Patent Search For Engineers And Lawyers
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Lecture - 34
Analytical tools for Patent search and analysis (Contd.)

Welcome to the Analytical tools on Patents for search and analysis. We continue with the lecture in relation to understanding the different patents tools that are available for analysis. Today we will go through the tools of Octimine a lens which hosts the different analytical tools for patent and search analysis.

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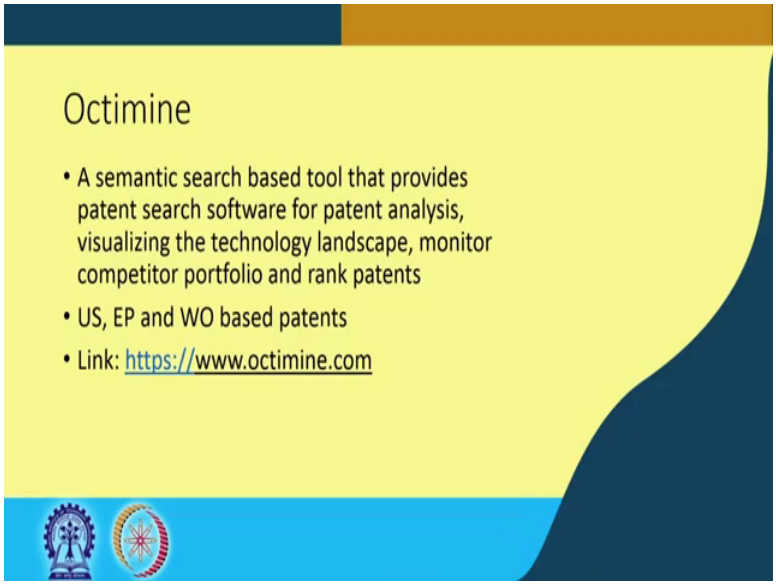

Octimine is a analytical tool for patents analysis, where one can use the semantic search in order to do patent analysis. This software tool also provides options in relation to looking at the technology landscape, monitoring the competitive portfolio and ranking of patents.

So, besides the qualitative information in relation to patents, this provides this additional features that are specific to this particular tool. If you go to the octimine link at ww octimine dot com, one can take the user id and then test this tool out.

The database that is supported by octimine essentially has patents from the US database the entire EP that is the filing at the European patent office and the PCT patterns. So, let us look at some of the functionalities of this particular tool.

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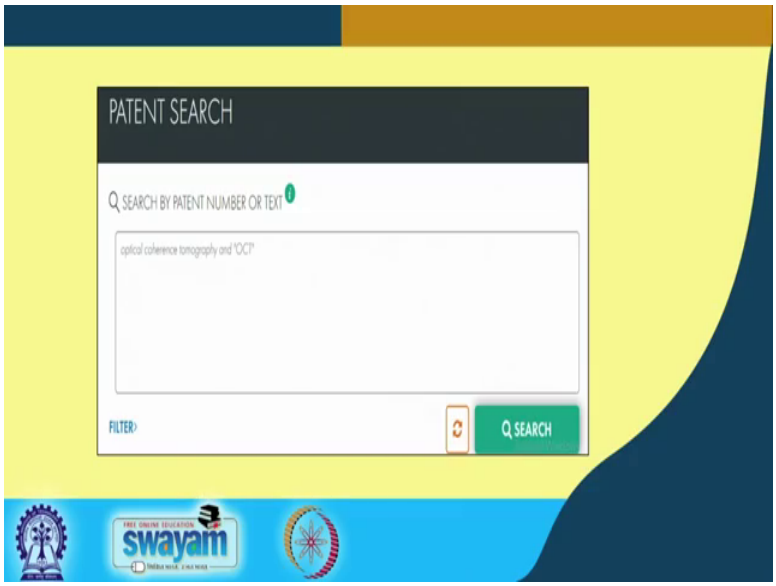

After you register for the particular tool, you get the basic window which is where you do the patent search either by the patent term or by a term or the number or the text.

So, in this case one of the areas that is provided here is OCT with the expanded form of which is Optical Coherence Tomography. This is a very important technique that has a lot of relevance in relation to medical applications. So, if we need to understand the growth of this particular technology and it is applications in relation to patents, one can utilize the search in this particular search window.

So, you can input the term and also give the abbreviated term OCT in quotes, to indicate that we want the database to search it as it is in this particular form.

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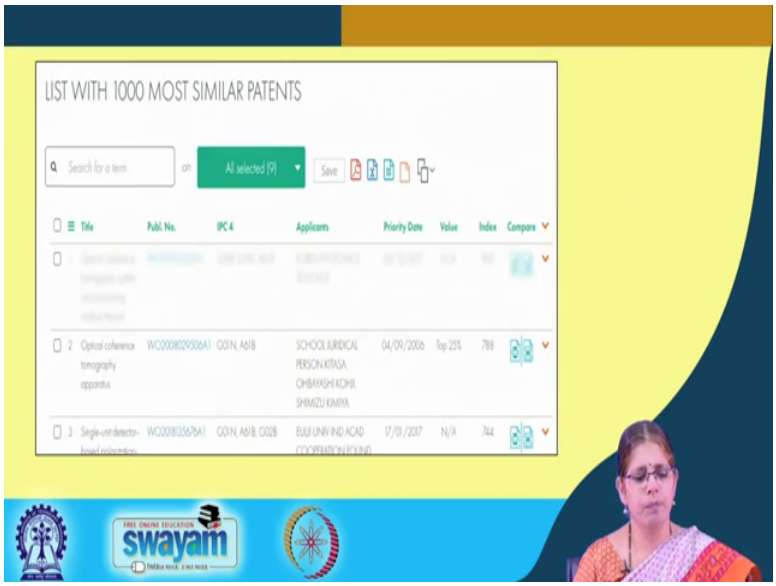

So, when you hit the search button, the results are displayed in the next window.

In this case you have the title, publication number, the IPC code, the applicants in relation to the patents, the priority date and the value. Here the value is about the value of the patent and then there is an index. There is also an opportunity to compare patents. So, which is provided as a part of this tool.

So, what one can do is download the entire patent data and save it in different options which is again provided in this particular window. So, depending on the type of patents that you want to analyze, you can in the left extreme you have the open box which can be utilized for sorting out and selecting the specific patterns for further analysis. So, the term resulted in some set of patents which can be analyzed further.

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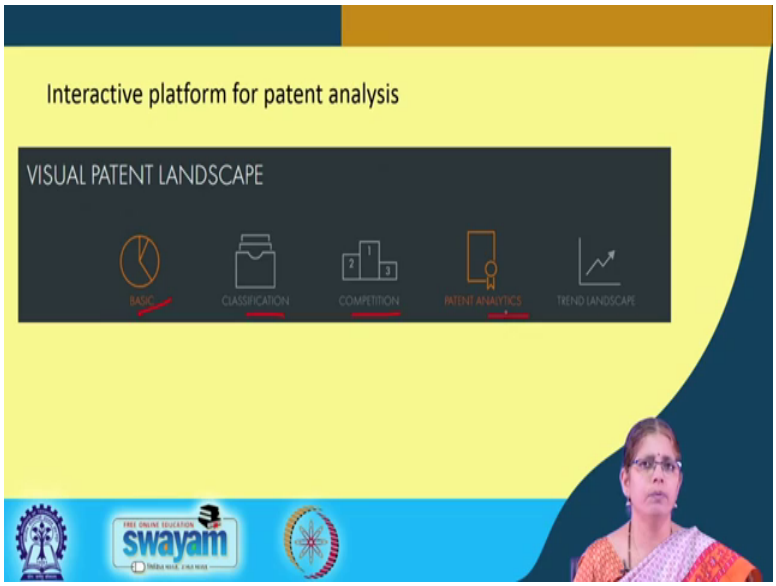

There is an interactive platform available for patent analysis as a part of this particular tool and that is the visual patent landscape. One can carry out basic or advanced analysis with respect to the patent search. So, the very first term that you can see here is basic.

So, in this tool you have this option of running the basic statistics in relation to the patent search, then one can actually carry out classification analysis, one can carry out the market from the point of view of competition and then there is also an option for patent analytics and also looking at trends.

So, by invoking each of these links, one can actually look at the spread of the data from the point of view of the figures or the facts that come out of the patent search.

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So, here you see in this particular case the top applicants in this particular area are listed. So, you have top applicants and what are the technological fields that are represented in relation to these patents is also provided in the adjacent figure. So, here you have different companies and the extent of patents is represented by the pie chart in this particular figure.

So, besides the top lab applicant information one can also get the top technology information. In the case of this particular tool the information is listed as per the areas of electrical engineering, mechanical engineering and instruments.

So, one can see the; what is the amount of patent information that exists in relation to each of these areas. In order to understand the specific aspect of the data one can actually do a mouse over; for instance on this aspect of top applicants we are doing a mouse over to understand in case of Samsung Electronics what is the patent strength.

Here it is represented by 4 patent families and represents 16 percent of the patent coverage. So, this is how you can do a mouse over in relation to all the other different applicants and understand what are the percentages of patents that each of them have.

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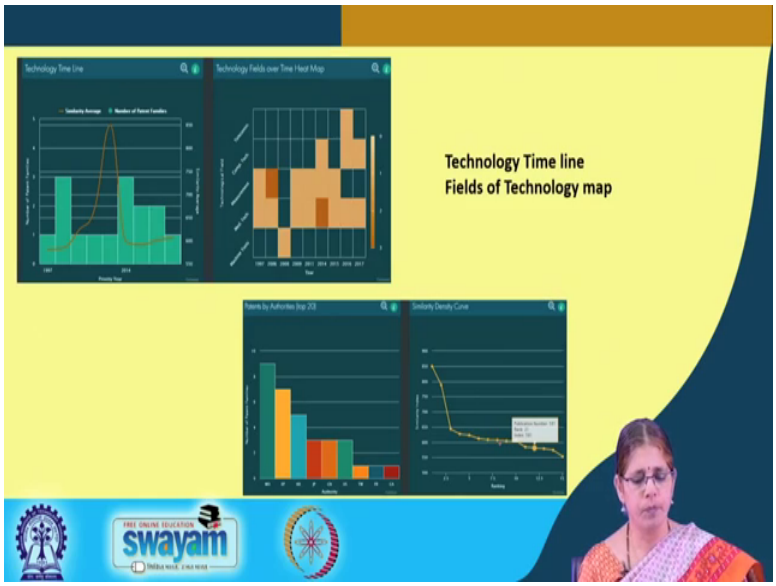

One of the important areas in relation to patent analytics is to follow the technology growth.

So, there are various ways each database caters to in terms of representation of the technology information. Either it is by providing simple statistics in terms of the general growth and sometimes one can also get in depth view into the technology growth. So, this is one representation of the technology map in the case of octimine.

So, utilizing octimine one can now look at the for this particular year and the number of patent families how is the growth in relation to the technology timeline and depending on the spurts of technology, one can actually understand which are the decades which represent greater growth in the technology and which are the decades which do not represent that much in relation to each other.

So, this is actually a time scale in which one can understand the relative growth of the technology during a period of time. Another important aspect besides the growth of technology period wise is also to understand sector wise. So, here in the adjacent map what is covered is the technology fields.

So, in this case it is called a technology field over time heat map, which again represents the strength of it. So, if you look at the heat map which is ranked off from 0 to 3 one can see how the growth is represented. So, on the x axis you have the time period

representing from 1997 to 2017 and then you have the different technology fields. In this case machine tools, medical technologies, you have measurement, computer technologies and telecom.

So, what portion of patents are represented in each of this sector is shown by this technology field map. So, this gives you a glance into what are the sectors which are represented and what are the sectors where there is abundance of patents. If you look at it from the year point of view, you can also find out in the same map what are the technologies which consistently there is growth.

So, this sort of visualization helps us capture all that particular data. Again if you are looking at it from the point of view of where are the most abundant filings, one can look at it we using the patents by authorities.

Here in this case the top 20 representation is being looked at. So, you have on the x axis the patent authority and on the y axis the number of patent families that are actually available with respect to the technology at the given patent office. Now as you can see in this particular graph the major applications are represented by PCT publications followed by greater number of filings at the European patent office and then closely followed by Korea Japan.

So, this is how one can see the trend with respect to the each patent office and filing in those particular offices. One can also look at what we call the similarity curve which actually provides the information in relation to the ranking of patents in a particular area. Again one can actually go for a mouse over to understand which of the number of publications and what is the ranking strength.

So, this is one form of what we call indexing of information in relation to patents. One must keep in mind the indexing system of any particular database. So, every database comes with it is own way of indexing patents. Though there are general rules with respect to indexing of patents they could be specific rules which could be useful to index patents by relatively ranking them as per certain factors.

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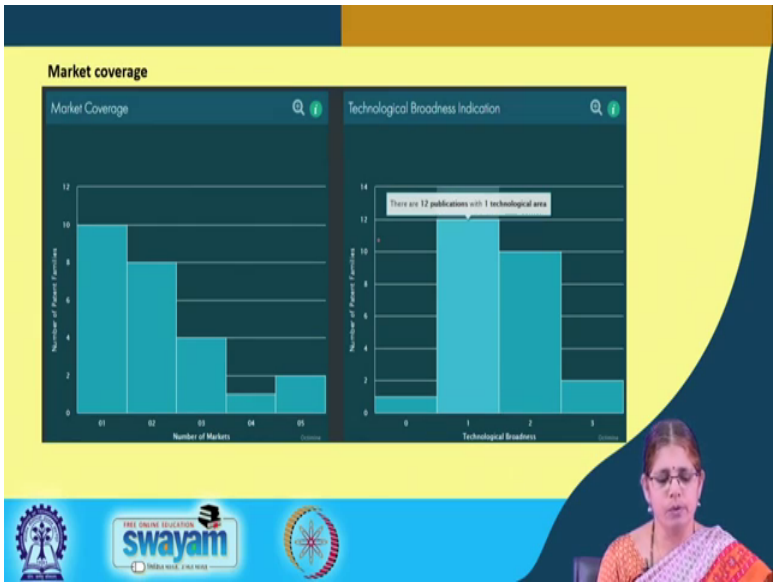

Today it has also become important to look at the competitive portfolio. Especially in some of the areas where there are large number of companies operating in a particular segment in a particular area of technology, it becomes imperative to look at the competitors patent portfolio. This forms part of what we call competitive intelligence.

So, it is not only become important to track one's own portfolio in terms of looking at the company's filings, it is also important to look at the competitor portfolio to understand the growth of technology and understand the level of competition that is available in the market. Patents being highest on the innovation index.

Today companies are looking at what are the type of filings by their close competitors and which are the jurisdictions in which filings are taking place. Given the scenario today it is not about single patents it is actually about multiple patents and so, therefore, a given technology or a sub technology may be represented by a whole set of patents in that particular area.

So, mapping of the competitor's portfolio has become also an important area for patent search and analysis.

Now if you look at the octimine tool there is an option to understand the market coverage in relation to the patent families. So, these are indicative in nature from the point of view of the data. Another important factor to understand is the simultaneous representation of

the technology broadness that is in a given technology area to what extent is the information represented in the form of patents and generally the information available.

So, that again indicates to what extent the area already has a lot of growth and to what extent the area is already captured in the form of patents. So, the technology broadness indication is the provides us that sort of information in relation to a given area and once you go to a mouse over one can understand that a specific area is represented by how many patents in that particular area.

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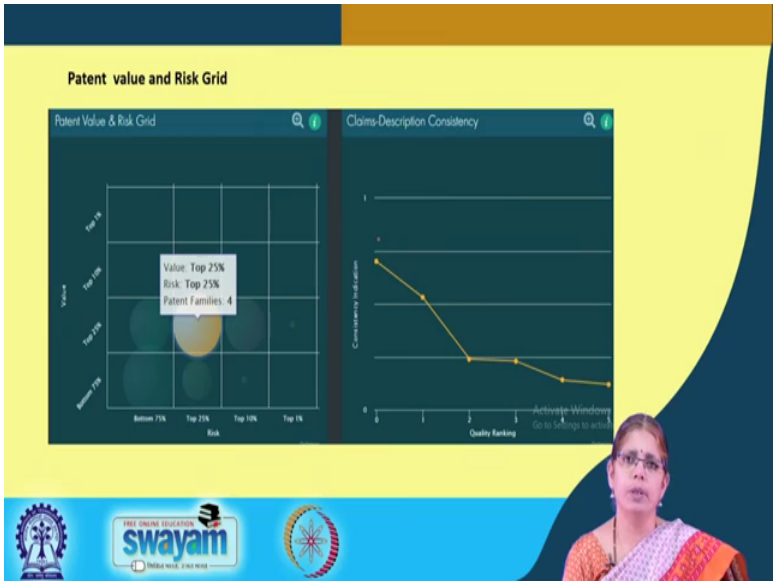

To the extent that one is looking at the competitor's portfolio, it has also become important to value patents. Based on the search and analysis carried out in relation to patents, one of the other analysis that goes on is what we call patent valuation.

So, based on the statistics that we get coming out from the patent analytics, one can value a given patent or a patent portfolio. So, patent valuation is essentially means that you are assessing this strength of a patent. One from the point of view of its value to R and D another from the point of view of the market.

So, there are different ways of patent valuation that are known from the simple cost based valuation to you have the economic valuation of patents. Today patents provide that level of economic advantage and so, embarking in an area in relation to a particular

technology means that one has to look at the patents space in that particular area to what extent is the technology clustered in the form of patents?

So, patent value assessment is one of the important analytics option available in relation to some databases. In this case what you see on the screen is a patent value and risk grid. If you look at the patents that are available as a part of the total number of hits that you retrieve and you organize them into a grid, one can understand what is the value proposition in relation to the patents and again the risk apportion.

So, the greater the number of patents represent in the area greater is the risk to work in the area because you have very close competitors working in the space. The lesser the number of patents represented in an area the less is the risk that is there is more opportunity value.

So, when we look at the patent value and the risk rate, again this is an indicative one which so, in a enterprise one would look at other factors beyond this particular value that you can generate to actually identify what is the value proposition in relation to a patent in terms of the opportunity value or the risk value.

Another important consideration in relation to patents is quality ranking. Quality ranking is another way to assess the value of a patent. So, there is also this particular analysis one can look at which is called the claim description consistency and that is another option available in some of the tools which help actually in understanding quality ranking of patents.

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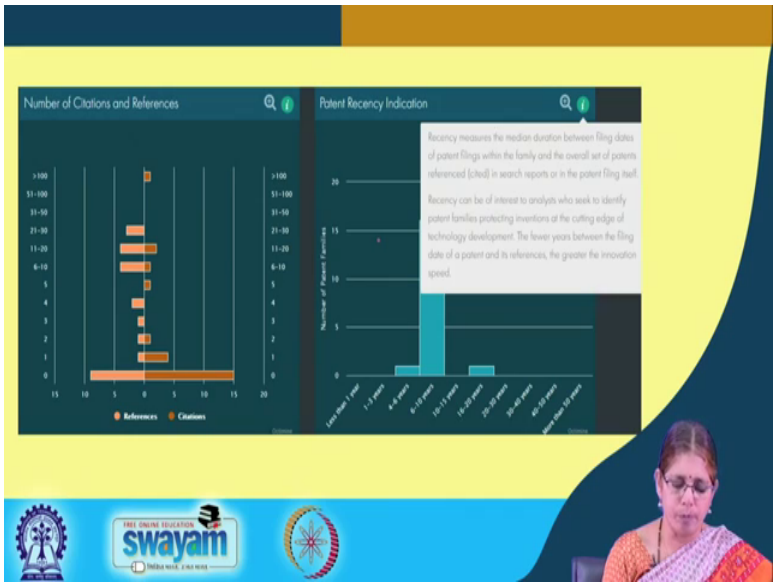

The simplest of the valuation in relation to patents is what we call the citation analysis. While there are various different ways of doing patent valuation from the point of view of looking at patents strength, the first thing that comes to anyone who is looking at the value is to look at the citation analysis. How many number of times the patent has been cited and what are the references in relation to the patent.

So, here you have a visualization method whereby once you do the analysis, you can actually find out the number of citations and references in relation to a set of patents through this one can understand the value in relation to patents.

So, this is what is the overall understanding in relation to a given set of patent data. The other way of looking at certain other information is to look at the patent family information from the point of view of technology development. So, there is another score which is patent recency indication.

So, what does it mean? Based on the overall set of patents that are referenced that is the cited in the search reports or in the patent filing itself, one is actually looking at the average duration of years that the patents are represented. So, in this case as you see on the x axis, those patents which are having an average duration of filing of less than a year and it goes up to in time, then on the y axis you see the total number of patent families.

So, this can be of interest to those analysts who are trying to understand the growth of patent families in relation to technology development. The greater is the innovation speed where there are fewer years between the filing date of it is patent and it is references.

So, this is one type of a score that one can get based on what you call patent recency indication. So, these all are different two ways in which one can actually visualize the analysis of the patent data.

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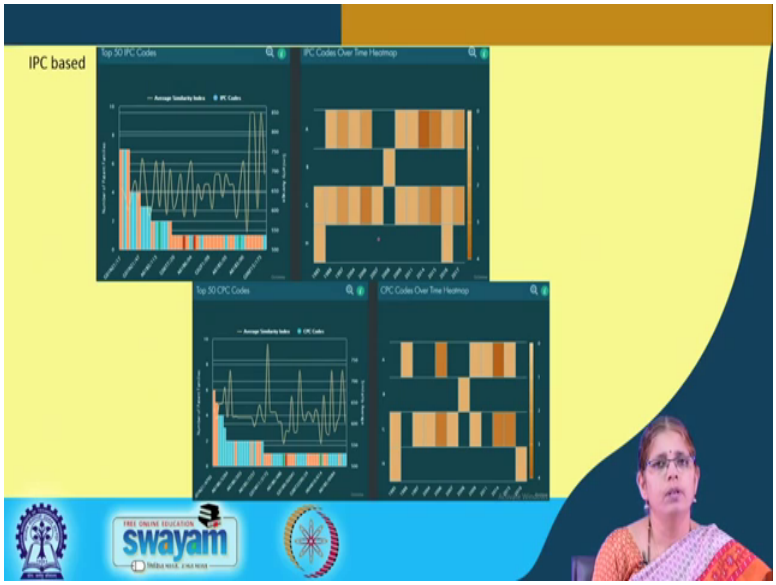

Many tools provide IPC based information and analysis. In this case again we have top 50 IPC codes visibly the average similarity index in relation to patents and then you can have a time map (Refer Time: 22:38) IPC CPC data one can actually catalog in terms of the top 50 CPCs and again in relation to CPC one can have a time heat map. So, this provides an overall view into the growth of the technology or the patents in relation to a given IPC group.

Here in this case you find a lot of growth in relation to the G class and the specific subclass under that, then you have A class also represented and one can also see the growth in relation to the time from 1985 here to 2017.

So, this is how one can actually look at the greater amount of the availability of analytical tools which provide for this sort of visualization of data.

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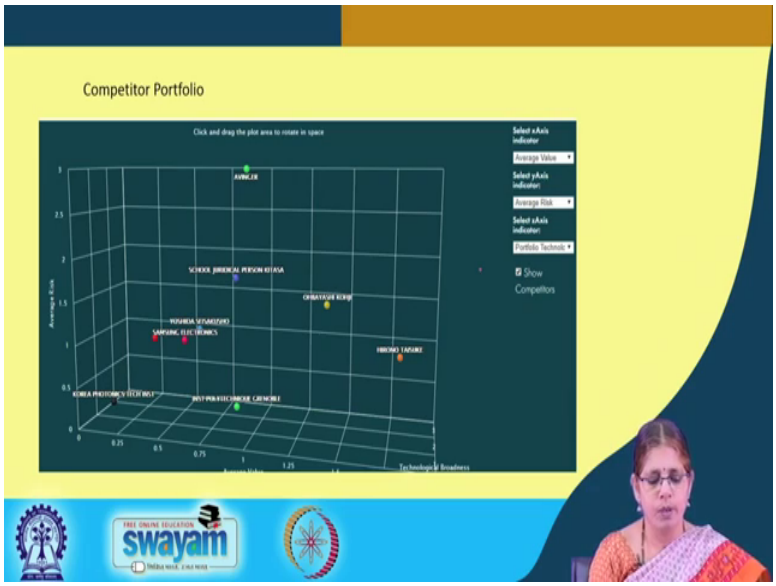

From the point of view of understanding competitor portfolio, some databases provide options of visualizing competitor portfolio in relation to the patents.

So, this is a snapshot of the competitor portfolio in relation to a specific area. So, if you see the three dimensional view in relation to the different companies and the technology representation, you can see the average risk that is posed by the presence of a technology major that is a company in relation to a particular area. One can actually drag and move around any particular company.

For instance if I click on this particular blue dot here Yoshida I can actually understand what is the space that the company represents in relation to those set of patents and so, it also provides what you call the risk estimate in relation to moving into that particular area.

So, these kind of visualization tools will enable us to understand the relative strengths of the competitor in a given area. One can actually change the visualization mode by looking at the change in the average values either on the x axis or on the y axis and one can also select specific indicators.

For instance one may be looking at just the portfolio only in which case the portfolio strength only is represented in this particular visualization graph. So, this helps in

understanding the relative distance between the companies which are operating in a particular technology space.

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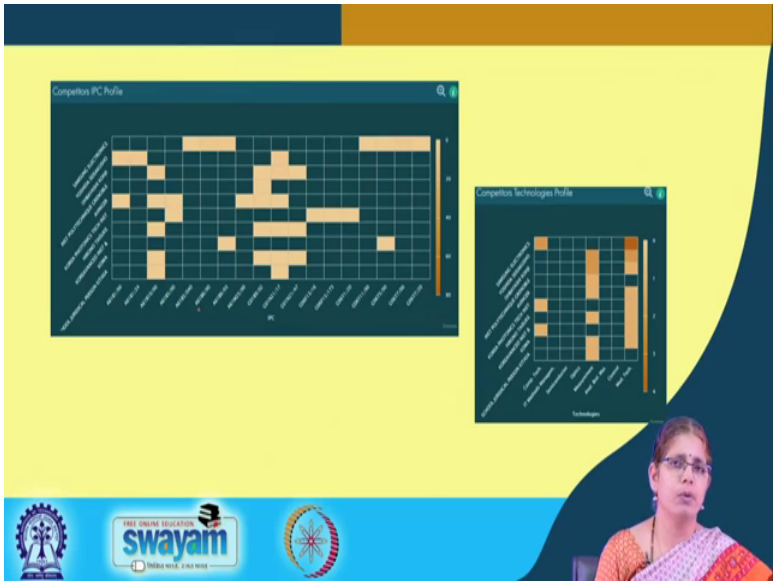

Again if you are looking at it from the point of view of the competitive portfolio one can also do a competitors IPC portfolio, that is in relation to a given technology visa the growth of the different technologies as per the different groups of IPC.

So, it is possible that a company has patents across different IPCs. So, you can understand what are the different application areas that are possible within each group of a particular IPC.

Similarly, one can also the profile of the companies from the point of view of the specific area itself. So, here we have on the y axis the company names and on the x axis the representation of technologies. Again we are looking at computer technology, semiconductors optics, measurement, advanced biological materials and so, on and so, forth.

So, depending on the areas that are defined one can actually understand the growth of the technology. So, many a time what happens is one can actually download these reports and look at the relevance of each of them in relation to the type of patent search.

So, if a searcher is looking at corely understanding competitor portfolio, then what happens is you would be looking at the general growth of the technology in terms of the

area then you look at it specifically assignee wise then you look at it from the point of view of the IPC which represents again the growth with respect to specific technology area.

So, overlaying all that information into a particular report will provide a systematic view into the competitor portfolio and the competitor growth. It is important to me to remember that one needs supplementary information beyond just the visualization maps where one is looking at the recent growth in the competitor's portfolio.

There are other aspects of the competitor in terms of litigation information that may be relevant for you to take an assessment of the competitor portfolio or whether it is for the case of looking at building further R and D.

So, if you remember in the earlier lectures we discussed the aspects of different types of patent search when and why would you undertake a patent search. So, keeping that in mind when one is looking at the competitive portfolio there could be several objectives.

So, depending on the objectives one has to look at supplementing the visualization information that we get from the various graphs based on the analytical tools with additional information.

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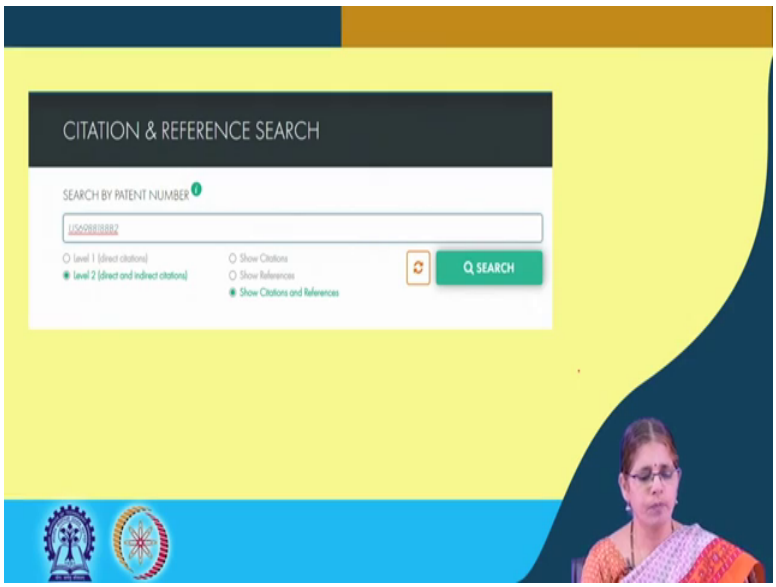

There is a citation and reference search whereby one can actually input the patent number in this case there is a US patent which is a B2 number which is a re-exam patent and one can look at information in relation to either direct citations or indirect citations.

So, for instance, let us say we use the option of level one where we want the direct citations in relation to this particular patent number.

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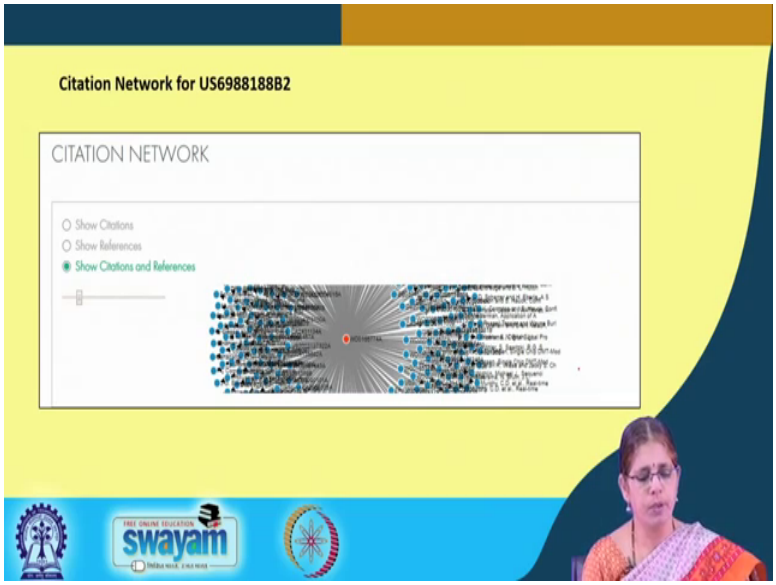

When you click on the search button you get to the this particular frame where you can understand the citation network. When you do it on the real time you can see that this is an evolving image where if you press on this particular blue button you can see the expansion of the portfolio beyond that.

So, this is where you can find a lot of interactive visualization of these tools in relation to a particular patent.

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So, one can understand the cluster of different patents that are there in relation to a given patent. So, and then understand that what are the relationships between these this very US patent compared to other patents. So, having these kind of visualization tools helps in actually understanding the entire citation network in relation to a patent.

Let us look at some other tools that are which provide opportunity for looking at patent analysis.

Thank you.