



# NEST 3<sup>rd</sup> Generation Thermostat: 2017 United States Marketing Plan

**Course: Technology Marketing ETM 6/555**

**Term: Winter 2017**

**Instructor: Dr. Sule Balkan**

**Team 3:**

Brea Viratos, Joshua Binus, Maoloud Dabab, Nader Beltaif,  
Oussama Laraichi, Shihab Hanayneh

## *Table of Contents:*

<b>Executive Summary .....</b>	<b>3</b>
<b>Introduction.....</b>	<b>4</b>
<b>Company Analysis .....</b>	<b>5</b>
<b>Market Definition, Potential, &amp; Demand .....</b>	<b>6</b>
<b>Customer Analysis .....</b>	<b>7</b>
<b>Competitor Analysis .....</b>	<b>10</b>
<b>SWOT Analysis .....</b>	<b>13</b>
<b>Marketing Objectives &amp; Goals .....</b>	<b>14</b>
<b>Marketing Strategy .....</b>	<b>14</b>
<b>Marketing Mix (4P's) Analysis .....</b>	<b>15</b>
<b>Distribution Management .....</b>	<b>17</b>
<b>Communications Management .....</b>	<b>17</b>
<b>Implementation &amp; Control .....</b>	<b>18</b>
<b>Conclusion .....</b>	<b>19</b>
<b>Bibliography .....</b>	<b>20</b>
<b>Appendix.....</b>	<b>25</b>

---

## *Executive Summary*

---

### Current-State Assessment

- The Nest thermostat is currently holding a leader position in the crowded U.S. smart thermostat market, with approximately 35 percent market share.<sup>1</sup>
- American consumers are increasingly purchasing smart thermostats; subsequently, market forecasts of consumer demand project a growth market.<sup>2</sup>
- The smart thermostat market is a sub-market to a much larger smart home market, with billions of growth potential to Google/Nest in the coming years. Sales of smart thermostats offer a high-value opportunity to establish a beachhead in one of the most promising electronic device-related markets in the coming decades--possibly *the* most promising
- The biggest barrier capable of being addressed, directly, by Nest is the high purchase price (\$250).

### 2017 U.S. Target Market

- Mid- and high-level income homeowners (with broadband internet access)
- Do-it-yourself (DIY) problem solvers

### 2017 Sales & Revenue Forecasts

- Total Achievable Market = \$1.5B (6M units)
- Serviceable Available Market
  - Low Estimate = \$480M total revenue (1.92M units)
    - Assumes 35 percent market share
  - High Estimate = \$600M total revenue (2.4M units)
    - Assumes 40 percent market share

### 2017 Goals and Objectives

- Goals: Increase sales/profit and jump the chasm
- Objectives
  - Increase customer retention by providing high-quality customer services, solving issues quickly and effectively
  - Expand sales to existing customers who have a prior generation Nest thermostat.
  - Leverage utility relationships/programs to lower prices and gain access to mid-income market.
  - Expand footprint in retail markets (do-it-yourselfers, home builders, service professionals).

### Marketing Strategy

- The most impactful and rapid means of maintaining company revenue targets while also

---

<sup>1</sup> Yarow, J. "Nest, Google's New Thermostat Company, Is Generating A Stunning \$300 Million In Annual Revenue," Business Insider, 14-Jan-2014. [Online]. Available: <http://www.businessinsider.com/nest-revenue-2014-1> [Accessed: March 20, 2017].

<sup>2</sup> Parks Associates, 2015.

reducing the price for consumers is through the leveraging of electric utility rebate programs.

- Focused attention to the development of partnerships with electric utilities (integrating the use of Nest thermostats into their energy efficiency and peak load management programs) will enable the development of product rebates for millions of Americans in 2017.
- Partnerships with retail providers will get Nest thermostats placed where mid-income Americans do their shopping, and cross-branded promotions will highlight local utility rebate programs in order to focus on the discounted price point (typically \$50 - \$75 less than Nest's retail price of \$250).
- Nest will also target professional installers and service providers (e.g. HVAC, security, solar) to include Nest thermostats as part of their new construction/installation and/or retrofit efforts, emphasizing the thermostat's proven energy savings performance.

#### Performance Plan

- Marketing Team: Promotions & Communications Tool Kit Development
  - Develop marketing materials that can be co-branded and repurposed to fit the demands of localized marketing tactics
- Sales Team: Outreach & Partnership Development
  - Establish and advance relationships with utilities, professional installers and service providers, and retail home supply outlets
- Customer Service Team: End-use customer relations
  - Promptly identify root causes of customer complaints, present solutions to customers, and resolve issues in a comprehensive and timely manner

2017 Performance Metrics include:

- Utility rebate program expansion target: 1 percent net increase per month (13 percent annual program expansion)
- Sales target: Low = 160K/month; High = 200K/month
- Product quality target = To be determined; measured by the number of technical performance issues identified by customer service agents per week/month
- Customer service target = To be determined; measured by the time it takes to resolve issues

### *Introduction*

Industry practitioners believe that the introduction of 3rd Generation Nest Thermostat will enable the company to bridge the technology adoption chasm. The belief is that the company has to align its operation and brand to ensure successful migration into the majority adaptors market segment. The objective of this marketing plan is to combine with product life-cycle analysis to assess how Nest can move towards a majority adaptors market segment and effectively position itself in the US. marketplace. The key assumptions are based on implementing a twofold strategy that focuses on bundling product services with other smart-home appliances; in addition, offering updates /upgrades to end users while maintaining minimum requirement to change hardware. It is believed that these assumptions will secure, the company a leader position which maximizes market penetration and achieve product dominance.

Offering product differentiation is recommended to be per identified market segment.

The Nest Thermostat is built around six features. The first one is auto-schedule since it learns preferred temperature set points and optimizes HVAC performance in about a week. The second point is home away sleep assist; it automatically cycles down HVAC when occupants are away or sleeping. The third point is built around remote control; it connects to Wi-Fi/internet to control the temperature from phone, tablet, or laptop. The fourth point is farsight since it has occupancy sensors trigger lights to show the time, temperature, or weather. The fifth point is energy history feather; the Nest app conveys home energy use data and interpretations. The sixth point called Nest leaf which means that it has visual signals when thermostat is used optimally.<sup>3</sup>

## *Company Analysis*

Nest is a home automation services company that makes people stay aware of what's happening at home. it provides a several devices, sensor-driven, Wi-Fi-enabled, self-learning thermostats and smoke detectors. The company was founded in 2010 by former Apple engineers Tony Fadell and Matt Rogers and the headquarter in Palo Alto, California. In 2014, Google bought it for \$3.2 billion.<sup>4,5</sup> The company offers its products through retail locations, professional distributors, Nest Pro installers, and energy partners. They sell products in several countries such as the United States, the United Kingdom, Canada, France, Belgium, Ireland, the Netherlands, and internationally.

In terms of the Nest Thermostat's position on the technology adoption lifecycle curve, the US smart home market, as a whole, is in the "chasm," and so is the Nest thermostat. Nest's first learning thermostat was launched in 2011 and the second generation in 2012. The current product is the 3rd generation Learning Thermostat launched in September 2015. Figure 1 shows the positions in the technology adoption lifecycle curve. Additionally, current market adoption has some barriers including, high purchase price, interoperability (home connectivity), cybersecurity issues, and long device replacement cycles.

---

<sup>3</sup> <https://store.nest.com/product/thermostat?selectedVariantId=T3007ES>

<sup>4</sup> J. D'Onfro, "We're hearing about troubles at Nest, the smart-home company Google bought for \$3.2 billion," Business Insider, 15-Feb-2016. [Online]. Available: <http://www.businessinsider.com/whats-going-on-at-nest-2016-2>. [Accessed: 03-Mar-2017].

<sup>5</sup> M. Rogowsky, "5 Reasons Nest Sold To Google," Forbes, 16-Jan-2014. [Online]. Available:<https://www.forbes.com/sites/markrogowsky/2014/01/14/5-reasons-nest-sold-to-google/#41eb2ec95200>. [Accessed: 03-Mar-2017].



Figure 1 The Lifecycle Curve

### *Market Definition, Potential, & Demand*

This report provides a marketing plan for the U.S. market in 2017. Why only the U.S. market? Google is an international corporation, with its business interests in each country represented by marketing experts with familiarity in each of their geographies of expertise. This report has been prepared with the expectation that other Google offices will be addressing the marketing needs in other countries in North America, Europe, Asia, etc.

Why only 2017? The 3rd generation Nest thermostat was released in September 2015. We expect that a 4th generation Nest thermostat will be ready for commercialization in 2018. Subsequently, a new marketing plan will need to be developed and implemented for 2018 and beyond.

#### Current-State Assessment

American consumers are increasingly purchasing smart thermostats. Not surprisingly, market forecasts of consumer demand for smart thermostats project a growth market. That's great news for Google/Nest, but the opportunity looks even more promising when put in context with the larger, multi-billion-dollar smart home market. Sales of smart thermostats offer a high-value opportunity to establish a beachhead to one of the most promising electronic device-related markets in the coming decades--possibly *the* most promising.

Nest has earned a leadership position in a crowded field of competitors by differentiating itself through proven energy-savings performance and high customer satisfaction associated with its ease of installation and use. Early adopters have certainly embraced the Nest thermostat; however, most of Nest's consumers (to date) have been high-income earners with expendable income. In order to increase its market share, Nest will have to overcome its biggest barrier: the

\$250/thermostat retail purchase price is too high for middle-income Americans. Fortunately, this is one barrier that Nest's marketing activity can have a direct impact on.

### 2017 Target Market

- Mid- and high-level income homeowners (with broadband internet access)
- Do-it-yourself (DIY) problem solvers

The Nest thermostat's early adopters have typically been high-income level homeowners. Their purchasing behavior has been driven by interests in saving energy (which translates into benefits associated with cost savings and environmental stewardship). They have also appreciated the ease of installation and use that has been a hallmark of Nest's thermostats. Nest can still attract these customers while increasing its marketing emphasis toward mid-level income Americans.

Nest's ability to expand their achievable market to include mid-level income homeowners will be directly related to how well Nest is able to work with electric utilities to establish rebate programs that can be marketed and promoted to retail (big box) shoppers across the country. Big box home improvement stores attract shoppers that Nest believes will purchase a smart thermostat--especially if a lower price can be promoted. The same stores also attract DIY consumers, and one of the Nest thermostat's biggest differentiating qualities, behind its proven energy savings performance, is that is easy to install and easy to use.

According to the most recent market research available, Nest maintains approximately 35 percent market share of the smart thermostat market in the U.S. With an expected total achievable market of six million smart thermostats forecast to be sold in the U.S. in 2017, Nest can conservatively expect to sell at least 1.92 million thermostats (under assumptions that market share remains consistent). By establishing more aggressive sales goals associated with achieving 40 percent market share, Nest can reasonably sell 2.4 million thermostats in 2017, earning the company \$600 million in gross revenues.

### 2017 Total Achievable/Serviceable Market

- Total Achievable Market = \$1.5B (6M units)
- Serviceable Available Market
  - Low Estimate = \$480M total revenue (1.92M units)
    - Assumes 35 percent market share
  - High Estimate = \$600M total revenue (2.4M units)
    - Assumes 40 percent market share

## *Customer Analysis*

Knowing and analyzing your potential customers is one of the most important steps in a marketing plan. In the case of this product, the 3<sup>rd</sup> generation Nest self-learning thermostat, is positioned in the chasm between the "early adopters" and the "early majority." The need to cross the chasm drives this marketing plan. The customer analysis contribution to that goal is not to be neglected, indeed we will be able to identify and understand our current customers, to discover what drives them and define the path that will enlarge the group of early adopters to an early

majority. To do so, we will first identify our customers, then we will report the results of our potential customer survey going through the value drivers and the barriers.

### **Defining the current customer**

In our current phase of the lifecycle curve, it is important to notice that the early adopters are customers that are driven by the innovativeness of our product. Nest's 3<sup>rd</sup> generation self-learning smart thermostat constitutes an innovative approach to energy savings and smart home devices. Therefore, the early adopters are indeed attracted by the technology, in fact they are part of the global smart home trend brought up by the Internet of Things. These customers, as early adopters, will consider more the technology breakthrough than anything else and with a technology leading product like the 3<sup>rd</sup> generation Nest thermostat, they are in fact satisfied. Another aspect of our product is the energy savings, and here, again, we identify another type of early adopters: they are environmentally responsible customers. Global climate change awareness a marketing side, and Nest is directly targeting customers that are environmentally aware and willing to pay a premium price in order to contribute to global energy savings and fossil fuels mitigation. This energy savings focus is not to be confused with an energy savings approach that is mainly cost driven (we will come back to it later in this customer analysis). So what the early majority costumers look like? What are the values of the customers that will help us cross the chasm? And, what barriers are they currently facing to buy a Nest thermostat? In the second part of this analysis, we conducted a survey that will try to tackle those questions.

### **Future Customer Survey**

This survey was developed using Mentimeter, an online live surveying application that provides a platform to efficiently share questions and gather results in a live setup. The orientation that we wanted this survey to take was first to target people that weren't already customers and to do that we used a class of graduate students in technology management, none of them were already owners of a smart thermostat of any brand. We designed our survey around three questions, first a general expectations question, then a value driver question and finally a price barrier question. Here are the results:

1/ What are your expectations from a smart thermostat?

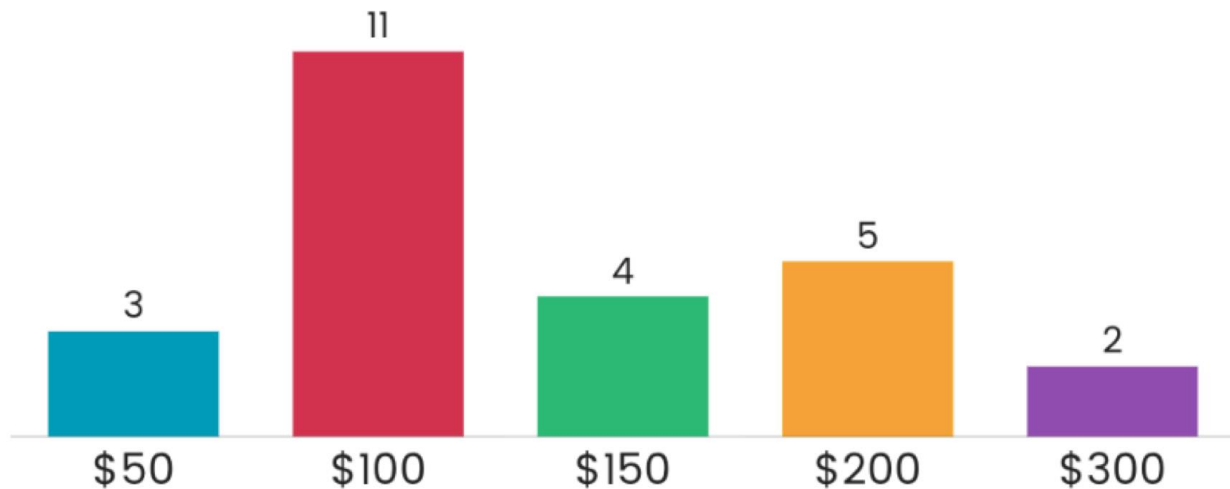
This question was given as an open answer question, each participant was allowed to put in three words to answer the question and a word cloud was built by the application reflecting the answers of the 27 participants:





### 3/ What would be your purchase price barrier?

In the final question, we gave the 25 participants five different dollar amounts [50, 100, 150, 200 and 300] and let them choose their own price barrier. Of course, only one answer was possible.



This is probably the most important finding in this customer analysis. With a selling price of \$250, the 3<sup>rd</sup> generation Nest thermostat is obviously over priced for this surveyed population. Indeed, there is a clear \$100 limit that a majority of people are not willing to go above. Now the idea in the rest of this Marketing Plan is to build upon this result to consider some ways to attract those customers that will most certainty constitute our early majority.

### *Competitor Analysis*

The home thermostat market has high competition. Two years ago, Nest was not the market leader as shown in the figure 2 below. However, in 2017 Nest placed number 1 in the market based on the best programmable thermostats of 2017 in the figure 3. We can conclude that the top three competitors are Nest, Honeywell, and Ecobee. Additionally, in March 2017, Nest became the first smart thermostat to receive Energy Star certification from the U.S. EPA, this certification strengthens Nest's business case for use in utility programs.

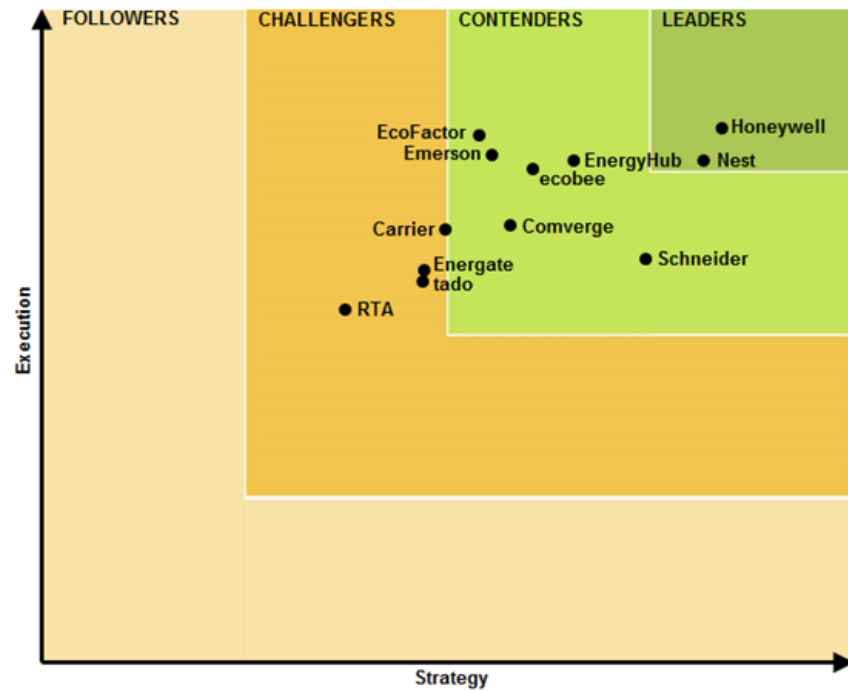


Figure 2 Smart Thermostat Market Competition (ca. 2015, Navigant)

### 2017 Best Programmable Thermostat

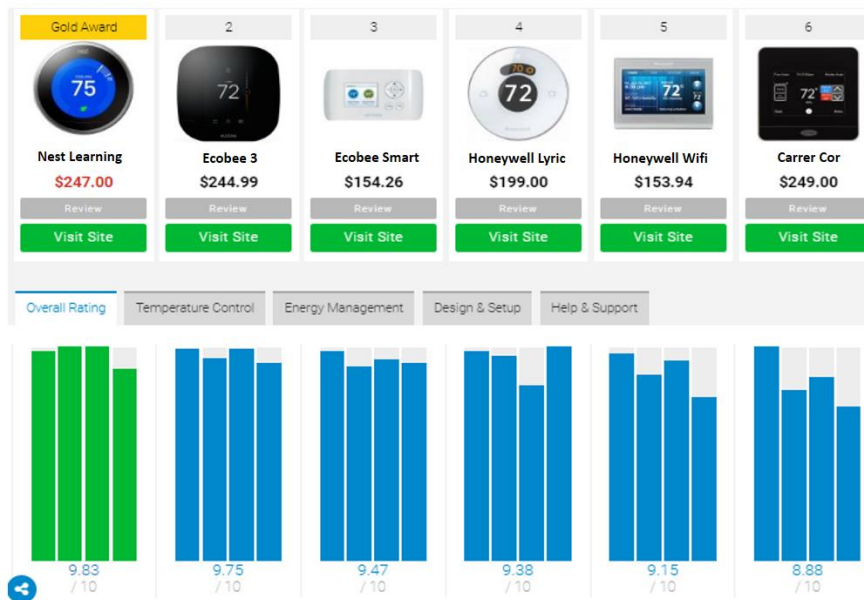


Figure 3 Smart Thermostat Market Competition 2017<sup>6</sup>

<sup>6</sup> Carlsen, John. "The Best Programmable Thermostats of 2017." *TopTenREVIEWS*. N.p., 06 Jan. 2017. Web. 20 Mar. 2017.

### Porter's Five Forces:

Porter's Five Forces provides an analytical framework to help business leadership develop strategies for a company. The objective of Porter's five forces model is to help companies figuring-out the components that lead to competitive and profitable business. The following is a summary of a competitive analysis utilizing Porter's five forces:

- Industry Rivalry → INTENSE
  - There are a significant number of market competitors in the thermostat market and in the smart thermostat portion of that market. The competition in the low-cost-provider segment is especially fierce. To date, Nest has been able to successfully differentiate its thermostat based on its proven energy savings performance and its ease of installation and use--enabling Nest to price its thermostat higher than most competitors.
- Bargaining power of Supplier → VERY LOW
  - Presently, manufacturing suppliers do not have significant negotiating leverage over thermostat production. Nest monitor for the development and maturation of a scenario where global instability leads to breakdown in international free trade and increased pressure to onshore manufacturing infrastructure.
  - The supply of intellectual property comes primarily from within the company--particularly in regard to data analytics and machine learning. At the moment, nobody is doing this better than Nest/Google. Still, Nest be mindful of leaps in the idea/knowledge supply chains of competitors.
- Bargaining Power of Customers → VERY HIGH
  - With so many potential customers and so many competing products, the bargaining power of customers is high.
- Threat of Substitutes → HIGH
  - With so many competitors, and new technological smart home solutions being regularly introduced into the market, the threat of substitutes as extraordinarily high. Not only must Nest be on guard for new entrants in the smart thermostat market, it must also be vigilant in regard to new smart home technologies that satisfy multiple domestic needs, including the functionality of a home thermostat (similar to inclusion of a camera into a cell phone).
- Threat of New Entrant → MED/HIGH
  - While the cost of developing a self-learning thermostat are high, the cost of developing programmable thermostats is not very high, relatively speaking. The high number of competitive players is proof positive that the cost of entry is not insurmountable, but at least to date, there is still only one self-learning thermostat on the market: Nest.

## SWOT Analysis

A SWOT analysis, which gives a quick overview of a company's strategic and objective, based on determining the four factors which are strengths and weaknesses (internal resources), as well as broader opportunities and threats (external situation). The following table shows the SWOT analysis.

	Helpful to achieving the objective	Harmful to achieving the objective
<b>Internal origin (attributes of the system)</b>	<p><i>Strengths</i></p> <ul style="list-style-type: none"> <li>● Market leader</li> <li>● Proven energy savings</li> <li>● Connects with other devices</li> <li>● Simple, easy to use (DIY), convenient</li> <li>● Self-learning</li> <li>● Aesthetically pleasing</li> <li>● Innovative <ul style="list-style-type: none"> <li>○ Updates available online</li> <li>○ Remote access</li> <li>○ Data lookback</li> </ul> </li> <li>● Profit inducing</li> <li>● Open source (works with Nest)</li> </ul>	<p><i>Weaknesses</i></p> <ul style="list-style-type: none"> <li>● High barrier price for mid-to-low income</li> <li>● Slower-than expected market uptake</li> <li>● Stuck in chasm (with the rest of smart home products)</li> <li>● Interoperability / standards not ripe yet (smart home)</li> <li>● Ongoing performance improvement</li> <li>● Limited by broadband access</li> <li>● Market for smart home still maturing</li> <li>● Cybersecurity / privacy</li> </ul>
<b>External origin (attributes of the environment)</b>	<p><i>Opportunities</i></p> <ul style="list-style-type: none"> <li>● Market largely unmet</li> <li>● Set for growth / connected to smart home</li> <li>● Green appeal / energy saving / cost saving</li> <li>● Partnerships <ul style="list-style-type: none"> <li>○ DIY- retail channel improvement</li> <li>○ Professional installation channel improvement</li> </ul> </li> <li>● Smart home market is expanding / increasing</li> <li>● Thermostat offers a platform to commercialize additional smart home products</li> </ul>	<p><i>Threats</i></p> <ul style="list-style-type: none"> <li>● A lot of competitors (especially low price)</li> <li>● Potential corporate divestment could affect competition for talent</li> <li>● Cybersecurity</li> <li>● Policy / regulation uncertainty</li> <li>● Rapid technology advancements by competitors (or self-disruption)</li> <li>● Loss of partnership opportunities</li> </ul>

We can conclude that Nest is the market leader for several good reasons including proven performance, DIY-friendly convenience, and high degree of interconnectivity. Even so, Nest still has high price barrier for middle and low class America. In terms of opportunities, there is strong growth potential in both thermostat market and smart home market. However, there is strong competition in this field as well as rapid technology advancements.

## *Marketing Objectives & Goals*

Identifying the marketing objectives and goals is one of most important elements that makes the marketing plan successful. Also, the marketing plan should be matched with the main company's objectives, goals and strategy in order to save maximize efficiency and make the company's goals more achievable. The current situation of the company on the product life cycle is in the chasm. Therefore, our main strategic goals is to increase the sales and profit which will help us jump the chasm. The Table-1 describes the objectives that related to the strategic goal of the marketing plan.

<b>Vision</b>	<b>Goals</b>	<b>Objectives</b>
To be in every building	Increase sales and profit & jump the chasm	Increase customer retention by providing high-quality customer services and solving technical issues quickly.
		Expand sales to existing customers who have prior generation of a Nest thermostat.
		Leverage utility relationships/ programs to lower prices and gain access to mid-level income market.
		Expand footprint in retail markets (DIYers, home builders, service professionals).

Table-1 Vision, Goals, and Objective of the nest 3rd generation marketing plan

## *Marketing Strategy*

Nest is the market leader in the smart thermostat market but still in the chasm because of several issues including but not limited to: the price of the Nest thermostat; and a smart home market which is not fully mature. We have developed two strategic tactics which will help us to implement the marketing strategy.

### Tactics

We will aggressively expand partnerships/ relationships with:

- Utilities
  - We will develop rebate programs with the utilities which will take the responsibility of portion of the cost for their customers. So the customer do not need to pay the full price of the 3rd gen thermostat

- Professional installers / service professionals (e.g. HVAC, security, etc.)
  - This will help us to reach this upstream marketing opportunity. Also, this relationship here is win-win relationship because we will provide them a high quality devices and high quality installation process, and they will purchase our product.
  - Secure new home/equipment installs happen with Nest
- Retail markets (e.g. big box stores)
  - The retail markets is one of the big opportunities for introducing and promoting our product because they give to customer the chance to see and touch our product physical which is not as ads do.
- We will purchase large ads to introduce and explain the benefits of use the smart thermostat which will raise the awareness of using our product and its benefits for them.

## *Marketing Mix (4P's) Analysis*

### Product

The product is sleek and easy to install, has number of features mainly ability to interact with other nest and third-party devices. The product has vertical integration i.e. support for Alexa, Google Home and other smart home products. However, 3rd generation Nest learning thermostat lacks remote room sensors which makes it limited in its capability and considered to be the highest in price compared to the similar products in the market.

The design resembles puck-shape measuring 1.2 inches thick and 3.3 inches in diameter. The thermostat is available in black, white, stainless steel or copper finish. The outer ring used to enter information by pressing on the edge of the ring to start an on-board menu screens. Turning the outer ring either left or right to search for items and by pressing again to select an item. The thermostat has user defined password and other settings easy and friendly to use.

The thermostat has ten temperature sensors, that is seven more than the prior generation of Nest thermostats, in addition to humidity, ambient light and activity sensors. Further, what differentiate the 3rd generation is the reactive feature of having the display turn on once a person enters the room compared to earlier versions that won't turn on unless a person is right in front the device.

Third generation Nest thermostat is compatible with Android, iOS or web-based app used for Nest's other devices. Easy to install comes with screwdriver, mounting screws and DIY fully detailed manual for installation with Wi-Fi settings.

### Price analysis

The Nest's 3rd generation has maintained a price to the consumer (end-user) of about \$250 since it was first introduced to the market in 2015, that makes it not exactly cheap. The catch has always been that the customer is saving more when they are purchasing Nest by: 1) Ability to better manage heating and cooling expenses. 2) Amazon offers Nest 3rd generation at a lower price when a consumer bundles their purchase with other smart-home equipment like

Alexa. 3) local utility companies offer rebates on various home appliances and some states offer tax subsidies.

Furthermore, Amazon website offers 7 services linked to Nest thermostat; including synchronized to work with Alexa instantly, Home/Away assist service, Far-sight control, Energy history analysis, Nest leaf report and \$50 gift card. The local utility rebate programs range from \$50 to \$75 depending on state or local utility programs.

### Place analysis

The focus of this business plan is the US market. The team opted to focus on US market has the company is experiencing internal strife with parent company Alphabet Inc., Dropcam R&D team and Google technical team. The focus on the US market gives the company the capacity to strengthen vertical and horizontal integration and revamp its leading market position. Total Available Market (TAM) is estimated to be at 6 million units nationwide; however, Serviceable Market (SAM) ranges from a low 1.8 million to a high 2.4 million units per year. The forecasted annual revenues are in amount of \$1.5 billion.

The company will seek to increase focus on retail outlets such as home improvement department stores and other DIY home improvement supply outlets. In addition, the company will seek horizontal partnership with home builder associations, direct contact with professional installers of HVAC, home security systems and solar panel installers.

### Promotion analysis

Nest promotion has four key components; the objective is enhancing Nest brand recognition among all stakeholders. Promotion consists of public relations, advertising, sales promotion and personal selling. The key components below form a comprehensive approach to achieve the business strategy and the marketing plan goals.

1. The plan calls for cross promotional approach to reach out to business partners and other stakeholders. The objective is to excite the potential users and captive market with what Nest offers. The goal is creating a brand recognition that smart home appliances are linked to Nest. Nest is to be perceived the pinnacle of energy savings appliances.
2. The plan calls for creating a positive engagement platform with the public and partners through introducing curiosity, interest, motivation and being persistent with the message.
3. Reaching out to all stakeholders through trade magazines, television advertisements, and professional installers associations.
4. The plan calls for enhancing interface with customers through various internet platforms, apps and other internet communication protocols.
5. The plan calls for augmenting existing utility partnerships by co-branding and marketing toolkits.



## *Distribution Management*

The goal of distribution management is to get the Nest thermostat into all homes that have broadband connections, there are two primary channels that will be used: indirect sales, selling through a dealer network, value added resellers.

Selling through a dealer network, such as retail, would help Nest to cross the chasm. By targeting retail big box stores such as Best Buy, Costco, Home Depot, and Amazon, the thermostat will receive more exposure. Focusing on stores that sell electronics and home improvement equipment, will provide exposure to both the home improvement crowd and the high technology crowd. Asking for prime product placement, such as end displays and aisle displays for Nest, will help increase visibility of the product. Using distribution management to help promote nest, there is the possibility of negotiating prime exposure at the store. Another tactic would be to work with local utility programs to design a rebate program, therefore creating a new price point for the Nest product, but the device would still be purchased through the retail market.

Service contractors and professional installers offer another great opportunity for the distribution of Nest. The Nest thermostat can help satisfy new codes and standards that are rapidly changing in the United States. These codes require builders to help conservation efforts among communities. Devices such as Nest demonstrate a commitment to conservation and can be used as an advertising tool for the service contractors. When new homes are built, Nest will be available for use in the home, simply because it has already been installed.

A small channel that is worth mentioning and may see growth in the future is the utility distribution channel. This is where the utility company (i.e. gas or electric) purchases the Nest and distributes the thermostat to help lower the energy demand from customers. Nest is currently the only device that has been approved through the U.S. Environmental Protection Agency's Energy Star certification and is therefore the only thermostat utility companies would distribute.

## *Communications Management*

Effective communication management of Nest will help to create brand awareness, increase revenue, and provide a gateway to the smart home. The two objectives this marketing plan focuses on are brand awareness and increase revenue. These objectives can be achieved largely by media advertising and internet advertising.

Media advertising, being the most cost effective and covering the largest audience, is imperative to getting the word out on Nest. It is suggested this is done by using targeted magazines such as technology-based magazines (*Wired*, *Popular Science*, *PC World*, *Popular Mechanics*, *PC Magazine*, etc.), conservation magazines (such as *National Geographic*, *Conservation Magazine*, etc), and home improvement magazines (*HGTV*, *Family Handyman*, *Do-it-Yourself Magazine*, etc). By targeting these three types of magazines, it will reach technology gurus, conservationists, and the do it yourself home repair crowd. Television commercials, also directed to these three types of purchasers, would also be a tactic to help increase brand awareness and increase revenue. Targeting commercials to be on channels such as the *Discovery* channel, *National Geographic* channel, and the *HGTV* channel would increase

the likelihood of increasing Nest purchases.

Internet advertising would be one of the greatest assets in communicating the benefits of Nest to the target market. Nest, being a high tech device, is going to have a positive and large presence on the internet. Nest is driven by internet connectivity, which is fitting. Today, everyone uses the internet and mobile applications. Phones are used more for internet devices and applications than they are used for telephone calls. Leveraging the Nest mobile application for users will help to promote the device. Advertising the Nest on applications such as Facebook, would help get the word out to the middle income market to help cross the chasm. By using this communication channel, Nest will reach the target marketing group and more.

These two types of communication management are the top ways to reach the target market and increase revenue while growing brand awareness.

Communication Tool	Average Cost of the Advertising	Average number of people tool reaches	CPM
Magazine	\$250,000	5,200,055	\$48.08
Television	\$342,000	5,188,571	\$65.91
Internet Advertising (Instagram/Facebook)	\$200,000	10,000,000	\$20.00

Table 2- Calculated Cost Per Thousand for the Primary Communication Tools

## *Implementation & Control*

The marketing plan implementation component has three layers, each contain metrics, and are summarized as follows:

1. Marketing through creating a promotional & communications tool-kit development.
2. Building sales outreach programs and partnership development.
3. Focusing on the customer by enhancing End-use customer experience.

However, the control portion of the marketing plan is based on multi-layered levels control and tracking. The objective is to measure and quantify marketing, sales and customer service.

At the marketing level:

1. Tracking ROI by measuring the difference between gross profit and marketing expenses divided by the marketing Investment.
2. Tracking minimum net increase of 1% monthly or 13% cumulative ARR (annual rate of return) of new Nest-qualifying utility rebate programs around the nation.

At the sales level:

Ensure that unit sold per month falls between a low-end of 160k to the high-end of 200k.

At the customer level:

1. Number of technical performance issues per week / month are identified and tabulated to track
2. Time to resolve issues.

## *Conclusion*

With the smart home trend and the Internet of Things breakthrough, the 3<sup>rd</sup> Generation nest thermostat has a clear opportunity to cross the chasm. Throughout our analysis, we were able to understand more the current situation of the product, develop a marketing strategy and a performance plan in the perspective of crossing that chasm.

Through the current situation analysis, we came to the conclusions that the market presents some very interesting opportunities with the evolution of smart homes and the IoT, however the rivalry within the industry is indeed very intense. Also, pricing could be an issue to reach the early majority customers. Considering this current situation, the marketing strategy has been designed to leverage the opportunities that Nest had on its side and tried to overcome the barriers that they were facing. Goals and objectives have been defined like taking the path of partnerships to lower prices so that we could increase the customer attractiveness. Last but not least, a performance plan has been designed in order to achieve the objectives. With very precise actions and monitoring, this plan answers the strategic gaps that we found and aims to take Nest 3<sup>rd</sup> generation thermostat to the next step of the lifecycle curve.

Beyond, the deliverable aspect of this project, as a team, we were able to apply the knowledge gained throughout our class of technology marketing. Far beyond the initial thought of technology and marketing being in conflict, we were able to witness how marketing could be applied to a breakthrough technology and contribute to its development and adoption in the mass market. We were also able to witness how comprehensive the marketing plan is and how it could be assimilated to the global strategy of a company. Also, this comprehensiveness made us aware of the necessity to involve all the components of a technology firm. From the development team to the marketing team via the accounting team and finally the executive committee, the deliverable is a global team endeavor that requires well-oiled collaboration machine.

## *Bibliography*

Cynthia Shahan, "New thermostat technology sticks to budget," *CleanTechnica*, July 8, 2014; <https://cleantechnica.com/2014/07/08/new-thermostat-technology-budget/> (last accessed on 2/14/17).

Carlsen, John. "The Best Programmable Thermostats of 2017." *TopTenREVIEWS*. N.p., 06 Jan. 2017. Web. 20 Mar. 2017.

Dan Primack and Leena Rao, "Exclusive: Google will absorb Nest Developers," *Fortune*, Aug. 30, 2016; <http://fortune.com/2016/08/30/google-nest-developers-alphabet/> (last accessed on 2/14/17).

Derek Markham, "Schneider Electric and EnergySage partner to promote home solar and energy efficiency," *Greentech Media*, June 7, 2016; <https://cleantechnica.com/2016/06/07/schneider-electric-energysage-partner-promote-home-solar-energy-efficiency/> (last accessed on 2/14/17).

Frost & Sullivan, Press release for new report: "Smart thermostats market to rocket up to \$2.5 billion in 5 years, predicts Frost & Sullivan," *Frost & Sullivan*, July 27, 2015; <https://ww2.frost.com/news/press-releases/smart-thermostats-market-rocket-25-billion-5-years-predicts-frost-sullivan/> (last accessed on 2/13/17).

Future Market Insights, Global Smart Thermostat Market: Share, Global Trends, Opportunities, Segmentation and Forecast, 2015 – 2025, posted on SlideShare, Aug. 26, 2016; <http://www.slideshare.net/Shashiepawar/smart-thermostat-market-segments-and-key-trends-20152025> (last accessed on 2/13/17).

Google's Nest, is struggling to innovate and scale. What's the problem?" *CIO*, Apr. 8, 2016; <http://www.cio.com/article/3053652/internet-of-things/googles-nest-struggles-could-set-back-the-iot-movement.html> (last accessed on 2/14/17).

Jeff St. John, "Inside Nest's 50,000-Home Virtual Power Plant for Southern California Edison: Nest builds a plan to quickly replace power plants with smart thermostats," *Greentech Media*, Sept. 14, 2016; <https://www.greentechmedia.com/articles/read/inside-nests-50000-home-virtual-power-plant-for-southern-california-edison> (last accessed on 2/14/17).

Jeff St. John, "Regulators to California utilities: More third-party demand response, please

: PG&E and SDG&E must find more megawatts of distributed energy resources for the state's DRAM program," *Greentech Media*, Sept. 30, 2016; <https://www.greentechmedia.com/articles/read/regulators-to-california-utilities-more-third-party-demand-response-please> (last accessed on 2/14/17).

Jeff St. John, "How Nest's shakeup could alter its approach to energy management: Tony Fadell's departure signals changes for Google's smart home company. Will energy get a higher priority?" *Greentech Media*, June 10, 2016; <https://www.greentechmedia.com/articles/read/how-nests-shakeup-could-alter-its-approach-to-energy-management> (last accessed on 2/14/17).

Jeff St. John, "How long until tech firms have more home energy data than utilities do? Utilities could face a 'use it or lose it' dilemma with their data." *Greentech Media*, Feb. 11, 2015; <https://www.greentechmedia.com/articles/read/utilities-could-face-use-it-or-lose-it-dilemma-with-their-data> (last accessed on 2/14/17).

Jeff St. John, "SolarCity, Nest to energy regulators: Open the grid: Solar, batteries and energy-smart homes are grid resources, but regulators aren't recognizing them yet," *Greentech Media*, Oct. 16, 2014; <https://www.greentechmedia.com/articles/read/solarcity-nest-to-energy-regulators-open-the-grid> (last accessed on 2/14/17).

J. D'Onfro, "We're hearing about troubles at Nest, the smart-home company Google bought for \$3.2 billion," *Business Insider*, 15-Feb-2016. [Online]. Available: <http://www.businessinsider.com/whats-going-on-at-nest-2016-2>. [Accessed: 03-Mar-2017].

Joshua S. Hill, "Honeywell and Nest lead the way for smart thermostats," *CleanTechnica*, July 25, 2015, <https://cleantechnica.com/2015/07/25/honeywell-nest-lead-way-smart-thermostats/> (last accessed on 2/13/17).

Joshua S. Hill, "WattTime launches new smart thermostat solution to fight climate change," *CleanTechnica*, Apr. 22, 2016; <https://cleantechnica.com/2016/04/22/watttime-launches-new-smart-thermostat-fight-climate-change/> (last accessed on 2/14/17).

Joshua S. Hill, "Smart thermostat sales to rise past 40% in 2015," *CleanTechnica*, July 23, 2015; <https://cleantechnica.com/2015/07/23/smart-thermostat-sales-rise-past-40-2015/> (last accessed on 2/14/17).

Julia Pyper, “Are we getting any closer to the smart home? A look at trends from CES: Voice control was a dominant feature in new products,” *Greentech Media*, Jan. 14, 2016; <https://www.greentechmedia.com/articles/read/Voice-Control-Emerges-as-a-Major-Theme-in-the-Smart-Home-at-CES-2016> (last accessed on 2/14/17).

Katherine Tweed, “Amazon Alexa leads \$35M series B for Ecobee: Will a tighter integration with Alexa keep ecobee at the top of the smart-thermostat pack?” *Greentech Media*, Aug. 19, 2016; <https://www.greentechmedia.com/articles/read/amazon-alexa-leads-35m-series-c-for-ecobee> (last accessed on 2/14/17).

Katherine Tweed, “Nest Unveils its third-generation thermostat amid increasing competition: The company is also beefing up its sales channels,” *Greentech Media*, Sept. 1, 2015; <https://www.greentechmedia.com/articles/read/nest-launches-third-generation-smart-thermostat> (last accessed on 2/14/17).

Katherine Tweed, “Apple will no longer sell Nest Thermostats: Nest and Apple face off over the connected home,” *Greentech Media*, July 24, 2015; <https://www.greentechmedia.com/articles/read/Apple-Wont-Sell-Nest-Thermostats-Anymore> (last accessed on 2/14/17).

Katherine Tweed, “Smart thermostats begin to dominate the market in 2015: Nearly half of those sold are connected two-way thermostats, opening up many options for utilities,” *Greentech Media*, July 22, 2015; <https://www.greentechmedia.com/articles/read/smart-thermostats-start-to-dominate-the-market-in-2015> (last accessed on 2/14/17).

Katherine Tweed, “5 big trends in home energy in 2014: Your smart home is coming, and it may have a battery pack along with your solar panel and free HBO,” *Greentech Media*, Dec. 15, 2014; <https://www.greentechmedia.com/articles/read/5-Big-Trends-in-Home-Energy-in-2014> (last accessed on 2/14/17).

Katie Fehrenbacher, “5 trends for the smart energy home of the future,” *Greentech Media*, Jan. 9, 2017, <https://www.greentechmedia.com/articles/read/5-trends-for-the-smart-energy-home-of-the-future> (last accessed on 2/14/17).

MarketsandMarkets, Press Release on report release: Smart Thermostat Market by Component by Network Connectivity (Wired, Wireless), by Application (Residential Office Building, Educational Institutional, Retail, Hospitality, and Healthcare), and Geography—Forecast to

2020, Sept. 2015; <http://www.marketsandmarkets.com/PressReleases/smart-thermostat.asp> (last accessed on 2/13/17).

Matt Kapko, “Google’s Nest struggles could set back the IoT movement: Despite the hype surrounding the Internet of Things and smart home, one of the industry’s largest players,

M. Rogowsky, “5 Reasons Nest Sold To Google,” *Forbes*, 16-Jan-2014. [Online]. Available:<https://www.forbes.com/sites/markrogowsky/2014/01/14/5-reasons-nest-sold-to-google/#41eb2ec95200>. [Accessed: 03-Mar-2017].

"Nest Learning Thermostat." *Nest Store*.  
<https://store.nest.com/product/thermostat?selectedVariantId=T3007ES>. Web. 20 Mar. 2017.

Noah Golding, “Consumer awareness for smart energy services and technologies at an all-time high,” *EnergyCentral*, May 11, 2016, <http://www.energycentral.com/c/ua/consumer-awareness-smart-energy-services-and-technologies-all-time-high> (last accessed on 2/13/17).

Ram Namayanamurthy and Jen Robinson, Electric Power Research Institute, Smart Thermostats: Learning about Connected Customers, presented at Behavior Energy and Climate Change Conference, October 19, 2015, [http://beccconference.org/wp-content/uploads/2015/10/presentation\\_narayanamurthy.pdf](http://beccconference.org/wp-content/uploads/2015/10/presentation_narayanamurthy.pdf) (last accessed on 2/13/17).

Smart Grid Consumer Collaborative, White Paper: Smart Thermostats—The Next Wave in Consumer Empowerment, 2016; <http://3593f84chf852yw5d4c5emoe.wpengine.netdna-cdn.com/wp-content/uploads/2016/06/TEC-Smart-Thermostat-White-Paper-Final.pdf> (last accessed on 2/13/17).

Stephen Lacey, “The U.S. Smart Thermostat Market is Potentially Massive: With penetration low and interest rising, smart thermostat makers have a very large market to address,” *Greentech Media*, Feb. 19, 2014; <https://www.greentechmedia.com/articles/read/the-us-smart-thermostat-market-is-potentially-massive> (last accessed on 2/13/17).

U.S. Dept. of Energy, Office of Energy Efficiency & Renewable Energy, *Overview of Existing and Future Residential Use Cases for Connected Thermostats*, Dec. 2016.

Yarow, J. "Nest, Google's New Thermostat Company, Is Generating A Stunning \$300 Million In Annual Revenue," Business Insider, 14-Jan-2014. [Online]. Available: <http://www.businessinsider.com/nest-revenue-2014-1>. [Accessed: March 20, 2017].

Xander Becket on January 13, 2016 "The Cost of Advertising Nationally Broken Down by Medium." WebpageFX Blog. N.p., 15 Feb. 2017. Web. 21 Mar. 2017.



## Appendix

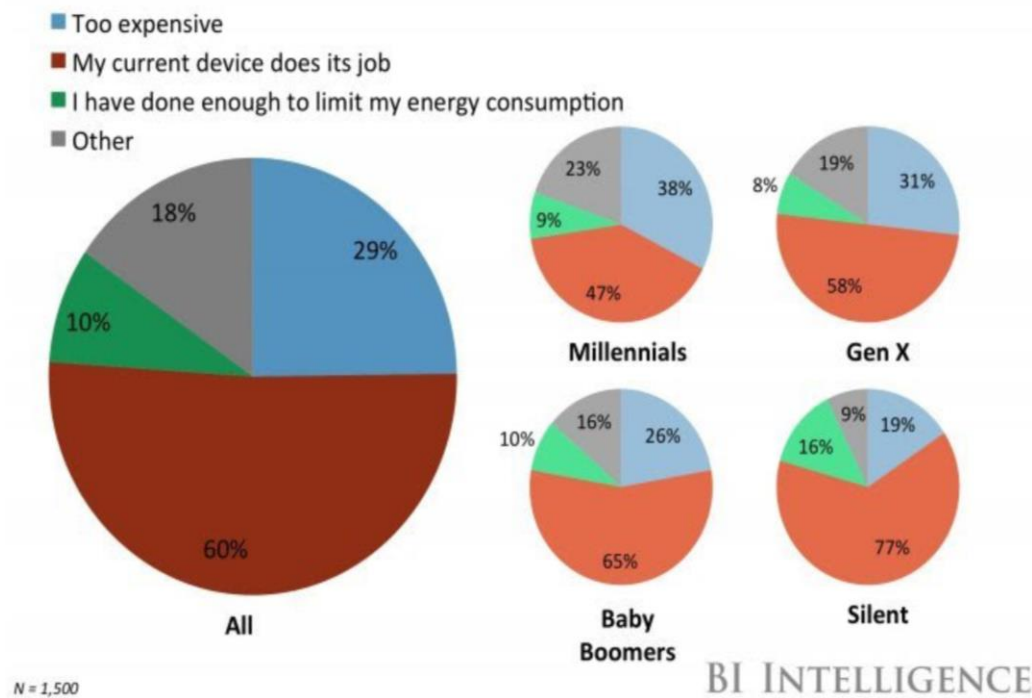
The summer of characteristics for the 3rd generation of Nest thermostat:

<b>Color</b>	Stainless Steel Copper Black White
<b>Screen</b>	24-bit color LCD 480 x 480 resolution at 229 pixels per inch 2.08 in (5.3 cm) diameter
<b>Languages</b>	English French Dutch Spanish
<b>Compatibility</b>	The Nest Learning Thermostat works with 95% of 24V heating and cooling systems, including gas, electric, forced air, heat pump, radiant, oil, hot water, solar and geothermal. Heating: 1, 2, and 3 stages (W1, W2, W3) Cooling: 1 and 2 stages (Y1, Y2) Heat pump: with auxiliary and emergency heat (O/B, AUX, E) Humidifier or dehumidifier (HUM, DEHUM) Fan (G) Power (C, RH, RC)
<b>Sensors</b>	Temperature Humidity Near-field activity Far-field activity Ambient light
<b>Wireless</b>	Wi-Fi 802.11b/g/n @ 2.4GHz, 5GHz 802.15.4 @ 2.4GHz Bluetooth Low Energy (BLE)
<b>Size and weight</b>	Display Mass: 7.25 oz (205.4 g) Diameter: 3.3 in (8.4 cm) Height: 1.06 in (2.69 cm) Base

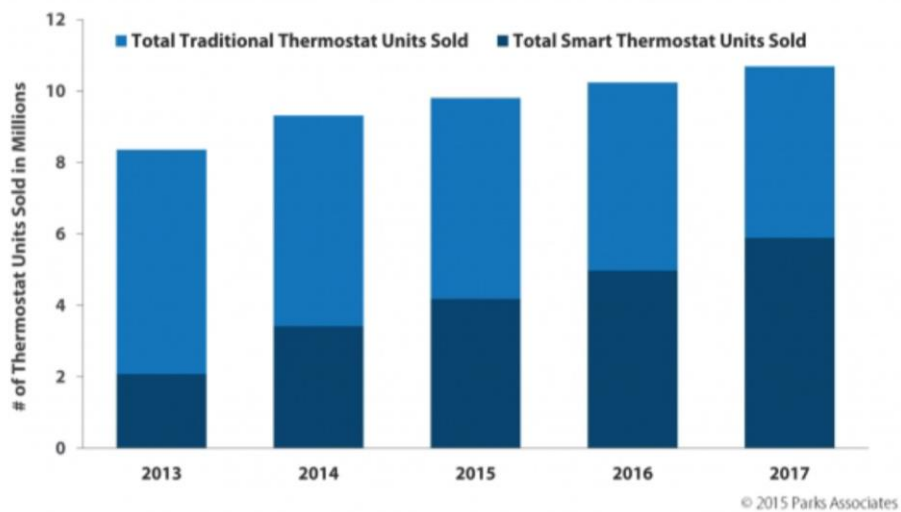
	<p>Mass: 1.35 oz (38.3 g)  Diameter: 3 in (7.6 cm)  Height: 0.42 in (1.1 cm)</p> <p>Assembled</p> <p>Mass: 8.6 oz (243.7 g)  Diameter: 3.3 in (8.4 cm)  Height: 1.21 in (3.08 cm)</p>
<b>Battery</b>	<p>Built-in rechargeable lithium-ion battery</p> <p>Power consumption</p> <p>Less than 1 kWh/month</p>
<b>Remote control requirements</b>	<p>Wi-Fi connection with internet access</p> <p>Nest app on phone or tablet with iOS 8 or later, or Android 4.1 or later</p> <p>Latest version of Safari, Chrome, Firefox or Internet Explorer on Mac OS X v10.9 or later and Windows 7 or later</p>
<b>Multi-home support</b>	<p>Multi-zone homes</p> <p>You can control up to 20 thermostats per home. They'll work together to save energy and check if the house is empty.</p> <p>Nest in two homes</p> <p>You can control Nest Thermostats in two locations from one Nest Account.</p>
<b>Warranty</b>	<p>2-year limited warranty. For support, visit <a href="http://nest.com/support">nest.com/support</a></p> <p>Our support team is also available by phone 24/7.</p>
<b>In the box</b>	<p>Display</p> <p>Base</p> <p>Optional trim plate</p> <p>Mounting screws and labels</p> <p>Nest screwdriver</p> <p>Installation Guide</p> <p>Welcome Guide</p> <p>Nest Pro installation card</p>

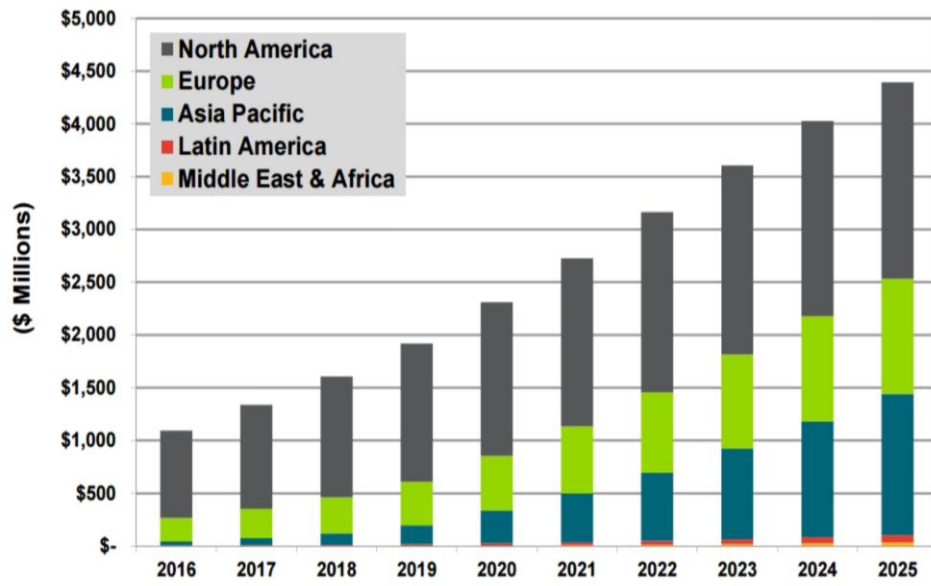
## Barriers To Upgrading Basic Thermostat

2016



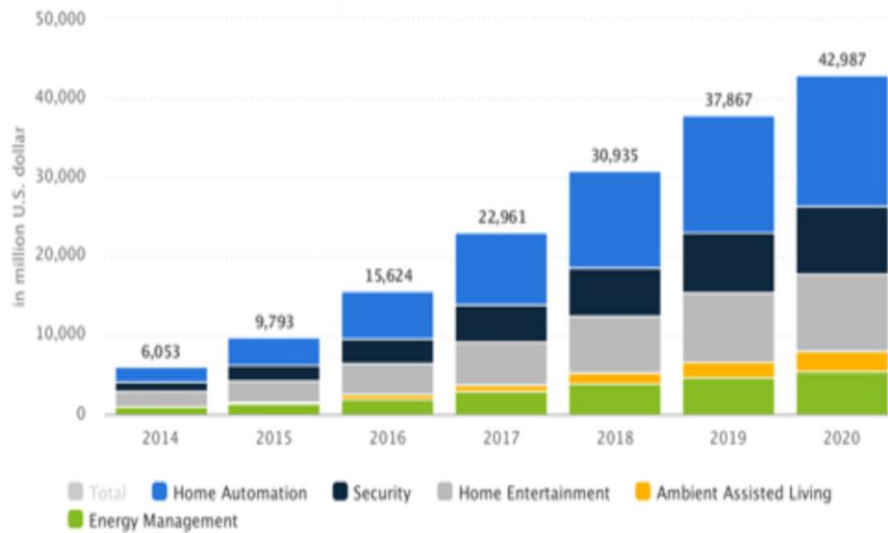
## Thermostat Units Sold in U.S. (#M)





## Revenue in the Smart Home market

in million U.S. dollars (worldwide)

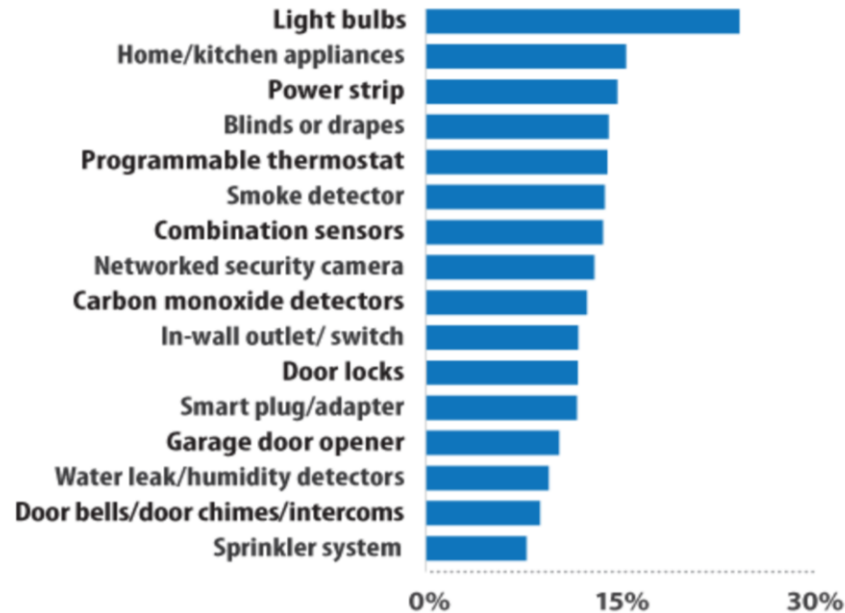


Source: Statista 2015; Selected region only includes countries listed in the Digital Market Outlook

statista

## Consumers Intending to Buy Smart Home Devices in Next 12 Months

U.S. Broadband Households



Bargaining power of Supplier:

- Dropcam acquisition in June 2014
- Increasing number of smart home suppliers
- The Nest brand

**Very Low**

Bargaining power of Customers:

- Consumption capacity
- Superior brand equity
- Product differentiation

**Very High**

**INTENSE**

INDUSTRY RIVALRY

Threat of Substitutes:

- Single brand company
- Direct competitors to Nest
- Lost in the innovative appeal

**High**

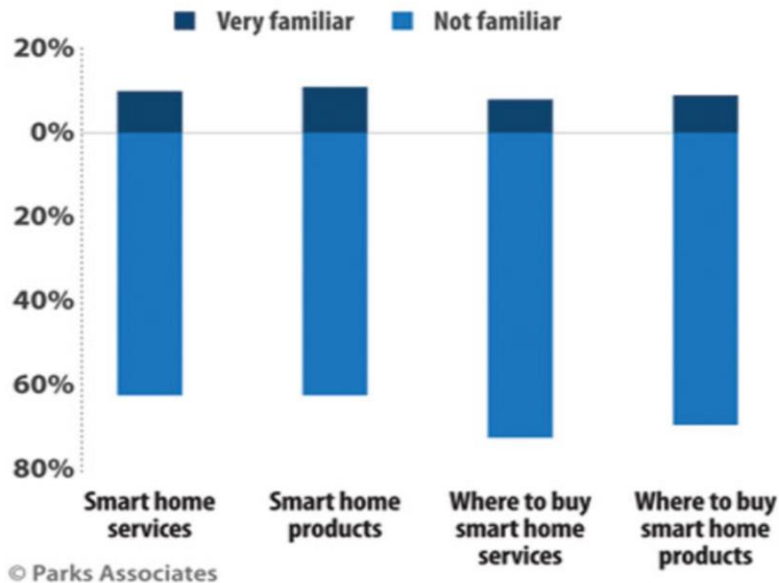
Threat of New Entrant:

- Company partnership with Google
- High cost of unpredictability
- Quick increase in staff and loads of new ideas

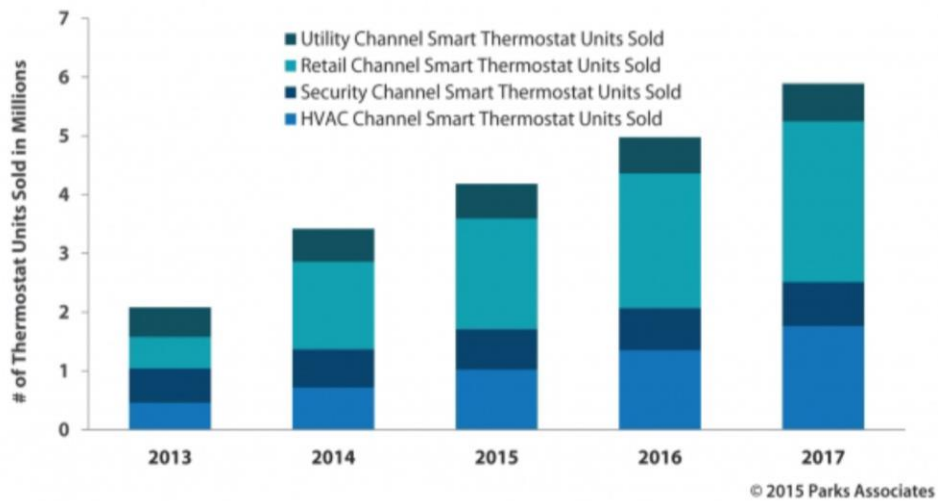
**High**

## Familiarity with Smart Home Solutions and Purchase Locations

U.S. Broadband Households

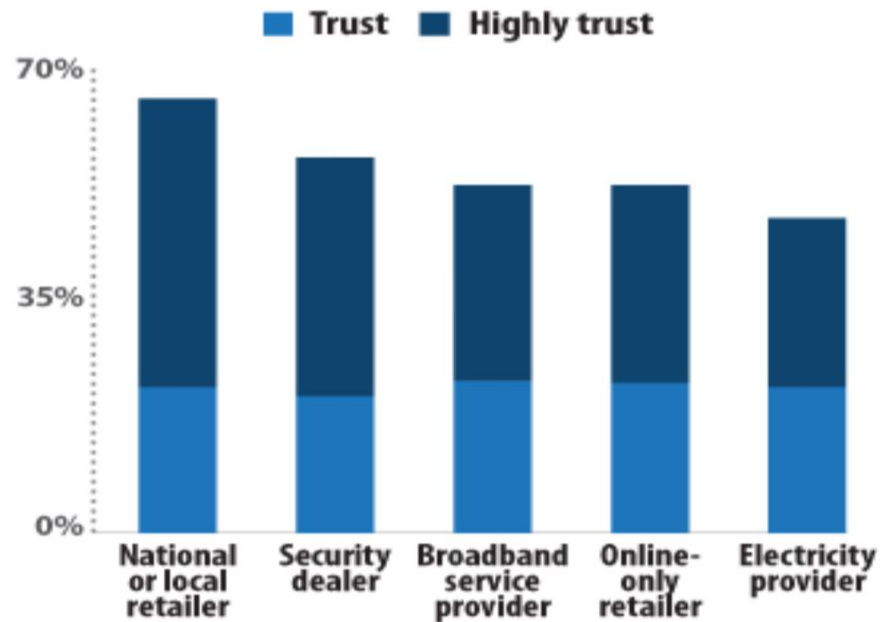


## Smart Thermostat Units Sold in U.S. (#M)



## Consumer Trust in Smart Home Product Purchase Channels

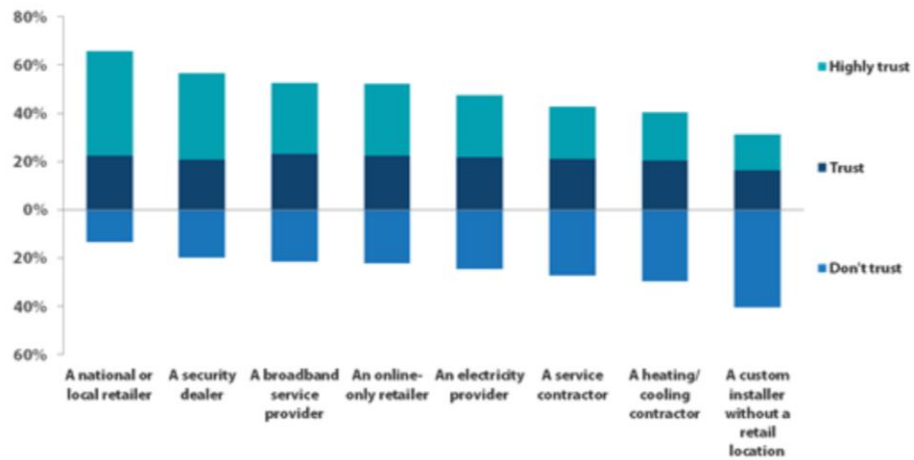
U.S. Broadband Households



© Parks Associates

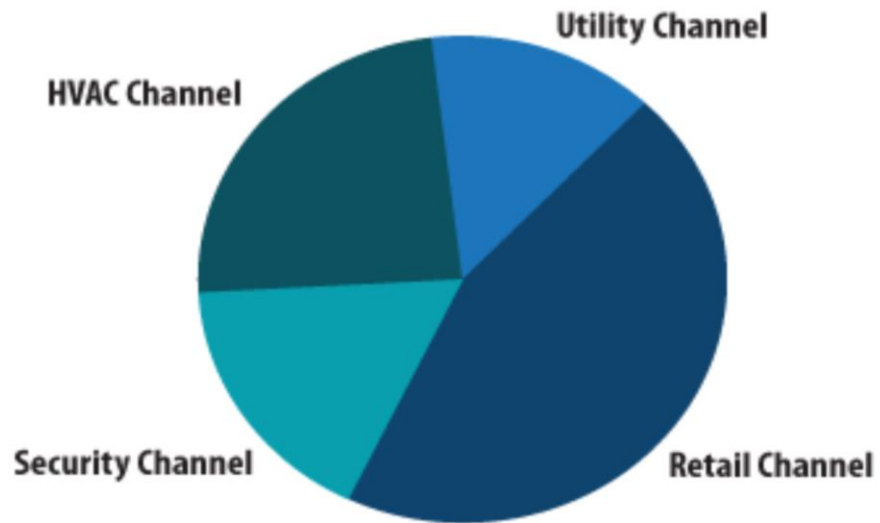
## Consumer Trust in Smart Home Product Purchase Channels

Among All Respondents Surveyed



© Parks Associates

## Share of Smart Thermostats Sold in U.S. in 2015



© Parks Associates