



How DVRs  
Are Changing  
the Television  
Landscape

April 2009

nielsen  
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With DVR penetration continuing to rise, the days of appointment viewing are becoming obsolete as DVR users are able to watch their favorite programs on their own schedule. This paper will focus on when DVR users timeshift their viewing, how quickly primetime programs are played back on DVRs, and the seasonal differences of DVR playback across viewing sources. Additionally, it examines DVRs' impact on program loyalty and provides a profile of a DVR user. Lastly, this paper looks at DVR use among Nielsen's 56 local metered markets, including those with the strongest DVR penetration and those with the most DVR playback.

The scope of this paper is the November 2008 sweep, with some findings on the 2007-2008 broadcast season.

### Among Key Findings:

- Playback of recorded programming replaced some live viewing throughout the day, but primarily during primetime, early fringe and late fringe.
- Most DVR playback occurred during primetime Monday through Thursday, then fell to its lowest level on Saturday evening. However, playback during the day on Saturday and Sunday was greater than on weekdays, as viewers used the weekend to catch-up.
- Programs recorded between 8pm and 9pm were played back within the same day more often than those airing at 10pm. Consequently, DVR playback may have impacted live viewership of programs at 10pm and later.
- DVR playback peaked during October and November, fueled by early interest in the new broadcast TV season. On the other hand, playback overall declined in the summer, even as cable experienced its highest level of playback during this same period.
- Because DVR users watched more original telecasts of series than non-DVR users, they were less likely to encounter previously unseen episodes. This has implications for the programming of reruns in the summer.
- Heavy DVR shifters (29 hours of playback) watched more than twice as much recorded programming per week than medium shifters (14 hours); with light shifters viewing only 5 hours per week. We expect that future DVR adopters are more likely to resemble the medium to light DVR users.
- Among metered markets, higher penetration could be traced to aggressive marketing by DBS companies or cable MSOs. However, some markets with lower penetration showed higher use per DVR home, perhaps giving us a look at earlier adopters.

## DVR Penetration and Growth

It has been three years since Nielsen began measuring DVRs in the National People Meter Panel. As Figure 1 shows, since then DVR penetration has grown steadily from 12.3% in January 2007 to 22.3% in January 2008 to 30.6% in March 2009.

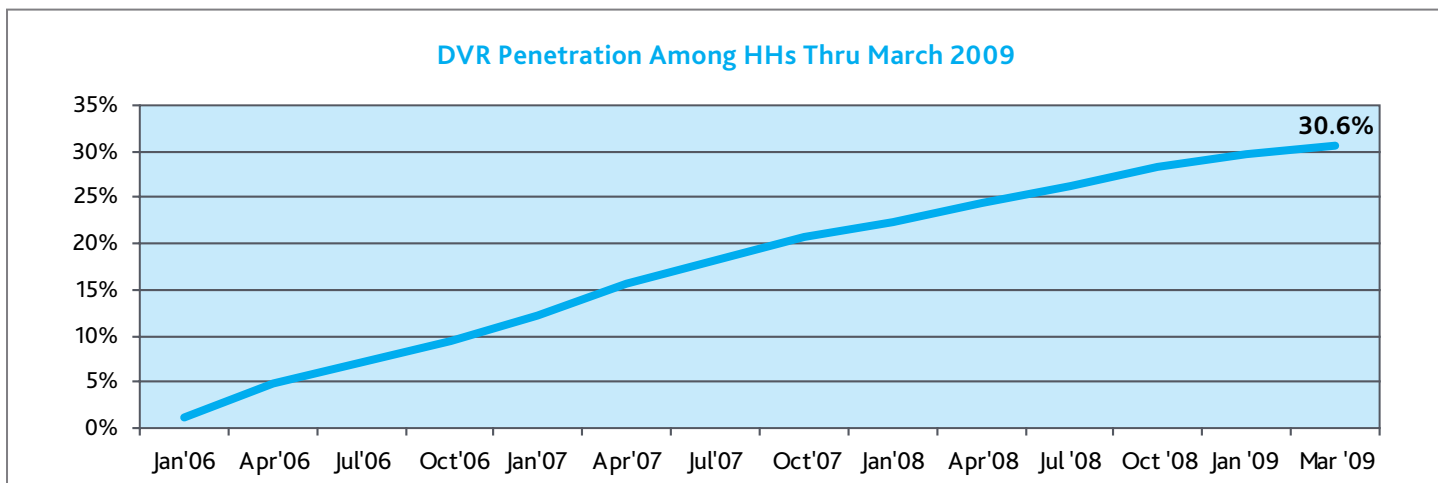


Figure 1

While a variety of factors account for this growth, a key contributor has been the integration of DVR technology into cable and DBS set top boxes. In fact, as shown in Figure 2, in March 2009, more than half (55%) of DVR homes had a DVR within their cable set top box, and 40% had a DVR within their DBS set top box. Just 5% had stand-alone DVRs.

What is more, multi-DVR homes are becoming more and more common. While the majority (70%) of DVR homes had only one unit, a quarter (25%) of DVR homes had two, and 5% had three or more, as of March 2009.

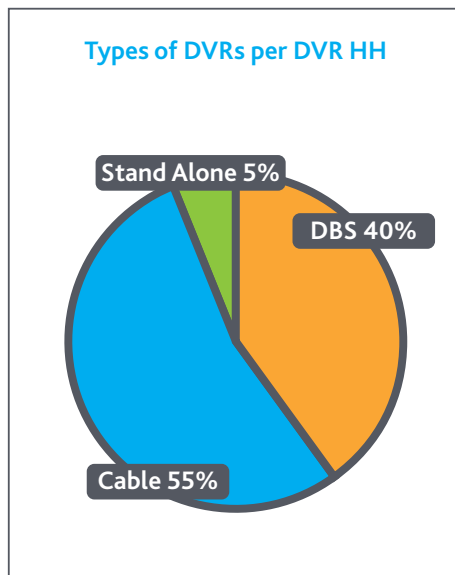


Figure 2

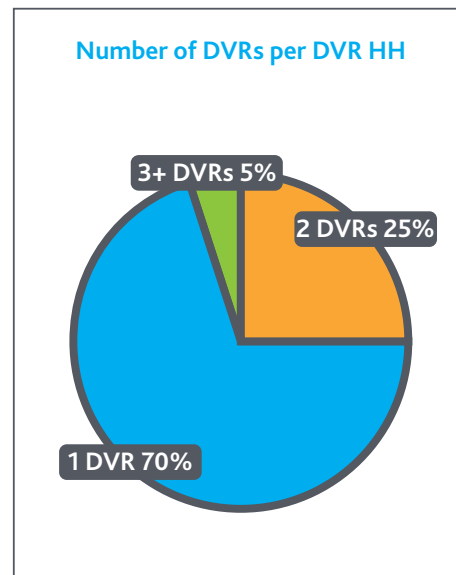


Figure 3

## DVR Playback by Hour

This section of the paper will show how DVRs are used during the day.

The following chart shows the distribution of viewing minutes of when people were using their DVRs to play back recorded content (playback mode) – included is time spent pausing, fast-forwarding, reversing, etc., as well as any playback older than seven days. For example, Figure 4 shows that for Persons 18-49, 9.6% of all DVR playback throughout the week took place from 8-9pm.

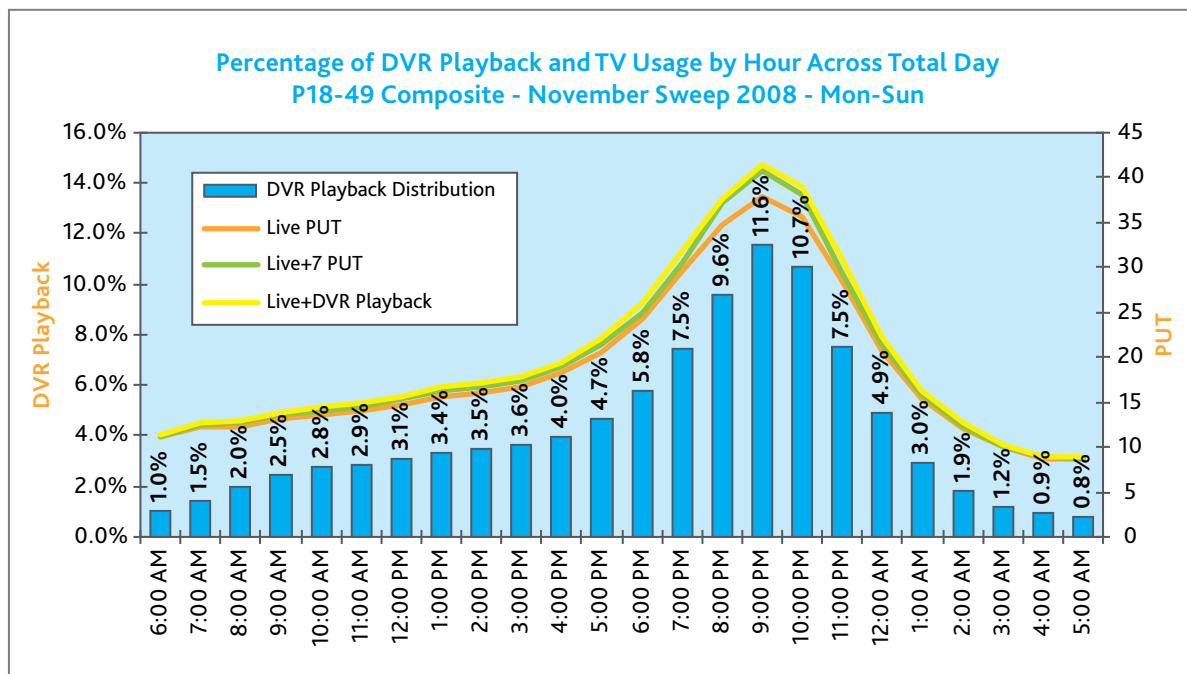


Figure 4

The blue bars in this chart illustrate that the primetime (M-Su: 8-11p), early fringe (M-F: 6-8p), and late fringe (M-Su: 11p-1a) dayparts show the greatest amounts of DVR playback. In November 2008, primetime was clearly the most popular daypart for DVR playback, with 32% of all DVR playback occurring during that daypart (10% at 8pm and 12% at 9pm and 11% at 10pm).

Primetime playback is often high because viewers begin watching programs later than their start time. They may fast-forward through content, and sometimes they continue to view prime programs into the hours of Late Fringe. Furthermore, DVR playback levels throughout the day mirrored those of Live TV usage (orange line).

When playback is added to Live usage (yellow line), it appears that the Live+DVR playback slightly out-delivered the Live+7 usage (green line). What this points to is that during a daypart, content is being played back that either originally aired outside that daypart, aired more than seven days ago, or was recorded concurrent with another program that was also viewed in that time period.

## DVR Playback by Day of the Week

The following chart shows how DVR playback was distributed across the days of the week in November 2008. As Figure 5 shows, Monday through Thursday got a higher percentage of playback during 8-11pm primetime, at 12% on average, than Friday and Sunday, which was about 10% on average. At just 8%, Saturday had the least amount of its total day playback taking place in primetime. During the daytime hours, Saturday and Sunday had a greater percentage of playback than the weekdays; this makes sense as many viewers use free time on the weekend to catch up on programs missed during the week.

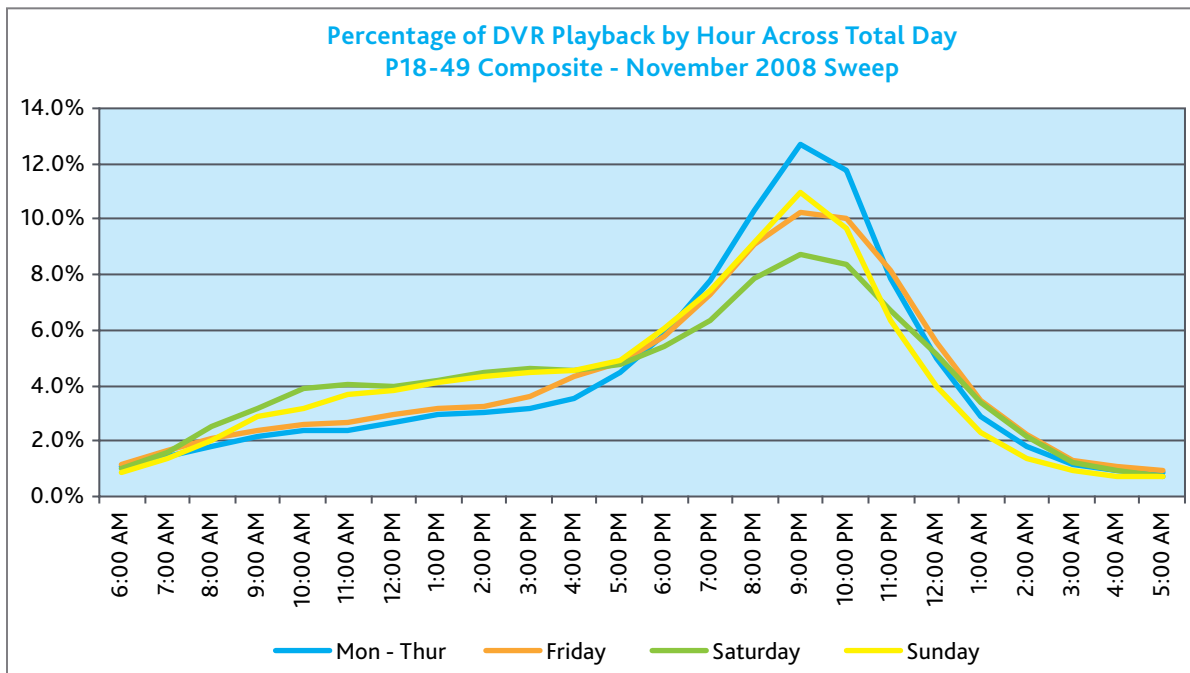


Figure 5

## DVR Playback for Broadcast Primetime Programming

For this section, we have focused specifically on DVR playback in primetime. Figure 6 shows how playback accumulates through seven days for broadcast primetime programming originally airing at 8pm, 9pm, and 10pm.

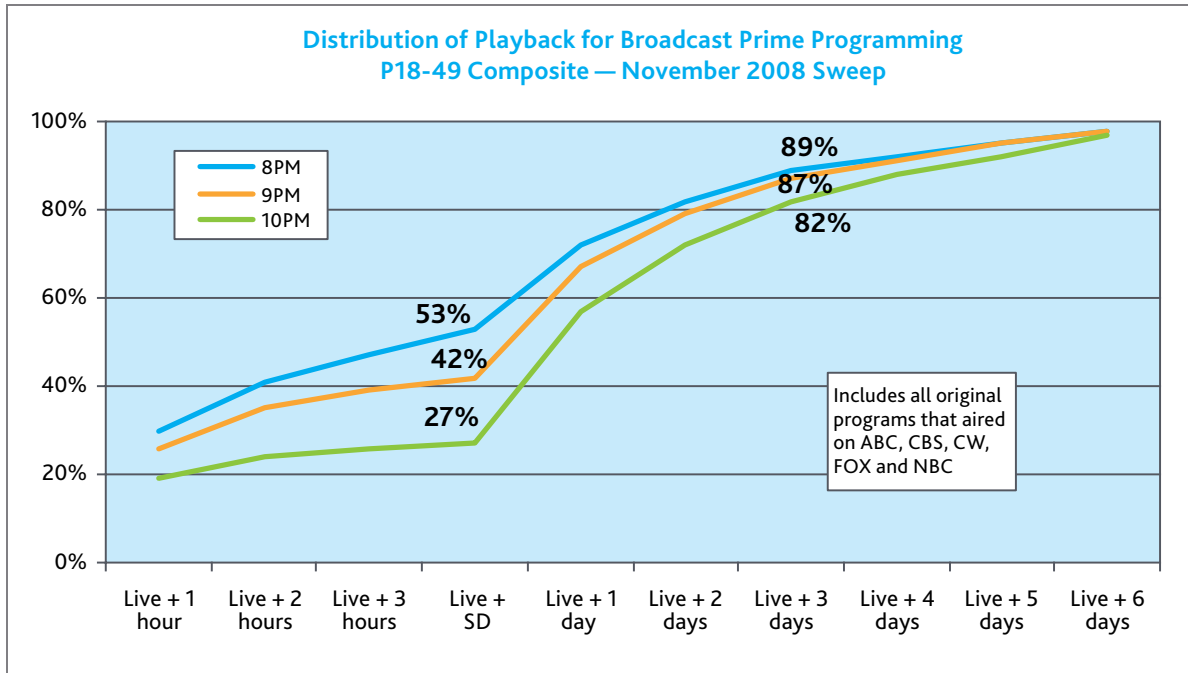


Figure 6

For programs airing at 8pm, 53% of all seven day playback occurred in the same day. This is not surprising; the earlier a program airs, the greater amount of time the viewer has to playback that program the same day. Programs at 9pm also had a substantial amount of their seven day playback (42%) occur in same day, while only 27% of seven day playback occurred for 10pm shows within that timeframe.

This analysis shows that 10pm programs are now also competing with 8pm and 9pm programs. This has implications for how shows are being scheduled and how ads are being placed, particularly as C3 (commercial ratings including three days of playback) has become the general currency for networks and advertisers. After three days, 8pm (89%) and 9pm (87%) programs continued to outpace shows at 10pm (82%) in terms of total seven day playback. This additional playback within three days suggests that ads and promos in an 8pm or 9pm program may be more valuable as they capture more viewership within three days.

## DVR Playback by Broadcast Season

As depicted in the top of Figure 7, during the 2007-2008 broadcast season, Persons 18-49 in DVR homes spent an average of 7 hours and 34 minutes each month watching DVR playback during primetime. This was slightly less than the 7 hours, 59 minutes of playback per month from the prior broadcast season. The lower playback levels during December 2007 through February 2008 may be a result of the Writers' Strike.

When looking month-to-month, some months saw more playback than others, with the first few months of the broadcast season (October-November) averaging over 8.5 hours; this is expected given the number of programs premiering on broadcast networks. Summer months, June and July, saw the least amount of playback, averaging only 6.5 hours.

Looking at all Persons 18-49 (at the bottom of the chart), there was an increase of 33 to 63 more minutes of playback each month in the 2007-2008 season vs. the 2006-2007 season. This makes sense as DVR penetration has grown nine percentage points on average year-over-year.

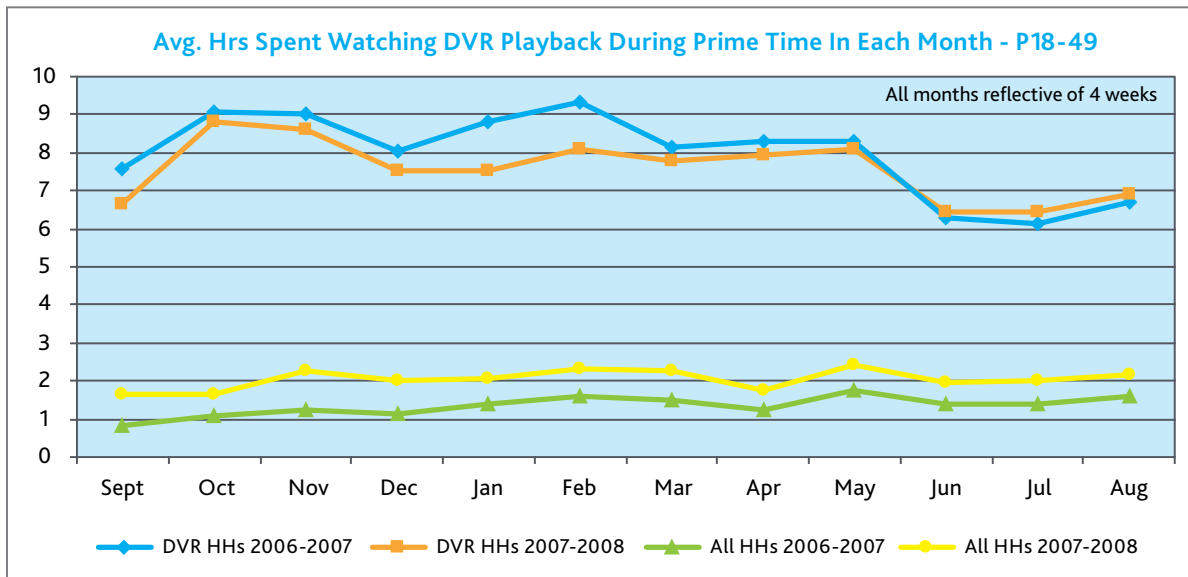


Figure 7

## DVR Playback by Month

As live television viewing varies by season, playback viewing varies by season in similar fashion. Figure 8 looks at primetime playback within seven days among Persons 18-49 in DVR homes and shows how much of that playback is going to viewing source types (broadcast, ad-supported cable, premium pay, etc.).

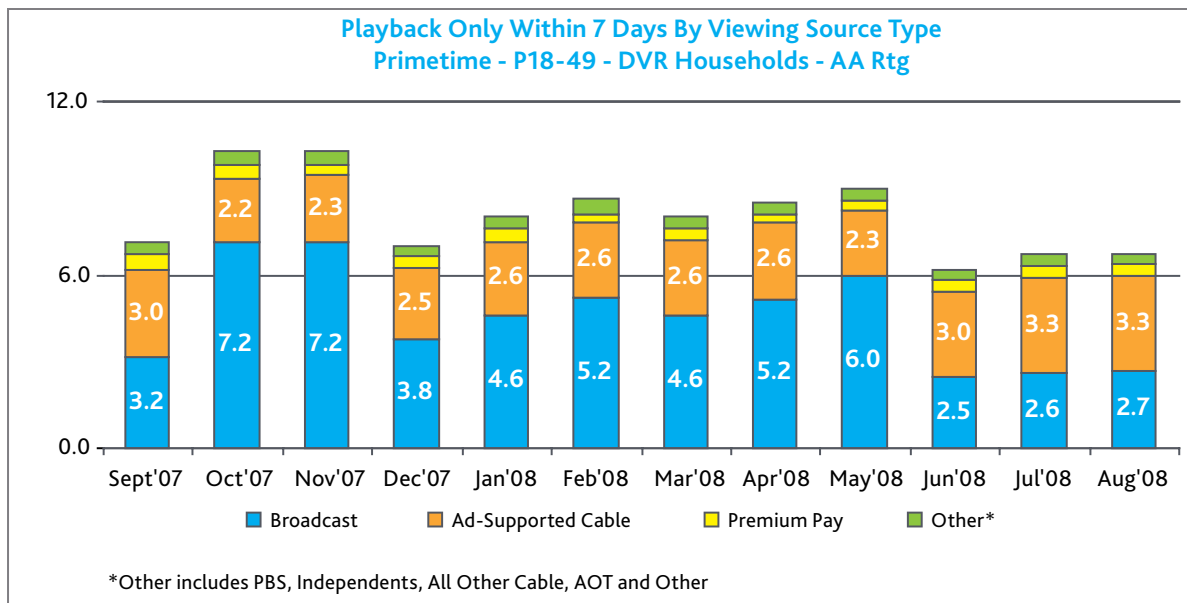


Figure 8

In the first months of the broadcast season (October and November), there was a considerable amount of playback (10.3 rating points), most of it (7.2 rating pts) going to the broadcast networks. However, as the Writers' Strike ensued (December through February), playback of broadcast programming declined, while ad-supported cable networks saw an uptick in their playback levels. By the summer, playback declined overall, while at the same time cable climbed to its highest playback levels of the year.

## DVR's Impact on Program Loyalty

One of the main benefits of DVR technology is the ability of viewers to watch programs when they want; thus, DVR owners have more opportunity to watch original telecasts of their favorite series.

Figure 9 looks at the average number of original telecasts viewed across five broadcast programs during the November 2008 sweep for DVR and non-DVR homes. Each 60 minute series aired four times that month. When looking at the Live stream, non-DVR homes watched an average of 1.9 to 2.1 telecasts – more telecasts than DVR homes within the Live stream. This figure is consistent with telecast viewing trends before DVRs were measured in the National People Meter panel.

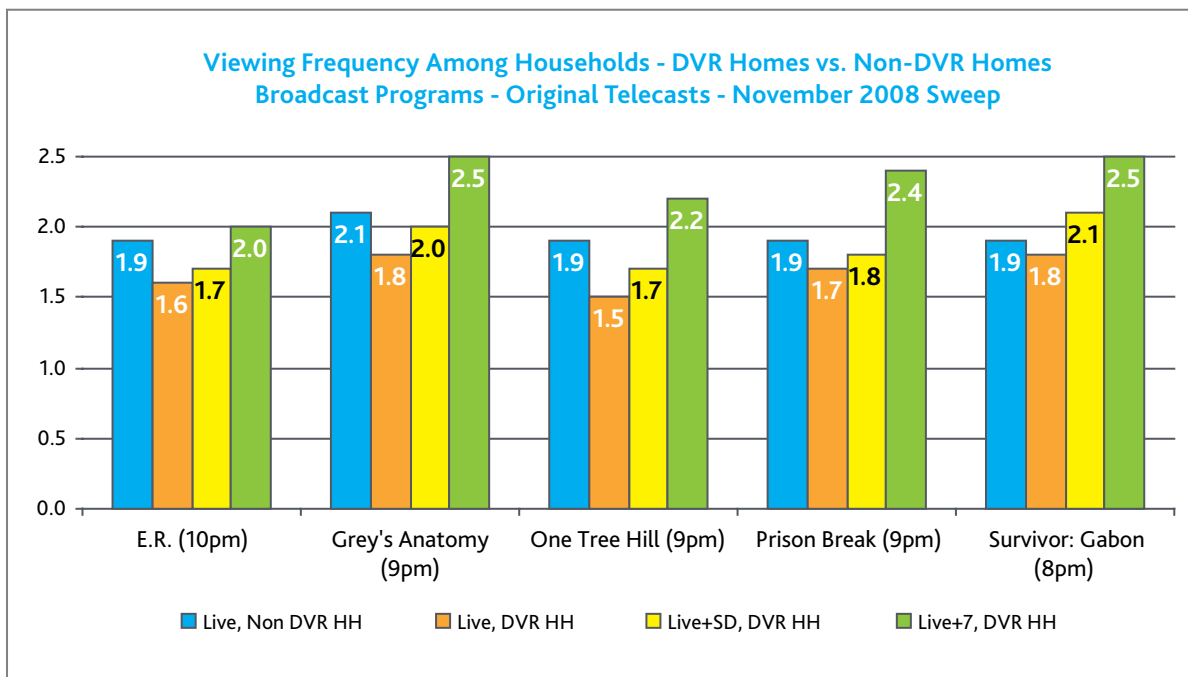


Figure 9

Viewing frequency increases among DVR homes when accounting for playback. As seen on the chart, DVR homes watched more telecasts than non-DVR homes when looking at the Live+7 stream, with several series averaging 2.5 telecasts viewed in the month.

This finding may have implications for networks and studios that are airing repeats because DVR users have less need to catch up with their favorite series through repeats.

This may also impact how broadcast networks and studios program re-runs in the summer. Loyal viewers will have seen more original telecasts and, thus, fewer reruns will be “new to them.” This may impact cable repeats in similar fashion, as more cable telecasts that air initially during the summer are played back.

In addition, heavier viewing of preferred programs may, ultimately, influence the introduction and promotion of new shows. If DVR owners pre-program all of their favorites at the start of a season, they will be less likely to channel surf and sample new shows.

### Profile of a DVR User – Heavy, Medium, and Light Shifters

Not all DVR users are alike. To identify the differences between DVR users, we segmented adult (18+) DVR users into deciles, meaning that heavy shifters made up the top 10% of DVR users, medium shifters made up the next 20%, and light shifters made up 70% of all DVR users. This is depicted in Figure 10.

When comparing November 2007 and 2008, we see little difference in the percentage of time-shifting within each group. There were, however, substantial differences between the groups. Heavy shifters watched over 29 hours of playback each week, considerably more than middle shifters, who watched 14 hours of playback per week. Light shifters viewed slightly more than five hours of playback per week.

Interestingly, a review of commercial retention showed very little difference between heavy, medium and light shifters. All three groups viewed about 40 percent of the commercials. Though the heaviest shifters were exposed to more commercials, all three groups behaved similarly during playback.

Persons 18+		November 2007			November 2008		
	% of all Time Shifters	% of Time Shifting	Shifting per Week (hh:mm)	% of Commercial Tuning*	% of Time Shifting	Shifting per Week (hh:mm)	% of Commercial Tuning*
<b>Heavy Shifters</b>	10	40	29:44	44	39	30:08	44
<b>Medium Shifters</b>	20	33	14:09	41	33	14:24	43
<b>Light Shifters</b>	70	27	5:41	43	28	5:57	45

\*Among ABC, NBC, CBS, and Fox in Primetime, commercial +3 playback indexed to program +3 playback

Figure 10

Figure 11 shows the differences in characteristics among heavy and light shifters in November 2008. Heavy shifters were more likely to be women (59%), with those aged 50+ making up the largest segment at 23%. Conversely, Males 35-49 made up the smallest segment of the heavy shifters at 11%.

Also in Figure 11, heavy shifters tended to live in multiple DVR homes and are of middle income, less likely to own an HD receivable set and less likely to have children. Light shifters were apt to be from single DVR homes, of higher income, more likely to own an HD receivable set, and more likely to have children.

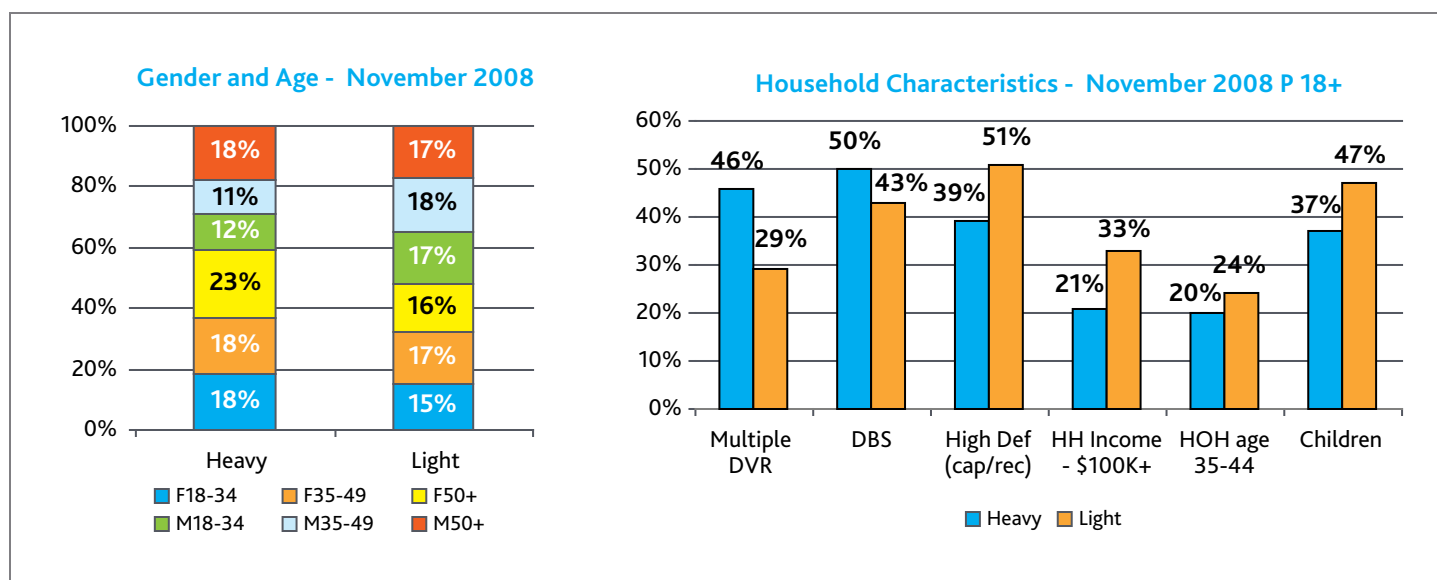


Figure 11

Figure 12 displays the distribution of DVR playback across dayparts among the three groups of shifters. While primetime got the most playback of all the dayparts, the medium and light shifters spent more of their total playback time in this daypart than the heavy shifters. Heavy shifters made up this difference by watching more playback in the early morning, daytime, early fringe, and overnight hours than the other two groups.

Percent of All DVR Playback Distributed by Daypart - November 2008				
Daypart	ALL DVR	Heavy Shifters	Medium Shifters	Light Shifters
M-F 6A - 10A	4.5	6.1	3.8	3.1
M-F 10A - 4P	11.9	14.5	10.7	9.1
M-F 4P - 8P	15.6	16.1	15.5	15.0
M- Su 8P - 11P	32.1	26.2	34.4	38.8
M- Su 11P - 1A	12.0	11.4	12.6	11.9
M-Su 1A - 6A	7.3	9.4	5.9	4.9
Sat 6A - 1P	2.9	2.9	3.0	2.7
Sat 1P - 8P	5.1	4.8	5.2	5.3
Su 6A - 1P	2.9	3.0	2.8	2.7
Su 1P - 8P	5.9	5.4	6.1	6.5

Figure 12

## DVR Penetration in Local Markets

This section of the paper provides an analysis of DVR penetration and usage in local markets. Figure 13 lists the 20 metered markets with the highest DVR penetration. It seems that some of the top DVR markets are also high satellite penetration and high cable penetration markets. However, it is not evident that either cable or satellite is solely responsible for driving DVR penetration growth in local markets.

The top DVR markets are represented by a number of cable operators, including Time Warner, Comcast, Cox, and Bright House. Again, it does not appear that any one operator drove growth in DVR penetration.

Profile of Highest Penetrated DVR Markets among 56 Metered Markets November 2008						
DMA Name	DVR Penetration		ADS Penetration		Cable Penetration	
	%	Rank	%	Rank	%	Rank
San Diego	37.7	1	12.1	55	79.9	5
Austin	37.4	2	21.3	42	64.3	21
Dallas-Ft. Worth	37.2	3	38.7	6	42.4	54
Orlando-Daytona Bch-Melbrn	36.8	4	24.1	39	71.6	9
Los Angeles	36.2	5	35.5	11	50.4	49
Sacramnto-Stkton-Modesto	35.2	6	39.6	5	50.7	48
San Francisco-Oak-San Jose	34.1	7	25.6	35	67.2	18
San Antonio	34.0	8	29.0	26	60.2	31
Raleigh-Durham (Fayetvllle)	34.0	8	31.4	19	57.9	35
Tampa-St. Pete (Sarasota)	33.5	10	16.5	51	75.0	7
Cleveland-Akron (Canton)	33.5	10	20.6	43	69.1	15
Houston	32.6	12	27.8	30	51.5	46
Columbus, OH	32.4	13	20.2	46	67.4	17
Las Vegas	32.2	14	23.1	40	68.1	16
Oklahoma City	31.4	15	29.8	24	56.2	40
Indianapolis	31.0	16	31.8	17	54.5	41
Boston (Manchester)	30.9	17	12.5	54	83.3	2
Cincinnati	30.7	18	26.6	32	57.9	35
Washington, DC (Hagrstwn)	30.6	19	28.8	27	64.5	20

Figure 13

## DVR Usage in Local Markets

Not surprisingly, markets with the highest DVR penetrations saw the most DVR playback on a total market basis. As seen in Figure 14, thirteen of the top twenty DVR penetrated markets had the most DVR playback.

In Figure 15, we are taking a closer look at DVR playback ratings among just DVR homes.

Seven of the markets with the most DVR playback among DVR homes were among the lowest 20 markets for DVR penetration. For instance, St. Louis DVR homes had the third highest rating for DVR playback (9.9), but it was the 37th ranked metered market for DVR penetration. This may indicate an early adopter effect; in other words, DVR homes in the lowest DVR penetration markets are more engaged with the technology.

Profile of Highest DVR Markets among 56 Metered Markets All Data reflects November 2008				
DMA Name	DVR Penetration		DVR Playback in Total DMA HH*	
	%	Rank	RTG	Rank
San Diego	37.7	1	3.2	8
Austin	37.4	2	3.2	9
Dallas-Ft. Worth	37.2	3	2.8	17
Orlando-Daytona Bch-Melbrn	36.8	4	3.6	2
Los Angeles	36.2	5	3.5	3
Sacramnto-Stkton-Modesto	35.2	6	3.3	5
San Francisco-Oak-San Jose	34.1	7	3.1	13
Raleigh-Durham (Fayetvll)	34.0	8	3.1	12
San Antonio	34.0	8	3.1	10
Cleveland-Akron (Canton)	33.5	10	2.3	30
Tampa-St. Pete (Sarasota)	33.5	10	3.0	14
Houston	32.6	12	2.3	31
Columbus, OH	32.4	13	3.3	6
Las Vegas	32.2	14	4.0	1
Oklahoma City	31.4	15	3.2	7
Indianapolis	31.0	16	2.4	28
Boston (Manchester)	30.9	17	2.1	38
Cincinnati	30.7	18	2.3	33
Washington, DC (Hagrstwn)	30.6	19	2.0	43
Chicago	29.9	20	2.5	25
*M-Su 5a-5a				

Figure 14

DVR Penetration and Total Day Playback All Data reflects November 2008				
DMA Name	DVR Penetration		DVR Playback in DVR HH*	
	%	Rank	RTG	Rank
Las Vegas	32.2	14	11.4	1
Portland, OR	26.9	30	11.3	2
St. Louis	24.3	37	9.9	3
Sacramnto-Stkton-Modesto	35.2	6	9.9	4
Oklahoma City	31.4	15	9.7	5
Greensboro-H.Point-W.Salem	24.2	40	9.4	6
Memphis	23.1	44	9.4	7
Los Angeles	36.2	5	9.4	8
San Antonio	34.0	8	9.1	9
Salt Lake City	27.7	26	9.1	10
Orlando-Daytona Bch-Melbrn	36.8	4	9.1	11
Jacksonville	24.3	37	8.9	12
Buffalo	23.9	41	8.8	13
Milwaukee	23.1	44	8.8	14
New Orleans	21.6	50	8.6	15
Dayton	26.6	31	8.6	16
Columbus, OH	32.4	13	8.6	17
New York	29.8	21	8.6	18
Tulsa	27.7	26	8.4	19
Raleigh-Durham (Fayetvll)	34.0	8	8.4	20
*M-Su 5a-5a				

Figure 15

As more homes acquire the technology, there could be a greater number of DVR homes that use it less often. This would seem to point to heavy DVR users buying the technology before it becomes prevalent in their neighborhoods, with medium and light users getting DVRs once penetration and local buzz picks up. One factor that may affect penetration and usage is aggressive marketing by Verizon Fios and other providers in markets like New York.

### DVR Playback in Early Fringe and Late Fringe

Currently, Nielsen credits Households Using Television (HUT) for tuning to a time-shifted program back to the time the content originally aired. Therefore, Live+7 HUT does not provide the complete view of how many homes actually watched television content, either live or via DVR, during a daypart. That number is derived by adding Live HUT to the DVR Playback ratings during that same daypart.

Using this metric (Live HUT+DVR Playback), the next charts illustrate how much tuning to television content, either live or via playback, actually occurred during the early and late fringe dayparts for the ten local markets with the most DVR playback.

In Figure 16, the Live+DVR Playback metric was always higher than the Live+7 number in these dayparts. For example, Austin had a late fringe Live+7 HUT of 46.9, substantially lower than the Live HUT+DVR Playback rating of 50.7. For these markets, HUT+DVR Playback was 5-7% higher than HUT for early fringe and 7-9% higher for late fringe. This finding shows that there was more television tuning in these dayparts than is actually crediting ratings to content for these dayparts.

Some of the DVR playback ratings that are credited to the early fringe or late fringe dayparts are likely going to primetime content. Therefore, during these key local dayparts, the content that is being played back originally aired in a different daypart. What this means is that live programming during early fringe and late fringe is now competing with programs from other dayparts that are being played back.

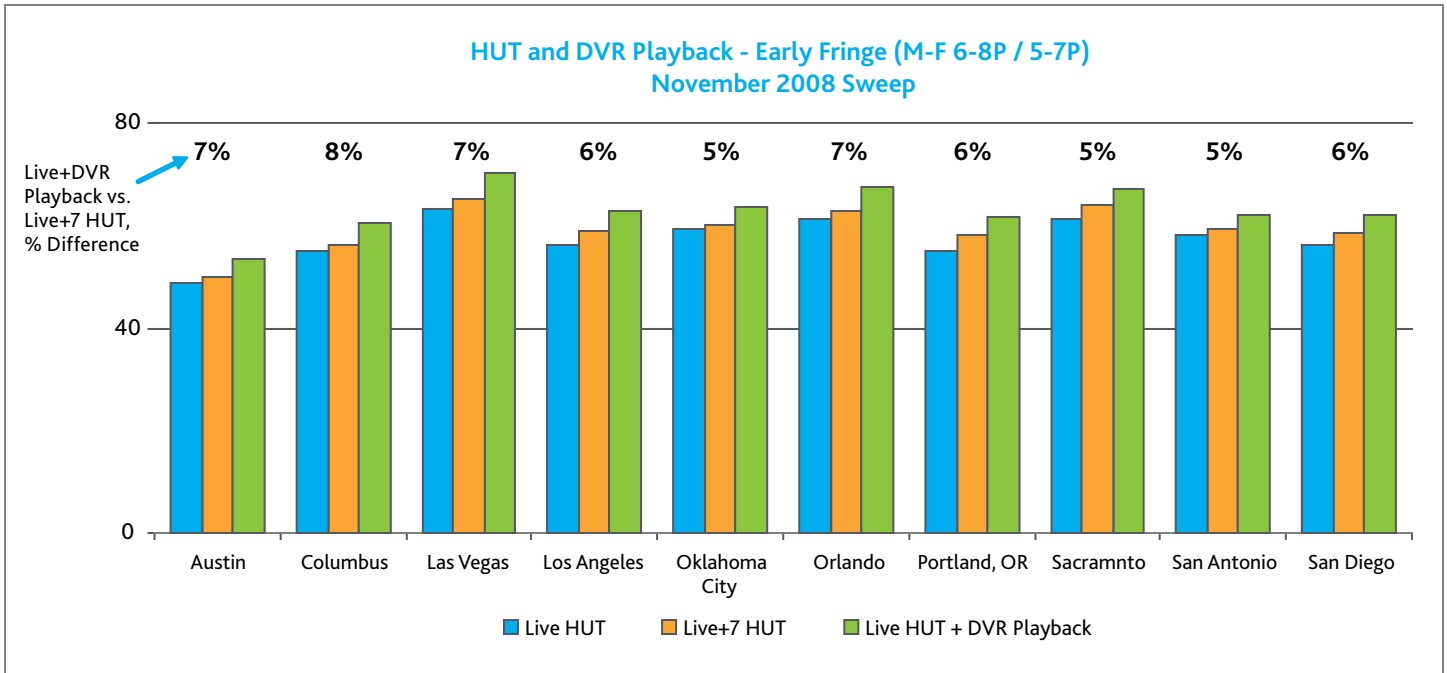


Figure 16

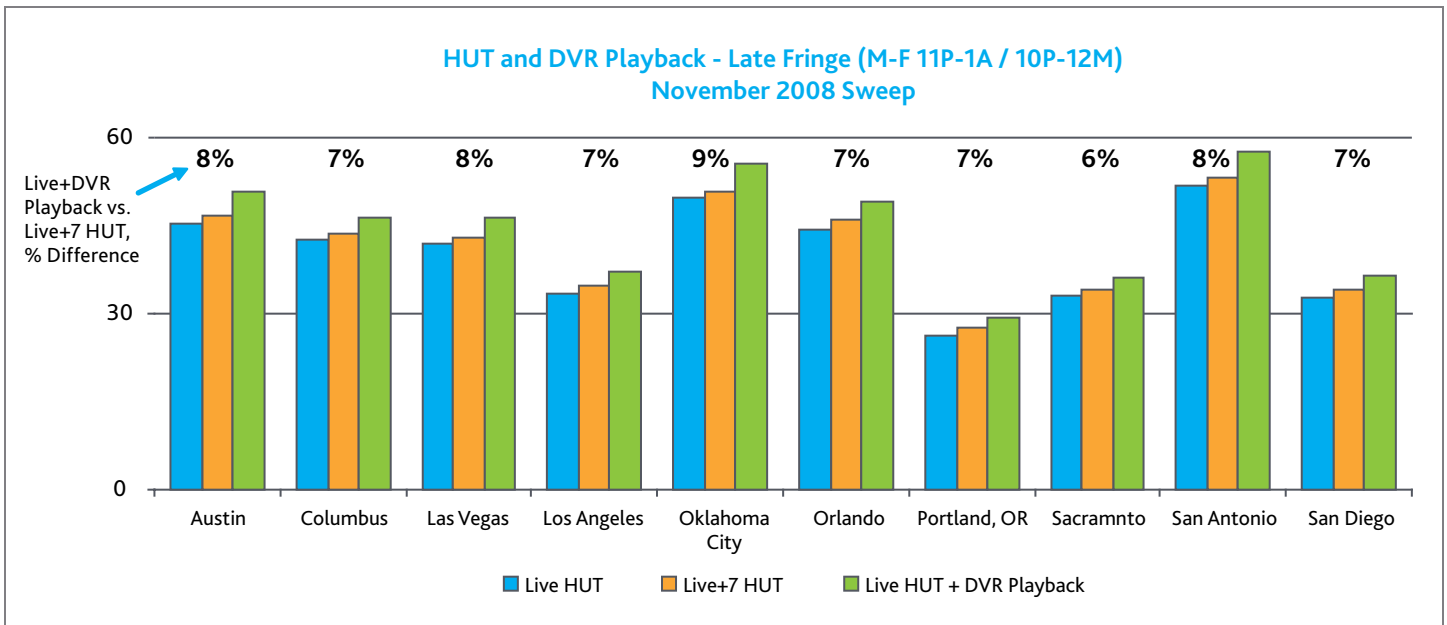


Figure 17