2016: Year of the Smart Device

IoT Adoption Benchmark Report

plumchoice®

Z-WAVE® ALLIANCE

Contents

Executive Summary

Smart home devices promise to make consumers' lives better in virtually every way imaginable. This includes everything from making our homes more energy efficient, to helping us meet our health and fitness goals, to accessing the Internet and video content whenever we want it.

For these smart home devices to deliver on this promise, they need to meet consumers' expectations for seamless user experiences that provide a tangible benefit or enjoyment. These optimal user experiences differentiate products in today's noisy connected and smart device markets – and they make or break brand success.

The good news is that, in 2016, the pace of consumer adoption of smart home devices took a quantum leap forward, and the industry is ripe with opportunity. IHS Markit predicts that 80 million smart home devices were delivered around the globe in 2016. This is a 64% increase from the year prior.

Consumers are more aware of and paying closer attention to the possibility of smart home products improving their lives. They continue to look for ways to integrate smart home devices into their increasingly connected lives, and become "smarter" about how they can install and use these devices themselves.

This benchmark study, sponsored by PlumChoice and the Z-Wave Alliance, helps device makers and their partners understand which connected and smart home devices are most often purchased, why consumers are purchasing them, and what their expectations are for service and support from brands.

KEY INSIGHTS

The % of **consumers who said they own a smart device grew** by a factor of **2.5 times** between 2015 and 2016.

97% of consumers say they know what a smart device is.

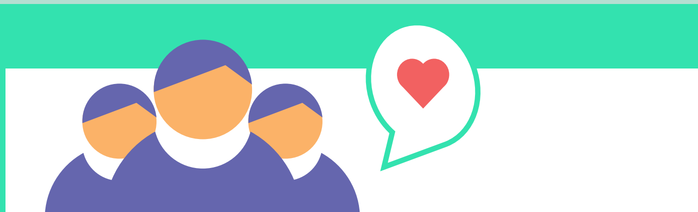
79% report owning a smart device.

Devices like **appliances, watches and lights**, are showing **double-digit growth** and **adoption** year-over-year.

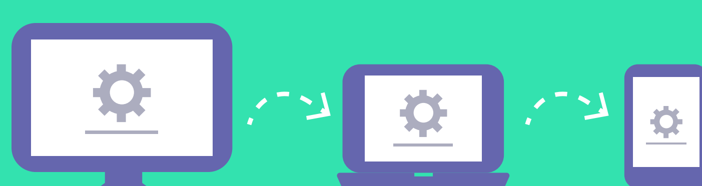
While **men and younger generations** appear to be slightly more interested in making smart device purchases, **women and older generations** aren't far behind.

A majority (36%) of consumers still report owning a total of four to six of these devices. This trend has remained the same since 2015.

61% say some of their devices are interconnected.



Overwhelmingly, consumers said that a brand's ability to provide the help they need to use and enjoy products impacts their decision to buy from that brand again.



The expectation for all types of services and support from brands increased since 2015, with installation support listed as a top need (68%).

Smart Device Ownership & Awareness

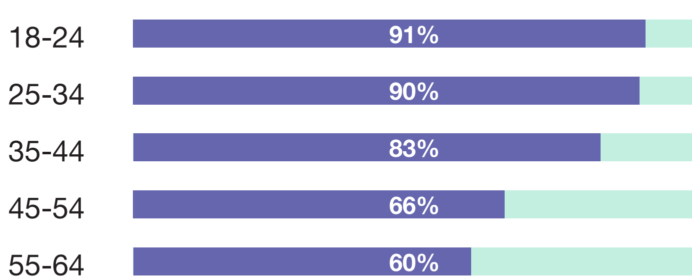
Just a few years ago, smart devices were seen as a “nice to have.” They were viewed as gadgets for the wealthy and technically savvy. Most consumers didn’t see the need for this level of technology in their pockets, homes or offices, and they believed the devices were too expensive. As a result, smart device adoption was low.

In 2015, 67% knew what smart devices were. In 2016, 97% said they knew the term.

That thinking changed drastically in 2016. Research from Juniper shows sales of smart home hardware and services – from big players like Amazon, Apple and Google – are expected to hit $83 billion in 2017 and rise to $195 billion by 2021. The hardware and services from these companies, namely Amazon Echo, Apple HomeKit and Google Home, likely contributed to making smart home products feel more approachable and accessible. Note that in 2015, only 67% of consumers said they knew what a smart device was. A year later, nearly all consumers surveyed – 97% – said they’re familiar with this term.

In 2015, an astounding 78% of consumers said they did not own a smart home device, but that number shrank to 19% in 2016. The remaining 79% said they do own a device, and 2% were “unsure.” We repeat: 79% of all consumers say they own at least one smart device. Slightly more men (81%) than women (78%) reported owning a smart device. This uptick in device adoption is likely a result of the aforementioned

Smart Device Owners by Age



“Ninety-one percent said they will buy another smart product in the next two years.

increase in awareness and availability, and a wider array of devices that don’t simply entertain, but offer convenience, simplicity, cost savings, security and, in some cases, healthier lifestyles.

Eighty-six percent of renters own smart devices while only 75% of homeowners say the same.

Though gender doesn’t have a significant impact on smart device adoption, other factors like age and homeownership tell a different story. Not surprisingly, younger consumers who have grown up with technology at arm’s reach adopt at a higher rate. While 91% of 18 to 24 year olds report owning a smart device, 60% of those 55 and older say the same.

Though one might expect that more homeowners are investing in smart products to simplify their lives or consolidate controls/resources, the research found that renters (86%) reported owning more smart devices than people who own their homes (75%). This might be due to the fact that younger populations are adopting smart products at a higher rate and these people have yet to purchase their own properties.

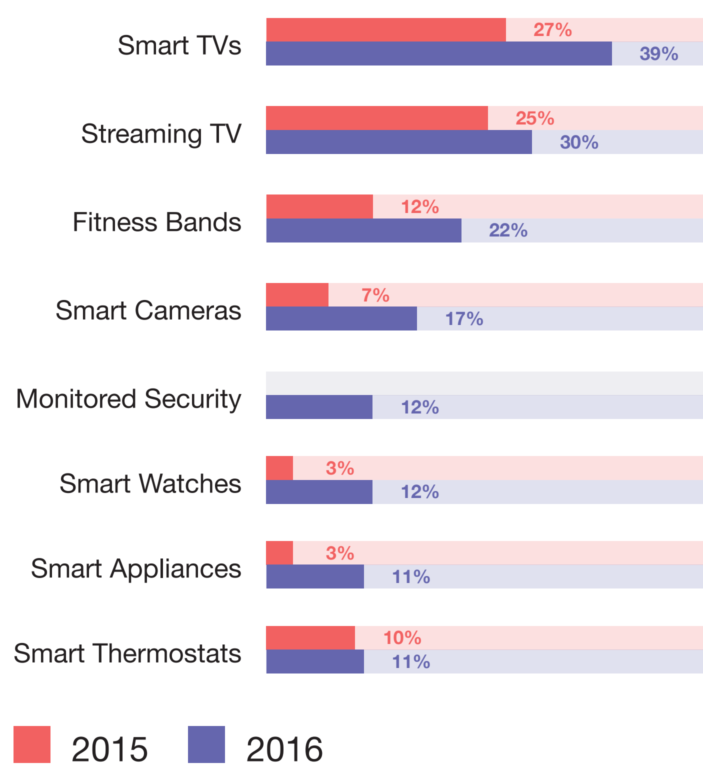
So, what does the future hold for smart home purchases? More people plan to buy smart devices in the years to come. Fifty-two percent of consumers said they plan to make a smart purchase within the next two years – and that is more than double the number of people who said this in 2015 (26%). Of the current smart device owners, 84 said they may buy another smart product in the next two years, meaning that they’re enjoying these products and deriving value from them.

What Are They Buying?

Nearly 80% of all consumers now report owning a smart home device, but when you look at individual product adoption, the numbers are still fairly low. For instance, smart TVs, TV streaming devices (like Roku, Apple TV and Google's Chromecast), and fitness bands are now fairly mainstream, but only 39%, 30% and 22% of consumers report owning them, respectively. However, adoption is growing at nearly 100% year-over-year for some products.

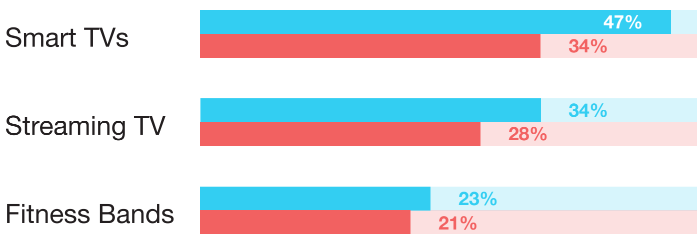
Smart watches, smart appliances, smart smoke detectors and smart cars led with the most year-over-year growth. For instance, while only 2% of consumers said they owned a smart car in 2015, 6% of respondents reported owning one in 2016.

Percentage of Product Adoption

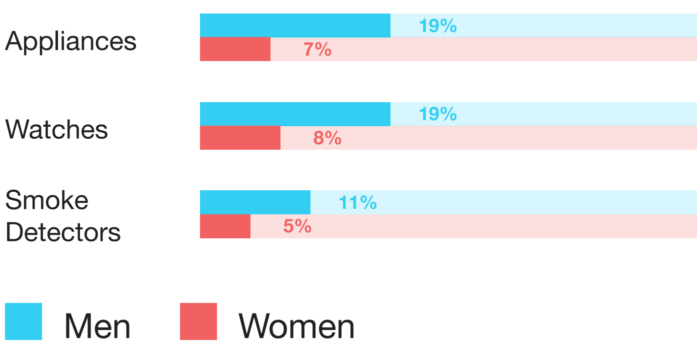


In 2016, individual device adoption increased in every category. That momentum will continue through 2017.

Top Devices Owned by Gender



Other Smart Devices Owned by Gender



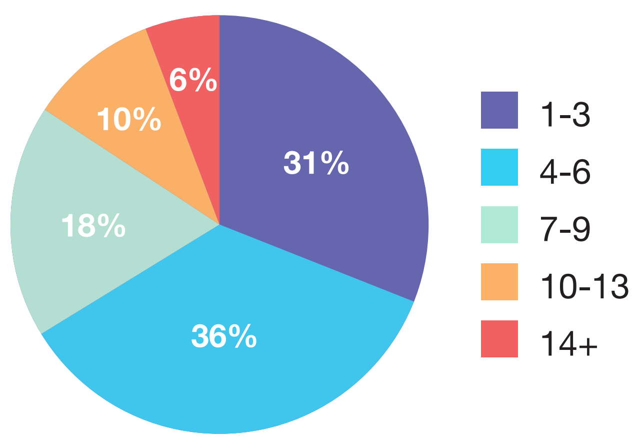
Though adoption of both connected and smart products is on the rise, a majority (36%) of consumers still report owning a total of four to six of these devices. Thirty-three percent report having more than seven devices in their homes and 16% report having more than 10.

Of those who said they own 10 to 13 devices, 46% were 25 to 34 years old. Also, more men (19%) than women (13%) reported owning devices in the double digits.

When examined by age and gender, smart device ownership shows similar top product adoption trends. Though more men than women report owning smart devices, the genders both favored smart TVs, streaming TV devices and fitness bands. Age did not affect these preferences, either.

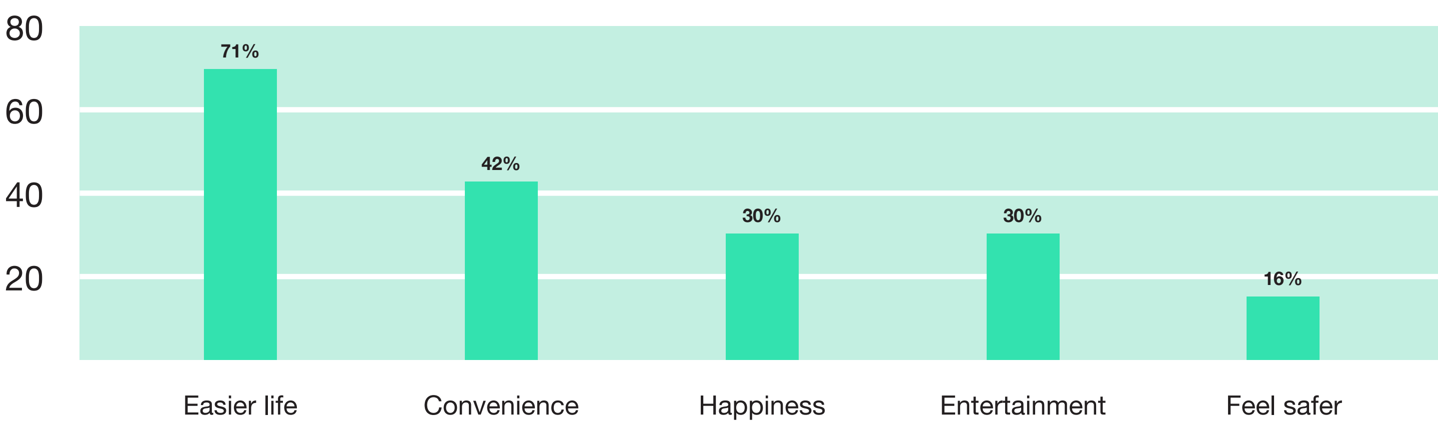
For other smart devices, however, more than twice as many men than women reported owning many products. For example, men outnumber women by quite a bit in smart appliance, smart watch and smart lights ownership.

Number of Connected Devices Owned



Interoperability becomes a key factor as consumers add more connected devices.

What are the Benefits of Interconnected Smart Devices?

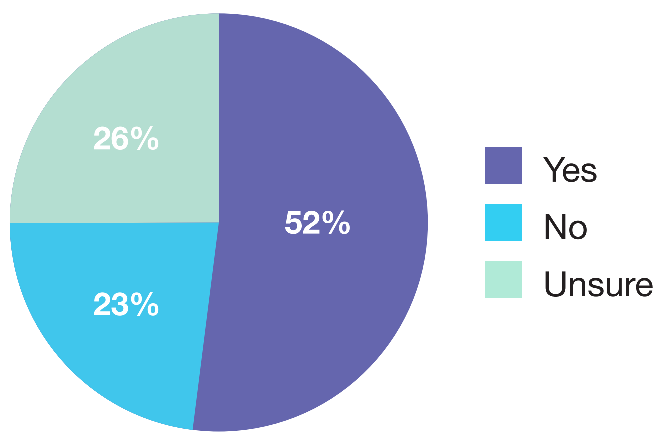


So, how many of these devices are talking to each other? According to respondents, 61% say some of their devices are interconnected. In fact, nearly one-third (31%) say three or more of their devices are interconnected.

More than two-thirds (69%) of the men surveyed say some of their devices are interconnected, while 57% of women say the same. Men and women agree that the top three benefits of device interconnectivity are: Making life easier (71%), offering convenience (42%), and entertainment (30%). Only 2% of those who interconnected their devices say they find no value in this collaboration.

Plans for Future Smart Device Purchases

Do You Plan to Buy a Smart Device in the Next Two Years?



Not only are consumers paying more attention to the smart device market – and adopting more of these technologies – but they plan to continue exploring smart home devices. In 2015, only 26% of respondents said they have plans to purchase a smart device in the next two years. Conversely, 52% responded in the affirmative in 2016. Note that 2016 was the first year that consumers had a "unsure" option, which now represents 26% of responses.

Men again showed more interest in smart device purchases, with 58% saying they plan to buy in the next two years, and 49% of women saying the same. Women report being more uncertain about their buying decisions, with 28% saying they're unsure about plans to buy a smart device and 22% of men stating the same.

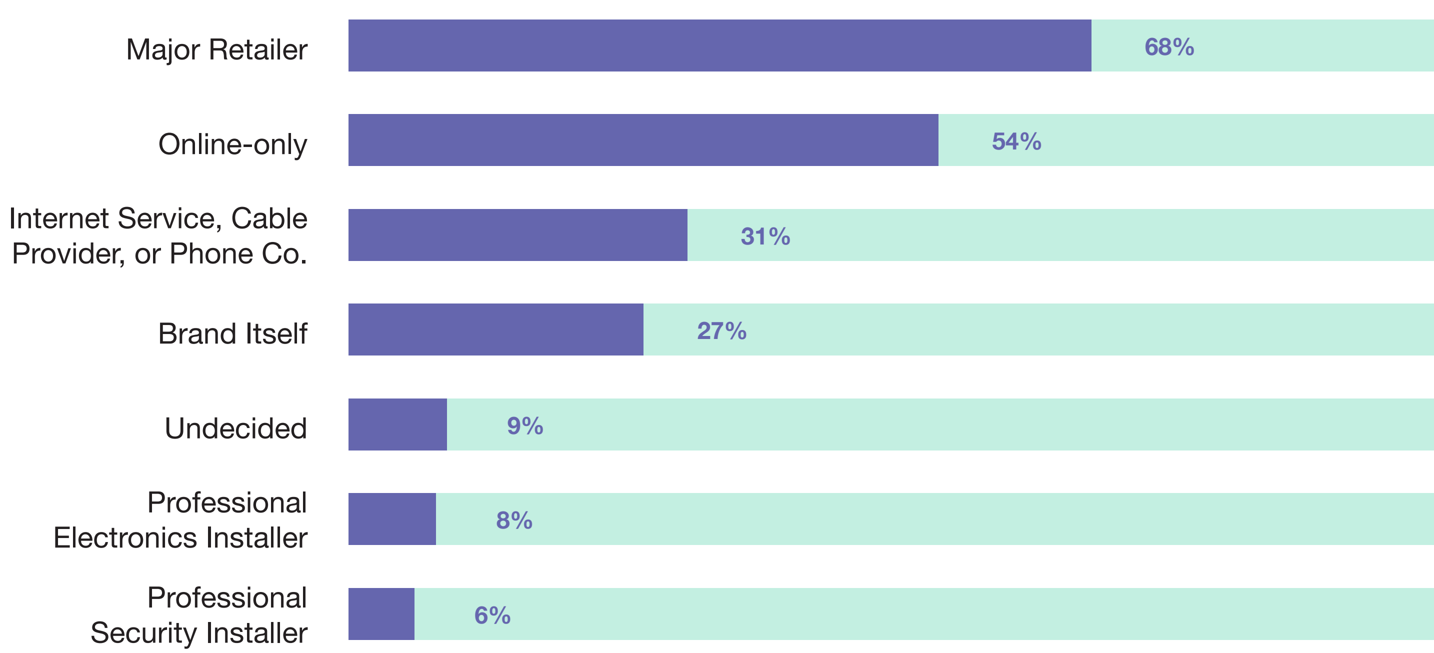
Across all ages and both genders, consumers report being most interested in purchasing smart lights and light switches, smart cameras, smart thermostats and smart TVs in the coming years.

Keen interest in smart TVs, lights and switches, cameras, and thermostats.

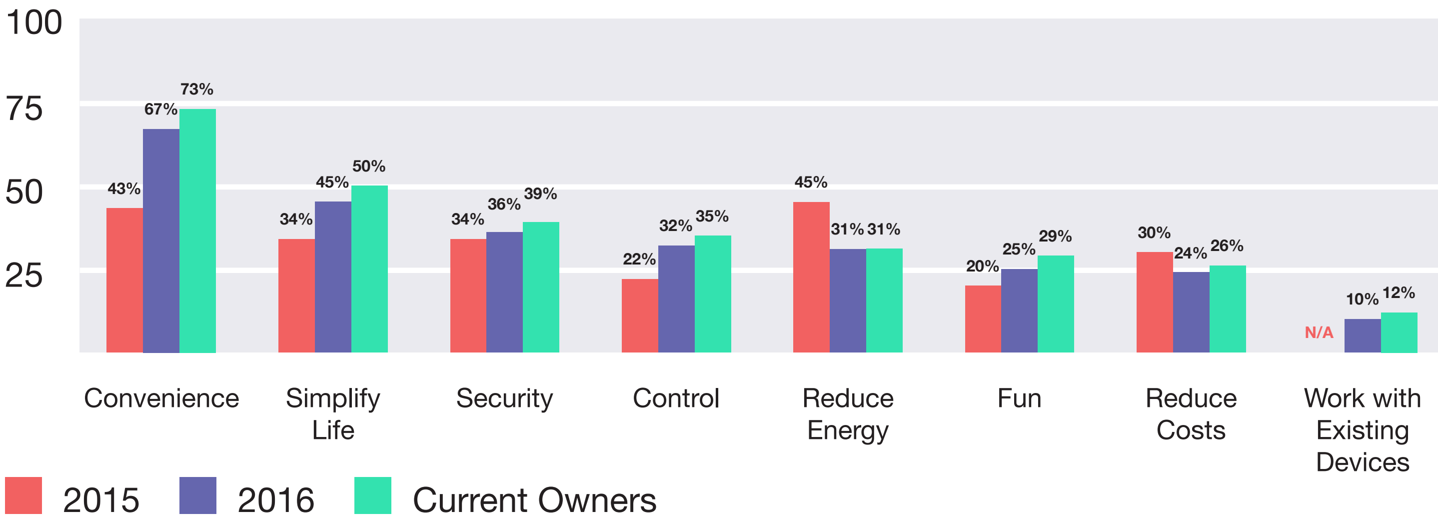
Two-thirds of all consumers say they are planning to buy these devices from major online and in-store retailers (like Lowes, Home Depot, Best Buy, Wal-Mart, etc.) and more than half say the purchases will be made via online-only retailers (like Amazon, eBay, Overstock, etc.). Others will turn to internet service providers (ISPs), cable providers or phone companies, or from the smart device brand itself. Very few will turn to installation companies for the purchase of these devices.

Consumers primarily turn to in-store and online retailers for smart device purchases.

How Are Smart Home Purchases Made?



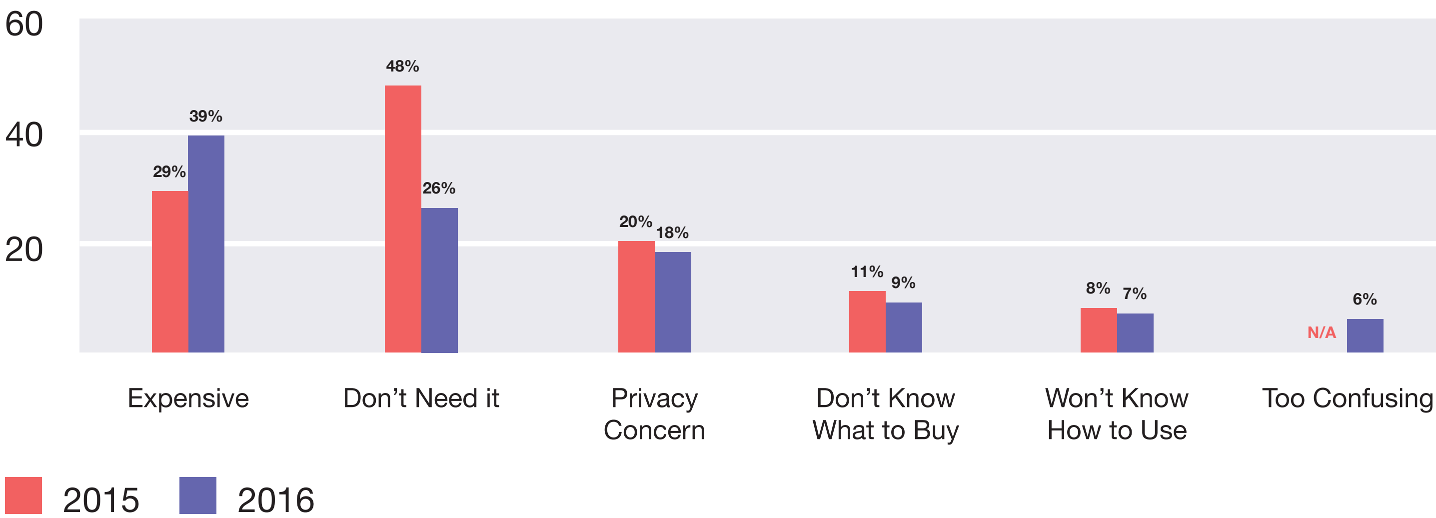
Why Do Consumers Buy Smart Devices?



In 2015, consumers cited cost reduction and energy and resource efficiencies as the top reasons why they might purchase smart devices. However, in 2016 consumers said they were attracted to smart home devices for other reasons, like convenience, simplicity, security and control. In 2016, respondents had an opportunity to select "to work with my existing smart home devices" as a purchase driver, and 10% responded in this manner.

It was particularly interesting to examine the purchase drivers based on who currently owns smart devices. Current owners had a much different take on the benefits of making another smart home purchase, and ranked convenience (73%) and simplicity (50%) as the most important purchase drivers. This suggests that smart device owners are deriving a lot of value and enjoyment from their products, and they're eager to find other products to incorporate into their smart tech ecosystems. Additionally, 12% of current smart device owners said they would consider another device purchase specifically to work with their existing smart home environment. As device adoption continues to grow, integration will become an increasingly important factor in which future devices people plan to purchase, and this number will likely increase year over year.

Why are Consumers Hesitant to Buy Smart Devices?



Consumers need better value proposition and more guidance to embrace smart products.

In addition to sharing why they would make smart device purchases, consumers were asked if they feel hesitant to buy these products. Thirty-seven percent said they are not at all hesitant to buy smart devices. Men said they were less hesitant than women, responding 43% and 33%, respectively. Again, the loyalty of current device owners was apparent, with 41% saying they're not at all hesitant to make another purchase, compared to 18% of non-owners.

When asked why they might be hesitant, respondents showed that they generally understand the value of smart devices more this year and are less concerned about smart device privacy and security challenges. However, more say that these devices are too expensive. Also, 22% said they don't know what products to purchase or how to use them, and that they think the solutions are too confusing. This suggests that there is a need for education and support – and an opportunity for brand owners to underscore the value of these products to alleviate cost barriers and emphasize product benefits.

Help is Needed

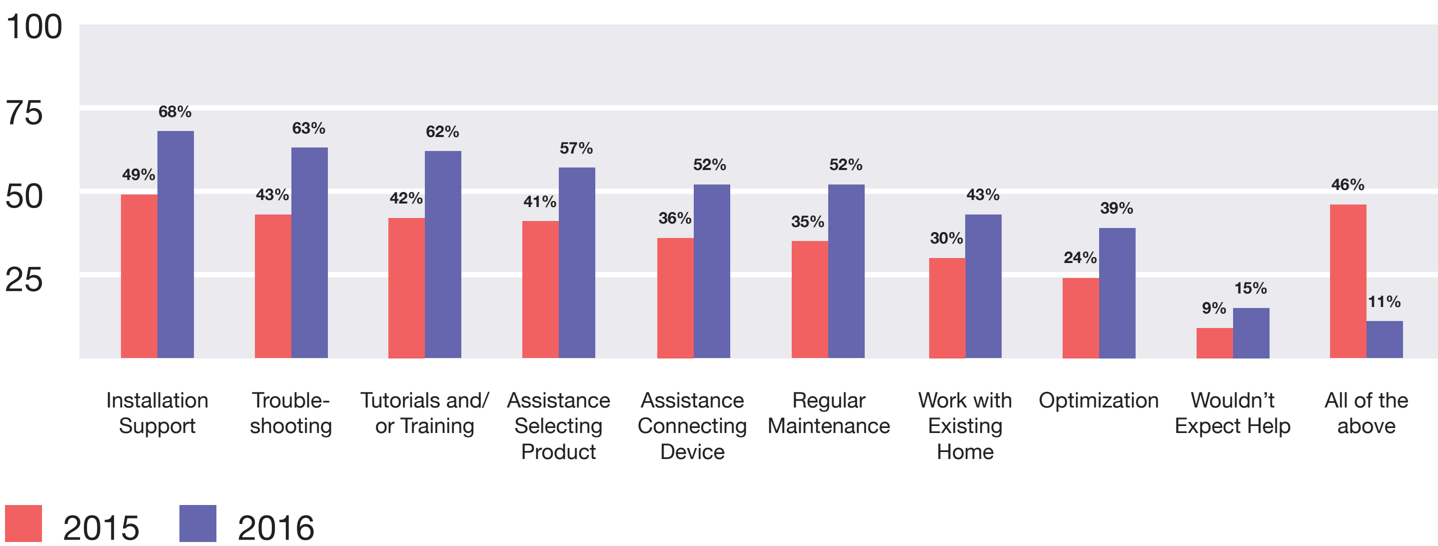
Consumers report that they (71%) or a friend/family member (21%) installed their current smart device.

We know that consumers are now more inclined to purchase smart home devices. They're also becoming more comfortable with device interconnectivity, as they use products to find new conveniences and efficiencies in their lives. However, research shows that consumers expect more help and support from the brands they're buying from – and they want an array of options for how they'll receive that help.

In 2015, only 60% of respondents said they were maximizing the potential of their smart devices. In 2016, 85% of consumers said they maximized the use of their devices. Moreover, 58% of those who have integrated their devices said they had no problem connecting them. These early adopters understand how to use these products and they're deriving value from them. This is good news for the industry today, but as products become more complex and require interconnection with other devices, setup, optimization, integration and privacy protection are likely to become more challenging. Also, keep in mind that 16% of consumers said they're hesitant to make smart purchases because they won't know what to buy or how to use it.

A majority of consumers report that either they (71%) or a friend or family member (21%) installed their current smart device. Twenty-six percent report they had it professionally installed. Of those, 11 percent said they had it professionally installed by the brand they purchased it from, 9% said an ISP or cable provider installed it, 4% said they had it installed by a monitored security provider and 3% had it done by an independent installation company.

What Kinds of Services and Support Do Consumers Expect?



The expectation for every type of support increased in 2016.

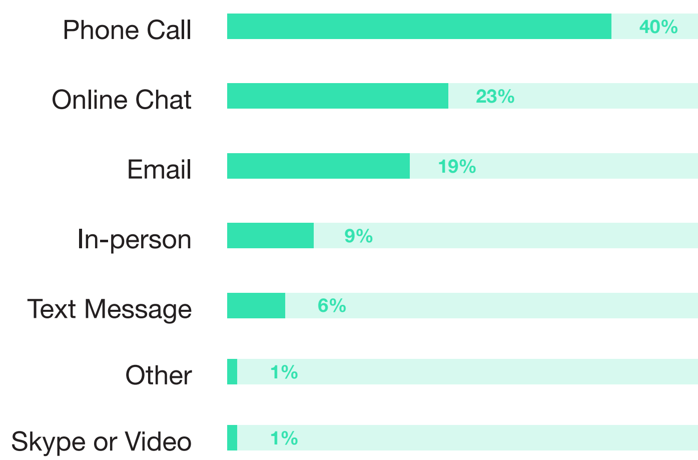
More men (80%) than women (66%) say they installed the smart product themselves. Twenty-eight percent of women as opposed to 10% of men say they had someone they know install it for them, and 34 of men had it professionally installed, whereas only 22% of women had it professionally installed.

While many consumers are clearly attempting to tackle the installation of smart products on their own, a separate question about what kinds of services and support they expect from the brands they buy from lists installation support as a top need (68%). This is up from 49% in 2015.

In 2015, consumers were interested in “total package” support and services to help them use their devices, but now they’re looking for more customizable or a la carte options. While 46% of consumers said “all of the above” in response to the types of support they expected from the brands they bought from in 2015, only 11% responded in that manner in 2016. It is obvious across the board that consumers want more support options, but these needs are now more unique.

This remains true for the ways in which they want to receive support. When asked how they want to communicate about technical challenges, consumers responded in the following ways:

What Ways Do Consumers Want to Communicate Technical Challenges?



This data presents smart device manufacturers, distributors and brands with an opportunity to become a true partner for consumers who need more information and help. Purchase and sales advice, along with ongoing support and maintenance, can be a significant factor in whether or not a customer purchases a product – and if they ultimately adopt and use it.

Product returns categorized as “no fault found returns” (NFFRs) are often due to device complexities that can be resolved with better technical support. According to this year’s research, NFFRs remained the same year-over-year, with 13% of consumers reporting that they returned a connected or smart device in the past two years because they had difficulty installing or using it. Interestingly, the response breakdown by gender is a bit different: 18% of men said they have returned a connected or smart product because of difficulty using or installing it; 11% of women reported the same.

18% of men and 11% of women returned a smart product because of difficulty using or installing it.

Ability to Use Devices Impacts Brand Loyalty

Sellers who ignore technical support needs risk losing customers.

Device adoption is on the rise and consumers' expectations for product support are growing. With this, respondents said their loyalty to technical brands is affected by a brand's ability to help them use and enjoy the products they purchase.

In 2016, 86% of consumers said a brand, company or retailer's ability or inability to provide the help they need affects their willingness to buy from that brand again. This response rose from 76% in 2015. The research indicates that 18 to 24 year olds are most sensitive to a brand's ability to help. Ninety-two percent said it impacts their willingness to buy again, whereas only 83% of those 35 to 44 said it impacts that decision. Additionally, 87% of women versus 83% of men said a brand's ability to provide the help they need affects their willingness to buy from that brand again.

Overall, 92% of consumers said that they're more loyal to brands that help them "purchase, install, use, connect, troubleshoot, secure and/or optimize the connected and smart devices or software". This number is up from 71% in 2015 and, again, this help is more impactful among younger generations and women. Ninety-six percent of 18 to 24 year olds and 93% of women said this level of support makes them more loyal; 89% of 44 to 54 year olds and 88% of men said this was true.

Conclusion

It's clear that 2016 was a watershed year for consumer adoption of smart home device hardware and services. The term "smart device" once described a device with nebulous benefits. But in 2016, the value proposition of these devices became much more compelling, as consumers began to associate smart home devices with more specific, tangible benefits, like entertainment, convenience, and simplicity of life.

Additionally, significantly more consumers in 2016 felt that they were maximizing the potential of their smart home devices compared to a year earlier. This means that consumers are more likely to feel like their smart home device purchases are a good investment, and more willing to consider other purchases in the future.

In the highly competitive smart home device market, consumers' loyalty to different brands will be closely tied to three factors:

1 User Experience

A user experience designed around making the device hardware and services fit seamlessly into users' increasingly connected lives, thereby delivering a clear benefit (better health, more content choices, more safety, etc.).

2 Interconnectivity

The ability to interconnect these products for greater ease-of-use and more benefits.

3 Support and Services

Support and services that cater to consumers' desires to get more customizable or à la carte help, increasing the chances that consumers will use the devices to their full potential and buy from that brand again.

Methodology

This survey was commissioned by PlumChoice and the Z-Wave Alliance. Nearly 1,000 internet-connected consumers from the United States, between the ages of 18 and 65, were surveyed by a third-party agency, Matter Communications, in December of 2016. All data presented in this report is exclusive to PlumChoice and the Z-Wave Alliance.