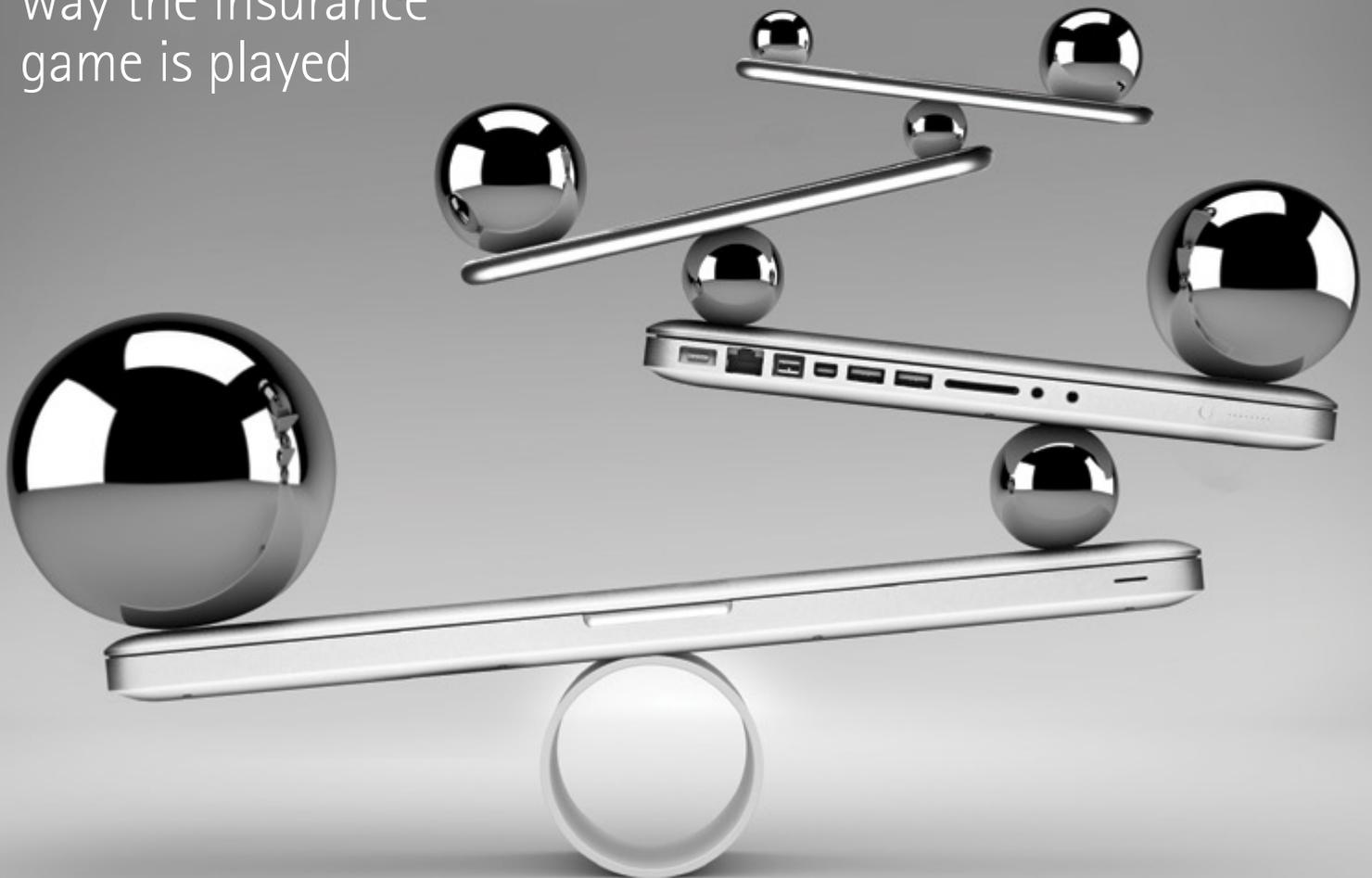


High performance. Delivered.

Harnessing the data exhaust stream: Changing the way the insurance game is played



Insurers have been pioneers in utilizing data and analytics to make underwriting decisions, price risks, predict losses and manage claims payouts

Traditionally, carriers have relied on their own data, and upon structured information from various bureaus and agencies to make decisions. The game has recently changed, however, and the pace of change is rapid. Insurers are finding that they must creatively explore, mine and harness external data to remain competitive, to convert new opportunities for growth and to achieve improvements in the loss ratio.

The flood of external data is transforming not only the way insurers evaluate and price risk, but the way they interact with customers, transact business, and design products and services. New data is coming from sources such as:

- Government and third-party databases that have been digitized and made available to the public;
- Comments, product reviews and discussions on social media;
- The Internet of Things, in the form of telematics information from automobiles, input from connected homes and visual information from new devices such as drones; and
- Contact information from call centers and company websites.

These vast new data streams create opportunities for insurers to identify and act upon the insights hidden within this sea of information, but they also open the door for new business models and competitors.

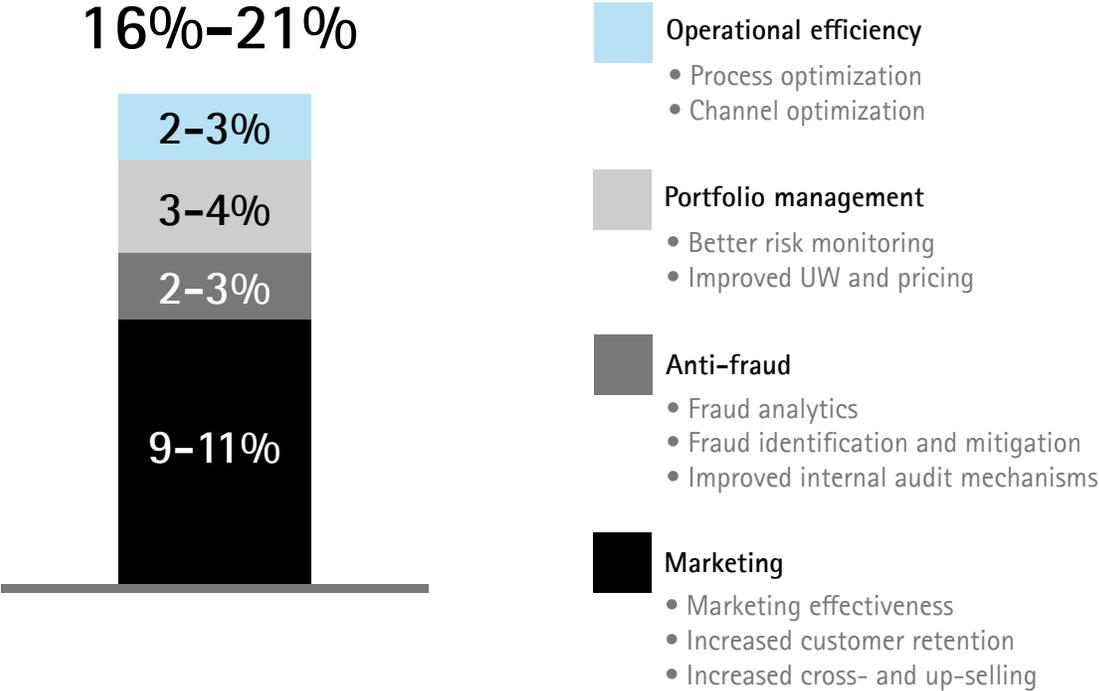
There are some parallels between what is happening in the insurance industry and trends evident in the advertising industry. Traditional advertising, as recently as five years ago, was based on loosely targeted television, radio and print advertisements, developed using limited factors such as target audience demographics, dayparts and product attributes. With the emergence of rich digital media (those that offer consumers a variety of interactive features), advertisers are now defining micro-segments and generating highly relevant, personalized advertising messages, delivered across many new platforms to individual consumers. The result is a higher, more measurable return on each media dollar invested. Many advertising messages are now purchased online and in real time via an

auction system, after the advertiser has identified key customer attributes.

Like advertisers, insurers can expect to undergo similarly dramatic changes in the ways they market, price, and deliver products. As seen in Figure 1 below, we estimate that astute insurers can increase profitability by between 16 and 21 combined ratio points by using analytics to more precisely measure risk in underwriting, anticipate and prevent losses with real-time monitoring, and increase sales via more targeted distribution strategies. Insurers that cannot or are unwilling to act, however, will be unable to identify and pursue the best risks because they simply will not know where to look.

Figure 1: Analytics Value Proposition

Based on our experience, an increase of 16-21 percentage points in insurance profit can be captured by analytics leaders



The insurance industry has experienced an influx of new competitors. Recently, for example, insurance aggregators have focused on simplifying the purchase of insurance products with modern, fast, mobile-first design and providing a frictionless customer experience. Many insurers have had to adapt their systems to integrate with aggregators, both to generate high volumes of quotes on a near-real-time basis and to slash prices to be included in the top tier of cheapest quotes.¹

The entry of non-traditional competitors onto the insurance playing field does not necessarily signal the demise of traditional insurance companies. In fact, insurers have many significant advantages when it comes to competing against companies from outside the industry. They have, for example, developed vast quantities of proprietary data, and have used this data to successfully price risks.

In addition, most insurers have created a proven methodology for pricing risks and processing claims, along with acquiring a deep understanding of the specific industries or business segments they serve. This proprietary data, technical expertise and industry knowledge can be combined with new sources of external data to create deeper insight into risk factors and substantially improve loss ratios.

Insurers should focus on three core sources of value: First, continue to develop proprietary insights into risk selection and pricing. This will remain critically important, as the loss ratio will continue to drive the lion's share of economic value for insurers. Second, use internal and external data to improve the ability to segment the available market and improve the purchasing and servicing experience for both existing and potential customers. Third, increase efficiency and reduce overall costs by using data to digitize and/or automate existing processes.

The data horizon extends even further for insurers. Data-driven insights make it possible to create new products and new revenue streams, typically in partnership with players from outside the industry.

Insurers can reduce overall costs by using data to digitize and/or automate existing processes.

Some insurers are already harnessing external data to achieve these objectives.

For example:

- Google's Nest business has teamed with Liberty Mutual and American Family Insurance to help customers offset the cost of a Nest Protect smoke detector and provide a monthly discount on homeowner insurance. Liberty Mutual offers additional discounts for customers who choose to electronically share information demonstrating that their smart home devices are functioning properly. The program has expanded to ten states in the U.S.²
- Policyholders of U.S. insurer John Hancock can earn discounts of up to 15 percent on their life insurance policy if they agree to share data from Internet-connected Fitbit devices. The fitness tracking service is part of John Hancock's partnership with Vitality, a service provider integrating wellness benefits with life insurance.³
- Global insurer AIG has made a strategic investment in Human Condition Safety, a maker of wearable devices designed to monitor the movements of employees in factories, construction sites and other hazardous workplaces to reduce on-the-job accidents. Human Condition Safety is creating tools incorporating artificial intelligence, building information and cloud computing that help workers, their managers, and worksite owners prevent injuries.⁴



Using external data and analytics to create value

The increased availability of data has helped companies create what has been termed a "self-service" analytics environment. This is a decentralized, business-led setting in which analysts can rapidly access a wide range of unstructured data sets and new technologies, and then build their own models and analytics. Analysts now have a wealth of data at their fingertips that they can slice and dice to drive new insights; they can quickly iterate through data sets and test ideas to reach the right answer in a matter of hours. Rather than controlling what analysts can access, leading insurers are pushing for access to useful external data and the technologies to get insights right away.

There is also an increased requirement for robust data quality management, with rapid, near-real-time feedback mechanisms if issues or inaccuracies emerge within external data sources. This will become all the more important as the business becomes increasingly dependent on external data and the associated analytical models and processes. As Peter Harmer, Chief Executive Officer of IAG noted, "Our emerging view is that data is ubiquitous and there's limited value in the data itself. The value resides in the insights that you can draw from the data."

This environment also calls for new approaches to dealing with the workforce. Analytics can no longer be the exclusive territory of data scientists; instead, larger segments of the workforce need to be trained to use analytics to add value to marketing and core insurance functions. They also need to be encouraged to demand the right support from the right skilled colleagues, based on their unique insight into front line challenges and opportunities. Jordi Pages, CEO in AIDE (assistance company in Zurich Spain) noted, "Skills sought for managers during the last few years have been much more focused on how you manage your team, how you understand the dynamics of your job, or how you make the right decisions based on your experience, not on how you use data. This is a game-changing event for managers." As described in Accenture's Technology Vision for Insurance 2016, the goal should be a "liquid workforce" that incorporates internal and external resources and readily adapts to new skills and tasks.

Changing the landscape for insurers

Insurers are working with external data in many areas already, from marketing to underwriting to claims management to pricing. For example, Enigma, a New York based tech startup and a graduate of Accenture's FinTech Innovation Lab, provides property and casualty insurers with real-time notifications about changes in the status of commercial buildings, including the addition of kitchens, boilers and other features that change the building's risk profile. Insurers using the Enigma product gain a competitive edge over those relying upon often-erroneous self-reported data to underwrite and price policies.

Signals, another Enigma product, gives insurers a snapshot and score of the health of a business based on its access to and evaluation of public data sources. A startup called Drive Spotter is developing a video analytics platform to reduce driving accidents by providing driving forensics and alerts to insurance companies and vehicle fleets. It plans to integrate big data from telemetry, weather, and road condition sources and create dashboards for training, actuaries, operations, and other user personas. The technology will also be used to ensure drivers can assume control of automated vehicles.⁵

Similarly, insurers have been using social media for some time to interact with customers and keep them informed about the status and progress of their claims. Now, however, more and more of insurers' special investigation units are using social media data to flag potential fraud in workers' compensation and disability claims. And Lenddo, also a graduate of the FinTech Innovation Lab, uses individuals' social network patterns to establish creditworthiness and help make real-time underwriting decisions.

Overall, insurers are investing hundreds of millions of dollars in financial technology or "fintech" startups aimed at rebuilding the industry's technology base. CB Insights estimates, in fact, that insurance-related technology startups attracted almost four times more investment in 2015 than they did in the previous year.⁶

Opening new horizons

Armed with analytics and insights drawing upon new data sources, insurers can explore entirely new types of business that have been created by digital disrupters in a number of areas. They can build partnerships with these disrupters, both to gain early access to the data they generate and to offer products tailored to their customers' needs (often the millennials and early adopters that insurance companies struggle most to engage, according to Gallup.⁷)

For example:

- Homeowners renting out their homes on a short-term basis via Airbnb or similar services often want and need additional home insurance, as their standard homeowners' policies typically do not cover such rentals. Centraal Beheer, a Dutch insurance carrier and part of the Achmea group, has since July 2015 included insurance for sharing one's home through platforms like Airbnb in its standard home insurance package, without customers having to pay extra.
- Berkshire Hathaway Travel Insurance's AirCare product can help travelers rebook a missed flight or find lost luggage, using Federal Aviation Agency (FAA) and other databases. AirCare also pays bonuses to make insured travelers' flight delays more comfortable.
- Cuvva, a Scotland-based broker, launched a product in October 2015 that offers temporary insurance to those who have borrowed someone else's car for a short period (for a weekend away, an errand, or an airport drop-off). Customers select for how long they require cover, and the app then generates a one-off price. Coverage starts immediately and can be extended using the app.
- Passengers (and drivers) of ride-sharing services might wish to buy more coverage, even on a spot or one-time basis. BlaBlaCar, a ridesharing platform, has teamed with AXA to provide free additional insurance specially designed for long-distance ridesharing. It is offered as an addition to drivers' existing insurance policies for journeys across France organized through BlaBlaCar's online booking system. USAA, MetLife, Erie, Progressive and GEICO have also launched, or are planning to launch, offerings in the ridesharing market.
- Dutch insurer Aegon N.V.'s Kroodle insurance is sold exclusively through Facebook (presumably providing Aegon with extensive new sources of data on customers using this channel). Kroodle currently offers Boodle Kroodle (household insurance), Casa Kroodle (home insurance), and Trouble Kroodle (liability insurance). The initial success of the product has prompted Aegon to add College Kroodle for students and Travel Kroodle.

- Insurers are using mobile apps with location awareness to create a simple, frictionless sales channel to offer short-term insurance policies designed to protect customers when they engage in infrequent activities. Tokio Marine & Nichido Fire Insurance's partnership with telecom service provider NTT Docomo in Japan, for example, offers "hole in one" insurance when it detects that users are on a golf course, as the cost of drinks and other social obligations to a Japanese golfer who scores a hole in one can be exorbitant. AppSichern, offered by SituatiVe in Germany, sells short term policies in four categories – Mobility (for car sharing or insurance for additional drivers), Sports and Events (for bike trips, water sports and other activities), Travel, and Family & Kids (for school trips, daycare centers and other situations).
- In the contractor or "gig" economy, more people are leaving traditional employment and working as free agents. This can offer workers significant benefits in terms of flexibility of work hours, location and schedule. However, it leaves workers without some of the intrinsic economic benefits that employees take for granted, such as retirement benefits, sick pay, maternity leave, overtime, health insurance, liability coverage, or workers' compensation coverage. A tech startup called Slice Labs has raised seed funding to offer insurance for on-demand workers and employers, with the insurance made available on a transactional basis.
- Metromile entered the auto insurance market as a newcomer with no proprietary data, but quickly gained customers (and created data) by developing a new insurance distribution model (selling car insurance by the mile) that was very attractive to a certain subset of the market. Eventually, Metromile will have compiled enough of its own data to start competing for other motor insurance segments.



Making the next move

One of the best things about the data revolution is that relatively modest investments can generate significant returns. Programs can be designed to be almost entirely self-funding. We have identified a number of steps that insurers can take to establish momentum and build economic value by harnessing external data streams.

These include:

1. Gathering internal data first

Companies need to link up and tap into all internal data sources, which typically exist in separate domains for claims, policy administration, finance, billing and other functions. This is a critical first step, which should be undertaken before new external sources of data are explored. Accenture recently published a study in partnership with Stevens Institute of Technology⁸ that highlighted how internal data could be combined with new analytical techniques such as spatial risk diffusion, to rethink pricing approaches.

2. Identifying new data sources

Insurers can start small by exploring new external data sources that can be used to supplement existing underwriting and/or loss provision processes. One prerequisite: Doing so requires the ability to quickly ingest the data into a sandbox environment to facilitate experimentation, testing and learning. In addition, insurers need to be careful that they do not violate any terms of service for data usage, and that they hold their customers' privacy in the highest regard by only using aggregated data and taking similar measures.

3. Establishing the right environment

The most hospitable environment for dealing with new external data sources is a big data

environment in which data scientists and data engineers can rapidly iterate through large data sets and look for trends and signals. For example, Accenture offers a turnkey big data environment, the Accenture Insights Platform (AIP), which is entirely provisioned and managed by Accenture and invoiced on a "pay per use" basis. This platform combines market-leading tools, and external data sources such as Enigma, that allow clients quickly and efficiently to harness business critical information to make smart, strategic decisions.

4. Harnessing new devices

In 2015, ten insurers received permission from the Federal Aviation Authority (FAA) to experiment with drones. Drone technology may not be applicable for every insurer, but there is significant data to be harvested from other technologies, ranging from telematics in automobiles, to sensors in connected homes, to wearables, to GPS devices.

5. Making visual sense of data

Data visualization tools such as Tableau, d3 and Qlik help insurers see, make sense of, and gain insights from large amounts of data.

6. Building an ecosystem

Insurers need to work with external suppliers of data, but they can also partner with players in other industries to create new services that can deliver value to customers while helping all involved build a lasting competitive advantage.

7. Decentralizing analytics resources

It is essential to embed analytics talent deeply into the lines of business so that team members can develop an understanding of both business needs and of the types of data, data models and analytics use cases that can help meet those needs.

As these initiatives indicate, we believe that successful insurers will need to adapt to a rapidly changing landscape by becoming not just more data-driven but more flexible and responsive. The old industry model – with data and technology operating in their own controlled, isolated environment – will no longer work. Instead, teams working throughout the enterprise should be able to obtain new, unstructured data sets and the technologies required to obtain valuable insights.

Building a winning strategy on external data

The playing field for insurers is changing rapidly and may be almost unrecognizable in a few years. It is becoming increasingly clear that external data – combined with industry knowledge, process expertise and sophisticated analytics – will be the basis for success for insurers going forward. Harnessing external data is a complex undertaking, but insurers can start by developing a comprehensive plan and then undertaking specific, high-return initiatives that build momentum and help transform the enterprise into a winning competitor in the new digital arena.

Footnotes

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About Accenture

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