

Standing on the Shoulders of Giants

Sir Isaac Newton's statement, "If I have seen further it is by standing on the shoulders of giants." is often cited as core evidence of his humility and acknowledgement that Newton himself made his advances through an awareness of what others achieved before him. Same applies to researchers today.

While there is arguably more published work in any field today than existed in all fields in Newton's day, an awareness of what has been achieved by others is a critical issue for researchers wishing to ensure that their research efforts extend, rather than replicate those of their peers and predecessors. However, accessing this "prior art" obliges more than a review of recent scholarly articles. The information researchers require is often contained in a variety of different sources including particular journal articles, books, theses, web-publications and patents. Unlike Newton, today's researcher has access to much of this information through databases and key word recognition.

This sheet is designed to assist researchers in their efforts to effectively and efficiently review the prior art and thereby add value to the outcomes of their research and research proposals.

What is Prior Art?

Prior art is any body of knowledge relating to your research that exists prior to the completion of the research or the filing of a patent application. It may include patents filed in Australia or overseas; printed publications such as books, theses, journals and technical reports; public discussions; or public use of the research anywhere in the world.

To determine whether a research plan or outcome, is new and original (has not been publicly disclosed in any form), then a broad search of publications is efficient, inexpensive and adds to the value that others will recognise in the work. If a research outcome is new then it may be protectable with a patent application. This can be the first step to facilitate opportunities for additional research funding and commercial benefits.

How is Prior Art important?

The prior art can determine how the outcomes of a research project may be used.

While publication of research results is unlikely to be constrained by prior art, the opportunity to use those results may be limited if another party already has ownership of closely related intellectual property that was obtained before your research was completed.

For example, a research outcome will not be considered novel (new or original - a key requirement to obtain patent protection) if there is a single prior art source that discloses all of the key features of the 'invention'. If such a source is identified, it is likely a patent would not be issued.

Furthermore, even if no single source discloses the entire invention but several sources can be combined to describe every aspect, and it would have been obvious to one with ordinary skills in the art of the invention (eg. one of your peers) to combine

these sources, then a patent application for the invention would be rejected as obvious.

However, knowing and monitoring the prior art, both before and throughout the research, enables researchers to target new objectives, make best use of what has been done before and align research with a focus on finding solutions that others need and will apply. Research that is responsive to the prior art encourages productive relationships between researchers and those who wish to support the use and further development of that research.

Searching Prior Art

The library in your university has resources and trained staff to assist you in undertaking effective and efficient reviews of published prior art. The commercial arm of your university may also be able to assist, especially with advice on searching patent databases.

One of the major ways of searching the prior art is to conduct a patent search. This involves searching patent databases to see if the proposed research is novel. There are other benefits to conducting a patent search. It will help to:

- avoid infringing someone's existing patent with your research;
- determine what research has already been completed;
- understand the terminology and language used in patent applications; and

- understand the competition active in your field.

Patent databases are maintained at various Internet sites including international intellectual property offices. IP Australia maintains the Australian patent database and it can be accessed via their website www.ipaustralia.gov.au. Remember, however that the Australian patents database only reflects 7% of world patenting activity and, to get a complete picture of the research being conducted in your field, the US patents database may be more useful. This database can be accessed off the front page of the US Patent and Trade Mark Office (USPTO) website at www.uspto.gov.

Advice about other patent databases is also available from your library and the commercial arm of your university.

Where can I get more information?

The commercial arm or IP Officer of your university can assist you in managing and adding value to your research proposals and outcomes. You can call them to discuss these issues.

IP Australia, the Federal Government Agency responsible for the administration of patents, trade marks and designs, has specifically developed an online resource, *IP Professor*, for the tertiary sector. *IP Professor* features online lecture material, a service that allows lecturers and teachers to request an IP expert to speak to students, an IP news clipping service and case studies of how IP has been commercialised in universities around Australia. For further information, visit the IP Australia website www.ipaustralia.gov.au and select the *IP Professor* logo or phone 02 6283 2999.

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