Unveiling the Tech-Powered Governance: An Actor-Network Approach to Govern Platform Ecosystems

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Platform ecosystems are a relatively new type of organization that creates and captures value by connecting people; by allowing them to share, communicate, develop, and sell their products, services, and knowledge (Jacobides et al., 2018). This logic has nearly transformed the entire business world over the past decade, as seven of the top ten most valuable companies in 2020 were platform ecosystems (e.g., Amazon and Alibaba) (Cusumano et al., 2020). Platform ecosystems have also created social welfare by empowering communities to access various types of resources (Sadreddin et al., 2021). However, despite the vast potential of platform ecosystems for societies and economies, given that they are built on data that can be used by the platform owner (Masiero, 2023), these ecosystems can give their owners unquestionable power against participants and small businesses with less power (Ozalp et al., 2022). Therefore, it is arguable that the governance of a platform can indicate whether societies and economies will benefit from it or suffer as a result.

Platform ecosystem literature has explored four areas of governance mechanisms (Halckenhaeusser et al., 2020): 1) governance through cooperation between participants, 2) governance through resource access allocation, 3) direct or indirect control to reduce unfavorable behaviors, and 4) governance through market regulation approaches such as pricing, and complementors differentiation. Accordingly, the majority of these insights are advantageous to a powerful owner to induce derised behaviors in the ecosystem which may lead to colonizing the ecosystem (Ozalp et al., 2022).

According to this study's objective to provide beneficial insights to the users and providers (rather than just the owners), this study could fall into the first area of governance mechanisms addressed earlier – governance through cooperation. However, the fresh perspective that this study offers is looking at dyadic relationship of participants-digital tools instead of participants-participants. Accordingly, we employ actor-network theory that enables us to not differentiate between human and non-human actors in exploring the relationships through sets of mediating actors (Latour, 1994). Thus, this research looks at how digital tools as non-human actor mediate the action of participants as human actors during platform ecosystem governance by focusing on relationships between platform owners, digital tools, and service providers. Here is the research question of this study: *how do the relationships between participants and digital tools in platform governance reflect their interests and goals within the ecosystem?*

This study applies a qualitative case study (Walsham, 1995) on the Upwork ecosystem (https://www.upwork.com), a crowdsourcing platform ecosystem designed to facilitate collaborations between businesses and freelancers. The primary data sources are netnographic fieldnotes and a semi-structured interview with an Upwork freelancer. This study borrows techniques from the grounded theory method (Corbin & Strauss, 1990) to develop an

inductively constructed process theory of Upwork ecosystem governance. To make sense of the data, the actor-network theory is employed to explain the alignment of actors interests through leveraging digital tools (Latour, 1994) in the platform ecosystem governance.

According to the findings, during the three identified processes of platform expansion, platform improvement, and platform sustenance, digital tools and a bundle of features are being used by different participants to ensure their interests. On the freelancer side, freelancers inscribe their financial interests (e.g., improving their income) and non-financial interests (e.g., profile visibility) in their online portfolio, profile, online forms, and proposals. From the platform owner's perspective, their interests that are revenue generation and platform quality assurance, are inscribed into digital tools such as automated screening tools, online communication tools (e.g., Zoom), blogs, and tools for incentivizing freelancers and keeping them inside the platform. For instance, Upwork provides online time-monitoring tools and auto-filled tax forms that make freelancers prefer staying on platforms despite paying commissions rather than leaving the platform with the cost of not having these tools.

This research reveals how the interests and goals of a service provider (here, freelancers) and the platform owner can be observed in the usage and development of digital tools during processes of platform governance. A fresh insight that this study offers is to employ actor-network theory in the platform ecosystem governance to explain the relationships between human and non-human actors. The findings of this study contribute to the literature by introducing and elucidating a fresh view of participants-digital tools (i.e., human and non-human actors) in the platform governance that future studies can employ. Policymakers can also leverage this understanding to ensure the interests of less powerful actors to avoid colonization in the era of platform ecosystems (Ozalp et al., 2022).

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