

Both benefits and drawbacks in the filing of patents

THERE is a lot of debate going on about a potential patent system overhaul as patent infringement lawsuits and litigations to challenge existing patents continue to make headlines all over the world. Undoubtedly, there are many benefits associated with patenting: patents provide important incentives and motivation for research and development; reduce secrecy by requiring open disclosure of inventions; induce investment and commercialisation; and minimise the duplication of effort by guiding research into new and unexplored areas.

But are patents always good? Can patenting always act as the silver bullet in effectively protecting novel and useful inventions against imitation and infringement across different industries and intellectual property regimes?

Extensive research studies – including those I have published with Professor Fiona Murray at the Massachusetts Institute of Technology (MIT) – have found that the answer is unfortunately, but not surprisingly, “no”. Patents are simply not always good and effective.

Let’s take this answer apart and look at each component in turn – first, the “no good” and then the “not effective” part.

Despite the many benefits that patents can yield, extensive patenting does pose a threat to downstream R&D. When there are overlapping patent claims on a particular “piece” of knowledge or innovation upstream, it makes it difficult for scientists and researchers downstream to conduct important follow-on research on that particular innovation. This is because they have to navigate through a “patent thicket” by negotiating licensing rights and royalty payments with each individual patent owner on the piece of innovation before they can legally use the innovation. This creates a strong deterrence effect.

This adverse effect is exacerbated when patent rights are fragmented – when patents on a particular innovation are owned by different corporations and organisations.

Imagine if there are overlapping patent rights claiming critical cancer genes (such as the BRCA1 and BRCA2 genes for breast cancer), major research efforts downstream could be stifled. This is what we really do not want to see.



KENNETH HUANG

Now, let’s move to the “not effective” part. Patents may be more important in certain industries like the pharmaceutical, biochemical and life sciences, where the total number of patents is few to start with – compared, for instance, to the computing and semiconductor industries. Consequently, each patent can account for a major biochemical invention such as a unique molecular composition of a drug and is typically harder to circumvent.

On the contrary, studies have found patents are a lot less effective for protecting mechanical inventions or industrial processes. Here, it is easier to reverse-engineer, or to modify a component or two, in order to circumvent the original patent without compromising the function of the particular invention. A new patent could potentially be filed without infringing the original patent/s.

Patents tend to be less effective under weak intellectual property protection environments like China and India, where the enforcement is less clear and imitation risk is higher. Under such circumstances, companies tend to protect their key innovations by internalising the research, development and manufacturing processes in-house, instead of relying on patent protections.

These insights have strategy and public policy implications. Before filing a patent, companies should consider the effectiveness and usefulness of the patent protection on the particular invention. Maybe the best way forward is not to apply for and maintain a costly patent (around S\$30,000 for patent filing in key markets) but to consider other strategic alternatives. These other alternatives such as speed-to-market or industrial secrecy could be as effective in capturing market share and ensuring profitability as patenting.

Policymakers should contemplate the potential adverse consequences of allowing multiple patents to claim critical upstream scientific knowledge or innovation. Too many patents, especially those with broad claims, are not good. But are there alternative ways to incentivise researchers and encourage innovation and investment?

Some companies have adopted useful resource-sharing practices such as patent pooling and cross-licensing. Policymakers can also implement tougher patent examination standards by restricting the scope or raising the utility bar before granting a patent to help mitigate some of the adverse effects.

The next time, you should think twice before filing a patent on your latest invention.

The writer is an assistant professor of management at the Singapore Management University (SMU)