



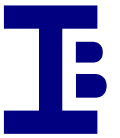
Platform-Complementor Interactions

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What is special about a platform anyway?

„A platform ecosystem derives a significant share of its value from agents whose actions the platform owner cannot directly control and whose contributions to the platform can be withheld.“

Some differences to „regular“ firms:

- Value „emerges“ in the ecosystem and is not controlled by the firm.
 - Actors with different strategy spaces – platforms orchestrate, complementors react
 - Control is replaced by governance through (hard and soft) incentives and rewards
 - Participation by complementors is flexible
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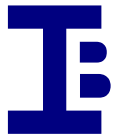


Key assumption

Platform owner is **powerful** and offers a unique product or service, while **complementors** are **small and atomistic**, and largely passive in reacting to the platform owner's actions.

This is great for causal identification...

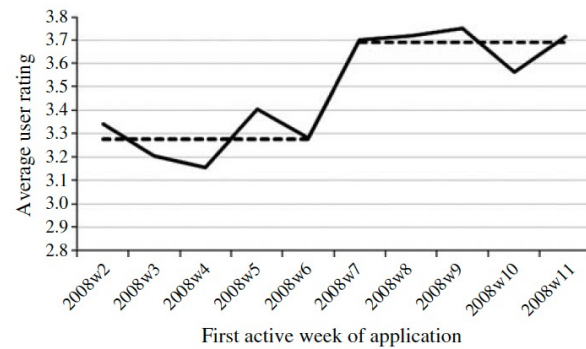
- Claussen, Kretschmer, Mayrhofer (ISR, 2013): Facebook changes incentives, apps react
- Peukert, Bechtold, Batikas, Kretschmer (MktSc, 2022): GDPR is enacted, websites react
- Loh & Kretschmer (SMJ, 2023): Games are updated, Game Wiki contributors react
- Meyer, Kerkhof, Cennamo, Kretschmer (SMJ, 2024): Aggregators take newspapers off the platform, newspapers experience consequences
- And many more!



...and we get beautiful pictures from it!!

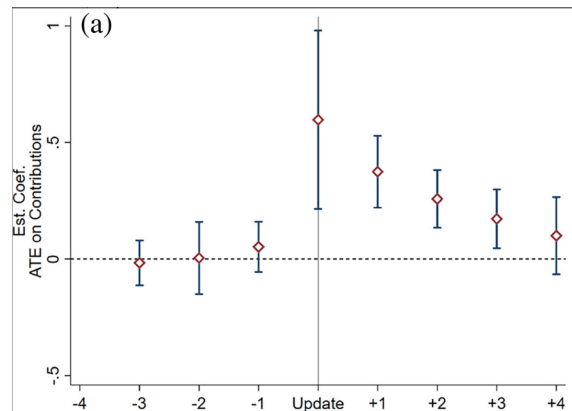
CKM, 2013

Figure 3 Average Rating of Apps Launched Before and After the Rule Change in 2008w7

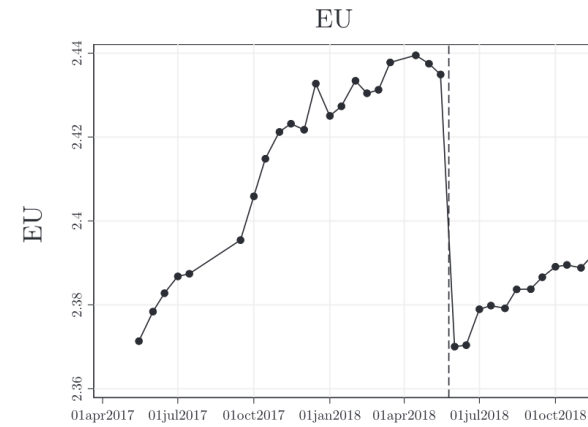


Note. Dotted line is the average of the average rating before/after the rule change.

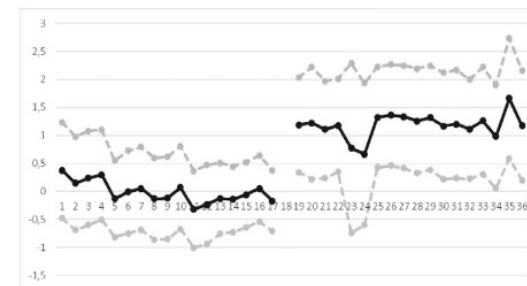
LK, 2023



PBBK, 2022



MKCK, 2024



(a) Event study for $\hat{\gamma}_{1,t}$ and Scale



But is it true?



Upwork: 10+% of transactions occur via agencies

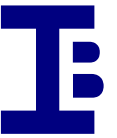
- Freelancers aggregate via an agency
 - “Re-intermediation“ creates a layer reducing volatility (for freelancers) and improves match quality (for clients)
 - Allows for fulfilling larger and more complex projects
- Platform operator loses some of the „matchmaking“ power for clients

But is it really true??




Epic Games has launched their own app store

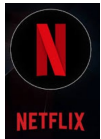
- Weakens revenue-generating capability of platform
 - Reverse envelopment by fulfilling functions previously done by the platform
 - Negotiating individual deals
- ➔ Platform is publicly weakened and forced to offer preferential deals to strong complementors



But is it really, really true??

-  Spotify's biggest complementors are the major music labels
 - Spotify's value derives from a „complete“ portfolio of songs/artists
 - Larger labels and/or artists can threaten to withdraw content, reducing value beyond „just“ the songs, but also the overall portfolio value
 - Negotiating can take place “on behalf“ of all artists (e.g. Taylor Swift) or for individual benefit (e.g. labels)
 - Platform has to balance value capture from strong complementors and value creation from them
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But is it really, really, REALLY true???



Netflix gets content from many of the main content producers (which often run platforms themselves!)

- After a focus on first-party content (up to 2020), Netflix now again prioritizes third-party content (60% from Disney, NBCUniversal, Warner)
- Mutual dependency creates an impasse – can't live with, can't live without them
- Change in business model for more mainstream content and consumers (with ad-based subscriptions)

→ Competing platforms are often mutually complementary

OLMs, app stores, streaming platforms do not fit the bill



Upwork: 10+% of transactions occur via agencies



Epic has launched their own App Store



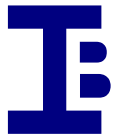
Spotify's biggest complementors are the major music labels



Netflix gets content from many of the main content producers (which often run platforms themselves!)

What does this mean for Complementor-Platform Interactions?

- *Value creation remains guided by (cross-side) network effects and complementarities*
 - Value creation is more balanced b/w comp/plat – Spotify without Sony Music (or Taylor Swift) isn't the same...
 - Portfolio of complements may have value in and of itself (consumers value choice/option set, not just actual choices)
- *Value capture emerges as result of a bargaining process, not take-it-or-leave-it-offers*
 - Until recently, platforms often imposed homogeneous conditions on all complementors
 - Rising pressure to strike deals and introduce a tier structure of sorts



A (Nash) Bargaining Approach

Nash Bargaining Framework gives us the determinants of the bargaining result between two agents.

$$NBS = (v_a - \underline{v}_a)^\alpha (v_b - \underline{v}_b)^{1-\alpha}$$

Outcome depends on:

- i) Own outside option (\underline{v}_a)*
- ii) Bargaining partner's outside option (\underline{v}_b)*
- iii) Bargaining power (α)*



How can Complementors affect these Parameters?

- i) *Own outside option (\underline{v}_a)*
- ii) *Bargaining partner's outside option (\underline{v}_b)*
- iii) *Bargaining power (α)*

Conditional on value creation (i.e. not by sabotaging the joint outcome or investing heavily in complement quality), complementors can try to change the bargaining outcome by affecting the three parameters above.



Focal Complementor's Outside Option (v_a)

What if I leave the platform?

- **Multihoming**

- Computer games can (threaten to) multihome on different game stores (Steam, Epic), which may allow for harder bargains (Loh and Nicolle, 2026)
- Avoiding platform-specific investments increases the threat of multihoming

- **Off-platforming**

- Epic's Coalition for App Fairness – being able to sell in-game outside the game store(s)



Platform's Outside Option (v_b)

How much do I bring to the table?

- **Superstar complements**

- Very popular games can sway gamers to one console brand (Binken and Stremersch, 2001)
- 🍊 attracted right-wingers to Twitter, tried to force Twitter to let him tweet unmonitored to keep his followers on the platform

- **Portfolio effects**

- Disney canceled contract with Netflix in 2019/20 (close to the launch of Disney+)
 - In 2014, Taylor Swift withdrew her music from Spotify in a dispute over artists' royalties
-

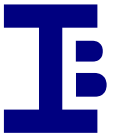


Focal Firm's (Relative) Bargaining Power (α)

How do I strengthen my position in the bargaining process?

- **Reverse envelopment**
 - Epic's game store fulfils many functions of App Store/Google Play
 - Freelancer agencies undertake much of the curation, vetting etc. previously done by Upwork, creating a "platform on a platform"
 - Similar to standard essential patents (SEPs) where bargaining happens over who fulfills each „function“ in a standard
 - **Offline status**
 - *Value* of offline readership in attracting attention on news aggregators (Meyer et al. 2024)
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(Preliminary) Observations and Implications



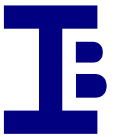
Main complementor „action“ was to participate (or not) **at given terms**, now terms are negotiable

Complementors used to contribute „just“ the usage value of their complements, now powerful ones contribute through the **option value** of their portfolio

Many platforms imposed uniform terms on all complementors, now we observe **heterogeneous outcomes**

Life used to „start“ with joining the platform, but **pre-platform history** may matter

A Research Agenda on Platform-Complementor Interactions I



- What is the role (and value) of pre-platform history (with M Batikas, Nova SBE)
 - Darkweb, shutdown of Silk Road 2, sellers (with existing histories) forced to migrate to other platforms
- How can platforms secure continued engagement of their most valuable complementors (with M Mickeler, ESSEC)
 - SafeBoda (Uganda) facing sporadic engagement and off-platforming esp by their top drivers, can peer interventions stabilize driver activity?
- How can/do platforms offer non-monetary differential terms? (with M Mickeler, ESSEC, S Castro, INSEAD, H Ho, LMU)
 - VinID/VinShop (Vietnam), heterogenous complementors w/ uniform financial terms, search results driven by pre-platform history?

A Research Agenda on Platform-Complementor Interactions II



- The dark side of „superstar“ complementors (with B Seigner, IE Madrid)
 - Dance tournaments „handpick“ judges to attract dancers (but this biases competitions!), new regimes randomly pick judges
- How does a complementor „reverse envelop“ platform functions to challenge the platform?
(with H Özalp, UvA, J Rietveld, UCL)
 - Tracking Epic’s journey from successful complementor to „platform on a platform“
- A generalized model of dynamic complementor asymmetry and platform-complementor bargaining (with C Panico, Bocconi)
 - Tournament-type model among complementors to „ascend“ to higher-tier complementors while bargaining for terms with platform along different dimensions (payment, access, data...)



Some Fundamental Questions

- Where do complementor asymmetries come from and do platforms benefit from them?
- What shapes the tradeoff b/w uniform terms for all and flexibility for powerful complementors?
- How do platforms defend themselves against increasingly powerful complementors?
- Should policy and regulation change in the face of increasing complementor power?
- When is a complementor „essential“? How to quantify the portfolio value of a complementor?



Summary and Implications

- Call to rethink our view of complementor-platform interactions as highly asymmetric
- Actions/strategies can originate from platforms **and** complementors
- Bargaining framework can help identify and classify complementor moves to capture value
- After (i) platform-incumbent competition and (ii) platform-platform competition, research focus may move to (iii) platform-complementor competition (Kretschmer et al., 2022)



**Thank
You!!
Any questions?**

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2026