Introduction to Aircraft Design
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Lecture – 8
Requirements Capture

Alright, let us look at an interesting aspect in aircraft conceptual design which is called as requirements capture. The word requirement capture basically means trying to understand what the customer wants.

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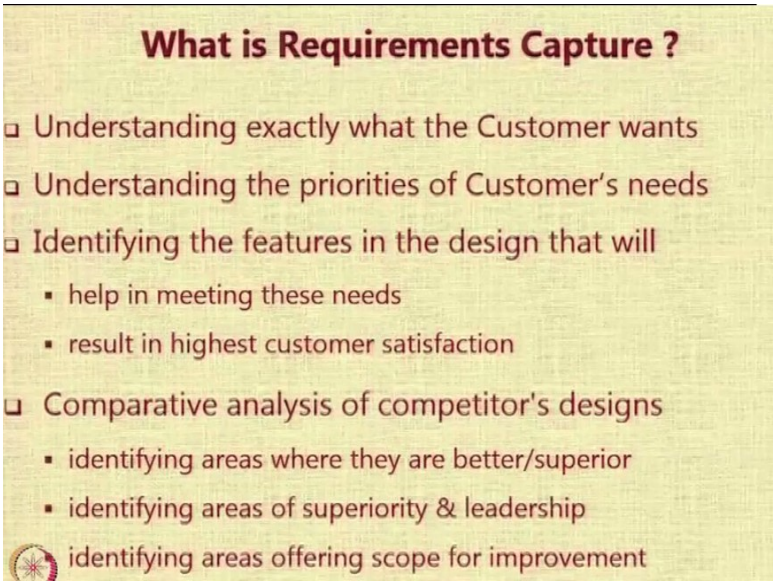

What is requirements capture. Requirements capture aims at understand exactly what the customer wants, not what you think the customer wants or even what the customer think the customer wants. As I mentioned, customers sometimes specify requirements without very deep thought, it is a reality.

I gave an example that they may come up with requirement purely as a summation of the best features of all existing aircraft of a particular type put together which may be almost impossible to meet or they may result in an aircraft that will become very unwieldy and you know non optimal. So we need to have a dialogue with the customer in which we try to understand what the requirements are and what they really mean.

And not only that, the customer will have many, many requirements. These requirements are sometimes called as the needs and these needs have to be prioritized. The customer may want

four features, but we need to know as a designer team which requirement is more important than the other and what is the relative importance of these requirements. We also need to identify the features in our design that will either help in meeting these needs in the first place.

And also the features that will result in the highest customer satisfaction, Sometimes, you may have to provide a feature in the aircraft which may not be something that the customer has explicitly wanted, but if you provide it without incurring cost, complexity or weight penalty, it may lead to customer delight or satisfaction and that will help you score over the competition when you offer your design in a competitive environment okay.

So we need to look at these features, we need to look at whether we should provide them or not. Also, there is an important activity of looking at what the competition is doing. So, we need to identify where our competition is better and superior than us and hence we need to look at can we address those areas. We need to also identify the areas in which we are superior to the competition so that we know where we stand and also we need to identify areas where we will be able to go for improvement.

There is enough scope improvement. This process has to be taught to the students in an interactive fashion. Merely stating these facts will not drive the message home and to do that there is an exercise which has to be done, and this exercise I will illustrate through an example in a separate clip where I will talk about how requirements capture can be done and we will do a small problem and that can then become a guideline for you.

So what I always advice the instructor in an aircraft design course is to conduct a mock requirements capture exercise. You play the role of a customer or what you can also do is create a team of students who will act as the customer and they will be the ones who will be interacting with the other teams who are the design team. You could be an observer and you might analyze that discussions, you may moderate that discussion.

Sometimes, the faculty member becomes a customer role player and does it, sometimes you create a team which does that job, but it is very important aspect because design teams have to sensitized how to do back and forth with the customer and how to extract from the customer's statements, from the customer's document what exactly is the customer really

wants. Thanks for your attention. We will now move to the next section.