Registering AI-generated Patents: A Revolution in Distributive Justice?

Naama Daniel, Federmann Cyber Security Research Center, Hebrew University of Jerusalem (Israel)
International Conference on Computer Ethics: Philosophical Enquiry (CEPE) 2023, Chicago, IL

Keywords: artificial intelligence, patents, medicine, distributive justice

Extended Abstract

This paper explores the unique and precedential opportunity of individual developing countries to tilt the equilibrium of global distributive justice in their favor by means of their own national policy decisions regarding the registration of AI-generated patents. Currently, existing scholarship broadly discusses global distributive justice with regard to patents by identifying inequality or inequity (hereinafter: inequality) towards developing countries. The scholarship cites mainly two causes for such inequality. First, the initial R&D, undertaken mainly in developed countries, targets and resolves the problems of affluent, developed countries, rather than those of developing countries ("the targeting cause"). Second, charging monopolistic prices for the patented products renders them inaccessible for purchase by developing countries ("the price cause"). The scholarship goes on to argue that developed countries have obligations towards developing countries to rectify this inequality to achieve global distributive justice.

This paper argues that AI-generated inventions and the policy regarding their registration may change this paradigm, granting developing countries power to eliminate the causes for inequality by means of their own national patent policies, due to the combination of three factors. First, since patent rights are territorial, AI-generated inventions (as other inventions) are only protected in countries where they are registered as patents. Second, the patent system is an incentive-based system, designed to incentivize inventors to invent useful inventions by granting property rights (patents). Third, for owners of existing AI systems, AI-generated inventions require significantly less resources and investments, rendering them cheap to develop. Applying economic analysis to the combination of these three factors will presumably lead R&D companies to develop AI-generated inventions resolving problems that exist in countries that register AI-generated patents, as such inventions will not be protected – and therefore could not be sold for a monopolistic price – anywhere else in the world. Further, the cheap price of developing AI-generated inventions will presumably incentivize R&D companies to direct their AI-inventive resources towards countries registering such inventions even if these countries are less affluent, as their investment could be easily recovered.

Accordingly, a new distribution of justice via patents may arise: between countries that register AI-generated inventions as patents, and countries refusing to do so. To date, developed countries such as the U.S., Germany, the U.K., Israel, and Australia have refused to register AI-generated inventions when the AI-system was named as the inventor (although some of them had done so based on technical reasons

that may be further debated). On the other hand, South Africa, a developing country, has registered such inventions. Although it should be noted that South Africa does not conduct substantive examination of patents, still, this division brings to mind an envisaged world in which developed countries refuse to grant patents for AI-generated inventions whereas developing countries grant such patents. Under these envisaged circumstances, the economic analysis proposed above suggests that AI-system owners should direct their AI-inventive resources towards inventions solving developing world problems, as these would be the only territories in which their inventions would be protected and therefore could be made profitable.

The theoretical analysis suggested by this paper indicates that the first cause of inequality discussed above – the target cause – could thus be eliminated by developing countries themselves, by implementing national policies that allow for the registration of AI-generated patents, thereby achieving, single-handedly, global equality and corrective justice, without relying on developed countries.

Regarding the second cause of inequality discussed above, the price cause, the theoretical analysis may suggest either its aggravation or, on the contrary, its elimination. The analysis may suggest an aggravation of the price cause as an economic incentive may arise for AI-generated invention owners to apply for registration in any country that registers AI-generated patents, since a considerable number of countries do not register such patents. This incentive is twofold: first, AI-generated patent owners may wish to gain as much profit by maximizing the monopolistic price sales of their patent-protected products in the countries of registration; second, applicants may merely use said registration as a strategy, for example, in order to set a global norm of AI-generated patent registration, even in the absence of any intention to manufacture or market their invention in the country of registration. Citizens in such countries will thus pay higher prices for a patent that does not benefit them, as it is not distributed in their country, or is sold at patent-monopolistic prices in that country's territory, whereas in any other country the same invention is public domain and free for use. This aggravates inequality and distributive justice issues. However, the theoretical analysis may indicate the exact opposite – that the price cause would be eliminated: if developing countries are the only countries in which AI-generated patents are protected and can be sold for a monopolistic price, the AI-generated patent owner may be incentivized to sell the patented products for an affordable (albeit still monopolistic) price in developing registering countries, thereby eliminating, or at least downplaying, the price cause.

The paper argues that this situation affects the global distributive justice paradigm in two important ways. First, global distribution of justice here does not adhere necessarily to the common distinctions between developing countries and developed countries, but rather to an independent distinction based on the policy of countries regarding registration of AI-generated patents. Second, countries gain a new instrument, enabling them to influence the distribution of global justice through their own internal and national economic policies. For example, if country X finds that implementing a policy of registering AI-generated inventions leads to development of more inventions that target problems common to the registering countries, country X may change its policy to allow for such registration, incentivizing future AI-generated

inventions benefiting country X's citizens. In doing so, country X will essentially affect the global distribution of justice and will contribute to global equality, by means of its own national policies regarding patent registration.

It should be noted that these circumstances in which some countries register and protect AI-generated inventions and some do not, can be viewed as a natural experiment. Therefore, the paper argues that if the assumption regarding the re-direction of AI-inventive resources towards registering countries will not be realized in practice, it will serve as an interesting ground to reconsider the three factors discussed above, often regarded as patent law axioms.

On this basis, this paper argues that national policies regarding the registration of AI-generated inventions as patents have the potential of changing global inequality and promote global distributive justice. At this point in time, when these questions are debated around the world for the first time, this paper is aimed at informing policymakers of this unique opportunity, which is right at their fingertips.