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Introduction

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New Challenges for Knowledge

New Challenges for Knowledge

Digital Dynamics to Access and Sharing

Renaud Fabre

In collaboration with

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Introduction

Nowadays, as in previous times, knowledge is born of out of curiosity, doubt and trial-and-error. However, the process of knowledge management has itself changed profoundly. Due to the Internet, the progress of artificial intelligence, information and communication sciences, information is now more widely shared. Hardly do we start to understand what is happening in this very small community of 2.5 million science publishers, when their results then become both more accessible and better shared by all.

Global sharing, which is a new frontier for knowledge, emerges onto decompartmentalizations never before seen. These involve new ways of doing and seeing things, new logics for “in-depth learning”, which are the crosscutting annual theme of Yann Le Cun’s course. The latter is this year being held at the Collège de France¹, taking the theme *What is the future position for “intelligent machines” ...?*

We may observe that “modern knowledge management issues” are nowadays still partially hidden. However, we can already detect that individual and collective scientific projects are faced with the huge challenges of conception, structure and use. The responses in reaction to these challenges, condition our understanding of the world. Are we actually moving toward a position of greater sharing of knowledge? What are the

¹ <http://www.college-de-france.fr/site/yann-lecun/>.

current conditions for such sharing? How is it developing? What is its dynamic?

Regarding these highly evolutionary issues, we have no other ambition than to enable you to share both the fulfillment and interest that we have achieved together as co-authors. As advanced students and lecturers at *SciencesPo*², we have “produced meaning” together, owing to the rich and well-known approach of a “Conference” which has taken place over a period of several months. This is very much due to the collective work, which we have compiled from this organic sharing of experiences and knowledge.

Our exploration finds its meaning in a trial of global intelligence of developments taking place. Hence, the deliberate choice of three large spheres to define the “current knowledge-based issues”; production issues, sharing issues and issues regarding the increase in value of knowledge.

In becoming “digital”, knowledge production has completely changed over the space of a few years. Everyone has an idea of what this change means for their own use of knowledge. We wished to take a step back when thinking about the conditions for digital knowledge production and review all elements of the so-called production “chain”. This involves consideration of what has changed: new stages, new players and new rules. These are therefore as much an opportunity to embark upon a “systemic” analysis of these new value chains. This first stage is obviously necessary for the understanding of the subsequent stage, since it clearly describes “for a given condition of the technology” the various actor organizational models. It is indeed from these constraints and their particular interpretation, that the stakes for both sharing and increased value may be created.

The stakes for knowledge-sharing are vast, complex and dynamic. Their common point is knowledge accessibility. A mirage or a reality? Knowledge-sharing is instantaneous and may take place at a highly reduced

² *SciencesPo* is a *grand école* higher education institution in Paris, whose specialisms include political science.

variable cost and on a very large scale. In the digital era, it is possible to share the conditions for knowledge production, through vast international scientific real-time collaborations, hosted by given platforms. We may also share results, provided that the issues of the sharing economy models and the fair division of value are resolved. Of particular interest is the issue of editorial models, the very old encyclopedic scientific issue, which has been posed, at least since Diderot and his *Lettre sur le commerce des livres*³. It is also from there that we may attribute to it the rules and data-sharing arrangements and the multiple profit analyses, indeed also those which we obtain, and even conceal. In addition, there are of course the global and European development of the rules upon this sharing, in the era of “digital laws”, and the basis of the new “knowledge economy”, which also shapes the modern geopolitics of scientific production.

It is only from there that we can approach the issue of increased value which depends upon the upstream element, and solutions found so as to both produce and share knowledge. Increased value increases our awareness in several directions, in favor of all players. There is increased value of knowledge to the advantage of all users and all beneficiaries of science, through new approaches to open science. This occurs through the organization of controlled innovation capture, in aid of both the economy and industry, through both the broadening and combination of scientific results to meet the needs of society, education, health and social life. These questions make sense in view of the experimentation with new rules, and the law around open science, which is currently in the process of development.

We are obviously aware of the limits of this exercise, which only involved the under-mentioned authors. However, we thought that an overview of these often dispersed issues might make sense. Our justification for producing this collective work is our desire that you might also be persuaded by our arguments.

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³ This translates as “Letter upon the trading of books”.

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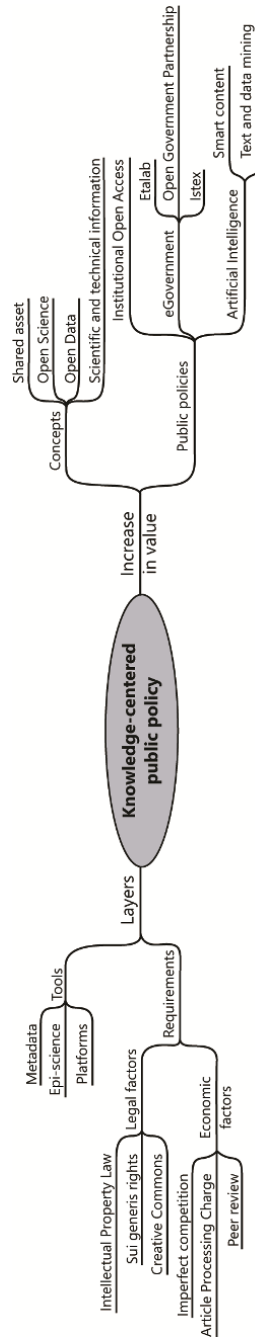


Figure I.1. Heuristic map for evidence-based policies