Entrepreneurship
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Ideation and Prototyping Part 4

Hi friends, welcome to the NPTEL course on entrepreneurship. We have in the earlier sessions discussed a lot about ideation and prototyping, and I spoke a significant amount of time on how ideation is the fundamental building block of an entrepreneur enterprise. In this session we will discuss one particular aspect of ideation that aspect which brings us to certain conclusions within the ideation phase.

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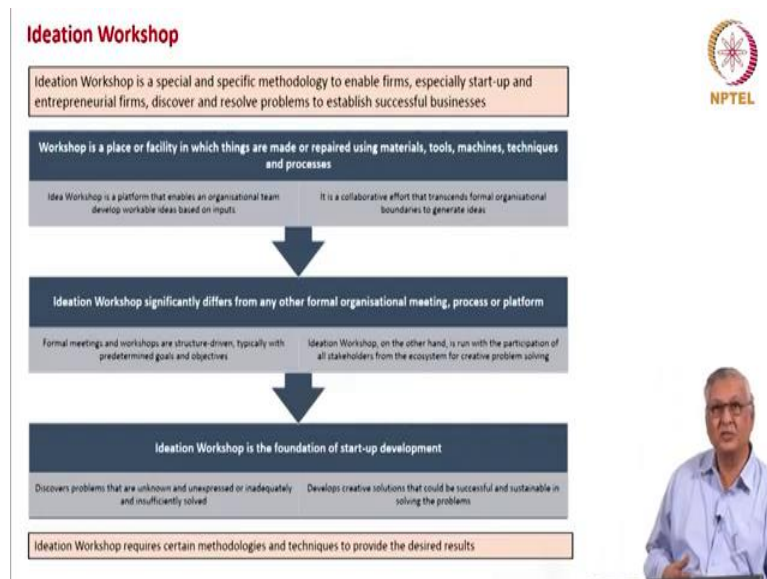
And that aspect is the ideation workshop. Before we talk about ideation workshop let us dwell a bit on the word workshop. Workshop as we all know is a place where certain inputs are worked up on and converted into a finished product. It is also a place probably where we repair certain things.

But in the context of the topic we are discussing, ideation workshop is a place where several inputs with reference to the ideating activity are brought into the forum and they are brainstorm and a final conclusion is brought out. So, ideation workshop is very unique to entrepreneurial firm's development because this is the area where several brains can get together and come up with a feasible and viable proposition for the entrepreneur firm.

Like any other workshop, ideation workshop is also a collaborative workshop. But that said, there are significant differences between an ideation workshop and any other organizational workshop that typically happens in a company. As we go through this presentation and the lecture, we will come across those differences very critically.

One of the fundamental differences is that the formal meetings are structure driven. When you have a meeting for understanding whether we should enter, let us say, a new region such as America. The goals are set, these discussions take place within the boundaries of a business strategy that has already been crafted and the participants that are also well known.

That way, the formal meetings that take place under the usual organizational canopy are always structure driven and also are process driven and they try to bring certain additional goals into the mainstream goals. On the other hand, Ideation Workshop is something which looks at creating a new aspect of business or even a new firm based on the identification of the problem in the marketplace and also delivery of a solution for the problem.

Therefore, ideation workshop is a kind of endeavour which tries to bring the abstract into reality, not work on the reality which is already there to bring it to our organizational scope. That is the difference. And ideation workshop therefore is the foundation of start-up development. It tries to discover problems that are unknown and tries to develop solutions for that.

And those solutions are expected to be creative, sustainable and successful. Therefore, Ideation Workshop has got certain aspirations that stretch beyond the goals that a formal workshop would have. And to be able to be successful in this endeavour, certain methodologies, certain infrastructural support factors are required.

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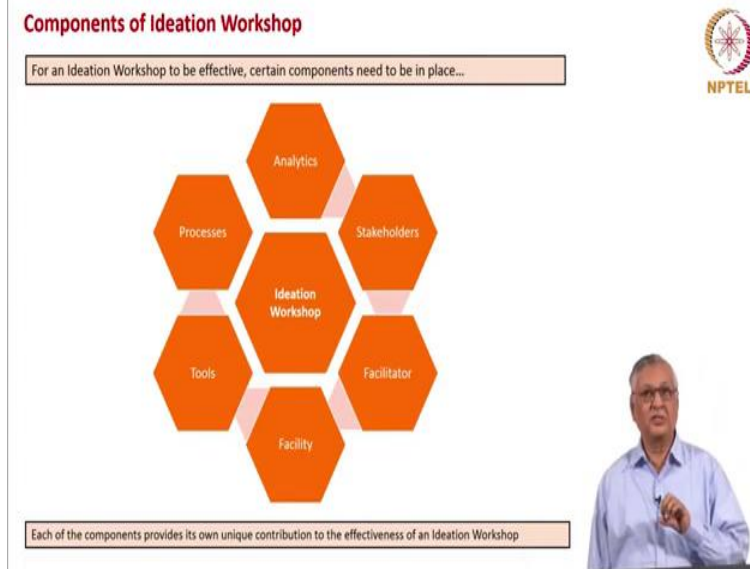
So, these are the typical components of an ideation workshop. It starts with the stakeholders, who are the right stakeholders to participate in an ideation workshop. Second, we require a facilitator. Every meeting will have a coordinator in an organisational sense, and in some cases there would not even be a coordinator. It could be a very participative meeting.

But in the case of an ideation workshop, we specifically require a facilitator who is pretty much well knowns in the ideation methodology. We also require a facility and that facility, as we will see in the next few slides, would have to be quite different from the lecture room or a conference room.

We also require certain tools and processes to govern how the ideation workshop needs to be done run. And finally, we will require certain analytics to capture whatever has been discussed and brought forth to a reasonable and viable conclusion.

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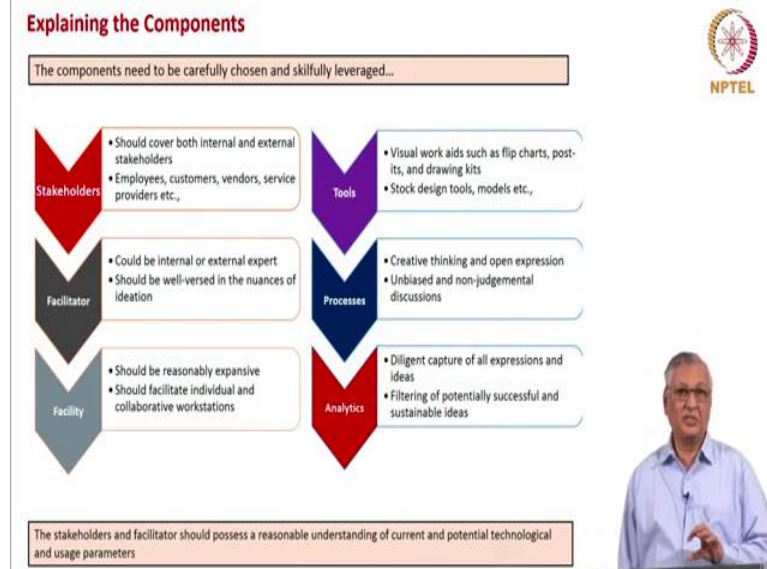
So, the components can be seen in terms of these explanatory factors as I have laid out here, who are the stakeholders? Here we are talking about stakeholders rather than employees. When we talk about an organisational meeting, we look at the departments and participants from the departments. Whereas, when we talk about an ideation workshop, we look at the concept of stakeholders.

Whoever has a stake in the idea which we are trying to develop or in the problem that we are trying to solve or even the problem which we do not even know. Therefore, the stakeholders belong to a broader ecosystem rather than to the organisation.

Second, the facilitator, the facilitator could be an internal expert or external expert, but he should be very well versed in the nuances of ideation. And what are the nuances of ideation can be covered later. And the facility should be reasonably expansive. When we look at an ideation workshop, we look at the possibility of people clustering around in different groups. People walking around, people looking out and trying to get new idea.

So, the facility should be reasonably expansive rather than be cloistered in a four walled situation. And in terms of tools, we would like to put our brain to work and therefore, several drawing board aids or visual aids are required. And in terms of processes, that is where the maximum emphasis would need to be. It has to be a very creative, non-judgmental and frank

processes that need to be adopted. And the emphasis would be on creative thinking and open expression.

And in terms of analytics we look at something beyond that analytics as we know. We look at capturing all the expressions, writing them down and then trying to analyse in a very reasonable and qualitative way and finally arriving at a filter of potentially successful and sustainable ideas.

And also to be successful in this venture, people would need to have a good business understanding and as importantly a good technical understanding, because we are trying to solve a problem majorly through technology, but in some cases through a new business model as well.

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So, we will dwell a little more on the stakeholder differences between formal and ideation workshops. Departments are usually represented in a formal workshop. And let us say we look at a business plan development. Obviously, all the departments which are connected with developing a business plan, providing inputs, they are all brought together.

And the department views get expressed in those meetings. I can do this. I cannot do this, this is the extent to which I can stretch myself. For example, certain capacity decisions are required, manufacturing department would say that is the capacity for which I have been built. I can probably get another 10 percent average but not beyond that.

So, it is about getting a departmental view and stretching little bit more collaboratively. Whereas in ideation workshop, while many stakeholders would be involved, stakeholders from the marketplace would be predominantly represented. And the views get generated spontaneously. There are no pre-bias that is there in the views and people can change their views. People can look at other people's views and modify their own way.

So, therefore, there is no departmental view or a formal party line that gets expressed in the ideation workshops. And as I said earlier in formal workshops. The goals are pretty much well set and the idea is to find out strategies and action plans by which those goals can be met. But in ideation workshops, apart from the goal that we had to discover a problem which will lay the base for a solution which in turn will lay the base for the entrepreneurial development.

There are no specific goals, it is not about getting a market share up or getting a revenue share up. That is not the goal in an ideation workshop. Therefore, strategies in a way are developed on the fly in an ideation workshop. And in a formal workshop the goals are linear. When we talk about goals like market share or profitability, we expect some kind of linearity. You provide more inputs, you will get a better output. So, the goals are linear and the metrics are very visible in terms of market share, scale, size, (scope) number of products, revenue, profitability, etcetera.

Whereas in the case of ideation workshop, the goals are very non-linear. It does not follow the principle of business that has been established so far, it could be actually very disruptive to the way the environment is organised and the typical goals are in terms of developing certain products and services which are novel and which could discover and solve certain problems.

In respect of a formal workshop. The goal is to merge the outcomes into the formal business plan, planning and execution process, whereas in the case of ideation workshops, the goal is to set up a whole new business and lay the foundation for starting the entrepreneurial business.

Informal workshops you can have iterations. You can say that yes, we have covered this region, this state, and let us look at other regions later. And it is that way the sum of the parts kind of situation in a formal workshop, whereas in a creative organizational ideation workshop, the goal is not really reached until the ideation phase is completed. Therefore, it is important to note these differences and accordingly mould our own ideation workshop. If we were to undertake one.

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Facilitator Differences Between Formal and Ideation Workshops

In Formal Workshops	In Ideation Workshops
• Usually a departmental leader or even a CXO • The sponsor of the workshop usually assumes the facilitator role	• Independent of formal leadership or allegiance • Selection based on prior experience in similar ideation roles
• Skilled in articulating company strategy and goals, with a quantitative focus • Focused on achieving workshop results that add to topline and/or bottom line	• Skilled in navigating the abstract and identifying the 'unknown unknowns' • Focused on bringing out the creative elements in each participant
• More of functional knowledge and attributes • Outreach and understanding limited to the company value chain	• More of empathetic and collaborative attributes • Outreach and understanding extends to the external ecosystem
• Unwilling to challenge the established systems, strategies and goals • Result-oriented leadership style	• Willing to explore the less travelled paths and accept the new • Inclusive and participative leadership style

Ideation Facilitators need not necessarily be the entrepreneurs themselves; but need to be creative and empathetic thinkers

Then how does the facilitator differ between the formal and informal or ideation workshops. In formal workshops, the facilitator would be the managing director or the CXO and in some cases the sponsoring department and the head of the sponsoring department, usually walks away with the role of the facilitator.

Whereas in ideation workshops even if we have the idea of setting up a process for discovering a new market need the facilitators need not necessarily be the marketing person. It could be somebody who understands how to ideate, how to interpret the knowns and unknowns. So, there is no allegiance factor which is involved in ideation workshop and the selection is purely based on the prior experience in those kinds of activities.

In a formal workshop the participants and particularly the facilitator is very well skilled in articulating the business strategy and bringing the participants onto the aligned vision strategy and execution mode, whereas in case of ideation, there is no such thing as a goal that is being pursued in the meeting. It is actually trying to understand the abstract and converting the abstract or the fuzzy strategy into a realistic product market evolution.

Therefore, the objective here is to promote a boundary less behaviour on the parts of participants which at times can go wary unless the facilitator has got a certain skill to bring together again the viewpoints to a common multiple. And in the case of formal workshop. The facilitator should

have very good functional knowledge. And if the dominant theme is let us say, entry into a new region you should have very dominant functional knowledge of products and markets. And but the outreaching also has to happen within the company value chain.

Whereas in respect of the ideation workshop facilitator, the attributes required are those of empathy and collaboration, and the outreach extends into the entire external ecosystem. For example, if you are trying to make a two wheeler out of a particular cycle, you need to understand how the two wheeler could be parked in a parking system that takes care of the cycle.

So, the empathy at the outreach extends far beyond the factory boundaries. You want to understand how this product is going to be treated in the parking stands or in the family house. So, the outreach has to be more expensive.

In respect of the formal workshops facilitator the demit or the idea is not to challenge the established the systems, structures, process, strategies and goals rather than work on them and make them better. Therefore, the leadership style accordingly is very much result-oriented.

In a respect of the ideation workshop facilitator, the leadership style would be very much inclusive, very much participative, trying to explore the paths which are less travelled by the organization or the team of people and trying to explore the unknown.

And we should also not have the feeling that the ideation workshops will have to be handled by only the founders or the entrepreneurs themselves, it is possible even for an employee who has got the entrepreneurial thinking to be facilitators in an ideation workshop.

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Facilitating Young Thinkers

Courtesy: DoMS, IIT Madras

So, this is a typical way in which we try to mould the young thinkers into newer ways of thinking, this is about a particular exercise called disruptive mania, where we try to look at how a large automobile company can look at itself in different modes to handle the oncoming electric vehicle and autonomous vehicle thing. So, there could be a facilitator but many participants.

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Facility for Ideation Workshop

Beyond a conference room; could even be the marketplace

Spacious for walkthroughs and walk-arounds; physical activities as well as brainstorming

Designed to hold flip charts, post-its, display charts and drawing boards

Well-designed for individualisation as well as clustering

Enhanced by visual design and AR/VR facilities

Supported with good hospitality

Then we will talk about the facility. What kind of facility do we need? That facility has to be beyond a conference room and it could even be the market place because one of the aspects of

the ideation workshop, as you would see in the next few slides is gemba walks. That is, you should understand what exactly is happening in the real place of business, which is not the company or the factory but the market place.

And the facility when we have the campus where we will work through this ideation workshop should be very spacious for walkthroughs walk-arounds, physical activities as well as brainstorming.

It is supposed to have obviously as any room would have four walls but ability to hold and flip charts, post-its, display charts and drawing boards. I have personally seen certain very good conference halls which I have been taken up for ideation but there is no way in which anything can be pasted on those walls. And you try to put a flip chart. It will fall down. So, the very purpose of doing the exercise gets defeated on a very simple and in a way silly matter. So, we have to take care of the appropriate facility that could be organized for this.

Then the facility should be designed in such a way that people could work individually. Let us say on work desk and also be clustered to have group thinking and group thoughts. And it would be great if the facility can be enhanced by visual design and augmented reality and virtual reality facilities. And without saying, of course, the facility should have good hospitality in terms of coffee breaks, lunch breaks and inputs for that.

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Individual Ideas Getting Clustered

Courtesy: DoMS, IIT Madras, University of Nottingham, IITM Research Park

So, this is one of the examples of how you would operate in a typical ideation workshop. You will have a larger question and then people will try to answer those questions. They post their answers on the wall and then you tried to re-cluster them and then try to develop some analytics out of that.

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What are the tools for ideation workshop? If you are trying to discover a new product, for example, you want to have a toothbrush which brushes all the 32 teeth simultaneously, then you would like to have all the samples of toothpaste, toothbrushes which are available in the marketplace for you to think. You could have also think about completely unrelated things.

How does a brush, brush a let us say, wall, how does it do in a floor? Because what you are trying to do is one surface getting brushed by other product. So, you need to have all relevant and sometimes not so relevant product samples. We should also have competitors' products which are available for seeing.

Similarly, people have to be at times inspired to say that yes, the problem may look crazy, but there have been instances of people who have made problems for completely unknown issues and then developed products thereof and made successful businesses. So, what we need also are inspirational videos which will help channel the enthusiasm and creativity of participants in the right lines.

And we need current and emerging technology platforms. We also require the models of proposed products if there are some things. And as the ideation workshop progresses and as the ideas take shape we need to provide proper digital shape to those concepts. And for that we may need computer models and I.T. specialists for enhanced play. And at the end of the whole exercise, we may even need industrial designers who will provide elegant and good form factor for the idea which we have.

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So, regarding the processes for ideation workshop, what are the processes involved? First of all, we need to have consumer research because market is the one which is providing sustenance for any of the products. So, consumers research wherein we apply. We identify the problem. Then we require technology forecasting, which has the solution platform.

Then we need gemba walks to identify how the products are performing and how this solution is expected to be performing. Then we need solutions sketching, which is the initial solution idea. It could be a rough drawing or a cardboard solution.

Then we look at pressure testing the solution. Therefore, participants should have the challenging process inbuilt into their psychology. Then we freeze the design solution and we get into an initial market manufacturing solution which would even talk about make or buy and we will finally come in to viability analysis and then lead to a product plan. And these processes are not

done just once. They go through a create, refine, repeat process iteratively until we get a solution for the problem.

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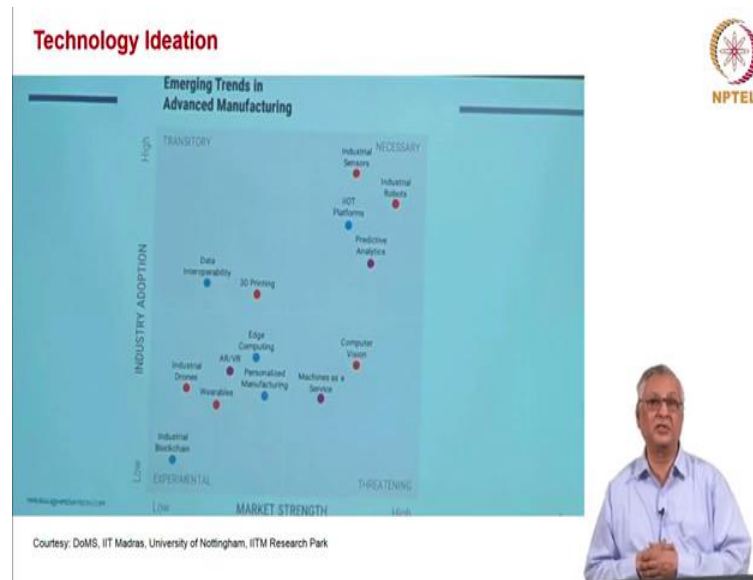
And when you talk about technology ideation again the idea would be to bring in all the kinds of technologies which are available. This is a snapshot of what we try to do for an advanced manufacturing workshop. So, if you want to digitize the factory, what kind of technologies would we need and what kind of technologies are available for use. So, the available technologies have been classified on a two dimensional metrics which included market strength on x-axis and industry adoption on the y-axis.

Based on that, you might like to choose and the participants may very well choose those things. Where this market strength is very high and adaptation is already very high. On the other hand, you may say that to be distinguished and unique. I will choose something which is not a fully adapted. But then I take a bet of that. It depends on how the participants brainstorm and come to a solution.

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Let us look at how these stakeholders for Electric Vehicle Ideation Workshop differ because I said that the stakeholders for a formal project and an informal or not informal really but creative ideation workshop are different. Let us take the example of getting an electric vehicle into the automobile portfolio.

So, if I simulate or imagine how this formal workshop would be constructed people would say that marketing department, the design department, the manufacturing department, whoever is involved in getting a product out of the factory from the design board to the final factory quality premises would be involved.

And these are all typically departmental participants. This is the way the conventional workshop is scoped. But if the same problem is that from an ideation workshop angle people would have consumer put first. What are you comfortable? Although in the conventional workshop you have the marketing guy representing the consumer point of view. The way it differs in the ideation workshop is that the consumer is directly brought into the picture either you go to the consumer and find out what is happening. The team of people, not just the market researcher of the company. The team of ideation goes there and tries to find out from the consumer how he feels about an electric vehicle.

Then similarly, you look at the dealer, then you look at the designer, you look at the battery maker, you look at the financier and you look at the business entrepreneur, not the business planner, the business entrepreneur. Is he willing to destroy his own IC engine automobile portfolio base and substitute with a newer electric vehicle base and is he being entrepreneur enough to take the decision in the company. So, the ideation stakeholders are a bit different from the departmental participants.

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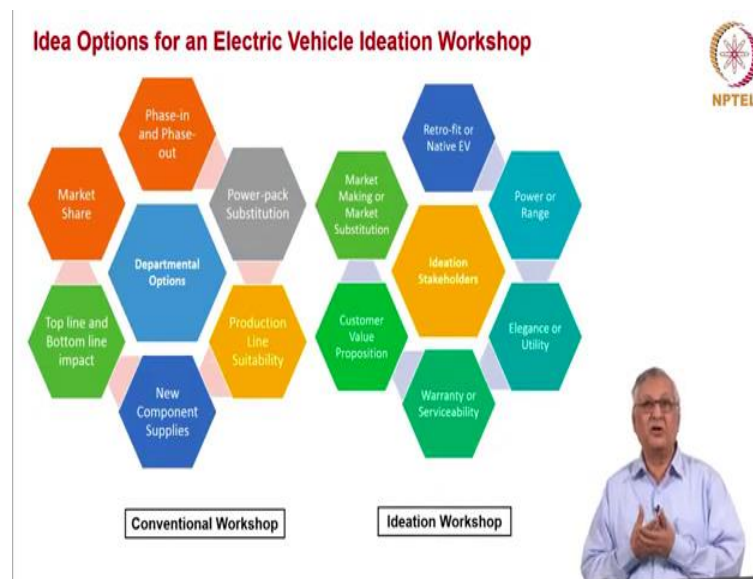
And then what are the kind of idea options those people would have on the left side we have the conventional workshop people. People will be kind of concerned with, how do I phase in these electric vehicles, how do I phase out. That is his idea. Therefore, my overall capacity should not be impacted. My overall industry volume should not be affected.

How do I substitute this IC engine by power pack, where do I show these power packs? Is my production line suitable for an assembly of electric vehicle? Where do I get my new component supplies? And what is going to be the top line and bottom line impact? At the end of it, what is going to be my market share. Am I going to be up or down? That is the kind of concern the conversional workshop people would have.

The ideation workshop people will have different types of approaches should I have a retro fit or native EV. Native electric vehicle means you are building the whole vehicle ground-up. You do not have to be thinking of putting a battery power pack where the IC engine is sitting.

You are thinking let us say, putting all the batteries on the chassis of the electric vehicle and then make the rest of the places available for some other use or even reduce the overall profile of the entire car. You can go for lighter vehicles.

Therefore, am I looking at retro fit vehicle or a native electric vehicle that is more fundamental discussion, and the consumer does he want power or does he want range? Am I looking at elegance or utility, or we are looking at warrantee or serviceability and what is the final customer value proposition that I am providing?

And in the end, I am making a market or I am substituting a market. These are the approaches of ideation stakeholders. Here again, there is a significant difference, how a departmental meeting takes place and how an ideation workshop takes place.

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And to be very open about this, this ideation workshop concept can be used even for complex projects. Let us have an Boing or Airbus aircraft and it has got several parts being manufactured in different countries. How do I simplify this entire manufacturing processes and global

networking process? That could be even a problem that could be considered by an ideation workshop.

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Extending the analogy in what we had in terms of electric vehicle into a new drug formulation. Again, in a conventional workshop of a pharmaceutical company, these are the departments that are represented in a formal workshop. But if you look at an ideation workshop, you look at the patient, you look at the doctor, the medical rep who is actually selling the product to the doctors and the retailers, the pharmacy, the distributor and the medico marketer. So, the participants are different.

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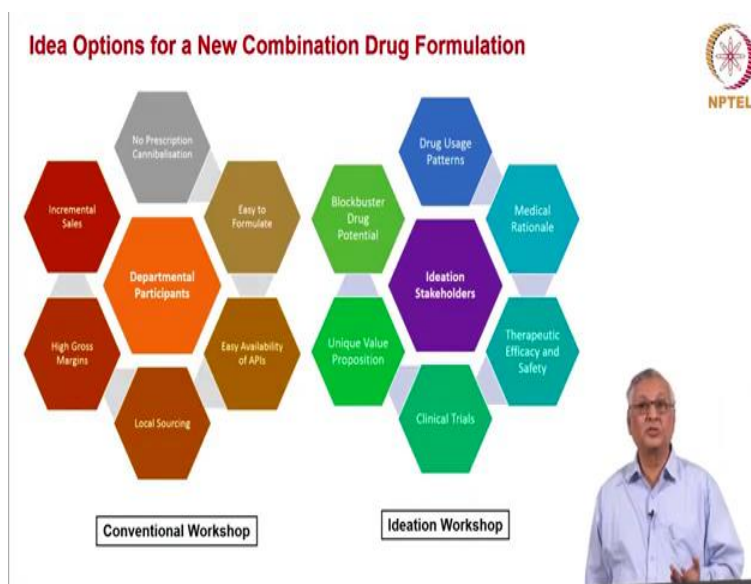
And the participants who are different also going to come back with different kinds of approaches. The conventional workshop says that there should not be any prescription cannibalisation. We are let say thinking about combining a, combining two kinds of products and come up with a novel prescription and those two basic products that are also being supplied by the company.

The overriding emphasis in a conventional discussion would be that 'yes' it is welcome to have this but this should be additional sales and it should not cannibalize my own prescription and it should be easy to formulate, easy availability of APIs. I should not be forced to create new, new constructions and new buildings for this, product should be locally sourced, not dependent China or some other country. Gross margins should be very high and incremental sale should be achieved.

So, it is a very kind of a very capitalistic view, if I may say so, of introducing a new product for healthcare. On the other hand, if you are looking at the ideation stakeholders, people would like to understand how are the drug usage patterns.

So, if two products are being used as medicines and one has to be taken half an hour before breakfast and you are taking another half an hour after breakfast, how do I combine these two to

have the same kind of impact? But at the same time are available in one single capsule or drug? So, how do the drug usage patterns be useful to develop a new formulation?

And if I am trying to develop this, is there a medical rationale for this? Am I making a tablet which is twice the size of the previous two tablets because I am trying to combine or I am bringing this in the form of a single tablet with the dual efficacy? So, what is a medical rationale?

And are all patients going to be requiring these two tablets or only certain class of patients requiring these two tablets? Therefore, is there an overall medical rationale to make this combination? What is going to be the therapeutic efficacy and safety?

And whereas the previous discussion would emphasize on easy entry of this formulation so that this additional cost, only additional margin, here you might say that, okay, if I am able to get some kind of intellectual property through clinical trials in this particular product, maybe I would have certain exclusivity. Therefore, there would be a unique value proposition.

And ultimately as opposed to market share or non-cannibalization or getting incremental sale. The emphasis on ideation would be in terms of creating a blockbuster product, on entrepreneur thinking, how to make this happen?.

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Ideation Workshop in Action

Courtesy: DoMS, IIT Madras, University of Nottingham, IITM Research Park

So, this is typically an example of an ideation workshop where you could see from the way the whole system is organised. People could have worked individually. We saw in another place that the people could cluster around a particular pillar and post their ideas and solutions.

And after all this analysis is done and when the results are being presented people are gathering around the main projection and trying to understand or simulate and also express themselves on the problems as well as the solutions.

So, this in a nutshell is the overall way in which an ideation workshop can be organised and how it could be very affective in the entrepreneur setting and this is very core building block for ideation and prototyping. Thank you so much.