Ultrabroadband competition in the two-sided markets

A. Calabrese, N. Levialdi Ghiron, I. Iacovelli
SINTHESIS OF THE PRESENTATION

• Introduction
• Aim of the paper
• Model
• Strategic decisions
• Simulation analysis:
  • hypothesis
  • results
• Conclusions

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The innovation in the ultrabroadband networks

To consider the opportunities and challenges that such innovation represent for the telecommunication industries

Technical problems
Management problems

New entrants (FO, FWA, PLC)
Incumbent (xDXI)

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AIM OF THE PAPER

To analyse the impact of the ultrabroadband revolution on the competitiveness and efficiency in the platform services in telecommunication industries.

A model that enables to study the competition among telecommunication system that provide different technological benefits, expressed as ultrabroadband access.

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• Singlehoming

• Total benefits: $h_i^c D_i^m$ ($h_i^c$ are distributed continuously in the interval $[0, \tau_i]$)

• Monthly fee: $f_i^c$

• $U^c = \max \{0, h_1^c D_1^m - f_1^c, h_2^c D_2^m - f_2^c, h_3^c D_3^m - f_3^c\}$

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The readers/viewers demand

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The readers/viewers demand

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MODEL

Hypothesis content providers/advertisers

• Multihoming

• Total benefits: $h_i^m$ ($h_i^m$ are distributed continuously in the interval $[0, \mu_i]$)

• Fee for bit capacity available: $f_i^m$.

• $U^m = \{0, (h_1^m - f_1^m) D_1^c \} + \{0, (h_2^m - f_2^m) D_2^c \} + \{0, (h_3^m - f_3^m) D_3^c \}$

• $D_i^m = \Pr(h_i^m \geq f_i^m)$

The profits:

$$\pi_i = (f_i^c - g_i)D_i^c + (f_i^m - c_i) D_i^m D_i^c$$

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## The present market situation

<table>
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<th>FO</th>
<th>FWA</th>
<th>PLC</th>
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Strategic decisions

FO

Proactive: technology \(i\) lowers the content providers/advertisers fee by 0.1

Reactive: as the present situation

FWA and PLC

Proactive: the technology \(i\) increases both \(\tau\) and \(\mu\) of a value equal to 1 and the content providers/advertisers fee rises by 0.2.

Reactive: technology \(i\) lowers the content providers/advertisers fee by 0.1.
The readers/viewers demand

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</table>

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The profits

Nash equilibrium exists when all the market players adopt a proactive strategy

The relationship between demands on both markets sides

- The readers/viewers produce indirect network externalities on the other market side
- When the technology $i$ choose a proactive strategy the increase in readers/viewers demand increases the content providers/advertisers demands.
Pricing structures

Proactive: it decreases the contents providers/advertisers fees and the readers/viewers fees do not change.

Reactive: the fees on both markets sides do not change.

Proactive: it increases the fees on both markets sides.

Reactive: it decreases the contents providers/advertisers fees and the readers/viewers fees do not change.

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• The numerical simulations allow to classify the xDSL competitors in two typologies: the strong one, FWA, and the weak ones, PLC and FO

• Both readers/viewers and the content providers/advertisers fees increase according to the increase of technological benefits

• The increase in the prices allocation between the two sided of the platform is determined by the side of the market that creates network externality on the other side