Quality Control and Improvement with MINITAB
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Lecture - 02
Voice of the Customer and Kano Model

Hello everyone, this is session 2 of Quality Control and Improvement using MINITAB. So, I am Professor Indrajit Mukherjee from Shailesh J. Mehta School of Management, IIT Bombay. So, in the first session what we have done is that, we have tried to understand what is quality and why it is so important, quality is why it is important.

And then we have tried to define manufacturing quality and service quality; we have discussed about Parasuraman's gap model and how service quality is captured. Manufacturing quality is much more easier to understand; there are 8 dimensions, Garvin dimensions we have discussed. So, today we will try to see that, how need of the customer is basically addressed.

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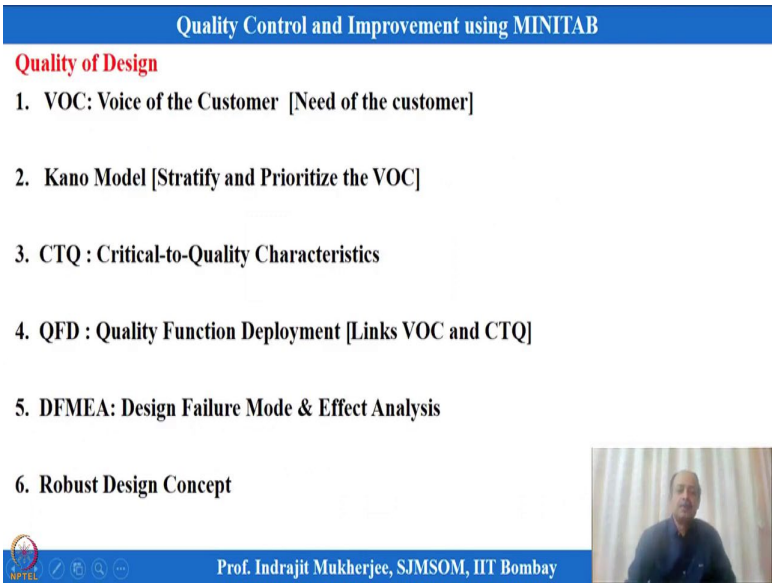

So, for this our agenda will be Voice of the Customer, how customer voices are captured, so we will try to discuss that one; and how they are prioritized basically that also we will try to discuss in this sessions, ok. And then we will also talk about critical to quality characteristics that relates voice of the customer and that is the agenda of this session 2.

So, a voice of the customer is basically need of the customer. So, whenever we think about a products, we will define like what we have mentioned that there should be a need to buy a specific products. And need of the customer needs can be in multifold; that means it is not single need, it can have multiple needs.

Similarly in a products we may ask for many different characteristics which is required in the products, so those are the voice of the customer basically. Customer will not say specifications of them, they will say just in abstract form that these are the characteristics we are looking for; may be seeing the competitors products, they will try to define.

And you will find that people are doing surveys, companies are organizing surveys to understand. What is specifically need of the customer? If there is a, if need is not understand, then what we will deliver basically. So, whether it is manufacturing, whether it is service; first you have to capture what the customer wants, what will be good, what will be bad in a products. So, that is known as voice of the customer.

So, let us take a simple example to understand that one. So, voice of the customer, ok.

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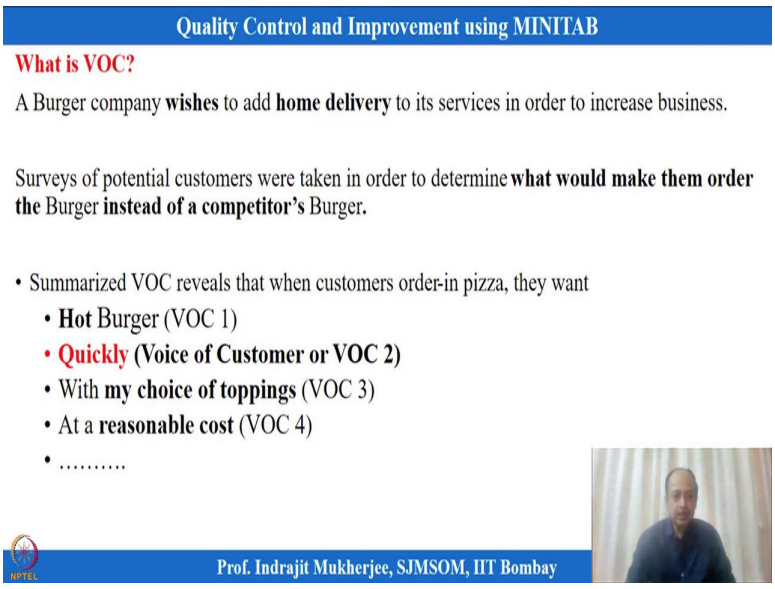

So, a Burger company wishes to add home deliveries for a specific products and for that they are doing the surveys and they want to understand what is the voice of the customer for this, what are the voices of customer. If I am doing a home delivery, what should be the necessary characteristics in a products that the customers will pay for.

So, here I have just mentioned some different voices. So, a customer may want that, I want a hot burger; whenever it is delivered, it should be hot, ok. They can say I want it very quickly, that is also a voice; they are not giving specification anything over here, they are just mentioning that I want it very quick, so that can be the voice 2.

Then they can say what is the choice of the toppings that we will try to prefer and finally, the cost should be reasonable. So, it should not be very high, ok. So, these are the four voices; there can be N number of voices when we are doing home deliveries.

So, we can add more voices over here; so but we are trying to see that, how this voice needs to be addressed. So, we will take only one of these voice that is quickly, we will try to understand that how this voices addressed by any companies, ok.

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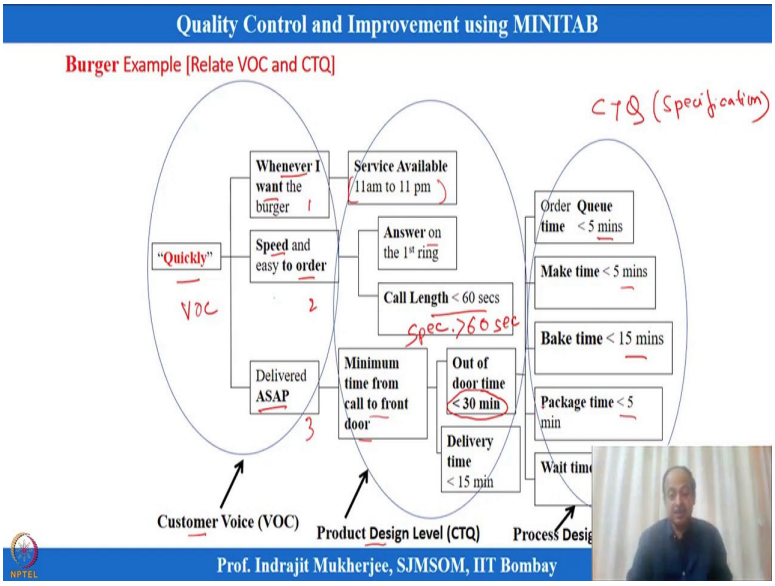

So, I want it quickly, I want it quickly. So, in this case, what we can think of? Whenever I am thinking of a characteristics quickly over here, which is the voice of the customer; so this can have sub voices over here. So, whenever somebody thinks about quickly, whenever I want it I should get it ok; then speed of the delivery speed of the orders that can be another dimensions to this, and as soon as possible there can be another dimensions to this.

So, this is the voice of the customer that we are talking over here. So, this is the voice of the customer. So, this can be sub voices over here, so sub voices. So, voice of the

customer can be subdivided into voices. So, we can think of this as a number 1 voice sub voices, this is the sub voice number 2 and this is the sub voice number 3.

So, here also I am not specifying anything. So, I am, customer is mentioning that by quickly I mean these things; it should be very very fast when I place the order, it should be as soon as possible you should deliver that one and whenever I want it, I should get it basically. So, that is another dimensions, maybe we can think about as when we are talking about voice of the customer, which is quickly one of the dimensions of need, ok.

So, then whenever I want it, I can also define a specification, for being in the inside the organization, we can define that 11 am to 11 pm, we can just set to address these voices; what we can do is that, we can open it from 11 am to 11 pm, ok. Home deliveries can be available this time to this time, ok.

Whenever I am talking about speed in that case, I can think of that I should answer the ring very fast and as call duration should be very less when I can close the order basically, ok. So, call duration should be very less, ok. And here what you see is that I have given specifications; this is less than 60 seconds. And if it is more than 60 seconds what will happen is that, service failure will happen basically.

So, in this case we have defined that, this is the specification; if I fail, that is a failure from our part and that is a defect basically, service defects basically, we can say we can think about a service failure. If we are if we are not if you are not able to deliver within 60 seconds, that call is not closed; so or order is not placed, so that will be considered as failure over here.

So, people should be trained or people who are giving the service or who are answering to the calls; so that has to be finished within 60 seconds. So, I have given a specifications over here. So, I have given a specifications over here, ok. So, as soon as possible we can also think about the minimum time from call to front door.

Here also I have giving a specification that, out of door; that means from my premises, the order should leave within 30 minutes and the delivery should be within 15 minutes. So, time point of the localities that I am delivering should be within 15 minutes I should be able to reach there.

So, that is related to transportation let us say; so but out of door delivery, out of door time is mentioned at 30 minutes over here. So, which can be related with the process specifications over here; that means order queue time should be less than 5 minutes, make time should be 5 minutes, this bake time should be 5 minutes, packaging time 5 minutes and wait time should be equals to 0.

These are the cycle times we can think of make time, bake time, package time, these are the cycle times of the sub processes basically over here. So, if you have to deliver within 30 minutes, I have to I have to maintain these specifications or if there is any fault over here, I cannot deliver within 30 minutes basically, I cannot deliver in within 30 minutes over here.

So, what we are seeing is that, voice of the customer is translated into CTQ which is having specifications basically, which is having specifications. So, this is specifications. So, this is relationship between voice of the customer and CTQ basically. So, whenever I have a CTQ, I am able to measure that one and if there is any fault, that is a defects, that we will categorize that specifications into, ok.

So, voice can have sub voices over here; what we have seen is the voice of the customer at the customer level, customers level we are getting these voice, at product level we are defining the CTQs and CTQs can have sub CTQs over here also we can see. So, voices, sub voices; every sub voices can have a CTQ and it can have sub CTQs also.

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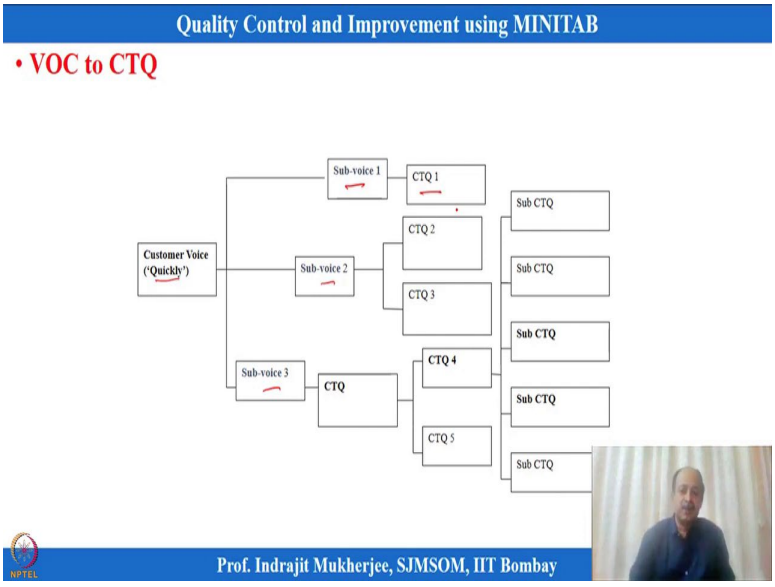

So, if we, generic diagram if you want to draw, you can see that over here what I am showing over here is quickly is the dimension that we want to need that we want to address over here, then we have divided into sub voices what you can see is that. So, we have categorized into sub voices for a specific voice and these sub voices are specified by some CTQs, which is having specifications.

So, whenever I have a specifications, I need to measure that one and whenever I measure, I can only improve that one, ok. So, conversion of abstract form into a technical requirement is what we are doing over here, so that is known as CTQ conversion. So, when you when a you talk with a quality professional, they will talk about we want to improve the CTQ. So, what is CTQ? CTQ is coming from the voice of the customer ok; we are giving a specifications to that, ok.

So, this is defined by the engineers within the organization who are manufacturing the products basically. So, whenever I have the CTQ, in that case I know what to improve that will relate to the voice of the customer or that will relate to the need of the customer. And if there is any mistake in the CTQs and it will impact the voice of the customer, any one of the voice of the customer that is important to the customer, ok.

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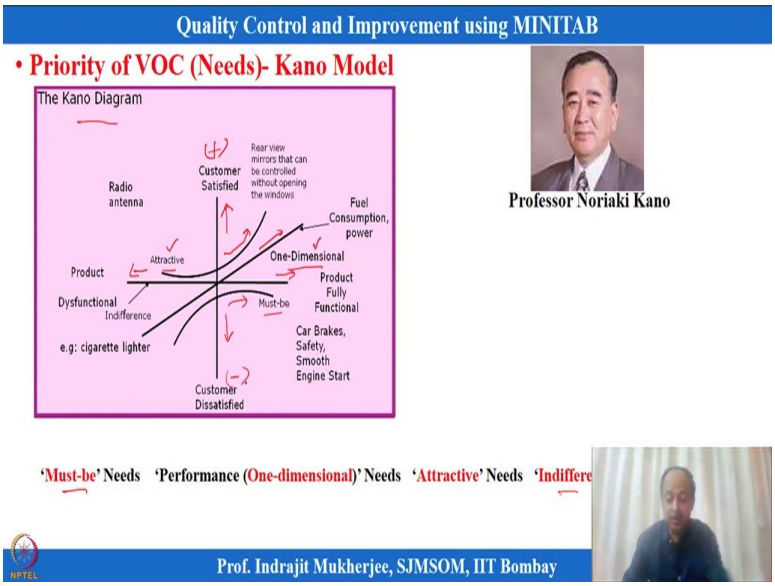

So, this is the relationship between that. So, now, there can be N number of voices; now how do we prioritize the voices? How do you prioritize? Then Noriaki Kano proposed this model which is known as Kano model, very popular model to identify and prioritize

the need of the customer basically. So, which is important which is not important; so he has categorized this needs and for that he was given the Deming award basically. So, the highest individual quality award, ok.

So, what he has done basically for which he has got the award? So, he has tried to prioritize the need of the customers. So, capturing, how do we capture the voice of the customer and prioritize those voice of the customer; because if I can prioritize, in that case I know which is to be improved that will impact customer satisfaction basically, ok.

So, he has given a model which you can see in this diagram, which is known as Kano diagram over here. It has y axis and x axis over here. So, if we your customer satisfaction increases, this is on this direction; customer satisfaction decreases, this is in the y direction, negative direction.

So, if the product feature is present, this is in direction and the product feature is absent, it is in this direction over here, ok. And there are three lines what you can see one non-linear lines on this axis, which is known as attractive needs over here, that is defined attractive needs over here; there is a must be category needs also given over here, which is also non-linear type over here and one is linear type which is known as one dimensional needs over here, that you mentioned over here.

So, these are the three basic need category what Kano has tried to explain in this model over here, in the diagram over here. So, in this case so, he has categorized into different categories. So, one of the category of voice of the customer is must be type of needs. So, this is one of the type of needs what customers have. So, this is must be. So, if it is not there, customers will be dissatisfied basically. So, this is order qualifier we can think of.

So, from marketing perspective, we can think of order qualifier basically. So, if it is if it is there, it is ok; but if it is not there, we are totally dissatisfied, we will not buy the product basically. So, this is the must be category product. And then there is one dimensional type of needs; that means more you provide, more I am satisfied, ok.

So, must be category what we can think of over here is safety of the car; car breaks, engine starting, smooth engine start, if you are talking about car design. So, in this case these are the priorities of the customer. So, if it is not there; if safety is not there, I will not buy the car basically.

So, this is the must be category. So, if it is not there, I will be completely dissatisfied, ok. So, there can be one dimensional needs; that means more you provide, more I am satisfied, this is also known as performance needs. So, what we can think of, fuel consumption, if it is less, we are more satisfied, more it is less; cost if it is less, we are more satisfied ok, ensuring quality of course so in this case.

So, a power consumption if it is less, we are more satisfied. So, this is one dimensional need or linear needs; that we can see more we provide, more I am satisfied, ok. The third category of needs of voice of the customer what we can think of is attractive needs, ok. So, that means customer is not expecting this one in the products, but you are providing. So, your designer is giving this one. So, customers are amazed, when they sees these type of features.

So, here we have mentioned that, rear view mirrors that can be controlled without opening the windows; customer is not expected ok, so you have provided. So, in that case, in that segment of the car segments and it is not provided by anybody else and you are providing it in the same cost.

So, that is a attractive kind of category, which non-linearly increases the customer satisfaction. So, when they see that; they have not expected and immediately what will happen is that, their satisfaction level will go up, suddenly go up. So, that is known as we can think of that as a attractive needs, ok.

So, then what we can think of is that, another category of need is that, I am indifferent to this; that means this is the indifferent category what we have mentioning over here. So, in this case what we can see is that, if you provide I am non either dissatisfied not satisfied; because that is not needed as such so, ok. So, which is a indifferent need that also I need to understand that one.

So, I should not put effort on in different kinds of needs. And there can be also reversal types of needs; that means if you provide, if the complexity of the mobile is too much, in that case age group let us say above 60 will not be able to use that one. So, they will get dissatisfied or irritated, ok.

So, that is the reversal kinds of needs; that means if you provide that one, that is basically moving the customer satisfaction in the negative direction, customers are dissatisfied,

more you provide that type of features, more customers are dissatisfied. So, I need to understand what are those also, so in this case; so that I do not include that in the design, when I am; when I am trying to develop a products, which is more customer need oriented.

So, I will try to avoid those thing. So, there are categories over here. So, Kano says that, all the needs are not same. So, they can be categorized as must be category, one dimension category, attractive category, indifferent category, reversal category over here. So, must be has to be there; one dimensional attractive feature will only improve the customer satisfaction.

So, in this case, one dimensional feature what you see over here and this is attractive feature what you see over here; these are the two categories if you provide, customers are more satisfied, one is linear, one is non-linear, that will improve the customer satisfaction. So, this can be customer satisfaction on the plus direction we can think of and this can be on the minus direction what we can think of over here.

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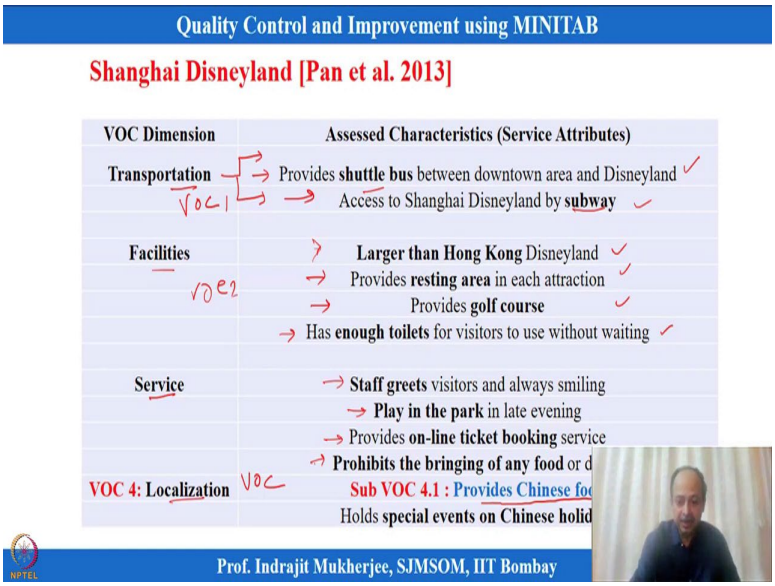

So, this is Kano model what was given by Noriaki Kano and we will take a simple example to understand how this prioritization is happening basically over here. So, in this case what we will do is that, we will try to take an example; I have taken from a article which is given by Pan and coauthors in 2013. This is in Shanghai Disneyland, to

understand how they have prioritized the needs; using Kano model, how they have done that one.

So, there are different voice of the customer that you can see over here, various dimensions of the voice of the customer; one is related to transportation, one is related to facilities, one is related to service, another may be related to localization, that means where it is. So, they are trying to open a Disneyland in Shanghai.

So, in that case, what are the dimensions of voice of the customer; how which is which I can place in must be category, which should be in one dimensional category or which should be in different category or so those categories which is attractive category? So, we want to stratify that one. And based on that we will put emphasis in one; we will emphasize on one some aspects, we will discuss some other aspects, ok.

So, within this voice of the customer what you can see is that, voice of the customer, this is voice of the customer who; I have provided also there are sub categories over here, I have not taken all from Pan over here. So, the some of the categories, I have just mentioned some of the categories that they have identified, ok.

So, they are mentioning their work, ok. So, transportation related transportation, shuttle bus is one of; they are providing shuttle bus or not. So, this is a specific need. So, access to the by subways this is another specific needs; for customers has told, mentioned in during the surveys.

So, similarly these are the two dimensions over here. So, transportation we can think of, this is within transportation there are two voices over here, we can think of sub voices over here; so one is providing shuttle over here, another one is subways, ok. Similarly, in facilities it should be larger than Hong Kong; there should be rest areas, there should be golf courses, there should be enough toilets, these are the facilities that we are. So, these are the sub voices we can think of, these are the sub voices over here.

So, this is one sub voice, this is second one, this is third and this is fourth over here. Similarly in service also staffs are greeting visitors, service aspects the dimensions of voice of the customer can be; there should be a play in the park, play area in the park in late evenings, the they should provide online ticketing and they should provide prohibits from bringing any foods or drinks. So, that can be also we can check about that.

So, localization, another dimensions what we have mentioning over here. So, this is voice number 1 we can see; these are the sub voices to of a specific voice over here. So, this is voice 2 we can think of; this may be voice 4 we can think of over here. So, this voice 4 we can have sub voices, providing Chinese food whether it is important or not and which category it will fall in the needs that we want to identify over here.

And also special events, whether it is important, how much it is important; in which category of needs is falls. So, these are the items or sub categories what we are interested into. So, this is one these are the aspects; this is not exhaustively it is what I have shown over here, but just for illustration I am using this specific journal articles which addresses the Kano model, which discuss about Kano model and how it can be implemented, ok.

So, within this voice of the customer; let us say voice 4 over here, I am taking a specific voice which is providing Chinese food or not, ok. So, how do you say that, this is a must be category, this is a one dimensional category, this is a attractive category; which category it will fall, this sub voices which category it will fall, how Kano differentiate this one, how Kano differentiate this one? So, for that we have to understand what Kano has proposed basically.

So, I am taking only one sub voices, which is provide Chinese food or not.

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So, then what Kano has done is that, he has proposed functional question and dysfunctional questions over here, ok. So, what is the functional questions that is mentioned over here. How do you feel if Shanghai Disneyland provide Chinese food, ok? There can be alternatives to this, you can respond to that. So, I will go to a customer and ask that this is one of the dimensions I am analyzing and which category it will fall.

So, for that I am making a question over here and you have to respond with this five options that I am giving you; I like it, I it must be that way, I am neutral, I can live with it, and I dislike it. So, you have to provide your options. How do you feel if Shanghai Disneyland provide Chinese food?

This is a functional question and or positive questions we can think of. And these questions will be placed in reverse order; that means negative questions also, that is dysfunctional questions what we can think of, ok. So, let us assume that one of the candidate, one of the candidate or customers has mentioned that, I am neutral to this; whether you provide food or Chinese food or not, I am not much worried about that, so I am neutral to this, ok.

So, then I ask a dysfunctional question over here; how do you feel if Shanghai Disneyland did not provide Chinese food. So, if they are not providing; what do you feel, how do you feel. So, in this case if they are not providing, again the person says that I am neutral to this.

So, this is one of the sub voices and the one of the customer has responded that, I am neutral to this; a different customer may mention a different option over here. So, in this case and we are not restricting what option a customer will take, ok. This is one of the customer as an example I am mentioning over here that, he has mentioned that, I am neutral to this; for functional questions and for dysfunctional questions also, I am neutral to this.

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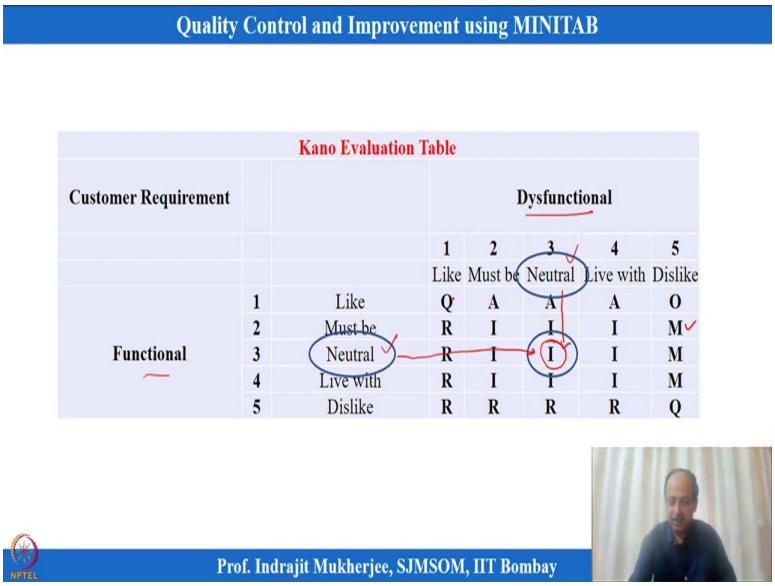

Then what you have to do is that, you have to use a Kano evaluation table. So, customer requirements functional and dysfunctional is provided over here in a scale of 1 to 5 over here; this is dysfunctional question which is also in a scale of 1 to 5 over here. So, in this case what you can see is that, in dysfunctional question what was the response?

This was the neutral response that the customer, one specific customer has given. Also in the functional questions he has mentioned that, it is a neutral kind of response. So, these are the neutral response. So, what you have to do is that, go in the table and see where it falls; I go down over here.

So, then I see that, they are intersecting in a box which is showing in different basically, ok. So, these are the letter code what you can see is that, A means attractive one, I means indifferent over here, R means reversal, Q means questionable, the response is questionable; this is one dimensional or performance features or needs, and must be category you can see over here.

So, these are the categories. So, some are questionable, see if you like and this is also both functional and dysfunctional like; that means the response is questionable basically, we can avoid that questions, we can avoid the response basically, so in that case. So, but what we can see is that, using Kano model every response for a specific voice can be identified that this customer is giving; so this matrix is given by Kano.

So, in that case we are using this model only to evaluate whether it falls in which category, it falls in which category. So, making a functional question and dysfunctional questions for a specific sub voices will lead to identification for a specific customer; whether it is a indifferent category, whether it is following a reversal category, questionable category, must be attractive features or not. So, this can be categorized.

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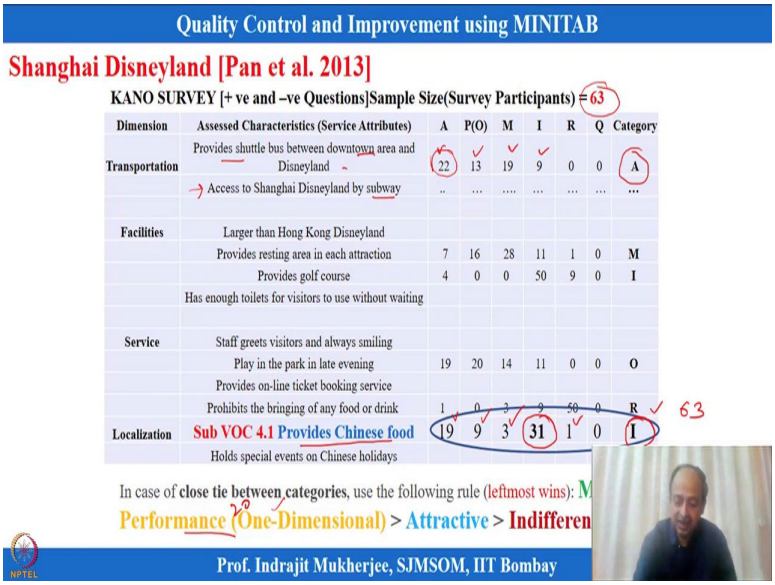

So, immediately what we can do; if you are doing a survey of many participants, here the number of participants was taken as 63 and each of the voices, each of the sub voices what you can see is that provide shuttle bus. So, there is a functional question and dysfunctional question that was done and priority of the customer; whether it falls in attractive features, or one dimensional features, performance dimension, or must be, indifferent, reversal, questionable. So, these are the I can immediately stratify.

So, 16 if you sum up this one, so, 22 plus 13, this plus this plus this and then it will be total 63 response that you will get, ok. And then what you have to see is that, for this category which is the highest response that is providing. So, most of the people are saying that, this is falling in the, using Kano table that we have mentioned; so we are seeing that 22 responses in attractive category over here.

So, the highest response we have to take over here. So, in this case, it will fall in attractive category. So, other response I will ignore. So, I will say that for this voice of the customer dimension, it will fall in this category over here. Similarly, for the second

dimensions, which is subway, which is the next voices a sub voice is basically in transportation; similarly there can be other sub voices in the transportation.

So, everywhere we can just categorize over here. So, this is in attractive category over here. Now, let us come to the providing Chinese food or not. So, 63 response that we have received over here; so that can be categorized that, that was seen to be categorized into this different these different aspects over here.

So, 19, people says it is attractive category, 9 says one dimensional, 3 says must be; 31 says it is we are indifferent to this ok, reversal only one over here. So, which is maximum over here? So, indifferent is maximum over here. So, this falls into indifferent category over here.

So, immediately I will know this is in indifferent category, ok. But this numbers are hypothetical over here and if there is tie what you have to do; if there is a tie, what will come in the final category list over here? So, in this case Kano has also mentioned that, which should be given priority over here.

So, if there is a conflict between must be and performance category, both are giving same ratings out of 63. So, it is 50-50 or something. So, any number which is having a tie in two categories; you have to give priority to must be category as compared to performance dimension.

So, if this is let us say somebody has responded 20 over here, performance category also 20; so we should be which category it will fall? It should be in must be category ok; because must be should be given priority as compared to performance. I am going a one level down out of this. So, in this case I will not go to one level up, I will go to the one level down over here.

So, must be category should be prioritized. So, functional questions and dysfunctional questions, positive questions or negative questions in the sample survey will provide me enough information to and using Kano tables, I can\just figure out in which category it falls; whether it is positive category, or if there is negative category.

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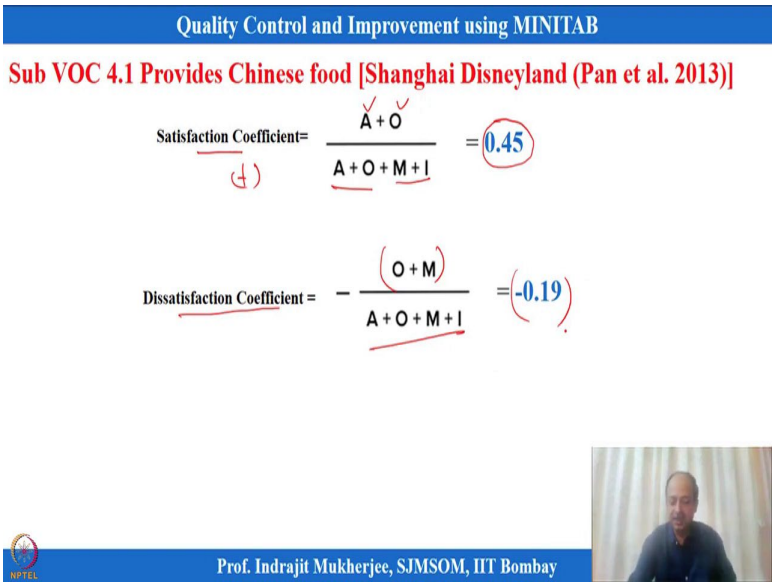

Whenever I have done this, whenever I have done this; then we can also calculate a satisfaction coefficient and dissatisfaction coefficient over here. So, what was mentioned in this article is that; so satisfaction coefficient can be calculated and that considers attractive and one dimensional category for a sub voice of the or items over here, we can understand attractive category and one dimension category, then divide it by A plus O plus M plus I.

So, in this case, this will give me a satisfaction index or positive index over here, ok. So, how many people have mentioned out of; for that voice of the customer, how many have mentioned attractive features? So, if you go back to this providing Chinese food, attractive feature is 19 over here and then we have to sum up with one dimensional over here, so that is 9 over here. So, 19 plus 9 and then we have to divide by A plus O plus M plus I. So, this is the total matrix we have to sum up this one, so in this case.

So, 19 plus 9 divided by summation of 19 plus 9 plus 3 plus 31. So, that will give me a index which is about 0.45. So, there is the specific satisfaction coefficient for this dimension or for this specific sub voices basically, ok. So, it will go into sub voices. So, satisfaction coefficients; similarly we can calculate a dissatisfaction coefficient, that is given by O plus M divided by total summation of A plus O plus. So, this is coming out to be minus 0.19.

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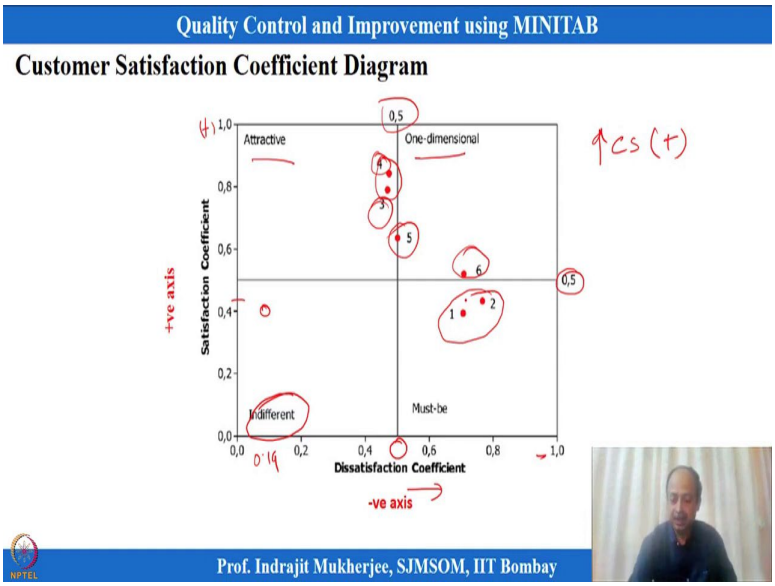

So, for every sub voices, we can have a satisfaction coefficient, dissatisfaction coefficient. So, then what we can do is that, we can just plot it into a two dimensional matrix. So, there will be a dissatisfaction coefficient. So, for a specific dimension, sub dimensions; we will have a dissatisfaction, this is negative one we can think of, this is positive one we can think of on these dimensions.

So, this is the quadrant and in that case; if it is indifferent, so your measurement should fall within. So, the measurements that we have taken over here, so in this case maybe minus 0.19 and plus 45 over here. So, it is falling somewhere; so this is the minus 0.19 and 0.45.

So, in this case 0.19 somewhere over here and this is 0.45; so somewhere over here, so dimension will fall over here. So, that is falling in the indifferent category over here. So, in this case the scale can be formed and this is the 50 percent we can think of 0.5 as the demarcation line over here.

So, and also here also we have a 0.5 demarcation and that is the, I am just segmenting this into 4 quadrants we can think of and then we can place it in one specific subways in what category it will fall, ok. All sub, all sub voices can be placed in this diagram over here; after the survey is completed, after the questionnaire was dysfunctional and we have categorized, then we can place this one.

So, in this case these are the voice of the customer let us say 4, 3 like this. So, this is falling in the attractive category, this is in the bottle line, this is also in the one dimensional; so we should place more emphasis in improving this one dimensional attractive feature, that improves customer satisfaction, basically that will improve customer satisfaction or positive, we will have positive impact.

So, we will place more emphasis on this type of category, how to improve those things and it should not fail basically. So, these are the features which improves the customer satisfaction; we should not be worried about much indifferent category, but must be category you should also be addressed, it should be there should not be any missing.

So, we should provide this must be category. So, we are more interested in must be, one dimensional, attractive feature; but we have also identified some reverse needs and we will try to avoid those needs in the design basically. So, that will create dissatisfaction, we do not want that. So, that is the way how we are differentiating using Kano models.

So, I am able to stratify this one. So, I am able to stratify this one, ok. So, that is all what we wanted to discuss in this session. So, what we have done is that, I will go back to the initial discussion. So, what we have told is that, we are talking about voice of the customer over here; voice of the customer means need of the customer over here.

So, for that we are doing surveys, we have identified different voices of the customers. So, one of the voices may be quickly, how quickly we can deliver. So, there that can be divided into sub voices, and these sub voices can have can be divided into; we can just give see some specifications to this and that will be called as CTQs and CTQs can have sub CTQs what we can see over here, this is sub CTQs.

So, if any CTQ fails; that means dissatisfaction will improve for that voice basically. So, we are converting into abstract form into specifications basically. So, if why I, why we are converting this one? Because then we can measure that one and then we can define defects and then we can have a chance of improvement.

So, we want to reduce the defects, that was the overall objective I told in quality. So, what is the goal of quality? So, improve yields, reduced effects. So, do it right the first time. So, those are the agendas of quality. So, I am just converting into voice of the customer which is in abstract form into CTQs and then try to maintain those CTQs and

try to improve the CTQs and that will improve the quality basically, and that will satisfy the customer.

Then what we have discussed is that, how to stratify the voice; which is important, which is not important. We are using Kano models for that; so there is a positive, it is divided into quadrants. So, in this case what we can see is that; there are features which are, Kano is saying that it can be stratified into different categories. So, one is must be category, one dimensional, attractive, indifferent, reversal category.

So, then how do we, how do I each of the voice how do I categorize? So, Kano mentioned that we have to do a survey for that; we have to place any of the sub voices into two categories. So, it can be functional or dysfunctional; positive questions, negative questions. So, we have seen one questions for a sub voices, which is providing Chinese food, so then that response is collected.

So, maybe N number of response are collected and each of the response can be, using Kano evaluation table we can categorize in which category it falls. So, one of the category is coming out to be indifferent over here for a specific response. So, then 63 responses what we have seen in this article was categorized into different categories based on the response what they have got, and each of the subcategories is now given a specific category.

So, that is let us say attractive features, must be features, indifferent features like this So, whenever I have this category; but you have to remember that whenever it is a conflict, I have to follow the lower level of that. So, if there is conflict between performance and must be or there is a not conflict; we can talk about there is a tie over here, so in that case, I have to go one level down. So, that is a process we will follow.

So, then there is a satisfaction coefficient calculation, dissatisfaction coefficient; that is placed into quadrants ok, based on the 63 response, so for a specific sub voices. Then we can see which is attractive, which is one dimensional using this coefficient diagram, customer satisfaction coefficient diagram.

And we have a negative axis, positive axis over here; then which category it falls. And based on which category it falls, we what we can do is that, we can immediately

emphasize on attractive category, one dimensional and must be category; we are not concerned much about indifferent category.

So, we will stop the session over here. So, what we will do is that, we will continue from here in the next session, ok. So, we will discuss more about; now translating the voice of the customer into CTQs, what is the quality function deployment, we will talk about quality function deployment over here. Thank you for listening. So, we will meet in session 3, we will meet in session 3.

Thank you.