Four matchmaking strategies:
1. **Customers search**: Airbnb, Google Local Services, Houzz, Yelp (before 2020), ...
2. **Providers search**: Amazon Mechanical Turk, Bark, Porch, TaskRabbit (before 2014), Thumbtack (before 2018), ...
3. **Both sides search**: Care.com, Upwork, Yelp (after 2020), ...
4. **Centralized matching**: Amazon Home Services, Angi, HomeAdvisor, TaskRabbit (after 2014), Thumbtack (after 2018), Uber/Lyft, ...

**Model**: communication complexity of $\epsilon$-stable outcomes.

- Surplus of a match: $b_{ij} - c_{ij}$
- Division of surplus: $u_i = b_{ij} - p_i$, $v_j = p_i - c_{ij}$
- Distribution of preferences (based on platform questionnaires about who agents are and what they want)
  - $b_{ij} \sim B_{ij}$, $c_{ij} \sim C_{ij}$ (independently drawn)
  - commonly known

**$\epsilon$-stable outcome**: matching and payments under which (No $\epsilon$-blocking pair) $u_i + v_j + 2\epsilon \geq b_{ij} - c_{ij}$ \forall (i, j) (Individual rationality)

**Benefits of an $\epsilon$-stable outcome**:
1. Near-optimal social welfare.
2. Deters entry of rival platforms.

**Q**: What is the most suitable strategy for a given market?

**Q**: Given a market $(I, J, B, C)$, how much communication is needed to obtain an $\epsilon$-stable outcome with high probability?

**Results**:
Assume that for all $(i, j)$,
\[ \mathbb{P}(b_{ij} \geq \bar{b}_{ij} - \epsilon) \geq d^I, \quad \mathbb{P}(c_{ij} \leq c_{ij} + \epsilon) \geq d^I. \]

**Near-optimal matchmaking strategy**

- **Providers search** are easy to describe or satisfy
- **Customers search** are easy to describe or satisfy

**A**: For markets with suitable characteristics, each of the above strategies obtains an $\epsilon$-stable outcome with high probability, and the amount of communication needed is approximately minimal among all possible systems of matchmaking.

Full paper is available on SSRN and extends analysis to allow for strategic agents, correlated preferences, many-to-one matching, dynamic arrival of agents and exogenous prices.