Legal and ethical considerations on opacity of algorithms in Europe, focused on boosting an open Europe search engine*

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Algorithms are the keystone of search engines functioning since they establish the rules to classify search results for each user and term search. If we are to develop an open European search engine, trying to guarantee the transparency of its algorithm seems logical.

Algorithms opacity can be either technical, epistemological or intended. Technical opacity is related to the digital breach since algorithms use computer language. Epistemological opacity is related to the so-called black boxes, that is, the impossibility to track a complete record from data introduction to knowledge production based on its processing. Finally, intended opacity is the legal opacity: in practice, algorithms are legally forced to be considered as secrets (either State or commercial secrets).

The legal context shows that algorithms suffer double exclusion: those cannot be considered as intellectual property works, nor as industrial property works. Consideration 11 of EU Directive 2009/24/EC clarifies that ideas and principles which underline any element of a program are not protected by copyright under the Directive, nor logic, algorithms and programming languages whenever comprise ideas and principles since those ideas and principles are not protected either. Sentence of the EUCJ of 2nd of may 2012 (C-406/2010) states equally that algorithms are not protected by copyright. On the industrial property side, article 52.2 of Munich Convention on the Grant of European Patents states that discoveries, scientific theories, mathematical methods, plans, principles and methods for intellectual activities cannot be protected as patents.

Hence, the only legal options for those who invest their time, effort and money in developing algorithms is the residual option of trade secrets law, whenever the algorithm can be considered as secret according to the requirements settled in article 2.1 of trade secrets EU Directive 943/2016/EU. Needless to say, if algorithms can only be considered as secrets, it seems difficult to boosting their transparency.

This situation of normative helplessness could be reversed if the nucleus on which it is built is questioned: algorithms are not discoveries, but inventions, and should be legally protected as such.

Nonetheless, it will be a long (and necessary) debate. In the meantime, we need to find transitory solutions that allow us to promote the transparency of the algorithm that would manage the classification of search engine results without altering the existing regulatory landscape.

We propose to consider the algorithm as key component of the search engine, and so a "computer implemented invention". It would allow to patent the pack. This would allow, if wanted, to take profit on the effort and afterwards, in any case, turn back this improvement to the society.

It must be remembered that the algorithm´s criteria would be public from the moment it is registered as a patent. This would allow an immediate transparency of the algorithm (regardless of the possibility of economical profit or permissions of use).

Three main benefits of algorithms transparency as for an open European search engine should be outlined: (1) a better knowledge of the data to be collected in each case, (2) a better knowledge of the inferences that can be obtained, and (3) greater and broader possibility of early detection and control of possible biases.

Finally, since inferences are also personal data, GDPR is applicable both to data directly collected from data subjects and inferred data whenever related to identified or identifiable people (see art. 4.1 GDPR). This position has been shared by the European Parliament in the report on the impact of the GDPR on artificial intelligence of 30th june 2020.

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