Discussion of

“Exclusive Learning in Complementary Network Industries”

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NET Institute, 2007
Video Game developer D develops a **NEW** video-game

Consoles A and B offer *licensing contracts* to D for this **NEW** video-game

- **D** accepts an **exclusive** contract from A for the **NEW** video-game
  - D agrees to pay A $l_A (e_A)$ per copy sold

- **D** accepts **non-exclusive** contracts from both A & B for the **NEW** video-game
  - D agrees to pay A & B $l_A (ne)$ & $l_B (ne)$ per copy sold

- **D** accepts an **exclusive** contract from B for the **NEW** video-game
  - D agrees to pay B $l_B (e_B)$ per copy sold

Price of each copy of OLD & **NEW** games is **exogenous**

OLD games are exclusive to A or to B

Consoles A & B choose the price for their consoles

- **p_A(e_A) & p_B(e_A)** simultaneously

Consoles A & B choose the price for their consoles

- **p_A (ne) & p_B (ne)** simultaneously

Consoles A & B choose the price for their consoles

- **p_A(e_B) & p_B(e_B)** simultaneously

**OLD** consumers with Console A (B) determine

- The demand for **OLD-A (B)** video-games
- The demand for **NEW** game if it is an A (B) game

**NEW** consumers determine

- The demand for Console A (B)
- The additional demand for **OLD-A (B)** video-games
- The additional demand for the **NEW** video-game
Questions: (Answered by solving for equilibria of the game.)

1. What is the demand for the OLD and the NEW video-game(s) by a representative consumer?

2. How is the demand for the OLD video-games exclusive to console A or to B affected by-
   
   • the quality of the NEW video game
   • the relative consumer base of the two consoles

3. What is the price of the two consoles when-
   
   (i) There is no NEW video-game
   (ii) The NEW video-game is exclusive to the console with the larger consumer base
   (iii) The NEW video-game is non-exclusive
   (iv) The NEW video-game is exclusive to the console with the smaller consumer base

4. When do console manufacturers and the video-game developers enter an exclusive licensing contract?

5. What is the relation between the life-cycle stage of the game market (the ratio of consumers currently with a console to the potential number of consumers) and the ability of the console with a smaller existing consumer base to enter into an exclusive licensing contract?
An Alternate Model:

Consider the following description of the game:

Stage 0:
- The video-game developer can either develop a game exclusively for console A (g_ex) at a cost C, or can develop a game compatible with both consoles (g_both) at a cost $\bar{C}$.
- Hence the two strategies for D is \{g_ex, g_both\}.

Stage 1:
- The strategy of consoles A and B is to offer a license fee, $l_A, l_B \in \{l, \bar{l}, \tilde{l}\}$, to the video game developer D per copy of the video game sold.

Stage 2:
- The two strategies to the developer D in this stage are \{Accept, Reject\}, corresponding to the license fee demanded by each of the two consoles.

Stage 3:
- The price of all the video games is set exogenously at $P_v > 0$. The consoles A and B choose the price for their respective consoles simultaneously via Bertrand competition knowing the demand functions for the video game.
- Choose the demand functions that arise from the analysis in section 2 directly as on one hand they are intuitively appealing and on the other hand their derivation does not seem to be of central importance.

Stage 4:
- Specify the terminal node payoffs and determine the equilibria.
Other Issues

- The decision of the developer D to produce an exclusive or non-exclusive game depends on:
  (i) what kind of games each console has or what market does each console cater to
- Depending on the product developed, D can compare to each console’s product category to determine which could be a more viable market for him
- On basis of this viability he has 3 options: {Exclusive to A, Exclusive to B, indifference (non exclusive)}

Increasing the scope of the paper:

- Can be broadened with some empirical testing of the theoretical predictions
- Given the different consoles (Xbox, Play-station), get market shares of each console, see the timings of the introduction of new games that are exclusive/non-exclusive and see if some predictions holds true.