Logistics & Supply Chain Management

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Lecture 30 : Supply Chain Drivers

Hello dear friends, welcome back to NPTEL online course on logistics and supply chain management. So, in the last session we started discussion on supply chain drivers and we discussed how we can you know change these drivers and then the whatever supply chain capabilities we want to develop in terms of either cost efficient supply chain or responsive supply chain. So, then we can see how these drivers will impact your may be responsiveness of the supply chain or the efficiency of the supply chain right. So, then we discussed about the matrix related to each driver, we discussed in detail your logistics drivers, today we will discuss about the cross functional drivers. drivers that those cross functional drivers are sourcing, pricing and information. So, we will start with the information.

So, if you see information is a kind of driver which will affect your all other drivers having said that that means, if you have accurate information you know where you should locate your facility. where you should locate your warehouses right, where you should locate your manufacturing facility, where you should locate your assembly lines right. So, that is kind of information because if from particular market you are getting orders in bulk. So, obviously, you should be near to that market, how you can expand other market.

So, this is one how information is affecting your facility location. Then talking about effect of information on logistics activities, obviously how much you will ship right from which point to which point you are going to ship. So, that what is going to be the quantity in each shipment, then what is the capacity of the container who is carrying that shipment right. So, all those decision again you require information and then it will affect. Then talking about sourcing from where you should source your raw material or sub assemblies.

Again you need to process whole information related to all the available vendors. suppliers you need to collect information as per their capacity, as per their capabilities, their skills, their quality, the quantity they can produce, the coverage, the industrial relation of that particular supplier all those parameters you will record in terms of information and then again you will make the decision. talking about pricing how this information will affect pricing. See when you have excess inventory in the market how you can consume that obviously, you will come with the some seasonal offers or you will come with some to consume extra inventory you will come with some may be concessional rate you are providing to the customer. So, that you can ensure the consumption of that excess inventory in the market when you May be stock out in the market most of the time may be there is interruption in the supply or there is sudden increase in the demand how you can again mitigate you will raise the prices of the product.

So, that rationing can be done in that way. So, then again how you will get this information again this information driver is playing important role right. So, this is how this information driver will impact all other drivers talking about responsiveness or efficiency. Responsiveness is whenever your customer is asking for something how quickly you are responding this is in simple terms. Customer can ask in terms of so many different things in terms of variety, quality, price, quantity whatever it is right.

So, that again information so that means, if you want responsive kind of supply chain quick information you need to share. Efficiency again how it will impact information will impact your efficiency parameter. So, warehousing capacity maximization how you can do that when you have exact information, how much inventory you are storing, what is the stock rotation rate and then how much inventory you can again consolidate there. so many other functions you can perform within that during transportation how many units you are transporting in one shipment. So, then again this is how the information parameter is going to effect your efficiency versus responsiveness.

So, quickly we will go through some of the parameters role of in the supply chain asset utilization. So, already I discussed about you will be able to utilize your resources properly resources in terms of equipment utilization rate in terms of warehousing utilization rate in terms of optimum route of the vehicle right transportation during your transportation so those all things will happen only when you have real time data information and you are processing that information so frequently, so quickly that you can make the real time decisions right. Coordination of the supply chain flows obviously, supply chain flows either you are talking about your material flow, you are talking about finance flow, you are talking about information itself right. This will only happen when you have coordinated supply chain. integration among all the players stakeholders in the a complete supply chain.

Then only you can ensure that procurement is happening on time whatever right quantity is required production will happen accordingly whatever demand is there and then that much inventory you will store near to that particular market which you will again distribute as and when required by the customer. increasing responsiveness quickly you are responding to customer requirement that means that can happen only when you are having the transparent supply chain the visibility is there any fluctuation coming from the outside market right because this is dynamic market anything can happen at any time any change in the strategy by your the competitors right so then again how you are responding quickly If customer is asking for some extra services, how quickly you are responding? So, then that will information how quickly you are sharing that will define your capabilities to respond quickly to the customer requirements. Reducing cost. Obviously, when I am talking about let us say from point A we are travelling to point B, when we have that information that this route is the best route as per may be the traffic, as per may be the road conditions, as per may be the weather conditions, as per may be so many other parameters. So, that means, when I am having complete information I can reduce cost during transportation as well.

then how much inventory I am carrying in one container? If still there is unutilized capacity, can I utilize that capacity? Inventory holding cost. how much inventory idly I am holding all the time can I minimize that inventory avoiding the stock outs rate right. So, how much I can avoid if I can have that information if I am having that just in time of you know kind of system, but that just in time will work only when the material is required and you are supplying that material at that point of time right. So, for that again information is the key driver right. Talking about 7-11 or Walmart world giant you know retailers how they are doing this how they are utilizing they have you know invested use in setting up the information channels.

The only thing is why they are doing so, so that they can ensure the product availability there is no stock out they can Tap that all the parameters which are defining the function of demand and then they are ensuring the availability of the product. cross docking, cross docking means you are consolidating orders coming from the large container and then you are segregating as per pin code wise. Let us say this is one example, but then pin code wise you need to segregate you need to have that information, how many orders from that particular market from that pin code right and from how many orders are coming from that particular seller. So, cross docking is purely purely a function of your information tool only right, because keeping the inventory you are just making the temporary you know halt at that point and again sorting the orders right. and optimizing sourcing decisions, the best vendor you will pick and that best vendor you will define based on what? You will define based on the price he is offering, based on the quality he is offering, based on the flexibility in terms of quantity right.

If you are asking for 50 unit he is ready to ship, if you are asking 500 unit he is ready to ship right. So, that optimizing decisions also will help you to reduce the cost. So, now, we will see the role of information in competitive strategy. See when we are saying competitive strategy and I am saying my competitive strategy is to provide the cost efficient product to my customer. So, then my supply chain strategy has to be in synchronization with the competitive strategy that cost efficiency.

That means, responsiveness somewhere we will compromise, but we will not compromise with the cost right. We will work on how we can consolidate maximum orders, we will work on how we can utilize the economies of scales right. Those kind of concepts where we can transfer the maximum units in as per the capacity of that vehicle who is carrying that units from one point to other point, so that the per unit transportation cost can be reduced right. We will quickly see role in competitive strategy customer centric approach. Having said that customer centric approach that means, you are recording the information from the customer what are your requirements in terms of product, features, quality, variety, color all those things and then after sales services what are going to be your requirement.

So, providing those tailored services to individual customer that is customer centric approach. So, your supply chain is responsive enough having you know sharing information throughout the you know that network. So, that you can provide the customer centric approach right and then investment in information technology. See the online players or these Walmart or 7-Eleven we are talking about Amazon Flipkart there they they have to implement this information technology network very strong network only then they can ensure visibility of all the transactions transaction in terms of the product you are shipping where is product right now now it has reached to this hub right now it is out for delivery now customer has received it customer has processed for the return why he has processed for the return whether we are we need to again credit back to the customer so this all information you need to you know into process right. And then we are using this information in the analytical tools for enhancing your decision making skills more information based decisions we can make.

Coordinating for common goal like the example I coded if your supply chain is focusing on cost efficient right. So, starting from your raw material suppliers they need we need to communicate to the raw material supplier that this is the low cost product category right. So, somewhere you you need to be efficient, efficient in terms of how many units we are making in one batch right, efficient in terms of maybe the material we are using. So, that we can reduce the overall cost, efficient we are using the technology you know or the equipment to convert that raw material into the finished one. how we can reduce the overall cost, but when we are talking about responsiveness.

So, then responsiveness that means, even if individual order is coming to Swiggy, Swiggy is ready to process the even the single piece of sweet that is how they are advertising right. So, there the cost is not the main concern, the main concern is your responsiveness, but if Swiggy is promising this, but they are collaborating with the courier partners right, who are making the delivery, but delivery person is saying no because quantity is very less. So, he is not going to ship that. So, then what will happen? So, that means, coordination should be there among all the players. Optimizing information sharing, see this is also very important that information obviously, will help you in making the improved decisions, will help you to optimize the cost, optimizing your activities, resources utilization everything will be there.

Are you in that process getting or collecting too much information and then it is in the end you are ending you are landing somewhere where you are full of information, but then you do not know what to do with the information right. additional information you are collecting and that is the cost is maybe let us say 5 percent extra you are spending on that right. And then you are getting only 1 percent margin out of that by tapping that 5 ah that extra information you are spending 5 percent extra, but the return is only 1 percent. So, that you need to you know make the trade off whether that excess information is going to help you or not. There is one small case study sun sweet growers in California they are actually dealing with the dry fruit market right.

So, obviously, this is a seasonal product then and they are somewhere harvesting between September to October and the demand is also seasonal in that way and during the Christmas period they are experiencing the highest peak in the demand. So, how they are channelizing this, they have channelized their production with the demand they have implemented this SOP sales and operation planning. So, they are collaborating with the sales team marketing team getting the exact quantity you know they need to process and they need to supply in the market and they are implementing early warning capability systems right which is you know if any fluctuation in the market other than the routine seasonal demand if any other fluctuation right which may hike your demand or which may drop your demand both way. So, then they are coming up with the early warning capability kind of system. So, you can see production overruns they have reduced from 30 percent to 15 percent that means, earlier they were producing 30 percent more.

Now, they are producing 15 percent less see how much they can save in that inventory processing cost and this because they are producing extra. So, then in the end you have to sale with the seasonal offers right. So, may be at 50 percent lower price or 30 percent lower price or whatever right. So, they improved their forecasting as well by implementing this information system from 15 to 20 percent. What are the component of information decision? Push versus pull, we discussed about push supply chain is a kind of supply chain where we are making the forecast and pushing the inventory whatever we have made in the market.

right. Pull is based on means kind of reactive process will record the customer order first and then we will start processing the order. Both way whether you are going for forecasting first or you are going to record the customer information, then you will provide the customized product in both way you need the information system right and then we discussed in that session that where you should set up your push-pull boundary right that is very important that you need to set push-pull boundary may be up to procurement cycle you are setting the push boundary. right push cycle you are implementing after that you are including the pull process right. So, that means, may be somewhere in manufacturing you are doing the push process and after manufacturing replenishment cycle or customer order cycle you are handling with the pull process. If any demand is coming from the particular market only then we will replenish the inventory in that particular market.

So, then again how you will decide that that this particular market need you know product right now again your push pull ah information system will provide you that information right coordination and information sharing lack of coordination can lead to inefficiencies lows in supply chain surplus in terms of there is no correct information sharing with the suppliers they produced excess inventory no production overrun is there right so that means there is a lack in the sharing of the information. So, correct information should be shared so that your raw material supplier should also process the same inventory because in that way your supply chain is efficient only when all the stakeholders are efficient. Sales and operation planning already we talked about that you connect your sales with the operation and then whatever is the requirement from a particular market only those many things you are implementing. Enabling technologies now we are having enterprise resource planning, material resource planning, advance analytics, cloud based platform which are you know helpful to utilize your whatever capacity resources you are using in more efficient way. Like we talked about in warehouse session, we talked about how we can have the automated warehouse system, where automatically robots are managing all those system and we can be in that way stroke rotation can be ensured and we can ensure that no inventory is going obsolete with the help of this enterprise resource planning how many resources are lying idle at particular point .

We need to tap those resources how we can utilize if we are not utilizing can be outsource or can be you know give those resources on rent to some other vendor who may be you know utilize at that time so that we can keep in mind. What are the information related matrix which the performance parameter which we are talking about related to each driver. So, with respect to information forecast reason this is very important for how longer period you are forecasting. If your lead time is higher than your forecasting let us say you forecasted that tomorrow this is going to be a demand. you said 50 quantity right for tomorrow you forecasted 50 quantity but lead time is may be 3 days that means this forecast is only applicable for 1 day and your lead time is 3 days so this is not going to serve the purpose anywhere your forecasting or reason should be from 3 days to 5 days 5 days to 7 days so that whatever you are manufacturing So, you can ensure the consumption of the product in the market.

Frequency of update, how frequently you are updating your forecast? If today you are forecasting for next 1 month, in between how many times you are updating your forecast? Because maybe there can be change in the parameters right. If there is any change you can flag those changes, you can take the corrective actions and meanwhile you will say we forecasted for 50 units, but we are now maybe some other factors are there in the market and we need to produce somewhere around 30 to 35 units. So, that way you can reduce the extra inventory in that way. Forecast error is always there whatever you are predicting whatever actual demand at that time you can just find out the difference and that is you can measure the forecasting error. So, we have different forecasting techniques some qualitative techniques are also there we will discuss in the further sessions right and we have quantitative this is these forecasting techniques as well.

seasonal factors like we talked about that organization who is dealing with the dry foods. So, seasonal spike in the demand is there that can happen in any product right. We are talking about FMCG kind of industry kind of means saturated demand right, but if you are talking about let us say AC industry or product who are manufacturing fans, ACs or coolers. So, related to summer season is there right.

So, there is always hike in the demand. Then variance from the plan, so difference between the plan production inventory and the actual values whatever is the variation right that depends upon the variability in your production capabilities. If you planned for 50 units but you could produce only 40 units whatever may be the reasons either breakdown happened, raw material supply interrupted, manpower absenteeism rate, anything happened so but the variation is there. ratio of demand variability to order variability. That means, demand and order you predicted demand may be the actual demand also or you order for something like we talk about the bullwhip effect in detail where we said that the demand is coming may be for from the retailer is for 50 units distributed put the order for may be 75 unit with the manufacturer manufacturer put order for may be 100 units from the raw material supplier raw material supplier may be put order for 110 units for the the next level raw material supplier this is bullwhip effect right. So, that means, if that is happening your demand is less and you you are placing order for more that that means, this ratio will be less than 1.

If it is less than 1 that means, that you are not predicting accurately and bullwhip is there. So, information driver is helpful in capturing that bullwhip effect right. trade off obviously, if you want to be efficient as well as the responsive this information driver is going to help in both the way right. Risk you can handle in more better way because you are having prior information about the risk coming from the market. Complexity and cost obviously, complex market structure your product is for itself is very complex you are having different variants different features different than targeted to different customers and then those customers are you know ah visiting different channels to get your product and services.

So, in that way very complex supply chains are there right. Marginal value this is what we talked about whether spending 5 percent extra on that information is you know giving you returns 10 percent more or only 1 percent extra return. So, that you need to find out crucial to assess the minimum necessary information obviously, that much a demand you need to process that only will happen when you have that minimum point of information maybe that is you are collecting from the point of sale where the final desk at where the billing all those things are happening and then you can find out the that information is there right. So, always trade off between complexity and value if you are collecting too much information will be complex, but value how much you are generating right too less information then also decision because decision making is based only on your information. Now, the fifth driver is sourcing and sourcing we have seen is getting you your raw material suppliers, your co manufacturer suppliers, you are not you know in that way efficient or you are feeling competent.

So, then you are thinking that let us outsource to the third party. So, this first decision whether you are going to do it in house or out house outsource that means, to third party that is the decision first you are making under this supply chain strategy. Now, if you want to be responsive. So, somewhere in some of the I am not saying absolute situation that responsive than always you should be in house right, but usually when you are going for efficiency you are outsourcing and usually when you are going for responsiveness you are doing it in house, but it is not absolute in all the cases.

I will take the example let us say. you want to quickly respond to the let's say the example of swiggy swiggy is saying that we are ready to deliver even one piece of sweet that means if third party is focusing the delivery partner is saying that minimum order this much should be there only then we will deliver That means, that responsiveness will not happen you have to set up your own delivery network ensuring that that even the minimum piece that delivery you can process. So, that means, responsiveness is not happening with the third party. Efficiency when you are saying efficiency. So, usually I am operating with the restaurant usually only 50 orders are coming or may be sometimes 100 orders are coming. So, that much resources I cannot acquire and it is also very unpredictable let us outsource to some courier partner.

In that way I will get the efficient services because if I am today delivering 50 orders I will pay for 50 orders if tomorrow I will deliver 500 order I will pay for 500 order. So, you can see there the efficiency can be managed. But, when you are saying responsiveness and I am saying that let us outsource this particular activity to third party because DHL, DHL courier partner as a courier partner quickly you are getting the services. So, that means, their responsiveness is also increased, their information system whenever you are shipping at any moment you can track the product. So, there you see the outsourcing is adding to your responsiveness as well.

So, you can keep this concept in mind usually we are going for low cost country like IKEA is doing for you know manufacturing the furniture, they are finding the low source. Dell is what Dell is doing they are using you know efficiency supply chain also and responsiveness. How? They are sourcing from China to lower down the cost of the components, but they are maintaining responsiveness by in house production. enough production and also they are interacting directly with the customer recording their configuration and then providing the product. So, you see one end they are implementing responsiveness, other end of the supply chain where they are getting cheaper product from China, they are sourcing from China.

Globalization obviously, has given this concept has given opportunities to customers as well as the manufacturers right. So, in that way you need to make the decision. Role in competitive strategy already I talked about how your sourcing will affect efficiency and responsiveness. Third part is sometimes we are using those courier partners which are expert in that area right.

So, then they will add to responsiveness. but if it is costly how we are making usually decision that we should go for outsourcing or in house this is break even analysis also you can use where may be this is the fixed cost this is the variable cost somewhere let us say the total cost is this much this is the total cost which is combination of fixed cost plus variable cost and then this is your revenue or profit whatever you are saying revenue or profit so that means up to this point this is quantity on the x axis here sales revenue or profit whatever you are recording you can highlight on the y axis. Now, see up to this point that means, if you will produce in house that will be you will be under losses right. So, after this point if you are quantity demanded is more than this Q then you should produce in house because then so this is how you are taking usually the outsourcing decision. So, may be then there is one vendor who is processing these kind of products doing sub assembly for other players as well you can also take the services of those vendor and then you can reduce the cost right. So, you can see how Zara we have discussed the Zara case where they have in house as well as they have outsourced to some countries like Turkey or Bangladesh or Pakistan or Asian countries for getting the deliveries for those product where they are having you know higher lead time and they want to minimize the cost.

And products are also very standard, but the products which are you know require quick change in the pattern or fashion they are processing all those products in house in Europe only near to very that market where they are selling right. So, that is one example Cisco is also another example Cisco usually dealing with the your software products as well as hardware also router and all those things right. computer accessories also they are selling so what they are doing they are maintaining efficiency supply chain for low end products see this is how they are segregating for low end products efficiency for high end products which are of high value they are get they are offering responsiveness services right So, Cisco you can just go through in detail. So, they have outsource almost all the manufacturing right sourcing strategy varies with the product type like we talked about high end product will be under your responsive supply chain low end product will be efficient supply chain. So, low end product like routers they are making for home networks.

So, these routers are packed in China bulk order they are processing and then finally, shipping those to United States right. So, they are they are saving the cost, but for high end product what they are doing they outsource to contract manufacture in a United States only. Because, these locations are not cost efficient high cost locations are there, but then in that way because you are to near to the end market you are getting more responsiveness. Components of sourcing decision you should produce in house or outsource already we talked about break even analysis you can use. Supplier selection how you will select the supplier based on different criteria.

may be the capabilities of the suppliers, skills of the suppliers, may be the cost he is offering, price in terms of price, may be the quality level he is offering, may be his experience in that particular product field right, may be the quantity he can offer to you, may be the lots he can offer you, delivery schedules he is offering you right. All these parameters you will see track for that particular vendor and then you will select particular vendor. Procurement then also your procurement is if now you are acquiring the goods and services from your vendors will define how many lots you will process in each month each week and then what will be the load quantity and may be if different segments of the products are there how you will take that decision. Sourcing related matrix quickly we will go through what are the performance parameters if you will see sourcing days payable outstanding. when you are transporting the product and when you are getting the returns means paid when you are getting paid by the customer that customer can be retailer for the distributor, distributor for the manufacturer right in that way.

Average purchase price throughout that period from day 1 to day 30th in that month may be you purchased 5 lots. quantity in each lot is may be different right. So, may be then in one lot you purchase 10000 item in other lot you purchase 50000 item. So, you will just see what is the average price whether you negotiated for this large lot. So, this is you need to track if you are placing order in bulk you should be able to negotiate.

Supply quality different parameters on sampling basis you are checking whether the Quality of the raw material coming or the finished good coming is ok or not. Supply lead time. How much lead time is there? So, if usually if your suppliers is taking long lead time after placing the order that means he is not responsive. He may be working on the efficiency and vice versa. Fraction of time on time delivery this is what I talked about when you are picking the supplier.

If you placed 10 orders in that last month how many orders were delivered on time as per schedule. If you promised within 1 day delivery 24 hours how many were delivered within 24 hours. Range of the purchase price again within that whatever quantity you purchased. And then is there any relationship with the price if you are placing higher order, higher quantity whether you are getting the reduced price or not. Supplier reliability in terms of variability in the lead time in the quality in the quantity sometimes we placed order for 50 000 item he only supplied 30 000 items because there is you know he is struggling with the managing the capacity with the breakdowns with the equipment getting their raw material and all those things right so that is supplier reliability overall trade-off if you will see supply chain surplus Maximizing total surplus this will only happen sourcing will help you to reduce cost.

And in we have discussed whenever we are going for sourcing the first very basic purpose is that you are looking for low cost supplies. And second is you are looking for expert services because those outsourcing partners are expert in that field right. And then outsourcing considerations you can discuss all those points. whatever the points when you are going for outsourcing picking the partners those things.

The last driver is pricing. Now, this is the driver which will affect all other things. If you are lowering down the price demand will increase that means, more product suppliers need to supply, your manufacturing capacity you need to process more than your distribution channel will feel little burden because like we talked about during big billion days or those kind of seasonal offers. Then there is huge demand 30-35% hike in the demand. So, how that that pricing only playing role right and when you are struggling with getting the raw material then you can increase the price. So, that customer will buy in less quantity and, but there are some reasons where even there is fluctuation may be that is only that is created in the market kind of panic buying that customers are buying in quantity, but actual that demand is not there, but still they are buying may be next 4 months they will not come again to buy the again that product right.

So, this is the role by pricing determining revenue obviously, the pricing whatever strategy you are picking different pricing option marginal pricing of optional is this psychological pricing is there then competitive pricing is there. So, many different pricing options in marketing we usually study right. Here the point is whatever you are picking will define your revenue right and this is the tool we are using to match the demand and supply like I quoted if you are having excess demand you increase the price. If you are having excess supply you decrease the price people will buy in bulk right and then impact on demand usually you can see when you will lower down the price there will be hike in the demand. Strategic positioning how you are putting your price like ah you can see ah if you are lowering down the price that means, your strategy is to fetch the customer based on the pricing right.

There may be another point that customer usually think that if it is low cost product may be the quality is somewhere compromised, but when you actually use that product and you see if it is comparable and then also you are providing at low cost there are certain markets right. If you are talking about high status product then they are not competing at cost right. If you are talking about the routine item FMCZ kind of industry then usually they are competing on their strategic position will be defined by their costing their pricing strategy. segmentation and targeting like I talked about P and G is coming up different products in detergent only they are having in soap only they are having multiple products. One is coming with very low cost other is coming for the medium type of industry market next one is coming for the top market right.

So, pricing strategy is being done as per that and obviously, there are certain compromises if you are talking about with the of the product as well because that cost you are you know paying for that. So, balancing efficiency and responsiveness. So, efficiency means if you want to lower down the price efficiency means you have to be cost effective right. So, responsiveness then you are not bothering about the pricing, but you are going highest level of efficiency.

innovation, providing the latest services to your customers. So, in that way you can charge high on that right. Customer differentiation usually Amazon is doing that they are having different types of customers and I have included one case study on Amazon will go through that quickly this is the case study. If a customer is purchasing 2 books 30 dollar is the price and they are asking for standard shipping right. it will be shipped in 3 to 5 days at a cost of maybe 5 dollars somewhere.

2 day shipping they are asking maybe then cost will be 13 or 14 dollar. If they are asking for 1 day shipping cost will be 22 dollar more than 22 dollar. If they are saying that routine delivery then maybe it will be shipped within 15 days, but you will get the free shipping. So, this is how see there you want extra services quick services you need to pay little higher responsiveness, but then this responsiveness is putting very high degree of uncertainty on amazon supply chain right. So, anytime that order for same day delivery can come. So, how you will keep that promise obviously, you are charging high for that, but then delivering product is also another challenge right.

So, this you can see for different segments how they are preparing. components of pricing decision, economies of scale lower down the cost you can lower down the price as well. Everyday low prices versus high low pricing, everyday low pricing means now you are saturated you are well aware about the market you can go with that right, high low pricing means if price is high may be cost will be less your demand will be lesser if you are reducing the price. So, then there will be you know coming up your sudden spike in the demand and you need to provide that. So, this depends upon what type of model you are fixing right. Fixed price versus menu price pricing again you can go for Amazon if fixed price is there whether maybe standard delivery will be there so that much will be charged.

Menu pricing as per they have done so if you want same day delivery 2 days delivery or whatever so they have done that. Pricing related matrix quickly we can go for profit margin how you are setting up your profit margin this will be defined margin type you are talking about gross margin. whatever is coming after reducing the cost of operation of good or net margin profit after reducing the cost as well as the operational cost but in gross margin we are only taking care of the cost of production of that goods right scope sku product line division entire now why this is we are doing this pricing we are doing depending upon the type of the product scope or customer we want to find out those 20 percent of the customer who are almost contributing towards 80 percent 80-20 root 80 percent of your profit right. We need to find out those 20 percent of the product see Maruti Suzuki have different products, but all are not equally contributing. So, if they have different 30 models may be top 20 percent are contributing 80 percent of their profit may be some of our running under losses as well.

right so if another example if i take from credit card industry if any bank is offering you credit card and always you are paying your amount on time that means you are never seeking for loans which they are promoting through credit card right so if you are not never you have taken loan since last 5 years you are a cost to my ah company right because i am not getting any revenue out of you this is extra cost i am providing you the card i am providing you all those services i am paying your vend all the vendors from where you are buying so that i need to find out these many customers are not adding anything to my profit margin that is why this analysis is done Day sales outstanding means how much time it will take from your customer to get back your money, right? When you deliver the product and services and when you are getting the ah payment. Incremental fixed cost per order and incremental variable cost per unit. If extra one unit you are producing what fixed asset ah investment you need to make and if extra one unit you are making what is the variable cost right. So, fixed cost in terms of ah may be infrastructure you need to develop to you know may be extra machine you are installing and then that order is for only for some period of time. So, what you will do with that extra fixed cost? Variable cost may be if you are manufacturing 10 cars you need 50 tires, if you are manufacturing 20 cars you need 100 tires as simple this is variable with the units right.

average sale price throughout that period what is the average sale price some products may be same product you sold at the MRp some you sold at may be 50 percent lower cost because of excess inventory right. So, that you need to fix up. Average order size how much you are processing order in each lot that will help you to design your economies of scale. Range of sale price again will help you to define what was the sale price.

Range of periodic sales. How quickly you are coming with the sales, what is the highest and lowest sales quantity in terms of either you are talking about day wise, week wise or month wise. It will help you to find out again whether there is any relationship when you lower down the price or you increase the price with respect to sales right. So, trade off you can see quickly the say this pricing every day low pricing means stable patterns. Pricing fluctuation, demand fluctuation will be there.

So, that again will put extra pressure on the distribution network right. So, this is how you need to make tradeoff between these. So, now, we can conclude that we need to take care these 6. 3 your logistics drivers facility transportation inventory and 3 your cross functional drivers sourcing information and pricing. And when you will vary these drivers from 1 to 10 scale let us say your responsive net and efficiency will increase. be impacted right and when having said that that responsiveness will increase or efficiency will increase that depends upon which market you are operating what are the requirement from the customer right.

So, and that way you need to change your all these drivers and you need to you can say manipulate your drivers in that way you can get the desired performance right. So, we will talk about in detail in future sessions creating the strategic fit, we will talk about in the next week, we will talk about how we can develop the strategy and we can fix all those drivers based on whatever strategy we are picking and then we can find out the best strategic fit for our organization. So, these are the references and thank you very much.