Identifying potentially commercially disruptive technologies

Peter	Evans	peter.evans@ipo.gov.uk	United Kingdom	Intellectual Property Office
Rich	Corken	rich@corken.co.uk	United Kingdom	Intellectual Property Office

There have been many attempts to analyse new or emerging technologies. In 2010 the IPO developed an algorithm to identify science intensive disruptive technologies using selected indicators based on patent data. During the course of that work it was observed that some traditional indicators calculated using academic literature data were nonsensical when applied to patent data. This is because patents are filed for multiple strategic reasons i.e. to allow direct commercialisation of an invention or series of inventions by an applicant or inventor, to allow the licensing of intellectual property, or to place the invention into the public domain to allow further advancement in the field or prevent others from patenting the same invention.

Thus we surmise that simply analysing patent data in the absence of other external influences will not necessarily nor reliably indicate new, emerging or commercially disruptive technologies.

To advance this field, the IPO's recent research has focused on a different starting point, namely taking data related to known commercially disruptive products or companies. Detailed research was carried out to explore 60 products which are considered to be commercially disruptive. Data from the successful products or technologies were compiled into a matrix and, using multi-criteria decision analysis, were clustered into related groups. We have shown that products may be clustered into one of several areas. Our next step includes automated clustering using the existing numerical indicators and the application of machine learning techniques to the descriptive text contained in the patents.