Two-Sided Market Activity

In this activity you will play a multi-round game to explore the impact of pricing decisions in a two-sided market (e.g., a digital gaming marketplace).

Background
In this activity you play the role of a creator of a digital platform. Your platform has two types of users: developers (s) who provide content for your platform and consumers (c) who access that content. Your group will be competing against all other groups for a limited number of potential developers and a limited number of potential consumers. Here are the exact formulas that describe this market (a bar above a symbol, as in \( \overline{Q_c} \), refers to the mean value across all groups):

\[
\begin{align*}
    q_s[t] &= \left( \frac{Q_s[t-1]}{Q_s[t-1]} \right)^2 \cdot \max \left( 1 - \frac{p - \overline{p}}{p}, 0 \right) \times 10 \\
    q_c[t] &= \left( \frac{Q_c[t-1]}{Q_c[t-1]} \right)^2 \cdot \max \left( 1 - \frac{p - \overline{p}}{p}, 0 \right) \times 100
\end{align*}
\]

where
- \( q_s[t] \), \( q_c[t] \) is the number of new suppliers and customers added during period t and
- \( Q_s[t-1] \), \( Q_c[t-1] \) are the cumulative numbers of suppliers and customers your group has obtained through period t-1.

A simple interpretation of these formulas is:
- Developers decide which platform to sign up for primarily based on how many consumers are on the platform and secondarily based on how inexpensive the developer costs are.
- Consumers decide which platform to sign up for primarily based on how inexpensive the platform is and secondarily on the number of developers.

The game follows these rules:
- Every group starts out with 10 developers and 100 customers. A simplifying assumption is that your number of developers and customers will never go down.
- Each round you:
  - Release a new version of your platform. You can sell this version to all existing users (both developers and consumers).
  - Decide as a group what price to charge developers ($0 to $40) and what price to charge consumers ($0 to $40). One person enters those prices into the google form listed on the website.
- After each round the formulas above determine your number of new developers and consumers.
- Your total average cost is $10 per user (developer or consumer).

The game winner is the group with the largest cumulative profit at the end of the game.

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1 Adapted by Steven L. Johnson from U. of Maryland BUSI622 Two-Sided Market Game by Profs. Bailey and Delarocas