

Managing the Uncertainty of Open Source Communities

Position Statement

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This position piece is based on a paper by the same author and is work in progress. The aim is to look to the workshop attendees for feedback and discussion on transparency, openness, uncertainty, and questions of the changing nature of boundaries between companies and open source communities.

Historically companies that adopt and invest in open source have found it difficult to make sense of what to expect from an open source community in regards to quality of software, sustainability of the product, upgrades and other such characteristics that set open source slightly apart from traditional development. The desire and motivation of companies to liaise with open source communities is usually to engender innovation and novelty in products, practices and even process (West 2003; West and Gallagher 2006). Yet the difference in ideology, work ethic and motivation between companies and open source communities has led to conflict, suspicion and uncertainty for both (O'Mahony 2005; O'Mahony et al. 2005). Such a lack of transparency, and increased ambiguity (Dougherty and Heller 1994; Lounsbury and Glynn 2001) is seen by companies as a form of uncertainty that needs to be managed and made less problematic (Bartel and Garud 2009; Garud et al. 2006). In other words, managers interested in bringing open source into the company need to show how the uncertainties of open source can be converted into risks (something that has a probability and thus can be measurable). Thus, there is need for a different form of transparency.

The question of *how* companies reach out to open source communities has been dealt with in the past (O'Mahony 2003; O'Mahony 2005; Shaikh and Cornford 2010) and theorized in terms of boundary spanning (O'Mahony 2005; O'Mahony and Bechky 2008) and new forms of business models (Fitzgerald 2006; Lindman et al. 2008; Agerfalk and Fitzgerald 2008; Shaikh and Cornford 2008). Companies under rapidly changing and unknown conditions opt for something familiar and known. Thus we address questions of *how* a company manages boundaries between itself and open source communities in relation to novelty, openness, and transparency in an attempt to understand and work more effectively with the latter.

Sensitized by the work of Boltanski and Thevenot's (1999; 2006) orders of worth we were able to understand the process of novelty uncertainties being made less problematic. We drew upon their work to show how companies create transparency by converting uncertainties to risks in relation to an open source community. This is done by **a)** evaluating what are desirable characteristics (qualifiers) in open source communities, **b)** forcing the qualifiers to become more transparent, and less novel by moulding them closer to characteristics sought in traditional software companies, and **c)** moulding qualifiers into more *material* forms. This paper shows how companies make sense of open-sourcing and re-fashion what is offered in relation to what they are familiar with – through making each open source community qualifier more material (Miller 2005) and less abstract.

Materiality (Hicks 2010; Law and Mol 1995; Miller 2005) or the process of materializing (Jones 2013; Shaikh 2012; Tilley 2007) offered companies and its managers the possibility to artificially create stability in a changing world to be able to better manage decision-making in regard to something relatively unknown like open source. Making open source material, one qualifier at a time, made the unknown knowable. Materiality need not be something tangible, though some would argue persuasively against this claim (Kallinikos 2012; Leonardi and Barley 2008). Materiality has been conflated with artefacts (man-made items and technology) (Hicks 2010), yet it means more, this concept encompasses ideas

communicated, written texts, but also discourse – anything then that has a capacity to act (Latour 2005; Pickering 1993; Rose and Jones 2004; Shaikh 2011).

Companies making sense of open source through a process of materializing made the qualifiers durable (Latour 1991). But materiality also allowed for a nuanced form of control and domination by a company that if made explicit to the community could strain the relationship between the two. Through the use of material qualifiers (like lines of code, programming experience of the developers...) what managers within companies are doing in practice is drawing upon the legitimacy of such qualifiers to negotiate requirements agreement, direct the software in a company-centric manner, and manage other concerns in their favour. They are in effect embedding authority (Latour and Johnson 1995; Mallard 1998) within the material qualifiers. There is distancing (Callon and Muniesa 2005; Latour 1988) between the company and what it wants to achieve by working through mediators that the community understands and responds to. This makes the qualifiers, material, durable, and legitimate (carrying, and embedding authority), and in turn make open source more transparent for the company.

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