

Blu-ray Market Outlook

An Industry Insight Paper



Where's the Blu-ray market going?

Recently, most of the talk about new AV technology has focused on streaming. Optical discs are no longer the way of the future, according to some industry predictions.

We've heard this argument, and we agree that streaming is increasing in importance while DVD is declining. We don't, however, think that Blu-ray will be obsolete anytime soon. We're in good company, as you'll see in this Insight paper. Market research firms like Gartner and SNL Kagan recognize the ongoing relevance of Blu-ray, as do leading AV publications.

Blu-ray Disc technology remains a highly relevant way to consume AV. It's essential to today's AV market and will continue to be important even as streaming grows. Most importantly, new technologies (particularly Ultra HD Blu-ray) are poised to disrupt the AV industry, strengthening the market share of Blu-ray.

Read on to learn:

Why Blu-ray matters in today's AV market

How market trends will affect Blu-ray use

When the market will shift due to Ultra HD

What leading experts say about the forecast for Blu-ray

Optical discs are highly relevant now, and that is not going to change in the near future.





Optical discs are a popular way to consume media.

In the current media landscape, optical disc use is firmly established. These are just a few of the numbers reflecting the ongoing relevance of optical:

- The average American consumer spends 10% of their entertainment budget on optical disc purchases. (Moviegoing is the only greater content cost, at 12%.)¹
- 80% of households have a Blu-ray player.²
- In 2013, 64% of Hollywood Home Video revenue (rental and sales) came from physical disc media.³

Why do users continue to watch media on discs, despite the growth and convenience of streaming? There are a few reasons for that, namely quality, reliability and ease of use.

Blu-ray is best. In terms of video quality, that is. The consistent standards of Blu-ray movies can't be beat, and even high resolution streaming options are constrained by bandwidth limitations.

Reliability matters. We're getting used to being able to stream media all the time, but there are many times and places when it's impossible. Got a slow internet connection? Traveling? What about being on a plane, where there simply isn't enough bandwidth to stream? And even in a situation where streaming media normally works, there's nothing like optical discs for reliability.

Ease of use is essential. With a disc and a player, there are fewer variables than with streaming media. You do not need to be connected; there are no bandwidth constraints or loss of signal; and you rarely need to adjust settings. This ease of use is very important to many consumers.

Given these benefits, it's easy to understand why many viewers rely on optical disc technology. Of course, in the cutting-edge world of consumer electronics, we're always trying to look ahead. What do we think will happen to optical disc technology over the next decade?

Optical discs are still a central part of the week-to-week media consumption patterns of most consumers.

¹ Nielsen "Home Entertainment Consumer Trends" 2015. Cable/satellite service accounts for nearly half of the average entertainment budget.

² Gallup "America's Tech Tastes Change With Times" 2014

³ IBISWorld Industry Report 53223 2014



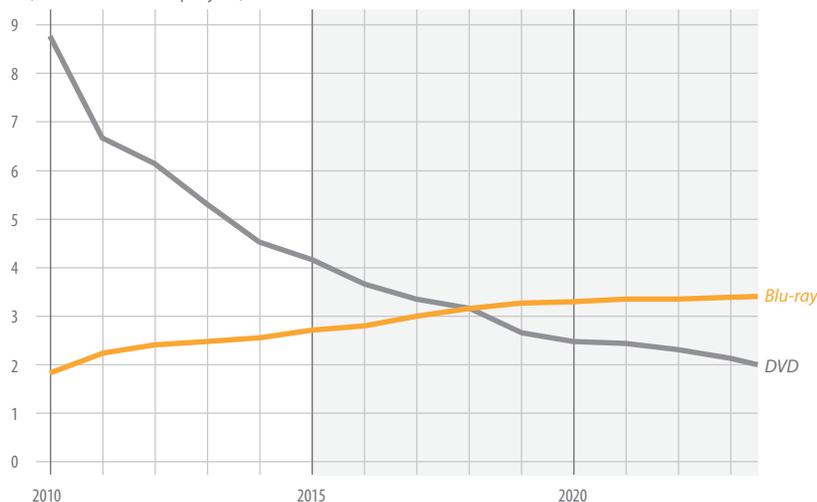
Blu-ray will continue to be popular for years to come.

We often hear about the decline of optical disc sales that has been taking place in the past few years. **Those statistics are true, but they don't tell the whole story.** Most research groups combine DVD and Blu-ray when discussing the optical disc market's decline--which makes it impossible to see Blu-ray's upward trajectory.

Nielsen's most recent data shows that consumers are buying and watching fewer movies on discs this year than last year.¹ When the data is split out by format, however, it's clear that the overall decline is a result of the steep drop in DVD sales:

DVD and Blu-ray Revenue

(in billions of dollars per year)



What does this mean? DVD sales are dropping, but Blu-ray sales are still increasing, steadily, year over year.

The Blu-ray market has an upward trajectory, and growth is predicted over the next decade.

¹ Nielsen "Home Entertainment Consumer Trends" May 2015



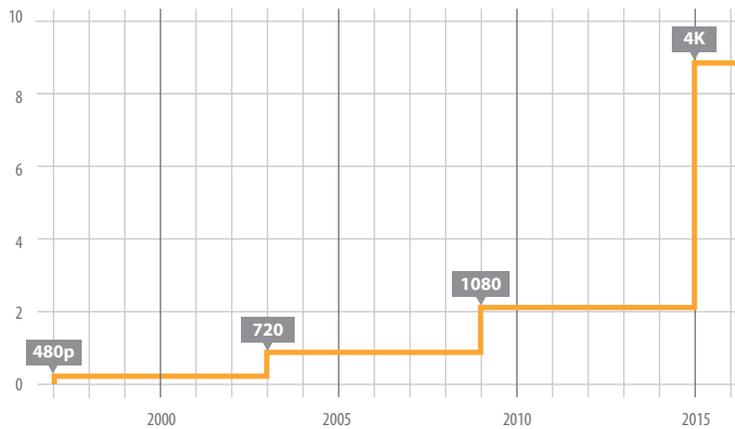
Ultra HD will increase the importance of Blu-ray.

There's another reason that Blu-ray matters now, and will continue to be relevant for the coming years. In AV industries, a cycle of disruption follows each increase in screen resolution. Another of those increases is happening right now as AV moves to Ultra HD.

Ultra HD Blu-rays will be available for the holiday season.

Video Resolution

(total number of pixels, in millions)



The Blu-ray Disc Association has released a specification for Ultra High Definition Blu-ray, meaning that **Blu-ray will be setting a new standard for high-quality Ultra HD video.**

Paul Erickson at IHS Technology explains why this matters for the Blu-ray market: "Ultra HD is expected to ramp up quickly over the next few years. The ability to consume Ultra HD content during this time, however, is a question mark due to variables such as limited Ultra HD broadcast offerings and household bandwidth for Ultra HD streaming. Ultra HD Blu-ray aids consumer adoption of Ultra HD by providing an immediate, tangible and reliable way to watch Ultra HD content that completely bypasses service provider and bandwidth-based variables."¹

¹ Home Media Magazine "Blu-ray at 10: A Vital Part of the Entertainment Family" 2015



Blu-ray will remain the best-quality media available.

Netflix and YouTube famously added 4K to their offerings, but don't expect the full Ultra HD experience from those platforms. They might have high resolution (if you have the bandwidth to support it; Netflix recommends 25Mbps), but their versions of 4K do not necessarily include all of the other Ultra HD features. 4K streaming on Netflix and Amazon is roughly equivalent to today's Blu-ray--high-quality video, to be sure, but soon to be outdone by Ultra HD Blu-ray.

What does that mean? Ultra HD Blu-ray is going to look better than any AV you've ever seen, even on a smaller screen. UHD is about more than just resolution:

- High dynamic range means that you'll see details in the dark and light portions of the screen--simultaneously.
- Wide color gamut means that you'll see twice the range of colors.
- High frame rate means that action will be smooth and sharp.

Whether you're parked in front of a 90" home entertainment system or looking at a small seat unit on a plane, Ultra HD will look noticeably better than HD content. When Blu-ray is the only reliable way to get Ultra HD content, people who care about video quality will focus on Blu-ray as, once again, the best way to get high-quality video.

Blu-ray's Ultra HD is about much more than just 4K.



Blu-ray lets viewers access a huge content library, including the latest blockbusters.

The final reason that we know Blu-ray's here to stay has to do with content. Studios make an enormous portion of their profits from physical disc sales. For example, 17% of Twentieth Century Fox's 2014 revenue--that's over \$900 million--came from physical disc sales.¹ Optical is still the studios' most reliable and lucrative way to circulate their content for home viewing.

There's also a benefit for consumers here. Because discs are an important part of studio revenue streams, movies are often available on disc long before they're available via streaming. And sometimes, movies are never available via streaming. Take for example the library sizes of the two optical disc formats and the largest streaming services:²

FORMAT/SERVICE	# MOVIES AVAILABLE
DVD	179,728
Blu-ray	13,166
iTunes	10,834
Netflix	8,797
HULU Plus	3,819
Amazon	1,947

DVD has by far the largest library. Blu-ray comes in second. Without the ability to play optical discs, the number of movies a consumer can watch plummets.

Optical disc content libraries are unmatched by streaming services.

¹ SNL Kagan "2014 Major Studio Film Slate Performance" 2015

² "DVD & Blu-ray Release Report" 2014; SNL Kagan "iTunes Movie Library" and "Netflix Movies" 2015



Leading experts agree that the Blu-ray market is still growing.

Of course, we're not the only ones predicting that Blu-ray will continue to grow. Here are the market predictions from a few industry leaders:

SNL Kagan

"Over the next 10 years, we expect DVD sales will continue to decline as the segment feels pressure from digital sales and the continued decline in Blu-ray disc prices. By 2022, DVD sales should amount to \$747.5 million. Blu-ray sales revenue should keep growing over the next decade from \$2.72 billion in 2013 to \$4.96 billion in 2022, **giving the segment a 6.9% compound annual growth rate over that period.**"¹

Gartner

"**The market for Blu-ray drives has now entered a stage of full-fledged growth**, because this technology has become the de facto standard...Gartner forecasts that unit production of Blu-ray players will show a compound annual growth rate (CAGR) of 5.4% from 2013 to 2018."²

Nielsen

"Digital adoption is widespread, but few (12%) have shifted entirely to digital viewing methods. **Over half of home entertainment customers are using physical and digital methods to access their TV/Movie content, while 20% exclusively use physical methods.**"³

Jim Taylor

"In spite of what you may hear from pundits, **discs are not going away any time soon.** Jim's prediction in 2005 was that it would take at least 20 years for typical American consumers to switch from DVD and Blu-ray Disc (BD) to digital downloads and streaming. As of 2015 most rental is now online, but ownership has not yet flipped, so it will probably take closer to 25 or 30 years."⁴

¹ SNL Kagan "The State of Home Entertainment" 2014

² Gartner "Hype Cycle for Consumer Devices" 2014

³ Nielsen "Home Entertainment Consumer Trends" 2015

⁴ Jim Taylor "UV Demystified"

We're in good company. Gartner, SNL, and other industry analysts agree that we'll see significant growth in the Blu-ray market.



What should you take away from this?

It's simple: Blu-ray is here to stay. For at least a decade, and potentially much longer, consumers will turn to optical media for reliable, high-quality AV experiences.

As Ultra HD becomes standard, Blu-ray's market position will only grow stronger. Early on, it will be one of the only sources for Ultra HD content. And even when other content providers catch up, they still won't be able to compare to the high quality standards of Blu-ray Discs.

Blu-ray's market share will continue to grow over the next ten years, especially with the momentum of Ultra HD.