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Five Things to Expect from the Cord Cutting Era

For years, cord cutters were like Bigfoot -- a creature some have claimed to see, but no one could actually verify scientifically. While we're still pretty confident that Bigfoot will remain a myth, recent pay TV subscriber numbers in North America have made us less skeptical about cord cutters.

First, the numbers. U.S. Cable TV operators collectively shed roughly half-a-million subscribers in the second quarter. Satellite operators, which had managed to hold and grow their subscriber base at the same time that cable was losing ground, have also faltered. DirecTV announced a loss of 84,000 customers in the second quarter. Rival DISH waved goodbye to 78,000 customers in its second quarter. Amidst these gloomy trends, only IPTV operators showed signs of life with AT&T and Verizon notching gains. Canada showed a similar trend, with cable and DTH providers losing subs and IPTV subscriber numbers growing. Given the telco gains, many of those DTH Satellite and cable TV subscribers merely "switched" cords, but the math confirms that some of them opted to get off of the "traditional pay TV" bus altogether.

So we can declare, provisionally at least, that the cord cutting phenomena (and the related "cord never" category) are finally upon us. If trends hold, cord cutting is likely to have a measurable impact across the pay TV eco-system. Here are five possible ramifications.

- 1. The race to the cloud will accelerate. Traditional pay TV providers' experiments with cloud delivery are likely to receive an accelerated push as more subscribers wander off the reservation. One of the key value propositions of over-the-top (OTT) video offerings is that they truly can be viewed anywhere (anywhere with broadband internet access) on any device. Today, few North American pay TV operators can boast the same. Indeed, AT&T's recent addition of 100 live channels to its U-Verse app is indicative of the state of play: of these 100 channels, only 20 can be viewed outside of a subscriber's home. This crippled experience will have to change.
- 2. Broadband internet will get more expensive. For cable and IPTV providers faced with fleeing TV subscribers, pressures will mount to recoup lost revenue. One obvious place would be the broadband subscriptions consumers use to enjoy their OTT content. Broadband providers could point to the increasing bandwidth demands to justify any hikes. Continued on next page

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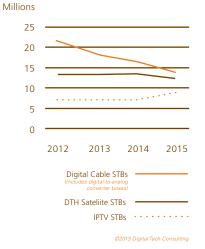
Shelby Cunningham Greg Scoblete Stewart Wolpin Price hikes could be targeted not simply at streaming consumers, but at the streaming companies themselves if the U.S. Court of Appeals nixes the FCC's ability to enforce Net Neutrality principles, which currently block a "toll-keeper" role for internet service providers. The rising cost of broadband, not coincidentally, would alter the financial attraction of cord cutting. An \$8 monthly Netflix subscription looks like a nice alternative when you're paying \$50/month for broadband, but not if you're suddenly paying \$80 or more for internet access.

- **3. Set-top box (STB) shipments will start to feel the pinch.** The STB market will fall victim to cord cutting as well. DTC is already forecasting an erosion in the cable STB market for 2013, with North American units declining from approximately 22 million units in 2012 to 18 million this year. Satellite and IPTV STBs will not suffer as steep a decline but those boxes, too, will be in less demand as pay TV users jump ship and as more pay TV subscribers access video programming from streaming devices for "secondary" TVs within their homes. While the proliferation of multi-room gateways and client boxes may keep unit volumes from collapsing, they won't be enough to offset a sustained loss of subscribers.
- 4. Some form of à la carte pricing will emerge. The prized TV programming bundle may not be completely unwound in the face of cord cutting competition since consumers may end up paying more on a per-channel basis than they would for the bundle (a theory about to be tested in Canada, where regulators have recently mandated that pay TV operators shift to à la carte), but to the extent that pay TV operators are losing price-sensitive customers, some form of programming package shake-up is inevitable. One attractive option is an entry-level tier without sports -- an option floated by pay TV executives whenever the topic of à la carte pricing is introduced. Either way, short of a full-blown à la carte offering, programming options are likely to multiply in the face of cord cutting.
- 5. The economics of direct-to-consumer streaming changes. Content rights holders, notably HBO, have been famously reluctant to make an end-run around their operator partners with a direct-to-consumer app that doesn't require some form of authentication. Even with limited subscriber loss, the math for an HBO or Showtime to stream direct to consumers simply doesn't add-up -- there are far more traditional pay TV households than there are broadband-only homes with no pay TV package. Still, as those proportions shift, as they have slowly started to, the economics shift as well. If traditional operators cannot staunch the bleeding, content owners will have less incentive to tie their fates to a traditional pay TV subscription and see more value in offering their programming via apps to any paying customer.

HEVC: Will HEVC Mobile Devices Accelerate UHDTV?

When a new video format is introduced, a content-hardware chicken-egg conundrum ensues. Both sides dip their toes in the water but wait for the other to adopt full-throttle, which neither does without sufficient – and sometimes forceful – prodding. DTC believes that this process may be accelerated in the case of the next-generation video compression standard, High Efficiency Video Coding (HEVC).

That's because there is more than one industry driving the desire for a new and improved video codec. The first application that will likely yield high volume sales of HEVC compatible devices is for the OTT video sector that needs the bandwidth-saving power a more efficient standard provides. Network operators (ISPs and mobile phone carriers) need more bandwidth to service the video-hungry mobile consumers. HEVC will also be welcomed by the folks who want to deliver video programming in super high definition (at 4K resolution) and the TV makers who want to sell high-end TVs at a faster clip than they are today. In some cases these two incentives will come together. The ever-growing Netflix, for example, recently announced it is experimenting *Continued on next page*



Estimated North American

STB Shipments

with 4K content. Several 4K test videos have been added to Netflix, and the company's popular original series, "House of Cards" has been and will be recorded in 4K, which means it likely will be the first TV series to be available in Ultra High Definition (UHD).

Whether the service's other upcoming original series will be 4K recorded remains to be seen. And Netflix hasn't officially announced when regular 4K streaming will begin, but sometime next year seems a reasonable guess. Much of its decision likely will be based on how robust UHD sales are and if it can target the offerings to customers who have access to reliable bandwidth for video streaming.

Assuming Netflix's 4K testing will result in a viable commercial offering, it's likely that HEVC compatible streaming hardware will support Netflix's 4K offering and thus HEVC-compatible hardware. If Netflix is in, it's almost inconceivable that makers of video streaming devices such as video game consoles, media streamers, and Blu-ray players won't introduce updated models with HEVC decoding, along with 802.11ac "gigabit" Wi-Fi, within the next year.

UHD HEVC Applications

It's likely that more traditional hardware will follow suit. LG has gotten an HEVC jump on the rest of the UHD usual suspects with the format included in its newest 84-inch UHD TV. HEVC is also supported in Samsung's F8500 2K plasma set and in its UHD upgrade Evolution Kit. Consider it a foregone conclusion that new UHDs about to be unveiled at CES in January 2014 will include HEVC compatibility.

But while soon-to-arrive UHDs will be able to decode HEVC 4K material, 4K material outside of Netflix and Sony's previously announced 4K streaming service will still be in short supply and perhaps limited to streaming for the short term. Mid-2014 streaming Blu-ray models may be able to deliver 4K Netflix programs, but there won't be a 4K Blu-ray standard for at least two years.

HEVC adoption beyond UHD

As pointed out above, HEVC will likely achieve high adoption rates first for mobile devices; not because of the ability to deliver UHD pictures but for its ability to expand storage capacity and network demands for viewing on mobile devices.

Via HEVC, for instance, a two-hour HD 2K movie would be shrunk to around half the size of a H.264 compressed file. Coupled with either LTE or 802.11ac, a full HD movie could be downloaded to a smartphone in less than half the time as currently possible.

But another driver for HEVC being incorporated on mobile devices is the consumer desire to record video in 4K. HEVC encodes video an estimated 35 percent more efficiently than AVC. But consumers won't be interested in 4K home video recording until UHD sales and UHD mindshare reach a critical mass in the market. As a result, real-time HEVC encoding in smartphones and tablets, as well as more traditional digital cameras and camcorders, is likely to lag behind UHD HEVC adoption. It appears that Netflix's experimentation with 4K video may be the defining event to ease the usual content/hardware logjam – as long as the testing results in a viable commercial service.

Microconsoles: a Micro Market

Microconsoles, low-priced game consoles that plug into the TV and allow consumers to play games downloaded from app stores, are looking for a niche (or more) in an established video game console market dominated by three suppliers. It's a tall order but easy developer access to the Android OS and a bet on consumers wanting to replicate their mobile-device gaming on the TV are driving the creation of a microconsole market.



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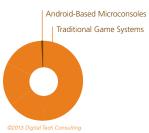
Ever since Ouya's successful Kickstarter campaign over a year ago, we have been keeping an eye on these new microconsoles. Shipments haven't been very high, and video game makers report that game sales specific to the Ouya platform also haven't been very strong. However, the seemingly low public demand hasn't stopped a flurry of others from joining the Android-based microconsole market. The ability to play mobile games on the TV hasn't proven to be a very popular feature, and that's what these devices specialize in. And thus far Ouya hasn't scored any hit games custom-made for its device. But the momentum shifted somewhat when Sony threw its hat into the ring. Originally slated for an exclusive release in Japan, the attention that the PlayStation Vita TV received from North American and European markets has caused Sony to consider a worldwide release of the device.

DTC believes that Sony will move ahead with a worldwide release of the PS Vita TV and that initial sales of the device will cannibalize sales of Sony game devices, excluding the PS4. What makes the PS Vita TV stand out from other microconsoles is the fact that it plays mainstream games originally designed for the PS Vita handheld, as well as PS3 games through the Gaikai cloud streaming service Sony acquired last year. The PS Vita TV also allows PS4 owners to stream games to different TVs over Wi-Fi. No other \$100 microconsole on the market can compete with those features.

The way DTC sees it, the PS Vita TV is filling a void that the other Android-based microconles can't fill. The PS2 was wildly popular, played hit games, and was affordable. Now that the PS2 is no longer being manufactured, the PS Vita TV can fill the void for consumers who don't want to buy a higher-priced PS3 system, but still want hit games.

But will microconsoles ever make a dent in the console market, stealing significant market share from the big guys? Probably not. But DTC believes there will be a niche of gamers that will find them desirable, and Sony has the best chance to dominate that niche.

Estimated Worldwide Shipments of Android Micronconsoles vs. Traditional Game Systems



DOMESTIC CHINESE LCD DTV QUARTERLY TRACKING SERVICE

Need help finding reliable information on the Chinese LCD DTV market? The Chinese digital TV market is one of the most important and fastest growing markets in the world. A roadmap for the domestic Chinese TV market and its primary players is an essential ingredient for participation in this dynamic market place. DTC, in a joint project with China-based RedTech Advisors, is now offering its 3rd year of LCD DTV quarterly tracking service that delivers difficultto-obtain reliable data. This tracking service includes current and cumulative quarterly shipment estimates for LCD DTVs shipped into the Chinese retail market and concise analysis on the market, top brand shipment estimates, chip suppliers, and trends for each quarter. For more information on this domestic Chinese LCD DTV quarterly tracking service, please visit http://www.dtcreports.com/ industry-insights/tracking-services/