Response to IPO consultation on AI

I am writing in reply to your request for ideas and insight about AI and intellectual property. I have presented some of my ideas below which represent my personal view and are intended to help stimulate debate.

My view is that what ever way forward is chosen for the intellectual property system the choice taken should be one that meets the aims of the intellectual property system. One such aim is set out in the consultation description which explains that intellectual property is "crucial to the proper functioning of an innovative economy". I would like to add another aim, which is to promote knowledge sharing.

Many authors are of the opinion that AI technologies will develop in decades to come. AI technologies will be more independent and less controllable. AI technologies will increasingly influence our behaviour and lives. Because of this I think it is important to have knowledge sharing about AI technologies. If there is knowledge sharing society will be informed and able to make choices about how AI technologies are developed, used and deployed.

There are several ways to enable knowledge sharing. One way is to have regulation such as outlined in the European Commission white paper on AI from February 2020. My understanding is that the proposed regulation will mandate knowledge sharing of high risk AI via transparency provisions.

Another way to enable knowledge sharing is by incentivising it. The intellectual property system already acts as an incentive for knowledge sharing. Copyright in source code incentivises sharing of the source code. If I write a new piece of software comprising an AI algorithm and copyright does not exist, then I will be incentivised to share only the executable code since others will be free to copy the source code if I make it available. Registered designs incentivise sharing of designs of robots and self-driving vehicles. Suppose I am a manufacturer of AI goods and services. I market my AI goods and services using a trade mark which acts as a badge of origin. Suppose there are lots of players in the market place selling AI goods and services with different levels of ethics deployed in the AI goods and services. My trade mark conveys knowledge to consumers about the quality of my AI goods and services and the level of AI ethics deployed in my AI goods and services including the level of transparency of the technology. In this way my trade mark is a means of sharing knowledge about the AI goods and services with consumers and other players in the market. Patents are monopoly rights which are significant commercial benefits. Patent applications are published and in this way knowledge is shared. The knowledge sharing is high quality since the patent application uses a well-known format and includes high level description of the algorithm as well as implementation detail.

Some argue that the intellectual property system is exclusively an economic tool. However, if it is accepted that knowledge sharing is something important to help society understand and adapt to advancing AI technology then surely it is best to use as many mechanisms as possible to promote knowledge sharing. Regulation may be one of those mechanisms but doesn't have to be the exclusive mechanism. Surely it is best to have as many ways as possible to tackle future scenarios that we don't yet envisage? The intellectual property system is well established and international in nature making it an ideal tool for artificial intelligence technology which is unconstrained by geographical boarders.

The consultation asks (question 9 patents) for input about areas of AI technology where it is currently difficult to obtain patent protection in the UK.

One such area is AI technology which is created by a machine with no human inventor and therefore is excluded from patent protection in the UK and Europe. If this technology falls under

future AI regulation and has to be disclosed to comply with transparency regulations then the company has little or no return on its research and development investment. Competitors would be able to gain knowledge of the technology and independently create similar software to avoid copyright. Machine learning is already used to generate computer software and there are likely to be advances in the field.

Another such area is AI technology which is fundamental or “core AI”. Consider a fictional example where a UK company develops some innovative AI technology which is relating to how an AI system works, for example concerning the internal structure/operation of the AI system. The technology does not meet the requirements for patent protection in the UK because it is excluded as a computer program. If the technology has to be disclosed in Europe as a result of future regulation then the company has little or no return on its research and development investment. Competitors would be able to gain knowledge of the technology and independently create similar software to avoid copyright

Another such area is AI technology which is designed for a purpose which is not considered technical because it relates to an ethical purpose. An example is a new way of training a machine learning model to remove bias in the model. The technology is unlikely to be patentable in the UK because of the computer program exclusion or in Europe because there is no technical purpose. The technology is likely to have to be disclosed in order to give customers trust in the technology. Therefore there is reduced incentive to create ethical AI technologies of this type.

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