Internet of Things

Trend

The proliferation of sensors connected to the internet and cross-platform integration creates potential exposures in privacy, bodily injury, and property damage that involve potentially large liabilities for the wholesale insurance industry.

Wikipedia Definition – “The internet of things (IoT) is the network of physical devices, vehicles, buildings and other items—embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data” (1).

Implications

- Increase in IoT is beginning to alter insurance dynamics across the insurance industry. Impact ranges from altering insurance distribution models, rating/pricing, becoming more proactive with loss prevention, to personalizing insurance needs directly with the consumer on a daily basis.
- IoT is in its infancy and growing fast. “As recently as 2014, 87% of consumers had never heard of the technology, according to Accenture. In 2016 19% of business and government professionals reported that they had never heard of the Internet of Things while 18% were only vaguely familiar with it, according to research from the Internet of Things Institute.”
- Increase in risk sharing due to the complexity of the risks.
- More established carriers and wholesalers may be limited by legacy systems.
- IoT pushes innovation and has a high potential to transform and change the insurance industry. In order to stay in the game, wholesalers must evolve and incorporate IoT technology.
"When asked about the potential for innovation and transformation, 74% of the 88 respondents said that IoT will be a major disruptive force within five years, and 54% think that it will occur in three years!" (4)

Opportunities

- IoT increases the ability to collect live data.
- Through increased data collection and greater use of data analytics, IoT can help lead to better risk evaluation and underwriting.
- Industry wide expansion and growth in current market conditions through new coverage opportunities.
- Opportunities for wholesalers to work with carriers and tie into their information systems.
- Changes driven by IoT may make the insurance industry more attractive to young professionals.
- Wholesalers that embrace IoT and use it to create products their consumers want will have an edge on their competitors.
- Risk sharing provides opportunities to enter new markets and share knowledge.
- Providing Risk Management Services along with coverage can help insureds shift their focus from reactive claims handling to proactive loss prevention,
- IoT trends show that by 2020 there will be an estimated $50 billion devices utilizing IoT technology across various industries.
Integration of IoT provides the opportunity for new business models, products, and services in the industry and in partnerships with emerging tech companies and insurance markets.

**Example of IoT in Insurance Industry:** “Neosurance:” This Italian firm combines artificial intelligence with the IoT to prompt young consumers about suitable insurance products for their often changing circumstances. Its “just one swipe to get insured” short-period micro-insurance mobile app has won several industry awards.” *Accenture Insurance Blog*, by Jean-Francois Gasc.

- Companies that can connect IoT devices and harvest data across various devices will be able to produce new products and provide valuable services.
- Trends show IoT alone does not sell, that companies need servicing and marketing components to make what they are offering desirable. There are opportunities for companies that can connect IoT functionality with a human element to promote desirable trends, i.e. wearing a Fitbit to show increase in physical activity to be eligible to obtain a reduction in insurance premium.
The Internet of Things redefined – from connecting devices to creating value

*Online guide to the Internet of Things*

- IoT formatting and language has yet to be standardized, which could pose challenges and create opportunities for those in the industry interested in developing a niche in the market.
- Wholesalers have opportunities to find a niche to support their retailers and remain relevant in this new space.
- Companies that can leverage IoT for data collection and analysis into usable insights can use the information to help model, underwrite, and create new programs.
- Improved loss control.
- Increased ability for fraud detection and prevention.
- Reduces the need to be locally based, allowing smaller companies to go global.
- IoT will be a driver of explosive growth in the cyber market.
- Wholesalers need to invest in technology and the ability to mine data if they wish to increase their specialization.
- Gives wholesalers the ability to react more quickly to changes in this market.
- Carriers are providing more web services that cross standard platforms to better share information with multiple wholesaler systems.
Internet of Things

- The cost to gain access to web services will go down as technology improves.

Threats

- Security, cybercrime, and privacy law development is needed around IoT data collection and storage.
- Diminishing of wholesale services due to IoT providing direct insurability from individuals to carriers.
- Having IoT and comprehensive data collection but poor technology interfaces and data analytics could lead to ineffective risk evaluation and underwriting.
- Security breaches could have far-reaching impacts beyond consumers and the industry.
- Wholesalers and carriers that invest in specializing around these types of risks could be taking a gamble, given the large financial investment needed and changing regulation and technology.
- The cost to develop IoT smart products and provide security could leave smaller wholesalers out of the game and reduce their market share.
- IoT could erode the wholesale value proposition as it allows carriers to engage in better risk evaluation and underwriting up front, and insureds to alter their loss related behavior and lower their insurance costs.
- Insurance regulations may restrict the use of IoT data, with implications for E&O and D&O exposures.
- The insurance industry’s historically conservative approach to change may hinder the adaptation to new IoT technology.
- Increased focus on loss control could lead to a reduction of insurance cost, impacting revenue.
- Exploiting the IoT requires proper data mining, organizing, and filtering. If data is not handled correctly it could lead to damage of insurance products.
- Insurance coverages as we know them will change and the industry will need to evolve, learn, and create new ones.
- IoT innovations could be a threat to older generations that have difficulty adapting to change and technology.
- Finding the expertise needed to underwrite these new risks could be challenging.
- Concerns about data privacy infringement could make consumers wary to adopt IoT insurance cost saving innovations.
- Any company with a large amount of data can enter the insurance market.
- Increased connectivity could make it easier to cut out the wholesaler.
- Wholesalers that don’t take a proactive approach with their carriers to learn and adapt could be at risk.
- Certainty about which risks are truly covered, i.e. between product liability versus cyber liability, when losses occur could be a challenge.
- Smaller wholesalers may not have the tools, funding, or knowledge to shift how they do business.
• Smaller wholesalers may be bought by larger ones just for data mining purposes, since they may have captured information that the acquirer wants access to. Could also be an opportunity.

• Carriers’ proprietary applications could cause wholesalers to have a gap in the data to which they have access.

![Figure 5. Percentage of those who would allow driving to be tracked via mobile devices](image)

- **Eager beavers:** 26% said they would allow monitoring without stipulating any specific minimum discount in return.
- **Fence sitters:** 27% of respondents said they might get on board with usage-based insurance if the price was right, given a high enough discount to make it worth their while.
- **Naysayers:** 47% said they would not be interested in having their driving monitored under any circumstances.

- **Size of discount required to allow driving behavior to be monitored**
  - Depends on the amount of the discount: 3%
  - Yes: 31%
  - No: 27%

Source: Deloitte Center for Financial Services analysis.

Graphic: Deloitte University Press | DUPress.com

• Industry Bandwidth, can all the ISP’s handle the data coming in/out of IoT devices, apps, etc.

• Cost and management of collecting, transmitting, and storing data, will this land on the consumer, the provider, both?
Summary of Research

It is estimated that by 2020 roughly 40-50 billion IoT devices will be deployed globally. Attached to those devices will come an array of Services across all industries. There will be a need for increased industry technology to be able to obtain and house that data coupled with those an increased need for Data Miners and Analyst in order to harvest valuable information from that data to create relevant Services. For Insurance to stay relevant, the industry will need to learn, adapt, & evolve quickly to stay in the game. Change will be seen across Insurance historical business model affecting all aspects, including but not limited to regulations, culture, services, technology, underwriting, sales and marketing.

Detailed Research Reference

1. Wikipedia - Internet_of_things
5. i-scoop - internet-of-things
7. Accenture blog: internet+of+Things+on+insurance
8. Ioti - IoT trends & analysis
10. CB Insights blog: insurance-tech-iot-partnerships
12. Forbes: 5-ways-the-iot-will-transform-the-insurance-industry
13. SAS article: big-data/5-challenges-for-iot-in-insurance-industry

Additional research resources

Internet of Things


g. http://www.businessinsurance.com/article/20151116/NEWS06/151119869?tags=58%7C410%7C158%7C159%7C83

h. https://twitter.com/Ronald_vanLoon/status/743553058475544576?cn=ZmxleGlibGVfcmVjc18y&refsrc=email

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