Customer Preferences Dictate the Future of Smart Home Business Models

Exploring the Role of Smart Home in the Utility of the Future Business Model

A SmartEnergy IP™ Report

smartenergyIP™

a Division of SmartMark Communications

TABLE OF CONTENTS

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I. INTRODUCTION

Smart Home technology lies at the intersection of converging industries including communications, entertainment, and energy management. The current fragmented market is driven primarily by platform vendors utilizing a range of connected technologies from Wi-Fi to Z-Wave and ZigBee to build localized IoT ecosystems in the home.

While manufacturers have seen increasing popularity around devices like personal assistants and smart thermostats, the market is still yet to be defined. This report suggests that a more robust and sophisticated integration of smart home solutions may be appealing to a highly segmented market, and furthermore, can offer a pathway to sustainable adoption and growth. Findings from this report are based on two surveys conducted by SmartEnergy IP™. The first was conducted in November 2019 and was comprised of 5,000 customers ranging in age across the United States. Initial findings were released in conjunction with the 2020 CES show. To identify any deviation from last fall's data, SmartEnergy IP repeated the survey again in August 2020.

The dual survey was conducted in an effort to identify if cultural changes, as a result of Covid-19, would impact the initial findings. It was important to see if the effects of staying at home more and relying on connected technology for lifestyle and work impacted the original findings.

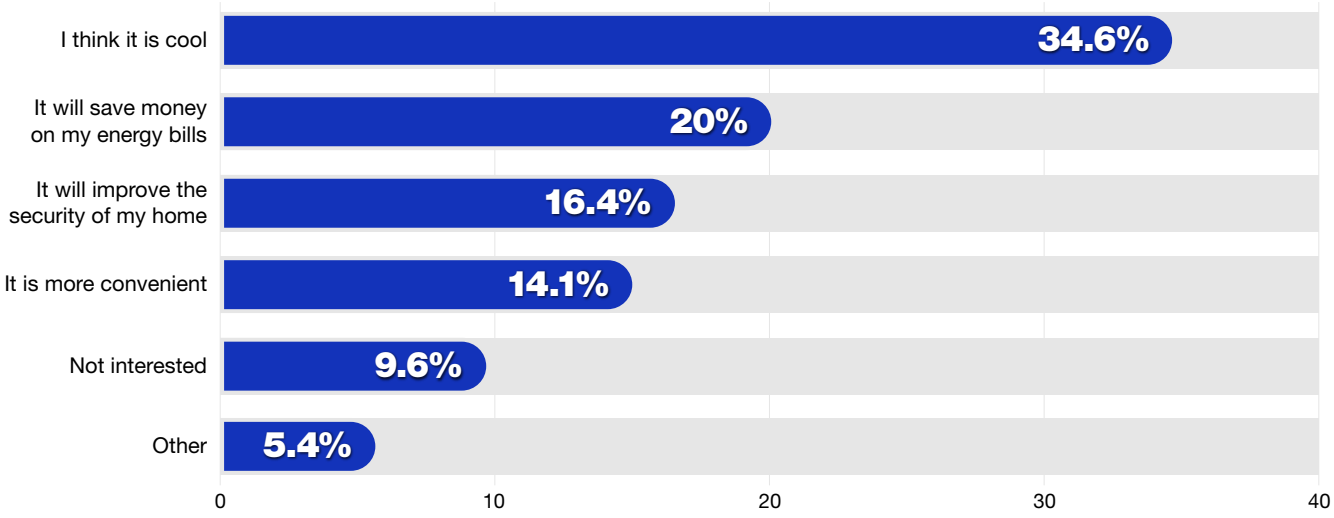
In addition to general customer feedback on smart home preferences, this paper addresses the role of utilities in rolling out smart home solutions. SmartEnergy IP is a research practice dedicated to the energy and utilities industries and is particularly interested in what customers expect from their utilities in the future. One of the most important results of the findings, in the research conducted in both 2019 and 2020, is that **SmartEnergy IP believes that smart home solutions will help define the Utility of the Future—per customer preference and demand.**

II. FORWARD

In November 2019, SmartEnergy IP conducted a survey of 5,000 customers across the United States ranging in age from 18 to 65+ to better ascertain motivators for smart home purchases. As part of that survey, we asked customers where they would purchase these solutions, and among the different smart devices out there, which devices were most attractive to them. We also asked where they were most likely to purchase these solutions in the future.

At that time, the majority of respondents (34.6%) said they were interested in purchasing smart home technology because it was cool. 20% said it would help them save money on their energy bills and 16.4% said that they would buy these devices to improve their security at home.[1]

Table 1
I am interested in smart home because…(General)



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These findings led us to question original industry reports touting security as the key driver for smart home purchases. This new data suggested that these original drivers for more secure homes was being challenged by other business models like in-home entertainment and energy savings.

However, in 2019 when consumers were asked about devices—and more specifically their interest and preferences around purchasing actual smart home products, the majority (32.8%) put smart thermostats at the top of their list. This was followed by security products (32.2%) followed by smart lighting (28.9%).[2]

Knowing that in our 2019 survey, consumers appeared to be drawn to smart energy solutions, SmartEnergy IP wanted to validate particular data in its August 2020 survey. So, building on the idea that smart energy was becoming a key driver for purchasing smart home technology, we wanted to test that theory by repeating questions around particular device and solutions preferences. When the majority of customers selected smart thermostats as their first choice in smart home products/solutions again, our conclusions were validated.[3]

[1] *New Survey Released at CES Reveals "Cool Factor" is the Top Motivator for Smart Home Investment*, SmartEnergy IP™ January 2020.
[2] ibid
[3] ibid

It was also important in our follow up survey in August 2020 to see if the Covid-19 pandemic contributed at all to any kind of shift in consumer thinking. Now that people were spending more time at home, it appeared as if saving energy and money continued to be key drivers for smart home technology purchases.

Smart Home and Utilities

After reviewing data from 2019 with the new 2020 findings, we have strong evidence to believe that energy companies and utilities should start thinking more seriously about rolling out smart home technology and solutions. The August 2020 findings validated what we were beginning to see in 2019—the cool factor was still important, but energy management was the key driver for consumer adoption of this technology. More importantly, the validated data suggests that the energy value proposition and market is surpassing other markets and messages like security and entertainment, to see the largest potential for sales among customers.

Of course, that leads to many industry questions including how should utilities message and market smart home solutions, and given the original “cool factor” drivers, are non-traditional creative strategies on the horizon? After all, this would be a turning point for utilities as they go past the meter and into customer homes.

That leads us to our final topic addressed in this report. What do customers want from their utilities in the future? When asked to rank smart home among other kinds of more traditional solutions and services like demand response, time of use (TOU) and even mobile apps, customers prioritized it. Customers even suggested that they prefer smart home solutions over more personalized and custom solutions and better communications. SmartEnergy IP believes that this valuable feedback should be strongly looked at by current utilities as they strategically plan their investments in customer satisfaction for 2021 and beyond.

III. DATA AND FINDINGS

Introduction

In November 2019, SmartEnergy IP asked a group of 5,000 customers across the United States, both male and female, a variety of questions related to smart home. The customers were selected randomly and comprised of six different age segments of the population. Those segments included:

18-24	25-34	35-44	45-54	55-64	65+

In August 2020, SmartEnergy IP repeated the survey. This time, we asked 1,000 customers across the same demographic similar questions in an effort to see if any significant changes took place since the original survey.

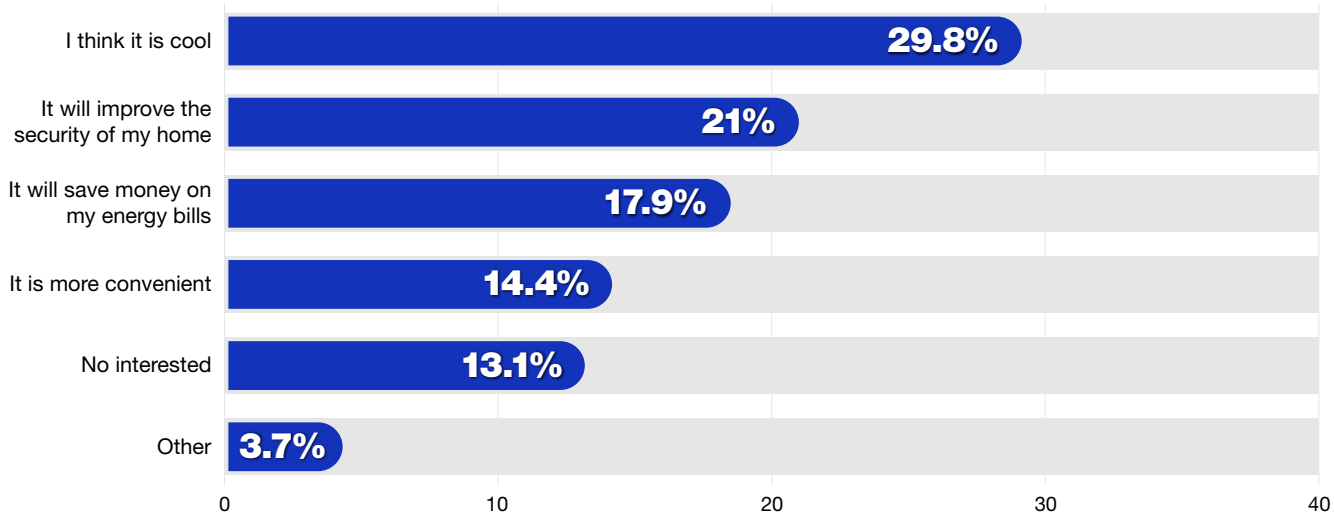
This report will concentrate on the data from the August 2020 survey, but take into consideration how these findings may compare or differentiate from the earlier survey. The importance of the two surveys is to confirm consistencies in customer preference and draw more definitive conclusions.

Interest in Smart Home: The Cool Factor

One can argue that different market segments purchase smart home technology for different reasons. In the most recent survey we conducted, the majority of people polled said they were interested in this technology because it is “cool”. This majority was comprised of mixed age and gender respondents.

Following the cool factor, customers agreed that security and energy saving were the two top motivators for interest in smart home. It is noted that security outranks energy when compared to the 2019 survey.

Table 2
I am interested in smart home because…(General)



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But this interest level differs by segment. For example, for two age brackets—18-24 and 65+, the cool factor was much less a motivating factor. In both categories, security and energy savings topped responses.

Table 3
I am interested in smart home because...(Ages 18-24)

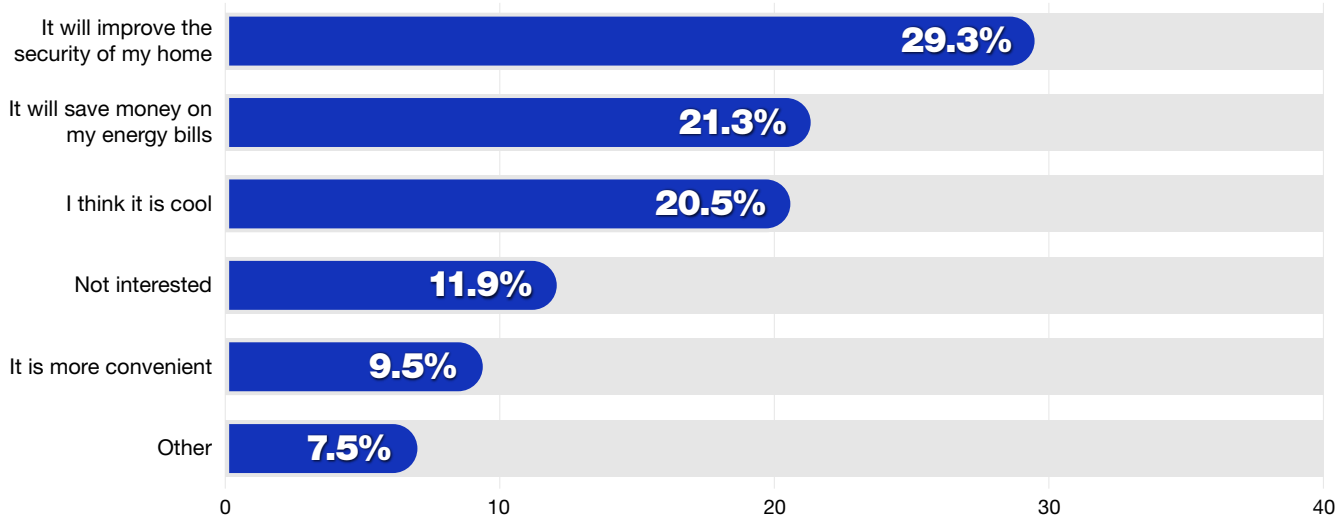

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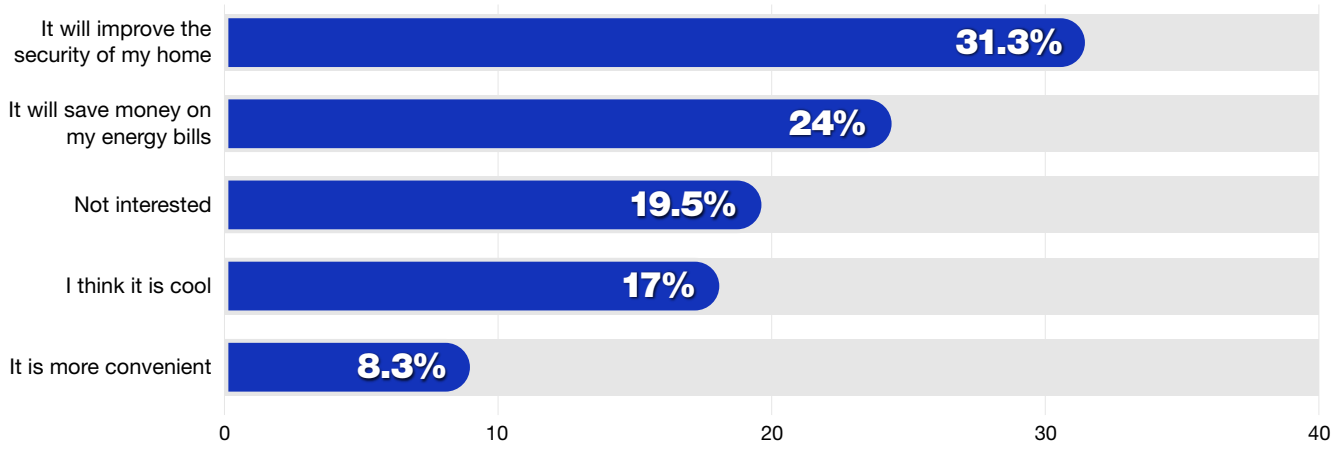
Table 4
I am interested in smart home because...(Ages 65+)



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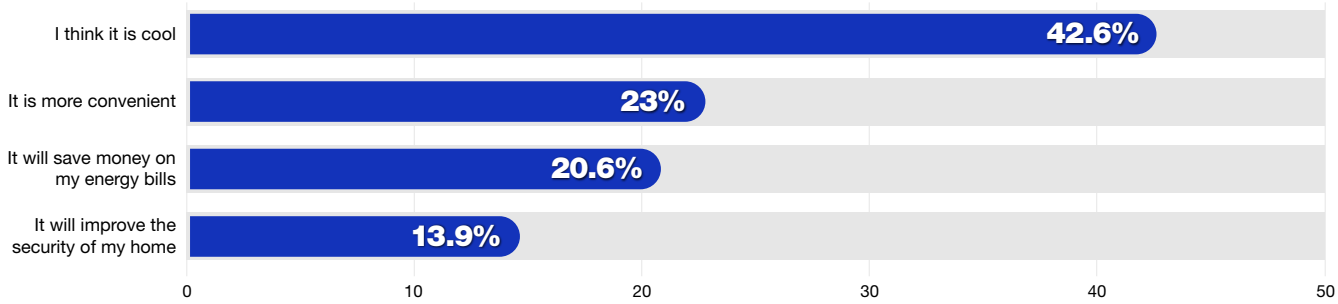
Yet, when it came to respondents in the 45-54 age bracket, convenience seemed to be a top motivator, over security and energy savings. Yet, once again, the cool factor played a key role in peeking their interest.

Table 5
I am interested in smart home because...(45-54)



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OUR TAKE

It's first important to recognize that the cool factor/motivator of smart home still remains the most prevalent reason for interest in smart home, among nearly all user groups. That means, that when it comes to marketing these devices to consumers, manufacturers and service providers should consider this and look to engage with experts who understand how to market this way.

SmartEnergy IP is a division of **SmartMark Communications**, which is actively involved in marketing and strategic positioning. Our marketing experts suggested that successful advertising by companies like Apple and Google, helped shift consumer perception around what smart home solutions were supposed to look like. By pulling in celebrities, artists, and musicians into their campaigns, they understand and play off this "cool" factor around devices like the Amazon Echo and Google Home.

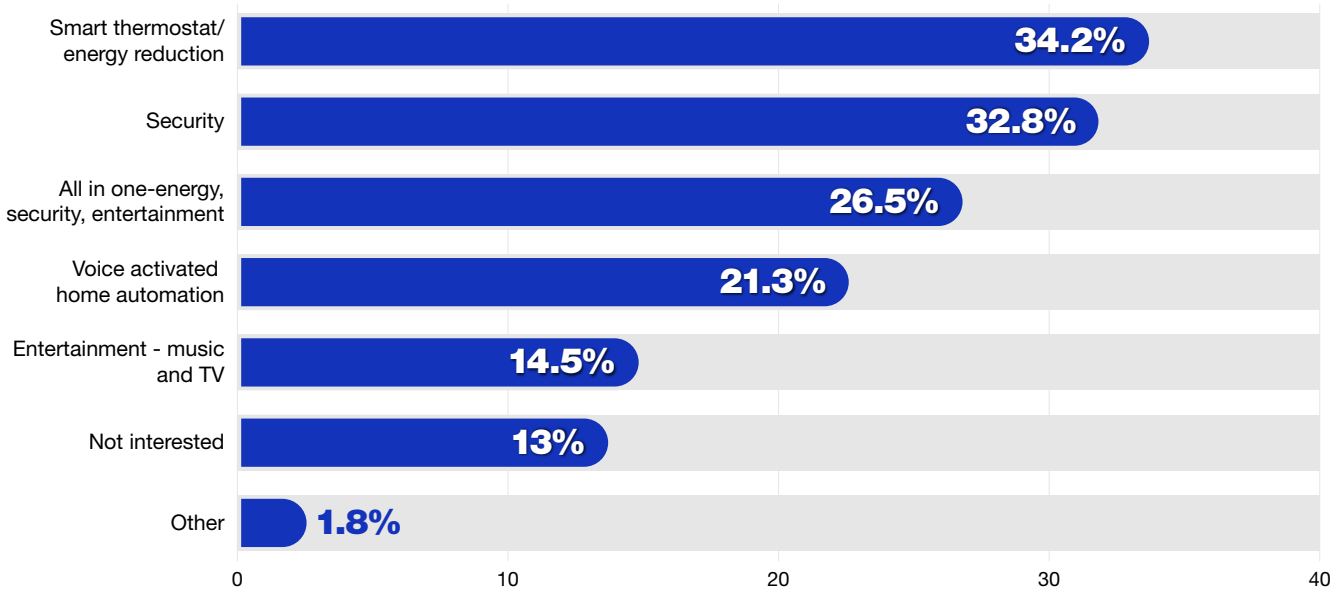
For energy companies, energy retailers and particularly those utilities that now own broadband companies, thinking outside their traditional ecosystems of partners and comfort zone could go a long way to successful adoption of products and solutions. Of course, all providers must not forget the other motivators like security, energy reduction and convenience. Good market segmentation and inclusion of all messages coupled with knowing your audience, also goes a long way to successful sales and market adoption.

Most Desired Products

When it comes to smart home devices, the number that are commercially available off the shelf can be overwhelming. After all, there is such a wide range of products on the market with different brands and with different requirements (e.g., some need a hub, others are Wi-Fi). In the original version of this survey, we asked customers what their top choices were, as it pertained to smart products and solutions. In that survey, smart thermostats topped the list, followed by security and lighting. Voice activation and home assistants were not as popular a choice.

The 2020 survey reinforces many of these same findings. Once again, smart thermostats led the pack in terms of smart devices people were most interested in. This was followed by security solutions. For this survey, we decided to incorporate an option for "all in one" solutions that offered energy, security, and entertainment. This was inspired by the attraction to the "cool factor" component of smart home. 26.5%, a strong showing, did in fact demonstrate interest in this. Again, leaving personal home assistants lower on the list of desirables.

Table 6
The smart home solution I am most interested in...(General)



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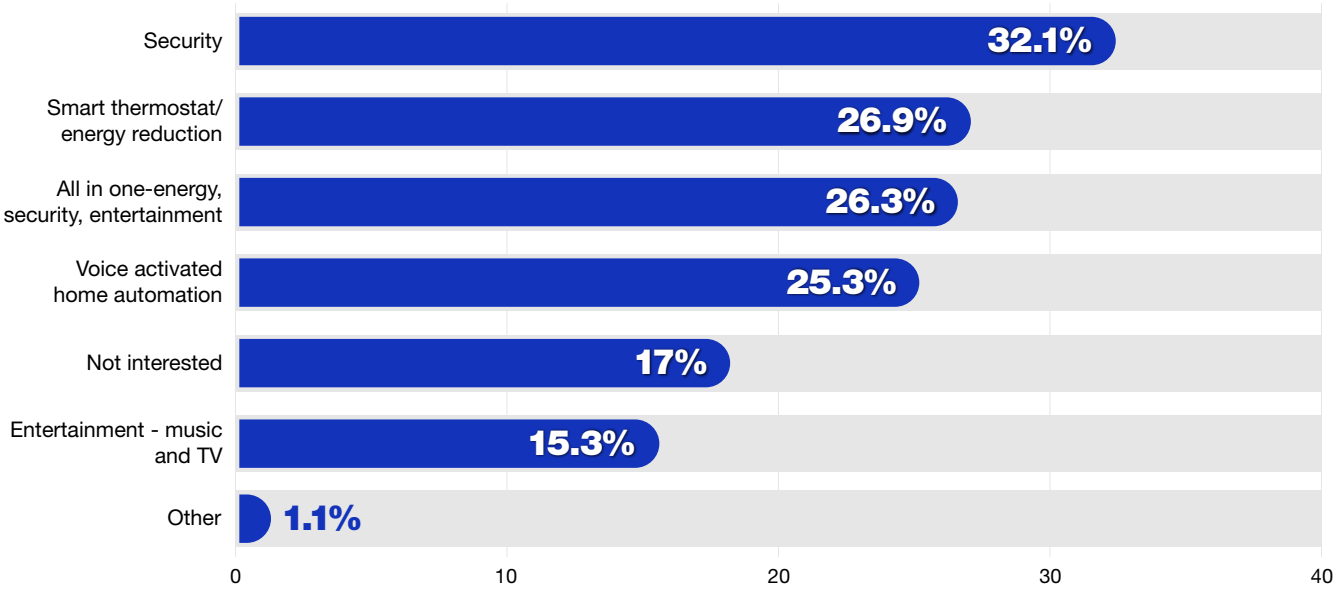
Once again, market segmentation plays a role in understanding these responses. The results above are calculated by the overall sum of respondents; however, if you look at female respondents alone, the priorities shift.

Table 7
The smart home solution I am most interested in...(Female Only)



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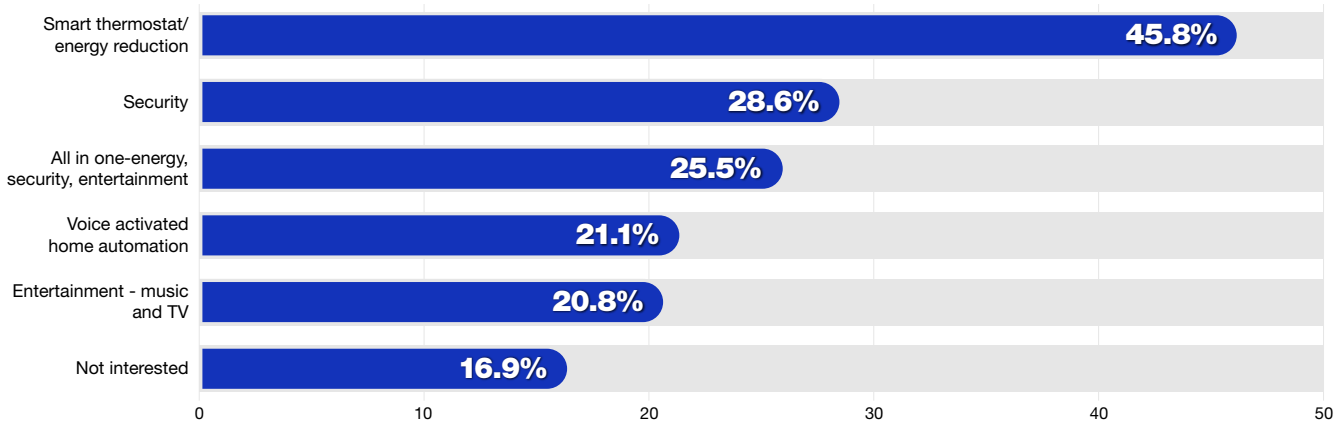
For example, you can see above that the top device choices for women are security solutions followed by smart thermostats and energy reduction solutions. They also put the option for bundled, all in one solutions, as their third top choice leaving voice assistants still at the bottom of the list.

If we look even deeper in the data, we find some interesting things. **It appears as if the target market for energy reduction solutions are for those aged 25-34 (see chart below).** For this age bracket, there was the highest discrepancy between energy solutions and other kinds of solutions with a whopping 45.8% in favor of smart thermostats.

Table 8
The smart home solution I am most interested in...(25-34)



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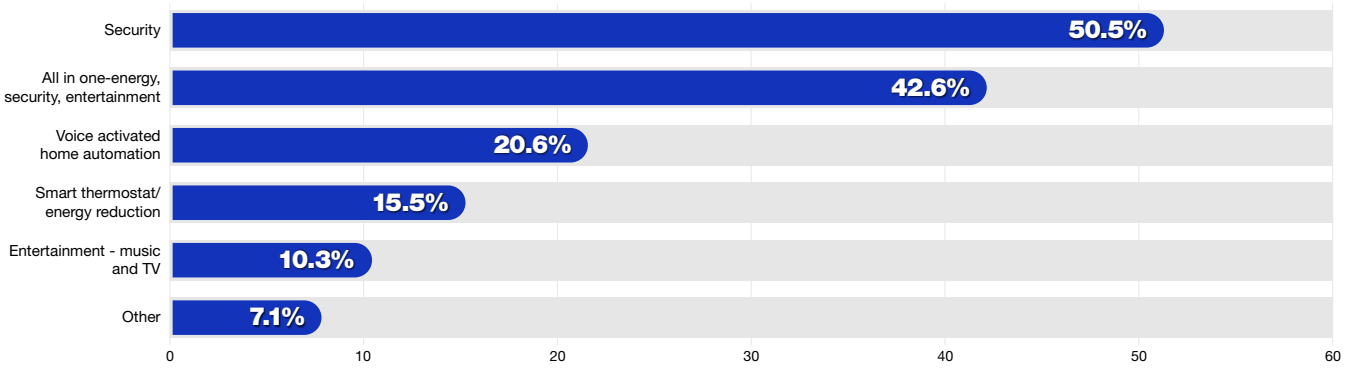
Interestingly enough, as these customers are getting older, their priorities are changing. As you can see in the 35-44 age bracket, security solutions are winning out above energy ones. In fact, for this group, energy solutions are very low on their priority list.

Table 9
The smart home solution I am most interested in...(35-44)



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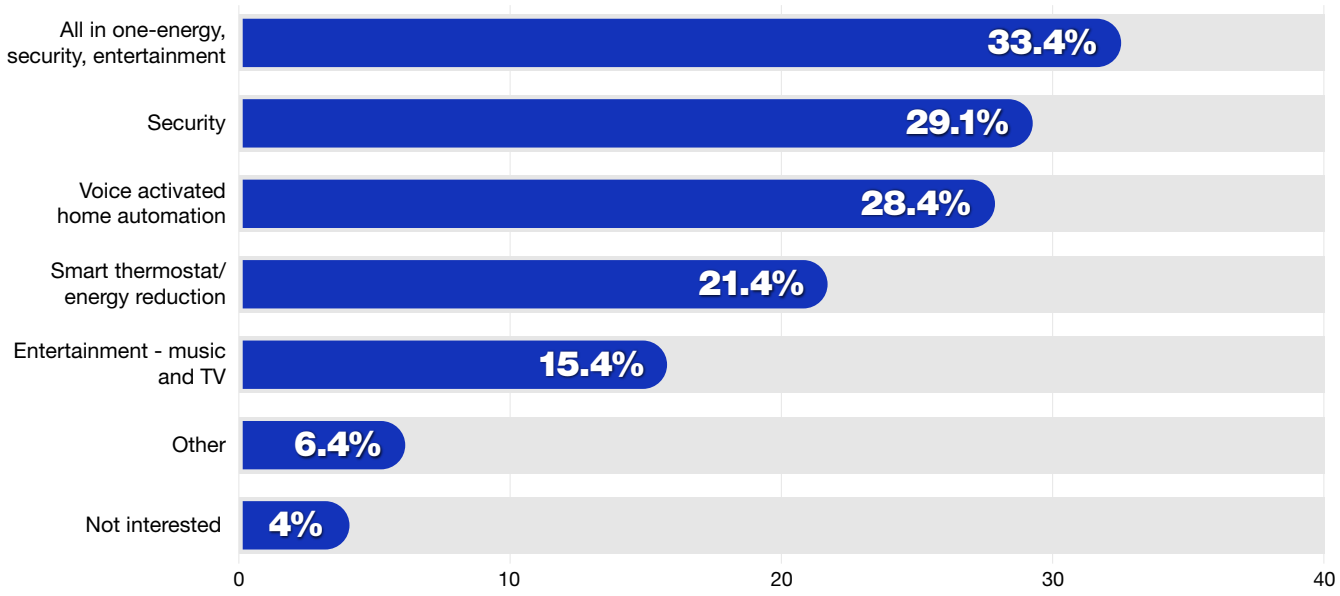
Now, let's lump 35-54-year-olds together. In this much larger segment, bundled solutions dominate.

Table 10
The smart home solution I am most interested in...(35-54)



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This bundled service opportunity is something that is not only interesting to see and think about in terms of future business models and strategic partnerships, but may be an immediate opportunity for those energy companies with broadband services. For other utilities, OTT integrations are definitely something to consider when thinking about future home 360 solutions.

OUR TAKE

There is no one size fits all strategy to selling smart home solutions because different things appeal to different audiences. Research plays a key role in rolling out smart home strategies. Once an organization sees the value proposition of the solution, it needs to survey its audience. SmartEnergy IP's survey was not done by region; however, location and income level are two areas that can play a role in how to message the appeal of this technology to customers.

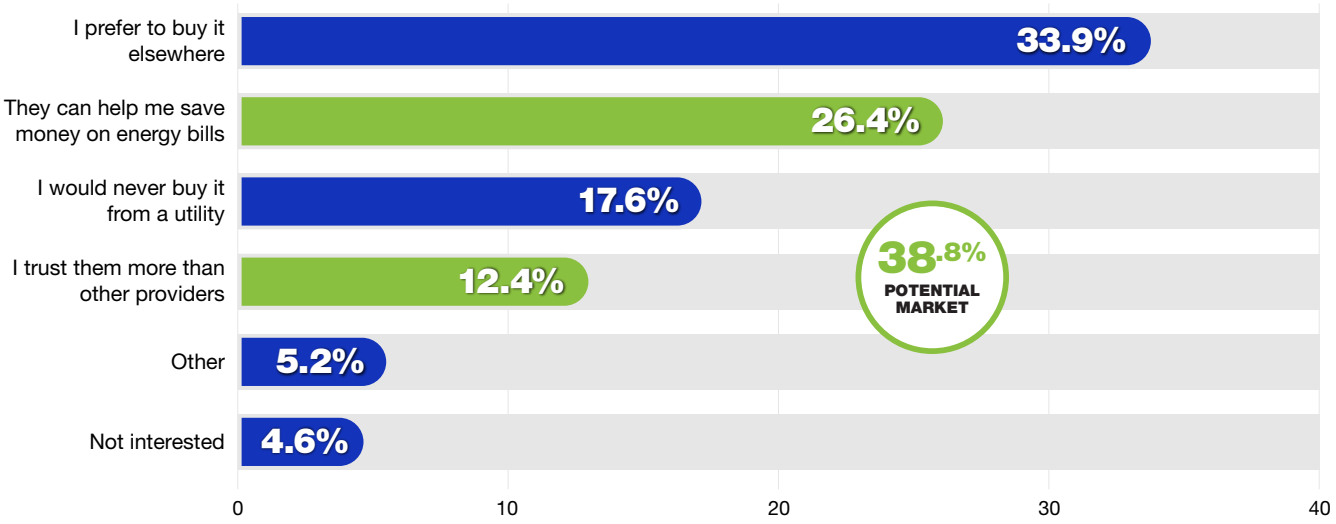
One thing is clear: utilities should think about how they need to evolve their thermostat and their current demand response programs. Are the legacy DR thermostats in the home just connecting with the utility? What is the benefit of swapping these thermostats for smart thermostats? Then, is there a benefit to introducing new products inside the home? If utilities can benefit from creating smarter platforms in the home, then the thermostat is naturally only one piece of the larger puzzle. As products become more sophisticated and load disaggregation in the home becomes more critical to both customers and the utility, more value will be placed on smart home solutions as opposed to DR thermostats. This appears to be the next chapter of customer facing programs and utility energy efficiency planning.

Would a Person Buy Smart Home Solutions From Their Utility?

In order to ascertain directly whether there was a correlation between smart home and a utility business model, we asked people if they would consider purchasing smart home solutions from their utility. This is what we learned.

38.8% of people would buy solutions from a utility in order to save energy and money.

Table 11
I would buy a smart home solution from my utility because…(General)



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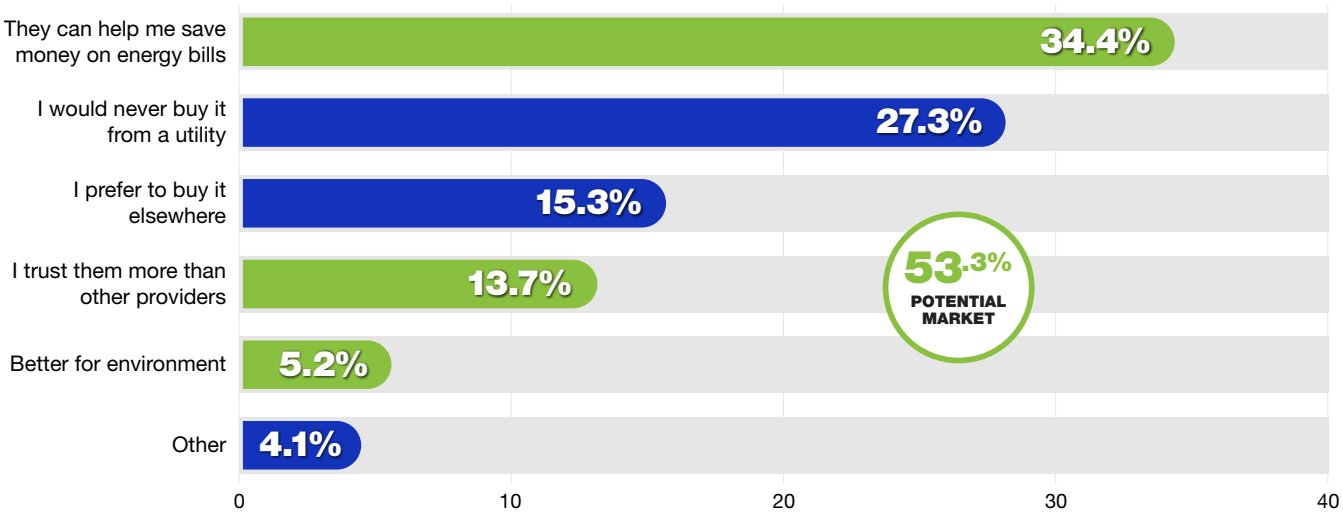
On the surface that appears rather daunting news. But, if you look at the data closer, there are some interesting takeaways.

1. **18-24-year-olds want energy solutions from their utilities.** In the graph below, you can see that this segment of the population most definitely would buy smart home solutions from their utilities if they can save energy and money

Table 12
I would buy a smart home solution from my utility because…(18-24)



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2. **While 25-44-year-olds prefer not to purchase smart home solutions from their utility, 45-54-year-olds do.** Take note, another target market for utilities to look at when rolling out smart home solutions.

Table 13
I would buy a smart home solution from my utility because…(25-44)

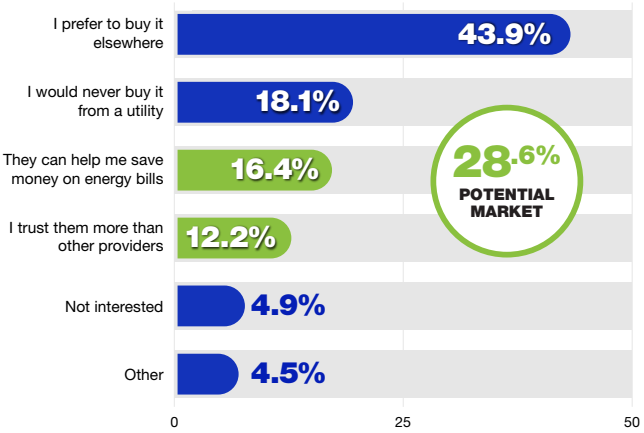

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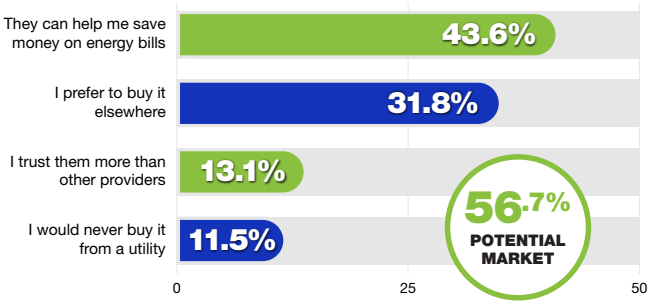
Table 14
I would buy a smart home solution from my utility because…(45-54)



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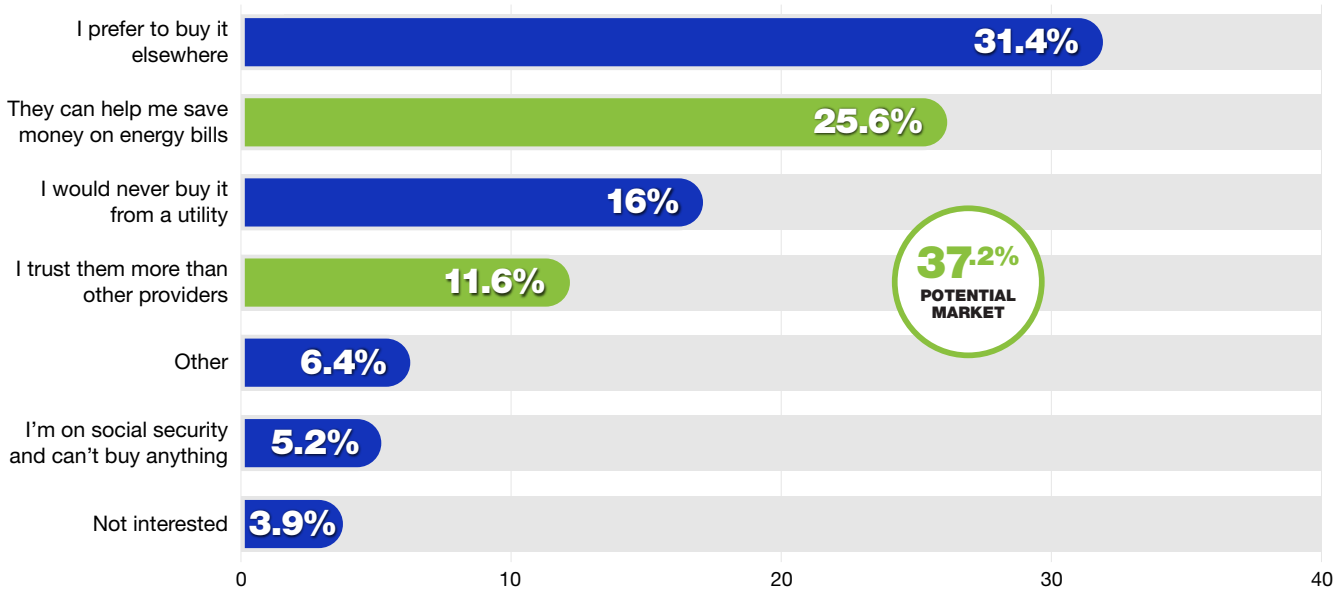
3. **55+ opt to purchase these solutions elsewhere,** though a quarter of this population sees energy reduction as a desirable motivator to potentially explore purchasing these solutions from their utility.

Table 15
I would buy a smart home solution from my utility because…(55+)



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OUR TAKE

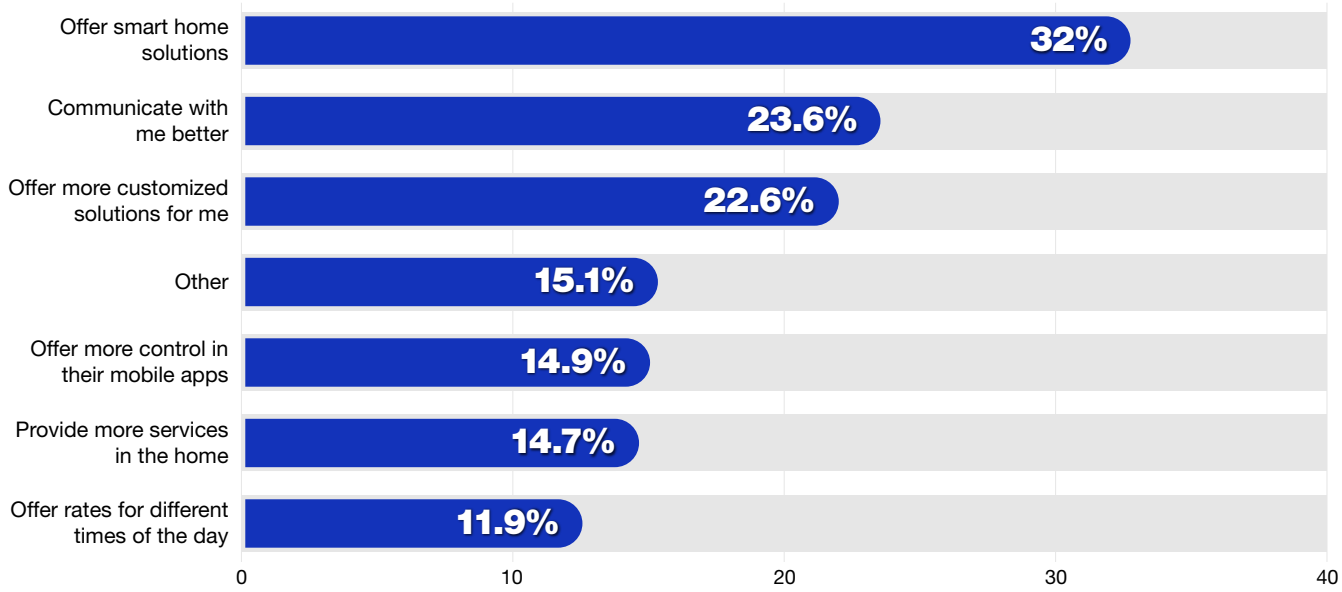
This research is compelling. There are people, and not a small percentage of people (38.8%), that would buy smart home solutions from their utilities. The detail may lie in the devil of the question. The SmartEnergy IP survey asked about purchasing smart home solutions and did not ask about whether they would *use* smart home solutions from their utility if they were provided to them or subsidized in some way, like Energy Star rebates.

This notion of purchasing smart home solutions is something to think about. As utilities look for ways to subsidize long term smart grid infrastructure investments, there may be a business case in "selling smart home products" that offers a cost-sharing model on technology between the utilities and the customer. This may allow customers to benefit in more ways than energy reduction from smart home and warrant introduction of other value propositions and messaging in such a commercial transaction. It may also allow for utilities to incentivize use of these solutions and partially pay for these kinds of technologies by demonstrating quantifiable energy and financial reduction to stakeholders and customers. **Either way, it is important for the industry not to dismiss the fact that a large section of the population would turn to their trusted utility for smart home solutions.**

Utility of the Future

What role does smart home play in defining the "Utility of the Future"? SmartEnergy IP asked customers what they wanted most from their utilities in the future, and they told us. A resounding 32% of people put smart home solutions at the top of their list. This option beat out TOU rates, more in-home services like audits or HVAC maintenance, and mobile apps. It even beat out improved communications and more customized solutions.

Table 16
I want the Utility of the Future to…(General)



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What's most important to take away about this data is related to strategic investment and planning within the utility. One could argue that despite the interest from customers in smart home from their utility, the subject is low on the list of investment considerations for utilities. This theory can be supported when you compare the number of smart home pilots currently in the field to those in TOU and new apps. More importantly, the massive amounts of investment in these apps and more custom solutions—albeit very expensive—may not be on the top of customer interest or wish list. This is something regulators should consider strongly when reviewing business cases for short and long-term customer experience investments.

OUR TAKE

SmartEnergy IP found this consistent prioritization of smart home solutions in future utility services and solutions very telling. This is particularly interesting in context of how the majority of utilities designed their smart grid customer engagement models. Whereas many utilities saw the visualization of home energy use as a key outcome of AMI investment, the idea of supplying additional technologies on the consumer level, in the home, was out of site. Whether this is because the technology had not reached a level of maturity to be considered in early planning or because the utility wrestled with this relationship with the customer or position in the home, behind the meter, it is now a natural next step for consideration.

To date, hundreds of millions of dollars have been invested by utilities in billing and energy-use apps – many as a result of receiving funding for a phase of AMI post deployment. Many of these utilities have also introduced customized emails and mailings to customers to show them how much money they can theoretically save by reducing energy, but the buck stops there. **Utilities have not taken the natural next step in providing customers with in-home technology to help automate these energy reductions. Why not? Automation plays a critical role in load reduction on the grid, why not among homes and businesses?**

Now, thanks to devices like personal assistants and smart home applications, saving energy can be as easy as telling Alexa to do so or clicking a button on an app. It only makes sense that utilities consider arming customers with technology tools, and not just education ones, to fully optimize their AMI investments.

IV. KEY TAKEAWAYS

This report has covered a wide range of areas that pertain to smart home preferences by customers and potential business opportunities for utilities in the area of smart home. This section highlights the key takeaways from this report.

- **The "Cool Factor" drives interest in Smart Home, but thermostats and energy reduction solutions top list of motivators to buy**

  One thing is clear, Amazon and Google are winning the smart home marketing war. Whereas security was once deemed a motivating factor for interest in smart home, now Rebel Wilson's Super Bowl ads and Cardi B's voice on Alexa are "out-cooling" ADT and SimpliSafe—targeting an entirely different kind of buyer.

  Yet, despite the Twitter storm and PR buzz on these personal assistant products, and the conservative support for smart security solutions, people appear to want to buy smart thermostats first. Whether this is because they are sometimes incentivized by their utility or because NEST is also powered by the same marketing machine as Google, energy products are on top of the list of consumer product preferences.

- **Customers aged 35-54 prefer bundled solutions**

  Customers are no stranger to bundled solutions, whether that is data and voice in a mobile plan or triple play in your home from your cable company. Why should utilities be any different? Customers prefer unified experience and unified billing. In that case, when thinking about your home, your thermostat is only one part of a larger puzzle. By integrated demand response programs with smart home plans or offering greater choices for in-home service (whether that is HVAC maintenance or broadband), we are only scratching the surface of what utilities should be doing with their beyond the meter programs, solutions and services. The key is to leverage assets and existing programs to optimize pre-existing investments and synchronize the experience for a next level of customer experience.

- **While 1 in 4 customers would likely buy smart home solutions from their utility, the majority of customers expect smart home solutions from their utility in the future**

  Ok. It is fair to say that not everyone wants to buy a smart home solution from their utility; however, 38.8% of customers would. In addition, the majority of respondents (32%) see smart home solutions as something they would like their utility to provide—outranking other popular things like mobile apps and TOU rates. This, of course, begs the question, whose investment is it? We'll address this shortly in our Recommendations and Conclusions section.

- **Smart Home is the next natural step in optimizing AMI Investment**

  First, utilities let customers know that they were installing new smart meters and that these meters would provide unprecedented information about their energy use to them. Then, customer facing applications were developed and people could see their usage online down to, in most cases, 15 minute intervals. Lastly, came the home energy reports, text alerts, and a slew of information sent to consumers to tell them they needed to reduce energy use.

  But what now? The obvious next step appears to be to do more than provide information or text alerts. It seems rather obvious that tools need to be provided to help customers manage and automate home energy use, and that smart home solutions appear to be the natural next step in the AMI evolutionary process.

V. RECOMMENDATIONS & CONCLUSION

SmartEnergy IP offers advisory services in addition to its research, so it is natural that this report address recommendations for utilities, and specifically, what energy companies should do with the data findings in this report.

According to the analysts at SmartEnergy IP, the idea that smart home technology costs can be linked to AMI investment and optimization strategies is important. Further, it is wise to evaluate new business and cost models where customers and utilities share in the future costs of these technologies in an effort to offset expensive long-term in-home technology and grid infrastructure investments. This is critically important when thinking long term about the roadmap for the utility of the future and next levels of energy efficiency and customer experience planning. After all, today's demand response programs are in need of upgrade with smarter products on the market, and utilities have already invested hundreds of millions of dollars in billing applications with the potential to do much more than they already do. Couple that with their low usage numbers for these apps, it makes sense for utilities to think about the potential of adding in-home energy management to them.

Also, unifying the customer experience should be top of mind for today's utilities with highly fragmented programs and the strong need to leverage existing investments. Programs like AMI education, My Account billing apps, behavioral response, demand response, TOU, and even new marketplaces offer organic opportunities for synchronization and unification. So, customer preferences coupled with automation and a unified experience must shape future services and experience for utilities moving forward.

Lastly, convergence and integration are critical to every utility thinking about Utility of the Future. We have learned that customers prefer bundled solutions. Today's utilities own a wide range of assets that include sophisticated AMI networks that can support wireless connectivity, and in some cases utility owned broadband networks. How utilities think about behind-the-meter services will drive innovation at leading utilities. For example, think about EV charging and how future rates and new grid infrastructure will impact at-home behavior—at least in the garage. Why not go a little further into the living room and automate further reduction in the home through smart home technology? **As AI and load disaggregation better informs trends and behavior, there is no reason not to include a smart home in the smart grid. Above all else, customers play a critical role in energy reduction and with the right tools, can make a sustainable and impactful difference.**

Lastly, competitive retailers have already touched the surface of innovative marketing investment by recruiting celebrities and offering new kinds of incentives, like smart thermostats as part of enrollment. But tomorrow's utilities will need to think out of the box on things like Internet access for low income families and how to motivate engagement on flexible or dynamic rates. Given many of today's stagnant TOU pilot programs, utilities may need to think creatively about messaging and incentivization at the same time they provide new tools and services to customers.

One thing is certain, "cool" and "smart" must come together in our version of the Utility of the Future model.

ABOUT US

About SmartEnergy IP™

SmartEnergy IP™ is a research and advisory firm within SmartMark Communications dedicated to helping articulate the benefits of energy technology investment and innovation for consumers. The company helps utilities and stakeholders define the technology and business requirements necessary to develop and implement customer-focused programs that benefit communities and meet policy goals. SmartEnergy IP also hosts the annual Smart Grid Customer Education Symposium and publishes annual reports on major industry trends related to utility customer experience. To learn more, visit **www.smartenergy-ip.com**.

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