

The Future of Television: Sweeping Change at Breakneck Speed

10 Reasons You Won't Recognize Your Television in the Not-Too-Distant Future

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Imagine watching television with no channels, no remote control, perhaps not even a TV set. You might catch the news on the bathroom mirror as you brush your teeth, and then check sports scores after work on the family-room window. If a football game really captures your interest, you could watch the action from any perspective you choose—the end zone, on the 50-yard line, or even in the middle of the huddle. During the commercial break, the irresistible aroma of pizza wafting from the TV might compel you to click on the logo and order a large double cheese right from the screen.

It won't be long before these scenarios become reality. The Cisco® Internet Business Solutions Group (IBSG) recently interviewed more than 50 television experts—producers, engineers, and scholars—to develop a picture of the future TV landscape.

These experts agree that almost every aspect of TV will be transformed: how we interact with the TV; how we interact with one another while watching TV; our relationship with the content; the nature of the TV screen itself; how content is produced, packaged, and paid for; and who makes money from it.

Cisco IBSG believes the convergence of three key drivers—technology, consumer behavior, and business models—will move us toward this “Jetsons” vision. New technology is rapidly increasing the resolution of displays, and social networking technology is making it easy to share and interact with content. Improved Internet connectivity and performance allow delivery of high-definition video without interruption. As a result, consumers' TV usage is changing: they increasingly expect access to content anywhere, anytime. In terms of business models, advertisers are scrambling to adjust as the DVR, Internet video, and other time-shifting options pull the rug out from under traditional, linear TV advertising, causing many to question whether it is still the most effective model for reaching consumers. Already, some content providers are testing the waters by bypassing aggregators and delivering TV content straight to the consumer.

After examining these drivers and holding in-depth discussions with TV experts, Cisco IBSG developed 10 predictions for the future of television. Although we asked the experts for their perspective on the television landscape *20 years from now*, the current, blistering rate of change could cause some of these predictions to become reality in the next five years.



Cisco Internet Business Solutions Group (IBSG)

10 Predictions that Will Transform the TV-Viewing Experience

1. Channels Go Away

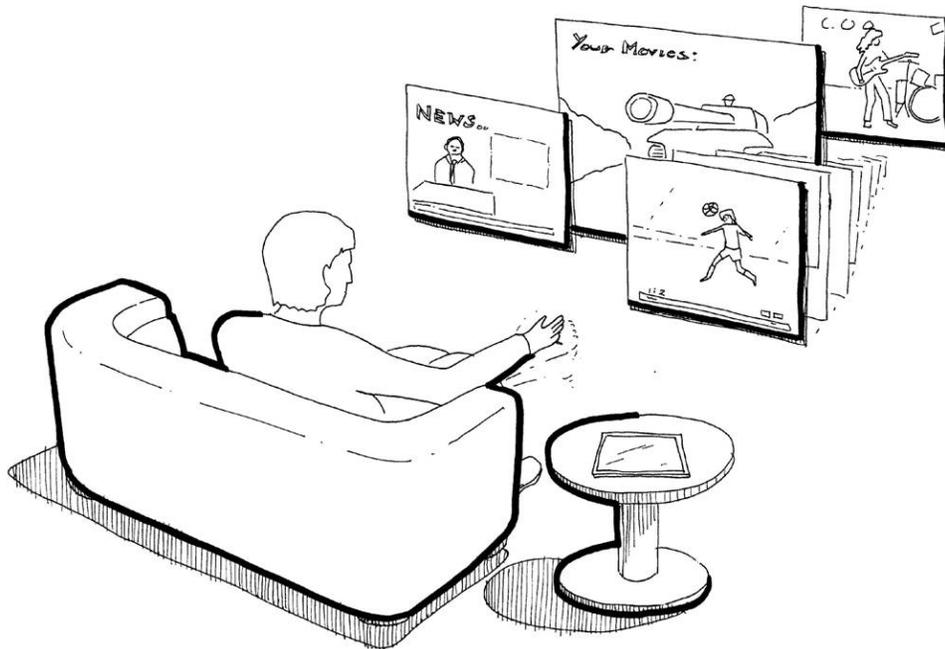
Most viewers will watch customized, on-demand streams, or they will access unlimited content from available libraries using powerful search/recommendation engines.

As consumers increasingly “time-shift” their TV viewing (watching what they want, when they want), traditional channels have less mindshare and brand awareness. The number of channels and size of content libraries have grown to the point that channel searching now frustrates consumers.

From a technological standpoint, Internet-connected television devices such as the Xbox, Apple TV, and Roku will see an adoption explosion in the next few years. As they do, consumers will start to associate Internet-like search and discovery with the TV. They’ll also demand integrated functionality that’s part of a single, simplified interface—no more multiple boxes.

One hundred percent of the TV experts agreed with this prediction.

Figure 1. Gestures Control the Action



2. Kiss the Remote Goodbye

Consumers will use natural language, gestures, and adjunct devices such as smartphones and iPads to interact with their TVs as easily as they do with another person (see Figure 1).

In the past, interactive TV enhancements stalled, due in part to the lack of a good interface device. Even today, experts criticize the recently launched Google TV device for what they call a clunky remote-keyboard interface. However, interface innovation is making its way into the market. Several companies, including Verizon and Comcast, are already providing software that enables consumers to control their TVs using their iPads or smartphones. The Nintendo Wii, with its unique, gesture-based controller, has had a major impact on the gaming market. Driven

by competition, Microsoft has released its own gesture-based interface, Kinect, which is rapidly gaining popularity. Sony has also released its own interface for the PS3. In addition, we are now seeing a third-party applications market develop around gesture interfaces, such as GestureTek's Xbox 360 gesture-control tools, which is likely to further accelerate innovation. Couple this with hierarchical data-display improvements and advances in speech and facial recognition technologies, and we should expect a user experience beyond the one envisioned in the movie "Minority Report," where the TV can recognize your mood and respond accordingly with appropriate content.

Nearly all of the industry experts—94 percent—agreed with this prediction. They cited voice technologies and the early adoption of the iPhone and iPad as key factors that are advancing the market.

Figure 2. Screens Do Double Duty



3. Screens Do Anything, Anywhere

Today, Nielsen research estimates that 116 million American homes have a device universally recognized as a TV.¹ In 20 years, that will no longer be true: Americans will invest in screens. Some will be thinner, larger, and have even higher definition than the ones we know today. Some could occupy a whole wall. Many will be contained within the higher-quality descendants of the portable devices we carry in our pockets today, such as smartphones, tablet PCs, and portable gaming players. Some may be expandable, flexible, or even wearable. Screens will be

¹ "State of the Media 2010, U.S. Audiences and Devices," The Nielsen Company.

everywhere, and each screen will be multipurpose (see Figure 2). These screens could be used to monitor a backyard security system as easily as to watch TV.

Imagine a screen on your bedroom wall that displays a replica of your favorite painting. With a wave of your hand, you transform it into your personalized TV. When your program is over, a few more gestures transform the screen into a video-conferencing suite so you can say goodnight to your children at their grandmother's house. At bedtime, you set your alarm clock on the same screen, which darkens for the night. When it's time to wake, the screen slowly brightens to mimic the sunrise.

In the future, these screens will not be purchased as "TVs"—the TV experience will be detached from a specific device. From the outset, the enabling devices or screens will be valued as multifunctional, multipurpose devices.

All of the survey respondents agreed that the TV itself would change dramatically. While 40 percent thought these changes would occur relatively slowly, 30 percent believed they would happen quickly.

The subsequent wave of change will bring holographic projectors that project life-size 3D images of TV shows right into your living room, though this will take longer to realize. Only 17 percent of the experts thought holograms would be commonplace by 2030.

4. Ads Get Personal

Advertisers increasingly believe that their ad spending is not effective; they are looking to reach target customers in ways that were not previously possible. In the future, advertisers won't rely on separate "commercials" that viewers can easily ignore by skipping over them with their DVRs or by running to the kitchen for a snack. Rather, the majority of ads will be contextual, highly interactive, and laser-targeted to each viewer.

Picture the following scenario: Viewers will simply point at or click on an object in a television program to receive advertising information. Imagine pointing at the BMW in the latest James Bond movie and receiving information on available models, configurations, and even incentives at nearby car dealerships. Intelligent systems could continuously comb through consumers' past viewing and purchasing behaviors (including those pertaining to their social networks), and dynamically pair these within the context of the program being viewed. These systems would then make a selection from an ad inventory customized for each viewer. For example, if the program is about the great outdoors and the viewer likes to camp, then ads for camping gear would be shown.

In the survey, 83 percent of respondents agreed with this prediction. However, of those, 40 percent thought this transition will take longer than some innovations to occur.

5. Don't Just Watch—Get Involved

Consumers are already interacting with some TV content ("Lost," "CSI") across different modalities: games, social media, and other arenas. In coming years, this trend will gain momentum, and consumers will interact with certain TV content even more seamlessly and often. For example, in an extension of current consumer and industry trends, viewers may "friend" their favorite TV characters or investigate plot twists using resources in their own communities. They

could, for instance, collaborate with other fans to aid key characters in solving a crime or mystery.

Although the “fan” mentality has always existed, it will morph from a process of collecting and following to one of interacting and influencing. Technology innovation and adoption have reached levels where this type of interaction is not only possible, but also can be supported without enormous budgets. Social networking and smartphones, key enablers of this experience, have achieved mass-market adoption. In addition, tools to create special-purpose webpages and collaboration sites already exist. Finally, studios have already invested in “transmedia”—storytelling across multiple forms of media—to create more buzz and loyalty so their content doesn’t get lost.

Eighty-seven percent of survey respondents agreed with this prediction. Of those, 45 percent felt that the TV experience would change in the near future. These respondents believe that consumers’ relationship with television has already expanded beyond the bounds of TV episodes.

6. Watch Together, Virtually

TV will be an enabler of social interaction, encouraging group participation at home with remote friends and family. TV’s valuable role as a social-gathering mechanism will grow beyond the living room and water cooler. Technology—from motion capture to video telepresence to holograms—will enable remote friends and family to watch TV together and interact naturally. Much as they do today, families will congregate around a central viewing device to watch their favorite shows. However, with the help of social networking technologies, viewers will also invite friends and remote family members to join them in a virtual setting. Viewers will experience a sense of community for the duration of the program.

The technology to enable this vision is available today—it just needs an integrated solution. Social networking technology such as Facebook could provide an effective platform and user interface, while adjunct devices such as tablet PCs and smartphones could enable interaction off the main viewing screen.

Eighty percent of survey respondents agreed with this prediction, although 43 percent thought it would take longer than some innovations to be fully realized.

7. Is It Real, or Is It Television?

Advances in the TV-viewing experience will introduce new sensory elements and enable consumers to have more choice in how they interact with their content. Olfactory reproduction will enable viewers to perceive smells and taste in real time. Tactile reproduction will let them feel the impact on a driver as he crashes his car, or the waft of a sea breeze at the beach on a warm summer day. Above all, the experience will be natural and nonintrusive. Viewers will not need clumsy helmets or glasses, and will be able to “disengage” from sensory stimuli as simply as turning down the TV’s volume. But when viewers do fully engage, the TV experience will be immersive and deeply stimulating.

Last, consumers will have more choice in how they experience content. They may view plots from different characters’ viewpoints, or from different camera angles. Producers will cater to these trends by developing specialized content that incorporates these sensory and plot elements.

In the survey, 90 percent of respondents agreed with this prediction; of those, 44 percent thought adoption would take longer than for certain other advances.

8. Your TV Follows You

With superior-quality handheld devices, pervasive screen options, and cloud-based storage, consumers' TV content—all of it—will be instantaneously accessible anywhere. Consumers will no longer be tethered to a particular device or network, and there will be limited ties to time itself. As a result, consumers will choose what they want to watch while they stand in line for groceries, travel on the train, sit in the back seat of the car, or walk down the street. Moreover, they'll be able to transfer content seamlessly across devices (for example, from a smartphone to a friend's TV screen, just by pointing the phone at the TV).

We have already seen a change in the way people consume entertainment content. One notable example is the move from home stereos to iPods. TV is now following the same path: apps for Hulu, Netflix, and Sling already work on smartphones. Beyond consumers' personal preferences, external factors will also begin to drive this vision. For example, as the population grows, overcrowding and high energy costs could force more people to mass transportation—a transition that will allow them to experience the value of mobile TV.

A full 93 percent of survey respondents agreed with the prediction, and 43 percent thought the prediction was too conservative.

9. “Regular Joes” Go Hollywood

Semiprofessional and amateur film and TV-making will flourish, and decentralized methods to create, fund, and deliver content to the mass market will thrive. As professional editing and production tools continue to plummet in price and reach the mass market, user-generated content (UGC) will acquire a high level of quality. Furthermore, experienced but out-of-work Hollywood professionals and other skilled amateurs will produce their own high-quality content on shoestring budgets. The box office success of low-budget films such as “Paranormal Activity” and “Slumdog Millionaire” demonstrates that viral marketing can fuel positive revenue outcomes for the independent film market. Going forward, web-based collaboration tools will give these amateurs alternatives not only for marketing their content, but also for bankrolling their projects and finding affordable, skilled technical and creative people they need to execute their vision.

Further, ever-greater percentages of UGC will be ready for prime time. Online (or software) agents or “bots” will mine, cull, and publish these popular stories on future “YouTube” sites. This will result in an extremely long tail of content, with literally billions of titles served side-by-side with traditionally produced studio content.

Ninety percent of survey respondents agreed with this prediction and, of these, more than 40 percent felt that the pace of change would happen more quickly than for some other innovations.

10. Creation Goes Viral

Content creators are always looking for ways to stay fresh and in sync with the pulse of the consumer. One of the best ways to do this is to invite consumers directly into the process. Imagine that your favorite show airs on Wednesday night. Until Friday night, you can participate in online collaboration sessions to develop and vote on new ideas for the next week's episode.

On Friday night, the discussion is closed, and the producers write and tape the show between Saturday and Tuesday. On Wednesday, we all tune in to see the show's latest episode.

Gaming also will provide a new consumer-created content source. Today's massive multi-player online games have a look and feel that rivals that of newly released films. Given the visual quality of a game like "Prince of Persia" and the compelling interactions among avid gamers, a portion of that game time can be immensely watchable, even to those not actively participating in the game.

Almost three-quarters of respondents—73 percent—agreed with this prediction. However, of these, 45 percent think it may take longer to fully realize this vision than for other advances.

Business Models in Flux

Television's current business model is delicately constructed, with many players and numerous, interdependent revenue streams. Parts of the experience that we have grown to accept as core— \$70-plus monthly subscription packages; programming across hundreds of channels; the 30-second TV commercial; delayed release windows for DVDs; free premium shows on the Internet—are all a result of the business model in place today. That model is under pressure, and while there is a great deal of debate and disagreement among industry experts about exactly how it will evolve, there is no question that it will change dramatically over the next five to 10 years.

The views among experts were varied:

- Forty-six percent thought the role of carriage fees in the business model would become less important, and the other 54 percent disagreed.
- Thirty-eight percent believed that advertising would play a less important role in the business model; the remaining 62 percent disagreed.
- Thirty-eight percent thought government sponsorship of public channels would play a less important role, while the remaining 62 percent held a different opinion.

However, most experts agreed that in the future, consumers would enjoy more flexibility in how they purchase TV. Eighty percent of respondents felt that consumers would have the flexibility to build their own TV subscription packages by adding only content they want.

Permanently Changed Landscape

Television in the not-too-distant future is sure to provide an immersive, collaborative experience that even the Jetsons might never have imagined, and much of the groundwork for that future is already in place. Technological innovation is accelerating, as evidenced by HD flat-screens, "3D TV," and smartphones entering the mainstream in a matter of months rather than years. Consumer behavior is evolving, illustrated by the move toward time-shifted TV and the increasing role that social networks are playing in consumers' purchasing and viewing decisions. And, the business model is changing as the complex, interdependent business models supporting the TV industry face pressure to adapt to the Internet age. This pressure is increasing as new and old players explore novel ways to monetize online content. One example of this is Netflix, whose streaming audience grew from 41 percent to 61 percent in just one year.²

² Netflix Earnings Call, October 2010.

Cisco IBSG believes the current rate of change in technology, consumer behavior, and the business model will accelerate our vision of the future of TV, bringing enormous changes in the next five to 10 years. While any one of these drivers in isolation would not be a catalyst for appreciable change, in combination they are unleashing forces that will permanently and dramatically alter the entertainment landscape.

For more information on Cisco IBSG's "future of television" research, please contact:

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