2021 Patent Landscape Theory Questions
Model Answers

The Patent Landscape theory question section of the exam consisted of 6 questions that were randomly selected by the online examination platform from six categories as follows:

(i) Data processing: DATA;

(ii) Data processing: RECALL/PRECISION;

(iii) Analysing: TOOLS+CITATIONS;

(iv) Analysing: CONCEPTS, CLASSIFICATION CODES;

(v) Reporting & Business-related questions: A; and

(vi) Reporting & Business-related questions: B.

One question was randomly selected from each of the six categories for a total of 6 questions that the candidates had to answer in a period of 1 hour. An example of the types of questions that were asked for each of the six categories and the model answers for those questions are reproduced below.

Data Processing: DATA

What methods would you use for creating categories for a landscape analysis?
Categories can be identified by using patent classification schemes and split documents into different classification groups and thereby create categories. Different search strings can also be used to create different categories. Categories can be created manually by reviewing the results. There also exist automated ways of categorizing with software tools that use e.g., a semantic or machine learning approach and keyword clustering.

Data Processing: RECALL/PRECISION

How can you increase recall in your patent search using a first precise search?
Recall defines the coverage of the patent search whereas precision defines the accuracy. Recall from a first precise search including highly relevant records can be increased by 1. consider possible synonyms, translations of the synonyms (multiple translated languages) 2. combine keywords with classifications 3. use classifications from different classification systems 4. check the citations 5. a broader expression of certain term: using truncations left and right of a word 6. Search on specific companies of particular relevance.

Analysing: TOOLS+CITATIONS

Would you recommend performing analytics/text-mining on the full text of a patent document? Discuss the advantage and disadvantage of this approach.
In general, one would not recommend using full text for text mining. Text mining is difficult for large bodies of text as the data is not in a structured form and over the whole content of a patent it is difficult to analyse the text to the point of retaining certain terms within their context, which tends to be lost because of stop words. Text mining can however be focused on certain areas of a patent document - such as the title or abstract where the text is fielded, and the context would not be lost. It can even be expanded to the claims, but claims can be very long, and unstructured so precise details of a category can be lost. Advantages of using full text is that title, abstract and claims are sometimes very specific not including enough relevant terms. These terms might be mentioned in the description of the invention. Including full text for analytics might just find patent families that are relevant that otherwise would have been left out., if it were to be used on larger bodies of text, stemming to remove common suffixes and in particular term filtering which reduces the retrieval of common stop words should be considered.

Analysing: CONCEPTS, CLASSIFICATION CODES

Discuss the importance of categorizing a dataset and how would you use the categories in a subsequent analysis.

It is important to categorise a dataset so you can get a high-level overview of who is developing what without having to look through all patents on an individual level. A dataset can be categorised or grouped into sub-groups based on different criteria. For example, it can be categorised based on sub-technology. Once categories are formed, there is a clearer view of how a certain assignee is operating and which technology areas they are interested in. Once a particular category of interest is identified for e.g., an assignee, you can then look into this to see if there are any sub-categories or trends of interest. Categories are important to develop at the principal stage of a patent landscape as they form the basis to answering the initial question that is being asked by the client and can also be presented as a simple overview in the landscape conclusion to quickly report findings to your client without them losing interest.

Reporting & Business-related questions: A

Give examples of three different business purposes for patent landscapes.

1. For competitor monitoring, patent landscapes can provide information about the patent activity of the competitors, how many patents do they have and in which countries, the filing trend of that competitor, and if they enter new areas.
2. For technology monitoring, especially to support decision-making, provide information on the top players in the area, provide insight on white-space, so the decision-maker can determine whether to enter this technology area. Technology monitoring can also help identify if new technology areas are possible to enter, to identify initial FTO issues and to see if new players enter the technology space.
3. Can be used to make decisions on investments, i.e., where to focus technology budget and/or identify other companies which are useful M&A targets.

Reporting & Business-related questions: B

Once the landscape analysis has been completed would you put any additional steps in place for ongoing monitoring and analysis? Justify your answer.

Depending on the analysis needed by a client, a patent landscape report forms the initial foundation that can be built upon. From the conclusions drawn, main competitors can be identified and gaps in technology research can be found. A landscape may identify applications of interest that would interfere with the client's own research, and therefore a watch may need to be set up on these to follow any applications through prosecution to grant, so that mergers/acquisitions/licensing can be identified in a timely manner. It may be that close competitors are identified, so it would be useful to put a name search watch on these to see if they file any patents that may be a problem to a company's own research, or even if they are moving technology into different areas which may or may not be of interest to your own company's research. The whole landscape should be easily updateable so any different paths a technology develops can be identified at an early stage, so a company does not get left behind or caught out by patents further down the line that were only published after the landscape was performed. However, on the other hand if the purpose of the landscape report is a supporting document for a higher management level to make a decision, e.g., if to enter a certain market or a technology area, an update of the landscape or ongoing monitoring of technology or competitors might not be needed.