

Digital Video Recorders (DVRs): New Media in the Traditional Media Industry

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Agenda

- Digital Video Recorders (DVRs):
Towards a Common Understanding
- DVRs in More Detail
 - Major Features
 - DVR-Driven Viewer Behavior
 - Actual DVR-Roll-Out
- Value Chain of Video Content Services Industry
- Implications of DVR-Roll-Out for Different Players
- Outlook

Digital Video Recorders (DVRs): Towards a Common Understanding

Main Technological Drivers

Broadband Connectivity

- 'Always on'
- 'Ubiquitous'
- Download
- Streaming

- > Upstream and downstream
- > DSL, cable, (satellite)

Storage Devices

- Price
- Variety: PCs, DVDs, DVRs



Legal Issues

Up to 200 hrs video on
Set-Top-Box

Digital Video Recorder

(also: Private Video Recorder (PVR), Time-Shift Recorder (TSR))

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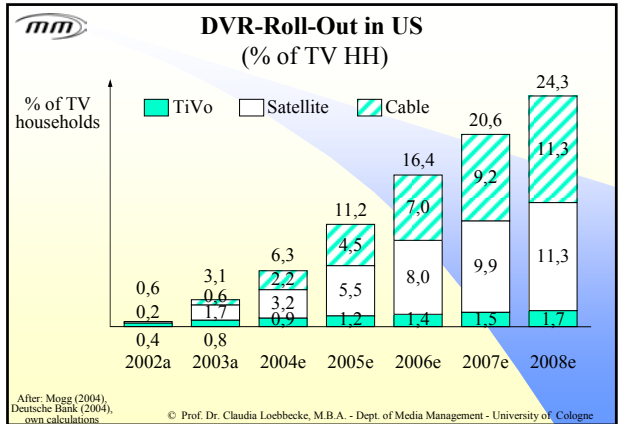
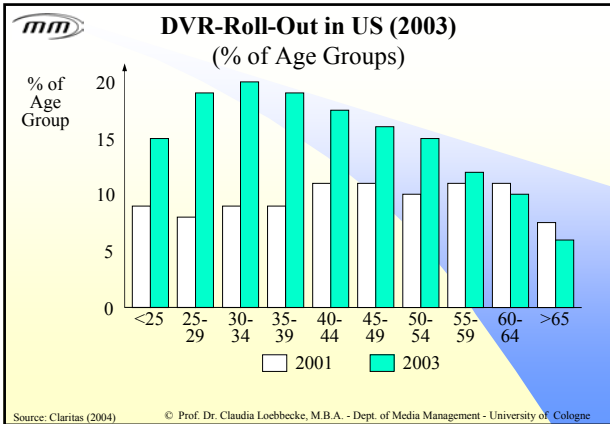
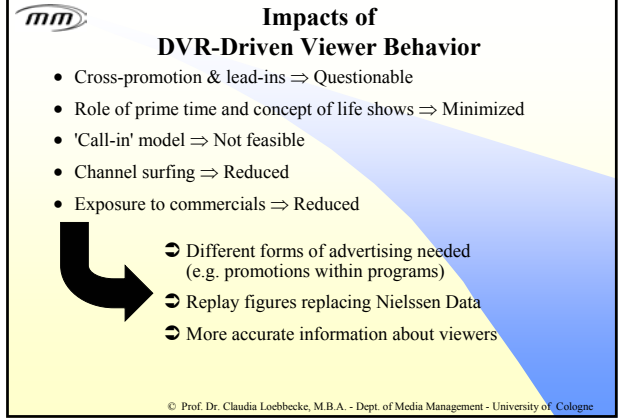
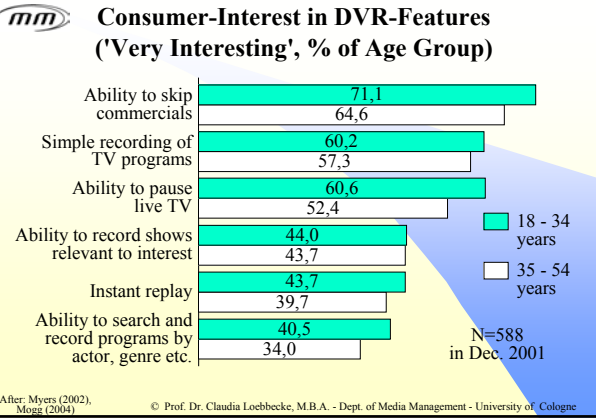
Main DVR-Features

- 'VCR on Digital Basis'
- Up to 200 video hours storage capacity (depending on model)
- Menu System (Electronic Program Guide)
- Pausing, Rewinding, Fast-Forwarding during Live Programs
 - ⇒ Uninterrupted Near-Real-Time Viewing
 - ⇒ e.g. 30-Second Jumps

DVR-Driven Viewer Behavior

- Buffering** Viewing at more favorable time slot
- Bookmarking** Bookmarking particular program
 - ⇒ Avoiding constraints of the schedule
- Grazing** Scanning complete day's viewing via on-screen program guide and recording a selection for later viewing
- Stacking** Collecting a number of episodes for big viewing session
- Archiving** Storing content - to give copies to other people
- Compressing** Creating 'highlights' version (90 min game in 20 min)
- Extending** Watching live program, re-playing key events repeatedly
- Pausing** Zapping in and out of recorded content of live TV
- Ad Sampling** Halting fast forward process to watch ads one enjoys

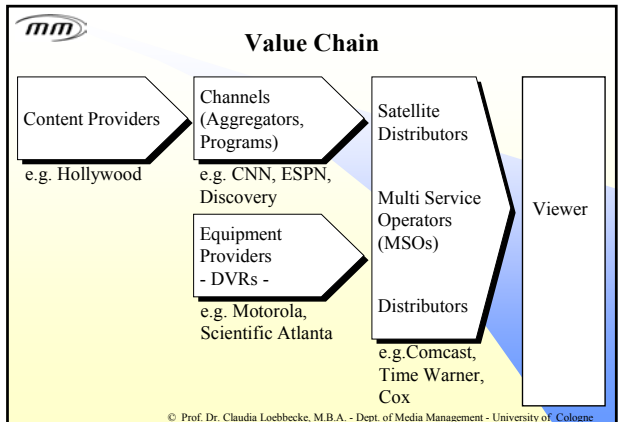
... Plus Ad Jumping



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TiVo Impact on Advertising Attention

TiVo users (%) who stayed in play mode during commercial

Program	Reality TV, News, Events (%)	Drama, Comedy (%)
The weakest link	78	-
45th Grammy awards	75	-
60 Minutes	73	-
Fear Factor	58	-
20/20	57	-
CSI: Miami	-	46
American Idol	45	-
Friends	-	39
The Practice	-	30

After: TiVo (2004), Bernoff (2004) © Prof. Dr. Claudia Loebbecke, M.B.A. - Dept. of Media Management - University of Cologne

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DVR Impact on Advertising Attention

Year	Advertising hours per year	Loss due to DVR (in %)	DVR penetration in %
2002a	76,9	0,3	0,6
2003a	79,4	1,7	3,1
2004e	81,8	3,5	6,3
2005e	84,1	6,3	11,2
2006e	86,5	9,3	16,4
2007e	88,8	11,6	20,6
2008e	91,1	13,7	24,3

After: Mogg (2004), Deutsche Bank (2004), own calculations © Prof. Dr. Claudia Loebbecke, M.B.A. - Dept. of Media Management - University of Cologne

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DVR-Impacts Along Value Chain

If significant less commercials, business models and payments flows along the chain have to change !

- ⇒ Circular dependencies
- ⇒ Dynamic complexity
- ⇒ Partially dependent on current situation

e.g. Comcast, Time Warner, Cox © Prof. Dr. Claudia Loebbecke, M.B.A. - Dept. of Media Management - University of Cologne

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Example - Cable Operator View -

Trade-Off !

- On-demand sales ⇔ DVRs ?!
- DVDs (and their exchange platforms) ⇔ DVRs

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Outlook on DVR-Impacts

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

- Still 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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