Business Data Management
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Production, consumption and exchange

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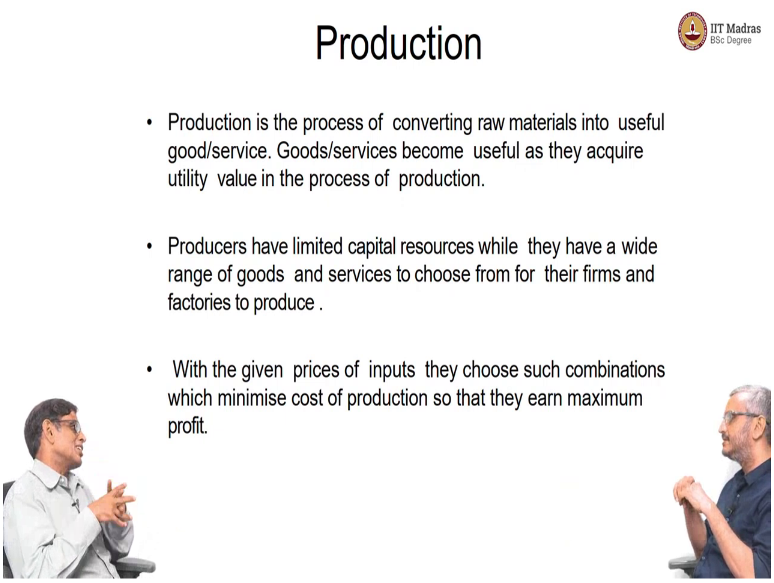

Professor. M Suresh Babu: Let me come to a slightly formal discussion on this GV. So, let us start with the micro concepts. And when we start with the micro concept, we would start with two very important concepts that are production and consumption. First, we will start with consumption. And then we will see what kind of data is used in consumption, analysis etc. Then we will move on to production.

So, what is production? Production is nothing but the process of converting raw material to usable goods and services. To put it more crudely, production is a process of value addition. If there is no value addition, then there is no production because the inputs that we are putting to the production process, once when it comes out in the same way, then there is no value addition. So, for any process where there is a value addition, we can call it a production process.

Professor. G Venkatesh: Now, so I would be making idli maavu.

Professor. M Suresh Babu: That is it.

Professor. G Venkatesh: You can make it at home? But they are making it. There is value addition? Some people may see it as well and some people may not see it.

Professor. M Suresh Babu: But there is a value addition, in the sense that, for making the maav there is the batter. We need to have urad dal and rice. Now, these are converted into batteries.

Professor. G Venkatesh: Now, but you could do it at home?

Professor. M Suresh Babu: But that…

Professor. G Venkatesh: I have a grinder and I do it at home.

Professor. M Suresh Babu: That depends on the opportunity costs. If you do not have time, and if you think that you can utilize that time for something else, then you might buy it.

Professor. G Venkatesh: So, a student might buy it maybe because he does not have a working grinder.

Professor. M Suresh Babu: Or working people who are quite busy.

Professor. G Venkatesh: Quite busy people will buy.

Professor. M Suresh Babu: So, they see the value addition.

Professor. G Venkatesh: So, one time everyone was making batter, and nobody was buying. Now they are buying.

Professor. M Suresh Babu: Now, they are buying because the opportunity cost of the time that you are actually investing in creating the batter.

Professor. G Venkatesh: So, there are a lot of concepts here. A lot of related things.

Professor. M Suresh Babu: And, the idea is that once goods and services are produced, they become useful because they acquire utility value. If there is no utility value, and I want to come to this concept of utility, because it is very important.

Professor. G Venkatesh: central to economics.

Professor. M Suresh Babu: important for us in terms of understanding a lot of other concepts. Now, this utility value is derived from the production process. And that utility value is implicit in this commodity. So, any commodity without a utility value, well will not have takers and that we will hold on to that for a minute, because the concept of utility we will discuss and we will come back to that. So, any production process then has value addition and such a value addition should create utility value.

Professor. G Venkatesh: Utility for some people and may not be utility for some people?

Professor. M Suresh Babu: So, the concept of utility is a very subjective kind of thing.

Professor. G Venkatesh: I see.

Professor. M Suresh Babu: What is ?

Professor. G Venkatesh: It is not that this one has 10 rupees worth of utility, it is not like that.

Professor. M Suresh Babu: there is no standardized kind of a utility concept. What is giving me utility might not be giving you utility. So, it is a very subjective kind of a thing and we will see that.

Professor. G Venkatesh: But is it for production? So, you are saying basically, that production has meaning only if it generates a value? And the measure of value?

Professor. M Suresh: In terms of utility? Then only the production process has some kind of meaning. Now, but then the problem there is in terms of data for us or for our discussions, producers have very limited capital sources. Generally, they have access to certain limited capital. One can say that one can go to the market and raise capital and things, but there are upper bounds for that also.

Professor. G Venkatesh: Correct.

Professor. M Suresh Babu: So, this capital resources can be used for producing a wide variety of goods. From there, they have to decide what they want to produce and that is where our very interesting kind of debates and discussions used to come. Should we produce computer chips or potato chips?

For an agrarian economy, say both are chips at the end of the day, but different chips altogether. For an agrarian economy, should we focus on agriculture more and put our resources into agriculture? Or should we move to the production of high value, high tech kind of commodities, so that will have more value. Why am I emphasizing on that? I am emphasizing that the concept of value is very central to this.

Professor. G Venkatesh: So, high value but low volume?

Professor. M Suresh Babu: There could be some relationship with that?

Professor. G Venkatesh: So, you have to decide whether you want to do high value, low volume.

Professor. M Suresh Babu: Low value, but high volume.

Professor. G Venkatesh: And maybe they require similar resources. So, you have to make a call wherever you go here or there.

Professor. M Suresh Babu: So, I have these 50 units of resources. Now, these resources should I use for high value or a low value production. Data becomes very important, because we use data in terms of arriving at this decision, which has got market potential, which is which is considered as more valuable by the consumers. And I need to produce something that I might consider.

Professor. G Venkatesh: And the interesting thing is that when you say value by consumers- this business of consumers, or households in this case. Households and their needs and preferences are not static and they keep changing.

Professor. M Suresh Babu: They keep changing as it is a very dynamic kind of thing. And especially in a growing economy, where incomes also change.

Professor. G Venkatesh: So, while I have decided that maybe this is a value to the households, that I want to sell it to these households. While I may have made the decision, and I have started to produce the thing, that household may have changed its mind on what we consider relevant.

Professor. M Suresh Babu: So that is why we need no real time production. There is just-in-time production and all these things because you need to cater to all needs.

Professor. G Venkatesh: and data also.

Professor. M Suresh Babu: Data for that.

Professor. G Venkatesh: real time data also. You can have these 5 year 10 year surveys?

Professor. M Suresh Babu: No, no, that gets outdated by then. A very interesting example of that is in terms of readymade garments. Because if I am an exporter in Tirupur near Coimbatore, I should know what is in demand in Milan or in Paris, if I were to export. Now, that information has to reach me to decide whether I should really produce a particular kind of shirt or a different fashion altogether?

Because by the time I make and by the time my product reaches Milan or Paris, if fashion changes there, then nobody will buy my product. So, you need that data and that information continuously flowing to make that decision. Now, the second important variable in terms of data is price. Prices of inputs are very important in making this decision. I might have a dream of producing a high value commodity, but the prices of inputs for the production of that high value commodity will be very high.

So then, with my limited resources, I will not be able to produce that. So, the price mechanism then plays a very important role. And that is the central coordinating mechanism in terms of this, these decisions, not one decision, these innumerable decisions in the economy, as well as production is concerned.

Professor. G Venkatesh: So, one always thought about prices as something that you pay. When is that the amount of money that you have to pay to buy something? Now, you are saying price, in economics means price as a chord as a mechanism of coordinating decisions.

Professor. M Suresh Babu: Lots of decisions.

Professor. G Venkatesh: Decisions of buyers and sellers.

Professor. M Suresh Babu: So, we use the term invisible hand in the market, that invisible hand is the price, price determination mechanism.

Professor. G Venkatesh: And nobody is determining the price. The market is setting the price.

Professor. M Suresh Babu: In an auction market, there is an auctioneer who actually shouts the price up or down or whatever. But in other kinds of markets, prices just evolved. And prices coordinate all these decisions in terms of production as well as consumption.

Professor. G Venkatesh: So, price as a coordinating mechanism that coordinates multiple? So would you say the price is the economical way of aggregating things? Is it the aggregation method?

Professor. M Suresh Babu: Coordination is better because the price mechanism has a role in terms of aggregating all these decisions and then coordinating the actions of the agents who respond to these prices. Every agent responds differently.

Professor. G Venkatesh: So, if the price is too high, a guy might decide not to buy. For example, because he does not buy, there are fewer people buying. Therefore the price can come down.

Professor. M Suresh Babu: Come down.

Professor. G Venkatesh: So, like that it keeps changing and so price coordinates several people's decisions buying and selling.

Professor. M Suresh Babu: buying and selling decisions.

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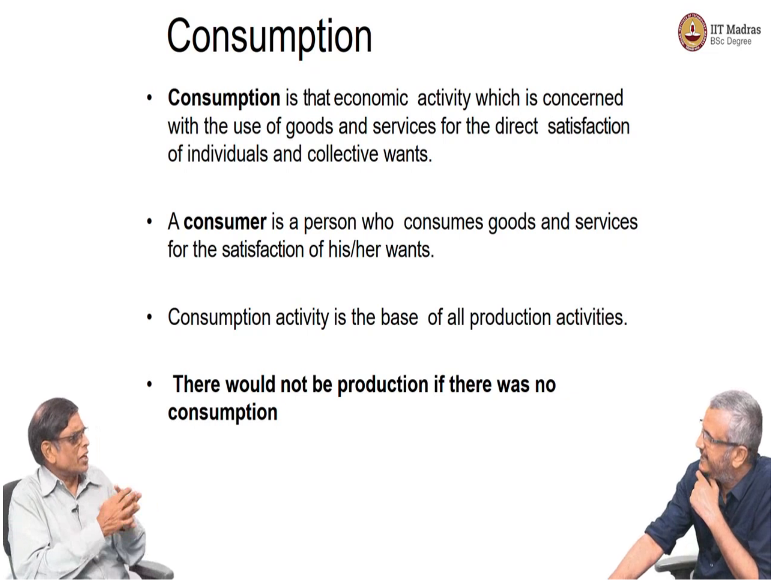

Now, this is only one side of the story that we are talking about in terms of decision making. Equally compelling story emerges from the other side, that is the consumption side. So far we have been talking about the production side. Now, on the production side, remember our earlier concept of 5 important activities that are going on, such as production and consumption, which is coordinated by the exchange.

Consumption is also coordinated by data decisions? What is consumption? Consumption is nothing but this economic activity in which, when I use a good or a service, I derive certain satisfaction and utility out of that. Why am I consuming certain goods? Why am I consuming a certain service? I think there is some kind of satisfaction by consuming that for me.

Professor. G Venkatesh: I have a need.

Professor. M Suresh Babu: Need is satiated.

Professor. G Venkatesh: I need to eat for example.

Professor. M Suresh Babu: So, you need to be satiated. You need to be satisfied with that need. To satisfy that need, you will consume your food. And if you are not consuming your need goes not satisfied.

Professor. G Venkatesh: That is why I must have resources, I must have money to buy.

Professor. M Suresh Babu: Yes, yes, your decision of consumption is also a matter of a factor of the price mechanism.

Professor. G Venkatesh: Price mechanism, again.

Professor. M Suresh Babu: Again. So, that is why it is the central theme there. Now, again, in terms of consumption,

Professor. G Venkatesh: price and something else income, I guess?

Professor. M Suresh Babu: Income is very important. That is exactly like how we produce or have limited resources.

Professor. G Venkatesh: He has a limited capital.

Professor. M Suresh Babu: Limited income division has a limited income. That is the relationship.

Professor. G Venkatesh: So, in both cases, its income and price (micro). In that case, its capital and price (macro).

Professor. M Suresh Babu: Yes. So, when we look at consumption, at the micro level, the unit of consumption is a consumer. And a consumer is an individual. But within a household, households are basically a collection of individuals. So, a consumer then is basically a person who consumes these goods, and then derives satisfaction from that. That takes us to a very interesting question, because this satisfaction is a very subjective topic.

Professor. G Venkatesh: Correct. That is what I was going to ask you. What do you mean by satisfaction?

Professor. M Suresh Babu: What is giving you satisfaction might not give me satisfaction.

Professor. G Venkatesh: In Bhutan, people talk about happiness.

Professor. M Suresh Babu: Happiness. It is a very subjective related kind of thing. But we can assess this satisfaction by observing certain consumption behavior. And that is where data becomes very important. That is to go back to our earlier example of idli batter.

Now, I am working and I have 8 o'clock lectures in the morning. And then I have some projects to do. So, I went back home very late at 7:30. My wife is also working, and she also comes back home late, so we do not have the time to make the batter and things. So, I pick up the batter on the way and I go. Now, there is a kind of satisfaction that we are deriving from the consumption of breakfast the next day. But to derive that satisfaction, we need to have this purchase.

Now, you can observe a consumer's behavior by observing what I am consuming then. So, if I get that data, I can draw out certain patterns. This guy who is actually consistently buying batter, then there are two possibilities. Either he is so busy with work and this thing, or the person is extremely lazy to make that or I do not know. Because I do not want to really soil my hands with this work. That kind of I thing

Professor. G Venkatesh: Or he does not know.

Professor. M Suresh Babu: Or he does not know.

Professor. G Venkatesh: Or he does not have a grinder or grinder failed.

Professor. M Suresh Babu: Or the possibility of, just, I just do not want to enter into this activity kind of a thing.

Professor. G Venkatesh: No, I think it is not worth my time.

Professor. M Suresh Babu: My time. So, data regarding consumption then can actually throw up different patterns. Observing that it is very important for the party that we discussed earlier that is a producer, then you can make your decision in terms of production, and then the exchange, which we talked about earlier , becomes much easier. Otherwise the exchange will be a problem, because what the producer is producing is not something, if it is not something which is demanded in the market, then we know stocks will pile up and there will be a kind of a glut and things of that sort.

Equally important is the other way around, if the demand by the consumer is not met by the producer means, then of course, the prices of that commodity will go up. So, consumption is very important. And categorically we can say that there will not be production if there is no consumption and we know that the lockdown and situations that all the producing units had were because consumption was very low. Now, what we shall do then is to first start the story from the consumption side, then we will move on to the production side, because already I have emphasized that consumption is central in terms of production.

Professor. G Venkatesh: This is the thing which kind of creates the demand for production.

Professor. M Suresh Babu: Yes.

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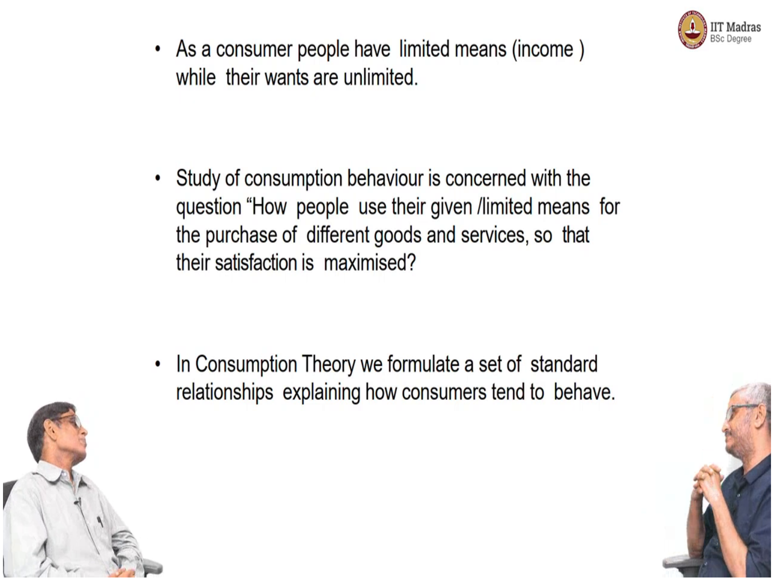

Professor. G Venkatesh: So, we come back to our earlier question that we were actually pondering on, that is a consumer has limited income. So, the central question then is, as far as economists are concerned, is to understand consumers behavior. Why? There is no uniform rule or theory to predict consumer's behavior. So, we need to observe the market, we need to observe consumption patterns, and then constantly we need to look at the data and model the data to get an idea of consumption.

So, this consumption basket, that is what the consumer is actually purchasing, with the limited income, keeps changing, keeps changing with various other changes. For example, when income changes, definitely tastes and preferences might change. What we used to consume 5 years back might not be a thing of consumption now in my consumption basket. So, tastes and preferences change, fashions change, and then there are a lot of other external variables that influence because my neighbour is consuming certain things.

Professor. G Venkatesh: It could be health or cholesterol or health is an issue, or some food is considered not very healthy. So, we stop consuming that.

Professor. M Suresh Babu: We know the classic example of the breakfast cereal industry. So, there are a lot of factors that affect this, this whole thing about consumption, and for understanding that we need to understand or we need to study consumption behavior. And that is where data becomes very important.

Now, but we need to first theorize that. Because every time when we look at the data, if we have to draw some meaningful patterns out of it, we need to have some kind of theoretical a priori, why the data is throwing these kinds of claims. What is the reason for that? For example, if a particular kind of consumption is increasing, and the sale of passenger cars is increasing, then our theory suggests that straightforward incomes are increasing for people. There is no doubt about that. So, we know that from our theorizing, income is an important variable of consumption, determining consumption.

Professor. G Venkatesh: We are trying to build some cost effective relationship?

Professor. M Suresh Babu: It is a kind of a causal relationship. So, identifying such kinds of causal variables is an important aspect in terms of understanding consumption behavior. Now…

Professor. M Suresh Babu: Because it is easier to see this way. This rising income is something that is easier to see, I guess. So, if you know that rising income will increase the sale of everything, then that is the variable that will allow you to already put some number in your growth rate, something.

Professor. M Suresh Babu: So, so consumer theory then or in consumption theory, what we formulate is basically a set of standard relationships. There are certain standard relationships. For example, whenever the price of a commodity increases, the demand for that will be affected. Generally, when the price goes up, the demand for that commodity would come down. There is a standard relationship.

So, to formulate certain standard relationships, we use consumption theory and that will help us to understand how consumers behave basically. So, when we start with the consumption theory, basically the question that we really try to address is that how people use their limited resources for what, for the purchase of different goods, they can purchase different goods and they can also purchase services. For what? For maximizing the satisfaction from their consumption.

Professor. G Venkatesh: So, they are optimizing something.

Professor. M Suresh Babu: They are optimizing. So, there are various combinations of things.

Professor. G Venkatesh: Different people optimize differently because they have different amounts of money available.

Professor. M Suresh Babu: Income that is available to them. They are contextually also very different sitting here. And their concept of satisfaction might also be different.

Professor. G Venkatesh: Concept satisfaction, maybe different.

Professor. M Suresh Babu: It is also very different.

Professor. G Venkatesh: So old people will be satisfied by something and young people will be satisfied with different and completely different things.

Professor. M Suresh Babu: We tend to sometimes find certain anomalies and we try to explain that. For example sometimes some of the lower income people consuming certain high-cost things for us becomes an unexplainable anomaly in turn like a movie.

Professor. G Venkatesh: People may not have much money, but they will spend it on movies.

Professor. M Suresh Babu: It is very important for them, because the kind of satisfaction that they get deriving from the consumption of that.

Professor. G Venkatesh: Especially the first day.

Professor. M Suresh Babu: First day or the earliest show possible kind of thing. So, and then some of the celebrations which we see are festival celebrations. Yes, we say that there is also a very gold (diwali) . A very, very interesting phenomenon that we find in society is that even if my income is very low, I might actually borrow money to celebrate. For an outsider, it might look very irrational, why is this guy borrowing to buy clothes for Diwali or whatever it is. But therefore that person or in that household, the utility that or the satisfaction that derived from consuming that at that particular time is very important. So, that is why there is a lot of subjective analysis that comes there.

Professor. G Venkatesh: Even though it is subjective, you can aggregate presumably if there are enough of these people.

Professor. M Suresh Babu: So, you can draw some generalizations and that is what consumption theory tries to do.

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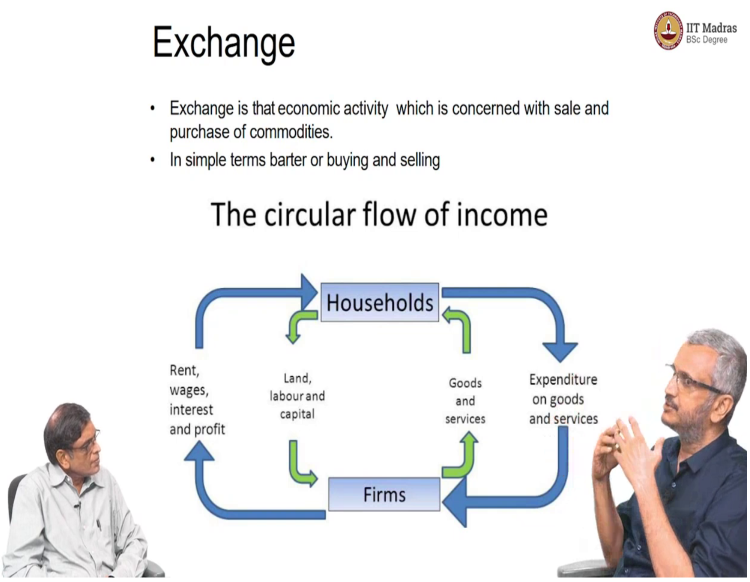

Professor. M Suresh Babu: Now, when we move this in terms of understanding the consumer a little more. We talked about consumption in theory in terms of incomes, incomes playing a central role. Now, how do we understand the role of incomes in that? We'll always be in the economy, there is a circular flow of resources. It is a circuit, if that breaks somewhere, then activities will actually collapse. What do I mean by that? The basic or the simplest model is what we talked about: the two-agent model.

Professor. G Venkatesh: Producer and consumer.

Professor. M Suresh Babu: One set of households where consumers and the other is a set of firms who are producers. These households have certain resources, for example, households have land, households have money. Households also have their labor, which they are willing to sell, firms buy those resources from households for example, firms buy labor from them.

Professor. G Venkatesh: So, firms are consumers ?

Professor. M Suresh Babu: Firms are consumers of capital as well as labor.

Professor. G Venkatesh: Capital also comes from households, because they save.

Professor. M Suresh Babu: They save.

Professor. G Venkatesh: I see.

Professor. M Suresh Babu: These firms then use these resources for producing something; what the firms are producing then goes back to households because they consume what the firms produce. And once when firms consume that, resources come back to the firm again, because firms actually get money from them.

Professor. G Venkatesh: sell something and they get money for that.

Professor. M Suresh Babu: they get money for they get money from all sources. So, there is always this circular flow.

Professor. G Venkatesh: So, the money so it looks like resources are flowing in one direction, money is going the other direction.

Professor. M Suresh Babu: So, there are two ways, two kinds of circular flows. One is the flow of resources and the other is the flow of money, both are very important. And if there are some kind of, whatever we call circuit breakers in this whole circuit, then activities in the economy might actually slow down activities might even collapse.

And that is why when we talk in terms of macroeconomic discussions, the role of demand is very important. Some demand injection should be there. These terminologies become very important. So, the important aspect is basically, it is this exchange relation that keeps resource flows in an economy. And it is these resource flows that determine the level of consumption as well as production in the economy. And from the kind of exchanges that are taking place, we can actually draw certain generalizations in terms of consumption.