Business Data Management
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Mister Hariharan TS
Indian Institute of Technology, Madras
Lecture 12
Course project instructions, guidelines and evaluation

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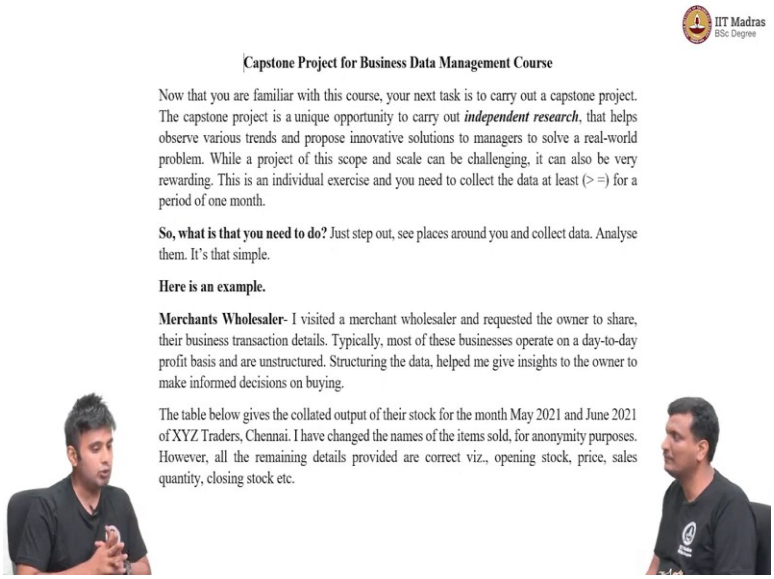

Ashwin Baliga: My name is Ashwin Baliga and with me is Hariharan.

Hariharan: Hi.

Ashwin Baliga: And we are PhD research scholars in the advanced stage. We will be completing soon hopefully. And we are also co-tutors on the course for Business Data Management. And today we are here to discuss regarding the Capstone project. So, Hari, could you please tell me as to what a Capstone project is, and why is that we are doing this?

Hariharan: So, what essentially happens in a Capstone project, now that you have four weeks of understanding about what Business Data Management, what is happening in the Business Data Management, and you may also have been looking at the case studies in the ensuing week, that will give an overall perspective about how data is managed in the business.

This Capstone project goes a little further ahead when it comes to this Business Data Management course, where you actually try and collect primary data from different sources and then use it for, I mean, collect the data, and analyze the data and interpret the data so that certain insights come out of it. That is the very purpose of doing this Capstone project. And that is the intention with which this Capstone project is introduced in this particular business data management course.

Ashwin Baliga: Hari, you did mention that, something about primary data collection or, what is this primary data collection and how is it different from a secondary data?

Hariharan: So, when you look at the primary data for this, I mean, generally data is classified into primary data and secondary data. The primary data is the data that you actually collect from the source itself, whereas the secondary data is the data which is available in the internet or it could be available in certain public document or whatever it is, and you use that for data analysis. So, this is the primary classification that we do on any data for that matter.

Ashwin Baliga: So, in the Capstone project we typically expect students to do a primary data collection. Collect the data, you clean the data, you analyze data and you plot certain trends.

Hariharan: Take, make interpretations.

Ashwin Baliga: So, what is going to happen when you do this kind of interpretation? How is it going to help the decision makers, or how is it going to help anybody?

Hariharan: Fine. Now that we know what Capstone project is, what is it that we are going to do in this Capstone project, and how is that it is going to be useful for anybody, that I am going to do.

Ashwin Baliga: So, this Capstone project is a unique opportunity to carry out independent research which will help you collect the data, you will be cleaning it, you will be analyzing the data and you will be plotting certain, various trends. That will help the

decision maker or the person who has given you the data to come up with better decision making. It will help a manager to solve a real-world problem.

So, what typically you are going to do, as Hari mentioned earlier is that you are going to collect primary data. By primary data, we mean that you are going to meet people directly and going to collect data from them rather than collecting the data from already available sources. So, this is the main difference.

And whenever you are doing a kind of primary data collection, it is quite complicated. It is not something which is direct. You need to speak to the people, there are a lot of challenges which are happening currently, the pandemic is there, but we would also like to show you as to how we have done it to give certain idea as to how this Capstone project is to be approached.

And though project of this scope and scale is quite challenging, I am sure that you are going to enjoy as you work on this particular project. This is going to be an individual exercise and you are going to collect data at least for a period of one month. So, for example, today is 25th of September. So, if you are going to collect the data on 25th of September, you are going to typically collect data for a period of one month.

So, what can you do with this? So, you can analyze trends for a weekly, on a weekly basis, you can analyze the trends on a monthly basis, you can analyze the trends for every 10 days or every 14 days or something like that.

Hariharan: Ashwin it will also be good if you can tell them as to where they can collect the data.

Ashwin Baliga: Definitely. So firstly, what we are going to do is that, me and Hari had, just for the sake of illustration, we visited one of the wholesaler merchant in Chennai and we requested him to share the data. So, we are going to show you that first and then we are going to give certain ideas as to how you can approach.

Now, you might be having a question that given that it is pandemic, it is uncertain times, you cannot go out and collect the data. But it is just that simple. You do not have to go

very far. You can speak to a kirana store which is near your home. You can also speak to a laundry person who is, you can speak to a person who owns a laundry shop. You can also speak to a vegetable vendor or anybody.

But typically, what you have to do is that you will be in, constantly in touch. And you will be collecting data for a period of one month. So, this is what you have to do. So, what is that you are expected to do? It is very simple.

Just step out, you do not have to go very far, see, places around you, and collect the data. It is that simple.

Hariharan: Make sense with the shopkeeper.

Ashwin Baliga: Yes, and typically, in this process you tend to understand the shopkeepers. And let me point out to you that Hari, in India, if you look at the market which is there, it is more of unstructured and unorganized.

So, you have you, taking in, taking them into confidence and giving them a feeling that, you have to take them into confidence and you just tell them that this is a part of your project and we are going to give you certain insights which is going to help you in making better decisions.

So, me and Hari are now going to explain as to what we have done. This is for illustration purpose, and to give you an understanding of what a Capstone project is.

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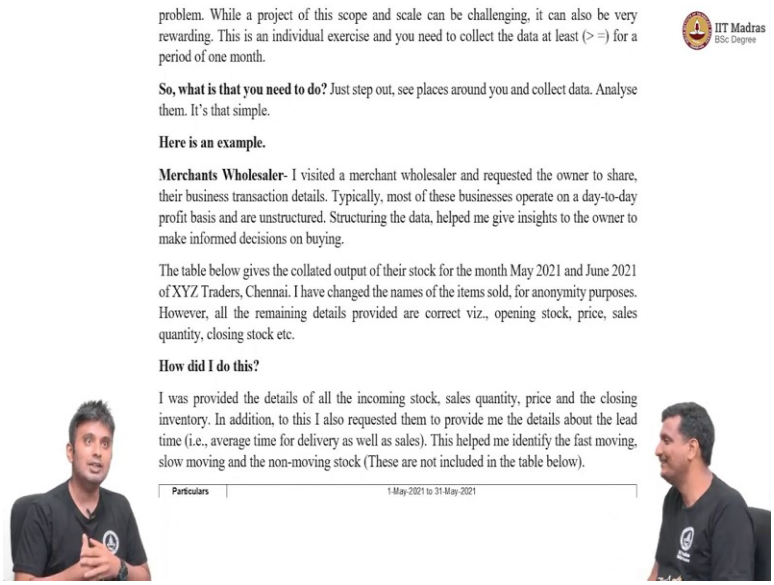

Ashwin Baliga: So, what we did is that we visited a merchant wholesaler and requested the owner to share certain transaction details, and typically most of these businesses, like merchant business or wholesale business, they operate on a day-to-day basis and most of their transactions are recorded on books rather than the softwares.

So, all these softwares are done with supermarkets and stuff, but if you, if you go a sabzi mandi, if you go to a market place, you do not have any, you do not have any complex systems in place. They just have a book where they note their day-to-day transaction.

And if you have to ask them, okay, what is the difference between last month's sales and this month's sales, so they will not be able to give you accurate description as to what has really happened.

Hariharan: Yes. They will be scratching their head.

Ashwin Baliga: Yes, they would be scratching their head. They would not be knowing how much they have realized, what has been the profits, which is something, which we feel, it is a drawback. And,

Hariharan: Don't you think it is a very good value addition to the shopkeepers.

Ashwin Baliga: Yes, definitely, definitely it is a very good value addition to the shopkeepers. And most importantly, I would also like to state that a lot of food also gets wasted. So typically, when you collect the data, when you are giving them with certain insights, wastage also can be, could be prevented in the first place.

You could also identify the stock which is moving very fast, and procure them and keep then in advance. You could identify the slow-moving stock; you can also identify the non-moving stock. So, all these things can be identified when you do a Capstone project.

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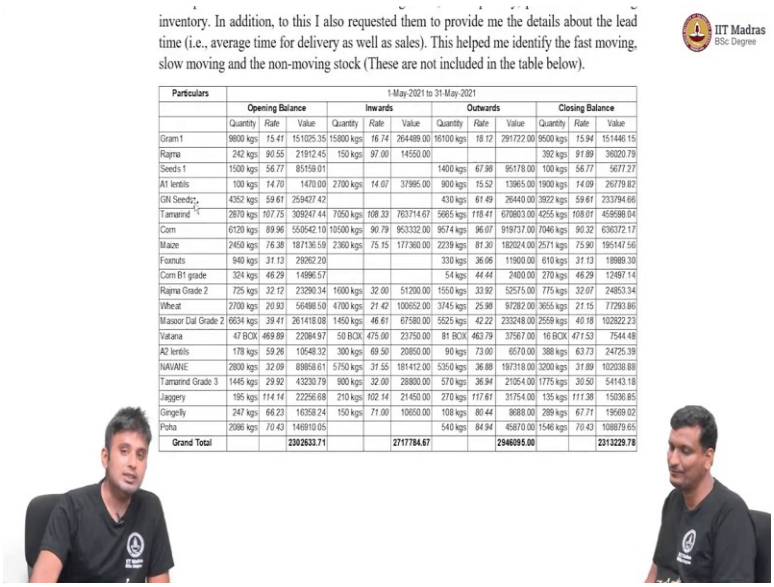

Particulars	1-May-2021 to 31-May-2021											
	Opening Balance			Inwards			Outwards			Closing Balance		
	Quantity	Rate	Value	Quantity	Rate	Value	Quantity	Rate	Value	Quantity	Rate	Value
Gram1	9800 kgs	15.41	151025.35	15800 kgs	16.74	264489.00	16100 kgs	18.12	291722.00	9500 kgs	15.94	151446.15
Rajma	242 kgs	90.55	21912.45	150 kgs	97.00	14550.00				392 kgs	91.89	36020.79
Seeds 1	1500 kgs	56.77	85159.01				1400 kgs	67.98	95178.00	100 kgs	56.77	5677.27
A1 lentils	100 kgs	14.70	1470.00	2700 kgs	14.07	37995.00	900 kgs	15.52	13965.00	1900 kgs	14.09	26779.82
GN Seeds	4352 kgs	59.61	259427.42				430 kgs	61.49	26440.00	3922 kgs	59.61	233794.66
Tamarind	2870 kgs	107.75	309247.44	7050 kgs	108.33	763714.67	5665 kgs	118.41	670803.00	4255 kgs	108.01	459598.04
Corn	6120 kgs	89.96	550542.10	10500 kgs	90.79	953332.00	9574 kgs	96.07	919737.00	7046 kgs	90.32	636372.17
Maize	2450 kgs	76.38	187136.59	2360 kgs	75.15	177360.00	2239 kgs	81.30	182024.00	2571 kgs	75.90	195147.56
Foxnuts	940 kgs	31.13	29262.20				330 kgs	36.06	11900.00	610 kgs	31.13	18989.30
Corn B1 grade	324 kgs	46.29	14996.57				54 kgs	44.44	2400.00	270 kgs	46.29	12497.14
Rajma Grade 2	725 kgs	32.12	23290.34	1600 kgs	32.00	51200.00	1550 kgs	33.92	52575.00	775 kgs	32.07	24853.34
Wheat	2700 kgs	20.93	56498.50	4700 kgs	21.42	100652.00	3745 kgs	25.98	97282.00	3655 kgs	21.15	77293.86
Masoor Dal Grade 2	6634 kgs	39.41	261418.08	1450 kgs	46.61	67580.00	5525 kgs	42.22	233248.00	2559 kgs	40.18	102822.23
Vatana	47 BOX	469.89	22084.97	50 BOX	475.00	23750.00	81 BOX	463.79	37567.00	16 BOX	471.53	7544.48
A2 lentils	178 kgs	59.26	10548.32	300 kgs	69.50	20850.00	90 kgs	73.00	6570.00	388 kgs	63.73	24725.39
NAVANE	2800 kgs	32.09	89858.61	5750 kgs	31.55	181412.00	5350 kgs	36.88	197318.00	3200 kgs	31.89	102038.88
Tamarind Grade 3	1445 kgs	29.92	43230.79	900 kgs	32.00	28800.00	570 kgs	36.94	21054.00	1775 kgs	30.50	54143.18
Jaggery	195 kgs	114.14	22256.68	210 kgs	102.14	21450.00	270 kgs	117.61	31754.00	135 kgs	111.38	15036.85
Gingelly	247 kgs	66.23	16358.24	150 kgs	71.00	10650.00	108 kgs	80.44	8688.00	289 kgs	67.71	19569.02
Poha	2086 kgs	70.43	146910.05				540 kgs	84.94	45870.00	1546 kgs	70.43	108879.65
Grand Total			2302633.71			2717784.67			2946095.00			2313229.78

Ashwin Baliga: So, what we did was that we, we, we went to Chennai, a, a street in Chennai, and we collected data from a wholesaler merchants for a period of, wholesaler merchant for a period of May and June, 2021.

So, what we have done is, we have changed the names of the various good sold but the remaining details like the opening stock, the item which was procured, the sales, everything remains the same. The prices and all are correct because we had to maintain anonymity.

And in the below table, I am showing you all the details of the incoming stocks, the sales quantity, the price and the closing stock. Now, what is that I have done with this? This

also gave me information about what was the lead time for procurement, how much, I mean, when did they procure it and when did they sell it. This is very, very important.

You would not typically want to stock your vegetables or your groceries for longer periods because every item has its own shelf life. So, in addition to that, I could also help identify, I could also identify what was fast moving, what slow moving and what was non-moving. All these insights, briefly, we have given in the table below.

So, we have collected data for two time periods, that is, we have collected data completely for the month of May, as well as for the, as well as the month of June, and we will be showing as to how we have done it. And then you are expected to do it on the similar lines and we will also be giving you ideas on you have to proceed further.

Hariharan: And this data is collected at the peak of the pandemic. So, it is not an excuse, Pandemic is not an excuse to say that oh, we cannot, we cannot collect the data.

Ashwin Baliga: So typically, you do not have to go even far. You can just speak to people around you. You, you really do not know. You are going to help somebody out and if you can bring a smile on their face, what is that more you need.

So here you see the various particulars, which is the good which is the sold by xyz merchants, so xyz traders in Chennai. So, the opening balance is nothing but the inventory of these existing goods, which were there in his warehouse. So, he typically sold some 15 to 20 items and he is a wholesaler. So, wholesaler means they typically sell in 25 or 30 kg and not like, what is being sold in the retail stores.

So that is why you will find that the rates are very less than what you see in the retail stores. So, he had 9,800 kg of gram 1, which was priced 15 rupees 51 paise, and which is valued at approximately 1,51,000. So, the next thing is a column which is called as inwards. By inwards we mean that the amount, the procurement which he had done from the producer and which has come inside.

And what happened is, on, in the month of May, they procured 15,800 kg at a price of 16 rupees 74 paise. Now, you may be asking me as to why, when in stock, the price was 15

rupees 41 paise, but when it was procured, it was 16 rupees 74 paise. So, Hari, could you explain as to why this is the case?

Hariharan: So, when you look at these products, the price is not going to be the same. Because the product's price is dependent on the demand, which would have, reading your economics class, just two or three weeks before. So, the process fluctuates based on demand.

So, the demand for gram 1, in this particular case, when this was initially bought, could be very less, and therefore the price could be at 15 rupees and 41 paise. And something could have happened in the ensuing period, in the month of May 1st to May 31st, May 31, so, where the price could have increased.

Maybe, pandemic could be the reason, maybe unavailability of transport could be the reason, the rise in the petrol price or the diesel price could be the reason because of which the inward price as increased.

Ashwin Baliga: And, and during the pandemic we also saw that people are buying more than what they actually wanted. So, what happens is that, the demand, the supply, the demand is more than what is being supplied. So that kind of creates a disequilibrium in the system. And then there are corresponding changes in the prices.

Hariharan: It also can be seen from the outwards…

Ashwin Baliga: Which is being sold to the customers. And you see that 16,100 kg were sold at an average price of 18 rupees 12 paise and…

Hariharan: Ashwin, can, can I assume that by selling at 18 rupees and 12 paise, where you bought it at 16 rupees and 74 paise, the difference is the margin for me?

Ashwin Baliga: Definitely, yes. But however, you have to note here that 15,800 kg was what was being brought. You already had 9,800 and, 9,800 in stock. So, when you add 9,800 with 15,800, you typically get something like 25,600. Now, out of 25,600, 16,100 is being sold. So, when you, yes, definitely it is a profit.

So, when you compare it with what is being bought and what is being sold, there is definitely, you do see a price difference of 1 rupee and 38 paise approximately. Yes. And then you are having the closing balance, that is, at the end of 31st, whatever is being left, it is the closing balance which will be taken as inventory for the next time period.

Now, you might be having one more question, that, when, so the value is obtained by multiplying the quantity with the rate. So, if you look at the first, if you look at the row gram 1, open balance, 9,800 into 15.41 gave me approximately 1.5 lakhs. 15,800 into 16.74 gives me this much, which is approximately 2 lakhs 65 thousand. 16,100 into 18.12 gave me approximately 2 lakhs 91 thousand.

So, is the closing balance value the summation of opening balance value, plus inwards minus outwards? The answer is no. The simple reason being, there is a fluctuation in the rates. And that is why the, the quantity would not be the same because whatever you are having as a closing balance, which is 9,500 kg, that particular day's price would be given and the value would be fixed on that particular price.

Hariharan: That particular day, exactly.

Ashwin Baliga: However, if you, if you compute the quantities, 9,800 plus 15,800 is 25,600, 25,600 minus 16,100 is 9,100, 9,500. So, if you look at that, the quantities will be the same, however you will see that the price is not the same because the price in markets, the price fluctuates on a daily basis.

Another example for you, to make you understand is that suppose you bought a kg of tomatoes for 10 rupees and you go tomorrow to the same store, the probability that it will be of the same price is very less. Almost, it is, I can just say they, there is very low probability which is there.

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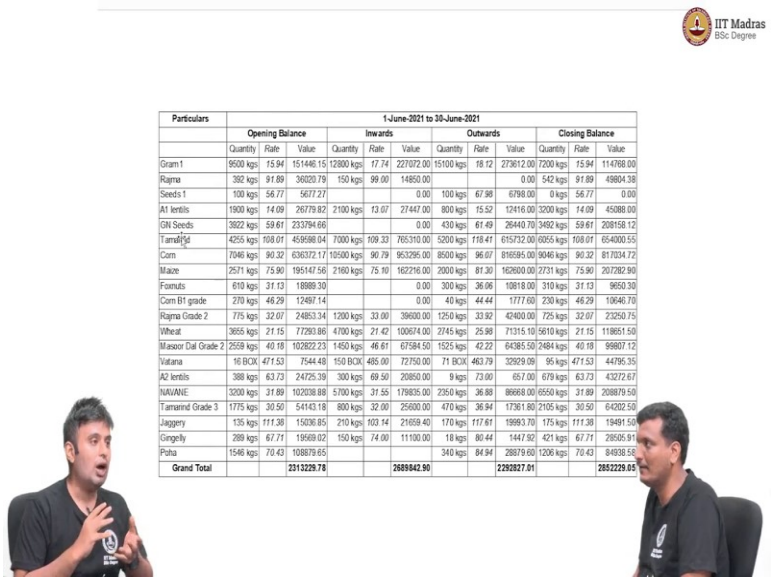

Particulars	1-June-2021 to 30-June-2021											
	Opening Balance			Inwards			Outwards			Closing Balance		
	Quantity	Rate	Value	Quantity	Rate	Value	Quantity	Rate	Value	Quantity	Rate	Value
Gram1	9500 kgs	15.94	151446.15	12800 kgs	17.74	227072.00	15100 kgs	18.12	273612.00	7200 kgs	15.94	114768.00
Rajma	392 kgs	91.89	36029.79	150 kgs	99.00	14850.00			0.00	542 kgs	91.89	49804.38
Seeds 1	100 kgs	56.77	5677.27			0.00	100 kgs	67.98	6798.00	0 kgs	56.77	0.00
A1 lentils	1900 kgs	14.09	26779.82	2100 kgs	13.07	27447.00	800 kgs	15.52	12416.00	3200 kgs	14.09	45088.00
GN Seeds	3822 kgs	59.61	233794.66			0.00	430 kgs	61.49	26440.70	3492 kgs	59.61	208158.12
Tamarind	4255 kgs	108.01	459598.04	7000 kgs	109.33	765310.00	5200 kgs	118.41	615732.00	6055 kgs	108.01	654000.55
Corn	7046 kgs	90.32	636372.17	10500 kgs	90.79	953295.00	8500 kgs	96.07	816595.00	9046 kgs	90.32	817034.72
Maize	2571 kgs	75.90	195147.56	2160 kgs	75.10	162216.00	2000 kgs	81.30	162600.00	2731 kgs	75.90	207282.90
Foxnuts	610 kgs	31.13	18989.30			0.00	300 kgs	36.06	10818.00	310 kgs	31.13	9650.30
Corn B1 grade	270 kgs	46.29	12497.14			0.00	40 kgs	44.44	1777.60	230 kgs	46.29	10646.70
Rajma Grade 2	775 kgs	32.07	24853.34	1200 kgs	33.00	39600.00	1250 kgs	33.92	42400.00	725 kgs	32.07	23250.75
Wheat	3655 kgs	21.15	77290.86	4700 kgs	21.42	100674.00	2745 kgs	25.98	71315.10	5610 kgs	21.15	118651.50
Masoor Dal Grade 2	2558 kgs	40.18	102822.23	1450 kgs	46.61	67584.50	1525 kgs	42.22	64385.50	2484 kgs	40.18	99807.12
Vatana	16 BOX	471.53	7544.48	150 BOX	485.00	72750.00	71 BOX	463.79	32929.09	95 kgs	471.53	44795.35
A2 lentils	388 kgs	63.73	24725.39	300 kgs	69.50	20850.00	9 kgs	73.00	657.00	679 kgs	63.73	43272.67
NAVANE	3200 kgs	31.89	102038.88	5700 kgs	31.55	179835.00	2350 kgs	36.88	86668.00	6550 kgs	31.89	208879.50
Tamarind Grade 3	1775 kgs	30.50	54143.18	800 kgs	32.00	25600.00	470 kgs	36.94	17361.80	2105 kgs	30.50	64202.50
Jaggery	135 kgs	111.38	15036.85	210 kgs	103.14	21659.40	170 kgs	117.61	19993.70	175 kgs	111.38	19491.50
Gingelly	289 kgs	67.71	19569.02	150 kgs	74.00	11100.00	18 kgs	80.44	1447.92	421 kgs	67.71	28505.91
Poha	1546 kgs	70.43	108879.65				340 kgs	84.94	28879.60	1206 kgs	70.43	84938.58
Grand Total			2313229.78			2689842.90			2292827.01			2852229.05

Ashwin Baliga: So again, what we did is, we again asked him to provide us data for the next time period, and as you know whatever is the inventory at the end of, inventory at the end of May 31st is the opening stock for the month of June 1st. And then again, certain inwards happen, inwards is, they had procured from the producer. Again, certain items were sold and the closing balance which is being given.

So similarly, from this what you can do is that you can plot certain trends. You can look at a weekly basis. Now, this is all a collated output which we are presenting to you. In fact, we had data for every point. So, we collected it on 1st, 2nd, 3rd, 4th, this is the collective output which you are seeing but when you are doing this, we would typically want you to analyze on a weekly basis, or a monthly basis or a fortnightly basis, what is the change.

So, I hope that you, now that you have been introduced to various graphs during graphical…

Hariharan: So, don't you think that we can easily make a trimmed graph out of this particular data?

Ashwin Baliga: Exactly. And what, how is it going to help the decision makers?

Hariharan: Yes. See, maybe having two-month data might not really help when it comes to trend analysis. But if you have, imagine 1 year data, you will come to know at what point in time the product is being sold more or the product is being sold less. And therefore, correspondingly the price also varies according to the demand of the product.

So as a retailer, as a wholesaler in this context, I would like to have more of the product when the price is very high, and less of the product when the price is very low. So, this is for a wholesaler. But for a retailer, the cycle need not be even six month or one year. It can be even two months or one month. That should be enough.

You go talk to a retailer; he will exactly come to say that the price of some product varies within a week also. So, I go to shop to buy vegetables for my home. First day, I go and see the tomatoes price will be 25 rupees, next day it will be 30 rupees, next day it will be 35 rupees and then it might come to 15 rupees again.

I ask them why there is so much fluctuation? He says, “Sir, in koyambedu market we do not get tomato.” So, retailer’s story will be different from wholesaler’s story and that will be different from the manufacturer’s story. So, the, you must be very clear as to what kind of story you want to say. So, if you want to go and say a story about a retailer, about his price fluctuations and other things, you might have to collect data appropriately for that.

Ashwin Baliga: And one more thing which I observed here was that, so they, typically, wholesalers do not sell typically less than 25 kg. So, they were selling horse gram for approximately 31 rupees a kg. So typically, if a customer has to buy a minimum 25 kg, and just out of curiosity I went to the retail store. Same thing which was being sold for 31 rupees, one kg packet was being sold at 95 rupees.

So, you see the difference. It is like, 60 rupees difference. But then you may be, then there naturally may be a question as to why this difference is huge. See, when you get this particular groceries, there is transportation cost involved, there are may other costs that are involved. You have to clean it because these grains would be having a lot of dust.

So, you would be clearing it, you will be packing it and then you will be selling it to your final customer.

Hariharan: There will also be some wastages.

Ashwin Baliga: So, there will be wastages. So, all this cost gets added and that is why the retail prices are pretty much higher.

One more example, which I would like to cite is that recently, Hari, you know our Nandini Tea Store, where typically they sell something called as Dhokla, which is a Gujarati, kind of, steamed Gujarati snack. And many of us really like it. I hope you also like it, which is served with nice chutney, pudina chutney, mint chutney.

So, what happened is that we had been, I almost visit there once every two or three days. And everyday, whenever I have visited after 6 o 'clock, Dhoklas were not available. And then I asked him as to why Dhoklas, if, if it is getting sold everyday, so typically he makes 25-30 Dhoklas. And if it is getting sold everyday by 6 o 'clock, why is that he does not make 40 Dhoklas?

So, he told me that the day I make 40 Dhoklas, the day I make extra Dhoklas, nothing gets sold. So, everything becomes a waste. So, I said, no, that could not be the reason. So that could not be the reason. So, do you know as to why it was not getting sold?

Hariharan: Maybe festivities? Maybe…

Ashwin Baliga: Yes. So, people prefer to eat certain days in a week. They do not prefer to eat certain days outside. And that was the very reason as to why Dhoklas were not sold on the other days.

So initially what he assumed as the reason for non, I mean, the reason as to why these Dhoklas were not sold, it was kind of a spurious correlation where he attributed it to, you make…

Hariharan: Luck.

Ashwin Baliga: Luck. You say that you make a lot of Dhoklas, it could not be sold. The answer was not that. The answer was that typically when I visited five to six times, I observed that on certain days of the week, the customers would not want to dine outside and that was the very reason as to why the Dhoklas were not being sold.

So, then I gave him this particular insight and then he reworked on it and he increased the Dhokla quantity.

Hariharan: That is very nice.

Ashwin Baliga: So, this is one thing which…

Hariharan: So, but there is also one important insight that we must have to learn. The location of the place.

Ashwin Baliga: Yes, the location of the place also, is very, very important.

Hariharan: So, if it, if this particular Nandini Tea Store is going to be located in a central locality, say, T Nagar in Chennai is very central locality, there are different sort of people come at all the time. So, at that point in time, the idea of festivity may not work because people might have, different type of people might have Dhoklas at different period.

Ashwin Baliga: Correct, and you kind of have a moving population.

Hariharan: It is a moving population, so therefore the demand is kind of normalized over a period of time.

Ashwin Baliga: So, it depends on various condition. There are certain contextual factors which come into place, which in fact, alter your demand and supply. Correct?

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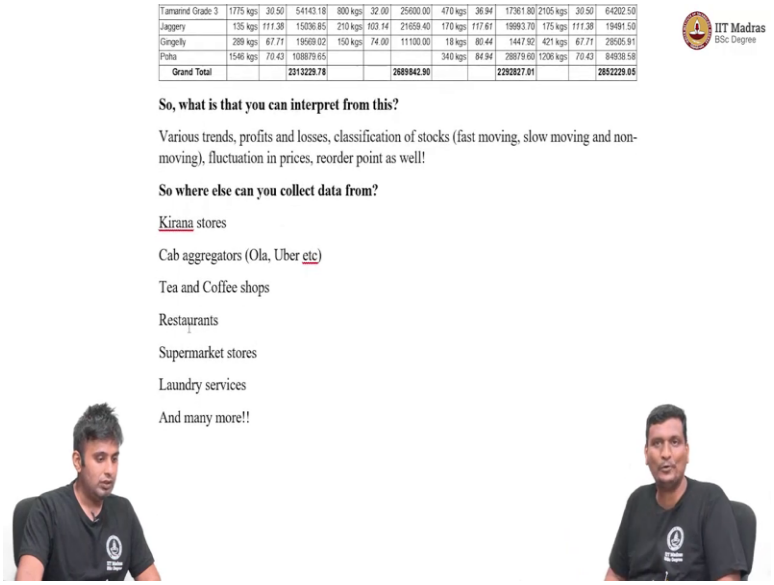

Hariharan: Exactly. And, I mean, that is what we expect you as a student to understand and provide an insight that would be really useful for the shopkeeper or retailer or whoever you are going to help out with the data.

So that is the very idea of this Capstone project where you actually talk to the people, collect data, try to organize the data like, the way Ashwin had explained you, how organizing the data. So, he has, he has organized individual, everyday data into, collected them into, and put them into a monthly data.

Likewise, you may have to organize a data in a weekly format or a fortnightly format, or a monthly format and if you wish you do a little more also, it is fine.

Ashwin Baliga: Yeah. So, you, you kind of draw graphs because always we say that pictures are remembered better than words.

Hariharan: So, my professor used to say that with picture you cannot bullshit.

Ashwin Baliga: Yes. So, when you have certain trends, you can analyze and then you can predict what kind of demand is happening. Is there a spike, is there a fall, what is the fast-moving stock, what is non-moving? What should be the re-order point, et cetera. All this could be determined.

So now we have the, now that we have explained you all this, where is that you can collect the data from? Yes, you can collect it from the kirana stores, you could also collect it from cab aggregators, Ola and Uber. Now, we know Ola and Uber, Uber has this Uber Go, Uber SUV, Uber, they have different, different vehicles catering to different segments.

So typically, you can just speak to the drivers, try to understand how many trips they are making per day, how much they are realizing from it, have a monthly data and then…

Hariharan: You, you can suggest the driver as to, in this particular day, in a month, instead of taking Uber Go trips try to take Uber Outstation trips. So, you can make more money by doing that.

Ashwin Baliga: Yes.

Hariharan: That is the idea, that is the kind of insight that you may want to give to the cab driver and, I am sure that he will be certainly happy about that kind of insight.

Ashwin Baliga: And in fact, you can also visit tea and coffee shops because business is picking up well, you can visit the supermarket stores.

Hariharan: Well, when you talk about tea and coffee shops, in Chennai, there might be around 20 to 30 shops with the name Chai, Chai gully, Chai Shastra, blah blah blah. So, you can take any one of that kind of shop and then maybe…

Ashwin Baliga: You can also visit supermarket stores like Big Bazaar, just have a look at things around you. You can also go for laundry services, visit a laundry services store, and there are many more. So, we leave it to your imagination and we hope that we have convinced you as to what a Capstone project is, and we look forward to your projects and interacting with you further.

Hariharan: Yeah. In a nutshell, Ashwin, would you like to list down the entire process in a minute or two so that they will be very clear about it?

Ashwin Baliga: Yes. So now that we have explained you what a Capstone project is, so you typically first go and speak to the service provider, you visit a store and give them the confidence as to why you are doing this. I mean, do not just do it for marks. You should also have that intrinsic satisfaction that you are contributing to something.

So, you will be giving them the confidence, you will be explaining the purpose as to why you are doing this and how is that they are going to be benefited. So once that is done, you would be collecting the data. The minimum time period is one month.

You will be cleaning the data, you will be analyzing the data, you will be plotting certain trends and you will be also listing the set of implications, what has been your learning and what is that, what is that can help the decision maker from all this analysis that you have done, how is it going to help the decision maker, and in what ways it has actually helped them, if, if you can give one step further.

So, I hope you will enjoy working on your Capstone project and we look forward to meeting you all soon.

Hariharan: Yeah. So, yeah.

Ashwin Baliga: So that is it from us. Have a good day. Bye.