Platform competition with "must-have" components

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The model in a nutshell

- Two platforms with different installed customer bases compete both to gain access to basic components and to enroll new customers.

- The platforms can be somewhat "compatible" and the larger the compatibility, the higher the number of basic components on any platform.

- The presence of a must-have component on a given platform (say 1) generates vertical differentiation, increasing the gross utility of platform 1's customers.

  Main Topic: what are the effects of the competition for the must-have component? Should this component provider give exclusivity to one of the platforms?

- With Cournot competition between differentiated platform, the equilibrium quantity of new customers for platform 1 (resp. platform2) is the standard CRT quantity plus (resp. minus) a term reflecting the must-have component effect.
- As the popularity (μ) of the must-have component increases,
  1. total demand expands,
  2. platform 1's (resp. 2) sales and price increase (resp. decrease),
  3. total profits increases, even if platform 2's profits decrease.
- Even if the must-have component effect and the compability effect have the "same" impact of total sales and profits, they have opposite effects on market share differences.

Bargaining between Platforms and the Component Provider

- The authors consider the Nash Bargaining solution to determine the transfert between the provider and the platform(s). With exclusivity,
    1. This transfert is negative for a platform with the smaller installed base
    2. The transfer to platform 1 decreases with μ and increases with the market share difference.
- In the case of bargaining with non-exclusive access,
    1. The total transfer decreases with μ,
    2. increases with the market share difference.
- Exclusive contracts are more likely to be preferred by the component provider if μ increases and if the market share difference is large.

Remarks

- The model is based on CRT (2000) but the quantity of components plays the role of quality in CRT.

Rmq1 Additivity between the taste and the number of component is rather surprising since standard models with consumer heterogeneity use a multiplicative formulation.

Rmq2 In the example given to motivate the analysis (say ESPN), the network effect is rather hard to grasp.

- The component provider profit depends on the total customer base.

Rmq3 In the TV or Video Games cases, this revenue comes at least partially from customers subscriptions. This must be taken into account when analysing the total demand for the platform.

- There is no normative analysis of the exclusivity problem.

Questions : bargaining process

- Question 1: with exclusivity, what is the chosen platform? We know how the transfert varies but we don't know the winner.
- Question 2 : It is not clear that Nash Bargaining is the natural way to analyze the platform/provider relationship.

  Since the "must-have component" provider is a monopoly, he can set up an auction (as said page 11 but not really done after) or more directly, since there is complete information, posts a price equal to the wtp of the most interested platform.

  1. If platform 1 is given exclusive rights, it pays $\Pi_1^E - \Pi_1^{E'}$.
  2. With non-exclusive access, the paiement made by 1 should then be $\Pi_1^{NE} - \Pi_1^{E'}$ and the paiement made by 2 equal to $\Pi_2^{NE} - \Pi_2^{E'}$.

- The choice between exclusivity and non excluvity must then look both at the transferts and the direct profits the component provider can generate.