Competition between Equity Crowdfunding Platforms: Network Effects Vs. Matching Efficiency

Nabita Penmetsa
David Eccles School of Business
University of Utah
Agenda

» Introduction
» Research Statement
» Literature Review
» Model
» Findings
» Conclusion
Crowdfunding Industry
Multiple Platforms and Presence of Asymmetries

### US Crowdfunding Platforms

<table>
<thead>
<tr>
<th>Platform</th>
<th>Raised to Date</th>
<th>Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angellist</td>
<td>$248,219,051</td>
<td>275</td>
</tr>
<tr>
<td>Equitynet</td>
<td>$137,273,855</td>
<td>579</td>
</tr>
<tr>
<td>Crowdfunder</td>
<td>$107,886,625</td>
<td>134</td>
</tr>
<tr>
<td>Fundable</td>
<td>$80,615,590</td>
<td>42</td>
</tr>
<tr>
<td>Seedinvest</td>
<td>$49,475,025</td>
<td>36</td>
</tr>
<tr>
<td>Wefunder</td>
<td>$38,793,650</td>
<td>23</td>
</tr>
<tr>
<td>Earlyshares</td>
<td>$22,955,248</td>
<td>21</td>
</tr>
<tr>
<td>Onevest</td>
<td>$19,852,292</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: Fundwisdom.com

### UK Crowdfunding Industry

- **Crowdcube**
- **Seedrs**
- **P3**
- **P4**
- **P5**

Source: Crowcube blogs
Research Questions

How do we characterize the nature of competition between equity crowd funding platforms?

Is there place for multiple platforms?

How does the choice of pricing structures influence competition?
# Literature Review

## Crowdfunding

<table>
<thead>
<tr>
<th>Category</th>
<th>Rewards –based crowdfunding</th>
<th>Debt-based crowdfunding</th>
<th>Equity crowdfunding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project or Funding Success</td>
<td>Mollick (2014)</td>
<td>Burtch et al. (2016)</td>
<td>Ahlers et al. (2015)</td>
</tr>
</tbody>
</table>
Literature Review
Two-sided Markets

Two-sided Markets (Pricing Structures and Externalities)
- Caillaud and Jullien (2003)
- Rochet and Tirole (2003)
- Parker and Van Alystyne (2005)
- Armstrong (2006)
- Rochet and Tirole (2006)

Market Places (Network Effects)
- Ambrus and Argenziano (2009)
- Hagiu (2009)
- Gabszewicz and Wauthy (2014)

Pricing and Quality Differentiation

Matching Markets (Compatibility)
- Damiano and Li (2008)
Platform – Matching Startups and Investors

Startups (Growth Factor)

\[ S_1 \]
\[ S_2 \]
\[ S_3 \]
\[ S_4 \]
\[ S_5 \]

Investors (Risk Appetite)

\[ r_1 \]
\[ r_2 \]
\[ r_3 \]
\[ r_4 \]
\[ r_5 \]

Compatibility

Network Size

Platform (Price, Quality)
### Pricing Strategies

<table>
<thead>
<tr>
<th>Charging Startups</th>
<th>Charging Investors</th>
<th>Charging Startups and Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EquityNet</strong></td>
<td><strong>AngelList</strong></td>
<td><strong>wefunder</strong></td>
</tr>
<tr>
<td><strong>CircleUp</strong></td>
<td><strong>FundersClub</strong></td>
<td></td>
</tr>
</tbody>
</table>

*July 14, 2016 Platform Strategy Research Symposium, Boston University*
Model

Startups: $EU^s(s) = K_S + \beta \text{[expected size of } T_s] + \alpha E_r[(s - r)^2 \mid r \in T_s]$
where, $K_S, \beta, \alpha > 0$

Platforms:
$$\max_{q_1, R_1, p_1} V_1 = p_1 r^* + (1 - s^*) R_1 - \gamma q_1^2$$
$$\max_{q_2, R_2, p_2} V_2 = p_2 (1 - r^*) + s^* R_2 - \gamma q_2^2$$

Investors: $EU^i(r) = K_I + \mu_s - r \sigma_s^2 + \theta q_i$, where $\theta > 0$
Segmenting Equilibrium exists only when there is significant quality differentiation between the platforms and both startups and investors place a higher value on compatibility.
Findings

<table>
<thead>
<tr>
<th>Compatibility</th>
<th>Network Size</th>
<th>Segmenting Equilibrium</th>
<th>Asymmetry</th>
<th>Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charging both sides</td>
<td>Weak Network Externalities</td>
<td>High</td>
<td>Higher profits when network externalities are weak</td>
<td></td>
</tr>
<tr>
<td>Charging Investors</td>
<td>Weak Network Externalities</td>
<td>Low</td>
<td>Higher profits when network externalities are strong</td>
<td></td>
</tr>
<tr>
<td>Charging Startups</td>
<td>Strong Network Externalities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

» Segmentation can improve the value of intermediation service offered by platforms and increase platform profits.

» Platforms can achieve segmentation and strengthen their competitive position by offering differentiated services.

  Example: CircleUp focusses exclusively on consumer product companies.

» Choice of pricing strategy can enhance the efficiency of matching by supporting segmentation.

  Example: Charging only startups may align well with EquityNet’s focus on scale.
Thank You

Feedback and Suggestions are welcome