IP Management and Technology Transfer
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Lecture - 21
Use of IP Analytics for Your IPM

A very warm welcome in 1st module of Week 5 of the course Intellectual Property Management and Technology Transfer and in this module, we will focus on Use of IP Analytics for a IP Management.

Now, in last four weeks actually what we have covered? That we have focused on first the basic concepts and understanding about intellectual property, intellectual property rights and intellectual property management and also, we have tried to understand what is intellectual property management system.

Then in next week we focused on where exactly IP management system or where exactly or how IP management is connected with a various processes in the organization like technology strategy, R and D strategy, business strategy and what are that interconnections are there. And, then we have focused on two models one is given by Sullivan and one is like out of our research that model is came up with a 15 major processes and 5 stages that we have focused.

Then the next is like we have focused on intellectual property policy actually and this is one important document we can say for the smooth administration of the intellectual property whatever the administration processes are there when we are talking about a intellectual property management system, we observed that there are 130 plus processes which are required for the complete we can say the management of a IP.

So, for that smooth handling of that IP management related processes, the guidelines or the policy document is very important and in one we completely we focused on that intellectual property policy and then we have also got idea little bit idea about a competitive intelligence.

Then we have also focused on IP audit framework by using that we are able to give or calculate the IPR score of a particular organization, it may be a startup, it may be a lab of any scientist or it may be a institute like a academic organization or it may be a research organization you can apply that framework to any of the setup and you can get the status or IPR score of that particular organization.

So, with this probably now we are very well aware now about that management related processes and how that system works and how that IP lifecycle goes from its inception or a from that idea generation stage up to the commercialization. So, pretty well we got the idea and in the fourth week we have focused on competitive intelligence where we have tried to understand how this IP analytics that is a today's topic.

That how it is used to check the competition in the market or how the performance of competitors is going on in that particular domain whatever you are interested in or you can go as a general observation. That how exactly the field that particular domain is now growing and probably what kind of a new technologies will come into the market.

So, that way you can keep watch by using it that IP analytics on the competitors that we have already seen in the earlier modules in one of the module in the week 4. Now, what we will do here we will try to understand this use of IP management that use of IP analytics for a correct it here, cut it here. I say it again. So, here we will see that how use of IP analytics will be done for the intellectual property management.

And, we will see case studies in this week that CRISPR case study or blockchain and energy related case study, so that actual application of how the landscape is created and the objective is that by using this you yourself can create a landscape related to your subject.

So that you will get the idea how exactly the domain of your interest is growing and what is the possible development further developments are there in your domain. And, probably if you are a research student this may help you to define your research problem and focus of your research can be navigated based on that particular analytics ok.

So, now here we go that ok, which are the areas or how exactly you can use this IP analytics. So, you can see here that there is a R and D and business strategy. It will be used to avoid a infringement and litigation. You can say that ok technology trends and white space mapping you can do by using IP management that IP analytics.

Then you can prevent the duplication, then creative thinking and problem solving, mergers and acquisition then you will say how mergers and acquisitions and IP analytics is related, we will see it in a few minutes; then technology transfer which is the most important and then the probably we are moving into the next week into the technology transfer.

So, we can focus on that particular point that how IP analytics will help to do the technology transfer, fine. So, now we will focus on the this particular analytics and before going into the

detail of that individual point let us see that what kind of a analytical whenever you do the analytics what kind of outcome will come.

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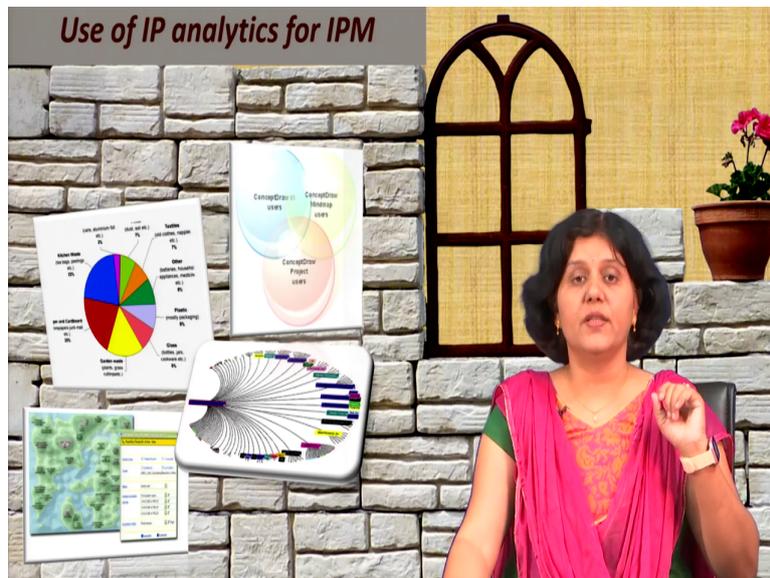
So, you can just see here that this is the outcome when you do the analytics actually. So, you can see the various kind of a graphical pictures we can say that can be machine generated because for IP analytics there are automated tools are available. So, you can use this tools and the machine can do all the analysis.

So, you can see the Orika map actually or a citation tree is there or a nice picture that bar diagram is there, Venn diagram is there. So, all this particular presentation yeah it is a very catchy presentation that will give us a in one view or we can say that once you see that graph once you see that particular picture. Probably you can get something about that particular domain that gives us the idea about that particular domain.

So, let us take a one example of a citation tree. So, what is the citation tree actually that suppose you take a one patent that one patent will have a forward citations and that will have a backward citations. So, what is the meaning of that? So, suppose that patent is cited back by. So, for example, this patent is related to particular domain and this is referred by further say 100 patents or 1000 patents. So, that is that might be the scenario.

So, what happen? This patent is referred by next 100 patents. So, this patent suppose filed in 2010 and now by 2020, 2000 now we are in 22. If you see the scenario probably this may have a references like a 1000 patents might have referred this that is called as a forward citation. And, now if I want to give the backward citation what is the meaning of that? That this patent when it is filed this patent referred say for example, some 10 patents or 5 patents or 4 patents whatever it may be fine. So, that is a backward citation and then there is a forward citation.

Now, you can see in one of the actually figure here that forward citation you can it is presented in that particular way that forward citation is there. So, please remember if forward citation is more, we have to understand that definitely this patent is of a value. Ok, means that that whatever the invention shared in that particular patent is very important and that is referred by the further patents actually fine.

So, this is one what we can say the citation tree is there. Then the Venn diagram, bar diagram then some kind of a pie charts and all that thing are there or a the demographic kind of arrangement is there. So, it is like a different ways of presentations are there and you can do that as per your wish actually sometimes machine is doing you can use the excel sheet manually you can create such kind of a presentations ok fine.
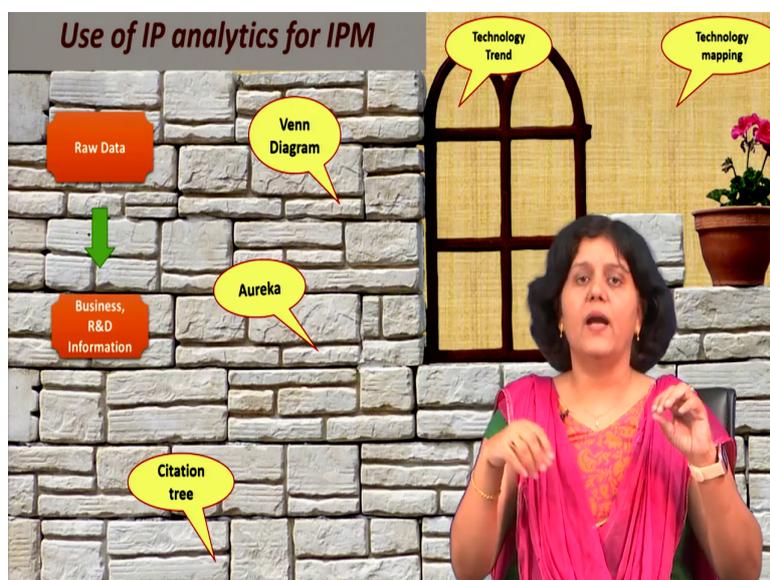
Now, let us move further and you can just say that there are say for example, this Venn diagram is there, then technology mapping is there or then you can say that there is a citation tree already we have talk about that particular thing. So, all these presentations of that particular IP analytics you can do and you can gauge the or you can think about that how this domain is further growing or what is a how it is grown actually.

So, historically also you can see past how that particular domain has like developed and probably how further development will be. So, that, you can decide on. So, what happens here in IP analytics just before going into that anybody help me to know how many patents are there patent documents are there now? Just think about how many patent documents are there now at this moment any gauge? You can Google it. Which is the database where you can get the information about a patent?

I will suggest that best according to me means this is my personal opinion is space net is a good database and number around 130 million patent documents are available. So, now you just imagine that is a raw data and when you give the keywords in that database which is holding 130 million patent documents from that raw data you are trying to retrieve the patents which are related to your domain.

And, now that data you are analyzing further to get the valued information from that particular data and that you will use for your business, your R and D, maybe whatever your if you are a student you are having a research problem you are doing a project work for your project, fantastic that we can say that this is a information is there in that patent database and we can use it effectively.

So, suppose how you can then say that how you can relate it to IP management actually. So, suppose your portfolio you are focused on particular domain and you have that particular patent in that particular domain whatever it may be you have filed that particular patent.

Now, you can just check around that particular patent what further development is going on ok by using IP analytics and then you can be alert if any competitor is coming very near to that particular you can say the domain or maybe you can get idea ok nobody is like coming in that area. So, you can say that ok this area is not still explored by other competitors. So, you can have such kind of a we can say the gauge or projections you can have or you can have some predictions about that particular domain.

So, let us move further and we will just focus on few examples whatever we have shared that first one is like a R and D and a business strategy, how we can define our R and D or business strategy based on this IP analytics. So, for example, now we know the innovation process and we know that idea generation, idea generation drivers that we have already dealt in the IPM model in a week 2 and suppose from there you decide now that which problem I have to select for my particular R and D project now.

So, how you gauge or how you take a decision about that particular thing. So, first important thing is like a market intelligence is there. So, your business strategy when we are talking about you are designing your objective is very clear, your domain is very specific.

Now, when you do this IP analytics related to that particular domain what is happening that you are getting the idea your the information is received by you related to that domain how

competitor is working, competitive intelligence or compare we have already seen in the earlier week. So, you know that by using IP analytics you get idea about a competitor you get idea about the that research which is going on in that particular domain.

So, now suppose idea inventory is there we have seen that in the week 2 that there is a idea inventory IP inventory unused IP inventory which is commercialized acquired IP inventory is there. So, now this idea inventory is there that is a huge number of ideas there are already in your idea inventory.

Now, you have done the IP analytics here now you try to match that ok this is the current scenario, this is my objective, this is my business strategy and now in next 2 years, next 3 years probably what will be the requirement of the consumer and just check it which is the idea there in your idea inventory.

And, then based on that all study you can choose the idea and plan your R and D according to that particular around that particular we can say that objective which you have chosen now. So, that way you can decide on that particular R and D.

Again, when you do such kind of analysis probably you get some insights related to R and D of others also and maybe that will give you idea that whether your business strategies correctly defined or not whether some minor changes are required in that particular thing probably all these decisions you can take based on this IP analytics.

Obviously, this is one of the parameter. There are so many other parameters are there when you are choosing the R and D project. It is not the only parameter that is IP analytics, there are n number of other parameters based on that company chooses the R and D. Now, suppose you are a PhD student means research scholar probably this is a very important for you to choose the problem this kind of analysis you can do actually.
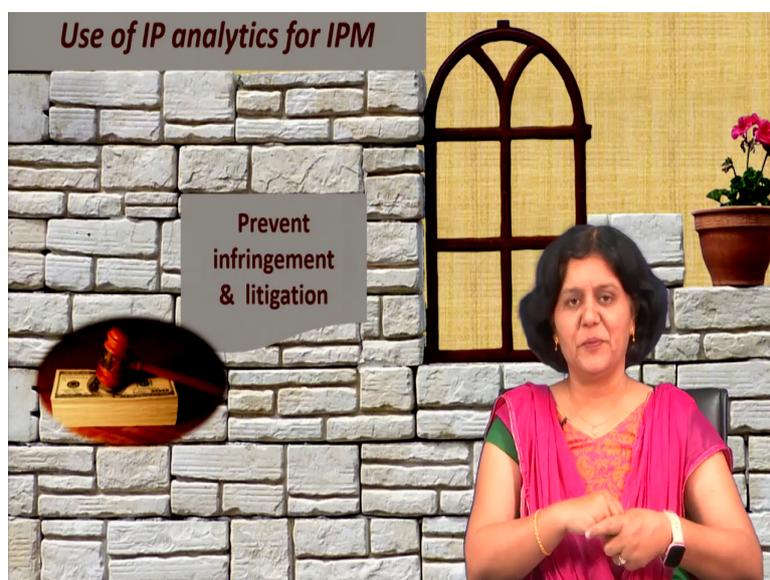
Let us move further and the next is like a prevent infringement and litigation. Now, this is something very unfair or unfortunate we can say not unfair unfortunate scenario. We should not enter into that infringement or litigation related things because IP related litigation is very costly, it is not a normal. It always goes in million dollars or a billion dollars or something like that.

So, if you see the Samsung call commits fighting or Apple and Samsung is like there is a kind of litigation going on. So, if you see such litigations actually what happen the amount involved, damages involved it is very high actually. So, when we do the IP analytics actually and it is obviously, all companies are using this IP analytics and they obviously, check that whether really the novelty aspect is taken care or not whether they are not infringing the rights of others and there is a one common term comes here that is a FTO Freedom to Operate.

So, what happen that generally any organization before starting this R and D project they will do the IP analytics. First to understand the particular domain in detail; second to understand the competitor and then they will only choose the project. So, now what happen, that you have got the idea about the means before starting the R and D you have taken the all-caution.

Now, after the that particular R and D project is started, time will be required to complete completion of that project and actual product development. So, suppose 3 years time gone in between that particular choosing of the R and D project and actual a product into the market. Now, whether company go directly immediately into the market now, they will do freedom to operate again.

So, what is the meaning of that? Ok, they have done all the research and all that things. Intermittently obviously, they are keeping watch by doing IP analytics whether their research is fine, they are not infringing and all that thing. So, intermittently the company is keeping watch and they are saying that they are not infringing anybody else right and all that thing. And, when the product is actually going to be launched at that time FTO is done that is freedom to operate and wherever launch is there.

So, freedom to operate is territory specific actually. So, suppose they are going to launch product in India. So, they will do the FTO for India; if they plan to open the that launch in the USA then they will do FTO in that particular country. So, depending on the market the FTO will be, means FTO is very territory specific and that FTO is performed.

Once report is very clear then only product is launched, that is the procedure so that we can avoid this infringement and litigation ok. So, this is how the IP analytics that is used to avoid the infringement and litigation means if it is take this much caution probability of infringing is we can say it is a very very very less ok. So, unnecessarily we shall we should not enter into the litigation.

So, we understood that ok, infringement and litigation for avoiding that we use IP analytics to choose the problem means R and D project selection and defining the business strategy we

are using the IP analytics. And, we have also seen that this IP analytics for competitive intelligence we have already seen in earlier module. Now, let us take a break here and we will watch this interesting video.

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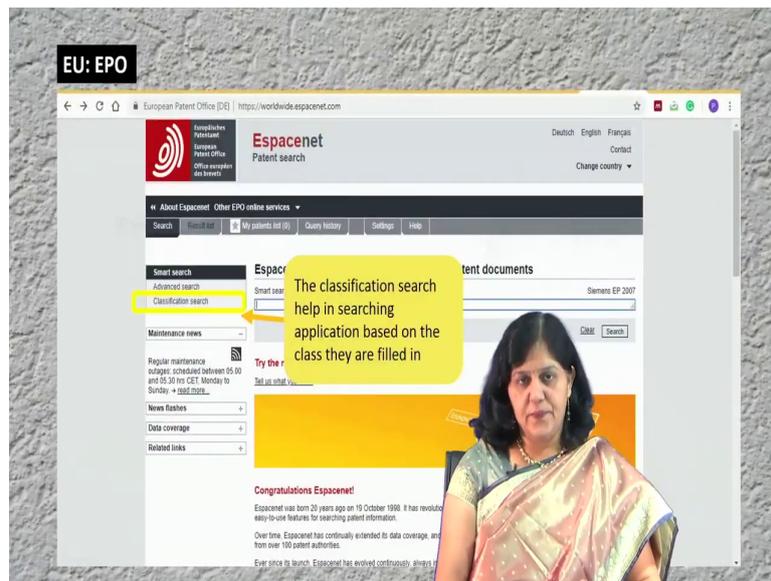
Now, let us check the next patent database Espacenet. So, you can type in browsing window Espacenet and go to this window which is shown here. Here you get three categories you can see the three words written here Smart search, Advanced search and a Classification search.
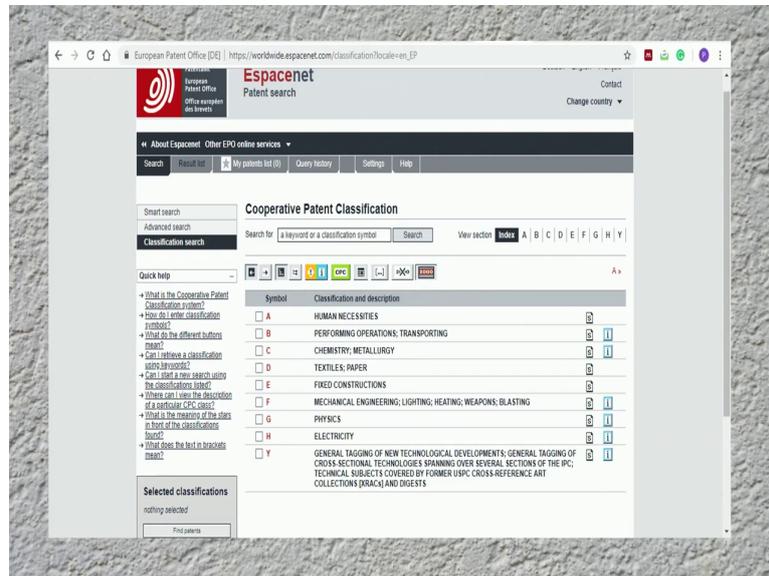
Now, just when you click on the Classification search you will see this window. Then the complete details of a CPC are shown here. Based on your interested domain you can further click on the section for example, if you are interested in chemistry, you just click on C and then you can check further details in this in the classification.

Now, again come back to the main window and click on the Advanced Search. Here you will get the Advanced Search window. Now, what exactly advanced search window shows? It shows the menus like or the titles like a first the title, then there is a title or abstract then publication number, then application number, then there is inventor, then assignee then IPC is there. So, you can just check that whatever the titles are given in that window.

Now, you can put the information against any of this field to retrieve the relevant patents. So, for example, if you put the keyword in a title or abstract, then your relevant patents a related

to that keyword will be retrieved from this search. Now, what you can do now? Do the next activity that use the same keywords which you have used for the when you are browsing the IP India site.

Put these keywords in a relevant field by clicking on the Advanced Search and then check the click on the Search and check what exactly you retrieve whether the patents which you have retrieved from IP India side and the patents which you will retrieve from Espace India Espacenet site are same or there is addition or there is a deletion you can check this, ok. So, I hope you have enjoyed the video.

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And, we will move further and this is something about the technology trend and white space mapping and what is the meaning of that actually. So, suppose I want to do the especially the consultancy firms actually, when they say something about oh there will be no means these

are the predictions of one of the company and I will just share with you that the prediction is like this.

That there will be no pollution or pollution will be reduced after maybe that prediction was some 3 years or 4 years back that the pollution will be reduced in next 10 years or there will not be kind of a necessity of firm that we are talking about a fossil fuel and all and the prediction is like that we will not require that fossil fuel and so, we need not to worry about that particular exertion of that particular resources and all that thing we need not to worry because we may have another technology to take care of that particular thing.

So, such predictions are there or there is a prediction like there may not be bank services banks may not be required and all that thing. So, these are the predictions actually. So, how these particular predictions are done? So, how these predictions are done actually? So, this is something related to we can say that if we know how technology is growing probably, we can get the idea about that further technology trend.

And, we can say that how this analytics is helping for then IP management when we are talking about a technology trend. So, suppose again we have to take focus on our IP portfolio and in that our IP portfolio means maybe you are in a telecommunication, maybe you are in a healthcare, maybe you are in a some agricultural related products whatever it may be. So, we have to focus on that particular domain only and we have to check that what probably will be the further growth in that particular domain fine?

So, once you get the idea ok, what will be the further growth in that particular domain, probably we will create IP around that particular area and we will try to protect that particular IP, so that we can have a sustainable growth we can say because once we know that what will be the further development probably we can navigate or we can change our R and D accordingly and we can focus, otherwise what happens?

I always give the example of Kodak and Polaroid actually that Kodak which was the leader in that particular industry right camera and all that. Polaroid come with a digital technology and then Kodak become completely means a they have to shut down we can say means they have

the competition is like because of that digital camera probably what happened that Kodak could not able to survive in the market.

So, if probably means we just gauge now if Kodak would have kept the watch on the technology development that yes, now that digital technology is coming up and if they could have changed their R and D at that time probably their IP would have been around that thing and probably today again we can we would have seen Sony Kodak and Polaroid are competing and probably we could have maybe some different kind of a products, right. So, this is the scenario actually.

So, if you could not get or kind of a keep watch on that technology trend whatever is there, probably the survival will be difficult. So, that is and it is very competitive and nowadays it is a very very competitive. So, that watching of that technology trend is very important.

Similarly, white space mapping; what is a white space mapping actually? So, what happen that when we do the landscape actually, we get some areas like ok these areas are not explored now if this kind of a scenario is there the thought can be given that why this is not explored this particular area and especially if it is like given thought and if you feel that ok this is something promising probably come out in that particular kind of a gap, we can focus on that particular area because competition is not there.

No patents are seen in that particular domain. So, probably companies are not focusing on that particular area and probably there is no competition now, at least now for that particular what we can say the technology. So, this is the use of IP analytics to gauge the further growth of technology and understanding where probably you will have a less competition.

Now, let us move further and then focus on a prevent duplication, but this is particularly happening in a I should I can say that thing because I have observed such examples that in academic institutes the research whatever is going on probably that research that literature review may be focused on only research paper, many times patents are not kind of there the students are not going to the related patents.

And, maybe they miss that ok this technology whatever they are focusing on probably already developed and still they focus their work on that particular thing and this is very bad very bad I am very responsibility using this term in terms actually. This is very bad for the institute that if you talk about the IP management of the institute, we can say that there is a require there is a scope to correct that particular thing.

So, we can avoid this prevent of application because we are spending our time spending our resources and because if you see the chemicals and all other if you especially the chemical means if you are using some resources which are costly probably that is not acceptable in this current scenario actually.

So, before starting the project, before starting the research, when you are spending your 3 years or 5 years of your life, very important years of your life you are spending there it is better to check if it is really new or whether some work is already done.

Otherwise, that is hampering on your own development as a student and academic institute or research organization who is developing that technology there also in loss means. Although, the that much intellectual capital is there it is not utilized efficiently and that is not good IP management ok. So, this is what the prevent the duplication.
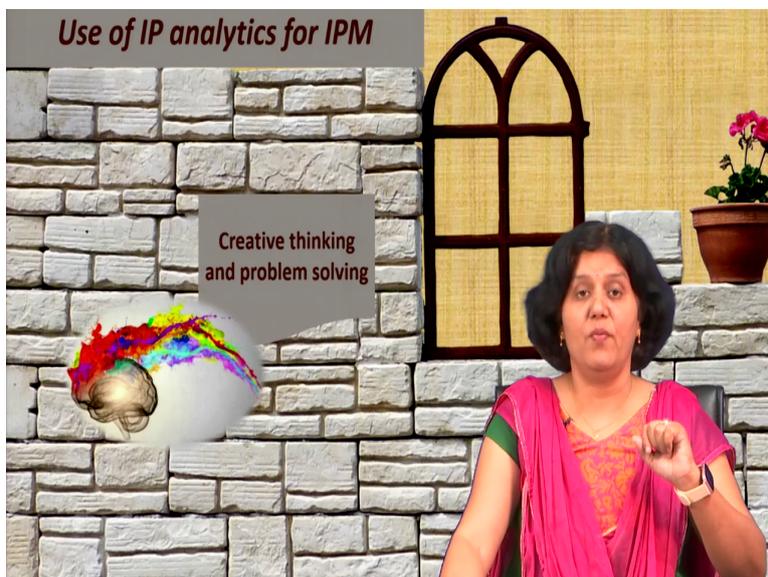
Now, move further and we can just focus on the creative thinking and a problems solving. Many a times what happens especially in academic institute when a student come for a PhD this is not a good thing actually, but they are not able to identify research problems or what is the research how what are the prominent issues in that particular domain and how I can means the they are that problem identification is a problem that is a problem ok.

So, here when you do the IP analytics that is you do that landscaping and all probably that will definitely not probably this helps us to give us the this particular ideas related to that particular domain actually. Because you are reading about that particular domain very specifically the issues in a patent are already shared [FL].

So, that that it is already given that ok this is the this is the issue we are handling this issue and in the claim probably they are giving some future directions also. So, if we see that very

carefully that helps us to know that particular creative thinking and we can say the problem solving this definitely help ok.

We will move further now and this merger acquisition now this is a very serious we can say event actually. Now, why I am saying it a serious event actually because, objectives of acquisitions are many times different mergers and acquisitions. I will not go into details of that particular thing here because it is another big topic.

But when we are talking about IP analytics how it is helping in that merger acquisition for efficient IP management I can give you simple example and then probably you can you can appreciate that particular thing and other things we could not cover here because of a positive of time actually.

So, suppose you are a startup you are working say Hapramp is another classic example actually suppose you are working in a some technology upcoming technology very promising technology is there, maybe we can say you are using some block chain and artificial intelligence for your some solving the problems related to maybe health sector maybe agriculture whatever it may be.

Now, you come up with the solution, you have file patent also. So, your portfolio is very promising ok. So, if this is the scenario now you are a student of that institute, you are a PhD student, probably you are still working on your problem maybe side by side you have decided to the generally this may happen actually very ideal situation ok. So, or you have already completed your research work and some patent is there and based on that one patent your startup is initiated.

You have started that thing and now you have built up your portfolio further. This is the scenario. This is very common scenario. Now, what happened in such a scenario if your technology whatever you are working on is very promising. Definitely what happen that somebody may come yeah it is not a ideal scenario I am giving you the real example actually that some big giants, some established organization you may attract the attention of that particular organization and that organization may do the funding for the particular startup that is this is a one possibility.

Another possibility is that they acquire your start-up ok. So, they will acquire your startup. So, there are various reasons actually, we will not go into details of that why they are acquiring and all that thing, but now what happened? Why they are acquiring now means the one of the reason your IP portfolio is there the other reasons we will not go into details now.

Now, what happened? For their IP management that big giant for their IP management, they have acquired that particular start-up or the particular we can say the it may be a small player in the market they have acquired that particular we can say the small player. So, what happened now the portfolio that will be now owned by that big giant, ok.

So, there are various reasons for that particular thing, but this is the example and I can give you Hapramp with the classic example and Mahindra has sponsored or we can say funded this Hapramp actually or there are like many start-ups which are like supported by a Jio or Reliance and all. So, this is why this is happening there are there is a reason actually ok.

So, I guess you can understand what I want to say that mergers and acquisitions simple example I have given, but there are big mergers and Google, Motorola and all that thing these are very classic examples of that we will not go into details of that, but this is one of the we can say that IP portfolio is the reason for that acquisition ok.

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Next, we can talk about a technology transfer that is the last point in our discussion now. Now, how IP analytics is helping in a technology transfer now what is the meaning of

technology transfer and what are the different ways of technology transfer we in the next week's actually we are focusing on that.

If I take a simple example of a technology transfer licensing is one of the we can say the example of a means one of the way by which we can transfer the technology. If we want focus, we just focus for understanding this use of IP analytics on the licensing I can just elaborate on that here. So, how this licensing IP analytics and technology transfer and IP management is related.

So, what is licensing that the owner of that particular technology licensor is given is giving his technology to the receiver actually who is now taking that technology, receiving that technology and it is expected when technology transfer is there, but he or she or that entity whatever is there they are going to further develop that particular technology fine, this is expected.

Now, how IP analytics is helping here? So, how to identify suppose you are a academic institute and you have a very good patent actually, but you do not know to whom it should be licensed, right. So, how you can identify the particular receiver or the person or a entity who are interested probably interested in your technology IP analytics help you.

So, how? So, what you have to do that your patent whatever domain is there related to that if you do the particular patent mapping or patent analysis if you do in that particular domain very narrow domain now because technology is very much defined so, what happened? You get the players in that particular domain who are the players who are working in that particular domain.

Now, once you get the idea about who is like having that interest or who is working in that particular domain probably you can approach because patent gives all bibliographic information like applicant inventors there all that details are there on that particular document and you can get whole details of address and everything actually on the site.

So, once you decided you can just find out that ok these are the players you suppose hundred patents are there you analyze that and you can identify that ok this is a player who is having say 20 patents in that particular domain or 30 patents in that particular domain if you get that particular information what will happen? You can say that yes, this particular organization is probably working in this domain probably they can be we can license our technology to them. So, you can approach to the approach that particular entity.

And, probably that that may be licensing may be or technology transfer may be successful, it is not that easy, but yes there is a probability. So, this is one example we will go in much detail when we are going through the technology transfer in details we are going into next week's actually. So, there we will go more into details about the that technology transfer licensing and all details actually ok, drafting that documents and how to do that particular negotiation we will try to cover all this in the next weeks ok.
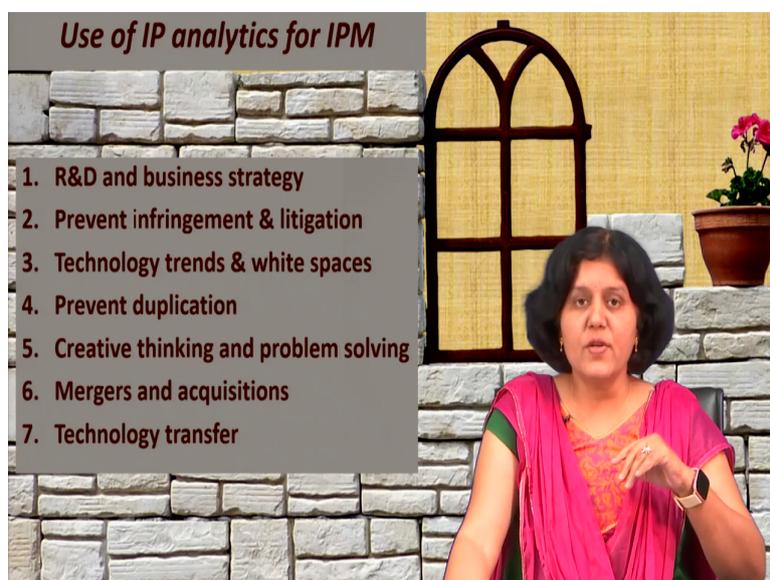
So, if I want to summarize, we have just focused on you can just say that this IP analytics these are the few indicative examples this is like a there are so many other usages of the IP analytics. So, we have seen that ok it is useful in R and D and business strategy, to avoid infringement and litigation, for technology trend analysis white space mapping it is useful.

Then for a duplication avoiding definitely it is useful, then for a problem solving or a creative thinking we can use IP analytics, mergers and acquisitions – you have seen the example also and for a technology transfer ok. So, this is all about the particular what we can say the applications of that IP analytics for the we can say the IP management ok.
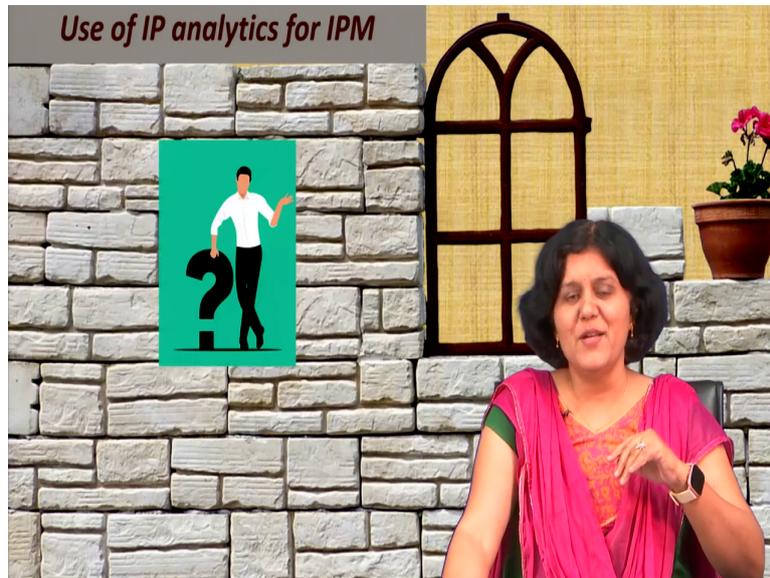
And, now yes, the quiz time. So, what I would like to know why I would like you to do is like that whatever domain you are working actually ok. Now, in that domain you try to say see that whether this IP analytics how you can relate that particular thing.

Just try to maybe you can just write down the domain in which you are working or maybe that IP analytics and guess means probably the you try to utilize this understanding about IP analytics in your domain actually it is a practical you know we can say that it is not a small this is some activity I am expecting you to do actually.

And, maybe for the quiz purpose you can just give me a definition of a white space mapping actually just to whether I am able to convey the concept or not let me know. So, just for my that means, that particular thing you can give the definition of white space mapping in the comment box, but the sincere request to you that you just see that whatever domain you are

working maybe as a start-up, as an entity, MSME, as a student, as a research scholar, as a faculty whatever area is there one area obviously, we are passionate about.

So, in that area just try to do this IP analytics and see that if you can develop some things which may be having a economic value ok just try out that particular thing. Or sometimes what may what might be happen like a already you have developed something, but protection means the further we can say the IP management related processes which may not be followed by you. So, check that if you could able to do that particular thing ok.

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So, with this we are coming to the end of this session. See you in the next session.

Thank you.