Review of: "Strategic Citations in Patents: Analysis Using Machine Learning"

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Potential competing interests: No potential competing interests to declare.

In the academic literature, the terms “references” and “citations” are used virtually interchangeably. An academic’s citation count is simply the number of times that his or her papers have been referenced in other academic papers. This interchangeability most likely arises because all references in an academic paper are automatically citations (the later paper has cited the earlier one).

However in the world of patent attorneys, the concept of a “reference” and a “citation” are not interchangeable and each has its own specific meaning in the patent attorney’s vernacular. The term “citation”, when used in relation to patents, is usually reserved for those documents raised by the Patent Examiner during prosecution (examination) of the patent right.

The “claims” are the “heart” of a patent, in that they define the limits of exactly what the patent does and does not cover. That is, the patent owner has the right to exclude others from working (designing, making, selling) only those things which are explicitly described in the claims. The patent examination process is usually a “horse-trading” process where the examiner finds relevant prior art (in the form of citations) and uses these to force the applicant to reduce the scope (broadness) of the claims; the applicant’s patent attorney’s job is to counter these arguments.

In summary the situation as it applies to this paper can be described as:

- A reference in a patent is typically added to the descriptive body of a patent by, for example, the patent attorney that is drafting a patent specification, often so as to draw attention to known prior art or to reduce the amount of descriptive text in an application. These types of references are seen typically as numbered footnotes in the text of a patent publication.
- A patent citation (in the patent attorney industry) is generally construed to mean a reference that is cited by a Patent Examiner (and not the inventor, nor the drafting patent attorney) in an examination report/office action during the patent examination process.

There are three primary types of patent examiner citations:

- An X-type (102 in the US) citation refers to a document (patent or otherwise) that is novelty or inventive step

(obviousness) destroying, targeted at limiting the scope of the claims of a patent.

- A Y-type (103 in the US) citation refers to a document (patent or otherwise) that implies the claims of the patent application are construed as obvious when combined with another cited document. These citations are also targeted at limiting the scope of the claims of a patent.
- An A-type citation refers to a background document (patent or otherwise) only. An A-type citation is considered by the Patent Examiner not to have any substantive impact on scope of the claims, and is effectively a reference.

Of note, there are in fact other rarely-used citation types.

I would suggest that this analysis would have more impact if the author segregated patent references and patent citations in their analysis.

Other notes:

1. It is almost impossible to determine if an inventor has “changed firms” because patent assets are bought and sold quite regularly. Therefore one cannot determine too much information from the time discrepancies as related to the inventor and the assignee/owner of a series of patents.
2. Generally speaking the following is true - it is absolutely of no value to “sneak” a patent through the patent office by hiding prior art and hoping the examiner doesn't find it. Such a patent, even if granted, is generally unenforceable and of no value. Any third party, facing an infringement suit, will find that prior art and use it to invalidate the enforced patent in court. Having said that, there are many patent attorneys that focus on getting patents granted (in their own financial interest) rather than creating enforceable and valuable patent assets. Therefore an analysis of patent references that highlights an attempt to hide or ignore prior art by the party seeking patents rights could be used to find unenlightened inventors and/or patent owners, or patent attorneys that should be avoided.