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Free/Libre/Open Source Software (FLOSS) : lessons for intellectual property rights management in a knowledge-based economy.

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Résumé.

Dans cet article nous nous intéressons au fait qu'aujourd'hui, le logiciel libre n'est plus produit simplement par des individus, mais par des entreprises, qui ont leurs propores stratégies/objectifs de développement et qui embauchent des développeurs pour les atteindre. Il est alors important de comprendre les bénéfices qu'elles tirent d'un tel engagement. Autrement dit, nous nous intéressons aux différents modèles économiques de ces entreprises et leur évolution possible. Nous montrons d'abord que logiciel libre est une nouvelle manière de penser et de gérer sa propriété intellectuelle, qui amène à repenser les bénéfices qu'on peut retirer des taches de production de connaissances. Nous proposons ensuite une typologie des différentes stratégies industrielles vis-à-vis du logiciel libre, et comment ces stratégies correspondent aux caractéristiques techniques, économique de chaque sous-secteur. Dans une partie conclusive, nous essayons de tirer les principales leçons de l'expérience industrielle du logiciel libre et de son extension à d'autres activités commerciales basées sur la connaissance.

ABSTRACT.

The aim of this paper is to focus on the emerging situation in which open source software is nowadays produced not only by individual developers but in a growing proportion by firms that hire programmers for their own objectives of development in open source or for contributing to open source projects in the context of dedicated communities. As commercial firms it is important to analyze how and why they are capable to draw benefits from such involvement and their connected activities. In other way we want to stress the different types of business model these firms are leaning on and the possible evolution they are likely to know in a near future. We shown how Open Source principles provide an alternative way of thinking and managing intellectual property that do not come up against the same problems but needs a radical change in the way of drawing commercial benefits from knowledge development tasks. Then we analyze the growing involvement of commercial actors by setting up of a typology of the different business model that can be observed in the OS landscape, how they correspond to different strategies of industrial firms according to the main characteristics of their technical skills and market position. Finally, in a conclusive section we will intent to draw the main lessons of the FLOSS experience for a possible enlargement of those principles of IPR management and business to other knowledge based commercial activities.

Keywords : FLOSS, industrial organization in ICT.

Introduction.

A "free"/"libre" or "open source" software (FLOSS) is a software whose source-code, that is the explicit expression of the programming work, remains openly accessible. It appears as an alternative solution to the question of intellectual property in the computer software field, in which neither copyright nor patents can bring an acceptable balance between innovation incentives and knowledge diffusion. Copyright protecting not the ideas but a given expression of

the ideas, software editors do not generally reveal the explicit expression of the programs (the source code) and suit those who try to disclose it. This behavior impedes knowledge diffusion in contradiction with the principles of IPR protection and handicaps the accumulative characteristic of innovation and the software products interoperability. On the other side patenting software could lead to a progressive partitioning of the field into proprietary owned procedures or algorithm and contradicts the recent evolution of programming techniques that are based on a closer relation to scientific knowledge and a combinatorial assembly of reusable components.

On the contrary, the alternative model of Open Source Software -OSS-, is based on a very innovative juridical concept called GPL "General Public License" and its diverse variations, and consists in imposing the producers to disclose both the source-code of the concerned programs and any further improvement if they are re-distributed/re-sold. It corresponds to a totally different approach of intellectual property rights, based on a weaker protection and the ability for all the actors to benefit from the whole set of innovations and progresses from a shared knowledge base. Of course, as in any public good question, this raises immediately problems of possible free-riding and of the incentive to disclose such knowledge in so far as accessing to knowledge doesn't depend on having contributed or not. That's the reason why the viability of this new way of IPR management will depend on the sustainability of associated business models and institutional supports.

Until recently, FLOSS was considered as only concerning programmers motivated by the building and the sharing of a base of programs developed for their own needs. Today, the open source model involves commercial enterprises and also an enlarged market of simple users. This brings to a paradoxical situation in which the development of business relies on the existence and durability of an activity of non-market nature. In former works, we have shown that solving such a paradox requires the setting up of new modes of incentives involving a pecuniary dimension additionally to the motivations of programmers originated in the initial movement. Such a turn still appears to be part of the actual way of working of FLOSS in so far as a growing amount of the code is produced by salaries that are paid for doing so. Such "hybridization", mixing market and non-market rationales, nowadays appears as an inescapable evolution that also challenges policy makers for integrating support to FLOSS in the instruments of technological policy. It is then of growing importance to better understand under which conditions such a model of IPR management could extend to a growing number of knowledge intensive economic activities.

The aim of this paper is to focus on the emerging situation in which FLOSS is nowadays produced not only by individual developers but in a growing proportion by firms that hire programmers for their own objectives of development in open source or for contributing to open source projects in the context of dedicated communities. As commercial firms it is important to analyze how and why they are capable to draw benefits from such involvement and their connected activities. In other way we want to stress the different types of business model these firms are leaning on and the possible evolution they are likely to know in a near future.

Section 2 is devoted to the analysis of IPR traditional protecting ways in the software industry and their failure. We will explain how Open Source principles provide an alternative way of thinking and managing intellectual property that do not come up against the same problems but needs a radical change in the way of drawing commercial benefits from knowledge development tasks. In the section 3 we will describe how FLOSS has progressively switched from a contribution model based on individuals' benevolent efforts to an actual industrial one. Then section 4 will aim the setting up of a typology of the different business model that can be observed in the OS landscape, how they correspond to different strategies of industrial firms according to the main characteristics of their technical skills and market position. Finally, in a conclusive section we will intent to draw the main lessons of the FLOSS experience for a possible enlargement of those principles of IPR management and business to other knowledge based commercial activities.