

State of the Market: Smart Home & Connected Entertainment



About Parks Associates

Research Areas

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Growth of Smart Home: Trends

Smart Home

DIY Impact on Traditional Security

Home Energy Management

Connected Health & Independent Living

Voice-First Technology

Growth in Connected Entertainment

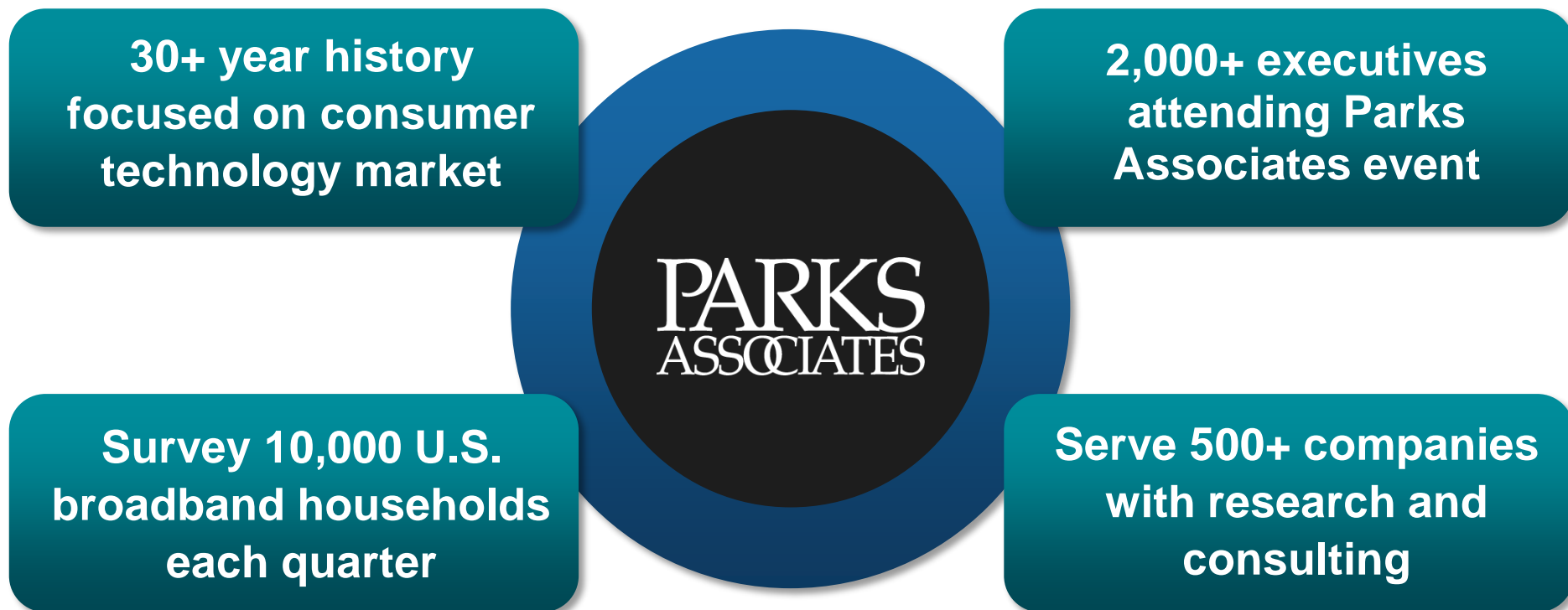
The New Landscape for Video Services

OTT and the Next Generation Viewer

Voice and Entertainment

Connected CE

About Parks Associates



Educate and inform by providing relevant and reliable consumer data and industry insights

Most Influential Tech Analyst Firms in 2018

Parks Associates has been established since 1986, but it has seen strong growth in the past couple of years.

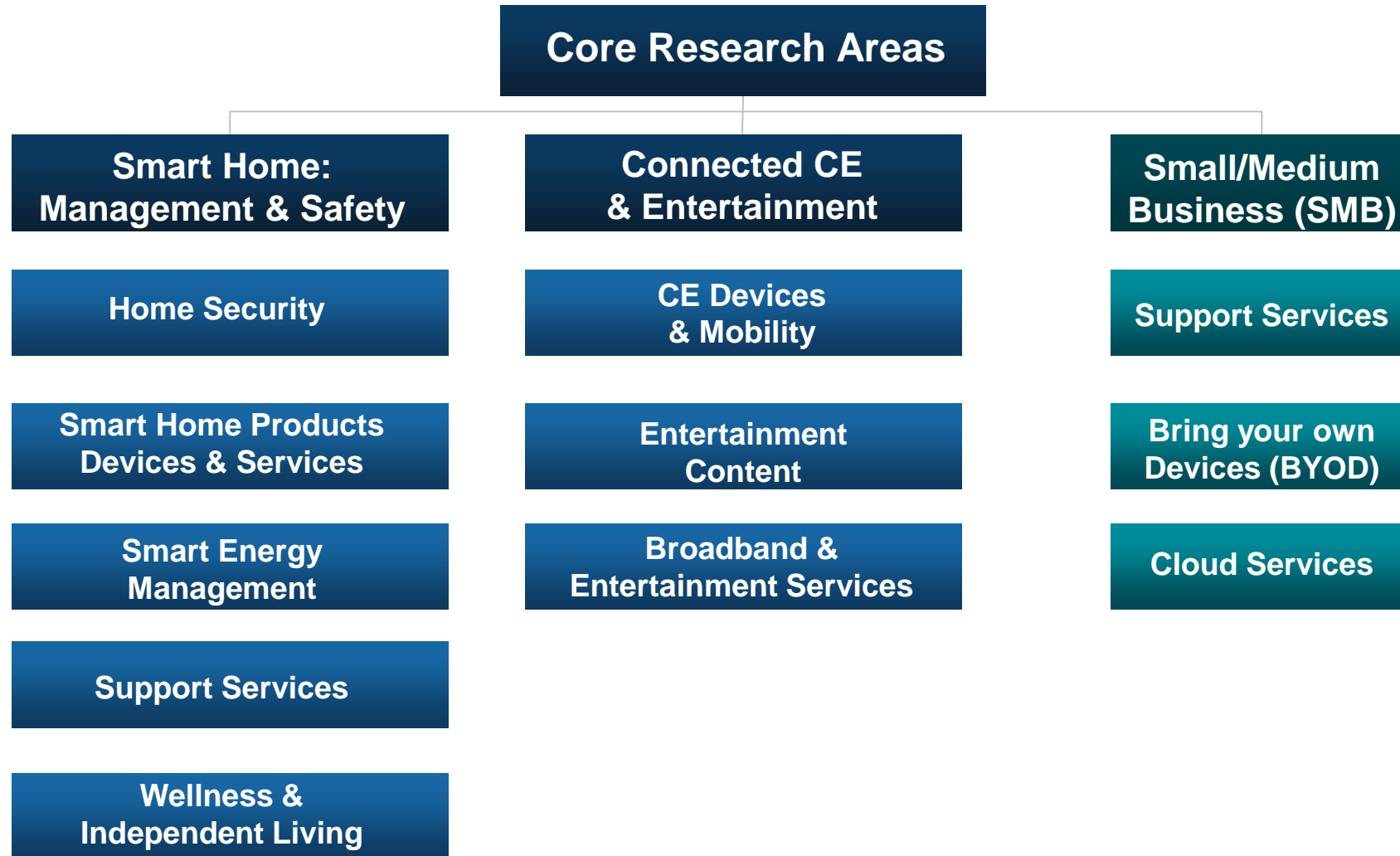
One of the reasons for this growth is its concentration on digital technologies for the home – whether it's smart televisions, smart speakers, smart doorbells, or any other smart home device or appliance.

Some tech observers say that household items will become more and more “intelligent”, in that they will integrate more chips and sensors, and, inevitably, they will collect more data – about the machine itself as well as its environment.

This places Parks in the position of monitoring a massive and growing market.

- Enterprise Management 360

Research Areas



Engagement with Parks Associates

Service

				Full Access to All Research, Comprehensive Analyst Support
			On-Site Visits, VIP Event Svc., Custom Industry Research	On-Site Visits, VIP Event Svc., Custom Industry Research
		Proactive Support, Custom Cuts, Presentations, Marketing	Proactive Support, Custom Cuts, Presentations, Marketing	Proactive Support, Custom Cuts, Presentations, Marketing
All Services for Hire	On Demand Inquiry, Readouts on Syndicated Content	On Demand Inquiry, Readouts on Syndicated Content	On Demand Inquiry, Readouts on Syndicated Content	On Demand Inquiry, Readouts on Syndicated Content
One-Time Research Buyer	Research Subscriber	Research Partner	Strategic Partner	Full Partner

Growth of Smart Home: Trends

**Smart Home ■ DIY Security Impact on
Traditional Security ■ Energy ■ Health
Voice-First Technology**

Smart Home, Security, Energy, and Health



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Growth of Smart Home: Trends

Smart Home

Connectivity is Transforming Our Homes

A smart home device is a single-point device with the intelligence embedded in the device or combined with intelligence provided by software in the cloud.

It typically supports cloud-based data and analytics. Popular smart home devices are Internet-connected versions of traditional home products like thermostats, garage door openers, or lighting.



Smart Home Channels & Ecosystems

Industry Channels
Ecosystems

Tech Giant/Voice
Ecosystems

Networking Alliance
Ecosystems

Platform Ecosystems

Vertical Ecosystems

Energy

Broadband
- Telcos

Security

Retail

Health
Care

Home
Services

Dealer -
Contractor

Insurance

Real estate-
Construction



The Internet of Things

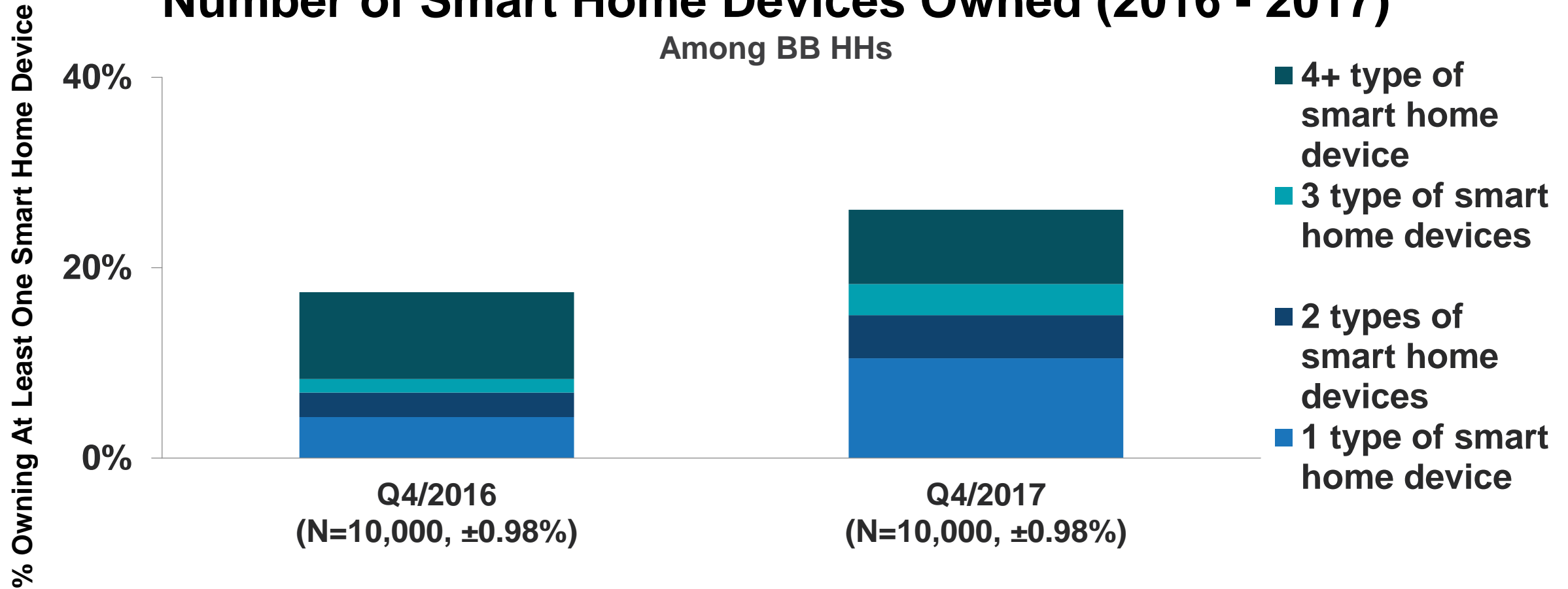


Smart Products

Evolving Adoption

Number of Smart Home Devices Owned (2016 - 2017)

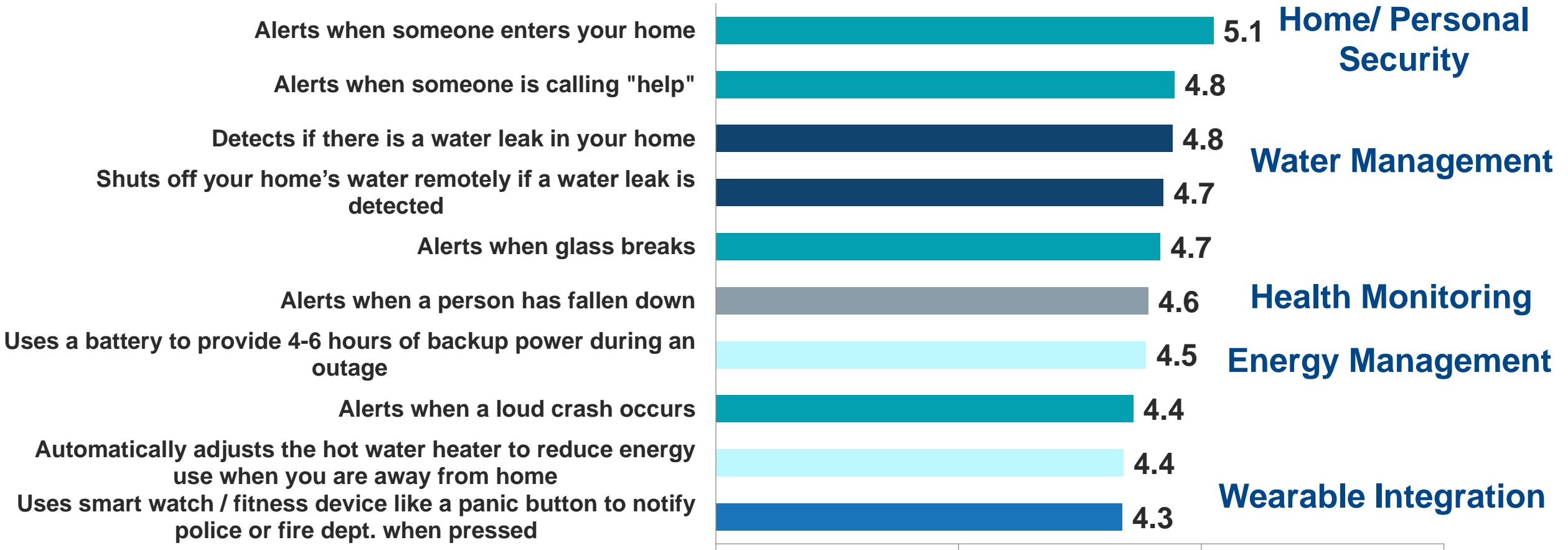
Among BB HHs



Safety and Security Driving Adoption

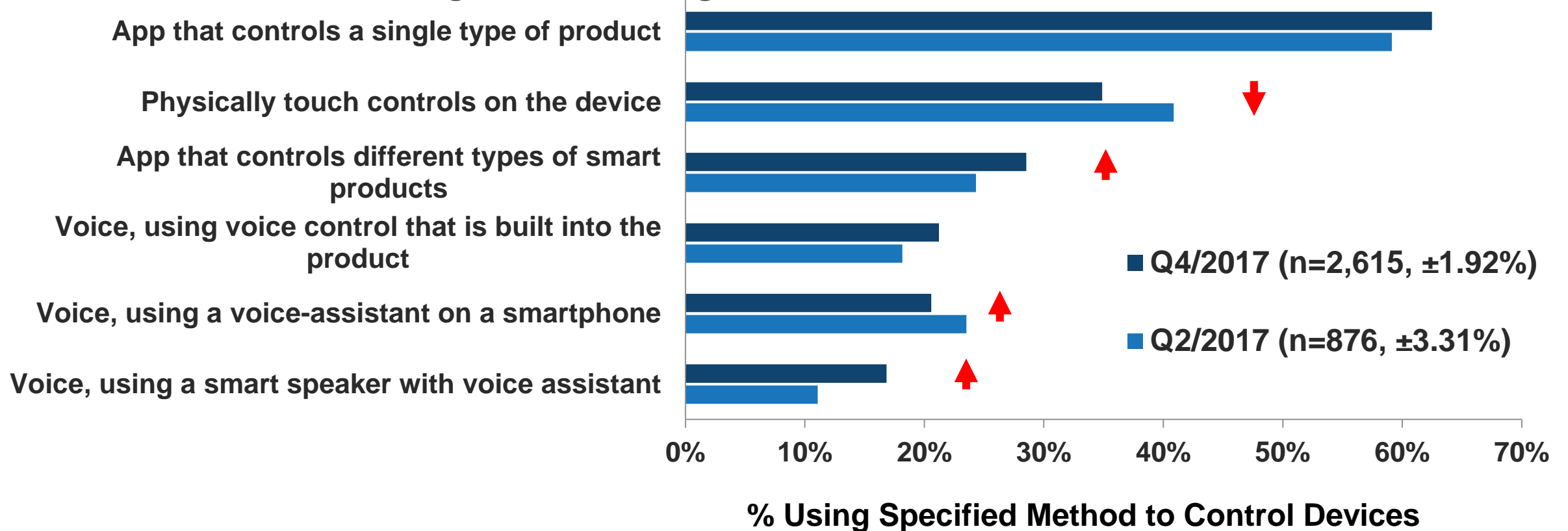
Top 10 Appealing Smart Home Device Expanded Use Cases

Among U.S. BB HHs Surveyed, n = 2,501, ±1.96%



Smart Home Device Control Methods (Q2/2017 – Q4/2017)

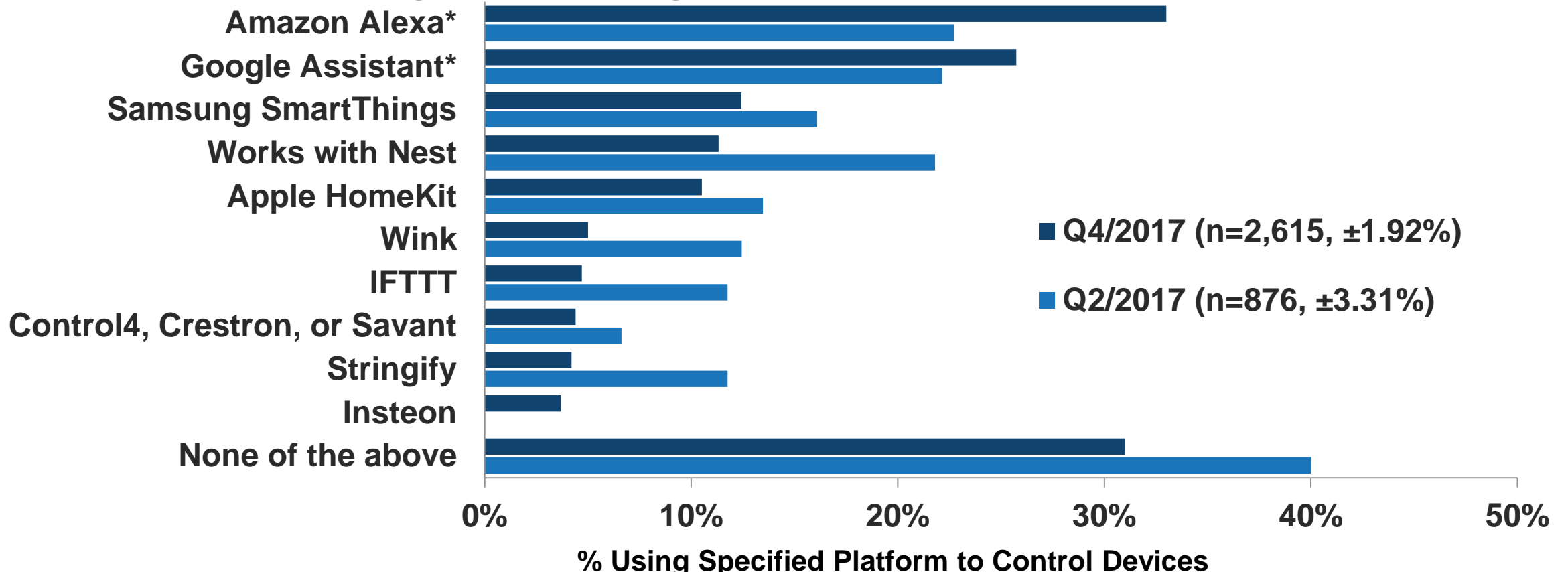
Among BB HHs Owning At Least One Smart Home Device



Evolving Platform Usage

Platforms Used to Control Smart Home Devices (2017)

Among BB HHs Owning At Least One Smart Home Device



Channel Expansion

- Retailers, Builders, Insurers, Manufacturers, and Service Providers are all smart home players
- Many new nontraditional competitors also create partnership opportunities

Lower-tier Products Expand Affordability

- DIY popular and is roiling the security industry

In-home Consultation Services and Experience Centers

Voice Improves the Smart Home User Experience

Developments in Artificial Intelligence (AI) will continue to improve Product Value and enhance Personalization

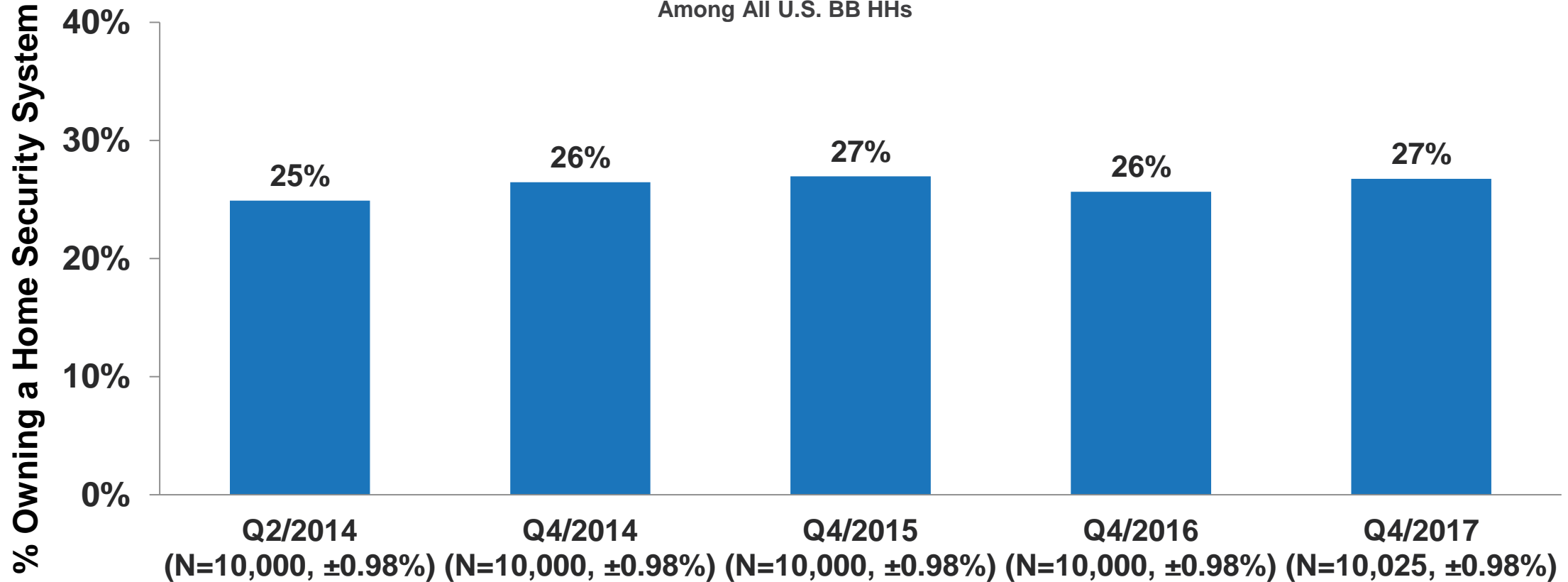
Growth of Smart Home: Trends

DIY Security Impact on Traditional Security

Home Security Holds Steady

Home Security System Ownership (2014 - 2017)

Among All U.S. BB HHs



DIY Impact on the Security Industry

Traditional DIY Security Systems



New DIY Security Systems



Nest Guard

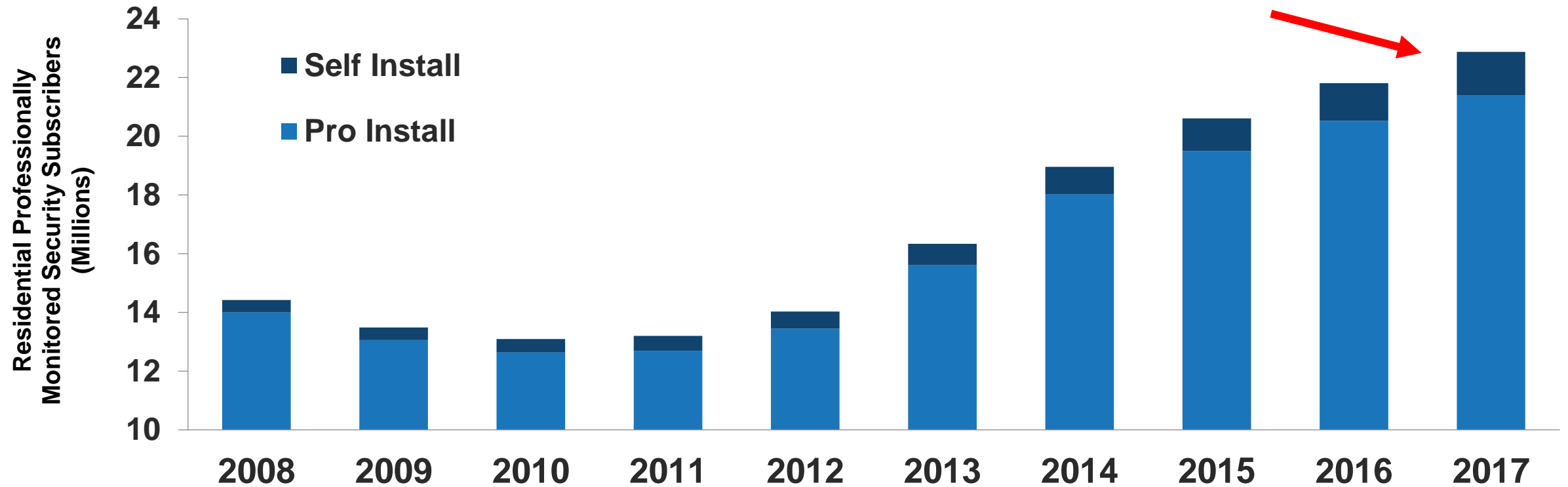
The brains of the system. A keypad, built-in motion sensor, and loud alarm.

DIY Security Products



DIY Security Systems Making an Impact

U.S. Residential Professionally Monitored Security Subscribers by Installation

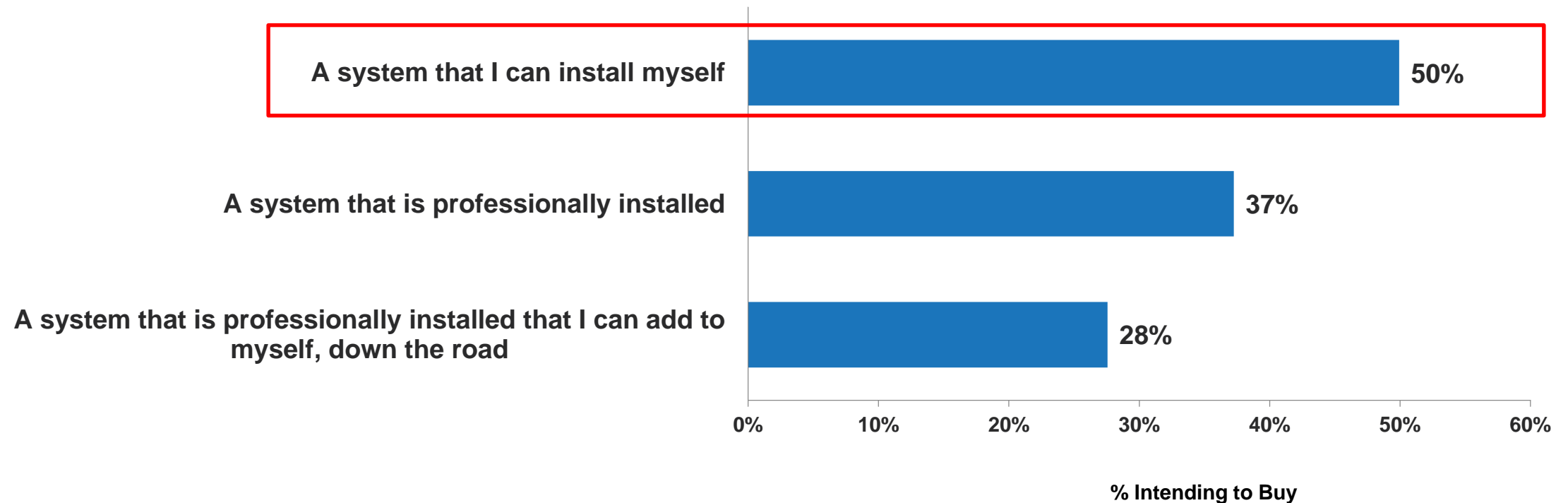


Source: Security NUMBERS Q3 2017 | © 2017 Parks Associates

DIY Leads in Intention

Intention to Purchase Security System Types (Q4/17)

Among the 16% of U.S. BB HHs Intending to Purchase a Security System (Rating 6 - 7), n = 867, $\pm 3.33\%$



"S7240. Which of the following types of security systems do you intend to purchase?"

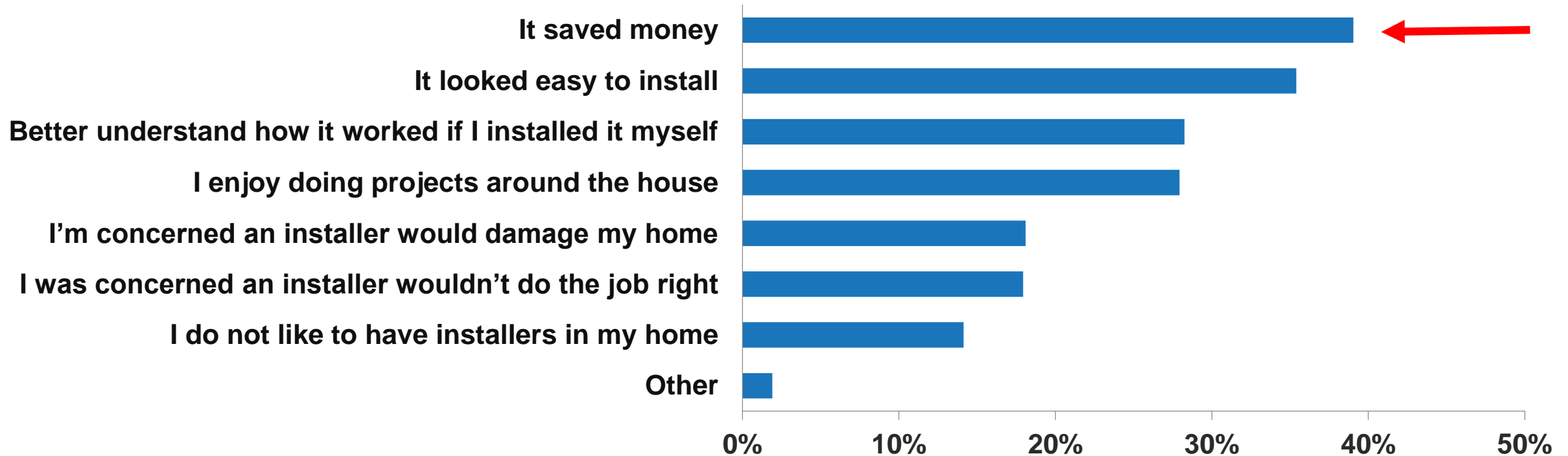
Source: American Broadband Households and Their Technologies Q4 2017 | N=10,025, $\pm 0.98\%$ | © 2018 Parks Associates

© Parks Associates

DIY Security System Impact

Reasons for Self Installing a Security System

Among the 6% of U.S. BB HHs Installing Security Systems by Themselves, n = 630, $\pm 3.90\%$



"S7205. Why did you install your security system yourself or have a friend or family member do it?"

Source: American Broadband Households and Their Technologies Q4 2017 | N=10,025, $\pm 0.98\%$ | © 2018 Parks Associates

Growth Opportunities for Security Providers

- **Grow Security System Subscriber Base**
- **Expand Monitoring Services to Smart Products**
- **Grow Security System Subscriber RMR (recurring monthly revenue)**

Differentiate through New Business Models

Leverage Technology to Differentiate and Drive Costs Down

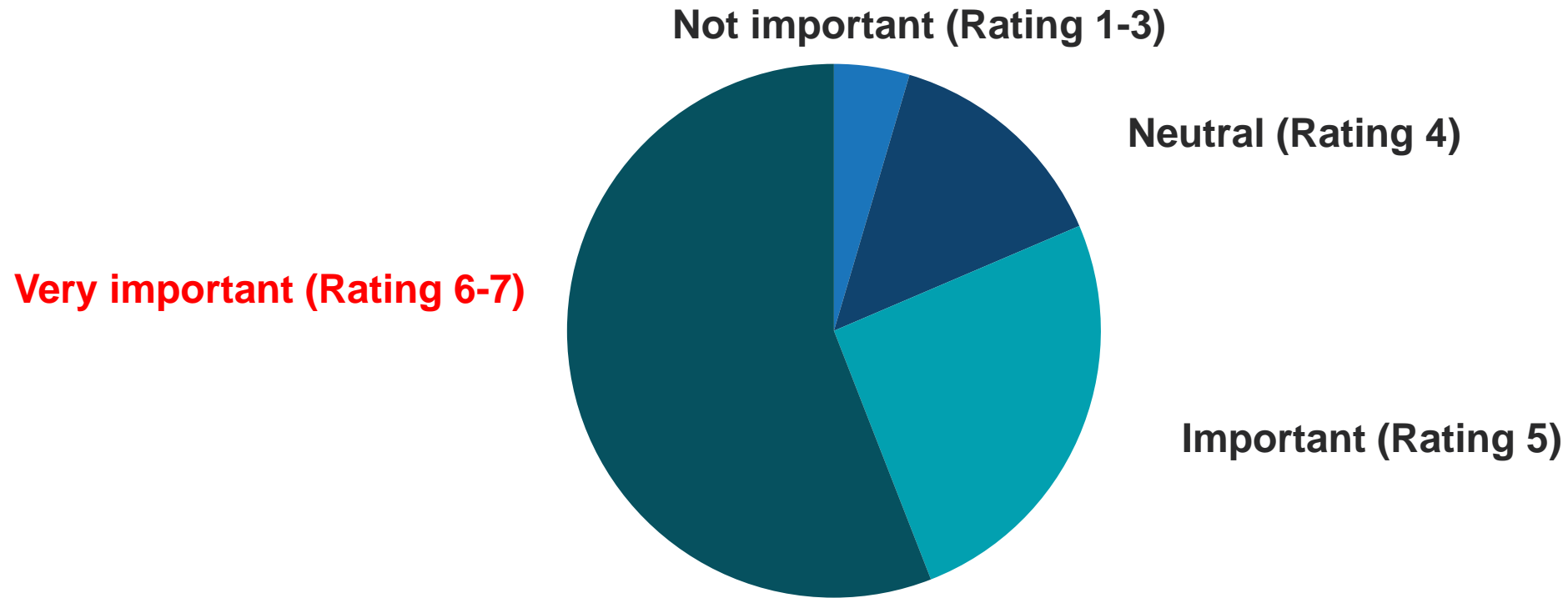
Growth of Smart Home: Trends

Home Energy Management

Consumers want to Save Energy

Importance of Having an Energy Efficient Home

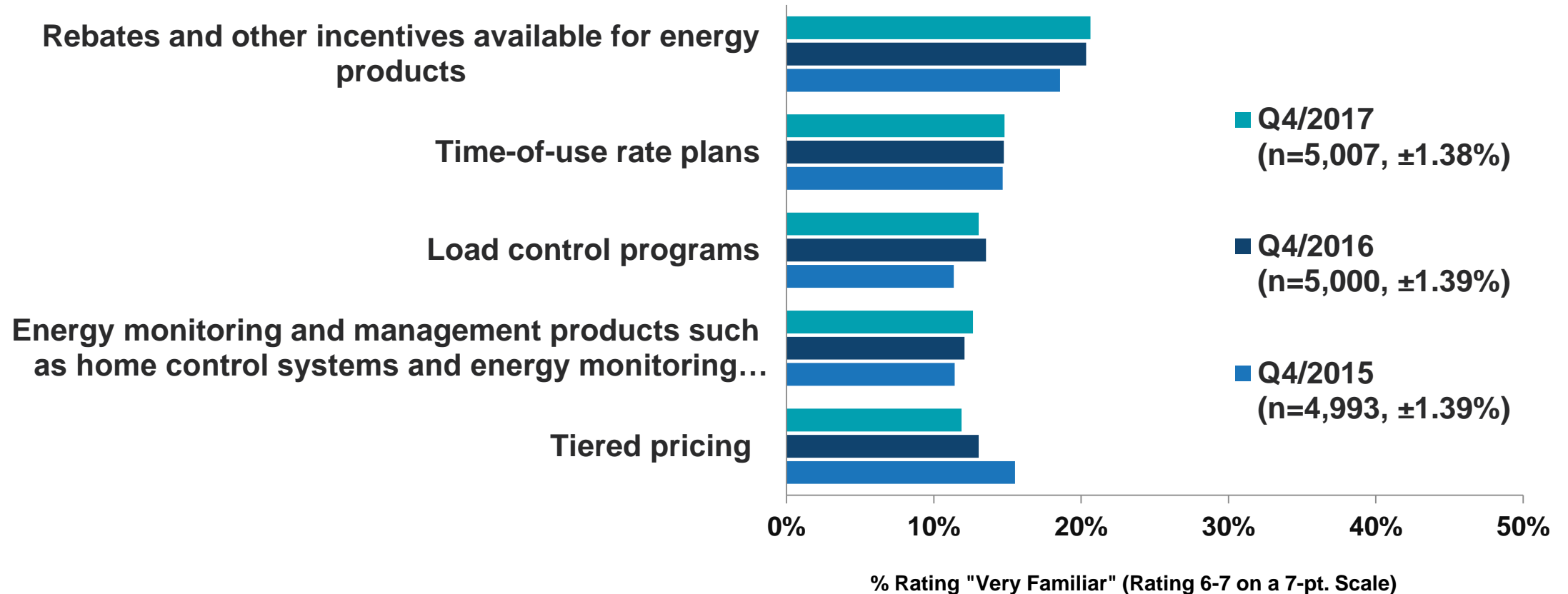
Among U.S. BB HHs Surveyed, n = 5,007, $\pm 1.38\%$



Continued Familiarity: Energy Programs

Familiarity with Energy Programs (2015 - 2017)

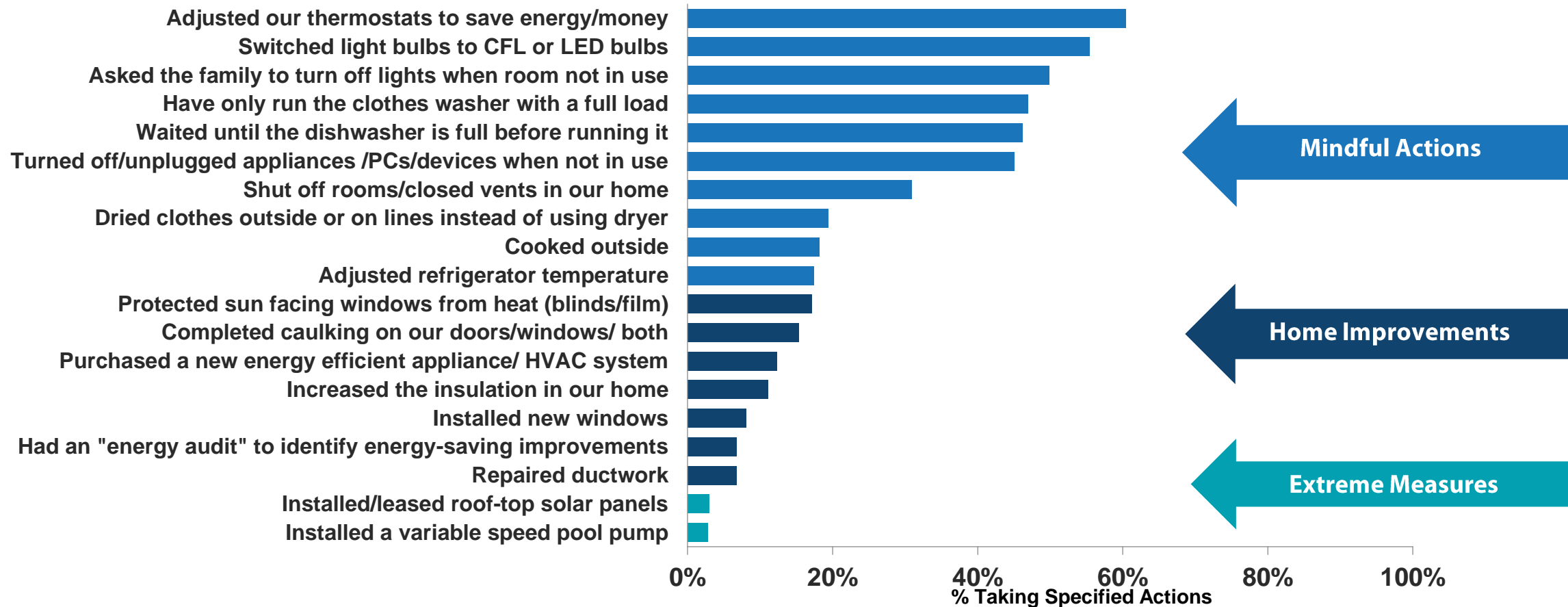
Among U.S. BB HHs Surveyed



Energy Saving Actions

Energy Saving Actions Taken Over the Past 12 Months (Q4/17)

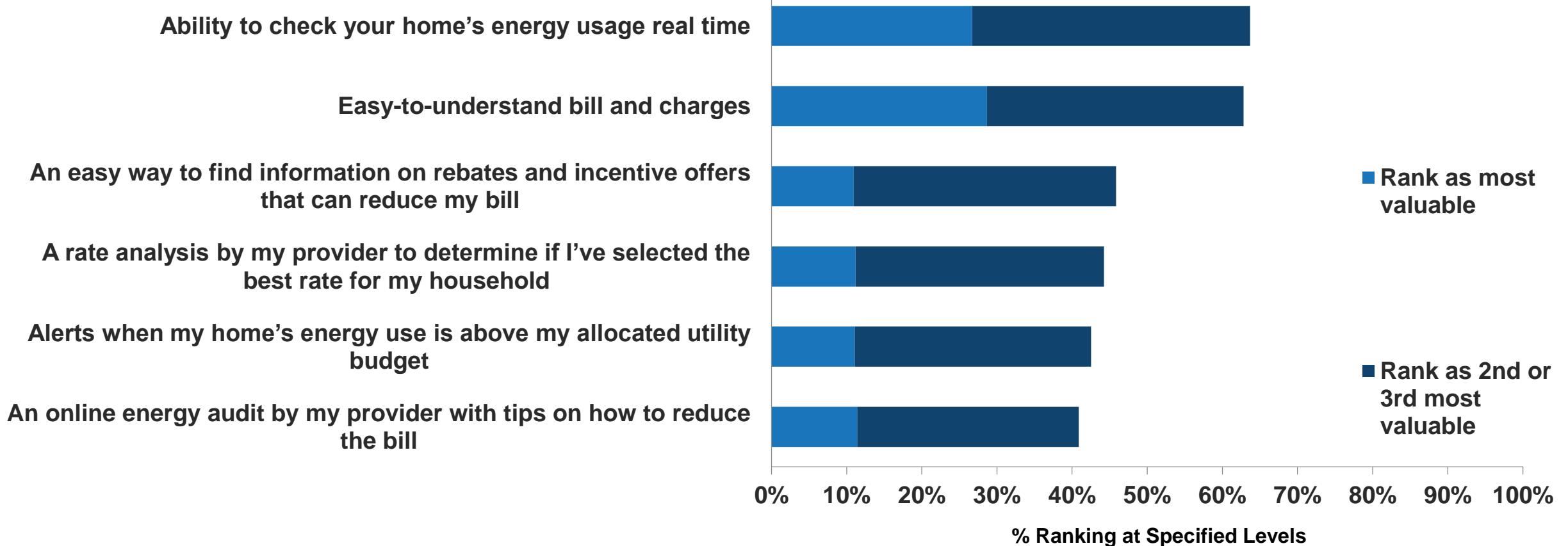
Among U.S. BB HHs Surveyed, n = 5,007, $\pm 1.38\%$



Interest in Real-time Energy Usage

Value of Energy Management (Q4/17)

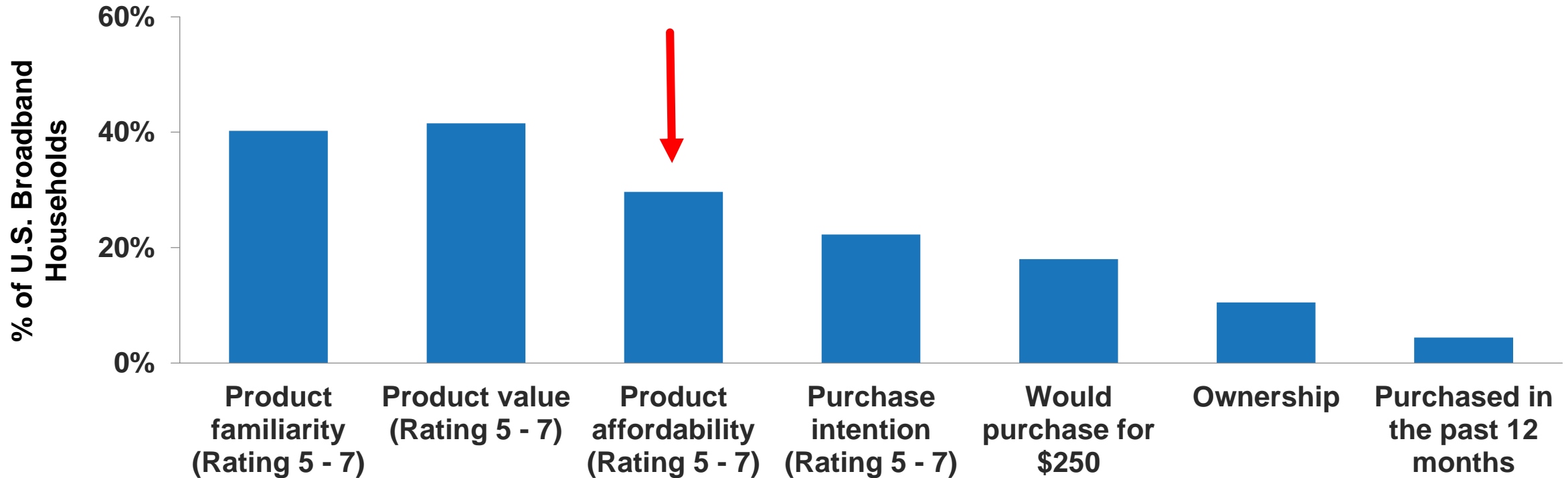
Among U.S. BB HHs Surveyed, n = 5,007, $\pm 1.38\%$



30% find Smart Thermostats Affordable

Smart Thermostat Overview

Among All U.S. BB HHs, N = 10,000, $\pm 0.98\%$



Competition for the Smart Home

Products



Honeywell



PHILIPS



GE
Lighting

CHAMBERLAIN®

kēvo **eugust**

Systems



vivint.

Spectrum

COX Homelife™
Protect. Monitor. Control.

wink



SAMSUNG
SmartThings™



NEXIA™
HOME INTELLIGENCE

reliant®
an NRG company

Strong demand for products and services that make homes more energy efficient.

Consumers value access to real-time energy information, and smart home solutions can provide that functionality

Adoption of smart thermostats is the highest of any home automation product, and purchase intentions continue to climb.

Opportunity to drive additional savings through systems that control multiple products.

Energy providers have the opportunity to get ahead of change

- **Generation co-located with consumption**
- **Investment in the grid edge**

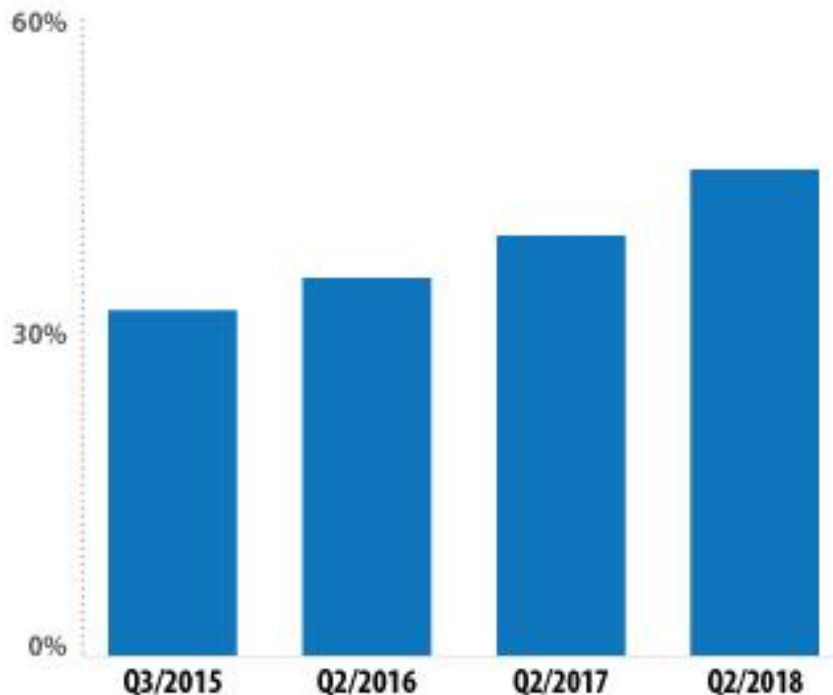
Growth of Smart Home: Trends

Connected Health & Independent Living

Device Adoption is Growing

Overall Adoption of Connected Health Devices

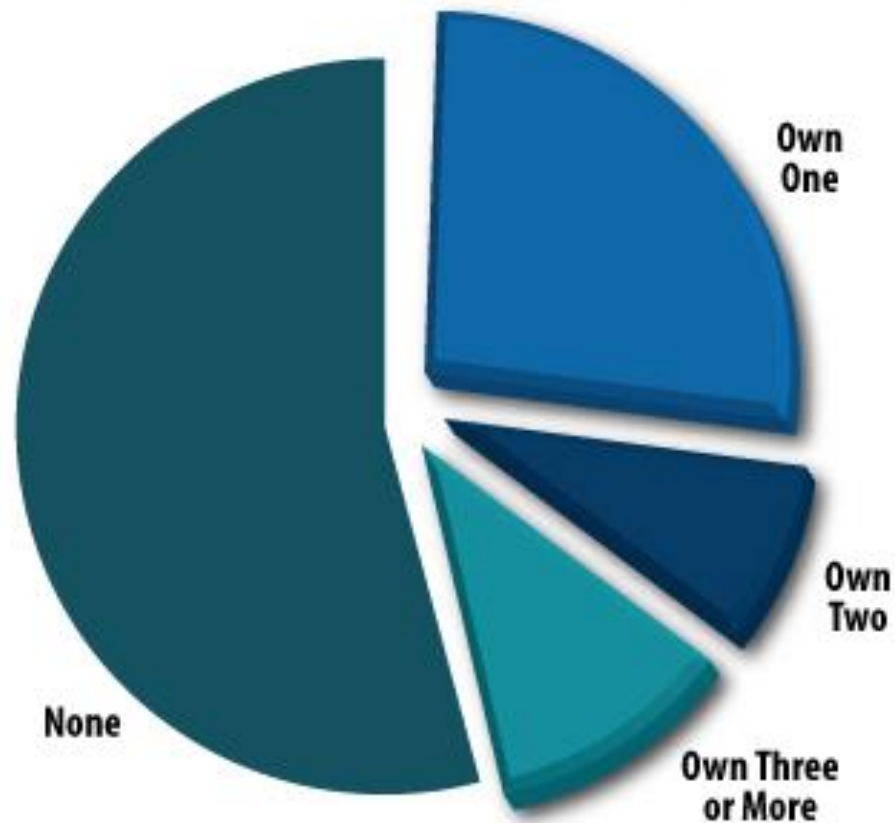
U.S. Broadband Households



© Parks Associates

Connected Health Device Ownership

U.S. Broadband Households

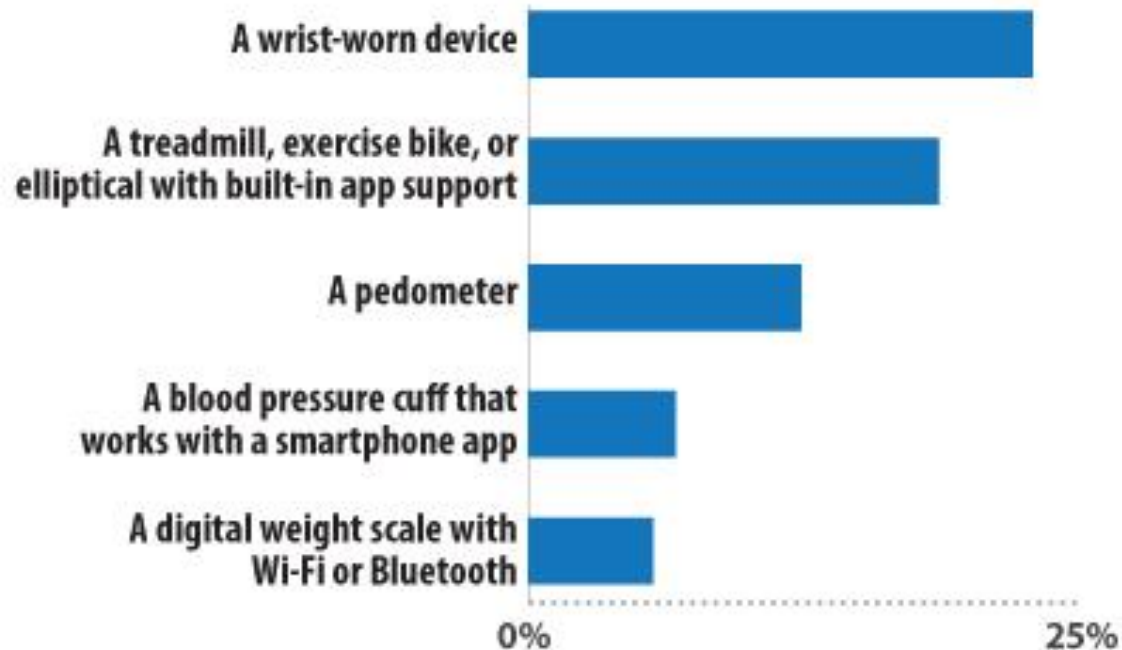


© Parks Associates

Consumers are Tracking Activities

Most Commonly Owned Connected Health Devices

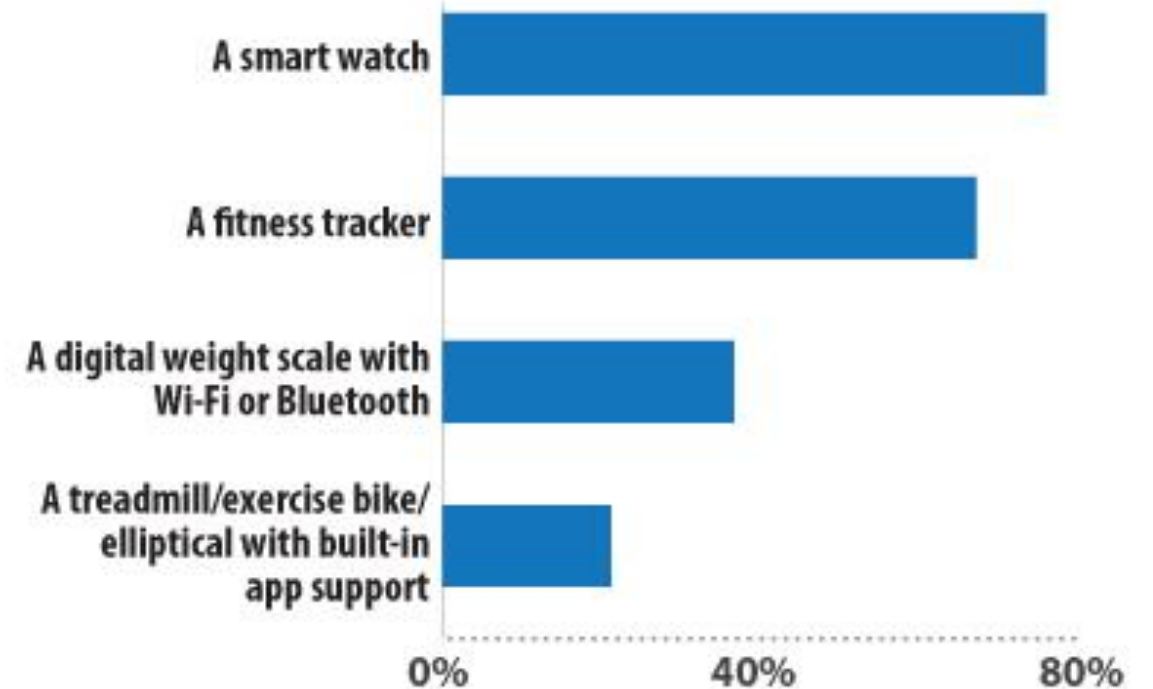
U.S. Broadband Households



© Parks Associates

Daily Usage of Connected Wellness/Fitness Devices

U.S. Broadband Households Owning Specified Devices

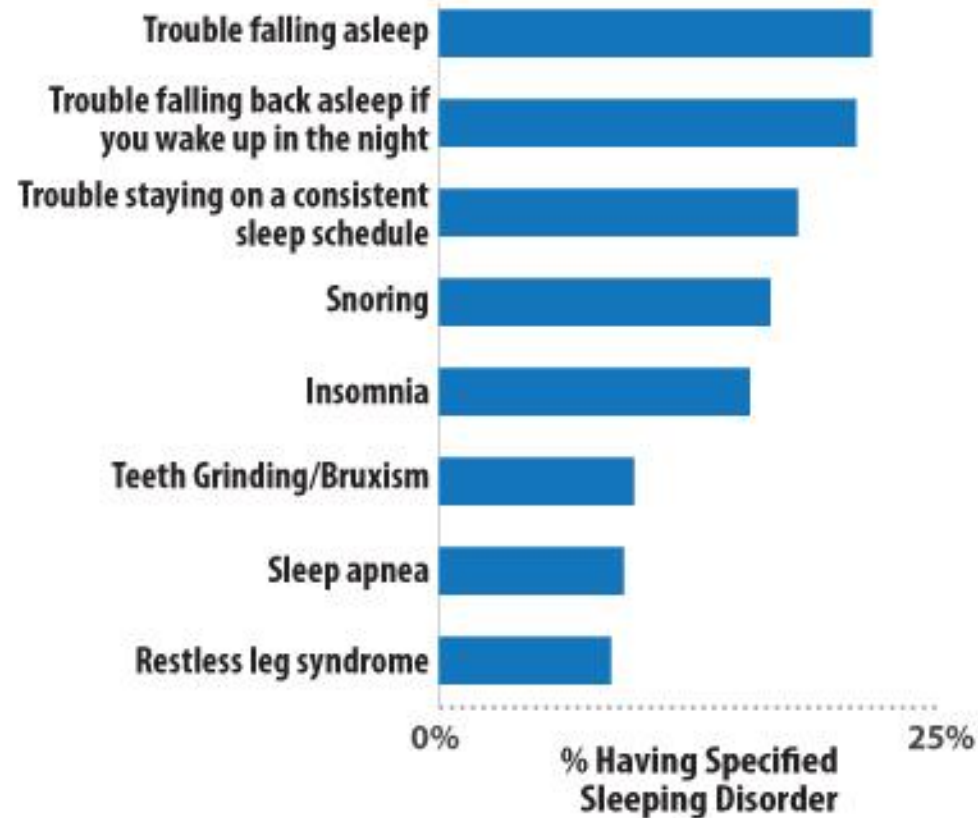


© Parks Associates

Sleep – A Key Health Issue

Health Conditions - Sleeping Disorders

U.S. Broadband Households



© Parks Associates

Willingness to Buy Sleep Tech Products

U.S. Broadband Households



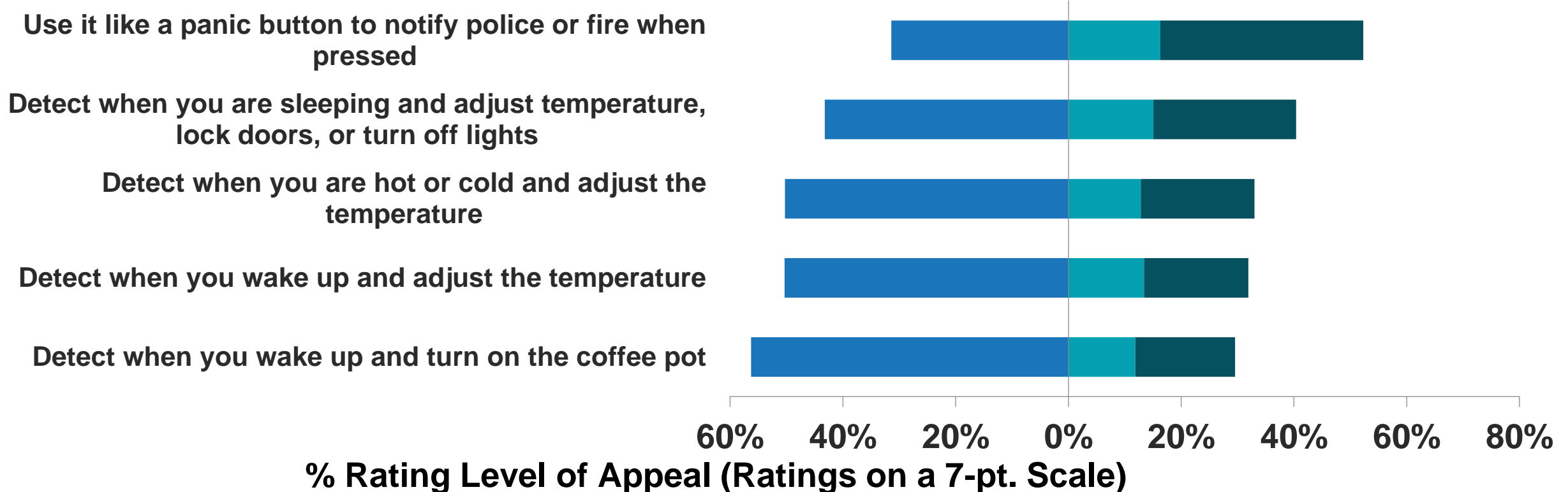
© Parks Associates

Interest in Safety and Control Features

Appeal of Smart Watch / Fitness Device Use Cases (Q2/17)

Among U.S. BB HHs Surveyed, n = 2,501, $\pm 1.96\%$

■ Not appealing (Rating 1-3) ■ Appealing (Rating 5) ■ Very appealing (Rating 6-7)



Market Adoption and Trends

More than 45% of U.S. broadband households own a connected health device.

20% of U.S. broadband households very interested in home living service to notify family in case of emergency.

Sensors may be embedded in connected health products such as medical alert pendants for the elderly to enable two-way communication during an emergency.

6 million+ U.S. consumers will use PERS devices by 2021.

40% of U.S. broadband households would pay for at least one home-living service for themselves.

- Services that alert family members if one is in an emergency
- Services that send alerts to the consumer about dangers in the home
- Concierge services offering advice on retirement and healthy home living.

Market Challenges

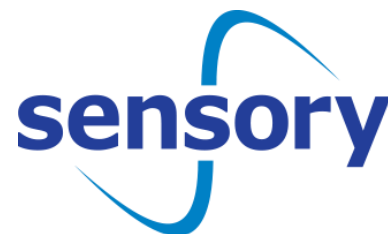
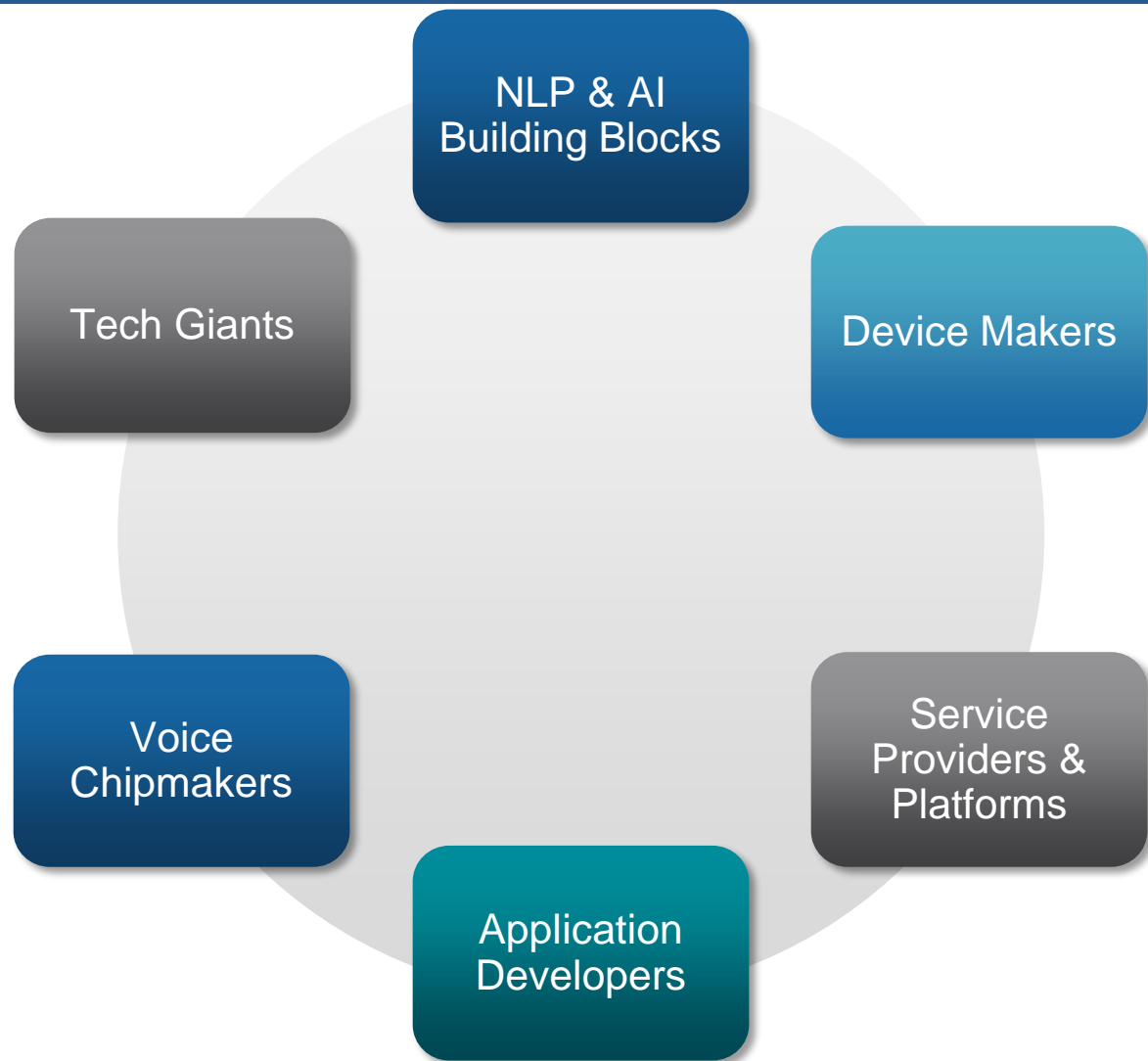
- Aging Population: Number of Americans ages 65 and older will exceed 80M by 2050.
- Costs: Nearly 60% of consumers in U.S. broadband households have a chronic condition
- Consumer Anxiety: 49% of U.S. broadband households are concerned a lack of financial resources will disrupt their retirement plans.

Consumerization of Healthcare

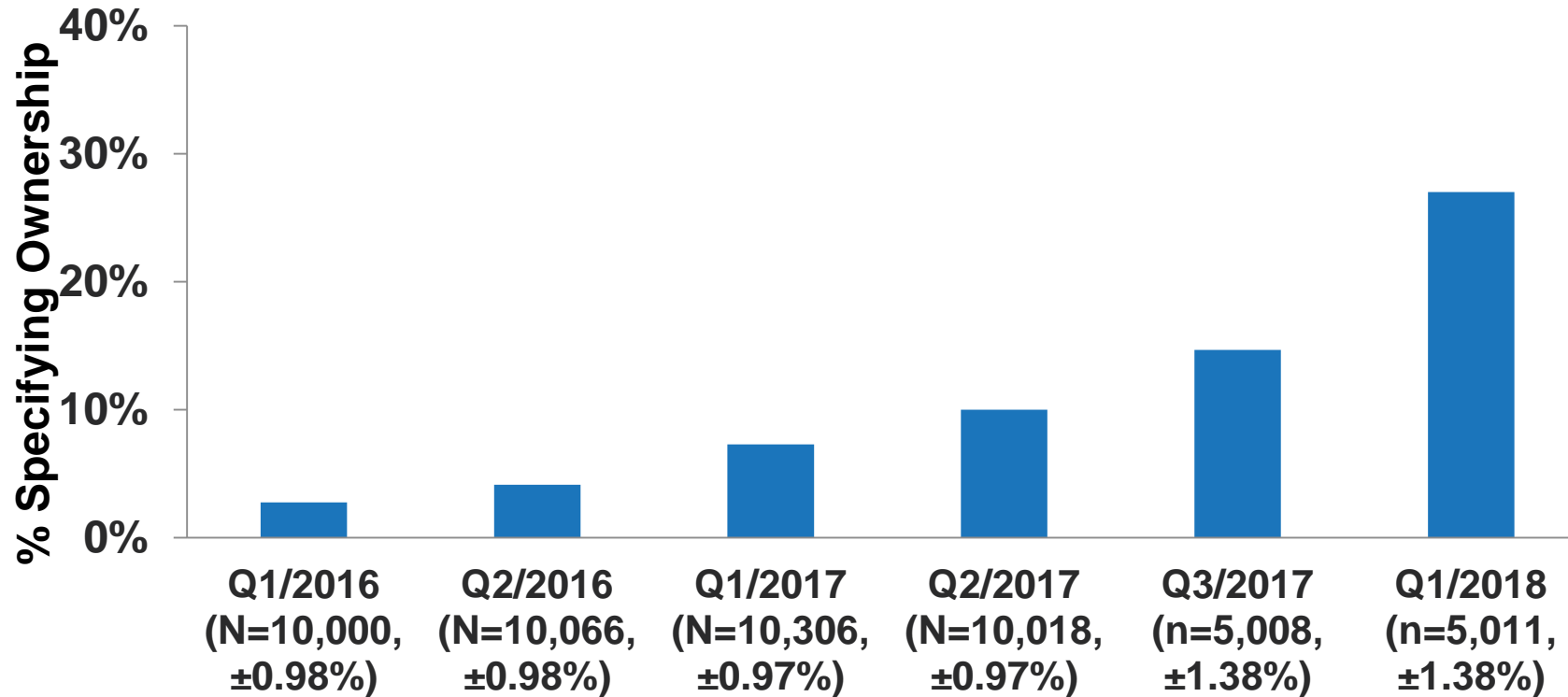
- Managing the consumer healthcare experience is a necessary component of healthcare solutions

Growth of Smart Home: Trends Voice-First Technology

The Voice-First Ecosystem



Smart Speakers with Personal Assistant Ownership (2016 - 2018)



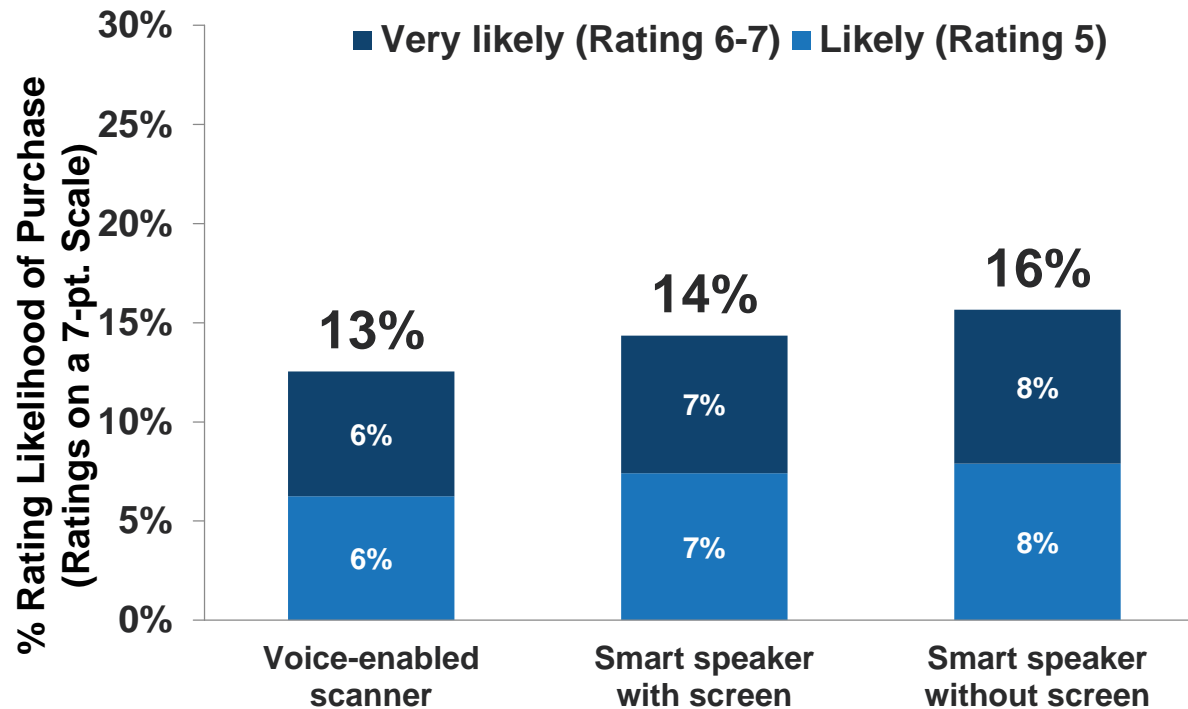
Parks Associates **classifies smart speakers with personal assistants** in their own category given the functionalities are a crossover of capabilities from the smart home, connected CE, and audio categories.

Through the convergence of functions across device categories such as streaming music and remote control of other devices, smart speakers with personal assistants have revolutionized the hardware industry.

Voice Control: A Market Growth Factor

Voice-enabled Device Purchase Intention

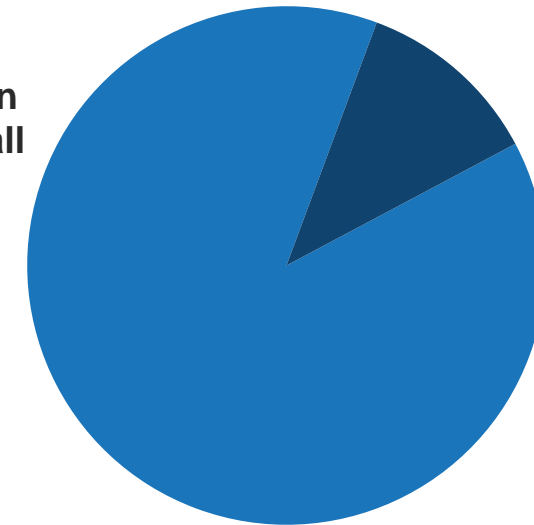
Among U.S. BB HHs Surveyed, n = 5,008, ±1.38%



High Purchase Intentions for Voice-Enabled Devices

Among U.S. BB HHs Surveyed, n = 5,008, ±1.38%

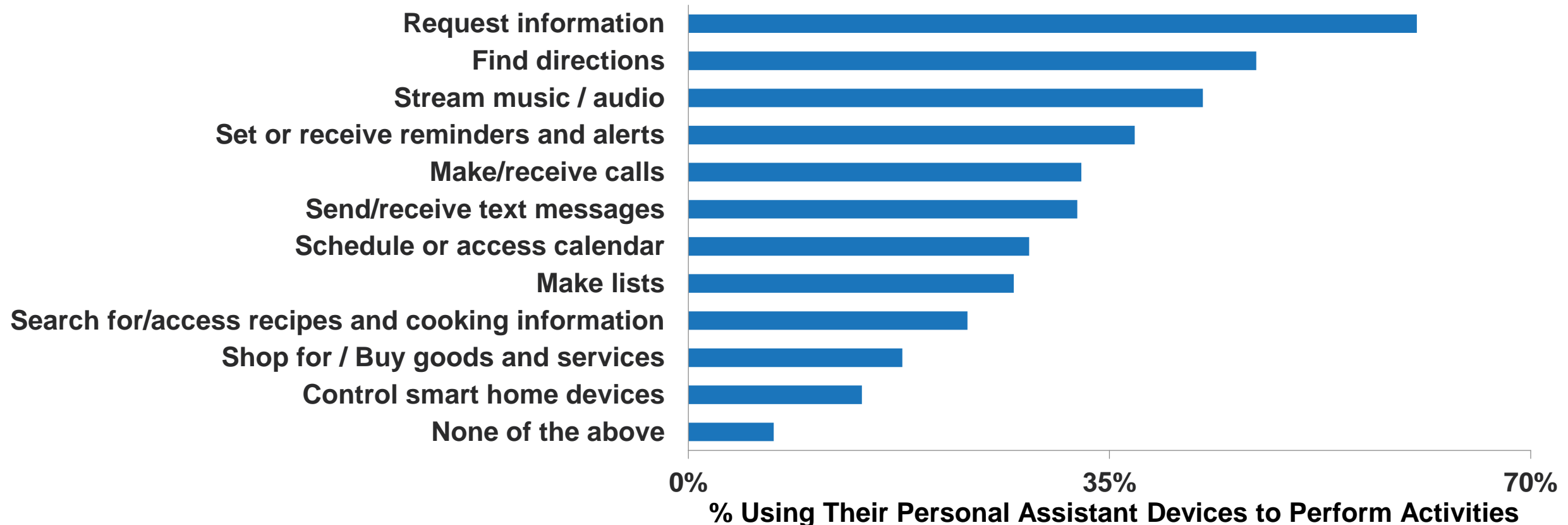
No high intention
(Rating 1 - 5 on all
voice-enabled
devices), 88%



High intention
(rating 6 - 7 on at
least one voice-
enabled device),
12%

Personal Assistant Device/ App Activities

Among 41% of U.S. BB HHs Using Personal Assistant Devices/Apps



Voice control and voice-based technologies have experienced massive growth in the past five years.

- In the smart home, voice will serve as a prime differentiator in the user experience.
- Voice serves as a key interface to alleviate complexity in the user experience.

Voice enables an easy-to-use interface and a compelling experience for consumers.

- 55% of U.S. broadband households find it “appealing” to use voice control to understand the status of connected devices or to control their connected devices.

As more sensors are added to the house, voice capabilities will expand to more rooms in the household.

Future directions for both voice and the smart home are intertwined.

Access and Entertainment Team



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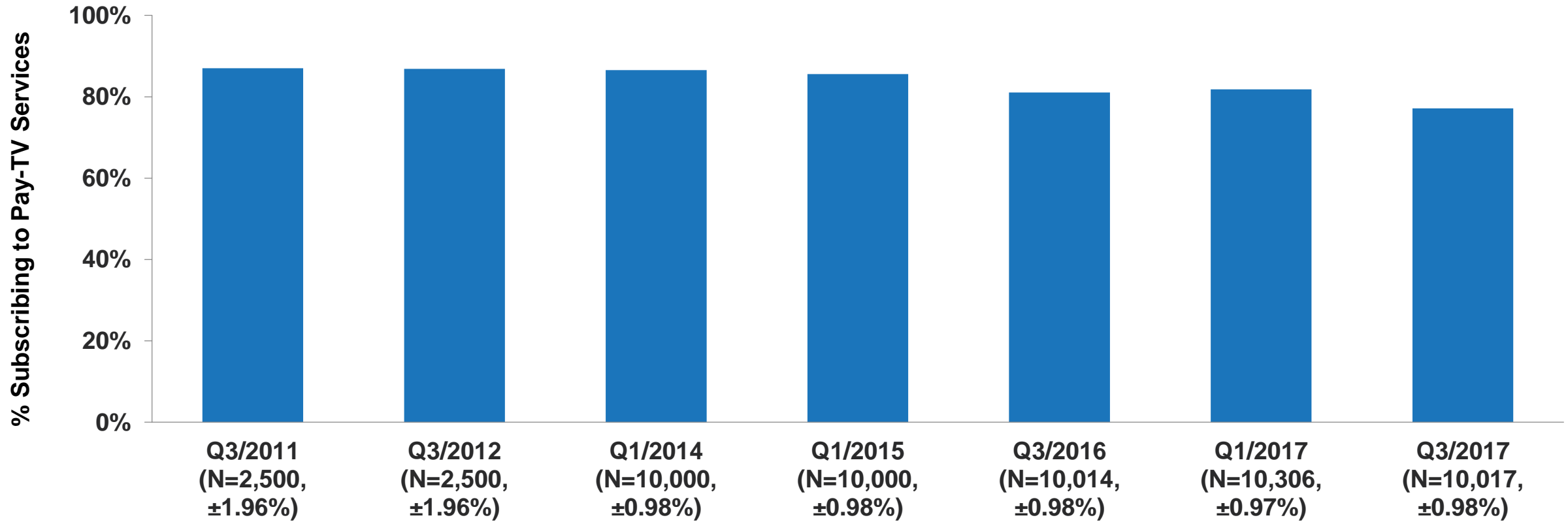
Growth in Connected Entertainment

The New Landscape for Video Services

The Decline of Pay TV

Pay-TV Service Subscriptions (2011 - 2017)

Among All U.S. BB HHs



Transition in the Pay TV industry

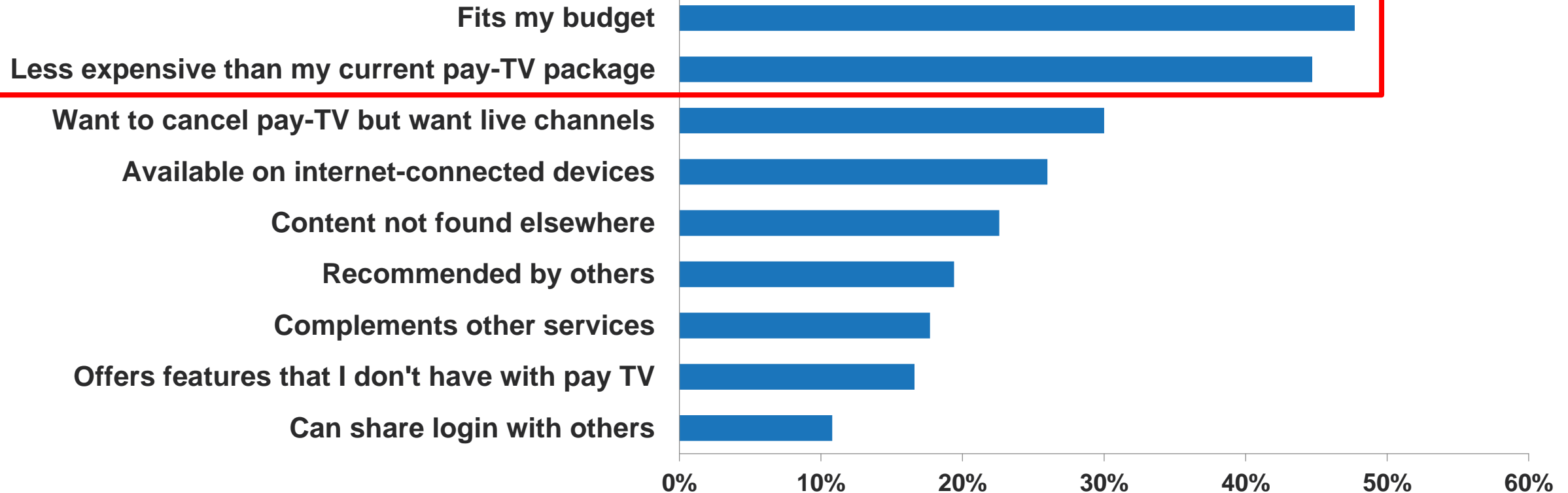
- New pay TV services and competition
- New economics and content funding
- New positioning and branding
- Market consolidation



Consumers and Perceived Value

Reasons for Subscribing to an Online Pay-TV Service (2018)

Among U.S. Broadband Households Subscribing to an Online Pay-TV Service

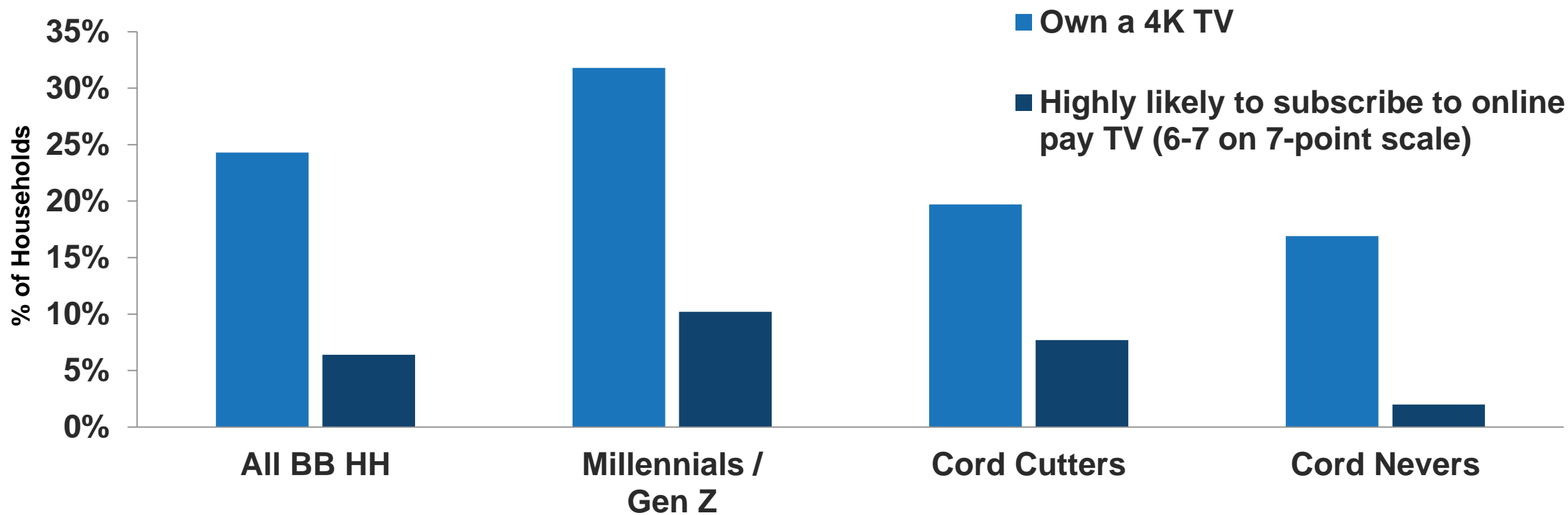


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Difference in Opportunity

Interest in Video: Young Consumers, Cord Cutters, and Cord Nevers (Q1/18)

Among U.S. Broadband Households



Transition in the Pay TV industry

- New pay TV services and competition
- New economics and content funding
- New positioning and branding
- Market consolidation

Changes in devices and consumption

- Streaming media players vs. smart TVs
- Live is moving online
- Alternative, short form, and social video



New market threats

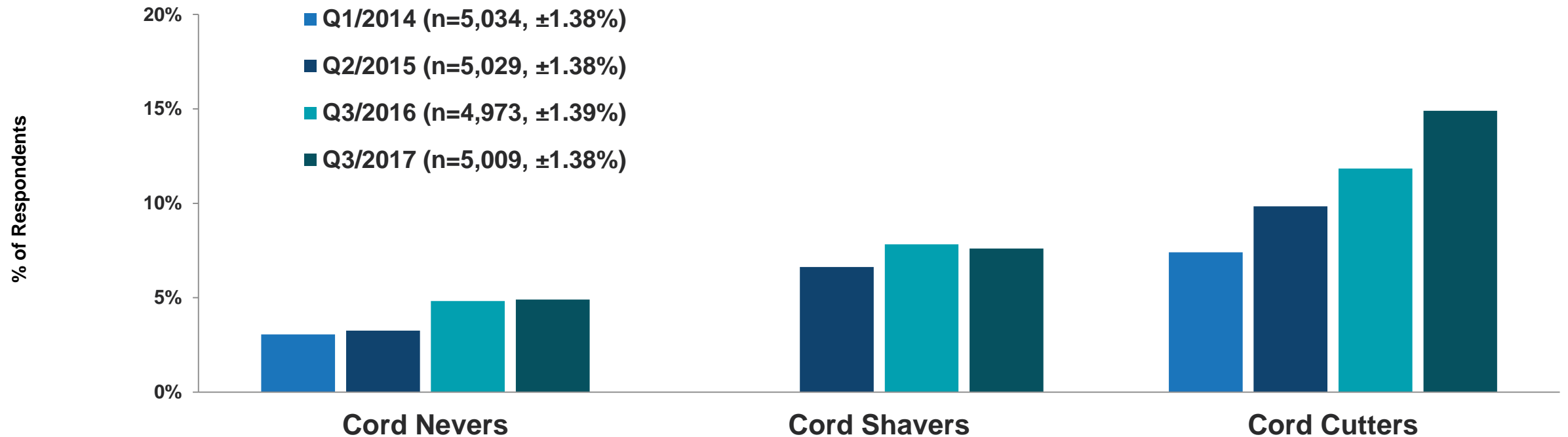
- Cord Cutters and Cord Nevers
- Data security and privacy
- New business models



Cord Danger

Cord-Shavers, Cord-Cutters, & Cord-Nevers (2014 - 2017)

Among U.S. BB HHs Surveyed

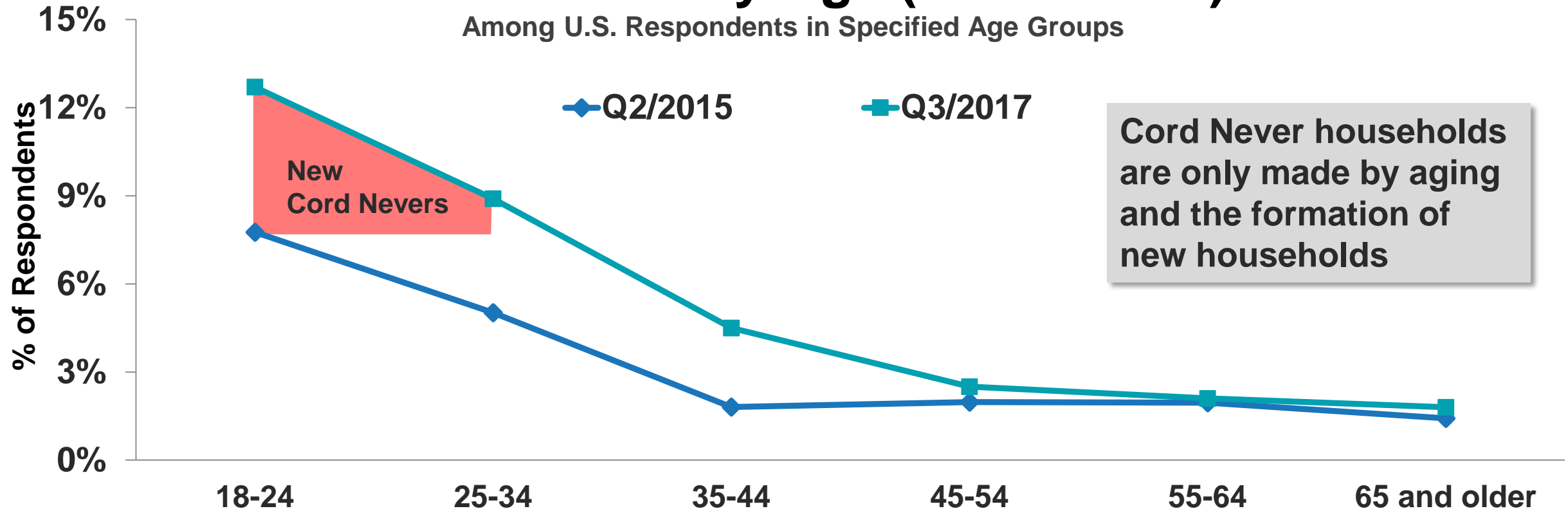


"Q5615. When was the last time you subscribed to TV service?" & "Q6004. On which of the following does your household watch movies and TV shows through the Internet?" | Source: Multiple Surveys: American Broadband Households and Their Technologies | © 2017 Parks Associates

The Cord Never Wave

Cord Nevers by Age (2015 - 2017)

Among U.S. Respondents in Specified Age Groups



"Q5615.When was the last time you subscribed to TV service? DM6004, On which of the following does your household watch movies and TV shows through the Internet?" | Source: Multiple Surveys: American Broadband Households and Their Technologies | © 2016 Parks Associates

Areas of innovation / change:

Delivery performance

Service definition

Business models

Sales channels

Brand

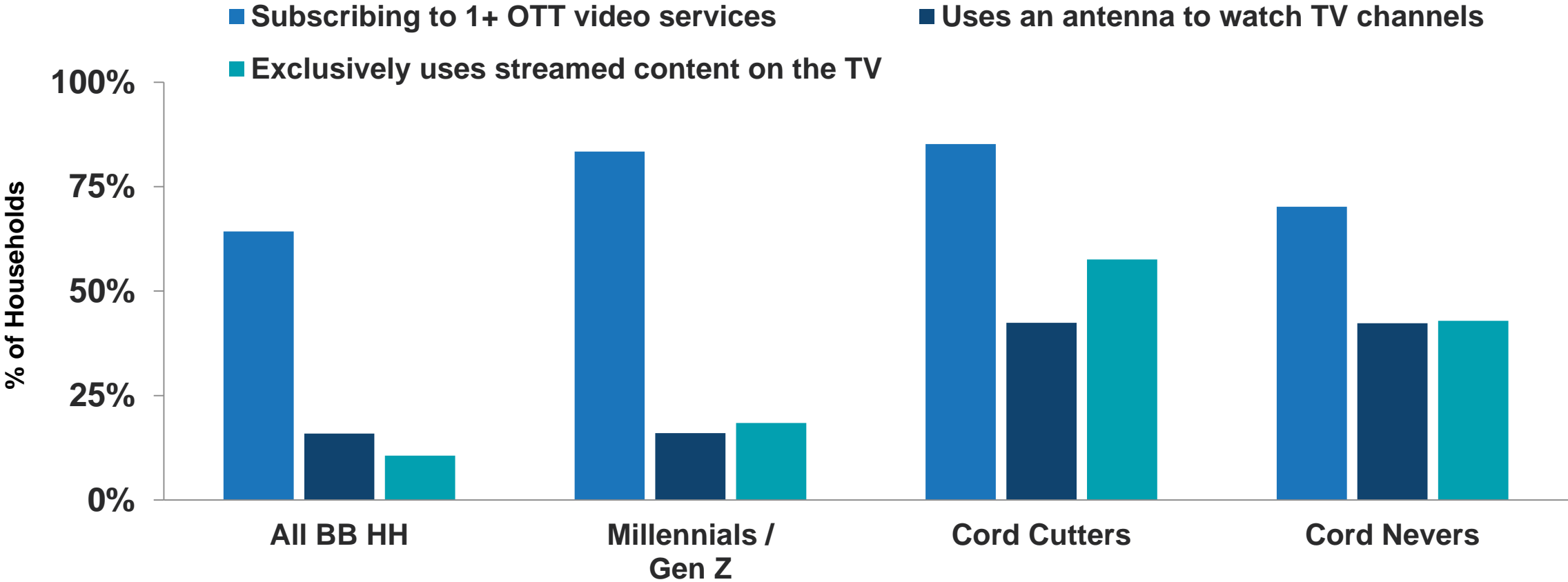


Growth in Connected Entertainment

OTT and the Next Generation Viewer

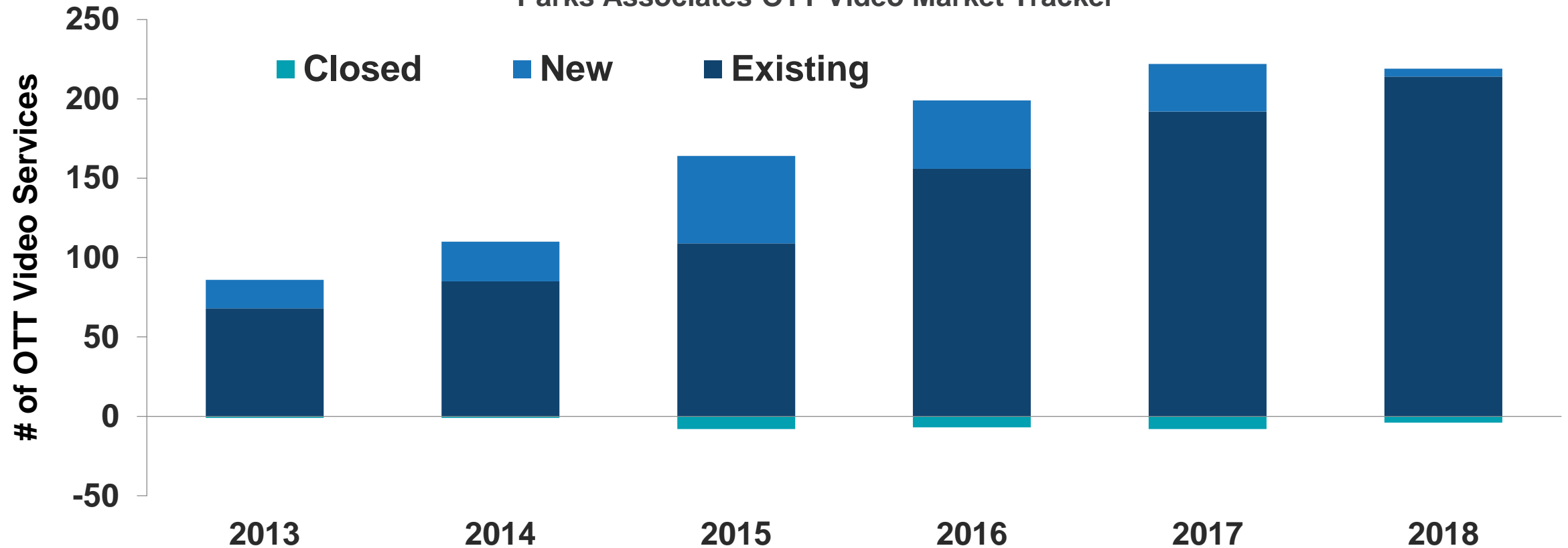
Differences in Video Sources and Use

Sources and Use of Video: Young Consumers, Cord Cutters, and Cord Nevers Among U.S. Broadband Households



United States OTT Video Services, 2013-2018

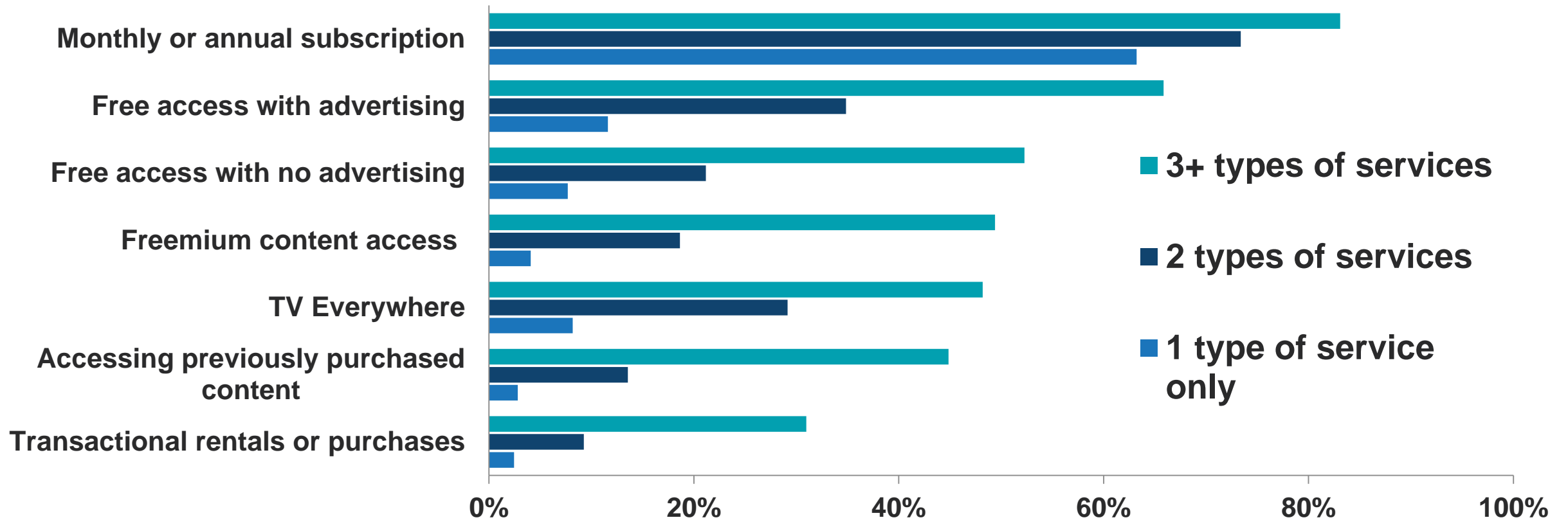
Parks Associates OTT Video Market Tracker



Disrupted Service Acquisition

Number of Video Service/App Types Used to Access Internet Video (Q3/17)

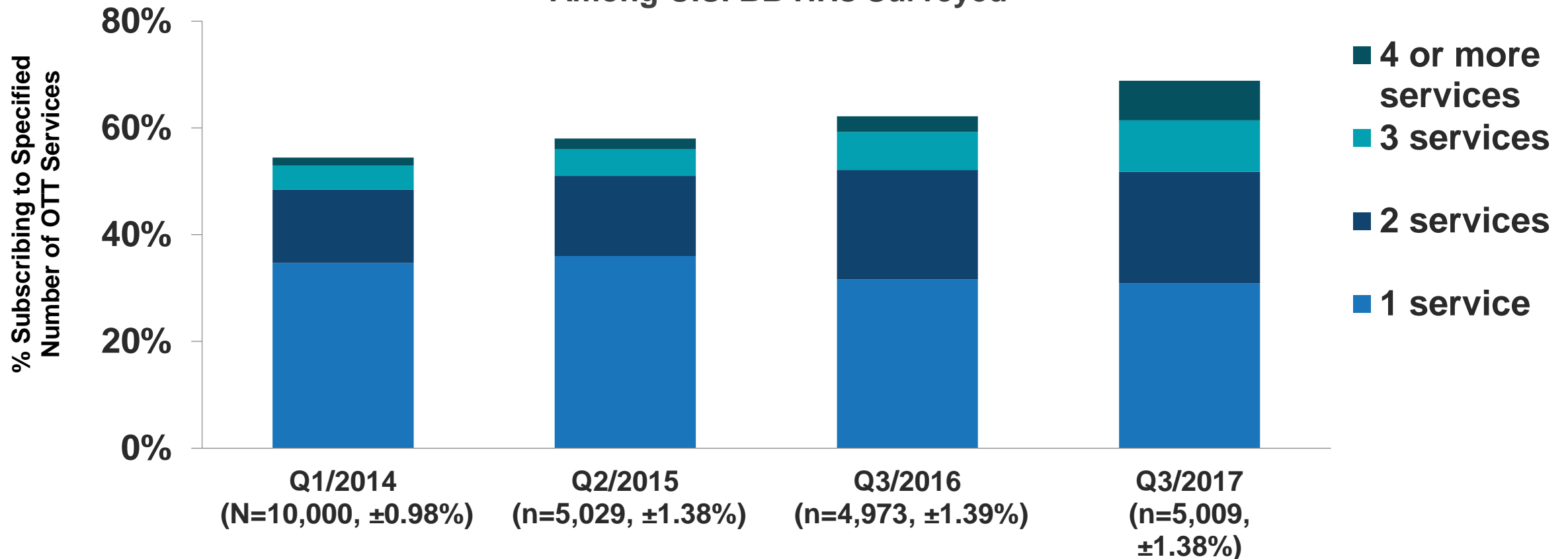
Among U.S. BB HHs, n = 5,009, $\pm 1.38\%$



Adoption of Video Services

Number of OTT Service Subscriptions (2014 - 2017)

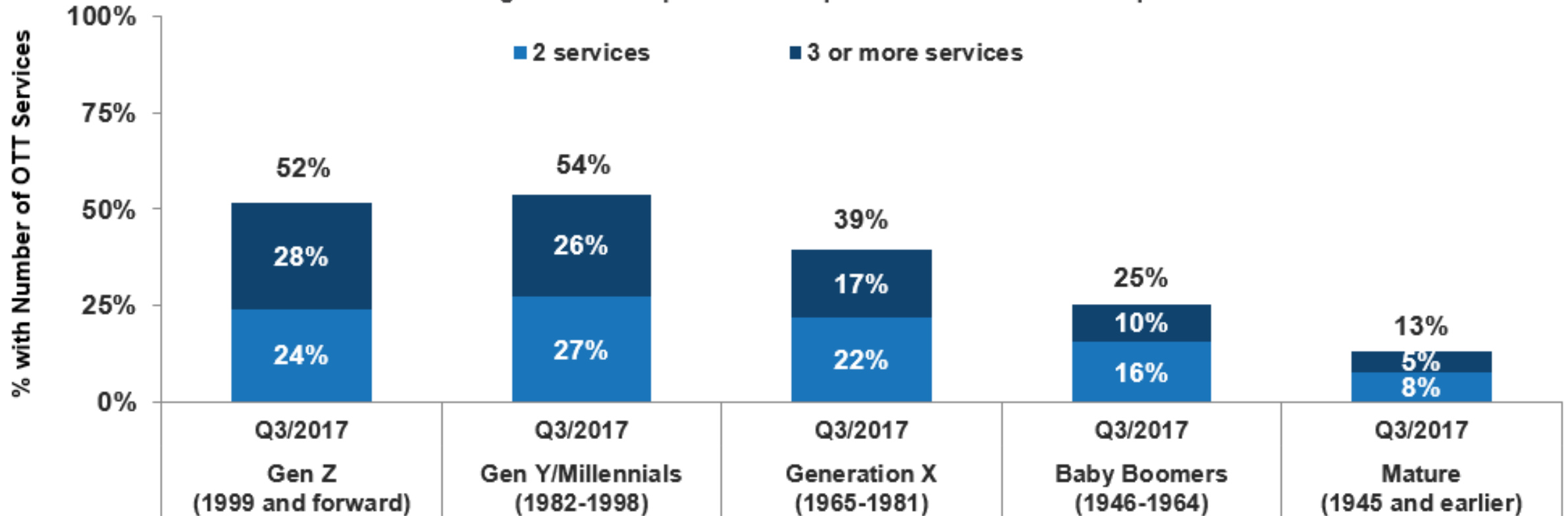
Among U.S. BB HHs Surveyed



Millennials and OTT Subscriptions

Number of OTT Service Subscriptions by Generation (Q3/17)

Among U.S. BB Respondents in Specified Generational Group



"DM8005/DM8006/DM8010. To which of the following video services does your household subscribe?"
Source: Multiple Surveys: American Broadband Households and Their Technologies | © 2017 Parks Associates

Emergence of the OTT Middle Class

Originally Netflix, Amazon, Hulu and everyone else

Services emerged from the pack in 2016/2017

Mix of steady growth players and fast growing services



Keys to growth: Original content, Recognized brands, Live TV channels / content (including sports)

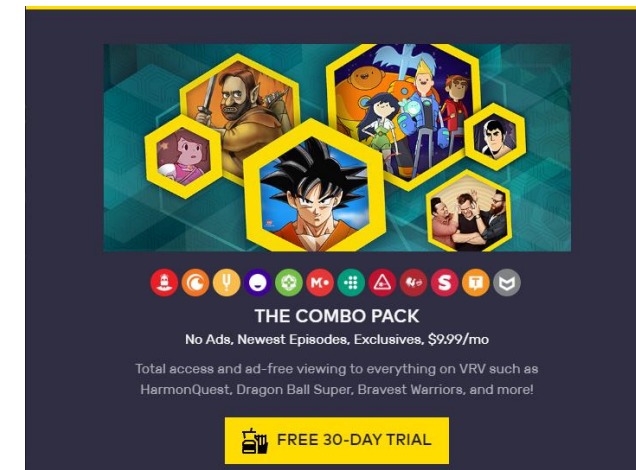
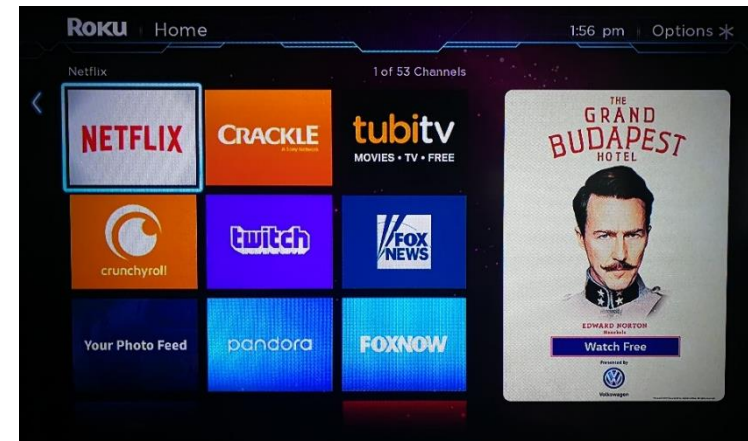
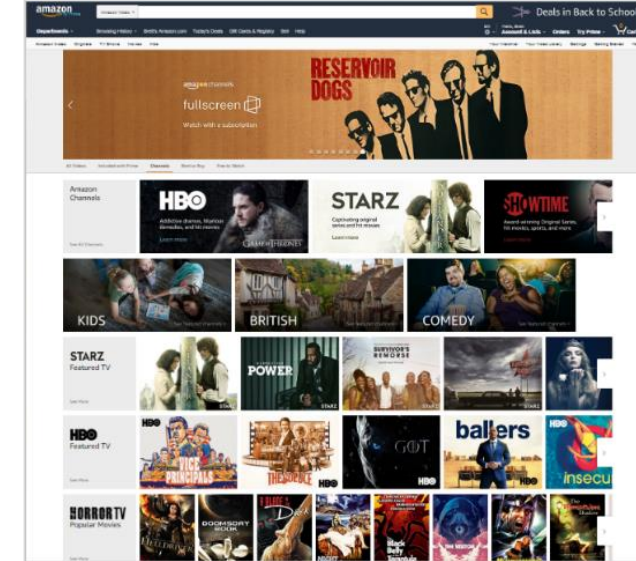
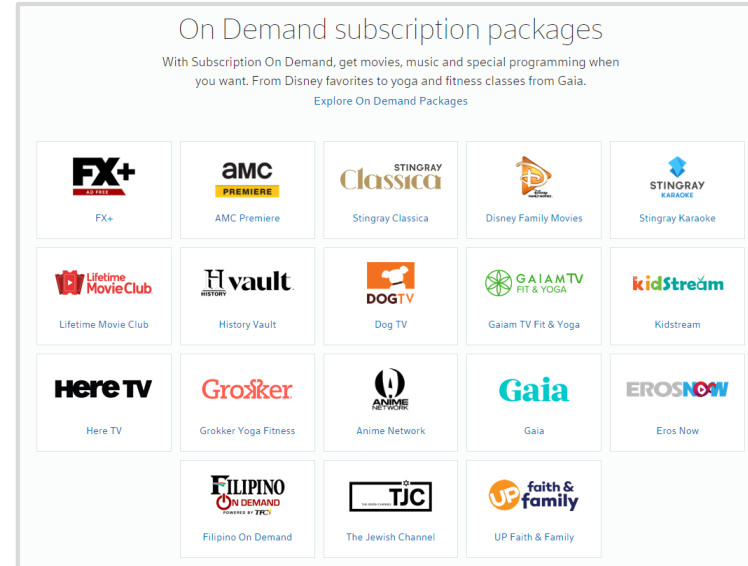
Traditional pay-TV providers

CE makers

Subscription OTT aggregators

Online pay-TV services

Ad-based OTT aggregators



Takeaways

Consumers are subscribing to more services

Free complements rather than replaces subscription

Partnerships and aggregation are bringing OTT and pay TV together



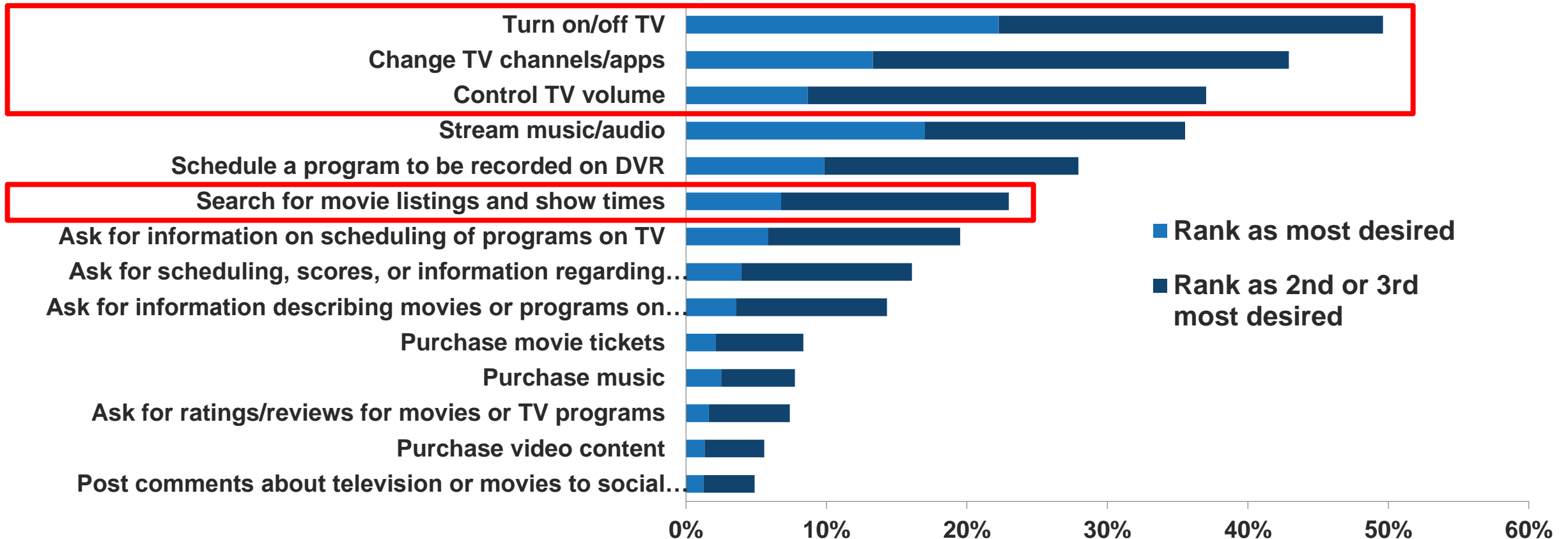
Growth in Connected Entertainment

Voice and Entertainment

Entertainment and Voice Functions

Most Desired Function to Perform Using Voice Control

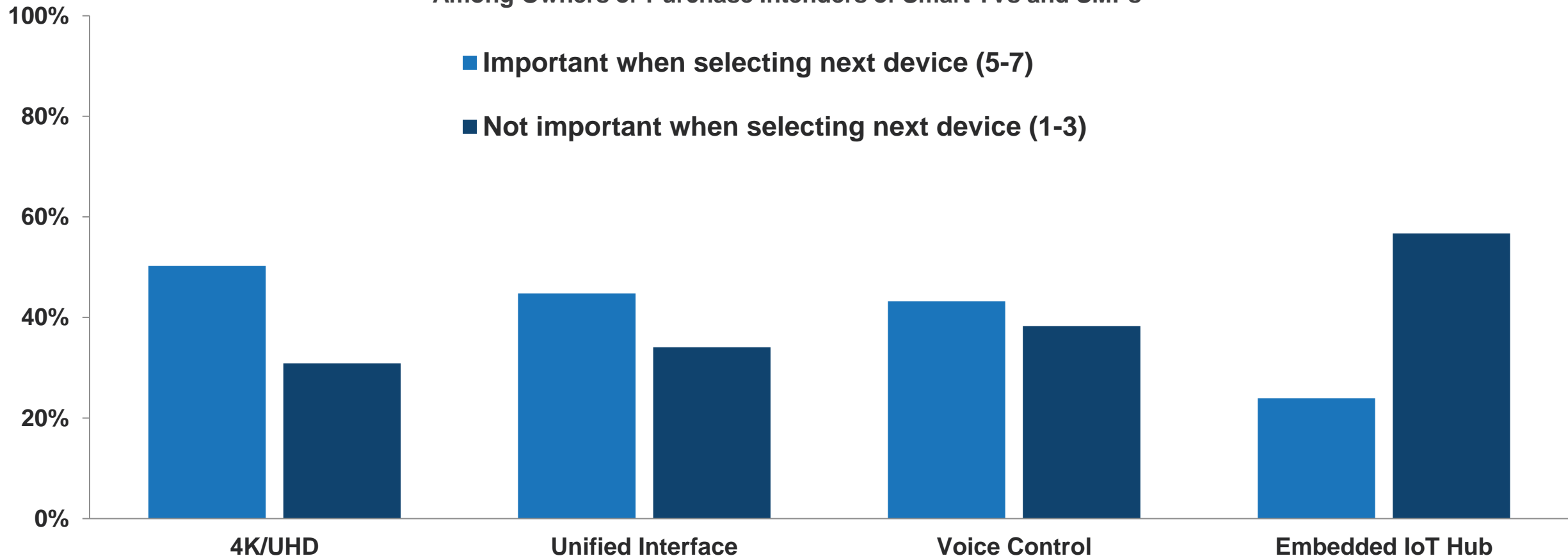
U.S. Respondents Using a Voice-Enabled Assistant Device/App



Importance of Voice

Important Features When Selecting Next SMP or Smart TV (Q1/18)

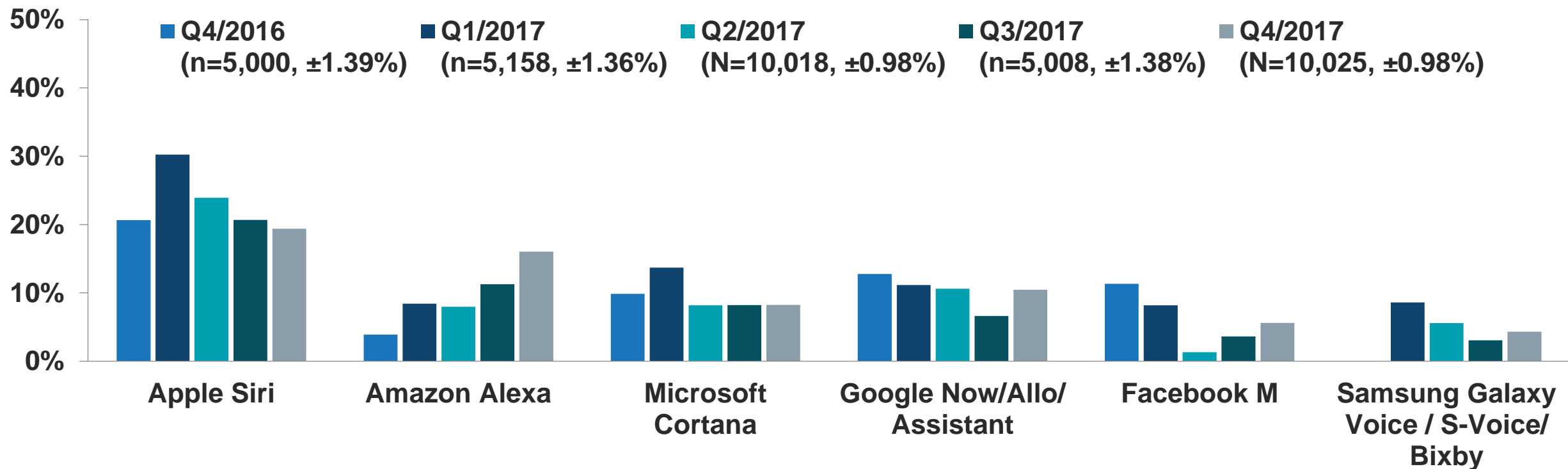
Among Owners or Purchase Intenders of Smart TVs and SMPs



Personal Assistants

Personal Assistant App Use (2016 - 2017)

Among U.S. BB HHs Surveyed



Claiming a Share of the Market

Streaming Media Players

- Using low pricing to build scale
- Promoting ease of use and search

Smart TV

- Quickly increasing product availability
- Lowering price point to expand market

Pay TV

- Using voice to differentiate and add value
- Expanding capabilities beyond entertainment

ROKU

Apple tv

SAMSUNG

NVIDIA SHIELD

amazon fireTV

INSIGNIA

SONY

**BEST
BUY**

Hisense

VIZIO

**Comcast
xfinity**

verizon

dish

"Alexa, go to HGTV."

Frontier
COMMUNICATIONS

New Distribution Channels

- Sales expand beyond traditional connected entertainment retailers
- Partnerships
- Hardware + Hardware
- Service Provider + Hardware

Marketing/Advertising

- Interactive ads
- Data Sales

BED BATH &
BEYOND

ROKU

SONY

amazon **fireTV**

sudden**link**

 **NVIDIA. SHIELD**

comcast
xfinity


FANDANGO



"Alexa, ask Domino's for my Easy Order."

Consumer interest in voice control for entertainment is growing.

Voice is now part of the entertainment CE purchasing decision.

Multiple competing platforms exist.

Many companies are moving into the space, creating new business opportunities.

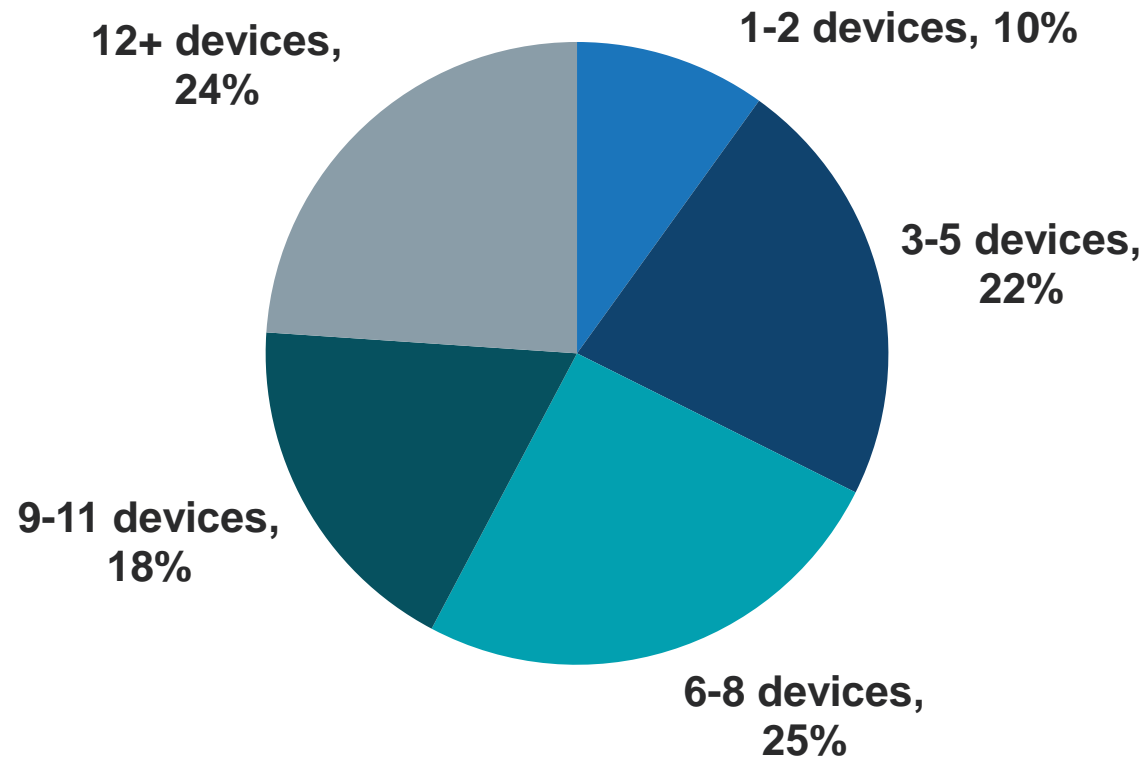
Growth in Connected Entertainment

Connected CE

Connected CE Ownership

Total Number of Connected CE Devices Owned (Q1/18)

Among U.S. BB HHs Surveyed, n = 5,011, $\pm 1.38\%$



Household Average: 6-8 internet connected devices

The most commonly owned devices (HH Avg):

Smartphones (1.6 per HH)

Laptops (1.4 per HH)

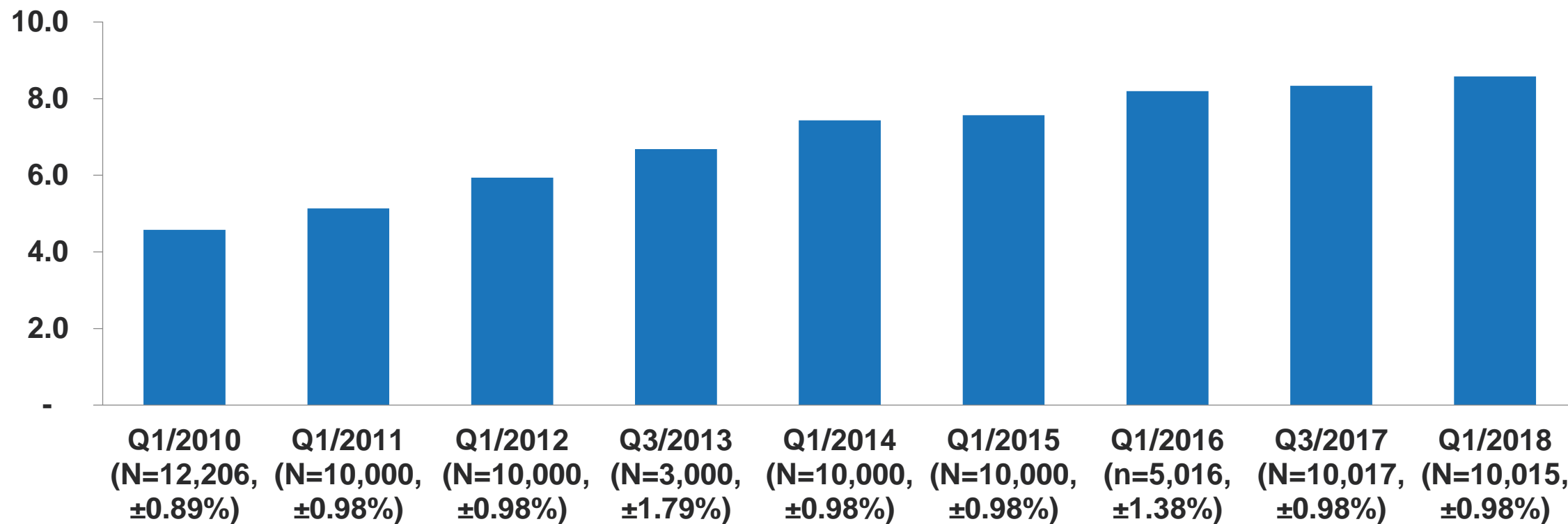
Tablets (1.1 per HH)

Gaming Consoles (1 per HH)

Number of Connected Devices

Total Average Number of Connected Devices Owned Per BB HH (2010 - 2018)

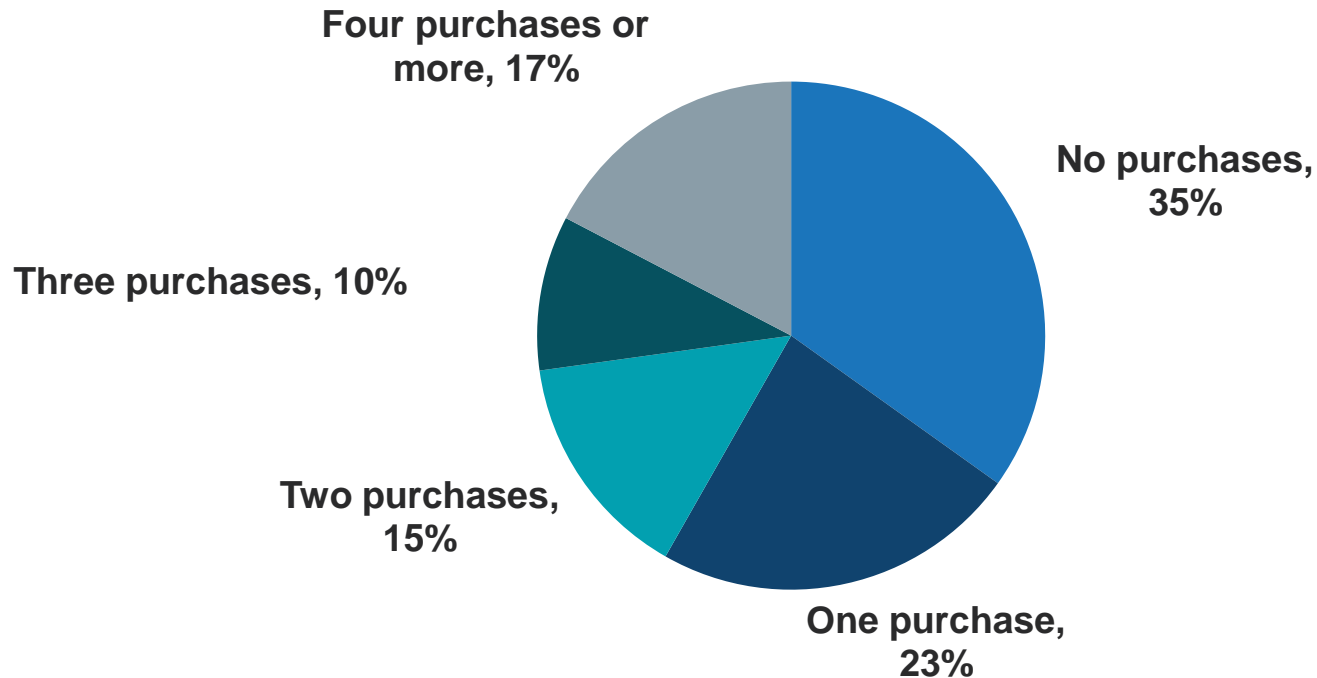
Among All U.S. BB HHs, Outliers Excluded



Number of Purchases

Number of CE Purchases in 2017 (Q1/18)

Among U.S. BB HHs, N=10,015, $\pm 0.98\%$



2/3 of broadband households **purchased at least one CE product in 2017.**

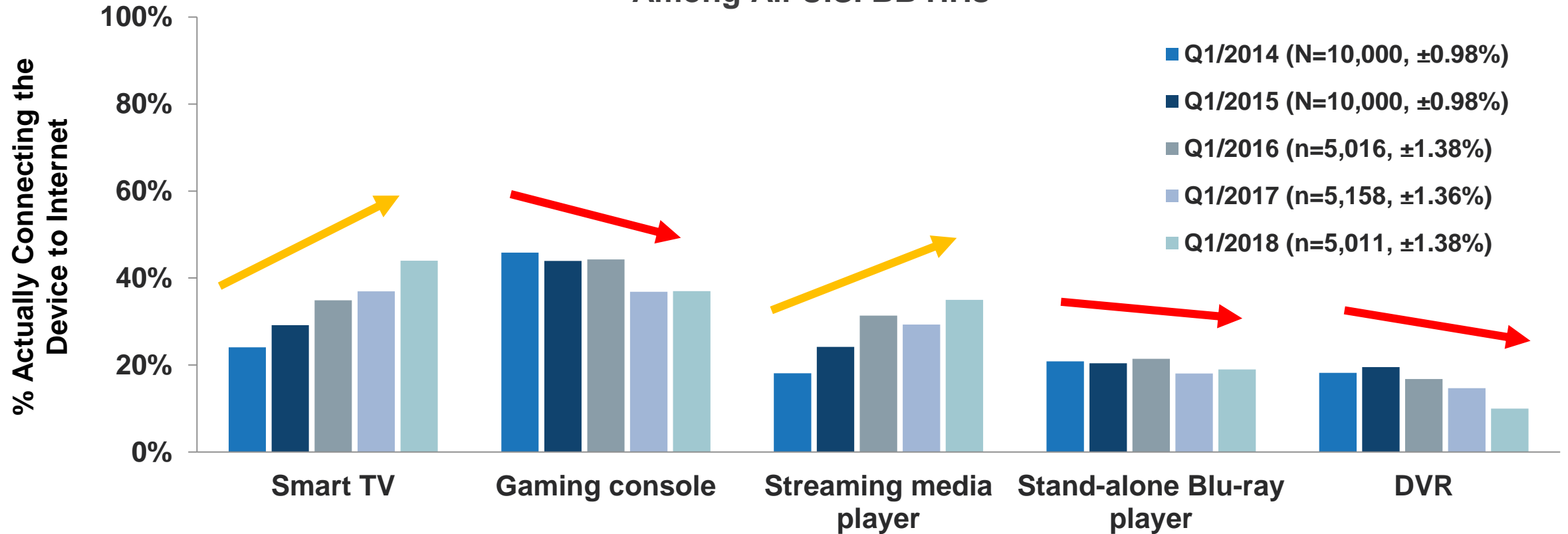
In 2017 consumers **purchased an average of 1.86 devices per household**, down from an average of 2.2 devices per household in 2016.

"CT2105. Please tell us how many of these products your household purchased or received in the year 2017?" | Source: American Broadband Households and Their Technologies Q1 2018 | N=10,015, $\pm 0.98\%$ | © 2018 Parks Associates

The Rise of the Streaming Devices

Internet-Connected In-Home Entertainment Device Ownership (2014 - 2018)

Among All U.S. BB HHs

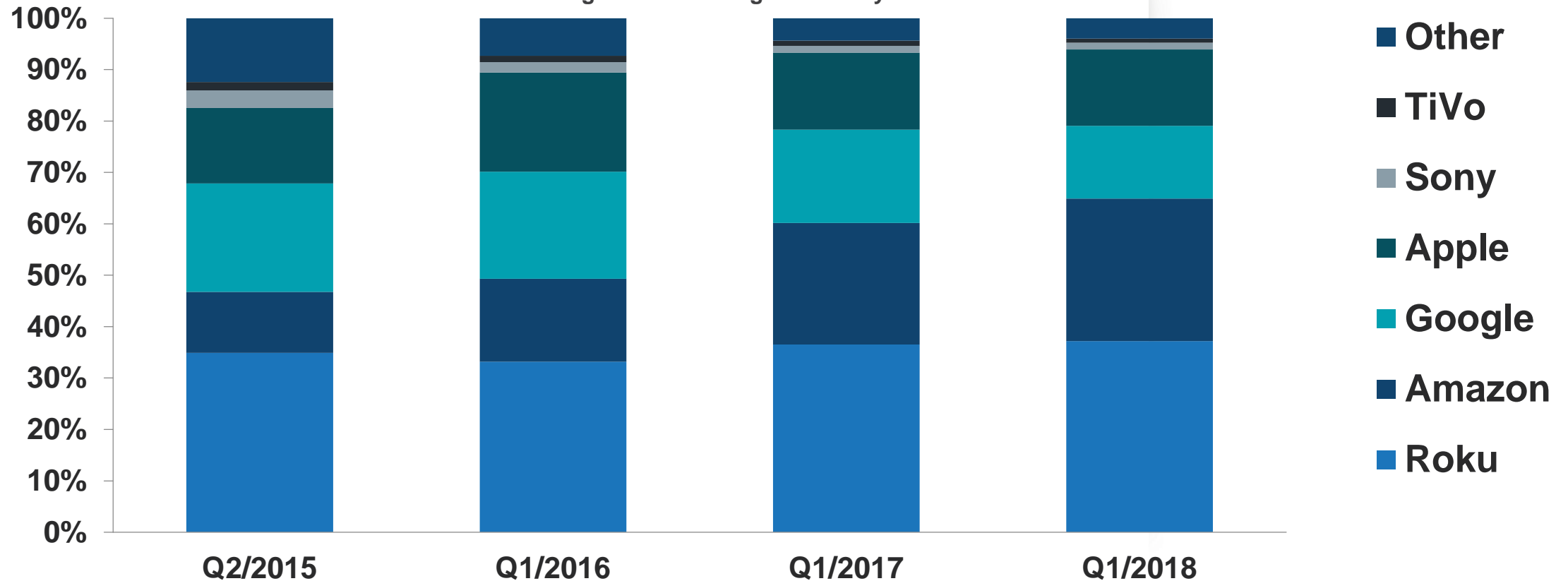


"Q2204. How many of the following products that you own are actually connected to the Internet?"
Source: Multiple Surveys: American Broadband Households and Their Technologies | © 2018 Parks Associates

Watch Roku and Amazon

Streaming Media Player: Brand Share by Installed Base (2015 - 2018)

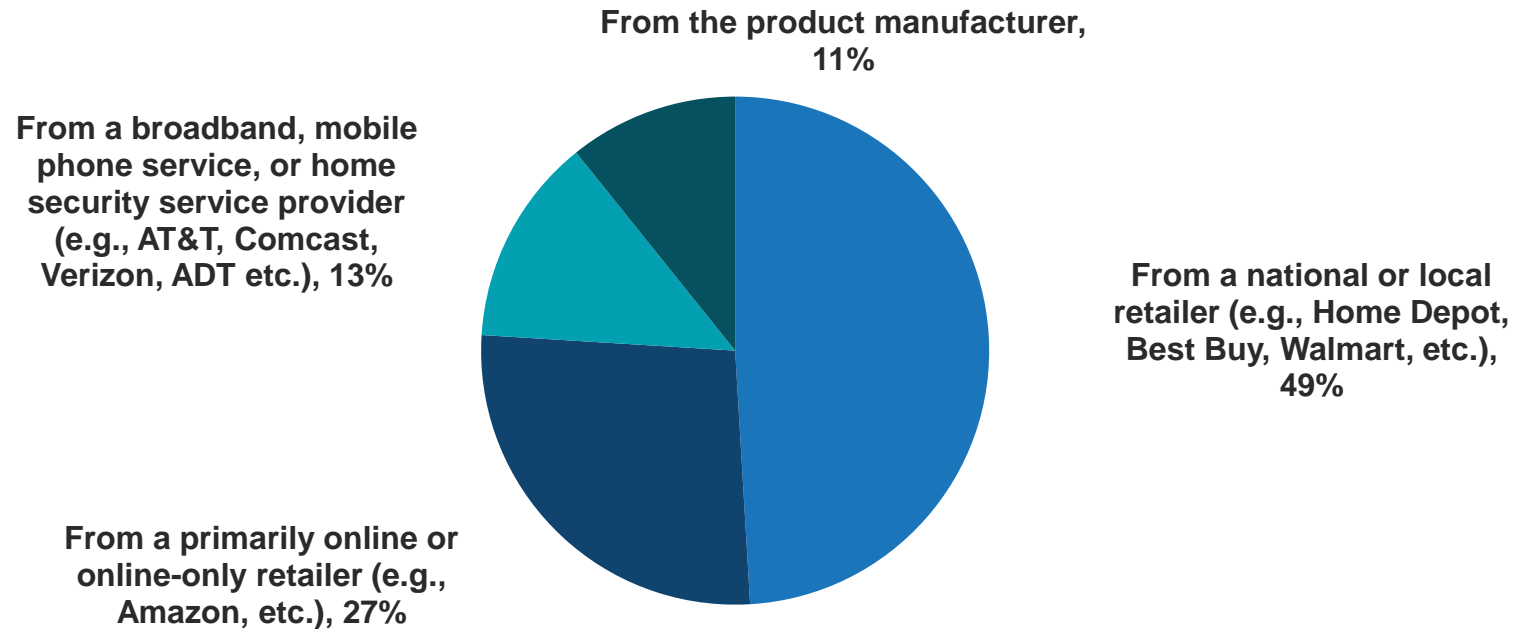
Among U.S. Streaming Media Player Owners



Purchase Channels

Where Consumers Purchase CE Products (Q1/18)

Among CE Devices Last Purchased by Consumers, n=18,057, $\pm 0.73\%$



1/2 of consumers purchase from a national or local retailer

1/4 purchase from an online retailer

"CT2125. From what type of company did you buy the following...?" | Source: American Broadband Households and Their Technologies Q1 2018 | N=10,015, $\pm 0.98\%$ | © 2018 Parks Associates

Key Takeaways

Purchasing of connected devices has slowed over the past four years.

- Decline in smartphone and TVs lowers purchase expectations for 2018
- Smart speakers, smart TVs and streaming media players are hot coming into late 2018.

70%+ of U.S. broadband households owned connected CE devices.

Smart watches poised for a breakout—one in six U.S. BB HHs owns one.

Join Parks Associates at Upcoming Events

PARKS
ASSOCIATES

CONNECTED HEALTH SUMMIT:

Engaging Consumers

August 28-30, 2018

San Diego, CA



CONNECTIONS™ Summit at CES:

Consumer IoT and Smart Home

January 8, 2019

Las Vegas, NV



CONNECTIONS™ Europe: Strategies for the Smart Home and Consumer IoT

November 13-14, 2018

Amsterdam, The Netherlands



Smart Energy Summit:

Engaging the Consumer

February 18-20, 2019

Austin, TX



Future of Video: OTT, Pay TV, and Digital Media

December 10-12, 2018

Marina del Rey, CA



CONNECTIONS™: The Premier Connected Home Conference

May 21-23, 2019

San Francisco, CA

