Impacts of Technological Factors on the Economics of the Video Content and Information Services Industry - Towards a Research Framework -

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Agenda

- Areas of Investigation
- Methodological Approach
- First Findings & Future Research

Areas of Investigation

1. Competition of broadband infrastructures: Profitability potentials for single providers? (Cable, satellite, terrestrial broadcasting, telecommunication services / DSL, mobile networks [UMTS - WiFi])
   - Reasons for differences between countries?

2. Impacts of intelligent end user devices - especially Digital Video Recorders (DVRs) - on business models / value propositions?

Research Design

- Literature / statistics
- Case studies
- Network / bundling research
- Diffusion theory / consumer research (price sensitivity)
- Scenario workshops

Simulation
(System Dynamics ?!)

Forecasting Techniques: Prognosis vs. Simulation

<table>
<thead>
<tr>
<th>Prognosis</th>
<th>Simulation</th>
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<tbody>
<tr>
<td>Supposes future as predictable</td>
<td>Future as strictly not predictable</td>
</tr>
<tr>
<td>Extrapolation of the past</td>
<td>Description of possible 'futures'</td>
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<tr>
<td>Representation of a development</td>
<td>Highlighting multiple development paths</td>
</tr>
<tr>
<td>One best answer</td>
<td>Showing background of decision making</td>
</tr>
<tr>
<td>Final decision forestalled</td>
<td>Final decision still to be made</td>
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Drivers of Infrastructure Competition

Market Situation / Industry Structure

- Status quo - installed platforms
- Competition strategies / market entries / substitutes

Technology
- New services and business models
- Cost of 'upgrade'

Consumer
- Service price
- Platform preference
- Switching cost

Regulation
- Status quo
- Trend re. facility-based competition
Value Chain of 'Content Services'

- **Content Providers**
  - e.g. Hollywood

- **Channels (Aggregators, Programs)**
  - e.g. CNN, ESPN, Discovery

- **Equipment Providers - Set Top Boxes**
  - e.g. Motorola, Scientific Atlanta

- **Distributors**
  - e.g. Comcast, Time Warner, Cox

- **Multi Service Operators (MSOs)**

- **Cable Operators**

- **Viewer**

Positioning of Cable Providers

- **Satellite-providers**
  - 'Internet access' - DSL
  - Satellite

- **Cable-providers**
  - 'Content Services'
  - 'Information Services'

- **USA:** Big, established cable provider challenged by small, economically attractive satellite-providers
  - Germany: Analogue cable likely to remain dominant; Digital Terrestrial Broadcasting?

- **USA:** Cable provider as serious competitor for ILECs
  - Germany: DSL clearly dominant, cable infrastructure technically insufficient

Competitive situation in both markets heavily depending on 'Industry Structure' & 'Regulation'

First Insights Regarding Infrastructure Competition

- 'Content Services'
  - USA: Big, established cable provider challenged by small, economically attractive satellite-providers
  - Germany: Analogue cable likely to remain dominant; Digital Terrestrial Broadcasting?

- 'Information Services'
  - USA: Cable provider as serious competitor for ILECs
  - Germany: DSL clearly dominant, cable infrastructure technically insufficient

To be analyzed country by country

First Insights Regarding Intelligent End User Devices

- Shifts in 'content services' value chains
- Too new and too small to offer real world calculations
- Less country-specific than infrastructure / facility battles

Potential Added Value of Intelligent End User Devices

- DVR, DVD, VoD, etc. ...

Potential added value

First Insights Regarding Intelligent End User Devices

- Shifts in 'content services' value chains
- Too new and too small to offer real world calculations
- Less country-specific than infrastructure / facility battles

Questions, Comments, Complaints?

Thank you very much for your attention!

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