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Research Paper

Do you get what you give?

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ABSTRACT:- Peer production is considered as a new way for the creation of value in post-modern societies. This new method of production can be defined as 'Immaterial Labour', associated with technology change and a shift from old to new. Accordingly, the Socio-Technical Design offers a useful tool to comprehend this paradigm. New technologies motion first-hand interactions and distinctive interpretation. Different social groups behold different conceptions about a technology; this in turn can be understood with theories such as the 'Interpretative Flexibility'. The Free and Open Source Software (F/OSS) Movement exemplifies all the above; therefore, it is a classical example of peer production and 'Immaterial Labour'. OSS 2.O is veering to a more commercial commodity, deployed to a more vertical disposition of IS and leaving its ideological principles behind. Despite its transformations, the private sector seems to be hesitant to embrace OSS 2.0. The Resource Base View is suggested in this paper as a way to overcome organisational fear.

Index: Immaterial Labour, Peer Production, Socio-Technical Design, Interpretative Flexibility, OSS 2.0, Resource Based-View of the Firm

I. INTRODUCTION

In what way is the proverb “you get what you give” still true? It is definitely out-dated in relation to discussions about the Free and Open Source Software (F/OSS) movement. F/OSS is the renaissance of the early ways of software development. It is not a reference to a particular development methodology, but rather a commentary on the way knowledge was shared at that given time. Thanks to advancements in technology, the World Wide Web offers an almost infinite scope of ideas 24 hours a day, with F/OSS putting free codes at the fingertips of all. For scholars such as Yachai Benkler, Tiziana Terranova and Maurizio Lazzarato, this represents a shift from old to new,where the means of generating ‘product/content’ are all online. Nevertheless, they understand the same platform or system of production in very different ways. It is sometimes suggested that the theory of 'Immaterial Labour' can be considered as a relatively new way to analyse today’s societies. Another option is to try to understand Immaterial Labour using the theory of 'Socio-Technical Design', which is associated with technology and change [1]. This paper aims to discuss how the concept of 'Interpretative Flexibility' (SCOT) can help us to understand different social groups with diverse philosophies about the same technology represented by Tiziana Terranova and Yachai Benkler in this paper. This essay will address the shift from the horizontal to a more vertical domain of F/OSS application. Over the years, F/OSS has become more commercially acceptable, shifting away from initial revolutionary reputation to what Brian Fitzgerald describes as OSS 2.0 [2]. On the one hand, the tech-mainstream has embraced OSS 2.0. On the other hand, it is reasonable to think that it is happening very slowly and facing some objections. Therefore, this essay will attempt to tackle this problem by using the Resource Base View and in doing so, endeavour to overcome the organisational fear of sharing their unique knowledge with the F/OSS movement. Finally, all these points will be drawn together in the conclusion.

II. PEER PRODUCTION AND THE SOCIO-TECHNICAL DESIGN

According to Eric von Hippel [3] and Steve Weber [4], in the early days of software development it was common to share knowledge between academics and engineers from different organisations or institutions. Von Hippel argues further that software was developed mainly in academic and corporate environments and it belonged to research culture to give -and -take programs and codes [3]. Indeed, by exchanging knowledge and having access to lines of codes previously written by someone else, programmers were able to generate new lines of codes, new programs and new algorithms. In that way, these communities of hackers could rely on many more lines of codes and programs than they could ever bestow on the communities in their lifetime. In present times, things have obviously shifted away from these elite groups of academics and engineers from institutions such as the Massachusetts Institute of Technology, Berkeley University and Xerox. It is arguable that, to a certain degree,

the whole world is connected via a web of codes and, according to Benkler, the shift in paradigm can also be observed in new approaches in the production of value in post-modern societies: "…one that should not be there, at least according to our most widely held beliefs about economic behaviour" [5]. Benkler defines this innovative approach to production as "commons-based-peer production" [5]. Other authors and scholars, such as Maurizio Lazzarato [6], Michael Hardt and Antonio Neri [7] and Tiziana Terranova [8] [9], offer an alternative view of the subject, defined as Immaterial Labour.

It seems evident that the Internet puts forward an efficient infrastructure for non-profit activities or, at least, activities that are not always perceived as work [5]. Still, these actions seem to be organised like they would be within firms [5]. Benkler affirms that the Internet takes the form of what the French and the Italian theorists, Gilles Deleuze and Félix Guatarri, would describe as a rhizome [10] enabling collaboration between individuals in different locations [11]. These agents, as the author calls them, are detached from claims of ownership or contract [11]. Another example of this is given by Tiziana Terranova: "This spontaneous productivity is said to be intrinsically related to the distributed and decentralized organization of large numbers of interacting peers and to be a feature of social, technical and natural systems. It is an *excessive* production of cooperation and interaction that has brought forth the development of new techniques of control." [8].

What is really remarkable from these contrasting views is the potential to mould a synthesis of different analysis. On the one hand, we have a very liberal and acclaimed scholar who believes in an outcome of a prosperous non-market segment of information, knowledge and cultural production built upon a networked environment [5] that places us (humans) in the middle of "a technological, economic and organisational transformation that allow us to renegotiate the terms of freedom, justice and productivity in the information society." [5]. On the other hand, we have a politically left-oriented author who takes into consideration the shift in paradigm in labour practice in post-modern societies by claiming that there is a development in place shifting the work process from the factory to the societies, in what she describes as the 'Social Fabric' [8].

In fairness to Michael Hard: "Just as for well over a century industrial labor tended to transform all other forms of production, forcing them to adopt its qualities and industrialise, so, too, immaterial labor is today transforming other forms of production and forcing them to adopt its qualities, to be communicative, informal, image-oriented, and so forth" [12]. In sharp contrast to Michael Hardt, Benkler explains that all efforts needed for prosperous creative action come from the individual users. The author continues: "The core technologically contingent fact that enables social relations to become a salient modality of production in the networked information economy is that all inputs necessary are under control of the individual users. Human creativity, wisdom and life experience are all possessed uniquely by individuals" [5].

Although Benkler's argument has some merit, this paper is much more in line with the classic illustration of Immaterial Labour "… it refers directly to the changes taking place…, where the skills involved in direct labor are increasingly skills involving cybernetics and computer control (and horizontal and vertical communication). On the other hand, as regards the activity that produces the 'cultural content' of the commodity…" [6].By contrast, Maurizio Lazzarato seems to perceive the shifts to be happening in workers' abilities (the interactions between humans and systems), the work environment, and the immateriality of the commodity. Thus, it is interesting to speculate that the concept of 'Immaterial Labor' relates back to the philosophy of 'Socio-Technical Design' [1]. The Socio-Technical Design is described as "a process and a humanistic set of principles that in our context is associated with technology and change" [1]. A point of contention is the question regarding whether technology (machinery and associated work organisations) should be authorised to be the governing component when new work methods are implemented [1]. As peer workers have no contractual relationship, the issue arises in relation to there being nobody to take responsibility for work conditions; as such, there seems to be a limitation to the critical thinking of this paragraph. Peer workers were referred to in this context as somebody that engages him/herself with peer production activities.

III. INTERPRETATIVE FLEXIBILITY AND PEER PRODUCTION

Mention should also be given to the debate between Terranova and Benkler, which exemplifies issues surrounding the Interpretative Flexibility of technology. According to Wieber E. Bijker: "The Interpretative Flexibility of an artifact can be demonstrated by showing how, for different social groups, the artifacts presents themselves as essentially different artifacts" [13]. How can this be explained? Essentially, there is a need to reflect on the most dominant medium in Western culture before the Internet. An important point that is sometimes overlooked is that, due to an array of disputes among different parties (private and public sector), television had a very intriguing early history. As William Uricchio has put it forward "…certainty of television's place in the home, its status as a domestic technology, was by no means the only options for the medium before the war's end"

[14]. The crucial question of whether peer production will be used for good or evil will have to remain open and could potentially be addressed in further studies.
To say that peer production is the same as television would be an exaggeration. However, they resemble each other closely if we take into account how the different actors have shaped and embraced the concept of peer-production. As Bijker has shown: "In the SCOT descriptive model, *relevant social groups* are the key starting point. Technical artifacts do not exist without the social interactions within and among social groups" [13]. What sort of picture do these considerations allow us to construct? One way of answering this question is by considering a very thin line that exists between labour exploitation and creative collaboration in post-modern societies. By observing these issues through the Interpretative Flexibility lens, it becomes clearer that two or more social groups interpret human interaction with a particular technology in two or more ways.

IV. F/OSS AND OSS 2.O

F/OSS is a typical illustration of the above discussion and is defined as "quintessential instance" of peer production [5]. However, F/OSS is moving away from back-office software development to the more visible disposition of IS – application in vertical domain [2]. In part, this might be explained by the deviation of F/OSS. It is important in this context to try to distinguish between F/OSS and OSS 2.0. For Richard Stallman, Free Software is a social and political movement [15]. Yet, Eric Raymond views Open Source as a methodology [16]. In contrast, OSS 2.0 is defined as "…the more mainstream and commercially viable form…" of F/OSS [2] or "…software designed to automate businesses of a particular type" [17]. There are two aspects to this change in paradigm, which this paper will reflect upon briefly. First, peer production does not play a major role anymore. To put it simply, it is not only a matter of being an exceptional programmer [2] or about modularity [18], nor is it a matter of replacing the assembly line with the Internet as the organisational model of production [8]; rather it is about having insight into a particular way of doing things within a business environment. For example, in order to successfully develop F/OSS for a dentist's business, it is crucial to understand what kind of a system a dentist requires. Therefore, the developer needs to be a dentist himself or have access to a dental clinic [17]. Hence, the question remains: how many developers out there are really interested in odontology? In this particular case, it seems clear that there is no "itch worth scratching" [16]. Second, it does not involve an ideology anymore. Who cares whether the crown jewelry (source code) is open or not? It is hard to deny that businesses want reliable infrastructures as cheaply as they can get them.

It is possible to explain the latter argument by referencing Beaumont Hospital in Ireland and La Gendarmerie Nationale (French Police). First, the Beaumont Hospital case study by Brian Fitzgerald [18] references to a large-scale OSS implementation and a shift to a more vertical application of F/OSS in a public hospital. According to Tony Kenny, the hospital's IT Manager: "Free access to source code was not really a factor in Beaumont's decision to deploy an OSS solution." [18]. The Beaumont Hospital also provides a clear illustration of a vertical domain implementation. For most of the technology's existence, x-rays have been printed out for viewing – in analogue form. However, today x-ray has a digital format, DICOM (Digital Imaging and Communications in Medicine). Beaumont Hospital's IT department developed a way to retrieve and enable the visualisation of DICOM x-ray online by writing a script in Perl [18]. This method has been implemented in other hospitals across Ireland, and the study has also shown a substantial expenditure savings [18].

The second example is the large-scale OSS implementation of the La Gendarmerie Nationale. In 2011 Jean-Pascal Chateau, the Commandant of La Gendarmerie Nationale, announced the Gendarmerie's intention of switching over to Ubuntu: "We weren't experiencing technical problems, but financial ones. For the same amount of work, yielding the results, we realized that Windows would cost us €2 million more than Ubuntu every year.". The Gendarmerie has now reached over 37,000 Linux desktops and aims to achieve 72,000 in 2014 [19]. Although the above article does not mention the usage of F/OSS in a vertical domain, it shows another case of a public sector player moving towards F/OSS.

The Beaumont Hospital case study demonstrates how a particular industry can profit in different ways by sharing its industry knowledge with the F/OSS movement. Indeed, it is plausible to argue that there are many positive aspects in the Beaumont Hospital and La Gendarmerie Nationale case studies. Yet, other evidence suggests that it can also be associated with problems [18].

It is plausible to associate these shifts with restructuring. OSS 2.0 has become less "*bazaar*" alike and "strategic planning moves to the fore" [2]. At the same time, "an itch worth scratching" is replaced by the desire for financial gains or savings. Last but not least, the advances in new copyright licenses allow the development of new and more flexible business models, e.g. Dual Licences [17].

V. OSS 2.0 AND THE RESOURCE BASED-VIEW

F/OSS development for more vertical applications is not considered by the private sector to provide enough advantages yet [17]. Partly responsible for this objection is the belief of firms that their commercial gains are entirely or partly dependent on their technology. Rafael Andreu and Claudio Ciborra have shown that technology alone does not make the difference, but rather the way you apply and reevaluate a particular process when using technology. This is what the scholars call "routinization learning loop" [20]. According to the authors, the mechanism by which assets turn out to be essential potentials in businesses is the learning process that can be portrayed and comprehended by using concepts from the Resource Base View [20].

Core capabilities mature in firms by shifting resources that are available to all players in the competitive market. By applying and conflating these resources in the firm's settings, these routines create particular capabilities – these in turn develop into 'Core Capabilities'[20]. It is true that by mastering the use of the resources available to them, individuals and organisations fashion a particular way of doing things. This is what gives firms a competitive edge. However, a possible weakness of this argument is that most businesses do not have enough time to shape such "routinization learning loop[s]". We live in an extremely fast-paced world and the competition among businesses creates a lot of pressure. Time seems to be the scarcest resource today. Nevertheless, the model of Resource Base View is a good way to overcome organisational fear of sharing precious and unique knowledge for the development of a vertical F/OSS.

VI. CONCLUSION

By shedding more light on *The Wealth of Nature* [5] and *Coase's Penguin* [11], it is not difficult to escape the conclusion that Benkler has given disproportionate attention to the format of work, skill set necessary to peer production and the work environment.

Additionally, Benkler does not seem to address the immateriality of the commodity, despite the fact that in post-modern societies "it is around immateriality that the quality and quantity of labor are organised" [6]. In the scope of this essay, it was not possible to present alternatives to the notion of Immaterial Labour. Therefore, I suggest further studies could explore a more politically neutral concept.

Although 'Interpretative Flexibility' is a very helpful tool to grasp the two different social groups – represented in this context by Terranova and Benkler – it is assumed that all members of the individual social groups think in the same way about peer production. Additionally, it takes for granted the differences within the groups and the fact that they have distinctive levels of decision-making roles regarding the design of the system [21]. Further reflection would be worthwhile in order to define the social groups more precisely and find out how more participation in design could prevent a political debate.

The discussion of the literature has also indicated that the F/OSS is undergoing restructure. It is moving away from the initial ideological movement to a more commercialised commodity, which was revealed by the two illustrations of large-scale OSS implementations: Beaumont Hospital in Ireland and Gendarmerie Nationale in France. However, these are two public sector examples. This essay suggested the Resource Base View as a tool to overcome organisational fear when they potentially risk their business knowledge. One potential method to achieve a broad understanding in the private sector would be to analyse two firms. One organisation would embrace an F/OSS project in a vertical domain and be willing to share itsorganisational knowledge in order to develop a system in vertical F/OSS domain; anotherfirm would take the opposite approach. Although this research would take years, as the collection and evaluation of the data would be fairly laborious, it would present an interesting way to compare the impact these two different models would have at an organisational level.

REFERENCES

(Periodical style)

[1]. E. Mumford, "The story of socio-technical design: reflections on its success, failures, and potential" Information System Journal, Vol. 16, Issue 4, pp 317-342, October. 2006.
[2]. B. Fitzgerald, "The transformation of open source software"MIS Quarterly, Vol. 30, No.. 3, pp. 587-598, Sep. 2006.
[3]. E. Von Hippel, Democratizing Innovation, London, England: MIT Press, 2005,ch. 6.
[4]. S. Weber, The Success of Open Source, London,England: Harvard University Press, 2004, ch. 2, pp. 20-53.
[5]. Y. Benkler, The Wealth of Networks, London, England: Yale University Press, 2006, pp. 6-99.
[6]. M. Lazzarato, "Immaterial Labor" inRadical Thought in Italy: A Potential Politics, P. Virno and M. Hardy, Ed. Minnesota: The University of Minnesota Press, 1996, ch. 10, pp. 133-147.
[7]. M. Hardt and A. Neri, Empire,England: Pluto Press, 2004, ch. 3.4, pp. 280-303.
[8]. T. Terranova, Network Culture: Politics for the Information Age, London,England: Pluto Press, 2004, ch. 3, pp. 73-80.
[9]. T. Terranova, "Of Sense and Sensibility: Immaterial Labour in Open Systems" inCurating Immateriality, J. Krysa, Ed. Brooklyn: Autonomedia, 2006, ch. 2, pp. 27-36.
[10]. G. Deleuze and F. Guattari, A Thousand Plateaus, Minneapolis: The University of Minnesota Press, 1987, pp. 3-28.
[11]. Y. Benkler, "Coase's Penguin, or, Linux and The Nature of the Firm"Yale Law Journal, Vol. 112, No. 3, pp. 371-399, December 2002.
[12]. M. Hardt, "Immaterial Labor and Artistic Production" Rethinking Marxism, Vol. 17, No. 2, pp 175-177, April 2005.

[13]. E. Bijker and J. Law, Shaping Technology / Building Society: Studies in Sociotechnical Change, London, England: The MIT Press, 1992, ch. 3, pp. 75-104.
[14]. W. Uricchio, "Television's First Seventy-Five Years: The Interpretative Flexibility of a Medium in Transition" inThe Oxford Handbook of Film and Media Studies, R. Kolker, Ed. USA:Oxford University Press, 2008, ch. 9, pp. 296-305.
[15]. R. Stallman, Free Software, Free Society: Selected Essays of Richard M. Stallman, Boston: GNU Press, 2002, ch. 3, pp.43-46.
[16]. E. S. Raymond, The Cathedral and the Bazaar: Musing on Linux and Open Source by an Accidental Revolutionary, Cambridge: O'Reilly Press, 2001, abstract.
[17]. M. P. Conlon, "Open Source Software in the Vertical Market: An Open Niche?" Conisar Proceedings, pp.1-11, Vol. 4, No. 1808, Wilmington, North Carolina: EDSIG Press, 2011.
[18]. B. Fitzgerald and T. Kenny, "Open Source Software in the Trenches: Lessons from a Large-Scale OSS Implementation," presented at the 24th International Conference on Information System, Seattle, Washington, December 15-17, 2003.
[19]. S. J. Vaughan-Nichols (October 2013). French police move from Windows to Ubuntu Linux. ZDNET[Online] Available: http://www.zdnet.com/french-police-move-from-windows-to-ubuntu-linux-7000021479/
[20]. C. Ciborra and R. Andreu, "Organizational learning and core capabilities development: the role of IT"in Information Technology and Organizational transformation, R. D. Galliers and W. R. J. Baets, Ed. Chischester: John Wiley, 1998, pp. 87-106.
[21]. H. K. Klein and D. L. Kleinman, "The Social Construction of Technology: Structural Considerations"Science, Technology & Human Values, Vol. 27, No. 1, pp. 28-52, Winter 2002.

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