Commercial providers of infrastructure for collective action online

Case studies comparison

Flickr - Corporation model and Wikihow - Enterprise model

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Abstract: This paper analyses the role of the providers of infrastructure for collective action online. Based on the case of online creation communities, the paper presents the two main models of commercial providers of infrastructure: corporate service model and mission enterprise model. It also presents an explanatory analysis of how the type of provider shape the community generated. The empirical analysis is based of a case study comparison of Flickr and Wikihow.

Keywords: online platforms, online creation communities, governance, participation, commercial strategies

I. Introduction

Online Creation Communities (OCCs) are a set of individuals that communicate, interact and collaborate; in several forms and degrees of participation which are eco-systemically integrated; mainly via a platform of participation on the Internet, on which they depend; and aiming at knowledge-making and sharing.

In order to approach OCCs it is useful to make an analytical distinction between two spaces. On the other hand, there is a platform of participation where participants interact and which can grow enormously. On the other, there is a generally small provision body that provides the platform on which the community interacts. For example, the Wikimedia Foundation is the provider of the infrastructure within which the community of participants which build Wikipedia interact. NTIs lower the costs of established forms of collective action (Benkler, 2006). However, they still depend on interaction within an infrastructure. The provision of this infrastructure cannot be seen as a dysfunction or unimportant; instead it solves some of the questions this type of online collective action necessarily raises. For example, platform provision involves the control of servers and the domain name and other important components which sustain the interaction both technically and legally. Previous analyses of governance of OCCs (Benkler, 2006; Burke & Kraut, 2008; Ciffolilli, 2003; Kittur, Suh, Pendleton, & Chi, 2007; Kriplean, Beschastnikh, McDonald, & Golder, 2009; Loubser & Pentzold, 2009; O'Neil, 2009; Reagle, 2005, 2007; Stadler & Hirsh, 2002; Tkacz, 2007; Viégas, Wattenberg & Mckeon, 2007) have dedicated little attention to this and infrastructure governance is considered a "backstage" question[1]. In my view, in the analysis of OCCs' governance there is instead a need to look at both spaces (community around the knowledge-making and infrastructure provision) and their particular connections, because both are important and have functions in the governing of OCCs. In this

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[1] For a notorious exception on considering infrastructure governance for the FLOSS case see O'Mahony (2007).

regard, my analysis search to enrich Benkler's (2006) analysis of OCCs (or common-base peer production) as this research does not leave the infrastructure aspects as environmental institutional conditions; but integrates in the analysis the necessary interface of CPBB, with its environment and how it (and its governance) shapes community action.

The OCCs can be classified in terms of how their provision spaces function. Two main axes concerning the infrastructure provision strategies can be distinguished: open *versus* closed to community involvement in infrastructure provision, and freedom and autonomy *versus* dependency on the infrastructure (netenabler *versus* blackbox).   According to a large *N* analysis of cases in regard to how they perform differently these two axes of order, five main models of online infrastructure provision can be distinguished: Corporation services, mission enterprises, university networks, representational foundations and assemblearian collective self-provision (see figure I) (Fuster Morell, 2010). Each option of these models has advantages and disadvantages, and importantly, these models differently shape the communities generated in terms of participation growth and type of collaboration established (Fuster Morell, 2010). This paper is centered in presenting and comparing the two models of infrastructure governance based on for-profit strategies: corporate service model and mission enterprise model.

Figure I. Models across the two axes of infrastructure governance
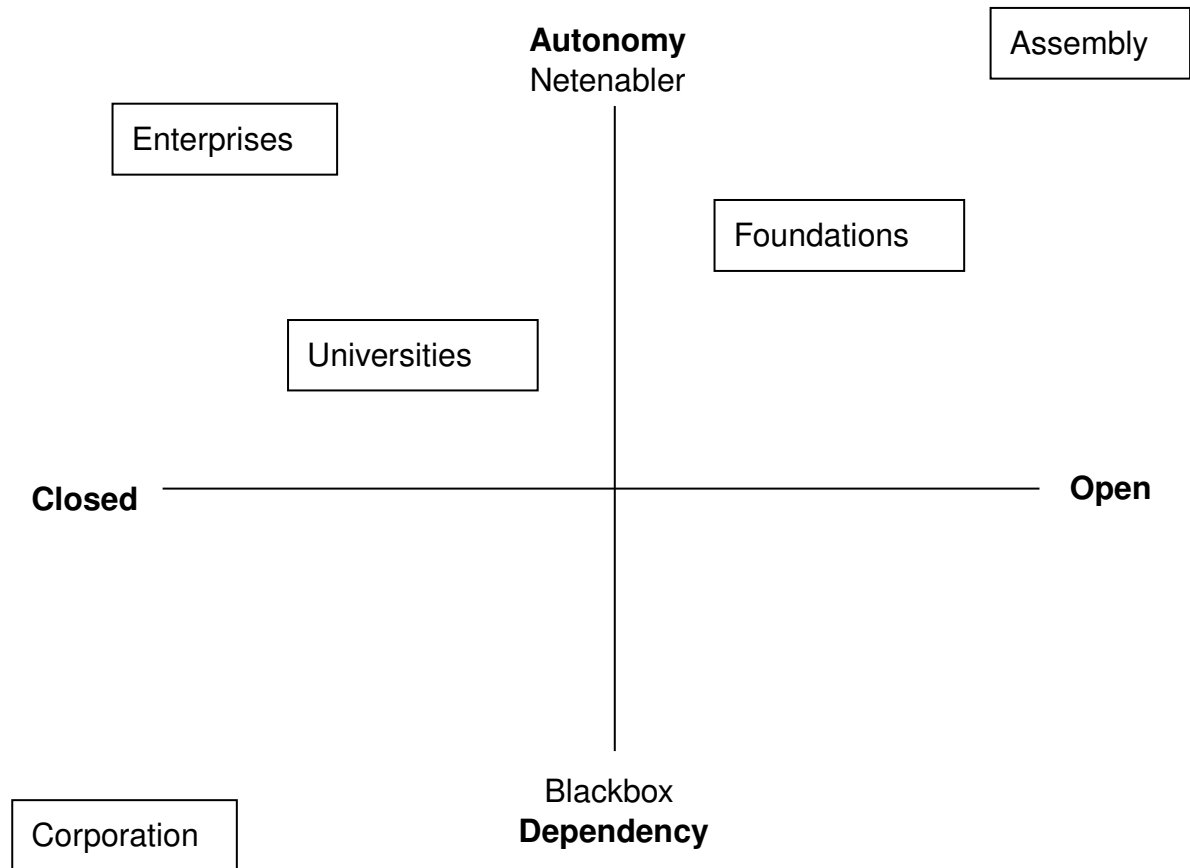
Legend: Y = Freedom and autonomy of community from the provider; X = Involvement of the community in the provider body. See figure IV for a further specification of the distribution of the cases and models across the two axes of infrastructure governance.

The **corporate model** of infrastructure governance is characterized by a provider body closed to participant involvement and based on blackbox conditions.[2] Participants are "trapped" in the platform, as the copyright and proprietary software framework restricts the freedom and autonomy of the participants in the platform. The corporation model applies to cases of communities owned by communications companies with large pools of technological skills such as Google, the provider of YouTube.

The **mission enterprise model** is characterized by being closed to participant involvement. Importantly, the enterprise model is based on netenabler conditions, which favor the autonomy of collaboration. The enterprise model is the case of startups, which maintain independence from big communications companies. It is a strategy for developing new business models which are compatible with netenabler conditions. One example is Wikihow, a how-to collaborative manual, or Wikitravel, a collaborative travel guide, both provided by small start-ups.

The **empirical analysis** is based on the comparison of two case studies, Flickr and Wikihow. Flirck is a platform for sharing and archiving visual materials provided by Yahoo!. Wikihow is a wiki collaborative "how to" manual provided by Wikihow, a start-up based in Silicon Valley. One of the positive aspects of this case selection is the independence between the cases. Flickr is one of the first and most successful cases of

2 In the sample, corporation models are significantly more likely to be blackbox in contrast to the enterprise model, the foundation model and the university network model. The mean difference is significant at the 0.05 level.

the new economy of information access and sharing. Wikihow represents a new trend of new economical models with aim to meet profitability with netenabler principles.

The methodology is based on the triangulation of several methods. The methods used for the case studies are virtual ethnography, carried out during 2008 and 2009 (A field notes book was kept during the online ethnography) and a total of 25 interviews with participants and managers of Flickr and Wikihow.

II. Type of commercial provides of infrastructure for collective action online

The entrepreneur culture and the business ideals of raising money through innovation with the NTI informational products have been around since the early stages of NTI development which resulted in a technological industry (Castells, 2001, 2002). In the 1970s, the business was based on the creation of proprietary software for running hardware (such as the personal computer); once the Internet became a densely used network, business came to be based on providing online Internet service provision online.

In the fall of 2001, the technological industry suffered of what was called the "dot-com" crisis, which marked a turning point for the sector and a shift in the business model. The new economy of information access and sharing, also known as Web 2.0 or Wikinomics, refers to a shift in the business model, "a new way of doing business", following the dot-com crisis (O'Reilly, 2005; Tapscott & Williams, 2007).[3] The new economy of information access and sharing is an innovative economic trend based on the commercialization of information flow and services by media corporations. The corporations are public companies for sale to the public through the stock exchange. Some of the platforms they host bring together very large communities of participants and have a monopoly in the market (in reference to covering large percentages, such as more than the 50%, of their market) (Tapscot & Williams, 2007).

An archetypal example of this new economy is Google. Google is the provider of a search engine and video-sharing platform YouTube. Google has from 75 to 90 % of the online search market (Vaidhyanathan, 2009). Google Images, and the new economy in general, were built as an "alternative" to previous approaches to NTI as symbolized by Microsoft. While Microsoft sells programs, as "packaged" information, Google is instead based on providing "free" services and channels for information flow and accessibility (Tapscott & Williams, 2007). It is worth mentioning that the these corporations have an activist discourse. The slogan "*change the world making a lot of money*" illustrates their position in this regard.[4] Apart from Google, other examples of corporations on the Web are Facebook (a social networking platform), Twitter (a micro-blogging platform), Amazon (a bookshop), Ebay (an online auction platform), and Yahoo! (the provider of the photo-sharing platform Flickr).

3 O'Reilly created the term Web 2.0 originally to represent a shift in the business model, "a new way of doing business", after the dot-com crisis. However, the description of Web 2.0 by O'Reilly largely only outlines the design patterns of a Web 2.0 (2005). Instead, the concept of Wikinomics proposed by Tapscott and Willians is more specific about how corporations generate benefits from values created by the OCCs (2007). O'Reilly's attention to design patterns instead of describing the mechanism for creating profit could be the reason why the term Web 2.0 is also used to refer to not for profit communities. Actually the term Web 2.0. is frequently used to refer to any mechanism that promotes participation and interaction among participants or that is based on creating links and network effects through the Internet. Other terms suggested by Levitt and Dubner is Freakonomics (2005).
4Slogan present at the flyer found at Stanford University Career Fair (2008).

The success of the new economy has disseminated (beyond the passionate *geek* and first enthusiast of the web) the open to participation multi-interactive channels of participating to the wider population.[5] The year 2006, was declared by the Times as the year of "you", referring to the spectacular increase in the use of platforms generated by participants creating their own content (Grossman, 2006).

Although, the new economy was founded on providing platforms for the flow of information through unrestrictive information exchange, most corporations base their platforms on a blackbox policy. That is, platforms are based on proprietary software and proprietary licenses on the platforms content.

Although most of the literature focuses on corporations, these are not the only commercial providers. There is another set of commercial providers, enterprises, which are based on a *mission-oriented* and *netenabler doctrine*. Mission enterprises are distinct from corporations in aiming to preserve the free net philosophy. In this regard, they are based on the netenabler policy instead of the blackbox policy of corporations. As Stallman had already noted in the 1980s, this different policy has a profound political meaning, as blackbox conditions limit the freedom of speech and of association (Stallman, 1996; R. Stallman, Interview, Juny 12, 2007). This new willingness to show that it is possible to create profit and sustainability under netenabler conditions can be observed in the discourse of the mission enterprises: frequently, successful start ups are bought by large media corporations. However, mission enterprises tend to remain independent from corporations and do not "sell" the platforms to them. Examples of this trend are cooperatives such as FLOSS and also Wikihow and Wikitravel.

Some of the channels of the commercial providers for making profits are personalized publicity, payment for sophisticated aspects of the service, publication of contents generated on the platforms or the selling of participants' profiles as social profile data. The distinction between these two models importantly lies in their different approaches to the net and participant's freedom and autonomy towards the infrastructure mission enterprises is a convinced enable net and flow continuity (portability) and blackbox corporations are closed points of flow.

 Each platform does not act in isolation: the collaboration and flow of data between them creates a network effect. Both in the case of the corporate model as well as in the case of mission enterprises, networks are created between these two types of commercial form. In this regard, both in the corporation service and in the mission enterprises there are "clusters" or "net districts" (similar to an Industrial district) of platforms which cooperate to different degrees and share connections. While corporations create "close" agreements between corporate services, net-enablers create open networks for data flow between them and beyond. For example, in relation to the corporate model, there is an integration of services among participants' accounts, such as amongst Google, Facebook, Skype and Twitter. With regard to the mission enterprises, the provider's part of a "net district" is inspiring and advising each other and building upon others' learning experiences: they try not to damage each others' interests with their decisions and find places in the market for each of them; they share licenses in order to facilitate the flow of content between the platforms and the sharing of information; they use shared protocol to simplify participant registration in the different sites; they collaborate in terms of sharing "human resources" to fill available positions with active

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[5]Geek is a legitimate term within Internet culture which refers to a person who is an expert on or /and passionate or obsessed with NTI.

contributions from other platforms; and they participate in the same networking events.[6] This is the case for example with Wikihow, Wikitravel and Wikia. Furthermore, these "wiki net districts" work within the parameters of Wikipedia. For example, these cases are among the main donors to Wikipedia.

It is worth noting that most of the providers of platforms of participation, both blackbox corporations and netenabler enterprises, are based in the USA. The San Francisco Bay Area, or more specifically Silicon Valley, is the "Mecca" of the new economy of information flows, hosting a high proportion of for-profit providers.[7] There are several reasons that explain this high concentration of providers within the USA, such as legal adequacy (i.e., liability of content), economic incentives (i.e. contact with venture capital) and the circulation of know-how (J. Wales, Interview, December 19, 2008; M. Godwin, Interviews, December 15, 2008; J. Herrick, Interview, December 4, 2008; K. Wadhwa, Interview, December 16, 2008). Importantly, the USA's ideology and models of profit frame these types of providers. In Europe and Latin America, there are also commercial providers, particularly FLOSS cooperatives. However, in these regions the emphasis is on more socially oriented business forms, perhaps inspired by larger cooperative developments in Europe and Latino America than in USA.

A critical discourse upon and analysis of commercial providers has been developed as they have grown in importance (Boltanski & Chiapello, 2005; Formenti, 2008; Fuchs, 2008; Moulier-Boutang, 2007a). From these critical perspectives the Web 2.0 contributes to the concentration of wealth as participants' activities have a tangible value for the providers. The Web 2.0 is based on procedures that, although requiring the intervention of large numbers of people, result in economic profits of the corporation. In the view of Moulier-Boutang, it is part of a "shift to a third capitalism, what we call cognitive capitalism relying upon capture of positive externalities more and more produced, located, and acting outside the historical boundaries of the firm, for continuous innovation and production of different publics (audience) more than market of commodities" (Moulier-Boutang, 2007b, p.1). According to Chiapello and Boltanski, Web 2.0 refers to the new spirit of capitalism. In their view, from the middle of the 1970s onwards, capitalism abandoned the hierarchical Fordist model and developed a new, post-industrial, network-based form of organization (2005). However, whether Web 2.0 will develop as the predominant new business model or remain marginal is still uncertain (Moulier-Boutang, 2007a).

The growing trend of commercial platform providers hosting digital sociability further complicates traditional divisions between work, production, consumption, and play (Gregg, 2009; Trebor, 2008). There are several issues and controversies within the public arena surrounding the profit cases that are linked to those changes (Fuchs, 2008; Jarrett, 2008; Van Dijck & Nieborg, 2009).

One controversy raging over OCCs, and fundamentally over commercial platform providers, concerns the consequences on professional work. For example, Flickr is changing the relationship between amateur and professional photography and destabilizing the photography market. The availability of photos on the platform reduces the need for hiring photographers to take photos and so creates artist unemployment, while increasing Yahoo!s' commercial profits (G. Lovink, e-mail communication, March 2010). However, according to other authors, Flickr not only reduces the market for commissioned photos for

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6   Networking events in Mission enterprises are such as Recent Changes Camp or Wikimania.

7   New York City and Boston are also important bases of for profit providers.

professional photographers, it also contributes to increasing the market for photos taken by by amateur or "domestic" photographers (MacDonald, 2009).

Another question related to the role of the commercial providers of OCCs is the use of voluntary contributions to benefit commercial companies. This represents a grey area. According to Moulier-Boutang, it questions the crisis of the wage system of employment (2009). While some authors have characterized it as *free labor* (Terranova, 2000, 2004), several authors argue that commercial platforms constitute a source of exploitation by the companies of volunteer work or *free work,* because the corporation benefits from the value generated by collective interaction (Petersen, 2008; Terranova, 2000; Rossiter, 2006). An even more salient characteristic of the corporations is the gap between the very small number of employees and the massive number of volunteer participants involved. For example, Flickr's working team has 48 employees while the platform involves millions of participants.

Furthermore, there are permeable boundaries between active and engaged community members and employees of the companies. On some occasions, community members and employees behave very similarly. Furthermore, it is not clear whether the use of voluntary work by profit companies could be considered illegal (B, Johnson, Interview, December 9, 2008). Legally it is unclear whether a volunteer can carry out a prescribed set of tasks in a prescribed timeframe for a commercial organization. In the USA, there was a large lawsuit in the late 1990s against AOL, the first corporation to use voluntary work, which established that AOL was substituting workers' positions with volunteer positions. Since then, corporations approach voluntary roles with caution to avoid lawsuits.

All in all, the use of volunteers in commercial platforms opens up legal and ethical questions. Indeed some theorist argue against the use of commercial platforms (Lovink & Rossiter, 2007). While other authors claim that community members should be compensated (Weigend, 2008).

Most of the previous literature, both managerial studies on business models shift (Levitt & Dubner, 2005; O'Reilly, 2005; Tapscott & Williams, 2007) and the critical approaches to capitalism innovation (Boltanski & Chiapello, 2005; Formenti, 2008; Fuchs, 2008; Gregg, 2009; Jarrett, 2008; Lovink & Rossiter, 2007; Moulier-Boutang, 2007a; Petersen, 2008; Rossiter, 2006; Terranova, 2000; Trebor, 2008; Vaidhyanathan, 2009; Van Dijck & Nieborg, 2009), has concentrated on the analysis of the corporation. Contrary to previous research on commercial providers, the analysis in this paper will also integrate the cases of OCCs based on mission enterprise providers. Although the mission enterprise model is less visible, it is also part of the OCCs population. Furthermore, the empirical analysis will be focused on how the relationship between the provider and the community is framed; which are the different conditions in terms of provider versus community empowerment; and how each of the models differently shape the communities. Examining how the provision model shapes the community constitutes an original feature of the literature.

In order to empirically analyst the two types of profit providers of platform provision, this paper presents a case comparison of two case studies. Firstly, Flickr based on the Corporate model and secondly Wikihow based on the Enterprise model. On the one hand, this analysis will allow for an in depth understanding of the closeness to involvement of the community into the infrastructure governance. As legally profitable entities, these providers are subject to the legal constraints which shape their role as provider and limit the possibilities of "openness" to participants' involvement in the infrastructure governance.

In their closeness to community involvement, there is some commonality between the cases. However, as the analysis will highlight, there are also some differences which will be addressed in the paper.

Conversely, the analysis sheds light on the difference between the Corporate model and the Enterprise model in terms of the approach to net principles and the level of freedom and autonomy from infrastructure. While Flickr is based on a black-box policy, which infers that participant interaction is "trapped" and information cannot flow beyond the infrastructure, Wikihow is based on the netenabler policy, which infers that participants are individually and collectively free and autonomous from the infrastructure provider.

III. Flickr: Corporation model

The corporate model is illustrated with the case of Yahoo! as the provider of Flickr. Flickr is one of the first and most successful examples of the new economy of information access and sharing.[8] The following section presents the function and organizational form of Flickrs' provision, together with the dynamics of interaction of the community around the platform. Secondly, the closedness of Flickr and the blackbox conditions of the infrastructure governance will be analyzed in detail, along with with how these governance characteristics shape the Flickr community.

III.I The provision of platforms of participation: How does the mission enterprise function?

Flickr started out as a virtual game and evolved into a photo-sharing resource (C. Fake, Interview by Torrone (2004), December 3, 2004). In 2010, Flickr is a platform for sharing and archiving visual materials. Flickr users can upload photos, create groups of photos based on common interests (such as pictures of events, different photo techniques, and other topics) and can collaborate on the classification of photos or folksonomy.[9]

In terms of infrastructure provision, there are two main paths leading to the corporate model. On some occasions a start-up creates a platform, the platform become so successful that the start-up becomes a corporation in itself. As was the case with Facebook and Twitter. In other cases, the platform providers begin as a start-up enterprise which is funded by venture capital. When the platform gains some success, large corporations buy the start-up enterprises and the successful platform. After the corporation buys the start-up and its platform, the start-up company's staff runs the platforms, and the platform maintains its own brand identity. An example of this development path is YouTube. YouTube is a video-sharing platform launched in 2005 by a small start-up which achieved almost instant success; the year after Google bought YouTube.[10] Another example of this is Flickr.

Flickr was developed by Ludicorp, a Vancouver-based enterprises that launched Flickr in February 2004. In March 2005, Yahoo! acquired Ludicorp and Flickr (Koman, 2005).[11] Yahoo! is a Nord American public corporation founded in 1995 and headquartered in Sunnyvale, California (in Silicon Valley), that

8 Source Alexa.com ranking. Retrieved May 15, 2010 from http://www.alexa.com
9 Source Flickr About page. Retrieved May 10, 2010 from http://www.flickr.com/about/
10 Source Wikipedia entrance on YouTube (YouTube, 2010).
11 When Yahoo! acquired Ludicorp, Flickr had 27 million participants and 4 million photos (Koman, 2005).

provides Internet services worldwide. In 2010, Flickr is the 32rd most visited website in the world.[12] As of December 2009, it claims to host more than 4 billion images.[13] Since then, the Flickr team work as a relatively independent team in charge of Flickr inside Yahoo!.

In December 2009, the Flickr team inside Yahoo! was composed of 48 employees.[14] There is an official hierarchical organigrama, but an internal participative approach in team organization. Furthermore, the culture of work around technology, present in corporations as heritage of the hackers tradition and the 1960s critique to the Fordist work culture, is characterized by highlighting the principles of joy, fun and youth (Boltanski & Chiapello, 2005; Turner, 2009). In these regards, the Flickr office has a workplace which is similar to a playground, and in order to facilitate creative work, the workers are relatively free to structure their own tasks (Himanen, 2001).

Finally, Flickr's business model is based on free account services for basic participants and paid subscribers ("pro" accounts") for unlimited use and special services[15]. Other sources of revenue in Flickr are some advertising and partnerships with third parties to sell data generated in the platform.

III. II Community organizational form: Interaction dynamics

Flickr is based on openness to participation. Any person can register and freely use the platform, although, some of the functions are paid services. Flickr community is mainly composed of professional photographers (who use the platform as a tool for their work), amateur photographers (who develop their passion for photography and learn with the support of other Flickr participants), bloggers (who link photos to their blogs for citizens' journalism) and private "domestic" participants (who host and share photos of daily life with others) (MacDonald, 2009). Cultural institutions with historical or artistic public photographic archives also use Flickr to enlarge the audiences for their materials. In this regard, what characterizes Flickr is the way it encompasses the diverse forms of photography, blurring to some degree the distinction between them: from private to public; from amateur to professional; from documentation to art.

Flickr is based on individual sharing or the album type of collaboration. The settings are fundamentally individual. Each participant constructs his or her own pathways through the platform. A participant can simply observe pictures or can upload pictures in order to exhibit and share photos. Participants can converse and interact through each other's photos. A typical way of actively participating consists of browsing through contacts. For example, you visit the photographs of others, comment on them or tag them, and in return others also comment on your photographs (Cox, 2008). Participants also interact by creating groups around common interests, such as groups of pictures of demonstrations, cats or pictures following a particular photographic technique. By 2007 there were 300,000 groups (Sieberg, 2007). Participants classify the photos at Flickr following a folksonymy principle. Participants put tags in the photos they see. As participants can add tags, sets, titles and comments to photos then (though search engines)

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12 Source Alexa web classification. Retrieved May 15, 2010 from http://www.alexa.com
13 Source Flickr blog. Retrieved May 15, 2010 from http://blog.flickr.net/en/2009/10/12/4000000000/
14 Source Fickr about page Retrieved May 15, 2010 from http://www.flickr.com/about/
15 Although using Flickr is not entirely "free". The user needs a device or devices to take photographs, a computer or mobile phone, photo software and Internet access to connect to Flickr, preferably by broadband, given the size of image files.

these photos become more easily searchable. The decentralized tagging classification and the search engine comprise the basic meta-data mechanism which puts all of the materials together and links individual actions.

Additionally, each participant decides the conditions of access and reuse of the photos he or she can upload. Flickr provides both private and public image storage and each participant decides which they prefer for the photos they post on Flickr. A total of 80% of photos on Flickr are shared publicly, forming a large collaborative database of categorized photos generated by the participants (Schofield, 2005; Torrone, 2004).[16] Each participant also holds and chooses the license for the photos he or she uploaded. Some participants choose the creative commons license, which creates less restrictive conditions for others to reuse the photos. However, not all the participants choose the same license.

Additionally, several public and private museums which hold the world's most prized photographic archives have built a partnership with Flickr in order to make their image collections accessible.[17] This is called the *Flickr commons*. The goal of these partnerships is, on the one hand, to facilitate access to these resources in the public domain, and, on the other hand, to enrich these collections through the decentralization of Flickr participants.[18] In other words, through using the collections, participants develop meta-data that helps to organize and classify the material. The slogan, which synthesizes the goal of the Flickr commons project reads *"Your opportunity to contribute to describing the world's public photo collections"*.

Ultimately, there is no common goal beyond each participant's interest in exhibiting and sharing photos, interacting with others, and classifying and commenting on photos. The resulting visual archive is the product of the synergy between each individual's use of the platform, and not due to an explicit goal. In other words, the digital archive forms secondary outcome, not an intended one (E. Rabble, Interview, August 28, 2009). This interaction involves a very large community of participants, of which more than 50 million have registered accounts.[19]

Additionally, there is no governance of the community by the community and the order is almost completely defined by the protocols of participation in the platform design. Yahoo! establishes the rules of and how to interact at the platform. Yahoo! is also in charge of making participants respect those rules, with the power to block or remove material uploaded by participants if it does not fit with Yahoo!s' policy (E. Rabble, Interview, August 28, 2009; M. Alpern, Presentation at Wikimania and informal interview, August 28, 2009).

In conclusion, participants' actions are limited to individual paths of photo-sharing and collaborative classification, whilst commenting on and the governance over the interaction is in the hands of Yahoo!.

16Source Fastcompany.com "Reinventing a Category Whose Flashbulb Burnt Out. Retrieved May 15, 2010 from http://www.fastcompany.com/fast50_05/profile/index.html?stewart_butterfield7_18
17 Participants include George Eastman House, the Library of Congress, the Brooklyn Museum, National Archive, the National Archives and Records Administration, the State Library of New South Wales, and the Smithsonian Institute.
18Source Flickr The commons web page. Retrieved May 15, 2010 from http://www.flickr.com/commons
19Source Flickr blog Retrieved May 15, 2010 from http://www.flickr.com/help/forum/en-us/100485/page6/#reply672723

III. III Flickr closedness to community involvement in infrastructure governance

In the first year of Flickr's platform design and development, the Flickr provider relied heavily on fairly intense interaction with the original participant base **(**M. Alpern, Presentation at Wikimania and informal interview, August 28, 2009)**.** In this first stage, the Flickr provider collaborated and enabled participants to construct, manage and have control over their interaction at the platform, and in the infrastructure governance in terms of platform design (Garrett, 2005). By 2006 however, the platform design became fairly stable and participant involvement was restricted**.** With the stabilization of the platform design, the participants' active involvement in platform design and self-governance altered with participants as individual "consumers" of a service as part of an increasingly commercial relationship in which participants' experiences are centered on their own photos and not intervening in designing the overall platform. In other words, Flickr's infrastructure governance evolved from an early stage of participative platform design and interaction in self-governance to commercialization in which participants do not intervene in the overall platform, but only use it (Cox, 2008)**.**

In terms of the **structural points of relationships**, the relationship between Flickr and the community of participants is based on closedness to participants' involvement, the corporation providing a service that the participants use. The community does not contribute on infrastructure provision matters, nor is there any overlapping or collaboration with Flickr.[20] In Flickr's words: "*Flickr works on getting things up and serving you*".[21]

Two main points of contact and communication can be discerned between Yahoo! as provider and the participants: the Flickr team as broker and the community manager as contact point .

When Yahoo! bought Flickr, it "absorbed" both the platform and the team in charge of it. Flickr's team maintains the platform, but importantly, it acts as a channel between the contrasting interests of Yahoo!'s profit goal and the community's social and communicative aim in using Flickr. In addition, among Flickr's team there are activists who developed Indymedia, protest.net and other activist platforms (E. Rabble, Interview, August 28, 2009)**.** In this regard, placing such creative and activist profiles between the corporation and the community is a way of linking social processes and activists' creativity with a profit enterprise. The Flickr team acts as a **broker** between the corporation's interests and the community's interests, which highlights two main tensions between the Flickr team and Yahoo!. On the one hand, the Flickr team defend and advocate for the community's interest and empowerment before Yahoo!'s commercial interests (E. Rabble, Interview, 28 August 2009). On the other hand, the Flickr team wants to keep its own identity and independence   as a working group apart from Yahoo!.

Within the Flickr team there is the figure of the **community manager** who acts as the contact point between the team and the community. Community managers are in charge of community control and implement the policies set up by Yahoo! to regulate community interaction. The generation of a particular culture within the platform results from active intervention from community managers. This contrasts with the

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20 Although in corporations floated on the public stock exchange, community members sometimes buy shares and in this way have a way to intervene in Flickr decision - making.
21Source Flickr.com (Retrieved May 15, 2010).

image of the Flickr community as "self organizing" which ignores the importance and the scope of these interventions by the community manager. Community managers also intervene to block participants or remove content which is not deemed appropriate by Yahoo! (E. Rabble, Interview, August 28, 2009; B. Johnson, Interview, December9, 2008). The community managers try to get to know the community through "participative observation". The communication with the community takes place though blogs, forums and via e-mail. Community managers are also in charge of collecting community feedback for the design and maintenance of the platform. In fact, users play an important role in the innovation of the platform (von Hippel, 2005). For example, before introducing a change in the platform, the community manager works internally to review participants' feedback and solicit new feedback from the community through blogs or forums. After the change is made, the community manager encourages participants to actively participate in the discussion regarding the appropriateness of the change. In the words of a Yahoo! community manager: *"By giving people ownership of something and allowing them to influence their product, they are more likely to stick with the product and have a positive impact"* (Yahoo! community manager intervention at Online community report unconference). On some occasions, participants criticize changes incorporated by the provider. The community manager also deals with the reactions of participants. Additionally, Yahoo! lent importance to the emotional dimension and emotional linkage of the community within the platform (M. Alpern, Presentation at Wikimania and interview, 28 August 2009). Thus, another task of the community manager is "managing the mob" or "convoying sentiments". For example, addressing calm mad/sad/frustrated feelings within the community when things are changing at the platform.

An additional part of community management (especially of commercial communities) is the creation of "false" users created by employees who participate in the community and act as regular participants without revealing the fact that hey are Yahoo! employees.

In sum, Flickr's infrastructure governance is characterized by the structural closedness to participant's involvement. Furthermore, the linkage between Yahoo! and the community is mediated by Flickr's team and bridged by the figure of the community manager. Community managers control the community and preserve the order defined by Yahoo!; plus, they are charged with ensuring the participants satisfaction with the platform design and policy and discouraging them from leaving.

III. IV Blackbox: Limited freedom and autonomy of participants from the infrastructure provider

The Flickr platform is based on proprietary software and is copyright licensed. The blackbox conditions of Flickr restrict the possibility of replicating its activities somewhere else. As the software is proprietary, users do not know exactly what the program is doing with their data. They can not technically or legally modify the program nor create a copy of it to develop in another direction. Additionally, Yahoo! does not favor data portability and flow outside of the Flickr platform. This means that even though the participants are the owners of the data they upload at the platform, it is not facilitate for users to remove their data from Flickr and/or move their data from Flickr to somewhere else. Furthermore, in moving the data somewhere else, the participants would lose the network effect and the collaborative meta-data that joins all of the photos together. Finally, data ownership of Flickr is individually based. This makes creating an independent

and autonomous archive complicated, as all of the participants would have to agree on using a free license or moving their data somewhere else.

III. V Power embedded in Flickr infrastructure governance

Flickr is based on a "classic" distribution of **functions**. The participants develop the works or content at the platform. In other words, participants upload the large majority of photos on the Flickr archive, while Yahoo! as the Flickr provider takes care of everything else. This includes amongst other things, the technical base and maintenance, sustainability and legal issues.

The commercial providers depend on the community to develop the content of the platform. Volunteers also contribute depending on their own views and motivations. The lack of control over these important factors (the availability of volunteers to create content on the platform) indicates a weaknesses in these types of corporations. Furthermore, it makes the corporation vulnerable to their own corporate reputation. Corporations that do not rely on their own image to attract participants do not have to worry about their reputation. But if the community is a product of the corporation, then the corporation is in a lot of ways at the mercy of its participants, which makes it vulnerable. Thus, a body of people, large enough and vocal enough, could cause problems for the corporation.[22]

One consequence is that the community is more empowered with regard to the corporation, because the corporation depends on the community. Another consequence is that these create stimuli for ethical practices by the corporations. Corporations therefore make extra effort to maintain their reputation and image and to "gain" the trust of their communities and the general public. However, ethical debates on the role and behavior of commercial providers do not always conform to this - there is also the practice of creating "fake" images of the commercial providers in order to gain a reputation. I will refer to these practices with the concept of "wiki-washing".

Wiki-washing refers to a practice present in new media corporations which is based on building and promoting a corporate image based on a conscientious distortion of the real practices of the corporation, and/or the adoption of pro-democratic and community discourses (particularly associating its image with Wikipedia's reputation) with the only purpose of gaining a good reputation with the community and the general public. Wiki-washing is based on a similar mechanism to the green-washing of petrol corporations. For example, the platform presents among its values the quality of online sociability, and certain types of purpose (i.e., commercial ones) are systematically misrepresented (Werry, 1999).[23]

A platform which appears to have an active and fair relationship with the community is more valuable and attractive to participants and is more likely to be considered by the community during decision making. In this regard, corporations also fake the image of the platform with several mechanisms. For example, when staff act as community members to give the impression of a live community. Or when a community manager

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[22] It has been documented that workers at Silicon Valley tend to win labor struggles easily because of the dependence of media companies on a good corporate image and reputation (Bacon, 1993).

[23] In Bill Johnson's words: *"They may have been giving lip service to this concept of: "we want to embrace the community and we're all about community for the community's sake. In reality, that's often not the case"* (B. Johnson, Interview, December 9, 2008).

uses feedback to legitimize decisions, such as *"Tell(ing) people looking at new products, asking for suggestions (look or don't look at it), then when relaunching saying "This is what you wanted""* (C. Watson Community manager intervention at Online community report unconference).

Pertaining to the distribution of **ownership**, ownership follows the same distribution as function. Yahoo! owns the technological infrastructure and the trade mark; while the community owns the content. However, content ownership is individually based not collectively based. Each user individually owns the content she or he has produced. Flickr allows participants to choose which license they wish to use (copyright, "all rights reserved" or a set of several Creative Commons licenses). The participants who choose creative commons licenses (depending on the conditions of each license) allowing free access to others. Importantly, there are no collectively owned goods such as the entire archive, and so no collective licenses are held.

However, the distribution of **authority** does not reflect to the distribution of functions and ownership. Yahoo! has authority and ownership of the infrastructure, but Yahoo! also has authority over how the community functions. That is, the community is not self-governed and the rules and policies that govern the interaction are established by Yahoo!. Consequently Yahoo! has to establish tight controls over participants to maintain respect for the rules.

Flickr defines the platform use and community interaction policies. For example, even moderation of communications between participants is in the hands of Flickr. Flickr is also in charge of "administrating the participants", if a participant is behaving inappropriately, Flickr can block his or her account and the participant will lose his or her photos (E. Rabble, Interview, 28 August 2009). However, Yahoo! does consider the participant's opinion to some degree when defining terms of use and policies. Yahoo! aims to increase participation, so defines the terms of use in order to satisfy and attract more participants (M. Alpern, Presentation at Wikimania and Interview, 28 August 2009). This is also the case for other commercial platforms, such as Wikianswers, where the policies are defined by the corporation, yet, according to a Wikianswers' employee: "Wikianswers have to be receptive to requests. They drive the community forward, we do not have to, but we listen to them" (Y. Goldstein, Interview, August 26, 2009).

However, the influence of participants on policy is based not on the fact that it is up to them to define the terms of policies, but based on the possibility of accepting or "rejecting" them. For example, Facebook wanted to change their copyright policy, but due to a revolt from the community was forced to reverse the change (M. Matsuzaki, Interview, October 2009).

There are several reasons to explain the compliance of Yahoo! to govern the community and establish the rules of the interaction. Firstly, Yahoo! has a profitable goal in terms of providing the platform. The platform design and the rules of interaction are driven by the Yahoo!'s profit goal. The profit driven architecture of participation could be connected to the question that Yahoo! does not promote community self-governance. In order to fulfill its profit strategy Yahoo! needs some type of interaction and activity with the platform (the one which results in benefits increase). In this regard, Yahoo! cannot leave the community to decide what to do. Instead Yahoo! designs its framework for participation according to its profit strategy.

A second reason that explains why Yahoo! wants to keep control over the community is related to legal responsibility over the content. In general, the providers are not legally responsible for the works

created by the participants at the platforms. However, the regulation on the level of responsibility over the content is an ambiguous area. For example, in the case of YouTube, in order to determine appropriate content, Google (as the provider of YouTube) used to rely on its participants to flag content as inappropriate or violating copyright law until a corporate employee determined whether the flagged material violated the platform's terms of service or copyright law. However, in July 2008 the Culture and Media Committee of the House of Commons of the United Kingdom stated that it was "unimpressed" with YouTube's system for policing its videos, and argued that "Proactive review of content should be standard practice for platforms hosting user generated content."[24] Due to this type of legal controversy, corporations are moving more and more in the direction of policing the platform. In this regard, to avoid lawsuits, it is in the corporation's interest to ensure control and intervention over a content which does not respect copyright law. In March 2007 Yahoo! introduced mandatory filtering of all photos at Flickr and a process of central review of photos by Flickr's team to set levels of appropriateness. However, this is a complex situation because the violation of terms of services and copyright law is relatively frequent in these platforms. To insure that the content completely respects copyright law and the terms of service would create a massive amount of work for the staff and would be very costly for the corporations.

This contrast to the Wikipedia case in which the major involvement of the community in the issue of governance, results in a larger amount of voluntary resources at the community level for making sure that the content added is appropriate according to the community rules and respects the copyright laws. In other words, the Wikimedia Foundation does not control participants as Yahoo! does, because participants control themselves making sure the content does not create trouble in the Wikimedia Foundation.

The corporate system of validation of content opens up debates about censorship and several scandals have happened over the deletion of photos at Flickr by Yahoo!. Yahoo! is responsible for informing public authorities of content of an illicit nature. For example, Flickr provides information on participants uploading violent or pedophile photos (E. Rabble, Interview, August 28, 2009). This opened a debate on the creation of networked surveillance resulting from a collaboration of Web 2.0 corporate and Public authorities (Calenda & Lyon, 2007).

In conclusion, at Flickr there is a traditional distribution of functions between the provider (who takes care of technical maintenance and legal and financial issues) and the participants (who produce the content). However, Yahoo! has major authority in terms of judging participants' behavior and also defining the policies and terms of use of the platform in the first place. Participants are "free" to accept or reject the conditions imposed by Flickr, but they do not have the authority to change the policies and rules that govern user interaction within Flickr.

In conclusion, the number and strengths of the sources of power within the infrastructure governance in Flickr benefits Yahoo! in front of the community of participants in contrast to the other cases. Yahoo! depends on the community to create the content. Yahoo! has to provide terms of use for its service which attracts participants. Yahoo! also has to give priority to the community of interest in order to insure its reputation and attract participants. However, the community does not control and govern its own interaction.

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[24] Source Telegraph.co.uk article: "YouTube attacked by MPs over sex and violence footage" Retrieved December 18, 2009 from http://www.telegraph.co.uk/technology/3358061/YouTube-attacked-by-MPs-over-sex-and-violence-footage.html

Instead, Yahoo! has control over participants' behavior at the platform and can control participants behavior. Additionally, the blackbox conditions of Yahoo! mean that the platform cannot be reproduced and that participants depend upon Yahoo! for access and reuse of their works. The individualized mode of participation reduces the chances that users will press their interests and demands onto Yahoo!.

III. VI How does the Flickr infrastructure governance shape the community?

A very large community of participants are involved in Flickr, with more than 50 million registered accounts.[25] The interaction between participants is limited to individual actions and the collaborative generation of meta-data which creates the system. As a result of this interaction, a digital common is not generated as a collectively owned resource freely available for third parties. There are several mechanisms which link the infrastructure governance in Flickr with this community.

In contrast to open providers, the closed infrastructure governance of Flickr limits Yahoo!'s ability to activate volunteers to provide the infrastructure and content control of Flickr. However, Yahoo!'s for profit character insures Yahoo! the financial resources to make up for the lack of voluntary resources and to make up for the lesser knowledge on the community in closed providers. Yahoo! has the monetary resources to keep the infrastructure updated and running as well as the monetary resources to contract the best technical expertise and creativity. Additionally, Internet standards and regulations seem to favor multinational communication corporations. corporations support each other in order to maintain their dominant positions. In sum, the *professional* function of Flickr's services could explain the large size of its community.

A small part of society boycott the use of the corporate type of infrastructure because of its for-profit character and/or its capacity to control of participants' data. However, this does not constitute a strong trade off for Yahoo!: despite the boycott, Yahoo! remains very visible and dominates the market.

Importantly, Flickr is based on the architecture of participation which is designed to create flow more than to articulate content. The profit goal of the corporations is highlighted with the emphasis on flow and new activity (i.e., highlighting the last photos upload more than the organization of the photos). In other words, the profit goal is present in the design of the architecture of participation and content, which translates into a commodification of participants' behavior towards the profit goals (Danlberg, 2005a, 2005b). In order to increase profits, Yahoo! aims to maximize the number of people using its services, rather than design the interaction in order to increase an integration of the content. Yahoo! aims to increase flow of information and people connected to the site more so than to produce an integrated and high quality information resource.

Corporations aim to make a profit and in this regard they have an instrumental approach to the community of participants. The main sources of revenue are advertisements and paid services, which shape the platforms they provide. The demands of advertisers and the requirements to increase paid subscriptions limit the type of content, number of participants, demographics of participants and the overall design of the platform as well as increasing growth and flow.

25Source Flickr blog http://www.flickr.com/help/forum/en-us/100485/page6/#reply672723 (Retrieved December 19, 2009).

With regard to **content**, advertisers prefer content related to their products and do not wish their adverts to appear associated with certain types of content, for example, pornography or extremist political messages. This means that service providers must develop mechanisms to manage the content of the platform, such as moderation or peer review mechanisms. Due to the large amount of content generated by the participants this is a heavy task.

Advertisers have a preference for certain **demographic groups**, for example, with high consumption capacity, or interested in their type of products. In this regard, the commercial provider has to establish ways to attract the type of participants sought in order to be the preference of advertisers.

In term of demographics, previous research has found that, of a sample of 200 Flickr participants, 62% were men, 88% from North America or Western Europe, 15% worked in the Information Technology field and 15% were students (Yan, 2007, p. 34-5).[26] These demographics characteristics are particularly interesting to advertisers (Cox, Clough, & Marlow, 2008; Meyer, Hara & Rosenbaum, 2005; Yan, 2007).

Plus, the advertisers favor platforms with more and more members in order to increase the exposure of their advertisements and providers benefit from the increase in paid membership. In this regard commercial providers are encouraged to have most numerous **communities** possible. In the online communities culture, large numbers of participants are seen as a source to increase quality and to help solving problems. As stated in the famous phrase of the FLOSS, *"many eyes see bugs"*. However, in commercial communities the value of inclusivity also fits in with the commercial logic of recruiting the largest possible membership and exposure to advertisements.

Finally, the advertisers want **activity** (especially countable activity), and so the platforms are designed to increase information flow and renewal rather than archiving, integrating or systematizing the information on the platform.

The functions and terminology of Flickr are designed to influence behavior in the system towards "flow". Flickr's functioning and terminology emphasize activity, size, speed and increasingly global reach. Thus, rather than offering a model of a *digital archive* as an integrated "collection" of photos, where participants might build up a limited selection of their photos to complete the picture built collectively; Flickr's concept of a photostream (as well as echoing the structure of blogging) implies a constant need to take more photos. Equally, the formula for "interestingness" evidently assesses the interest of a photo by how recently it was uploaded. So Flickr is designed to reward recent activity. In addition, the navigating system in the platform also reflects the design towards "flow" and novelty, navigating to older photos in an individual's collection on Flickr is laborious, and as one forum contributor said: "The entire format encourages superficial browsing, following link after link. It's a very different experience to the contemplative atmosphere of a gallery or an artist's photobook" (Soth, 2007). It could be also argued that this demand for novelty cannot be traced simplistically to the needs of advertisers but reflects a general cultural value, generated by media values about news or even a democratic ideology of inclusivity.

In sum, the commercial goal of Flickr is highlighted with the emphasis on growth and constant activity which impacts on participants, who place a value on their own actions in this direction.

Finally, the blackbox conditions of Flickr and the difficulties of data portability outside of the Flickr

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26This mirrors wider digital divides (Dutton & Helsper, 2007, pp. 4, 62)

content is a way to "retain" participants and content on its own platform generating a dynamic centralization of its site. Furthermore, the type of collaboration at Flickr, based on the album type of collaboration, is less complex than in Wikihow, which could help to increase its size.

IV. Wikihow: the mission enterprise model

The mission enterprise model is also closed and for-profit as with the corporation model of Flickr; however, it is based on a netenabler and commons-oriented policy.

According to the large *N* study, the mission enterprise model, has all the combined qualities for OCCs to increase the size of participation and *collaborativeness* at the same time. Being closed and for-profit, the mission enterprise model favors big communities; being netenabler, the enterprise model favors more collaboration. Furthermore, these communities are based on self-governed communities, although their infrastructure providers are for-profit character.

The discourse of this type of profit provider is characterized by two main distinctive elements: mission oriented and netenabler settings.

Putting the **"mission first"** or the "mission before profit" refers to a profit entity whose primary mission is to accomplish a social good, while the business goal remains secondary. According to Jack Herrick, founder of Wikihow, this results in a **"hybrid organization"**, which is something in between a for-profit organization, a non-profit organization and the state:

> *"Traditionally there have been 3 typical organization entities which could be dramatically over simplified as follows: Businesses (...); Non-profits (...) and Government. Wikihow is an attempt to build a 4th organizational structure, one might call a hybrid organization. It combines the best elements of the 3 other structures: Like a non-profit, Wikihow focuses on fulfilling its mission to help people; Like a government, Wikihow is building a public good like a library or a park that can be enjoyed freely by all; and, Like a business, it uses profits to finance its operations, expansion and assure stability for the project."* (J. Herrick, Interview, December 4, 2008).

The tension between the social basis of the mission and the need for the provider to be profitable is also present in these types of profit provider as was presented with the corporate model of Flickr. However, in the case of mission enterprises, these tensions seem to be more obvious in the relationship of the enterprise with other enterprises, and the competition of the platform's content with other "competitive" platforms, than between the participants and the enterprises. According to Evans Podromou, founder of Wikitravel and Identica: *"As wiki service providers, we straddle two very different worlds: the competitive world of Web business, and the cooperative world of Free Culture."* (E. Podromou, Open letter to Wikia).[27]

Secondly, this model is characterized by the principle of **netenabling** in regards to the level of freedom and autonomy of the participants. Autonomy refers to use of open standards (which facilitate the connection between platforms), open data (which facilitates the flow of information and the freedom to leave) and open source (which facilitates knowledge of how the program works and opens up the possibility of

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27Source Evans Prodromou blog. Retrieved April 15, 2010 from http://evan.prodromou.name/Open_letter_to_Wikia

collaborative improvement or to adaptation it to other uses). In these settings, the individuals and the communities as a whole are also more empowered in terms of control over their production. This is illustrated by legally and technically being allowed to leave the platform individually and collectively, through open data and forkable content.

One of the strengths of this approach is that participants can have control over the platforms they use and the data they generate. Furthermore, as not only individuals, but more companies start to use more and more web based services, there is more pressure to ensure that data control is more favorable to participants (M. B. Hill, Interview, October 25, 2009).

Examples of mission enterprises are Wikihow (a how to manual), About us (website review), Wikia (a wiki farm)[28], Wikitravel (worldwide travel guide), Meetup (set up of meetings), Povo (city map guide), Identica (micro-blogging), Keiki (parenting guide), and Vinismo (wine guide). This is not a well known approach and only started to increase in 2005. No previous research was developed on this type of provision of the OCCs.

This model will mainly be illustrated through the Wikihow case study, even though references to other cases will also be made. Wikihow was founded in 2005. It is provided by Wikihow, a start-up based in Silicon Valley.

IV. II. I The provision of platforms of participation: How does it function?

Wikihow is a wiki for the collaborative writing of manuals on how to do things. For example, Wikihow hosts article such as "How to Write a Demonstrative Speech" or "How to Find Work While Dealing With a Long Term Medical Condition". In December 2009, Wikihow hosted over 66,000 how-to articles.[29]

Wikihow is provided by the Wikihow enterprise. The WikiHow enterprise is a for-profit company based in Silicon Valley. The Wikihow enterprise defines itself as "*a for-profit focused on creating a global public good in accordance with our mission*".[30] The enterprise is composed of five employees and the founder acting as the chief, who work in a one-roomed office.

Wikihow forms part of the change of model within the technological industry following the dot-com crisis in 2001. The founder of Wikihow was previously involved in eHow, a professional expert-base model of know-how. The high cost of expert-based articles was putting too much pressure into hosting profitable content and as well as invasive advertisement to cover the costs. Following the form of Wikipedia, the founder decided to change the model to an open and collaboratively wiki based one in 2005. In 2009, Wikihow is profitable by selective and optional advertisement. In contrast to eHow, Wikihow is based on a collaborative wiki instead of a expert-based content, and has a Creative Commons license instead of a copyright license; it is run on FLOSS instead of proprietary software; and, it is essentially governed and managed by its community rather than by the provider.

28A wiki farm is a provider that hosts independent wiki projects.
29Source Wikihow portal. Retrieved December 15, 2009 from http://www.wikihow.com/wikiHow:Community-Portal
30Source Wikihow hybrid organization page http://www.wikihow.com/wikiHow:Hybrid-Organization (Retrieved December 15, 2009).

IV. II. II Community organizational form, culture and interaction dynamics

Wikihow is based the openness to participation and a collage type of collaboration. Any visitor to Wikihow can create an article. Once an article is created, other participants can edit, improve, or change it. Participants interact in the collaborative development of the articles and in the social spaces (such as IRC and forums). In June 2008, the Wikihow community was composed of a total of 19 million unique readers, while the number of registered Wikihow participants stood at 175,373.[31] According to a survey developed by the Wikihow enterprise in 2009, participants' motivations to contribute are for fun, meaningful value and/or social recognition.[32]

Wikihow is a special case in terms of gender balance. A total of 43% of registered participants are women. In comparison to other OCCs, this is a higher percentage of women participating.[33] The reasons mentioned in the interviews for the gender balance within Wikihow are related to the culture of giving thanks, welcoming newbies, valuing non-violence and communication, among others (J. Herrick, Interview, December 4, 2008; B. Megas, Interview, August 28, 2009; N. Wilson, Interview, August 28, 2009). The community places importance on the sense of sociability and looking after each other. Actually, participants generate strong emotional linkages with the community. *"I have Wikihow in my head"* said one of its administrators (N. Wilson, Interview, August 28, 2009).[34]

There are several profiles of participation in the Wikihow community network. The Wikihow community is composed of networks of strong contributors (which are generally also administrators) that collaborate and interact on the basis of affinities. The main basis for affinities are age, approach to the platform and communication style. For example, there are personal preferences or generational habits linked to enjoying communication though IRC. Age is also a source of affinity. There is a network of old and young administrators. The founder and the staff is also a central node of the interactions. There are important nodes around single participants who make large contributions without major interaction with other participants. There are also occasional participants, an example of which would be a group of teenagers posting articles related to youth culture. Another important component of the community are the vandals and the 'trolls'.[35] Finally, there is a general audience that is generally mute unless there is a problem or dispute and then only occasionally intervene (B. Megas, Interview, August 28, 2009).

In terms of **community governance**, the community is in charge of policy making and regulate its own interaction.

WikiHow has very few strict **policies** in order to facilitate inclusion. However, there are a few areas where specific policies are defined. Additionally, Wikihow is characterized by a *bold innovation method.* Most

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31 Source Wikihow statistics http://www.wikihow.com/wikiHow:Statistics

32 Wikihow survey to participants 2009. Retrieved from Jack Herrick video presentation on Wikihow, Wikimania, Buenos Aires, October 2009.

33 Such as in the case of Wikipedia the percentage is 13% (Ortega, 2009); while in FLOSS communities is much lower. A survey on FLOSS cases showed that just about 1.5% of F/LOSS community members were female at that time, compared with 28% (Ghosh, Glott, Krieger & Robles, 2002).

34 The welcoming of 'newbies' and sociability at Wikihow shows signs of similarity with the North American culture of relationships between neighbors.

35 In Internet culture, a troll refers to someone who posts inflammatory, extraneous, or off-topic messages in an online community. See entrance on troll (Internet) at Wikipedia (Troll (Internet), 2010).

of the commonly practiced procedures on Wikihow arose from the ongoing organizational process: generally an editor has an idea for a new way of doing something and then just starts doing it. If other editors believe it is a good idea, they start copying it. Pretty soon it becomes the common way something is done. Furthermore, "to be bold" is encouraged by the community (B. Megas, Interview, August 28, 2009; J. Herrick, Interview, December 4, 2008).

In terms of the **formal method** for policy decision making, the community comes together to approve a policy formally. A wide community consensus and good supporting documentation is expected for rules which affect the freedom or actions of all participants (B. Megas, Interview, August 28, 2009). There are some very specific steps for how community members can add, amend, or delete a policy formally.

Even though, the Wikihow founder may make any policy changes at any time, he or she shall fully inform the community whenever this occurs.

There are some specific **roles** among the community members who govern the interaction. Apart from the participants (anonymous or registered), there are 68 administrators and two bureaucrats.[36] Old administrators choose the new administrators. These roles have more power over the rest of the participants (such us blocking participants that are not respecting the policies). But there is also an incentive within the description of these roles to negate special value or the image that being an administrator is not a privileged role, but a service role responsible for completing specific tasks (N. Wilson, Interview, August 28, 2009). Enterprise staff are also administrators or bureaucrats of the community. There is also a distinction between older community members and newbies; with channels for older or experienced members to train newbies.

Additionally, the **founder** is a central figure the community depends on. The founder's role is dependent upon his personality and charisma.. Some authors point to the non-authoritarian leadership characteristics of OCCs leaders (Reagle, 2007). The founder is the reference point in the communications between Wikihow and the community. Furthermore, he is very social and gets to know all the top contributors personally (B. Megas, Interview, August 28, 2009; N. Wilson, Interview, August 28, 2009). The building of personal relationships and a visible friendly personality seems to be key in enterprises. However, it may also make scaling up these types of cases difficult.

The resulting how-to manual is built collaboratively and collectively licensed and owned by the community.

In conclusion, the Wikihow community collaborates for the development of a common goal, a how-to manual, which is collectively owned. The Wikihow founder and enterprise staff collaborate with the community in the development of the content and intervene in community governance. However, the community is also in charge of its self-governance.

IV. II. III Wikihow closedness to community involvement in infrastructure governance

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[36] Sources WikiHow statistics pages. Retrieved April 5, 2009 from http://www.wikihow.com/WikiHow:Statistics and retrieved November 10, 2009 from http://stats.wikihow.com/reports/EN/TablesWikipediaEN.htm

As with Yahoo!, the Wikihow enterprise is a for-profit company. As a company, it is structurally close to community members. That is, community members cannot be part of the enterprise composition. However, importantly, in contrast to Yahoo!, the Wikihow enterprise does not only base its relationship to the community on offering a service. Wikihow also collaborates with the community in the development of the community mission. This is the major relationship of the Wikihow enterprise also participating in content creation.

In this regard, a "we" identity is formed around content creation by the participants and the staff of the enterprise working together to accomplish the mission. This "we" is defined as those fulfilling the common mission.

A way to be involved in the enterprise is to be an employee; however, there are different criteria regarding whether or not to contractually employ or not administrators or active members of the community. Wikihow decided not to give contracts to administrators because then they lose their volunteer status, which may create "tensions" or "jealousy" among other volunteers. But other enterprises, such as Wikitravel, do place their administrators under contract.

Because there is separation and autonomy/independence of the Wikihow enterprise from the community, there is no overlap between the community and the provider in fulfilling tasks outside of the content. In other words, there is no volunteering outside of the content. This makes it difficult, together with the dependency on the personal figure of the founder in the communication with the community, to internationalize and scale up Wikihow.

Communication with the community by the Wikihow enterprises takes place through a mix of formal and informal channels; through the platform in the community forums discussion, IRC Chat, and conference calls or sometimes via email to consult about decisions or occasional meetings with top contributors, as well as a regular community newspaper announcing the main news. There is also a community meet-up every year. Facilitating community formation and sociability also seems to be an essential task of Wikihow enterprises, for example through organizing social events.

Linked to the fact that there is less participation by the community in the provider space, the Wikihow enterprise needs to make an extra effort to understand the community (such as developing surveys or getting involved in community activities) (J. Herrick, Interview, December 4, 2008).

Wikihow does not "report", listen to or consult the community on legal and sustainability and profitability issues. But on other issues related to Wikihow enterprise functions, the Wikihow enterprise made an extra effort to co-involve, listening and consulting the community. This is the case concerning interface design and technical maintenance, the license or the terms of service. This is intended to give the sense that the community's concerns are considered.

Communication within the Wikihow community takes place mainly with strong contributors, who are consulted and asked for feedback; and then the general communication is though the platform with the rest of the community (B. Megas, Interview, August 28, 2009; N. Wilson, Interview, August 28, 2009).

There is also an explicit effort from the Wikihow enterprise to stimulate participation through signs of

recognition and material incentives, and more incentives for top contributors. Top contributors in for-profit companies seem less motivated by the mission, so there is an explicit effort to provide incentives for becoming a top contributor. Examples of material compensation are courtesies (i.e., paying for food for meetings), payment of travel expenses to events for active contributors, payment of training courses (such as on non-violent communication), or showing that Wikihow cares about its administrators by giving Christmas or birthday presents. In order to increase the meaning of participating into Wikihow, its enterprise has a principle of "giving back to the community" (i.e., sending books to Africa) and "social-ecological responsibility" (i.e., being carbon neutral).

IV. II. IV Netenabler: Freedom and autonomy of participants from the infrastructure provider

The netenabler conditions of Wikihow are based on the use of FLOSS and a copyleft license. On the one hand, this favors freedom and autonomy from the infrastructure allowing for information flow and reuse. For example, the Wikihow content is used freely for educational purposes.

Importantly, due to the netenabler, the Wikihow community has the *"right to fork", m*eaning that content and software of Wikihow is reproducible. In the event that Wikihow's enterprise steward fails to act in a manner consistent with the mission, the community can move everything to a new server run by a different provider. Thus, netenabler conditions provide a source of power to the community for guaranteeing that the Wikihow content will remain free and community controlled.

In contrast, in the Yahoo! corporate model the software and content are the property of the controlling corporation. Participants in those communities are locked into those corporations and have only the "*right to leave"*. On the other hand, the resulting outcome, a how-to manual, is collective owned and freely accessible to third parties, which are characteristic of digital commons.

IV. II. V Power embedded in Wikihow infrastructure governance

In Wikihow, **function, authority and ownership** tend to have the same distributions. Providers take care of certain functions and have authority and ownership over them, while the communities develop other functions and are self-governed in the sense that they have the authority over the interaction process between participants.

The Wikihow enterprise takes care of the technical infrastructure provision, legal framework and the logo and trademark, and has authority and ownership over them. The participants cannot become involved in decision-making regarding providers' matters nor have representation within the provision body. Wikihow has autonomy and independence from the community in terms of its own function and authority. An enterprise is expected to be accountable and transparent, as regulated by the law, but it does not have to be transparent towards the community on certain matters (such as financial or legal issues). There is no delegation of power to the community at Wikihow on these matters as there is at Wikipedia. There is not even the expectation that Wikihow will inform the community about these issues.

The communities develop the works, own them and have authority over the works. However, the

Wikihow enterprise has some involvement with the development of the content and over the authority on the content development process. The founder and the other workers in the enterprise are active editors of the platform and intervene in discussions and decision–making on policies or any other issues. Furthermore, they have administrative and bureaucrat roles, and the founder can change the policy at any time. In this regard, there is a less clear division between the provider and the community in terms of content creation and community governance.

In terms of distribution of ownership at Wikihow, the Wikihow enterprise owns the domain name and the trademark and technical infrastructure (servers) and some office supplies and furniture. The rest is collectively owned. Wikihow operates on FLOSS and a free content licensing model allowing free use and community collective ownership of the content.[37]

Importantly, the free content license is mandatory to the entire content created. Instead of being individually based.

Finally, in terms of power embedded in Wikihow's infrastructure governance, in Wikihow, the community is more empowered from the provider in several aspects. On one hand, the commons-base model is based on doography principles. The community develops and owns the content, as well as having authority over it. This infers that communities are self-governed, in the sense that communities define the rules and assign the roles of the interaction process. However, community is only self-governed with limitations. The Wikihow enterprise is also involved in community self-governance. Additionally, as the Wikihow enterprise is closed, the community cannot intervene with and have authority over the provider's functions. Secondly, netenabler conditions favor the freedom and autonomy of the community over the infrastructure as the infrastructure can be reproduced. The community collectively owns the content and the content can be reproduced; the platform software is also reproducible. This creates conditions for the community to "leave" and "fork" if the community, or part of it, does not agree with the provider's behavior. Finally, as the content is owned collectively, the forking is carried out more easily.

The enterprise model represents that profitability is not against community autonomous empowerment.

IV. II. VI How does Wikihow shape the community?

Wikihow is a medium sized online community. It is among the 1000 most visited sites on the web[38] and involves the active action of at least 200,000 people. The interaction between the participants is very collaborative and involves complex combinations of activity in order to realize the mission.

The closed for profit character of Wikihow limits is capacity to raise volunteering resources to cover

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37 The software was produced by adapting open and free software (MediaWiki) under General Public License, which means that anyone can use it and everyone owns it. WikiHow's content is published under the Creative Commons Attribution-Noncommercial-Share Alike (by-nc-sa) license, which means that the content can be modified and reused for non-commercial purposes as long as the original authors are attributed and the license is not substantially changed. It might be worth noticing that wikihow started with a copyright content licenses. This was a source of criticism as a content policies that sought to make a profit from volunteer contributors. In other words, the content license is considered to make the difference between "contribute for the benefits of all *versus* contribute for the benefits of a company".

38 Source Alexa.com Ranking. Retrieved May 12, 2010 from http://www.alexa.com

the infrastructure provision. This makes it particularly difficult for the internationalization of Wikihow experiences and as a consequence the up scaling of the community. Being for-profit the Wikihow enterprise creates more monetary resources to reinforce the infrastructure's function, which facilitates the technical maintenance of the platform and increases participation. In terms of trust, Wikihow downplays the lack of control over infrastructure governance by publicizing netenabler conditions, which empower the community. The major control over the content and infrastructure seems to facilitate collaboration within the Wikihow community. In creating confidence Wikihow is also important for the role of the founder and its intermediation with the community. However, the dependency of the personal figure of the founder also seems to be a source of limitation to the Wikihow community scaling up.

V. Conclusions

Several debates and controversies are linked to the commercial providers of platforms of participation online, and concern issues such as producing unemployment; the exploitation of free labor; and wiki-washing (the practice of creating "fake" images of commercial providers in order to improve their reputation). This paper addressed commercial strategies of platform provision and how they shape the relationship between the commercial provider and the community.

There are some common aspects in the governance of commercial providers. There is a structural "closedness" between the provider and the community as a whole. Two main typologies of closed and for-profit providers can be distinguished: corporations and enterprises. Although both are close to community involvement concerning infrastructure provision, these two models differently frame the relationship between the provider and the community. Furthermore, they are contrasting cases in terms of the level of freedom and the autonomy of the participants with regard to the infrastructure and the provider. Finally, these two cases differently shape the communities emerging from the platforms provided by them.

In corporations, the relationship with the participant is based on offering a service. The platforms hosted by corporations may begin with participant involvement. However, when the functionality is stabilized the participants involvement is replaced with the reassertion of a commercial relationship in the use of a service. At this stage, participants' involvement in the platform is limited to using it. Although there are several ways to retain the innovation of the service through participant co-involvement, participants individually and as a whole have no position in platform governance. In sum, there is closedness to contribution from the community on infrastructure governance matters. Additionally, there is a remoteness or distance between them, there is not overlapping or collaboration between provider or community.

In mission enterprises, there is also a structural closedness to community involvement in the infrastructure governance. However, the enterprise are near the community and overlap in the development of a common mission. The enterprise collaborates with the community in the development of the content.

While in the case of corporations, there is interaction between the provider and the community of participants in terms of doing something together; there is no "we". Instead there is a corporation that offers a service which participants accept or not according to the terms of use defined by the corporation. The corporation depends on participants because they "buy" a service and because in their use of the platform

they generate content which is profitable for the corporation. In this regard, the corporation depends on the participants and this translates into their trying to keep them happy over the terms of use and providing a good service in order that participants do not "leave". Instead, in enterprises, a "we" identity is created around content creation formed by the participants and the staff of the enterprise working together to accomplish the mission. This "we" is defined as those working to fulfill the common mission. There is collective interaction for the achievement of a common mission which results in common property. Additionally, community self-governs the process of its interaction, and although the enterprise also intervenes in community matters, there is a less clear division between the provider and the community in terms of content creation and community governance.

In terms of the level of freedom and autonomy of participants from the commercial provider, a major distinction can be made between netenabler and corporate models. The netenabler conditions of Wikihow, on the one hand, favors freedom and autonomy from the infrastructure allowing for information flow and reuse. Importantly, due to the netenabler, the Wikihow community has the *"right to fork"*. This netenabler condition is a source of power for the community guaranteeing that the Wikihow content will remain free and community controlled. In contrast, to the Yahoo! corporate model based on blackbox conditions. Participants in those communities are locked into those corporations and only have the "*right to leave*".

Major distinctions emerged from these two cases in terms of **how the infrastructure governance shapes the communities**. Although both are based on closed and for-profit providers, blackbox conditions favor a growing community (as in the Flickr case) while netenabler conditions favor collaboration (as in the Wikihow case). Importantly, while Wikihow resulted in a digital commons collectively owned and freely accessible for third parts. The Flickr - corporation model cannot be defined as a community which built a digital commons. In Flickr, the process is individually oriented and does not generate a digital commons, as the resulting outcome is not collectively owned.

The **commercial goal of corporations** is translated into an emphasis on growth and new activity which impacts on participants, whose commodity is their own action in that direction. In this regard, the participant experience is designed to be centered on the individual. Each participant decides the conditions of the collaboration and each participant constructs their own pathway through the platform. There is no overall integrated community involvement. The resulting overall outcome, the digital archive, emerges from the synergy of individual contributions and tagging, and is not an explicit mission goal nor is it of common ownership.

In **conclusion,** while for mission enterprises the commons is the mission and the profit is the means, in corporations, the profit is the goal and the commons merely a by-product.

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