Economics of Digital Cable between Content and Information Services

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Agenda

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- Digital Cable Industry at a Glance
- Areas for Investigation and Research Design
- Competitive Situation for Cable Operators
  - Market for Content Services
  - Market for Information Services
- Technology Driven Business Model Changes
- Summary and Outlook towards Europe

Cable Industry at a Glance

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- 95% of 106,5 mill. HH with access possibility
- 72 mill. HH subscribed to cable (analogue & digital)
- 308 national cable provider, Top '5' serve 70% of subscribers

	Provider	Market share / Cust.
1	Comcast Corp.	30% (21,305,100)
2	Time Warner Cable	15% (10,914,000)
3	Charter Communications	9% (6,578,800)
4	Cox Communications	9% (6,280,800)
5	Adelphia Communications	8% (5,321,700)

Digital Cable Technology

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- 'Hybrid Fiber / Coax (HFC)' architecture, 75% roll-out (12/01)
  - ➲ Reliability of signal ↑
  - ➲ Quality of picture ↑
  - ➲ Feedback channel capability
- Digital set-top-boxes, > 60% roll-out (12/02)
  - ➲ Capacity ↑
  - ➲ Compatibility ↓

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Areas of Investigation

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(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?

Drivers of Infrastructure Competition

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Market Situation / Industry Structure
- Status quo - installed platforms
- Competition strategies / market entries / substitutes

Consumer
- Service price
- Platform preference
- Switching cost

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

Regulation
- Status quo
- Trend re. facility-based competition

Value Chain -Video Content Services

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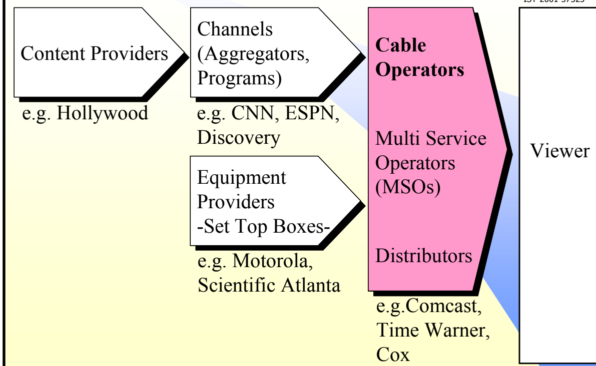

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Investigation '1': Infrastructure Competition

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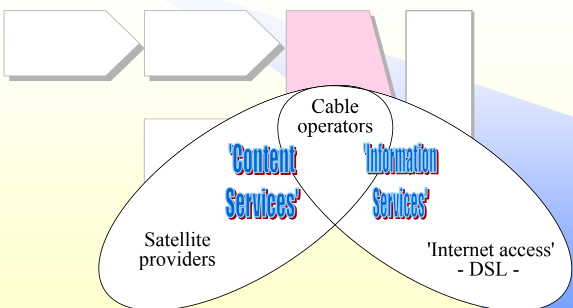

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Investigation '2': Innovative End-User Devices

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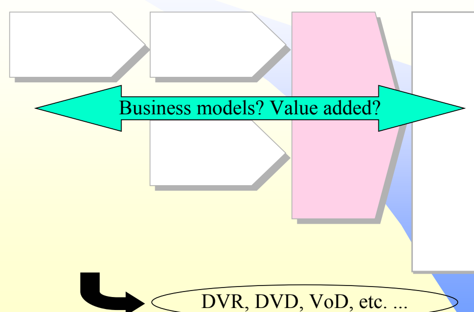

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Content Services - Cable versus Satellite -

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Digital

- 72% Cable ↓
- 27 % Satellite

Competition for market share and price

➲ So far: **Competition for market share**
➲ If price competition: advantages for satellite

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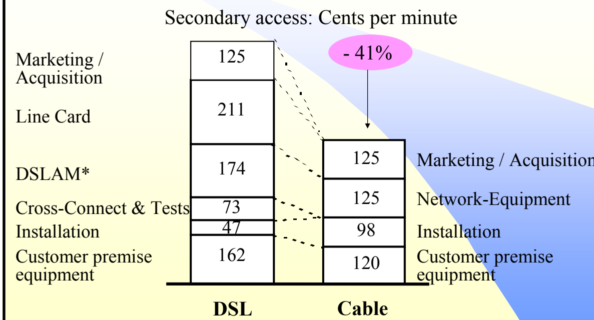
Information Services - Cable versus DSL -

	Dig. cable	DSL
Market- / Industry-structure	- > 13,4 mill. subscribers	- 4 big ILECs* > 5 mill. subscribers (76% mark. share) - Higher concentration
Regulation		- Access regulations ('Open access rules') - '1996 Telecommunication Act': Deregulation until 1999 - '2003 Triannual Review': Permission for services bundle
Techno-logy	- Investments > US$ 70 bill. 12/02, (US$ 1.000 per cable customer)	- Cost of 'Last Mile' as doubtful economic calculation

* Incumbent Local Exchange Carriers

Cable versus DSL - Economic Comparison -



* Digital Subscriber Line Access Multiplexer

Information Services

Necessity for broadband technology w/feedback channel capability

	DSL	Dig. Cable	Total Broadband
USA	7.575.800 (36,2% of BB)	13.367.000 (63,8% of BB)	20.942.800 (18% of HH)
GE	3.864.500 (98,4% of BB)	64.600 (1,6% of BB) Problem: feedback channel	3.929.100 (7% of HH)

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DVR Features and Drivers

- Cross-promotion & lead-ins ➲ Questionable
- Role of prime time and concept of life shows ➲ Minimized
- 'Call-in' model ➲ Not feasible
- Channel surfing ➲ Reduced
- Exposure to commercials ➲ Reduced

- Different forms of advertising needed (e.g. promotions within programs)
- Replay figures replacing Nielssen Data
- More accurate information about viewers

DVR Impacts on Value Chain

- DVRs: Business model - trade off required !

Income

Cable Operators (MSOs) ← Advertising (from channels) ➡ DVRs ↓

Cable Operators (MSOs) ← Subscription (from viewers) ➡ DVRs ↑

Trade-Off !

- On-demand sales ⇔ DVRs - not both !
- DVDs (and their exchange platforms) ⇔ DVRs

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Summary and Outlook (1)

- Video Content Services:
  - ➲ US: Large cable incumbents challenged by small, but promising DSBs
- Information Services:
  - ➲ US: New entry cable players as serious threat to ILECs

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

➲ To be analyzed country by country

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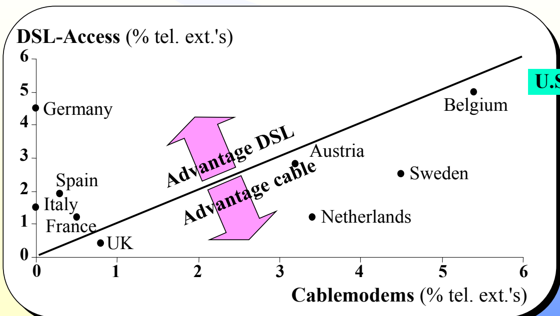
Digital Cable Industry -US and Europe -



Source: McKinsey (2002), OECD (2003), own analysis

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Summary and Outlook (2)

New technologies such as DVRs:
Impact on various business models / economics in related industries

- Too new and too small to offer real world calculations
- Less country-specific than infrastructure - / facility battles

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…. Questions, Comments, Complaints ?

Thank you very much for your attention !

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Cable Markets in Selected Countries

	G	GB	F	USA
Inhabitants [Thsd.]	82.143	59.501	60.628	281.000
HH [Thsd.]	38.123	25.105	24.400	106.500
TV-HH [% Total-HH]	98,7	97,0	93,6	99,4
# channels received by 70% of inhabitants	38	5	7	n.a.
HH w/physical cable access [% of TV-HH]	77,5	51,9	36,8	95,0
HH w/Cable access [%]	55,3	13,6	13,2	72,0
Digital-TV subsribers [% of TV-HH]	5,1	25,8	13,6	26,5

[Year 2001]