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Architecting New Age Home Insurance through Connected Homes

Abstract

After several years of hype and promise, connected homes are now set to become a widespread reality, given the growing popularity of the Internet of Things (IoT). This new dimension of everyday living will also create a huge impact on several interconnected sectors including home insurance. Connected homes with sensors can detect and prevent losses such as water damage, fire, and theft, which account for a significant portion of insurance claims expense.

Analyzing home data gathered through connected devices will enable carriers to create new personalized products and services across the insurance value chain. Insurers can take advantage of data streaming in from connected devices to derive valuable insights, which can help increase home insurance efficiency, reduce claims costs, and improve customer engagement.

Several insurance carriers such as Allstate Canada, State Farm, BNP Paribas in Italy, and Allianz are leveraging connected home technology and partnering with device makers to offer home insurance[1]. For instance, BNP Paribas Cardiff's home insurance solution in Italy, Habit@t [2], deploys sensors to monitor the house when customers are not home.
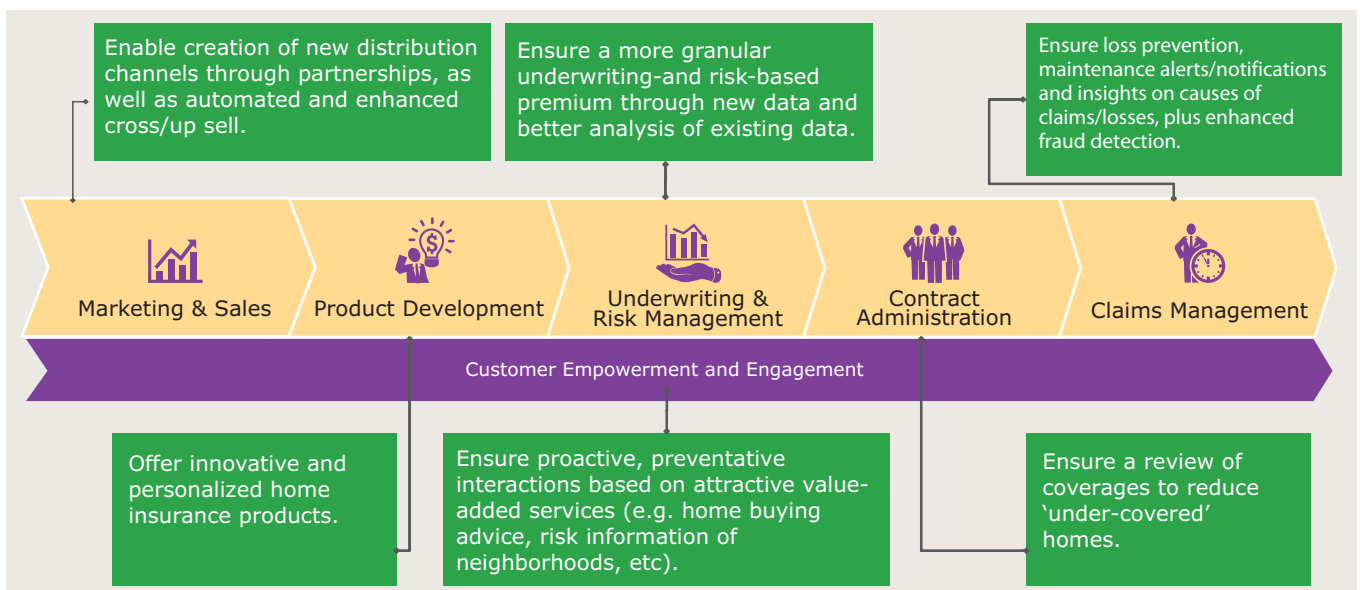
Opening the Door to Disruption in Home Insurance

Over the last decade, the insurance sector has witnessed a vast number of changes and the ecosystem has turned increasingly volatile. Frequent catastrophes and the resulting increase in the number of claims, changing technology, and rising material costs have all led to greater expenses for insurance carriers. This spurt in the number of claims, coupled with higher processing costs, has led to a corresponding increment in premiums, impacting the consumer end of the market. As a result, online portals offering policy comparisons and enabling direct purchase of policies are thriving, reducing the dependency on agents.

To succeed in this tough business environment, insurers must adapt by leveraging innovative business models, harnessing new technology, and identifying opportunities to enhance revenues and growth.

The Insurance Blueprint for Connected Homes

Adoption rates for connected homes in the US have seen a market penetration rate of 21% in 2015, and is expected to grow to 38% in the next four years[3]. Increasing technical maturity and the interoperability of devices have enabled the creation of an ecosystem of services in the connected home environment.

Enable creation of new distribution channels through partnerships, as well as automated and enhanced cross/up sell.

Ensure a more granular underwriting-and risk-based premium through new data and better analysis of existing data.

Ensure loss prevention, maintenance alerts/notifications and insights on causes of claims/losses, plus enhanced fraud detection.

Marketing & Sales   Product Development   Underwriting & Risk Management   Contract Administration   Claims Management

Customer Empowerment and Engagement

Offer innovative and personalized home insurance products.

Ensure proactive, preventative interactions based on attractive value-added services (e.g. home buying advice, risk information of neighborhoods, etc).

Ensure a review of coverages to reduce 'under-covered' homes.

Insights from sensor data enable insurance carriers to establish a real-time risk-based model that offers benefits across the insurance value chain.

A Philips Hue lighting system connected to the Nest Thermostat ecosystem can adjust brightness based on the light indoors, and can even alert homeowners of an emergency by causing the light to change colors or blink[4]. Ford automobile owners will soon be able to use the vehicle's Sync Connect system to use touch or voice commands to open a garage door, check a thermostat setting or turn on home lighting[5].

For insurers, the true potential of a connected home lies in the customer-centric insights gathered from the analysis of data generated by the sensors and devices. These insights can be leveraged to reduce the number of incidents causing home damage, thereby mitigating risks and improving profitability. Home insurance carriers can work with connected home device providers to offer integrated insurance solutions, similar to the model adopted by auto manufacturers and auto insurance carriers. With this model, connected home device providers can enhance their reach while insurance carriers will gain the ability to personalize solutions.

Leveling Hurdles from the Ground Up

Several insurance providers have started conducting strategic pilot programs to gather data from the devices employed in homes. Typically, the data from the devices is collected by the device vendor and shared with the insurance carrier for further analysis. This can be used to identify trends, such as risk patterns and user behavior across different demographic elements. While carriers have been able to generate insights from the data provided by the devices to some extent, they have not succeeded in leveraging the potential of these devices in its entirety. The key challenges they face include:

- Inability to provide seamless service
- Lack of adequate sample size for pilots
- Absence of contextualized data

Three Building Blocks of Connected Home Evolution

For the connected home insurance market to grow, parameters such as accuracy of devices, customer engagement, deeper analytics, and seamless interaction play a key role. Insurance organizations will experience the evolution of these aspects in three phases:

1. Phase 1 involves fostering better customer engagement, which will set the foundation for the adoption of devices by customers and the gathering of data and context.

2. Phase 2 entails comprehensive analytics based on the data being collected.

3. Phase 3 extends value-added services seamlessly, using artificial intelligence (AI)-based automation and decision support to deliver value to customers and insurers.

Eight Key Steps to Connected Home Insurance Success

Pilots are an essential first step to experimenting and establishing clarity on go-to-market strategies, partnerships, business and operating models, IT systems, data acquisition and analytics strategies. It is important to strategically translate the traction gained in a successful pilot to mainstream adoption. The eight critical steps that can help fast-track mainstream adoption of new insurance products and services in the connected home arena are:

1. Redesigning customer engagement

The success of a connected home product is highly dependent on developing a roadmap with customer engagement as the primary driver. Insurers must take advantage of the latest and upcoming trends in customer engagement such as gamification, social karma, and virtual or augmented reality to create new experience models.

2. Providing an ambient user experience

Products must evolve to learn usage patterns and adjust themselves and the eco-system in line with user preferences. Customers will appreciate a unified experience, where insurers and device vendors work towards the common goal of enhancing the safety and security of the home.

3. Enriching device data

Enrichment data can come from a variety of sources such as weather forecasts, social media feeds, local news feeds, and mainly, feedback from the customer. Complex learning algorithms can then interpret context data to identify event-specific patterns.

4. Building a customer feedback model

Online reviews and experience sharing platforms have enabled customers to evolve into 'prosumers', desiring to customize and develop products based on their own taste. A constant feedback model using learning algorithms that adapt to customers' responses can deliver more relevant insights.

5. Planning phase-wise insights

While the complexity of measuring home conditions requires a prolonged time horizon, insurers must align their analytics roadmap to realize immediate benefits across the value chain to improve marketing, predict and prevent losses, and drive operational efficiencies.

6. Accommodating diverse device monitoring models

45+ year old customers prefer cost-effective yet professionally monitored solutions that also enable cost savings by improving the efficiency of the home. On the other hand, younger customers are attracted by the convenience offered by the devices.

7. Equipping stakeholders with data

Insurers have access to valuable insights based on trends in the claims data gathered over a number of years. They are well equipped to play a central role in the sharing of insights among stakeholders to provide better, context-aware services to the customer.

8. Joining hands with a strong technology provider

The connected home ecosystem is highly dynamic with new products and alliances emerging frequently. The lack of established standards leads to varied proprietary standards and data formats being used by various device providers. Technology providers who deliver the right capabilities and support will help insurers redefine the home insurance space.

Conclusion

Considering the value offered by connected home devices, insurers need to scale up their business models and invest strategically in the quickly evolving market. A collaborative effort with device manufacturers to drive strong data analytics is the key to driving rapid adoption and business growth.

As insurers move further along the connected home journey, it is important to retain a sharp focus on customer interests at all times to realize the true potential of connected homes.

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About The Author

Balakrishnan Mittathullil

Balakrishnan Mittathullil is a Product Manager with the Tata Consultancy Services (TCS) Innovation Labs for Insurance. He has over nine years of experience working with TCS, and has architected and implemented multiple solutions for large banking and insurance companies. Prior to this, he served as the lead architect for one of TCS' large banking clients for six years. Balakrishnan holds a Bachelor's Degree in Computer Science from Amrita Institute, Coimbatore.

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