

WEsearch Lunch Seminar - 22/11/2023

Today I want to speak about the concept of complementors, which is a concept that is predominantly met in the scholarship of business studies and management studies, especially the strand that deals with platform markets and ecosystems, as they call them. Specifically, why it's important to start paying attention to their role in platform governance, especially in light of the emerging regulatory framework in the EU. Before delving into the concept, I wanted to emphasise how I understand our reconceptualisation of the concept. To me it serves a dual purpose: on the one hand, it allows us to identify a group of platform governance stakeholders that had received little attention, in particular from regulators and scholars outside the niche of management/business (e.g., from content creators to digital SMEs that are at a disadvantageous position in relation to dominant platform firms; I think only competition-related regulation deals with this to some degree); and, on the other hand, it enables us to readjust our understanding of some stakeholders and treat them as complementors. This can have many applications, opening so many possibilities, which is why I think is so interesting to adopt this perspective.

First of all, I think it'd be helpful to lay down some definitions:

- **Complementors** are usually downstream actors in a platform company's value chain, who add value to the platform's market by providing complimentary services, tools and products that can also be built using a platform's proprietary infrastructure (material or digital) and resources. So, complementors are different from end-users in that their inherent trait is that of explicitly and purposefully adding value to the platform market in order for them to, in turn, benefit from that market. They are also different from simply business customers because they do not simply deploy a platform's products in their own respective markets (which could be the case in certain occasions like with the GPT models) but, in fact, rely on a platform's market dynamics like its capacity to generate network effects to realise their value. In other words, there is a relationship of mutual benefit or interdependence.
- These resources are often called **boundary resources in the relevant literature and** are defined as the platform's infrastructural gateways and associated informational resources that enable and control the computational and institutional interactions with complementors. These resources serve as key governing instruments for platform companies, allowing them to control who is certified to develop specific types of content and services for the platform. It's very tangible and material form of infrastructural power, that builds on resource dependencies.
- This creates a feedback loop, wherein complementors fuel, what is called in the literature, **architectural generativity**, that is they actively

contribute to the evolution and betterment of the platform architecture. This is also furthered by the **infrastructural integration** of platform-centric systems and the **internalisation of platform logics** by complementors, which are often pushed to minimise their costs and maximise harmonisation with other sociotechnical actors and architectures in the platform ecosystem. To put it simply, they're compelled to abolish legacy or proprietary systems and modes of organisation or production for those that are provided and controlled by platforms.

- What is more, platform markets that have effectively integrated **complementor orchestration** in their business models have been able to overcome, what is often discussed in the relevant literature as, the **chicken-and-egg or bootstrap problem**, which new platform ecosystems face: i.e., the ecosystem may not be valuable to one or more types of participants/stakeholders until it has a critical mass in other types of participants (that is until it's able to harness network effects!). A typical example is that of video-game platform ecosystems, which have been traditionally two-sided: connecting third-party developers with users/gamers. A game developer might not choose to develop (or publish) a game to a console that doesn't have a critical mass of potential purchasers. Though this example could use more nuance, especially nowadays with more-and-more console developers opting for platformised ecosystems or big tech companies entering the market, it's principle still holds true and allows us to understand how important complementors are for platforms.
- And, with this article, we also wish to show that it's equally important to start comprehending why complementors are important for the study of platform governance and, perhaps, even for a more effective and just platform governance.
- **Platform governance** platform governance refers to the assemblage of sociotechnical and political-economic facets of platform technologies. platform governance entails the study of governance of platforms (i.e., how platforms participate in multi-stakeholder governance structures and how regulation is developed by these structures and applied to platforms), as well as *by* platforms (i.e., how platforms themselves govern their spaces through self-regulating mechanisms like Community Guidelines; Gillespie, 2018b). In addition, as noted earlier, scholars have also been studying the concept of governance *through* platforms (Agarwal, 2022), whereby state actors instrumentalise platforms to extend their power, enforce government policies and, even, stifle freedoms. In a piece that I published during my PhD, which was basically the conceptual framework of my dissertation, I proposed that there was a blind spot in how we've been studying platform governance, meaning that we weren't paying enough attention to other stakeholders (like citizens/users or unions)

who pay a role in these deliberations, as well as the increasing co-opetitive nature of capitalist relations in multi-stakeholderism and neoliberalism. In hindsight, I think I was also talking about complementors in a way, without though having the knowledge to frame them as such.

Consider, for instance, the example of OpenAI. First, OpenAI is a multi-sided platform market, the company itself builds the core product, which is its GPT model, inviting third-party developers and others to build upon those models, making those models more widespread, better and more operational, as well as users who make use either of OpenAI's proprietary products (eg ChatGPT) or other third-party products (eg plugins) while also training and feeding more data into the GPT model. As a matter of fact, OpenAI recently announced the launch of its own GPT Store, where developers will be able to publish their own custom GPT agents and also receive some sort of remuneration based on the popularity of their products. Then ofc thanks to OpenAI's boundary resources like its API, as well as its own role as a complementor to the broader platform economy, it's able to expand itself across the web in the form of chatbot assistants, AI-assisted search engines and whatnot. For example, Microsoft, a company with stakes of tens of billions of dollars in OpenAI, has been complimenting its own products with OpenAI's models and technologies. There are ofc many other examples, I just thought that this was rather interesting because of how new OpenAI is and because it highlights this dual purpose I referred to earlier.

What's more, these relationships between complementors and platforms are characterised by significant power asymmetries, whereby platforms hold significant and varied forms of power over the complementors. Consider, for instance, another example. Meta has time and again altered its strategy regarding the way it relates to the news industry and editorial content. In 2016, they shifted their attention (that is both financially but also technically and algorithmically) to promoting Facebook's Live-videos, hurting significantly newsrooms that weren't well-prepared to adapt to these changes, causing seismic shifts in the newsrooms, with editors who were video-illiterate being laid off etc. That is not to say that all complementors (in this case news media organisations) are at an equally dire position; certainly, there exist asymmetries also within the camp of complementors, with incumbent players often having more privileged positioning and access to platforms or governments. Yet, these remain embedded within the broader power asymmetries that are fueled by platform power, which as I said earlier has many dimensions: infrastructural, financial, political (content moderation); in other words, it's a structural form of power, whereby power holders, often institutions or social groups, are able to shape the broader social, economic, and political environment in which other actors operate. As int'l political economist Susan Strange argued about states holding that power: **"Structural power, in short, confers the power to decide how things shall be done, the power to shape frameworks within which states relate to each other, relate to people, or relate to corporate**

enterprises. The relative power of each party in a relationship is more, or less, if one party is also determining the surrounding structure of the relationship". And, so, I believe that this blends well with platform power because it also allows us to see the often more invisible threads of power that are innate in the relationship of private firms with states.

Circling back to complementors, I have two more issues to raise that we will try to tackle and develop later in the article. The one relates to the regulation of platforms and how it might affect the relationship between platforms and complementors. The other concerns the way in which we could envision a more democratic platform governance through the lens of **cooperative responsibility**, which is a notion developed by Helberger and others in an article from 2018 and that basically advocates for the shared obligations of platforms, users, states in acknowledging that all have a role to play in realising and safeguarding public values, and **network governance**, a notion discussed by Robyn Caplan in a recent article, which sort of builds upon the framework of Helberger and others arguing that there are fields of "interdependent (though autonomous) actors" that contribute to the broader organisational goals of a platform, like setting up expert opinion groups, trust and safety councils and other entities whose relationship is highly brokered by platforms. In that sense, I believe that by homing in on complementors, we are also able to appreciate their role in platform governance and in realising or helping others realise public values.

Yet, as Eletra Bietti wrote recently, the "platform economy is organized around vertical individualized contractual consumer-to-platform or business-to-platform relations. These vertical relations allow platforms to architecturally limit the possibility of collective, horizontal relations between persons on the platform". So, it's not enough to say that complementors share responsibility for and in platform governance but also how they are able to harness it and to what ends. This is where regulation could play a role but also maybe other forms of applying pressure to the ecosystem like activist and advocacy campaigns.

This is currently something we're still considering, but before everything IMO we also have to ask, in relation to regulation: What are shared responsibilities? How is the division of responsibility? One could argue that the current risk based approach can only be realised in cooperation with complementors, but what kind of affordances etc do we need then? More generally, one possible critique of the risk-based approach is to ignore how values are created through the interaction of platforms and complementors. Some ideas we have are:

- Look at governance mechanisms in the relationship between platforms and complementors: ToUs, APIs,?
- To what extent are values and interests aligned, how much room is there for contestation of values? What is the role of regulation in creating room for contestation?
- How does the emerging regulatory framework (DMA, EMFA, DSA) tackle the asymmetric relationship platforms - complementors

- Examples: DMA provisions regarding control over and access to data, interoperability, etc.)
- Impact of (unilateral) changes to content governance mechanisms on complementors (eg Facebook's pivot in 2018 to live-video or demoting of news content in 2022)
 - Relevant lit from journalism/media studies following institutional approach: isomorphism (Caplan and boyd, 2018); dependencies impact (Meese and Hurcombe, 2020)