

Innovation, Business Models and Entrepreneurship
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Lecture – 30
Insight and Entrepreneurship

Hello everyone. Going ahead with whatever we were discussing with respect to entrepreneurship, and design thinking especially, I would like to draw your attention towards role of insight in entrepreneurship. As we have tried to establish that entrepreneurship is associated with capitalizing upon opportunities, looking for opportunities, vis-a-vis ideas, concepts what new can be brought in, how it can be yielded towards the benefits of all the stakeholders including the entrepreneur.

So, role of insights is very important. There have been several studies, which have been done on insight, and insight development. One of the most important study or let us say interesting book, which I would like to refer here is seeing what others do not by Gary Klein. And that actually establishes the traits of insight and proposes, how insight can be develop.

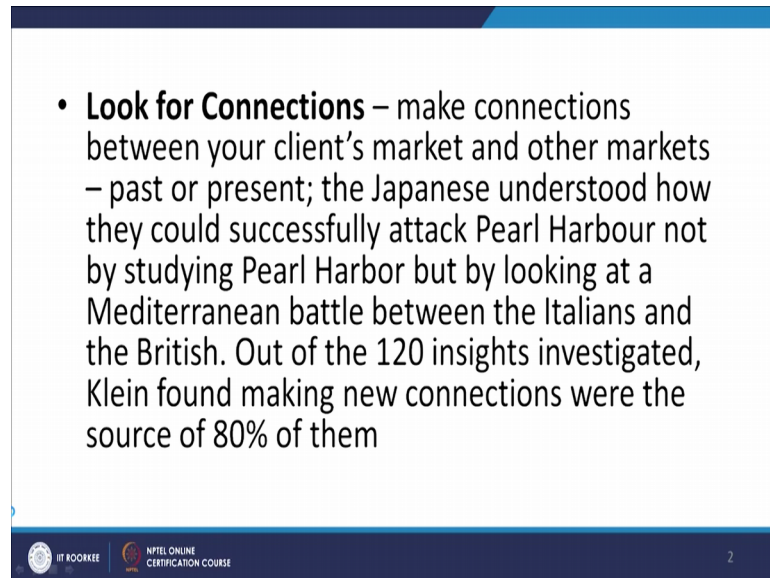
Taking clues from these kind of researchers, and as that book also refers, I would like to correlating aspects of insight and entrepreneurship with the elements of insight. You may say those are let us say 5 C's of as far as insight development goes. And though those can be termed as connections, contradictions, creative desperation, curiosity and one or two other elements of you know coincidences for example.

Now, that there are other elements, which support this aspect of insight development as well. But, let us see you know how it works actually. Let us try and unfold these elements one by one in relation to an entrepreneurial perspective, which is evident in so many efforts, which are being made around. So, you see the factor of insight development, which authors they have tried to explain is related to error minimization, and you know productivity enhancement.

So, error minimization does not enhances productivity that or performance as per you know several studies, which have been done. So, they say that insight development actually enhances productivity, and then. But, we are here looking towards insight in

terms of entrepreneurial development in entrepreneurship actually. So, let us let us try and think about opportunities vis-a-vis entrepreneurship, vis-a-vis insight.

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• **Look for Connections** – make connections between your client's market and other markets – past or present; the Japanese understood how they could successfully attack Pearl Harbour not by studying Pearl Harbor but by looking at a Mediterranean battle between the Italians and the British. Out of the 120 insights investigated, Klein found making new connections were the source of 80% of them

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There are several aspects of let us say, you know connections, which insight development says that we should look for you know as this slide says or this text says that look for connections. Make connections between the client's, markets and other markets past or present.

There are several examples, which are given by author in this book, and other authors as well in several papers, wherein you know how connections work. Our brain is attuned with a practice of connecting things, when we talk about correlating things, and developing connections between incidents or let us say whatever is going on around us.

So, we have to look for connections, we have to we have to look for clues, which are connected by things. For example, there is a political change, which is happening, which may definitely affect some other things, so that is very apparent kind of a thing, which goes on around us.

But, then there are you know scientific changes, which are going on, which cannot be observed. So directly, which have to be learned about, there are some economic changes, there are some you know other kinds of changes, which are going on around us, which

we have to find out, and we have to look for connectivity between the changes, and what can be derived out of these kind of changes.

So, there are there are several aspects, which we can dwell upon there are changes in technology, which can develop a higher yield in agriculture for example. For example, it was an interesting lecture, which I was attending on additive printing or you know 3-D printing popularly called as you know 3-D and 4-D printing. Wherein shape memory alloys are being referred to and those kind of things are working upon are worked upon.

So, the now that that gives us an interesting impetus at so many things, which were produced in a different manner earlier are produced differently with the help of 3-D printing nowadays. So, the presenter suggested so many things, and Google is full of what 3-D printing is doing nowadays, and how this technology is getting matured enough to support so many manufacturing or production efforts, or so many small devices are easily being manufactured. For example, hearing aids or devices are now being manufactured through 3-D printing, and so many other things are being done.

So, the you see 3-D development of 3-D printing has given impetus to so many things in terms of application. This is one again apparent aspect of connecting things in with respect to entrepreneurship development. But, at the backside of this connection between incidents or let us say whatever we have observed, and what it may yield that brings in an apparent relationship between what we observe after the entrepreneurial effort has been made.

Similarly, we have an aspect of contradiction. Now, it is very interesting, when we talk of contradictions actually. And one would appreciate, whenever I ask my students that how many books you have read completely, while doing your courses. Generally, most of the time students they read objectively, you know they read portions of the books that does not mean that books are to be written in portions after, because students read that, because you do not know, which portions student would find useful for as far as pursuing his semester or let us say subjects go. But reading has reduced a lot.

Now, one has to progress in academics or in career through intense reading, and through elaborate of learning. And to contradiction here is that reading is getting reduced. And that is what contradictions, you know look for contradictions kind of things suggest that look for inconsistencies in behavior and beliefs. And the resultant is that there are so

many things, which are happening, and which you find that they should be like this. But, but on the other side, we find that actual situation suggests that they are not going the way, they are supposed to.

So, this is one example, wherein you know reading is getting reduced although the qualified people coming out of universities is, then their number is getting enhanced, this is a contradictory kind of factor. When I discuss these kind of things with publishers, I do not find satisfactory answers that why they are unable to project books as a mode of enhancing the capacity of a human being in longer term. They when they try to you know sell their books, they always say, that it is a very limited number, which they are looking for as far as you know their sales forecast course. So, they come and talk to professors, and they try to emphasize upon that this book should be used as you know to support the course and so on.

But, I wonder most of the times that they come, they project that book you know as an aid to the particular subject. But, they are unable to guide the professor that what this book can do for them. And moreover, they rely upon the teachers and professors to emphasize, and the utility of that particular book on the students. Now, there is a bigger question of how students would like that book, and how they would actually would like to use that book.

So, there is an there is a contradictory element in this whole story. Wherein, opportunity is also seemed, and there is other element that opportunity is also observed to be lost actually. So, this is how contradictions they work. So, there are several examples, which authors have explained to suggest the presence of contradictions in you know through different modes or different narrations kind of.

Then, there is an aspect of creative desperation. How you want to bring in results differently, how you want to enhance the resource utilization, how intelligently you are using the opportunity along with the resources, and how well you want to capitalize upon these kind of things.

We have seen lot many entrepreneurial ventures going on around us, and so many brilliant startup those have come, and so many mobile application based startup stores have come, so many you know computer based startups, or internet based startups, we have seen those have come, then there are so many restaurants, we have seen those are

those have come. And you know that is the resultant of creative desperation, which is which is again an imbibed characteristic of an entrepreneur. So, entrepreneur has it, but one has to recognize that methodically to bring in results [vocalized].

And similarly, there is a case of coincidence or let us say curiosity is associated with as far as dwelling upon insight for entrepreneurial usage co. Now, I would I would try to focus upon few examples, and try to analyze these things with the perspective of those examples, and this I might have referred one of these in earlier discussions as well. But let us see for example, Veenavaadini school, there is a school in a Singh Rowley, reason of Singh Rowley in central India.

Now, Mr. Virangath Sharma, he was working with Indian Army. And once he was visiting his village, wherein he found that alcoholism has increased, because people, most of the people are engaged in a producing local resource based alcohol or country liquor, and so many children are engaged in selling that country liquor.

So, it was you know very bad feeling, which came into his mind, because he was serving his country working with a wonderful organization that is Indian Defense Forces, and Indian Army. So, he actually felt that why he should not do something for these children. And he was going back to his unit, and as the story says that he was reading a magazine, wherein he read that doctor Rajendra Prasadji, the first President of India, he used to write simultaneously with both hands.

Now, that gave him an insight that can this be utilized as a mode to enhance attraction of children towards education, and can education and you know the zeal of gaining knowledge can be enhanced through this kind of a mode basically. So, few days later, he comes back to his village establishes, a small school called Veenavaadini school, and then he starts practicing himself to write with both hands. And then, he starts practicing writing two different texts with both hands.

Now, you write with both hands simultaneously, with one hand you are writing in Hindi, one hand you are writing in English. And then, progressing towards another stage of this you are writing two different types of texts that is in two different languages Hindi and English, and with one hand you are writing on some other subject, and with simultaneously with other hand you are writing on the other subject.

So, while practicing these kind of things, he started developing this zeal amongst the students as well, and because he was able to practice a bit; So, he could attract few students who also got attracted on you know writing this way. And then, slowly he started developing students, and students started gaining interest in getting knowledge, and its been almost 25 years, he has been running the school.

And he has produced quite a lot of students on this and he says that results are very satisfactory. Definitely these kind of efforts they require a lot of investment input also, because you see entrepreneurship is all related to bringing in opportunity to capitalize that with the perspective of economic gain, and then re-infusing money in that. I am not sure that why these kind of efforts could not be supported with lot of investment, which was which is required to support these kind of efforts.

But, but finally, when we realize you know that the resultant, which was supposed to come, it came student got attracted towards gaining education and knowledge. Same happened with husk power the Ganesh Pandey thought of using rice husk to generate electricity, and power. And they started using rice husk, which is a waste technically for using that in gasifiers, and then producing electricity, and they are doing a larger pit actually.

So, there are several other efforts, which are being made. There is a one effort called Jaldooth in Maharashtra. Wherein they realize that there is a an as we all acknowledged, you see recently we got to learn that South Africa cape town, people are short of drinking water also, and there is an advisory from the side of Government that they should not use water for anything else other than drinking. So, this is the kind of dearth, one is facing in different parts of this earth. And you see we have seen that rivers are depleting the quality of water of rivers are depleting and so on. And there are places, wherein water is being lost dramatically. So, you know there are several efforts.

Jaldooth realize that there is dearth of quality drinking water. And then, they started installing aaro systems of water purification systems on the small automotives or let us say three wheelers and so. And the energy of the moving energy of this auto, when it moves from one place to other, it actually you know generates enough power for this aaro system to work. And simultaneously, while they are moving towards from one place to the other, the water which they fill in these aaro systems gets purified, and by the time

they reach to the target audience or you know customer water is purified, and they sell this purified water at a very small price, and bringing excess to these people for clean drinking water.

So, it is a huge effort, which has been made and things are being done. So, again somewhere, connections, contradictions, creative desperation, coincidences, and these kind of curiosities, these kind of things are working here, Narayan Hrudayalaya for example. It is a huge laudable effort, and we all know about this Dr. Devi Shetty realize that cardiac patients are you know in are there in every nook and corner of this country. And many of them they cannot afford good a health support, so and because you know cardiac ailments require lot of money support as well if you have to come to the cities, and then you have to go to the costly hospitals and so on.

So, he tried to collate three things basically you know this long distance connectivity through technology. And insurance cover for poor people, and at the back of it, he had all the machinery to support these people for you know treating them, and putting all these three things in place. Narayan Hrudayalaya became a reality, and they have been serving people from every corner of this country at a very low price of having 60 to 100 rupees annual premium for their insurance cover, and they are being treated in that kind of a money. And that is a boon to several thousands and thousands of patients.

So, you see and for example, how digital diaries they came into being you know in a this is interestingly this was narrated to our audience, and our students at IIT, Roorkee by Mrs. Sam Pitroda, and through one of his virtual lectures from USA. He narrated that how he developed an algorithm for digital diaries. He said that he invited someone for dinner and he forgot, and once this person comes for dinner he did not know what to say.

So, he had to you know go for dinner once again, and then he realized that he a wrote that thing in his one of his diaries, or table diaries that someone is going to visit him this evening, and he forgot to open up that diary. So, he thought that why should not be there talking diary you know there should be a talking diary, which could tell him that someone is visiting, and he does not need to open up the table diary and so on.

So, he developed an algorithm, and in the meanwhile he was called to India to serve the country, and he came and for many years, when he stayed there, he forgot about what kind of algorithm he developed. And when once he went back to USA after a few years,

he realized that digital diaries are already a reality. And he slightly discussed this thing with the companies, which produce digital diaries. And the companies realized that that was an algorithm of Mr. Pitroda, and then they started passing on the benefits to him as well.

So, but again the point is that digital diaries came into being with this kind of a thought process. There is a brilliant university called Transdisciplinary university, in Karnataka, and they are working on associating traditional knowledge for modern usage in different walks of life, and they have for example, they have developed a water purification system made of copper, copper has properties, which can purify water. And this system has water purification capacity as good as any other modern system, and the cost price, which we were told, if I am not wrong is almost 600 rupees only. So, that is that is what they are working upon as far as this complete situation goes.

There is whole lot of an industry, which is working on you know recycling things. Very interesting lecture was going on recently on nuclear reactors, and nuclear power plants. And it was told there that you see there is another industry, which has to come up later on when we use nuclear reactors for producing power that after a particular stage, when the these reactors would get worn out. So, someone has to dispose of these reactors completely or let us say in parts.

But, again that that has to utilize a different kind of a technology, and that becomes a different kind of an entrepreneurial opportunity for so many people who are associated with this kind of high technology venture. So, recycling technologies is for example, utilizing plastic any sort of plastic in their plant in UK for converting that thing into oil, and then recycling that oil for again converting that into several you know plastic based material and so on.

There is another thing, you see in due course of time, so many things are parallely getting developed, and it is very interesting to learn that headphone based devices, there is for example, there was a report or I saw it somewhere, that why for consulting for example, they say that you know headphone based devices would reduce the usage of mobile phones in several terms, because you would be having a headphone, and that headphone would be having a functional capacity of doing almost everything through

internet connectivity you know taking calls and recognizing voices, and doing so many things.

For example, there is a device called pixel buds by Google, which is doing so many things on this, and there are several other headphone based devices. So, that is going to reduce the utilization of mobile phone for several purposes, I do not know if it would be utilized only for visual purposes, or someone else would something else would replace this as well. So, but again the parallel technological development, which definitely came in through some association with connections, contradictions, creative desperation, coincidences, or something that that brought in you know the utilization of these kind of things and so on.

And there are several other things, you know apart from plastic recycling, or let us say nuclear reactors, which I mentioned too. And if you recently there has been a research conducted on that how waste material, which is it comes out of after demolition of several buildings can be utilized or recycled for again for utilization of you know that that material in reconstruction, or let us say constructing new buildings.

And people have scientists have found out that this can be done through you know some technology, which they are they are developing now. The place where I am standing IIT, Roorkee here every day you hear about stories that you know several scientific inventions or you know applications are going on in several kinds of fields, where and you know people are developing devices or let us say applications from different kinds of things. And those, when you ask these brilliant people, scientists, and professors how do they do that, they say that you know somehow this insight came to them.

Now, this insight came to them means, that there was an element of as I as I have been repeatedly saying during this discussion is that some connections, contradictions, curiosity, coincidences, and you know creative desperation and so on. And that insight came up with you know an idea to them, and that idea was converted in laboratories or their fieldwork into something, and that finally, gets converted into products, and this is how the story goes.

So, there can be several other examples, which can support this argument. And, but the objective here is to understand that you know if we somehow methodically understand this correlation, then our thought process would be working in terms of developing

insights for ourselves, and building up entrepreneurial capacity in several kinds of fields. For example, if you visit a toy store, that is very interesting. You know recently I was visiting a toy store with one of my friends. And we were trying to purchase few things for his children. And suddenly I realized that so much of creativity is associated in building up toys for different age groups.

So, one has to imagine what kind of a thought process a child has in a particular kind of age bracket. And then, what kind of interests can be there, and then they are utilizing several types of technologies to develop beautiful toys, and creative toys. And I found that Indian entrepreneurs are working a lot in this field. And they are also manufacturing brilliant toys, which can be utilized for different purposes by children.

So, so you know there are there are technology based toys, there are video based toys, there are you know the spin based kind of creative toys, and so many. So, once you visit these kind of stores you realize that lot of creativity goes in as far as developing a toy, because every toy holds a capacity of being developed as an individual brand later on. So, that is where entrepreneurial perspective is associated with as far as insight development goes. Several other examples can be seen just keep looking for those.

Thank you.