The Impact of the DTV Transition on Consumers and Consumer Choice

Session: ***Opportunity in Chaos***

Economics of the Digital TV Transition
The Columbia Institute for Tele-Information
Columbia University

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Overview of the DTV Transition Situation

- On February 17, 2009 the country will make the transition from analog TV signals to digital-only signals.
- The challenge of the DTV transition will be to move major segments of TV viewers from their current analog sets to systems that will enable them to view digital TV.
- This transition is no "slam dunk"— despite what the government and broadcasters have been saying.
  - As outlined by Stu Lipoff this morning, there are serious gaps in reception that will plague the transition
  - Because of these gaps in reception, the DTV transition will offer some opportunities for paid TV service providers who will provide fail-safe options for over-the-air consumers

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Who is impacted by the digital transition?

There are approximately 35 million households using over-the-air TVs:

Primary Over-the-Air (OTA) *Households (No cable, satellite or telco video service)*	***14.6 million households***
Secondary OTA Households *Households with cable, satellite or telco video subscriptions with non-connected TV sets*	***15.5 million households***
Vacation/Second Home OTA *Homes without cable, satellite or telco video services*	***4 .7 million households***

Source: CEO (Centris Omnibus), Q3 2008,

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Overview of the DTV transition situation (cont'd.)

- According to the government and broadcasters there are three fundamental options available to consumers:
  1. Buy digital-analog converter boxes (using government provided discount coupons worth $40 each) that will enable current analog television sets to receive digital signals through antennas,
  2. Acquire a digital TV that can receive digital signals "over-the-air'', or
  3. Subscribe to a paid television service (i.e. cable, satellite or telco video).

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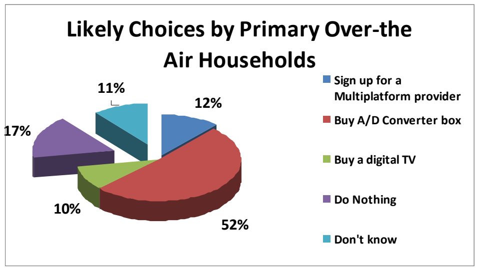
What do Over-The-Air Consumers Say They Will Do?

Which one or more of the following actions are you most likely to take between now and when the Digital TV transition takes effect?



Source: Centris Omnibus and Association for Public Television Stations

•Interest in ***staying over-the-air*** (converter box/digital TV) is 62%--**about 9 million primary OTA households**
•12% say that they will go to a multiplatform provider– **about 1.75 M primary OTA households**
•11% do not know what to do; 16% say they will do nothing—**about 4 M primary OTA households**

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What Over-The-Air Consumers Will Actually Do

- Our analysis outlined by Stu Lipoff this morning shows that some ***<u>54% of OTA households will have problems with reception</u>*** unless they upgrade their antennas—this is probably an underestimate of the problem

  Of the 9 Million primary OTA households who <u>want</u> to stay over-the-air ***4.9 Million*** of these households will have difficulty doing so unless they obtain a roof-top directional antenna (typical cost of $400 to $700 including installation) during the winter months

  - Many of these consumers will go to multiplatform providers
  - Some other primary OTA households have clearly anticipated that they will sign up for cable or satellite—1.75 M
  - Other primary OTA households do not know what to do –4.1 M
  - There is research suggesting that some will go without TV—but that has not been a likely outcome in the past 60+ years of TV history

We estimate that the multiplatform opportunity is thus in excess of 7 Million households

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Our Study was First Released a year before the Transition- February, 2008 and Was Criticized for Saying that there is a DTV Reception Problem

1. ***FCC Chairman Martin*** *has claimed that only 1% of US Households will experience reception problem testimony before the House and Senate in September, 2008*
2. ***David Donovan****, President of MSTV, stated that only 10 households in the US will be affected by poor reception problems (NCTA Cable Show, April, 2008)*

Why would they make such patently false statements*?—*

- *They were a party to the establishment of the DTV standard and transition roll-out plan and are therefore defensive about their "baby".*
- *These statements provided cover to do nothing about serious DTV reception problems and leave them to the new administration*

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Why Do We Say That there is a Reception Problem?

1. Behavior of digital signals. *Digital signals are more sensitive to impairments than analog signals because a weak analog signal degrades gradually and is still "watchable" on analog, but due to the "cliff effect", a weak digital signal yields a blank screen. The reception of digital signals is particularly subject to:*
   - *Variable terrain—particularly hills, valleys*
   - *Weather*
   - *Nearby buildings*
   - *The location of the receiving antenna--the use of indoor antennas vs. outdoor antennas*
2. FCC definition of the Digital TV contour. *In FCC document OET-69, the FCC defines the digital contour (DTV coverage area) as being dependent upon a directional antenna (p.9) at 10 Meters in height (p.6).*
   - What would the cost have been to broadcasters been if the definition was based on a less expensive omnidirectional antenna or an indoor antenna?

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Why Do We Say That there is a Reception Problem?

3. The FCC has acknowledged reception problems by several of its actions

- Burying a page on *its website: http://www.fcc.gov/cgb/consumerfacts/dtvantennas.html) that is addressed to antenna issues including the need to have outdoor rather than indoor antennas.*
- *The FCC recently (11-07-08) approved distributed transmission systems or DTS (FCC 08-256) for use by broadcasters—why would they approve such a program to provide more comprehensive reception if there were no reception problems.*
- The DTS order makes it clear that the Wilmington digital switchover did not go as well as the Chairman said it did—we know from our own work in Wilmington that many households lost one or more stations
- The December 18 FCC meeting has an agenda item for a DTV translator service to fill in analog reception gaps—weren't we told that there was no reception problem?

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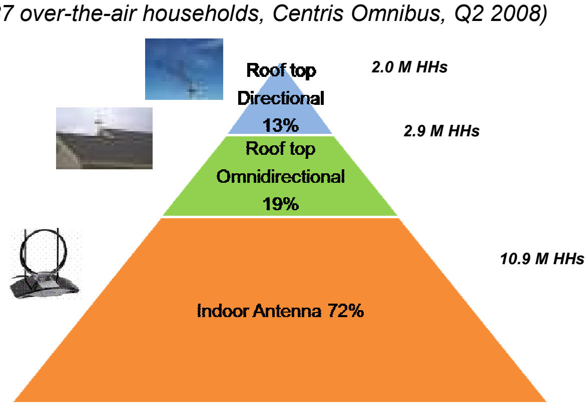
Why do we say that there is a reception problem?

4. *Incidence of antennas in OTA households. 72% of over-the-air households only have indoor antennas; only 13% have a directional antenna on the roof (n = 1537 over-the-air households, Centris Omnibus, Q2 2008)*



Our reception analysis assumed an omnidirectional antenna on the second story (only 68% of homes have a second story). Thus, our 54% figure is likely an underestimate of households with reception difficulties.

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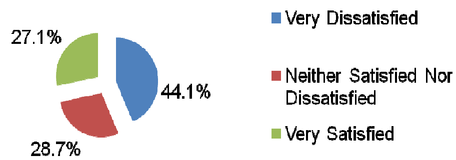
Why do we say that there is an reception problem?

5. Digital coverage is supposed to replicate analog coverage. The "rule of thumb" that is often discussed by government agencies is that if a consumer has a good analog signal, they will receive a digital signal.

But, how good is the consumer experience with analog signals?

– A Centris omnibus survey of 536 OTA households revealed that 44% were dissatisfied with their analog picture — This does not augur well for digital reception.



The American Public has no idea that reception will be a problem!!!

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What will OTA converts do?

By analyzing Centris Omnibus survey data from Q2 2008, we were able to determine the source of new subscribers to cable and to satellite TV services during the past year — approximately 1.3 million OTAs switched to satellite or cable during the past year.

- 33% of primary OTAs who signed up for paid video services signed with satellite providers; on average these new subscribers are spending $59 per month on satellite TV (compared with $67 among existing satellite subscribers)

- 67% signed with cable operators

- Some small portion of OTAs may have signed up with telco video providers, but the estimates of this are small and unreliable

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The Multiplatform Opportunity

Potential market for Multiplatform providers– 7 million Primary OTAs

	Satellite	Cable
Likely Take-Up	2.34 M	4.66M
Annual Revenue per Sub	$708	$804
Total Annual Potential	$1.66 B	$3.75 B

Among converts to cable, 45% also took cable high speed data service. This means that the cable opportunity is about $5 Billion.

Caveat--It could be that the OTA households that switched prior to the transition did so because they were financially prepared to spend more on video services—OTAs who switch as a result of the transition failure may not spend as much because they were forced to seek a paid solution.

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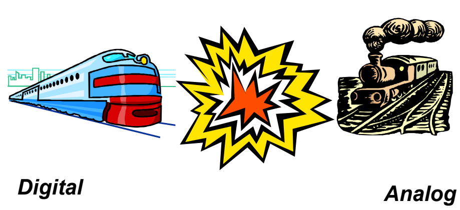
With 67 Days Remaining What Will Happen ?

1. FCC actions will not change the facts on the ground by Feb. 17
   - Distributed Transmission order has no opportunity to be implemented
   - December 18 meeting on DTV Translators?
2. Many issues are on hold waiting for the new administration and Congress
3. The date of the transition cannot be pushed back since the spectrum was already auctioned off to wireless carriers
4. Given the financial meltdown and pressing international issues, how much attention can DTV receive?

The Inescapable Conclusion:



The proverbial "train wreck"

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Elements of a DTV Recovery Plan

1. Leadership from top levels of government—which has been missing to date
2. Educate the public regarding reception issues and what they need to do (e.g., check with a local antenna installer for the proper antenna)
3. Extend the use of some analog broadcast facilities for a period of time (this is already in place for a one month period, but probably needs to be lengthened). A bill (Rockefeller-Capps) has passed the Senate and awaits House passage.
4. Ensure multiplatform providers offer "low cost" limited basic services providing local broadcast channels
5. Provide government subsidy for antenna purchase and installation (this is being done in the UK).
6. More outreach funding for local and community organizations to assist vulnerable population segments.

Many of these elements are in a bill being drafted by US Senator Bernard Sanders (I-Vermont)

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Elements of a DTV Recovery Plan (Cont'd)

7. Broadcasters and government agencies need to be sure to have adequately staffed call centers to handle calls from disappointed and angry citizens.
8. Set up rapid deployment teams to provide assistance to consumers who need help with converter boxes and/or antennas.

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