TECH FIRMS IN THE MIDDLE

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*OPINIONS ARE MY OWN AND DO NOT REPRESENT THE VIEWS OF MY EMPLOYER
MULTI-SIDED MARKET PLACES

• Many tech firms operate as multi-sided marketplaces

• Value generated depends on the number of participants on each side
  • More games $\leftrightarrow$ More gamers
  • More readers $\leftrightarrow$ More advertisers

• Typically monetized through fees or advertising

• Examples: Newspapers, Video Game Systems, Operating Systems

TECH FIRMS PLAY MATCHMAKER

• Key feature of tech marketplaces is matching consumers to suppliers
  • Riders to Drivers
  • Viewers to content
  • Shoppers to products

• A large number of participants on each side requires a discovery mechanism
  • Random matching is likely a bad experience
  • Information on preferences is hard to get
  • Personalization tries to figure out better matches based on previous behavior

• How matching is done becomes economically relevant
EXAMPLE 1: ONLINE ADS

• Ads are disruptive
  • Video ads: Interrupt content
  • Search ads: If ranking is correct, then ads must be weakly worse

• How should the firm tradeoff that disruption vs ad payment
  • Valuation may depend on how disruptive ad is
  • Disruption might be context specific

• Can use value to set reserve prices in auctions or prices for ads
EXAMPLE 2: NEW PRODUCT RANKINGS

• Are product rankings right?
  • Pandora / Netflix “thumbs” (collaborative filtering)
  • Click prediction

• Spiral of success
  • Show up high in results ⇒ more clicks regardless of quality ⇒ show up higher in the future
  • Might not be because of inherent quality but history dependence

• Leads to a cold start problem for new results
  • If you show them at the top, quality signal is distorted
  • If you show them too low, you never get any signal on their true quality

• Economic measures of quality (hedonics) could help jumpstart the ranking
  • Product features may be ill defined or not recorded
  • Products may have lots of features that are hard to use in standard models (description text)
CHALLENGES

• Personalization takes data. GDPR / CA Consumer Privacy Act allow users to purge their data
  • Not obvious that restricting use of data is better for consumers
  • Dube & Misra “Personalized Pricing and Customer Welfare” (2019, wp)

• Controlling discovery mechanism is another way firms influence behavior
  • What sort of inefficiencies does that create?
  • Hodgson & Lewis “You Can Lead a Horse to Water…” (2020, wp)