



Two-Sided Markets: Implications for Competition Analysis

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Introduction

■ Topical subject

- ▶ One of the most recent advances in industrial organization
 - Seminal papers by Caillaud and Jullien (2003), Rochet and Tirole (2004)

■ In connection with the digital economy and the emergence of “platforms”

- ▶ Allows to better understand the business models of these platforms and the competitive problems associated with them

■ Many examples:

- ▶ Media (newspapers, TV...)
- ▶ Credit cards
- ▶ Stock exchange and market places
- ▶ Real estate agencies
- ▶ Singles clubs
- ▶ And of course search engines

■ Specific issues for competition analysis

- ▶ Relation between prices/costs and pricing problems
- ▶ Trends towards integration and building-up of big firms

Overview of the presentation

- **Examples of two-sided markets**
- **Pricing issues**
- **Competitive issues on two-sided markets**
 - ▶ Single homing vs. Multi-homing
 - ▶ Costs and benefits of competition on two-sided markets

A classical example : the singles clubs

■ Network externalities

- ▶ The value of the service depends on the number of users
- ▶ The club must have women to attract men...
- ▶ ...And men to attract women
- ▶ Each side of the platform exerts a positive externality over the other one.

■ But the presence of network effects is not enough to define a two-sided market

- ▶ Example: telephone, softwares...
- ▶ Network effect associated with the number of users : the larger the installed base of users, the higher the utility derived from the use of the telephone, the softwares...
- ▶ This is a « direct » network effect.

■ The externality derived from the two-sided dimension is an « indirect network effect »: one side of the market exerts an externality over the other one.

Consequences of the « two-sided » dimension

■ Coordination problem

- ▶ Both sides have to be present on the platform to make it work
- ▶ Therefore, in order to trigger the network effect off, it may be necessary to subsidize one side in order to attract the other one.

■ In a e-commerce platform, subsidize labels to attract buyers,

■ In the singles club example : subsidize women in order to attract men

- ▶ This does not mean that women are less costly for the club,
- ▶ but rather that they generate externalities over the other side (men)
- ▶ that benefit the activity of the platform.

■ This subsidization mechanism induces a disconnection between costs and prices, regardless of any competitive mechanism.

■ The side whose demand is more elastic and that generates externalities over the other side has to be subsidized.

Many examples of that type of indirect network effects

■ Credit cards:

- ▶ Two sides = merchants and customers, Platform = payment system (2 banks) => « four-sided market »

■ Real estate agencies:

- ▶ Two sides = buyers and sellers, platform = website, physical agency

■ Operating systems:

- ▶ Two sides = users and developers, platform = operating system

■ Stock exchange:

- ▶ Two sides = portfolio managers and issuing agents

■ Media:

- ▶ Two sides = readers and advertisers, platform = newspaper, search engine, TV channel

■ And of course search engines

- ▶ Three sides at least : internet users, content providers and advertisers.

Consequences for the pricing

- **Prices charged to both sides may differ**
- **One side may face a zero price**
 - ▶ Or even may be payed in order to participate in the market
 - ▶ This enhances the value of the platform
- **During the introductory period of the good, prices may be very low in order to attract users and make the platform attractive in the future.**
- **A platform with an installed base may hold a competitive advantage**
 - ▶ First mover advantage
 - ▶ Magnitude of the advantage depends on the ability to belong to many platforms (multi-homing or single-homing)
 - ▶ This may intensify competition in the initial period to attract the installed base.

Search engines : pricing issues

- **A search engine is a multi-sided platform**
 - ▶ Internet users, content providers, advertisers
- **Price structure :**
 - ▶ For Internet users, free access.
 - ▶ Content providers can put their content at the disposal of users at zero price
 - ▶ Advertisers pay for the whole system.
- **Internet users are attracted by contents**
- **But content providers receive traffic through the search engine**
- **On Google, prices charged to advertisers result from an auction mechanism**
 - ▶ In principle, this leads to competitive prices
 - ▶ But Google is able to determine the supply of advertising space: has an impact on prices.
- **Some content providers (newspapers' websites) want to receive a payment, due to their positive externality on users**

Consequences for the pricing

- **In a two-sided market, the value generated by the platform depends**
 - ▶ On the total price payed by both sides ($P = p_1 + p_2$)
 - ▶ But also on the price *structure* (p_1, p_2), that is, on the split of P between both sides
 - ▶ Examples: fixed fee or use-based unit prices; free subscription ...
- **Allows to separate two-sided markets and other types of markets**
 - ▶ Retail (simple vertical interaction)
 - ▶ Labor market (relationships between employers and employees in the firm)
 - ▶ ...
- **In these « simple » markets**
 - ▶ The price structure does not matter
 - ▶ Negotiation and transactions occur between the two sides directly

Competitive issues

■ Many competing platforms:

- ▶ This situation raises different issues according to the fact that « multi-homing » or « single-homing » prevails.
- ▶ Mixed situations (multi-homing on one side, single-homing on the other) are also possible, for example if exclusivity contracts on one side

■ Advantages of competition vs. monopoly: depend on many features.

■ In the case of single-homing on both sides :

- ▶ Each platform offers a restricted access to the other side
- ▶ Ex: in an airport, each traveller has only access to the shops of his terminal, and conversely

■ Competition may be an unstable situation

- ▶ Competition or switch to monopoly, depending on
 - initial conditions,
 - relative strength of differentiation versus network effects.

Competitive issues : multi-homing on both sides

- **This makes both platforms (at least partially) substitutes**
- **But multi-homing may be unstable**
 - ▶ If platforms are close substitutes
 - ▶ And if there are fixed subscription costs
- **In this case:**
 - ▶ Switch to monopoly is possible
 - ▶ Some exclusivity contracts may be pro-competitive (to favour differentiation and to preserve multiplicity of platforms) on one side
 - ▶ But not « too much » exclusivity
- **If there is multi-homing on one side (1), and single-homing on the other (2), then the platform may obtain high profits from side 1 agents who want to have access to side 2 agents**
 - ▶ Then competition erodes the profits and benefits the agents belonging to the multi-homing side 1.

Search engines : structural issues

- **Advantage of first entrant**
 - ▶ Helps to build an installed base, triggers the network effect.
- **Advantage of large size of the engine : multiplicity of contents attracts users, who attract advertising revenues.**
- **Multi-homing on the side of users and of contents providers, but many exclusivity contracts on the advertisers' side (who cannot publish the same ad on two different engines)**
- **Exclusivity + dominance may prevent other engines from developing their activity**
- **But on the other hand :**
 - ▶ spontaneous (structural) trends towards dominance
 - ▶ And exclusivity may preserve differentiation between platforms and prevent the market from switching to monopoly.
- **Ambiguous effects of exclusivity on the competitive structure.**

Conclusion

■ Pricing: usual analysis can be irrelevant

- ▶ predation,
- ▶ prices driven by costs...

■ Number of platforms

- ▶ With **single homing**, the multiplicity of platforms lowers the quality of service (a user on the single homing side 1 cannot interact with all the potential members of side 2)
- ▶ But this also acts as a discipline device on the behavior of platforms and deters from pricing to high.
- ▶ Switch to monopoly possible
- ▶ With **multi-homing**, many platforms enhance the quality of service (all members of one side can interact with all members of the other)
- ▶ But can be an unstable situation and lead to monopoly

■ Exclusivity

- ▶ Balance between competition « for » the market and « on » the market
- ▶ Some exclusivity can be pro-competitive, too many exclusivity contracts are not.



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