

THE SMART HOME FLOORPLAN: 3 KEY DEVICE STRATEGIES



Whitepaper

1.1 Introduction

Smart devices in the home are now a mainstay feature. It has been almost six years since the release of the Amazon Echo. Now, voice assistants, produced by numerous providers, are just one of various smart devices that the modern 'smart home' might own. Smart meters, smart entertainment systems and smart security systems have penetrated the market and continue to rise in popularity.

As the number of smart home devices sold per annum continues to grow, as well as the total revenue these sales generate, it is essential to understand the market forces underpinning this success. Through this understanding, it is possible to get the most out of the current boom, as well as understanding what future changes and challenges will shape the market over the coming years.

1.1.1 Device Forms

Considering each type of device in isolation sheds light on more specific market strategies manufacturers can take. Though smart home devices are influenced by common market factors, there are also unique approaches best suited to particular device forms outlined below.

i. Voice Assistants

Voice assistants have become a benchmark feature for smart home appliances to include. In 2014, with the arrival of the Amazon Echo, the incorporation of Amazon's voice assistant Alexa introduced voice interaction to the smart home appliance sector. Major technology

companies, such as Apple, Google and Samsung, have since entered the market with competitive devices to contest with Amazon, who themselves are on the third generation of the Echo. The fourth edition of the Echo is scheduled to launch in October 2020.

Whilst these advances are undoubtedly successes, they are not significant driving factors pushing voice assistants forwards. The core concept of voice assistants is unchanged from the initial release devices. The same goes for the appeal to users. The way in which voice assistants have become more relevant and meaningful to consumers is through the rise of perceiving them as the linchpin product for the smart home.

ii. Smart Meters

Smart meters grant the user the ability to control the temperature of their household remotely, rather than require interacting directly with a thermostat. Providers Hive and Nest have emerged as the market leaders in the smart meter market. Smart meters are continuing to proliferate in new emergent markets; having already penetrated Europe and North America.

The issue facing smart meters is that, once a consumer has bought a smart meter, there is minimal incentive for the buyer to upgrade. Smart meters generally have long lifespans compared to other tech products, with one source reporting a lifespan of five to twenty years, with a rough average of around ten. For repeat business, therefore, manufacturers need to incentivise users to upgrade before they are compelled to do so through the device's natural decline. Second generation smart meters have the added benefit of allowing intercommunicability across energy suppliers. This allows users to transfer supplier more easily; representing a superior product for the user. Nevertheless, there has yet to be a

successful trend of consumers transferring from first generation to second generation smart meters in the way that switching from traditional meters to smart meters saw.

iii. Smart Security Systems

Smart security systems form an ecosystem within themselves. The types of smart device that can relate to security are extensive; ranging from alarms to cameras and smart doorbells falling, all falling under the umbrella term.

For manufacturers, the most important factor to incorporate is home coverage. The collective offering gives the end user greater coverage of the household, and upscales the value to the user. In this sense, the optimum strategy for manufacturers of smart security systems is to have as broad a product range as possible.

iv. Miscellaneous Smart Devices

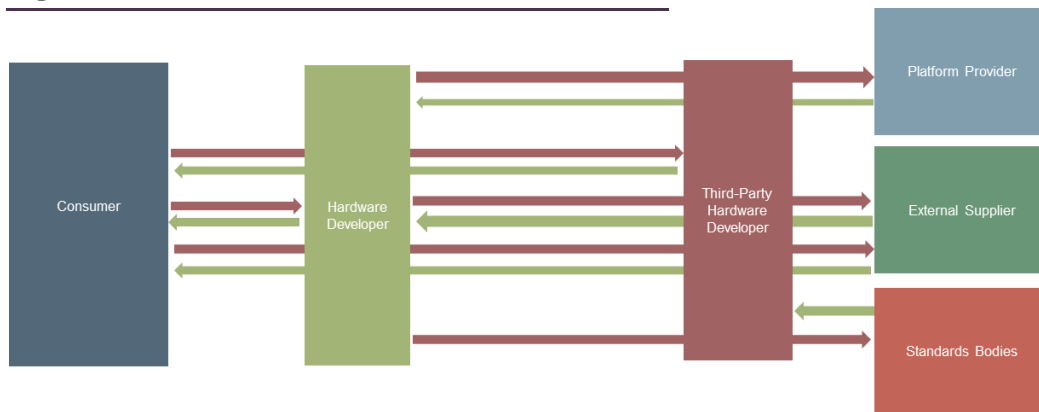
Additional forms of smart home devices further augment the smart home. These products include smart lighting, smart plugs and other smart appliances. The collective aim of these products is to give the user greater control than the traditional versions of the devices. This can be seen with smart lightbulbs that allow the user to control the brightness to a greater extent than a binary on-off, or appliances that allow the user to control them remotely.

Ultimately, these devices are reliant upon users who have bought into the concept of the smart home and smart devices as a whole. They are unlikely to be entry-level smart devices, and manufacturers should use them to fill out their portfolio and advertise them through the benefits of their interconnectivity with other mainstream devices.

1.2 Smart Home Value Chain & Product Strategies

Juniper Research considers that the following forces influence the smart home appliance value chain. Note that entities can hold more than one role in the value chain, although it is rare.

- **End Users:** The people or businesses using the appliances within their own home.
- **Device Manufacturers:** The vendors creating hardware units available for purchase.
- **Platform Providers:** Software providers for the system through which smart home appliances are remotely accessed, often through a user's smartphone or equivalent device.
- **Voice Assistant Providers:** The manufacturers of voice assistants that are compatible with smart home appliances for ease of interaction.
- **Standards Developers:** Independent bodies responsible for publishing requirements for smart home appliances to adhere to.

Figure 1: Smart Home Devices Value Chain

Source: Juniper Research

1.2.1 Disruptive Technologies

Disruptive technologies often represent a potential threat to established products. In the case of smart home devices, however, disruptive technology can act as an opportunity for the established players if it can be amalgamated into the current offering. The appeal of the smart home ensures that each new innovation will only incentivise customers to buy other products, so long as there is the capacity for interconnectivity between devices.

On the basis of this strategy, it is in the interest of established market leaders in the smart home device industry to leverage smaller companies to innovate new devices that have the capacity to synchronise with their existing portfolio. By using a common platform across devices from different manufacturers, there is an opportunity for the marketing of interconnectivity that upscales the value of the products and makes both new devices and acquiring multiple devices more attractive to the end user.

1.2.2 Portfolio Diversification

For those providers of smart devices who have been in the space for several years, a new challenge presents itself. There must be a strategy to keep growth progressing once the market has become more saturated with the initial smart device.

The first option is to refine the original design and release updated and improved versions of an existing smart device. This is the model that has been the preference of voice assistant developers. The Amazon Echo, for example, is currently at its third generation, with new features being progressively added, to appeal to a pre-existing consumer base.

The alternative approach is to branch out of the initial flagship product and expand the smart device portfolio. Numerous leading smart appliance manufacturers have taken this route; allowing the interconnectivity of the devices to act as a selling point, to encourage brand loyalty and future purchases.

i. Third-party Development

One of the most important schisms in market approach for the smart home appliance industry is the extent of incorporating the features and technology of third-party developers. There are two reasons for third-party developers to be utilised or allowed access to internal technology:

- To upscale the functional capability of the developed product
- To create a more holistic offering in pursuit of delivering the connected home

An important factor for the reader to understand is that the larger developers who occupied the space first are the most sought after for third-party collaborations. Amazon serves as the benchmark example. The Alexa voice assistant is integrated into a vast array of smart home devices, to the point it can almost be viewed as a flaw of a device not to have Alexa access.

This makes particular sense for developers of a specific niche of smart home appliances. A developer working purely in smart lighting, for example, may wish to have interconnectivity to smart entertainment devices. This enhances the appeal of the device; rather than being viewed as a singular product, the device is seen as a complementary device to others and users of one product may be inclined to buy a package of products from multiple providers under a shared platform.

However, a fine line needs to be walked here; total isolation from other devices leaves the developer with reduced functionality to the point they will struggle to be competitive. Surrendering too much control to platform providers willingly, however, can stymie growth and future potential. The line for small- to medium-sized growing developers to tread is to allow

cross-compatibility when necessary, but not blindly. Synergising with types of smart home appliances that there is no intention to internally develop has few constraints. Having clear direction and not enabling a direct competitor access to potentially disruptive technology, though, is essential (ie if a smart lighting developer intends in the future to move into smart security products, then too much collaboration can block the intended future growth). This incidentally explains why allowing Amazon Alexa penetration is not seen as such a reduction, because few developers intend to create their own version.

1.2.3 The Central Hub

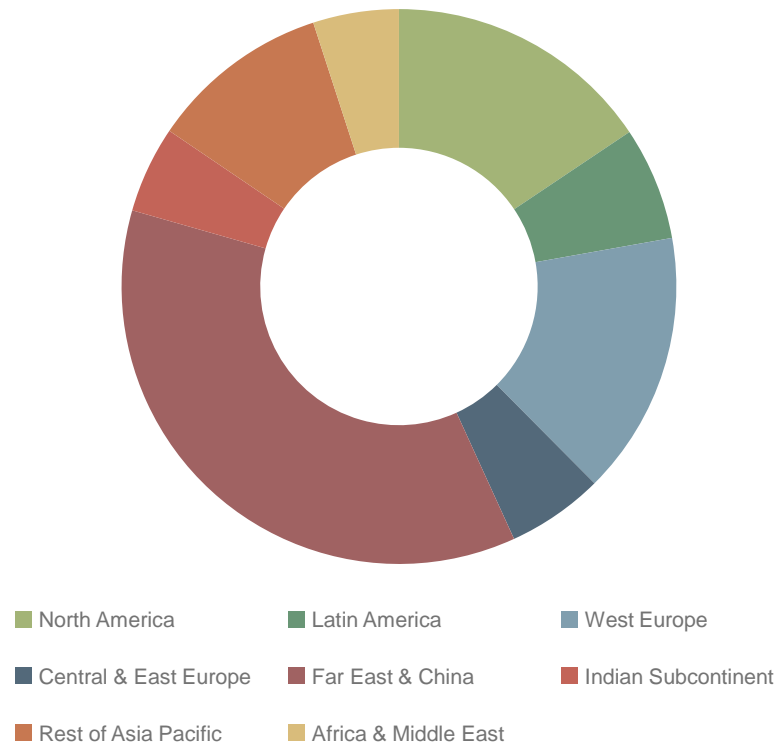
This 'central hub' product is intended to be the access point for the smart home. It is the most irreplaceable of devices, as it is the point that distinguishes the house from having numerous smart devices within it and being a true smart home. At the time of writing, a voice assistant device typically holds this spot.

The challenge for anyone who wishes to take the mantle as industry leader is to make a more compelling product that ties devices made by multiple manufacturers into one point. There is scope for creativity in what the perfect form and interface of this device is. Voice assistants are a prevalent mode, but others exist; for example, Logitech have built smart remotes, a more traditional interface option. Chasing this spot is challenging and requires the user to gamble on finding either a form or interaction that will outperform existing modes. If it can be achieved, however, the potential reward is ownership of a new flagship hub for the entire industry, which will only be cemented more strongly, as the smart home trend continues to popularise.

1.3 Smart Home Devices Forecast

Juniper Research has found that there will be 13.5 billion smart home devices active in 2025, with voice assistant capabilities connecting digital entertainment devices into the broader smart home control ecosystem, from smart speakers to TVs and games consoles.

Figure 2: Number of Connected Smart Home Devices, Installed Base in 2025: 13.5 billion



Source: Juniper Research

- Smart home devices will grow by 80% over the next five years, with smart home entertainment devices almost doubling in that time. Entertainment devices will also take the bulk of the sectors revenue, at over \$230 billion in 2025.
- By contrast, the smart metering market will grow slowly, at an average rate of 2% per year worldwide. Juniper Research notes that this requires continued support from regulatory authorities to move much further. This will lead to slow growth in the markets outside of Europe, where such support has never been particularly strong.
- Home automation devices will grow to 3.9 billion active devices in use, led by lightbulbs and locks, which tend to be replaced on a per household basis when they are replaced. However, the report notes that these will be part of only 11% of households in 2025, as these are not devices that consumers will be driven to replace on a regular basis.

Order the Full Research

Smart Home Devices' new research focuses on both devices and device vendors; delivering a comprehensive picture of the current status and future of the smart home devices market. With strategic insights and detailed forecasts into four key smart home segments, the research investigates current drivers of smart home adoption pushing the space forward, from emerging services to the ongoing impact of trends like voice assistant use. Discover the main limitations and challenges the field faces, from interoperability to the impact of COVID-19.

Key Features

- **Market Analysis:** Detailed analysis with invaluable insights of market trends, limitations and future outlook of four key smart home segments.
- **Business Model Analysis:** Comparison of current and developing business models in the smart home space, including an analysis of:
 - Subscription, hardware sales and hybrid business models
 - The role of a variety of players in the space
- **Juniper Research Leaderboard:** 15 leading smart home device vendors compared, scored and positioned, including Logitech, Philips Hue and Samsung.
- **Benchmark Industry Forecasts:** Data projections for Smart Home Entertainment, Smart Home Automation & Monitoring, Smart Metering, and Connected Appliances.

- **Regional splits** for 8 key regions, as well as country-level data splits for 19 countries.

What's in This Research?

1. **Market Trends:** Analysis of market trends and business models throughout the smart home device value chain.
2. **Strategic Analysis & Vendor Strategies:** Future direction of the smart home device market, as well as a player-by-player strategic analysis; highlighting moves that the biggest players are making and what this means for the market as a whole.
3. **Five-year Forecasts:** Forecasts to 2025 covering the installed base and revenue from smart home devices; split by 8 key regions.
4. **Interactive Forecast Excel:** Highly granular dataset comprising more than 25,000 datapoints; allied to an Interactive Scenario tool giving users the ability to manipulate Juniper Research's data.

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