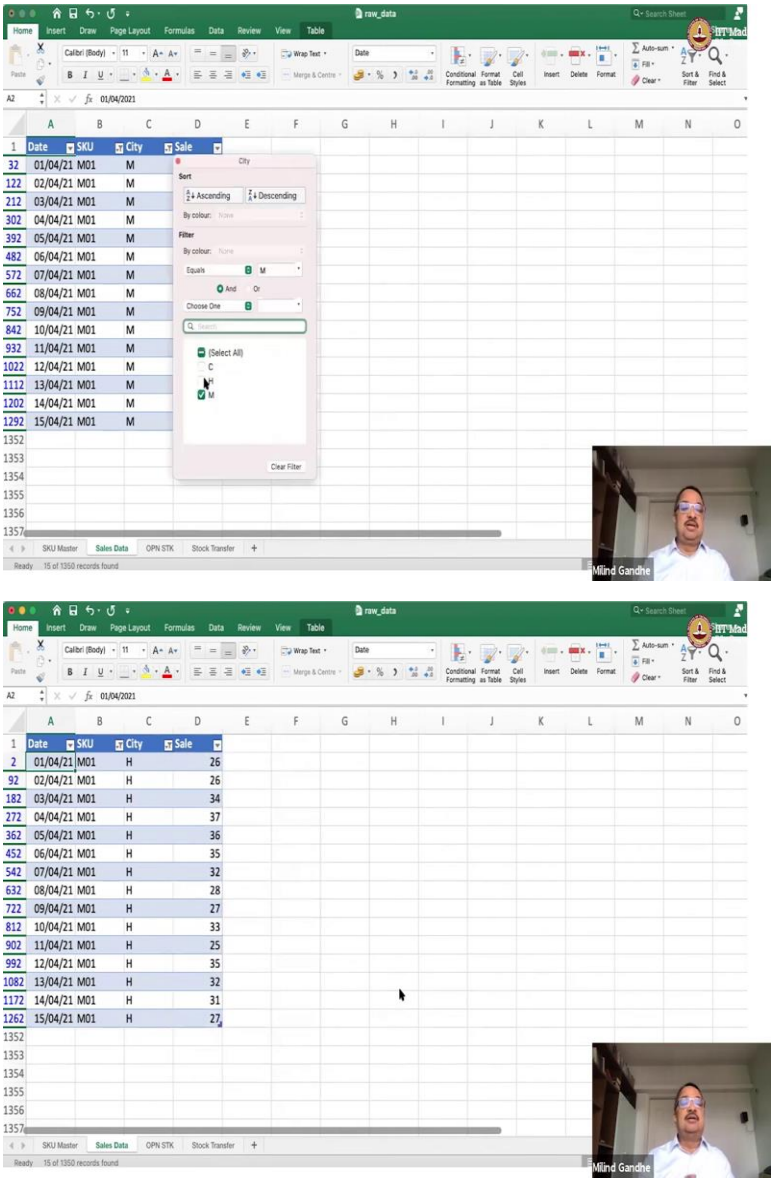

Doctor Milind Gandhe: And then if I change from Madras to let us say Hyderabad. So then 26 units were sold from Hyderabad.

Mister Omkar Vinayak Karandikar: That is right. Now, there will be some unique cases. we have talked about the fulfillment, we will talk about the orders. If the stock is not available in Madras order will be still served through Madras, but it will be coming from Hyderabad as a back over you said customer in generally orders of phone it is not available in Madras. But the order will be served from Hyderabad. However, that is the assumption for this discussion -which will be the sale will still be recorded as a sale of Madras.

Now, the interesting piece will be to see whether or not we have invested in the Madras, the stock invest.

Professor G Venkatesh: How many sales transactions like this? How many it is not actually transactions because you are saying 15, 26 units were sold? So, we have to have 15 days multiplied by number of SKUs multiplied by number of cities.

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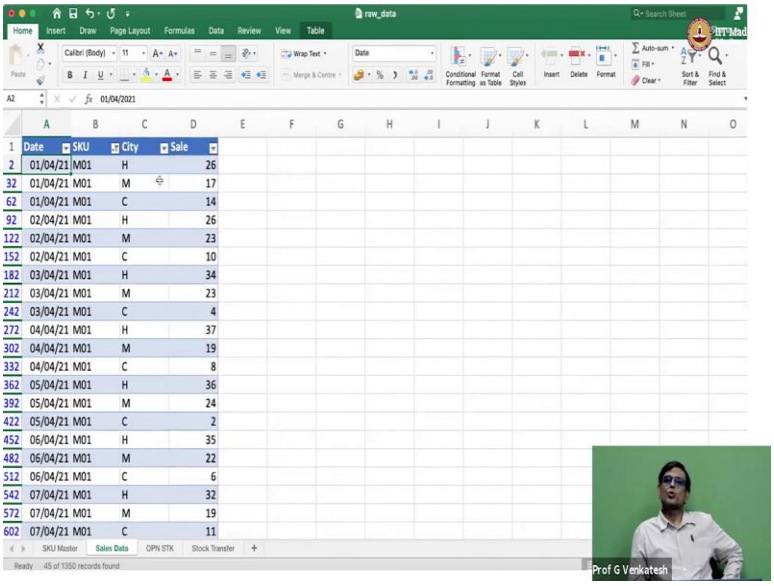

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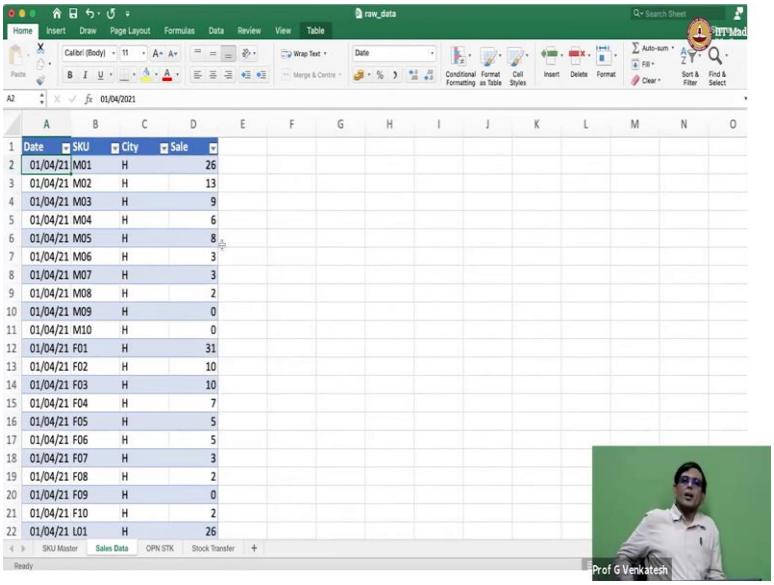

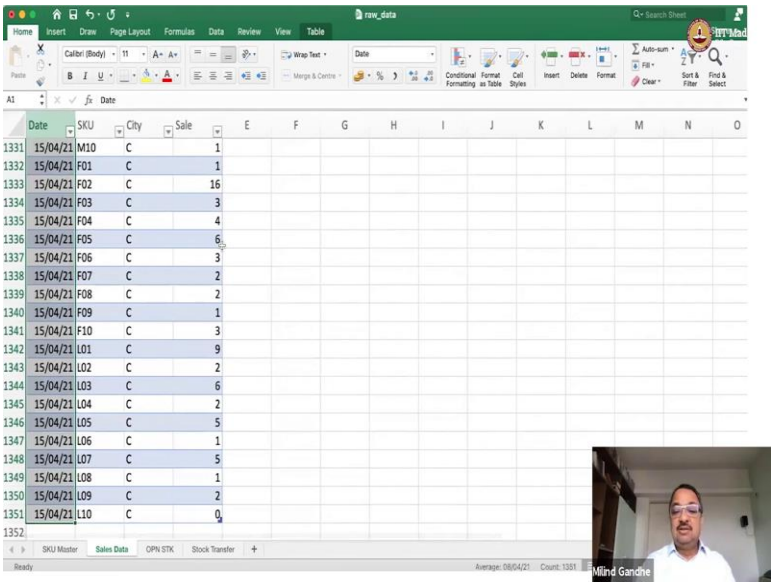

Doctor Milind Gandhe: If I just look at this total. It is showing me 1351 rows. It is a lot of data. How it used all the data.

Professor G Venkatesh: But it is still less than that. We have 30 SKUs 15 days into 30 is 450 multiplied by Chennai, Madras, Cochin and Hyderabad 3. So, 450 to 3 will be 1350. And how many do we have?

Doctor Milind Gandhe: We have 1351 so that probably includes…

Mister Omkar Vinayak Karandikar: No 1351 is the line number. So first is header.

Doctor Milind Gandhe: I just found the count is also 13.

Professor G Venkatesh: So, we have it we have just the correct numbers, nothing missing.

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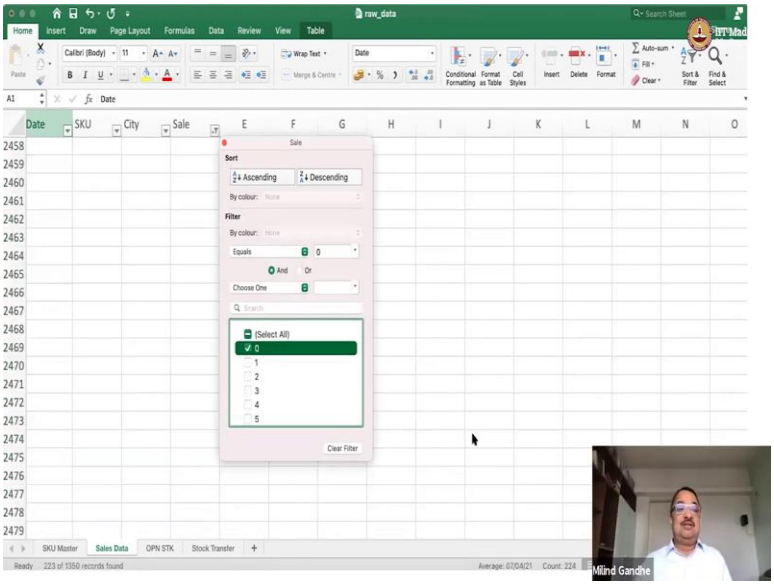

Mister Omkar Vinayak Karandikar: 223 records.

Professor G Venkatesh: Nice.

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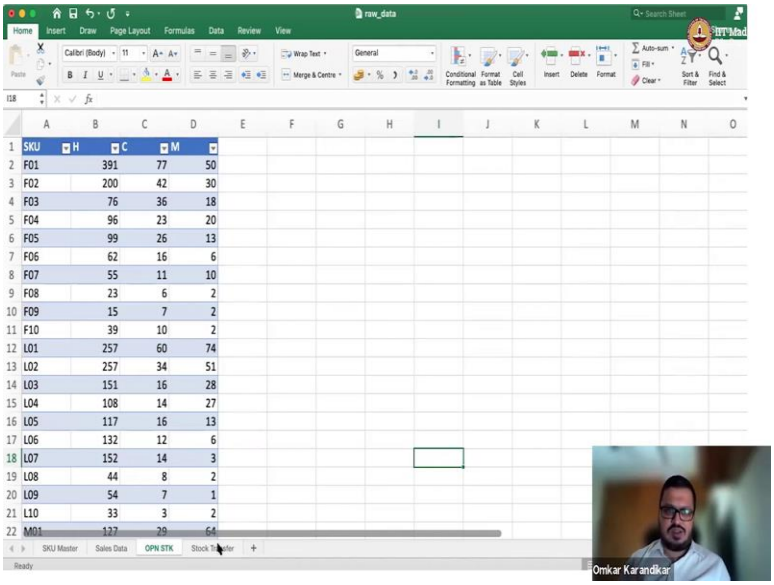

SKU	H	C	M
F01	391	77	50
F02	200	42	30
F03	76	36	18
F04	96	23	20
F05	99	26	13
F06	62	16	6
F07	55	11	10
F08	23	6	2
F09	15	7	2
F10	39	10	2
L01	257	60	74
L02	257	34	51
L03	151	16	28
L04	108	14	27
L05	117	16	13
L06	132	12	6
L07	152	14	3
L08	44	8	2
L09	54	7	1
L10	33	3	2
M01	127	29	64

Mister Omkar Vinayak Karandikar: Now, we will talk about the next data set which is opening stock.

Professor G Venkatesh: Opening stock position.

Mister Omkar Vinayak Karandikar: On first of April.

Doctor Milind Gandhe: So on first of April, Hyderabad head 391 units of F01. Cochin had 77 units and Madras had 50 units. How I trade this I do this. So, in this case we will only have 30 rows that…

Mister Omkar Vinayak Karandikar: This will be 30 rows, only 30 rows into 3 columns 90 or need us. Now, transactions.

Doctor Milind Gandhe: I was saying so this is only the picture on the morning of first of April. We do not know what the picture would be on the morning of second of it.

Mister Omkar Vinayak Karandikar: That is right.

Doctor Milind Gandhe: So yes, we will have to figure out.

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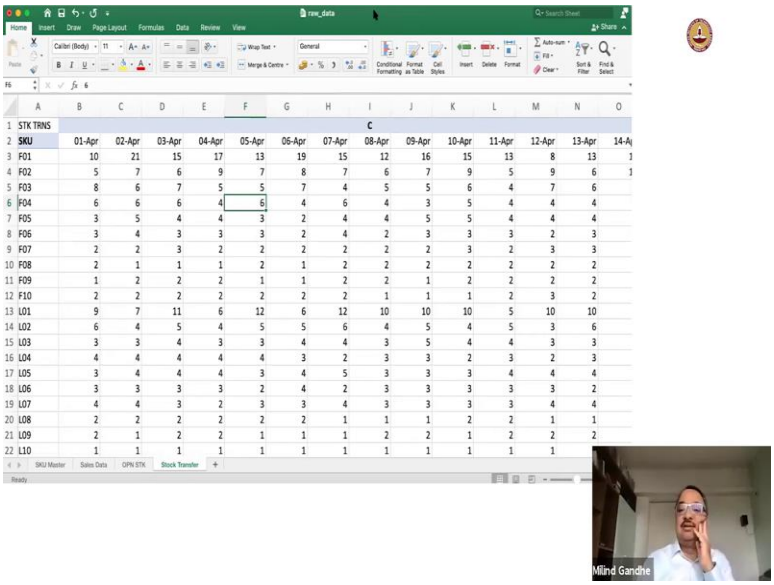

Doctor Milind Gandhe: The assumption is that all of this is coming from Hyderabad.

Mister Omkar Vinayak Karandikar: That is right this is from Hyderabad.

Doctor Milind Gandhe: So it is Hyderabad to Cochin, Hyderabad to Madras. And for each day, what is the quantity and if you go to left there are this 30 SKUs that we talked about. For each SKUs quantity being transferred is noted here.

Professor G Venkatesh: Can these numbers be negative. I mean do items ever go back?

Mister Omkar Vinayak Karandikar: They do go back. But in that case, it becomes a non-sellable item. Typically, if it is a bad inventory it will go back but effective piece will go back, returns okay.

Professor G Venkatesh: Returns.

Mister Omkar Vinayak Karandikar: But normally we will have returns only in a rarest of rare case.

Professor G Venkatesh: And that is not record. I mean, this is not the shape for that there will be another series.

Mister Omkar Vinayak Karandikar: We will not have that here.

Professor G Venkatesh: In this case you are not looking at? Very nice.

Doctor Milind Gandhe: So, this will be a huge piece of data, right? So, you will have 30 rows. And then 15 days for each city.

Professor G Venkatesh: 35 columns and 30 rows. Again, 1350. That is also 1350.

Doctor Milind Gandhe: Yes, it is. But I think that is a coincidence. So, this is the data or is there anything here from that?

Mister Omkar Vinayak Karandikar: This is the data.

Doctor Milind Gandhe: So, shall we go back to the presentation?

Professor G Venkatesh: So, this will help me to find out the opening stock position on any given day because I can…

Mister Omkar Vinayak Karandikar: So, let us not worry so much about Hyderabad for simple question. Hyderabad will have enough stock but it is happening in Cochin and Madras. Let us focus on that. To get the insights. If you are able to do that, I am sure Hyderabad is not a different story altogether. I hope this data is sufficient.

Professor G Venkatesh: I think this looks good, we have SKU wise master data.

Professor G Venkatesh: We have the opening, opening stock sales data and we have the moment data of stock from Hyderabad to Cochin and this thing. And then we have the sales data which is transaction data. How many sales have happened for each SKU in each of the centers?

It is good this is a rich data. So, we have to see what to do with it now.

Doctor Milind Gandhe: Okay, so let us go back and take a look at what questions we have to be prepared for this meeting, right?

Mister Omkar Vinayak Karandikar: Yes.

Doctor Milind Gandhe: So, let me go to the next slide, Omkar.

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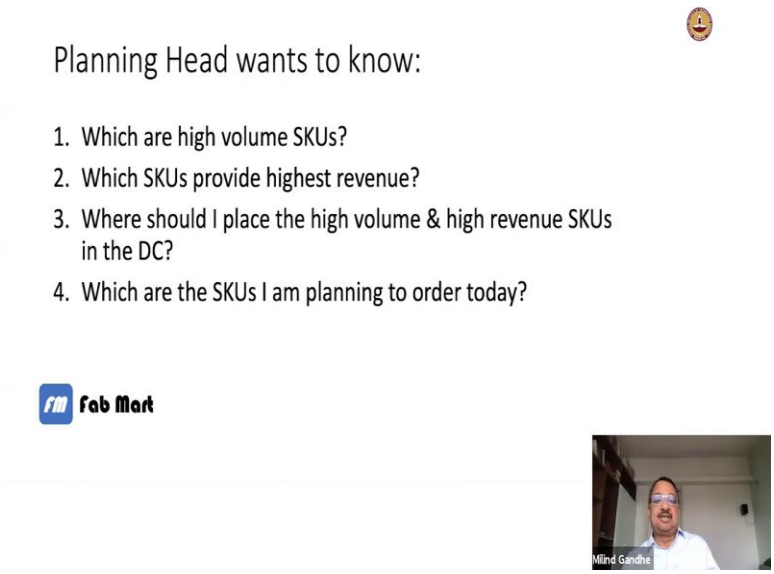

Mister Omkar Vinayak Karandikar: Yes. So, these are the detailed set of questionnaires that we have. So, the planning head wants to know which are high volume SKUs which are, which are the SKUs which are selling like hot cakes or are there some stars and there are some laggards in case of my sales pattern. Which SKUs provide me highest revenue number so which SKUs I need to worry about especially for stock out.

For example, the stock out of one unit of a mobile will be much more costly from revenue perspective than mobile sale stock out offers. So where should I place the high-volume SKUs and low volume SKUs within my DC so that I will have a box, I will have a limited storage capacity. How do I best organize my DC so that my efficiency of picking is best so that my manpower required in DC is least possible.

I offer myself at least possible cost to the customer. And hence offer the lowest possible prices to the customer which will in turn mean the customer will come back to me. So how do I do it in the most efficient way? Then which are the SKUs I am planning to order today; do I need to replenish something or do I need to order something back?

That is what I want to know as a planning head.

Doctor Milind Gandhe: I think this makes sense.

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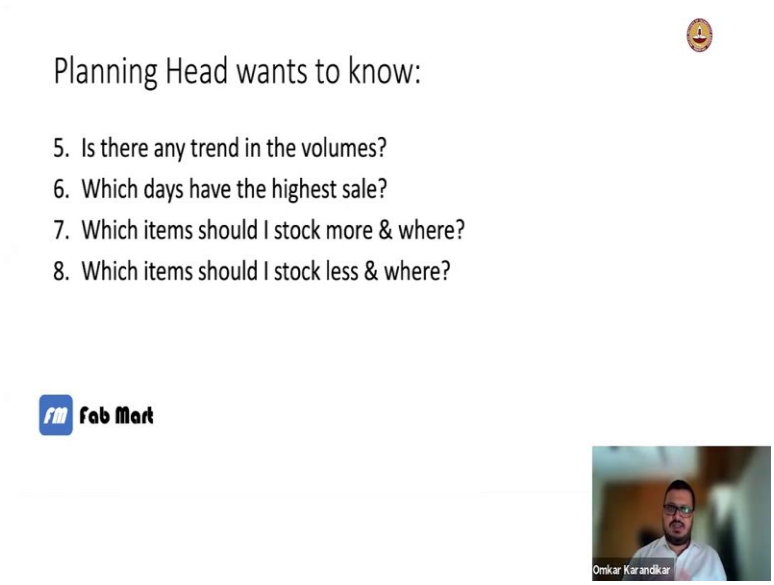

Mister Omkar Vinayak Karandikar: Instead of questions, we should also talk about the planning head. This is about the trends and, the similarities. But we will not see similarities here. Because we are talking only about 15 days data for the trends. So do I have any trend in volume. The trend that a particular SKU is actually going up for maybe exponentially increasing the channel to react to or if there is any SKUs which is maybe dropping in the product life cycle, it is not something that people want to buy anymore. So, I need to slow down on buying on that.

That is what I want to understand. Is there any pattern on sales from days perspective? Are we selling more on Wednesday? Are we selling more on Thursday, Friday what will be the reason let us see if there are some insights around that. What do I need to stock more and where, do I have a stock out situation, possible stock out situation in a particular SKU for a particular FC And vice versa.

Am I carrying excess inventory of a particular SKU? Maybe I am deploying too much of inventory in Madras and starving Cochin which I should not do, I need to know about all those things. Next please.

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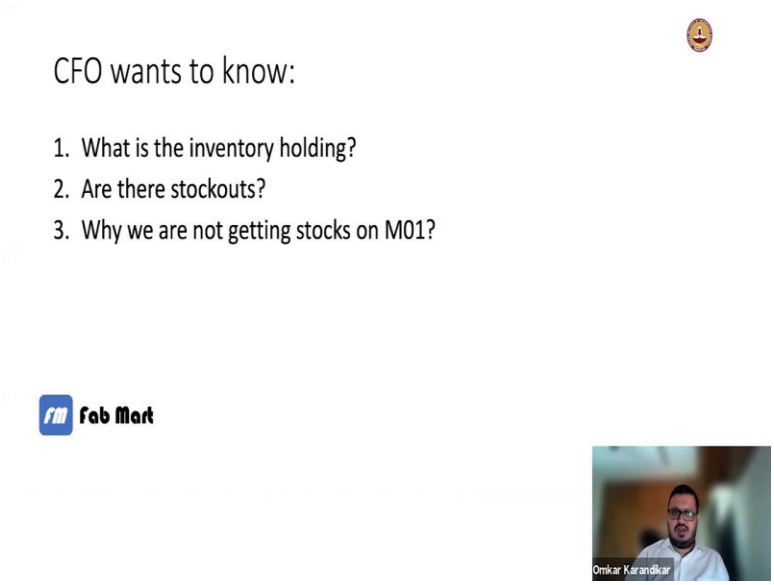

Mister Omkar Vinayak Karandikar: Coming to a CFO, typical questions around inventory holding how much inventory I am holding, are there any stock outs which are going to cost me from the new perspective and why am I not getting enough stock of a M01, one of the SKUs, what could be the reason for that? We will see what is happening to M01 there in the data.

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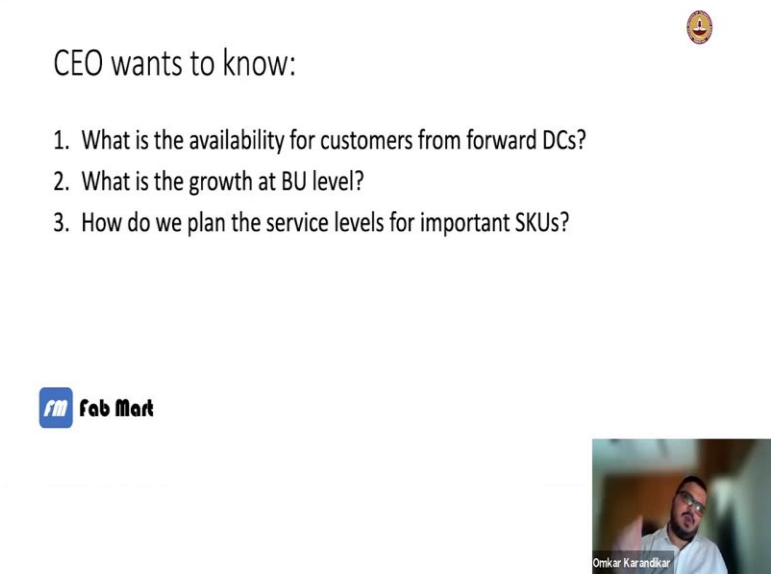

Mister Omkar Vinayak Karandikar: The CEO Mister Murti is talking about what is the overall availability of the customer? What is the percentage of stock out set we are facing? If not, stock outs I want to know what are the inefficient orders which are being served. So Madras customer ordering something which is not there in Madras and hence served from Hyderabad. It is saying efficient order I want to know what percentage of orders are inefficient. How the BUs growing, how the BUs are growing or only the approach is coming from one view? I want to know about that. I want to make a presentation on that

Doctor Milind Gandhe: What is BU?

Mister Omkar Vinayak Karandikar: Business unit. We spoke about three different business unit. Mobiles is a business unit or a group, FMCG is another group, lifestyle is another group. So, when a platform company has to grow? The platform company grows when all the business rates close together. If only one of the business unit keeps on growing, then the platform company will cease to be the platform company tomorrow and will become a rich company.

So hence the growth has to be coming from everyone. It should not be coming only from one. That is the idea here. How do I plan service level for important SKUs?

Professor G Venkatesh: This data is I hope this data is sufficient for us to answer these questions. We will examine it I mean we look at the data. I guess we will know that is sufficient. But in

your external links. Can you get trends by some of these questions? Can you answer how many? How much of data do you really need? Is 50 days data being a good data set?

Mister Omkar Vinayak Karandikar: It is not sufficient normally, but it should be good enough for this discussion. As I said, especially when we are talking about trends and seasonality. Definitely, that has to be a longer-term data. But there are different challenges that we face. As I said, we are dealing with like, billions of megabytes of data per day. So, it is practically impossible for us to store all that data in system.

In that case, what will happen is we will keep data for one month, three months, five months, whatever our systems allow us, and then purge the remaining data. Compress the remaining data in a format which probably is usable later. So, I might have a let us say SQL level sales data for last one year. But if you asked me about, which biography that SKU was so sold or which customer bought that data and that will not be available after let say 3 months. So that data will be summarized and the remaining data will be pushed out. Otherwise, we will be just investing in data centers.

Professor G Venkatesh: So, your big challenges that you have too much data actually. So that is the problem.

Mister Omkar Vinayak Karandikar: Yes.

Doctor Milind Gandhe: The bigger challenge GV is how to make some sense out of all of the data.

Professor G Venkatesh: We will make sense out of it. But the difference between what we are going to do and what Omkar has to do on a daily basis is the fact that he has got far too much data. We have a controlled set of data that to work with.

Mister Omkar Vinayak Karandikar: So, on my personal front, I do not have to worry about it. So, there is a complete bandwidth which is available on the tech side. They churn out all this data, they create things, what I need to tell them is the way I want to see maybe see the final numbers. So, they create dashboards for me. And the dashboards are available in data studio, or power bi or stuff like that which are kind of easily accessible.

And they are accessible on my phone. On weekends I do not have to even start the laptop, I can just forget weekends, this could be a discussion evening or I am catching up with my friends. And then all of a sudden, my VP will call me out. That what is the status? What is number, I can just pull the data and just tell him that number. Now the things that he himself has access to that data, he will look at that only he will call me if something is wrong.

Professor G Venkatesh: The most of these are in the form of dashboards you say? Well designed.

Mister Omkar Vinayak Karandikar: Yeah. Yeah. So, dashboards are critical things in our business, right?

Professor G Venkatesh: And these are pictures of the dashboard tables, right?

Mister Omkar Vinayak Karandikar: Yes, it is table and it represents the data in a particular way, which is uniform, the reason it helps us is we understand the structure. So, we do not need to interpret it every single day, the structure remains same, the data is refreshed. So, all we need to worry about is what is the change in data. And there is a history also, which is available, let us say 7 days of history, 10 days of history and 15 days of history.

So, it helps us in making correlations, it helps us in making sure how the trends are. All those things are taken care by back-end teams what I see is the final chunk of clean data. So that is what I work with because the actions will be taken based on that data which is available and I have to asked them to schedule more.

Professor G Venkatesh: And what you are saying is that even though a lot of data is getting collected this data is getting processed on a daily basis. And then distilled in the form of these dashboards that you get to see. And so, once you have the dashboards, actually the data, in some sense, I will not say discarded, but it is archived is that the right word to use it is stored somewhere.

Mister Omkar Vinayak Karandikar: Correct. That is right.

Professor G Venkatesh: And whenever you need you might retrieve that data and mine it and do something… In today purposes you do not need all that data, just the dashboard.

Mister Omkar Vinayak Karandikar: Absolutely.

Professor G Venkatesh: So, Milind we are going to try and create some elements of that dashboard.

Doctor Milind Gandhe: I think we should look at both GV, how to analyze the data, but also how to present our results in some understand format.

Mister Omkar Vinayak Karandikar: And that is typically a pitfall I have seen people work on lot of data. And I mean, people who join my team also. These guys are like, say MBA graduates and it is engineers But when they come and when they start working. They fall into this trap, right? They will talk about what data they can see, what data they have churned, what work they have done, and the message is lost. What is important for me is not the work that a person has put in in that effort. But what is important for me is what is the message which is coming out of that?

Professor G Venkatesh: What is the story?

Mister Omkar Vinayak Karandikar: What is the story. I do not want to know if there are like, so many units of data which is available for me as long as you tell me that Boss do not worry, we are going at 5 percent rate for this month, year on year growth rate is at 60 percent that is little bit slower but it should be fine.

If I am told about three factors; I will ask only for speed. How fast am I serving my customer, and am I serving customer within 3 days, 2 days, 1 day, whatever that number is. That is all I want to know in detail behind is all good. That is all