**Usability Engineering**
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Module - 08
Lecture - 28
Competitive Analysis and Preparing for Design Briefing

Hello and welcome to module 8, lecture number 28. In this session, we are going to discuss about benchmarking. See until now in this module, we have discussed about various frameworks for competitive analysis; we discussed about why competitive analysis is important and how it plays a role in providing the design team with a key insight about the market forces, about the factors that are driving sales or adoption of our competitors and also about the various behavioural challenges that have been addressed by our competitors.

With this understanding, so let us assume that we have done our competitive analysis and now we are in a position, where we know our competitors exceedingly well; we have identified them, we know what role they are playing, what are the factors they are trying to influence, what their unique selling proposition is, which are the primary activities and features they have targeted, we know all these stories and all these facts.

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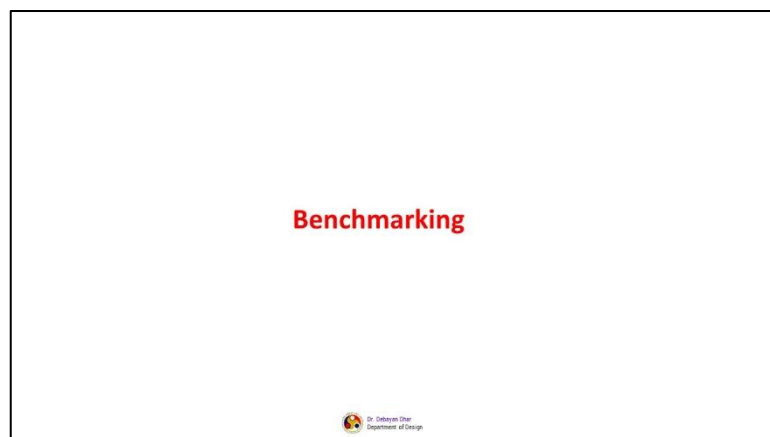
Now, having knowing all these important things, now it is time for the team to define a benchmark, right. Now, why a benchmark is necessary? Now, all these things and many more we are going to discuss in this session.

Before we start about how to conduct a benchmarking or what are the metrices that are being used to define a threshold value; let us first understand what benchmarking is really.

So, whenever we talk about benchmarking, remember we are essentially talking about benchmarking of user experience.

And why we are trying to benchmark user experience? Because we are going to measure the effect of the design intervention, the effect of design elements on the experiential state of our users; how these design elements activates or influences decision making process, how these activates or influence the mental processes, we are concerned about that, we want to understand that, we want to realise it is potential and therefore, we want to benchmark the user experience attributes or qualities.

Now, UX benchmarking you know refers to evaluating a product or service user experience by using metrics to gauge its relative performance against a meaningful standard. Please draw your attention here, to gauge its relative; the word relative performance against a meaningful standard. See it may it sound little philosophical, but the concept of reality, the concept of even existence is a, evaluation between two parameters and these parameters may be qualitative or it can be quantitative to some extent. If it is qualitative, we say it is good or bad.

Now, these qualitative parameters, whatever situation happens or unfolds in front of us; we evaluate these situations in terms of whether these situations bring in experiential state that are pleasurable to us or experiential states that are frustrating for us or that are negative for us.

And all these experiences comes into reality, because we have a frame of reference; I am just trying to use words, so that you understand why it is important frame of reference, we have discussed about that earlier also, right.

We are now talking about frame of reference; frame of reference based on which we evaluate a situation to be good or bad and we discuss that when we tried to discuss about conceptual and mental model of the products and gulf of execution. Now, this is a situation, which happens in real time every now and then; whenever you see a product, whenever you see a person, whenever you are confronted with a situation, you evaluate that situation in terms of a frame of reference. You have a frame of reference; we may not be aware or conscious about this evaluation, but it happens to us.

While you are watching this video, even then also it is happening. So, therefore, it is not something that is out of the blue that the concept of evaluation has come. So, benchmarking is important, because we want to bring in the same logic of evaluating this metrices for a particular frame of reference. And therefore, when I mark here, you say you can notice that; it is being said that the user experience is measured by using metrics to gauge its relative performance, relative means in relation to something against a meaningful standard.

Now, obviously we are not some, we are not focusing on something like Bureau of Indian Standards or something like that, International Standards or something like that; no, we are talking about a standard that the design team themselves decide that ok, this is what is the standard and this is what we need to have, we need to conceive something beyond this. Something that should be minimum; features that should be minimum available in the product, so that the product does not get rejected.

Now, innovation should happen beyond that and these features which you have identified as benchmark should be available, should be must; beyond that whatever is given is considered to be the innovation that you are going to make. And all these minimum concepts, minimum features are being derived from the concept of benchmarking, right.

So, UX benchmarking is the process of evaluating a product or service's user experience by using metrics to gauge its relative performance against a meaningful standard. And these metrics are usually collected using quantitative usability testing, analytics or surveys. So, how it is done, how is the process of benchmarking done? The process of

benchmarking is done using the concept of usability testing, analytics and surveys; because we are trying to gauge the frame of reference.

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Benchmarking allows us to assess our impact and improvement. It is helpful for reflecting all our process and design choices. See many a time this question may rise that, ok now we know the characteristics of our requirement, we have identified our requirement very distinctly and uniquely; we also know our competitors, we know what with whom we are competing, who are our real competitors in the market, what they are targeting we know that.

So, now we can start about designing the product, no, we already have this many information's; we know what we need to do, that means the requirement is clear, we now know with whom we are competing, so what they are offering to our to our users.

So, now, we can we start the process of conceptualization, that means designing? Wait, it is not so easy; it seems easy when we talk and discuss about all these things it might seem very easy, but it is not easy. Why it is not easy? Because the moment you start designing or conceptualising; what you will think, you will think about the persona, you will think about the requirement specifically related to that quality of your user type, is it not.

Now, it is not possible for you to remember all the products in the market and all those important features that must be embedded into the product, so that your product does not lose out in the competition; that the minimum basic features that are already there in all products is not nonexistent in your product.

It should not be such a scenario know and you would not like to have such a scenario. And it is therefore, important that at least the basic minimum features, which are available or which are there, which your competitors are providing to your customers should also be there in your product.

Now, say once you have after all these things you have you know what is the standard and what is the benchmark, you start conceptualising. Now, how do you know whether the concepts that you have thought about or you have conceived will actually work or not, whether it will impact or not?

So, benchmarking allows us to assess the impact and improvement of our designs; that means what we know what is functioning in the market, we know what are the values, we have a new design, we measure those again and we see the difference. It is helpful for reflecting our process and design choices.

Now, benchmarking's real power comes in when you show those results to stakeholders or clients. Remember you are working in a team, you are working for a group; you may work for your own team, own organisation be it a start-up or you can work for your client or stakeholders and you can demonstrate what benchmarking results would give a leverage to you is that, you can demonstrate the impact of your user experience work on a concrete unambiguous way. And you can even take that a step further by using those metrics to calculate return on investment.

See getting return on investment is of paramount interest for your stakeholder and client; they are only focused on that. So, these techniques would allow you to correctly gauge how much revenue as an improvement is getting generated, because of your improved design and then you can use that for calculating the return on investment. And then you can show this to your stakeholders and clients exactly how much more they are getting in return for what they have paid, that is why benchmarking is required.

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You also consider benchmarking study if you want to track the overall progress of a product or service, how your product is performing in the market. You want to compare your user experience against an earlier version, it is a comparative study to conduct a comparative study; a competitor or an industry standard or a benchmark or a stakeholders determine goal, you can compare them.

You want to demonstrate the value of UX efforts and your work; you in these situations you consider going for a benchmarking study.

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How benchmarking really works? Now, essentially benchmarking involves collecting quantitative data that describes the experience.

Now, for example, we might collect any of the following user experience metrics like average time to make a purchase, number of clicks on a submit button, success rate for an

application completion, average ease of use rating for creating an account, or even say eight week retention rate for an application, percentage of users continuing to use the app after eight weeks; these are very powerful very powerful metrices to be considered and these tells you a lot about the performance of your concept.

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Now, some of the examples, some of the examples that you can consider is this; you compare against an earlier version of the product or service. So, say for example, in 2019, the average time to make a purchase was 58 seconds; while after our recent redesign, the average time to make a purchase is now 43 seconds. So, it is 58 versus 43.

So, now, that is called comparing between the old and new; you know what was your benchmark and where you are currently, right. You compare against a competitor; say for example, our success rate for application completion is 86 percent, while our competitors is 62 percent. So, you had initially target of having 62 percent completion rates of tasks in your product, in your software products and you have achieved something to the extent of 86 percent.

Now, you know the amount of improvement that you have got and that is because you have you know the benchmark of where you had to, you had to look at. An industry standard, so the average ease of use rating for creating an account on our hotels website say for example, is 5.3 out of 7; while the average use of use rating ease of use rating for that task in a study of the top 6 hotel website was 6.5, see you know the industry standards. So, the average is 5.3; while if you consider the top 5 or 6 hotels, you would see it is 6.5, it is more than what the national average is, right.

A stakeholder determine goal, say for example our eight week retention rate is 8 percent, but we are aiming for at least 15 percent; that means how many loyal customers you are creating even post eight week of launching a product or adopting a service and in now it is 8 percent, you want to increase that to 15 percent.

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Benchmarking Process

What to Measure

Consider:
- What product will you focus on? (website, application, etc.)
- Which user group will you target?
- What tasks or features do you want to measure?

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Let us now discuss about what to measure? In the first stage what to measure, we must consider what product should we focus on. And this will rightly come from your requirement; you probably at this stage have some faint idea that your product is going to be a website or an application or an I o T based application or a tangible product, interactive product so on and so forth.

You will also have an idea about your target user group and what tasks or features do you want to measure. The first stage is to define these answers to these questions.

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Benchmarking Process

Tasks

Figure out the top tasks that users complete in your product.

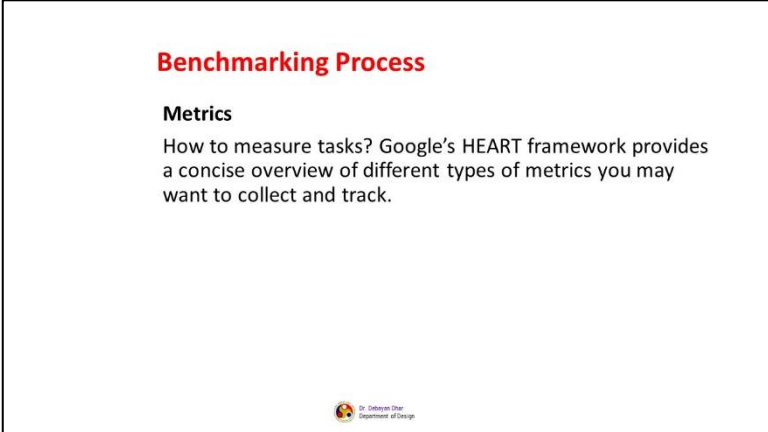| Product	Possible task
Smart-speaker app	Setting up a new smart speaker
Ecommerce website	Making a purchase with 1-click purchasing
Mobile-banking website	Updating contact information
B2B-agency website	Submitting a lead form
Mobile puzzle game	Solving one puzzle

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The second one is define tasks; figure out the top tasks that users complete in your product. For example, I have listed down some of the tasks here; if you see the product is a smart speaker application, the possible task can be setting up a new smart speaker.

In an ecommerce website, the possible task could be making a purchase with 1 click purchasing; mobile banking website, the possible task could be updating contact information. In a B 2 B agency website, the possible task could be submitting a lead form and in a mobile puzzle game, the possible task could be solving one puzzle.

So, what you see here is that, for the specific products what are the possible tasks that you want to focus on, then you define those tasks.

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After you define the task, the third most important is to define the metrices; you are now in a position to define how to measure the tasks. And in this case Google's HEART framework provides a concise overview of different types of metrices you may want to collect and track.

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Well this is the table that you see in the picture or the slide which had been adopted from the Google's HEART framework. What you see here in the left hand column of the table are the various metrices named happiness, engagement, adoption, retention, and task efficiency.

If you see the descriptions, happiness measure it measures user attitudes and perceptions and the example metrices are satisfaction rating, ease of use rating and net promoter score. While engagement, it is actually a measurement of the level of user involvement and it can be figured out from average time on task, feature usage, conversion rate by measuring these metrices.

Similarly, adoption, which means initial uptake of a product service or a feature can be measured from new accounts or visitors, amount of sales you have and conversion rate, these are the metrices.

Similarly, retention which means how existing users return and remain active with the product can be measured from the metrices like returning users, churn and renewal rate. Similarly, task effectiveness and efficiency which measures efficiency, effectiveness and errors can be measured using the metrices like error count, success rate and time on task.

Now, a quick thing here to understand that, although you may see majority of the metrices repeating in something or the other; it need to be investigated and understood from the context of what is being measured. Now, what do I mean by that? It means that for example, if you are measuring engagement what you do, you measure on average time on task; the same thing when you measure task efficiency, you measure the time on task.

Now, does the does both the measurement same or do we have the same number, meaning two different constructs? No, it is not the same; for example, for engagement if the average time on task is longer, it shows engagement, more engagement. But in case of task efficiency, if the time on task completion is less; it means the task is planned, the task planned is more effective and efficient. So, you see different metrices mean can be interpreted differently in both the conditions, it has to be understood. So, in your website, probably if somebody is completing a task.

Now, these for example this engagement, you can take this from take an example of the newspaper. If in the newspaper, this person is spending more time in reading, in going through all the pages; that means he is more engaged. So, in this case the average time on task should be longer; but in case of opening a bank account, if he is taking too long, that would be detrimental for your user, in that case it is not like something which is scanning, it is not information gathering. In this case he needs to complete the task faster and that would ensure that the task is more effective and efficiency is attained, right.

So, in this way you have to interpret those metrices in order to realise the effect of these metrices on the constructs that it measures.

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Now, which metrics to choose when? So, this is some an example that I am showing in the slide. For example, the product which is the smart speaker app; if the task is setting up a new smart speaker, you can take up the metrices like time on task success rate, single ease question, how easy to use the interface or the task was to complete you know.

And success rate means, whether the activity that the user have performed to complete the task was successful or he encountered some errors or he could not complete the task, that is the measurement of success rate.

Similarly, for E commerce website, making a purchase with 1 click purchasing; weekly sales with 1 click or 1 click feature adoption, this can be the metrices. For mobile banking website, updating contact information's, completion rate these are all analytics based metrices, errors on page, number of supports calls on the same tasks. B 2 B agency website, submitting a lead form, form submissions, abandonment rate very important metrics. Mobile puzzle game, solving one puzzle success rate and returning users.

These are some of the products and corresponding task and the corresponding metrices that you can choose to understand your benchmark or to define your benchmark the threshold value, so that you know how you can go ahead with the improvement; in what direction you should go in improving the product by design intervention and later that would act as a reference for you to define, to see whether the impact of your design has really achieved what objective you have started to go with.

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Now, regarding metrices, you select metrices that align to your organizations key performance indicators, that means KPIs. Now, for instance in a bank where customer support cost is a KPI, you may be able to show that a redesign contact form contributed to decreased support costs by tracking the number of support calls before and after divide design. This is something that we called design I comparing between design one and design II; old and the new, that is the frame of reference

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Now, deciding on how to measure these metrices ok; we know the metrices, now we must realise how do we measure these metrices. Now, there are three research methods that work well for user experience benchmarking and these are quantitative usability testing, analytics and survey data.

By quantitative usability testing, we mean participants perform top tasks in a system and researchers collect metrices, such as very important metrices; time on task, how much time the user takes to complete the tasks, success rate, and satisfaction. And that the measure, that measure the users performance on this tasks; these are now doing conducting these kind of studies or tests are called quantitative usability tests.

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The second one is analytics, these are all system usage data; such as abandonment rates, feature adoption, number of clicks, number of you know moving from one page to the

other, how many times he has moved from page 1 to page 2, from where he has left the page, and from where did he to where did he go these are all system usage data. You have some files being recorded in your system and these data can be collected using a web analytics as a tool and that data can be interpreted to realise these kind of metrices.

Third is surveys, so users answer questions to report their behaviour, background or opinions; task ease, satisfaction ratings, net promoter score; net promoter score means would you like to promote my product or refer my product to your friend or would you like your friend also to use the product, are you going to be vocal about the product and ask your friend or talk about the product to your friend and promote it, that is what we called as net promoter score.

Asking these questions, actually tells us a lot about the experiential state that the user has derived during the activity while he is performing with your product, right. So, task ease, satisfaction ratings, net promoter score are all metrices that are collected in surveys. So, these are the three ways that through which we measured the metrices; one is quantitative usability testing, then analytics, and then surveys.

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Now, with this we now come to the same table, where we discuss now how to measure. For example, the exam the one that we have discussed earlier, the smart speaker app, you know the task is setting up a new smart speaker and the metrices are time on task, success rate single ease question, the methodology is quantitative usability testing with survey.

So, these are all asked post you know the task is being completed. The second one is using the E commerce website making a one, making a purchase with 1 click purchasing and the

metrices are sales, adoption and net promoter score. We use both analytics to understand sales and adoption and then we also use survey to get this net promoter score, right.

The third one is the mobile banking website, which the task was updating contact information and the metrices that we are focusing on was completion rate errors on page and number of support calls on the same task all these things we can get through analytics as well as internal customer support data. For the B 2 B intern agency website, where the task was submitting a lead form; the focused metrics were form submissions and abandonment rate and both of these metrices can be collected by through analytics.

The fifth one is the mobile puzzle game; solving one puzzle, the focused metrics is average time spent on spent and retention and both can be classified from or extracted from analytics. So, these ways you know based on the product and the task that you are selecting and also the nature of the metrices, you decide which type of methodology you are adopting.

That is how you ensure that you define your threshold, you define benchmark which can be useful for you to design a meaningful intervention that makes sense not only subjectively or theoretically, but quantitatively also post the introduction of your design feature you can quantitatively measure. The difference in sales in return on investment that your new feature has brought in from the benchmark or threshold value that you have decided.

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So, you need to establish that is what we have been discussing about the need to establish the baseline metrics. You need to define your competitor, you need to define the main

feature, main task feature, the metrices and the values; based on which you are going to design for an improvement.

So, for example, say if your product is a smart speaker app and you could benchmark the experience of setting up your product versus setting up a competing product. And to do so, you will likely have to collect data on your product and on competitors product; so the prior steps will have to take that into account.

Now, having said that, you could not use analytics as your methodology, since you would not have access to your competitors analytics. So, if it cannot have an access to web analytics, the rest of the methodologies which is the quantitative usability testing and survey can be used as a way to define those metrices, collect those metrices and define the baseline metrices for benchmarking process.

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In industry benchmark, you have access to external statistics pertaining to your field. For example, if you are a hotel, you may want to compare your net promoter score to the average net promoter score for this industry, so industry standard is there, you can go ahead with that.

The stakeholder can also give you predetermined goal; that ok for instance, your stakeholders say that they want the average time to submit a form to be under 3 minutes, know that is the threshold that your stakeholder has given. So, you may want to compare your current performance to that threshold.

So, with this we now come to the end of defining the baseline metrices and to see how well we can judge our design intervention based on what industry standard, stakeholder standard or reference or the completed reference we have with the market.

So, now having done all these things; for example, we completed user study, we completed competitive analysis, we come that is also what we also referred to as market study, we have done the benchmarking also. Now, we have insights from all these stages is it not; we have insights from all these stages and now with these insight, we know very clearly what is our opportunity area.

The next step that is required in the design process therefore, after having finished all these is what we call as coming up with a design brief. Many a time what happens in the in the industry, your stakeholder may directly give you a design brief; that means he already has defined the brief, you need to now conduct some user study or competitive, you can again do that and you can again redefine the brief later.

Or in case where no brief is given, you want to come up with a start-up; you start with conducting user studies openly, you want to focus on a task, you see your competitors define your competitors, see how what your competitors are doing, define a benchmark and then start to identify an opportunity area from the observations that you have done.

Both practices are ok, are or can be carried out in the design realm or the process and are being used as reference for the design brief.

Now, let us understand first what is a design brief? So, design brief is a document that provides a designer with a basic description of a design problem. So, here we are trying to understand something which is problematic; that means a current practice that needs improvement, ok. Now, why do I say that needs improvement? Because that is from our user study and requirements what we have understood, right.

So, a design brief usually contains a list of constraints and criteria of the problem that is what your design brief would contain. So, it is a document, obviously it has to be a document that can be shared across your team members and it defines the core details of your upcoming design project.

So, it includes it your goals, your scope, your strategy and it needs to define what you as a designer need to do and within what constraints. In many ways, it works like a road map or a blueprint, informing designed decisions and guiding the overall workflow of your project, from conception to completion.

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Design Brief

Purpose of a Design Brief

The purpose of a design brief is to provide with some key background and description of the design problem. It begins to frame a problem in such a way that designers can begin to explore the problem. A well-constructed design brief allows designers to have necessary details about the problem and the needs of the client without too much information to restrict the designer.

Core elements of the design brief are (a) end users' needs; (b) client objectives (criteria); and (c) identified constraints.

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Now, what is the purpose of a design brief? See the main purpose of design brief is to provide you with some key background and description of the design problem this is what we call as requirements.

Now, it begins to frame a problem in such a way that designers can begin to explore the problem. So, the room for exploration has to be embedded into the definition of the design brief, in the definition of the problem that would be there as a design brief. So, a well-constructed design brief allows designers to have necessary details about the problem and the needs of the client without too much information to restrict the designer.

See you must have a well-defined brief that allows you to become innovative, that allows you to explore during ideation, to explore during the stages of conceptualization and therefore, it should not be restrictive in a way that your exploration is hindered. So, core elements of the design brief are you know first defining end users' needs, then the client objectives, and then finally, the identified constraints.

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Let us understand what to include in a design brief. So, the projects overview section of your brief should provide a clear and concise description of your design project or the project that you would undertake. It should cover the, what and why behind your project; that means motivation about your project.

You can formulate this section by asking yourself or the client the following questions; like what are we building, what design problem are we trying to solve, what assets are expected at the completion of the project, these are all directional is not it, these are all directional, this provides you with the direction for the conceptualization stage.

And these are very important questions that should be noted while you formulate the design brief.

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Next is defining goals and objectives of the new design. See one of the most important steps in writing a design brief is aligning on what you as in your team or even your stakeholder or client want to achieve with the new design or the new design intervention that you want to do, right.

So, you make a distinction between goals and objectives. So, goals you know describe the overall purpose of the project, you need to define the goal; while objectives are concrete measures of success in reaching the goal, these are in small steps, ways through which you reach or attain the goal.

Some of the example is that for example, what would an ideal outcome look like for this project, are you redesigning an existing artifact, why is this the first time you are trying to tackle this design problem; these are some of the questions that would help you in defining the project, objectives and the goal.

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After defining the goal and objective, the next target is to define the target market or audience. Up till now with your insights from your user study, market study and benchmarking; you have a sufficient amount of idea about your target marketed audience. You are now in a position to define who is your ideal customer, what are their demographics, what are their habits, what are their goals; that means we are talking about characteristics from the persona, when and how will they be using your product.

After defining target market, a target audience, what we then decide is the budget and schedule; what are the budget constraints on this project and how flexible they are, because all your research, all your steps and your technics tools employment of this will depend on the amount of budget constraints that you have, what internal deadlines, deadlines are also important; does this project need to align with and what are the key milestones that the project has.

After defining this the last and most important part is explaining or defining the project variables; what do you or your client expect to receive at the end of the project, what file formats should work be supplied in, these are all mentioned, classified, documented, even agreement, when agreements are made these are all been explicitly mentioned and what sizes and resolutions are needed. These are the important structure or the characteristics that your design brief should hold.

Ideally if you ask me in just or in short how I define the design brief; I define it in this way that, it provides direction for the designed team, towards which plain or which direction for innovation the team should proceed, whether the focus should be on doing an intervention for the aesthetic approach or aesthetic part of the product or the functional part of the product or the humans factors part of the product or all three or any two.

So, your design brief should in fact classically define your requirement or the scenario in a way that you know what is the current state and where the issue exists and in which direction the innovation should evolve; plus with these constraints that we have discussed in target defining target audience, defining goals and objectives, defining budget and

schedule and project deliverance. This with this we come to the end of our this module, we would now move on to module 9.