WHITE PAPER

Are you prepared for the insurance data tsunami?

Challenges and Opportunities from the Internet of Things

MARCH 2018

2017 LEXISNEXIS IOT AND THE STATE OF THE INSURANCE INDUSTRY STUDY

Executive Summary

In 2017, LexisNexis® commissioned a national study to determine the industry's readiness to collect, analyze and create value with data from the Internet of Things (IoT), or the network of interconnected objects that use embedded sensors to exchange data. The survey was conducted by an independent research firm and included 480 professionals from top 100 U.S. carriers who work in auto, home, life and commercial lines of insurance. Respondents worked in marketing, underwriting, product management and claims.

Overall, the LexisNexis IoT and the State of the Insurance Industry study found that:

- The majority of carriers recognize that the IoT will impact the industry and define its next industry leaders.
- Few carriers are currently collecting IoT data, and even fewer are analyzing it today.
- Most carriers do not have a defined IoT strategy or dedicated IoT resources today, but many are planning to within 3–5 years.
- Two main groups exist within the insurance industry: Trend Spotters and Skeptics. Trend Spotters appear to have a clear vision of what the IoT means to their organization and the industry overall, while Skeptics are uncertain of how the IoT will impact the industry and do not have firm plans for addressing it.

The massive, unprecedented amounts of data that will be generated by connected devices will also present new challenges. Partnering with an experienced organization can help carriers address these challenges, establish big data governance practices and acquire the required analytics capabilities.

The study reveals that the IoT playing field is relatively even, which creates a significant opportunity for carriers to capture the opportunities the IoT offers: to enhance existing offerings, develop new products—and in the process, gain a first-mover advantage.

The insurance industry lags others when it comes to leveraging the IoT

Data is crucial for the insurance industry and helps carriers segment customers, set profitable rates and facilitate a better claims process. Insurers are no strangers to using data to make more informed decisions and leading carriers have bolstered their own loss histories with purchased, third-party data.

However, the extent to which carriers have leveraged data, to date, is minor in comparison to what the IoT will bring. According to Cisco, by 2020, there will be up to 50 billion connected devices[1]—compared with just 8 billion people on the planet. In that same time frame, Aite estimates that those devices will generate 194,000 exabytes of data per month.[2] (For reference, 250 million DVDs can store one exabyte of data.[3])

Exacerbating the issue, the insurance industry lags other industries in its ability to use insights from new data sources to boost consumer value. A recent study from EY showed that only 36% of carriers are leveraging new data sources and that the insurance industry trails most others, including automotive and telecom companies.[4] Importantly, these industries will also have direct access to IoT data (for example, through vehicle telematics and connected home technology) and may compete directly with insurers in the near future.

Given the looming tsunami of IoT data that is coming, carriers must begin thinking about how they will collect, normalize, analyze and take action on it. How will IoT data transform risk and the way it is evaluated? And which carriers are prepared to take advantage of the new opportunities made available by this deluge of data?

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Four reasons the insurance industry should care about the IoT

While it's tempting to dismiss the IoT as technology hype that won't require significant changes to the way carriers do business, several factors indicate otherwise.

1. As customers become more comfortable with the IoT, adoption will increase—and customers will expect benefits from doing so. Consider that:

   - 78% of insurance customers are willing to share personal information for faster claims and lower premiums.[5]

   - 34% of customers are likely to adopt connected ecosystems, such as smart homes and buildings.[6]

   - 30% are likely to adopt embedded technologies, such as wearable or digestible devices.[7]

   - 77% of connected home owners would be open to seeing their insurer manage their connected home in some way.[8]

2. Connected devices are altering the very nature of risk. The IoT can help carriers to shift from claim mitigation to claim avoidance, and IoT data can enable more sophisticated claims and underwriting capabilities. However, connected devices also open the door to emerging risks related to cyber security and hacking.

3. New data sources can help carriers create new business opportunities. More precise information from the IoT can help carriers tailor product offerings and personalize customer interactions, while insights into customer lifestyles can underpin a shift from reactive to proactive customer service. The IoT can also support new business models, such as pay-as-you-go, lifestyle or loss prevention services, or enable new product development, such as cyber insurance.

4. Access to IoT data isn't limited to carriers, and that changes the competitive landscape. Automotive Original Equipment Manufacturers (OEMs), home security firms and telecom companies will also have direct access to IoT data, and will almost certainly be looking to monetize the data and use it to expand product lines.

EXAMPLES OF VEHICLE TELEMATICS DATA:

- Driver behavior and driving context
- Route optimization to minimize risks
- Repair or emissions alerts

EXAMPLES OF CONNECTED HOME AND PROPERTY DATA:

- Smart thermostats, lights and appliances
- Service reminders and malfunction alerts
- Intruder alarms that alert security providers

EXAMPLES OF WEARABLES DATA:

- Activity and health monitoring
- Real-time claims and catastrophic event assessments at loss locations
- Gamification that encourages wellness habits

Introducing the LexisNexis IoT and the State of the Insurance Industry study

To better understand how carriers are using IoT data and the extent to which IoT data enables business strategy, LexisNexis commissioned a study of nearly 500 insurance professionals across auto, home, life and commercial lines of business. (More details about the study are included in the Appendix.)

Key findings

Most carriers think of the IoT at a tactical—not strategic—level
When asked to define the Internet of Things, most respondents did so on a tactical level, using terms like "network of connected devices." Only a minority of respondents discussed the IoT in strategic terms or implied its significance for the industry.

Few carriers have defined an IoT strategy or resources for today
Even though 70% of respondents agree that the IoT is important to their overall strategy, only 21% have a defined IoT strategy for today. Further, only 7% have dedicated IoT resources. However, many carriers are looking ahead to 3–5 years from now, with 63% having a defined IoT strategy and 36% planning to have dedicated resources within that timeframe.

There is a disconnect between what carriers think about IoT data in general and how they report using data from various sources, such as telematics, wearables, connected properties and connected homes.
The majority of carriers say the IoT is important and, in general, acknowledge its importance to business strategy:

- 70% said that gathering IoT data is important to today's insurance strategy

- 48% said the ability to collect and use IoT data will define industry leaders

- 50% said the ability to collect and gain insights from the IoT will lead to a competitive advantage
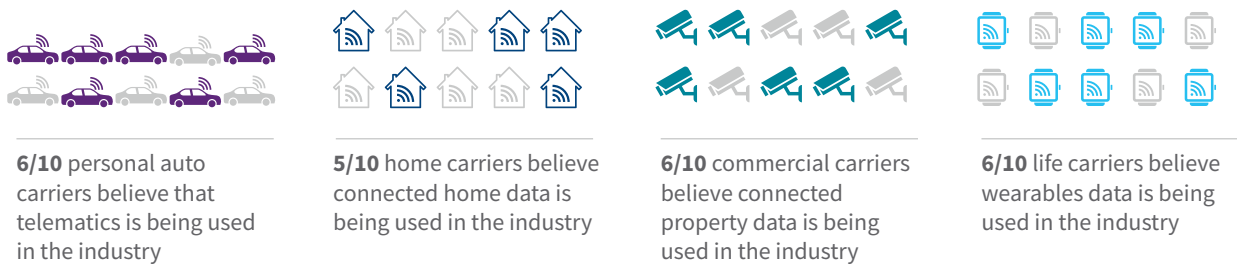
However, very few carriers said they are collecting data from telematics, wearables, connected properties and connected homes. Just 2 in 10 carriers collect it, and of those collecting it, only 5% are using it in their decision-making now. One explanation may be that carriers do not yet have the people or technology required to derive meaningful insights from IoT data, but are being proactive in amassing it.

Presently, few organizations have established a leading position by strategically leveraging IoT data, which creates a unique opportunity for carriers to create a definitive competitive advantage.
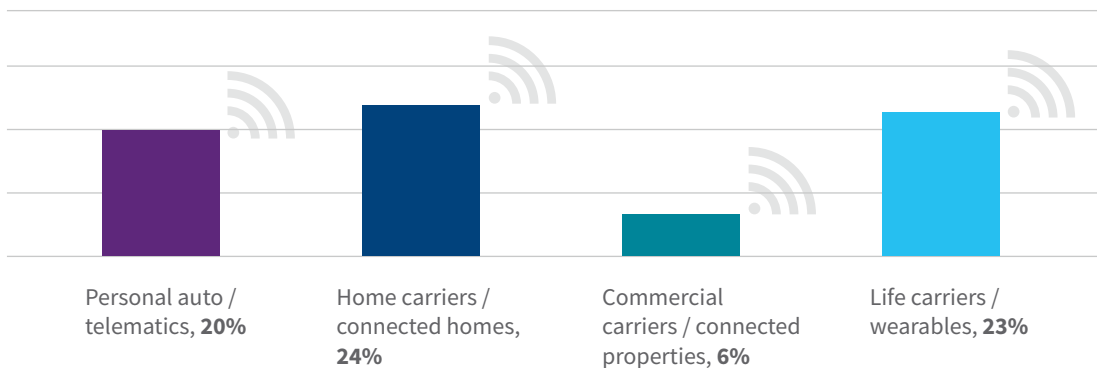
Few carriers are currently applying data from various sources to decision-making—but the majority think their counterparts are

The study indicates that few carriers are investing in IoT technology and infrastructure. This suggests that many are taking a "wait and see approach" and will use existing or in-house systems until the ROI of IoT data can be determined. The same observation—and likely rationale—can be applied toward analytics and modeling capabilities.

Curiously, the majority of respondents believe that even though they are not applying IoT data to decision making, the other carriers are applying it. For example:

6/10 personal auto carriers believe that telematics is being used in the industry

5/10 home carriers believe connected home data is being used in the industry

6/10 commercial carriers believe connected property data is being used in the industry

6/10 life carriers believe wearables data is being used in the industry

Percentage of carriers that are collecting or purchasing today

Personal auto / telematics, **20%**

Home carriers / connected homes, **24%**

Commercial carriers / connected properties, **6%**

Life carriers / wearables, **23%**

Key findings by line of business

Personal auto carriers

Among personal auto carriers, only 20% are collecting or purchasing telematics data today. However, 65% plan to collect it, with varying timelines. Intentions to collect telematics data are highest among top 20 carriers, with 42% collecting it but not sure how to use it, and 46% not collecting it but planning to. While most carriers plan to invest to address their lack of expertise, most are operating on timeframes of approximately 5 years.

Main applications of vehicle telematics data:
- Claims and collision investigation
- Risk analysis
- Driver behavior modification

Key barrier to adoption:
- Lack of expertise, particularly in claims

Home carriers

Of the home carriers surveyed, only 24% said they are currently purchasing or collecting connected home data, and only 1% report using it in decision making. However, 38% expect to start collecting it, with varying timelines. Few carriers have invested in staff with expertise for today, but over half plan to invest with a typical timeline of 5 years.

Main applications of connected home data:
- Claims management
- Customer acquisition and retention
- Pricing
- Risk selection

Key barrier to adoption:
- Uncertainty around ROI
- Lack of expertise
- Lack of capabilities
- Lack of technology

Commercial carriers

Just 6% of respondents are currently purchasing or collecting connected property data, and of those that are, most are not sure how to derive insights from it. Nearly half of respondents plan to collect and use IoT data in future—but notably, half do not. Few commercial carriers have invested in staff today, and many plan to invest in the next 5 years.

Main applications of connected property data:
- Customer acquisition
- Claims
- Pricing
- Risk analytics
- Product development

Key barrier to adoption:
- Lack of staff
- Lack of infrastructure
- Lack of technology
- Lack of analytics capabilities

Life carriers

Among life carriers, 23% are currently purchasing or collecting wearables data, though none are actively using it today and the rest are unsure how to use it in decision-making. Just over half of life carriers who expect to start collecting data plan to do so over longer timelines. Many carriers are thinking ahead to investments in staff, but significant barriers must be overcome first.

Main applications of wearables data:
- Pricing
- Risk selection
- Product development
- Customer acquisition

Key barrier to adoption:
- Lack of leadership support
- Uncertainty around ROI
- Cost and budget constraints

The importance of IoT data to business strategy is a differentiator

The study did not reveal any clear-cut segmentation among lines of business or by job function. However, two main groups—Trend Spotters and Skeptics—were identified based on the response to the question: "How important is gathering IoT data to your business strategy 5 years from now?"

How important is gathering IoT data to your business strategy 5 years from now?

Very Important

Not Important

TREND SPOTTERS   **SKEPTICS**

Trend Spotters tended to work in personal auto and commercial insurance, as well as in underwriting, actuarial, product development and management roles. Notably, looking ahead to 3–5 years from today, 88% have an IoT strategy planned (compared with 38% of those who identified as Skeptics) and 60% have IoT resources planned (compared with 30% of Skeptics).

While the percentage of Trend Spotters with IoT strategy and resources today is still quite low, their investment plans are evident by the significant increase in those areas in 3–5 years—a jump of 73 percentage points in IoT strategy and 51 percentage points in IoT resources, compared with 32 and 24 percentage points, respectively, for Skeptics.

Interestingly, 67% of Trend Spotters reported they weren't sure how their IoT capabilities compared with their competitors. Meanwhile, 41% of Skeptics believe they are on par with others in the industry—perhaps an acknowledgement that while they aren't doing much with IoT data, neither are their peers.

The IoT brings opportunities—and big data challenges

The IoT provides carriers with significant and new opportunities to appeal to customer expectations, address emerging risks, capture new business opportunities and protect market share from new competitors. Furthermore, the LexisNexis IoT and the State of the Insurance Industry study shows that presently, the insurance industry does not yet have any leaders in leveraging IoT data for more informed decision-making—which means the door is wide open for a forward-thinking carrier to achieve first-mover status, and the benefits that come with it.

While insurance carriers have long used data with success, the volume and variety of data that will come from the IoT requires a dedicated strategy and resources. In particular, carriers should be prepared to address five main challenges.

1. **Data collection and governance.** Carriers must have a clearly defined data privacy policy that outlines the scope of data they plan to collect, and how they plan to use it. It is important to begin with an understanding of the business problem the carrier wants to solve, identify the specific types of data that will help solve it and leverage analytics to understand which data is important to keep. In doing so, carriers can minimize the volume of data coming into their organization and mitigate against excessive data collection.

2. **Data filtering and normalization**. The plethora of IoT devices means that carriers may receive data in many different formats. In order to make meaningful decisions with it, carriers need the expertise and technology to synthesize the data so it is compatible and appropriate for their needs.

3. **Data security.** Customer trust is a rare asset that, once damaged, is not easily recovered— and since everything in the IoT is connected, everything can also be compromised. To capture value from personal data, carriers must ensure that data security and customer privacy is at the heart of every process within their organization. This applies equally to third parties and vendors: data security must be a non-negotiable part of due diligence.

4. **Regulations and compliance.** In addition to adopting best practices related to big data and connected devices, carriers should ensure that their use of IoT data does not inadvertently lead toward discriminatory practices. As the volume of data increases and the modeling becomes more sophisticated, it is important to remember that artificial intelligence (AI), presently, is based upon human learning and therefore, includes human biases.

5. **Technology infrastructure**. Given many carriers' reliance on legacy systems, they must make certain that their IT platforms are agile enough to handle the tremendous influx of data that the IoT will bring, and to share data and insights across the enterprise so that all business units can benefit.

Carriers may find it advantageous to partner with an organization to not only help them address these five challenges, but also capture the opportunities that the IoT offers. Carriers should seek a trusted partner with the following attributes:

- An experienced steward of sensitive data with secured processes in place
- A provider capable of handling disparate data sets—and to combine them with additional data sources, attributes and scores
- A data analytics provider that is able to provide unique insights across the policy lifecycle
- An engaged, strategic partner to help turn data and data insights into a competitive advantage

The IoT tsunami is coming. Will you sink or swim?

LexisNexis research shows that insurance professionals recognize the value of the IoT and agree that it will have a definitive impact on the industry and define its next leaders. In addition, the majority of survey respondents agree that IoT presents an opportunity to create a competitive advantage.

However, only a few carriers are currently collecting IoT data, and even fewer are analyzing it or gaining real insights to drive a broader business strategy. This creates a unique opportunity for a carrier to establish itself as an industry leader and achieve first-mover status.

A data and technology partner can help carriers navigate the challenges that come with making sense of a large volume of disparate data sources. With the help of an experienced, trusted partner, carriers can begin to capitalize on the opportunities made possible by the IoT: the capability to better address customer needs, respond to the shifting risk landscape, access new business opportunities, and fend off competition from within and outside the industry.

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Appendix

About the study

The LexisNexis IoT and the State of the Insurance Industry study was conducted in June and July 2017, and included 480 insurance professionals from top 100 carriers in auto, home, life and commercial insurance. Job functions included marketing, underwriting, product management and claims. A third-party research firm conducted the interviews, and LexisNexis was not identified as the study sponsor.

The study was composed of two parts. First, all respondents were asked their general perceptions about the IoT. Next, they were routed to a vertical-specific track of questions (for example, personal auto carriers were asked about their use of telematics data). For the purpose of the survey, the IoT was defined as "the interconnection, via the internet, of computing devices that are embedded in everyday objects, enabling them to send and receive data."

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