Fulfilled By Amazon: Platform Tying of Ancillary Services

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Roadmap

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- Customer service.
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Services offered to sellers, increase value of trade.

Ancillary service tying

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Rich intellectual history around tying. 3 main motives:

1. Transaction or production cost savings (e.g., operating system components);
2. Price discrimination/surplus extraction (E.g., Netflix/Spotify);
3. Leverage (e.g., MSFT/IE, Google-Android).

What we do

Broad level: new efficiency argument for tying.

Key idea:

- Ancillary service creates (vertical) differentiation between sellers that do/don't use it.
- A source of market power.
- Sellers don't internalize overall participation.
- Tying $\Rightarrow$ less differentiation $\Rightarrow$ less market power $\Rightarrow$ more participation.

Questions

- When does the platform want to offer the ancilliary service?
- Profitability of tying?
- Effects of a ban on tying? Of a break-up?
- Analysis of foreclosure of competing providers of ancillary services.

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- Elastic participation: outside option with uniform distribution.

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Note: because there are many markets, participation is independent of a single seller's actions.

- Sellers choose actions taking participation (Q) as given.

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- $p_1 = c + f_A + \frac{2(f_B+\Delta)}{3}$, $p_2 = c + f_A + \frac{f_B+\Delta}{3}$.
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Lemma If the service is offered without tying there is partial adoption of the ancillary service in pure strategies.

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Proposition

- The platform never offers the ancillary service as an option.
- If $k < \Delta/2$, the platform ties the core and ancillary services.
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Tying or no service ensures that downstream competition is strong, therefore Q large enough.

These alternatives are profitable *despite* inducing inefficient over/under-consumption.

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Remark: platform could "virtually" tie A and B:

- f_A large enough,
- f_B negative.

So, a simple ban on literal tying might not be enough.

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- Overall: Consumer surplus decreases.
  - Break-up is harmful even without double marginalization.

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Should we ban tying?

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- In any case, consumer surplus goes down because of higher downstream prices.

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Extensions

Two-part tariffs

- Tying no longer profitable.
- Platform can efficiently sort consumers with unit fees and extract profit with fixed fees.

Ad valorem fees

- Give platform a reason to want high seller profit.
- Numerical analysis suggests platform still never implements 'no tying' in equilibrium and tying never harms consumers.

More than two sellers per market

- Bertrand $\implies$ multiple equilibria.
- Competition at the low end of the market $\implies$ lower prices $\implies$ platform prefers 'no tying' to 'no service'.
- But tying still better for consumers.

Still needing (more) thought

- Non-uniform distributions of θ and outside option.
- Elastic seller participation.
- Alternative timing: consumers learn θ before joining platform.

Conclusion

Simple model of marketplace provision of ancillary service.

Ancillary source of vertical differentiation: increases sellers' market power.

Platform has incentives to tie ancillary and core service.

- Benefits consumers as well.

Platform break-up likely to restore sellers' market power and harm consumers.

When contracts are richer, tying less useful to fine-tune seller competition.

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- Non-Negative Pricing Constraint (Choi and Jeon, 2021).
- Network effects (Carlton and Waldman 2002, Choi and Jeon, 2021, Choi, Jeon and Whinston; 2021).