

Big Data in Insurance

From product development to claims management, Big Data is critical

MarketLine Case Study

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1. Overview

1.1. Catalyst

Insurance is a highly data-intensive industry, making it extremely important for insurers to manage large volumes of data from both traditional and nontraditional sources. As a result, many insurers are spending significant amounts on building Big Data capabilities, finding that Big Data analytics can have an impact on nearly all insurance processes, from product development to claims management. The objective should be to identify areas where Big Data can make a difference and create value for both insurers and the insured. Technology vendors are also aware of Big Data's ability to deliver business insights. Simplification, cost reduction and revenue growth are the three key drivers behind Big Data's adoption in the insurance industry.

1.2. Summary

Multiple segments of the insurance industry have found ways to deploy big data techniques, but initially it is looking most useful to health, life, motor and property insurers. In Health, when combined with smart devices that can record client data, health insurers are encouraging clients to live healthy lifestyles, providing rewards for those that do. In motor insurance data is being collected through "black boxes" placed in vehicles that can record driver ability and care and adjust premiums accordingly. In Home insurance, Big Data collection is allowing insurers to become an asset in protecting the home rather than just paying out on claims.

Big Data is providing business benefits to those insurance companies that are pursuing it in earnest. Big Data analytics is enabling insurers to shift towards customer-centricity by analyzing preferences, behaviors, and attitudes. It can be crucial in enabling insurers to identify fraudulent activity in the event of a claim and can play a significant role in enriching the customer experience, resulting in increased customer satisfaction and retention. Insurers can face challenges in understanding customer profiles, as customers may not always want to reveal their true identities or characteristics. Insurers can use Big Data analytics to overcome the problem of adverse selection, as well as to access a multi-faceted customer view to settle identity issues and establish matches between an individual and their identity and profile.

The use of data in insurance is still relatively limited. There are several high-profile examples, but these are isolated. The immediate future for the industry will be defined by a data race, with insurers trying to work out how best to analyze and use data to avoid being left behind by competitors. There is a strong argument that the biggest challenge facing insurers in the whole insurtech revolution is not coming from start-ups, tech companies, or expensive system upgrades but simply inactivity and allowing competitors to edge ahead. While incumbents have struggled to adapt, it is only a matter of time before some big players gain a competitive advantage by doing so.

There are a few key areas that insurers need to focus on if they want to make Big Data work for their business. This includes creating an environment that allows innovation to thrive. Insurance companies have been criticized in the past for lacking truly innovative new ideas and Big Data opportunities could be easily stifled by a change resistant culture. Effective partnering is essential; there are many expert Big Data companies that can provide solutions, insurers need not waste resources on developing expensive bespoke analysis techniques, when many already exist.

Most of the world's biggest insurance companies have been exploring data analytics techniques for decades, but the information locked in Big Data collection is still relatively new to insurance. For the most part the leading insurers' actions include close monitoring and consultation with Big Data analytics suppliers and finding ways to capitalize on their better understanding of clients' needs and actions.

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2. Big Data in property, motor and health insurance

Multiple segments of the insurance industry have found ways to deploy big data techniques, but initially it is looking most useful to health, life, motor and property insurers. In Health, when combined with smart devices that can record client data, health insurers are encouraging clients to live healthy lifestyles, providing rewards for those that do. In motor insurance data is being collected through “black boxes” placed in vehicles that can record driver ability and care and adjust premiums accordingly. In Home insurance, Big Data collection is allowing insurers to become an asset in protecting the home rather than just paying out on claims.

2.1.1. Big data in life and health insurance

The health insurance sector is where the impact of Big Data is most evident, with wearable technology increasingly used by large insurers, which offer cheaper premiums, reward schemes, and health benefits in exchange for personal data. Leading the way in the UK is Vitality Health, which offers discounted Fitbit devices, cheaper premiums, and rewards for customers reaching a target of 10,000 steps per day. While wearables are designed to monitor fitness and promote healthy lifestyles, the next step is in preventive care, where insurance becomes more of a service. Currently there are many private healthcare companies that offer round-the-clock access to doctors, generally via an app. The more access to consumer data that insurers are permitted, the deeper this can develop – from body sensors, exterior monitors, and workout machines to monitoring lifestyle through social media posts. Cheaper premiums, fewer claims to pay out for insurers, and the younger generation being more comfortable sharing personal data mean these steps appear inevitable. Fitbit, for example, has done an impressive job in making people wear and care for what is collecting data for them. Health insurance company FitSense is looking to use health data to bring more diabetics – a group that has always struggled to find affordable insurance – into the market.

2.1.2. Big Data in motor insurance

Motor insurance has already been influenced by Big Data. Telematics and driver analysis technology are not yet in common usage, but the popularity of the technology is increasing. The benefits for customers are clear: if you agree to have a black box installed in your car and drive safely your premiums will go down. Driver analysis can be used in two ways at present: pay as you drive and pay how you drive. The former bases premiums on the amount of miles driven, while the latter considers a variety of factors, including speed, acceleration, cornering, braking, lane changing, fuel consumption, and location.

A recent high-profile story saw Admiral attempting to use a form of price optimization, whereby it would judge non-insurance-related factors on Facebook. Factors included the length of status updates and the manner in which people made arrangements – for example, naming a specific time or just saying “later” – hinting at how insurers are looking at other ways to price premiums. However, this was eventually blocked by Facebook. One start-up potentially demonstrating the future of motor insurance is Octo Telematics. It shares drivers’ details with insurers, which then bid to have them as customers. This will lead to cheaper premiums for safer drivers and, theoretically, less risk taken on by insurers. In addition, if driverless cars become popular, insurers will need to dramatically alter how they work. Firstly, there will be the question of whose fault an accident was, the system or the driver, and secondly whether motor insurance is even necessary if driverless systems become flawless (or as close to flawless as is possible). With changes happening so quickly and new possibilities emerging, a major consideration for the future of the industry is how regulators will cope.

2.1.3. Big Data in property insurance

Property insurance is arguably the area with the most potential to use Big Data, but the price of equipment means it is currently restricted to the top end of the market. With connected home devices customers can monitor everything through a mobile app, from the risk of pipes and boilers bursting to temperature, security, and water leaks. Problems can be solved either through the app or, in an emergency, by calling someone to help. This is very much an illustration of insurance as a service, with the customer and insurer in contact on a daily basis and the insurer taking on the role of protecting the home, as opposed to just paying costs. In the UK buzzmove provides removal quotes by pricing up all items in a house and using the data to work out insurance premiums. The key issue for the future is regulators will decide who owns the data: either the customer or, once the data has been submitted, the insurance company.

Nest Labs, a smart home tech company, was acquired by Google in 2014. It fits smoke alarms and carbon monoxide monitors free of charge. Customers can receive a discount from insurers on premiums and, in return, insurers receive data from the device. The pattern developing suggests that people are willing to give up personal information if it is easy to do so and they receive something in return. Insurtech expert and Startupbootcamp mentor Damien Seaman explains how smaller, non-insurancebased companies are influencing the market: “The trend is that start-ups are developing clever ways to look at the data that insurers don’t have the time, money, or expertise to look at themselves.”

3. Big Data learning can provide many benefits

Big Data is providing business benefits to those insurance companies that are pursuing it in earnest. Big Data analytics is enabling insurers to shift towards customer-centricity by analyzing preferences, behaviors, and attitudes. It can be crucial in enabling insurers to identify fraudulent activity in the event of a claim and can play a significant role in enriching the customer experience, resulting in increased customer satisfaction and retention. Insurers can face challenges in understanding customer profiles, as customers may not always want to reveal their true identities or characteristics. Insurers can use Big Data analytics to overcome the problem of adverse selection, as well as to access a multi-faceted customer view to settle identity issues and establish matches between an individual and their identity and profile.

3.1.1. Using Big Data to design new insurance products

Big Data analytics is enabling insurers to shift towards customer-centricity by analyzing preferences, behaviors, and attitudes. Score-based models can help insurers design customized products, using demographics, driving and health records, and credit information. The scores can then be employed to determine premiums for each individual customer. Simultaneously, Big Data analytics also helps insurers improve customer acquisition and retention through cross-selling. Data from sources such as customer records and feedback forums can be used to determine appropriate products or services. Progressive Insurance, for example, uses Big Data analytics to create products and services based on the insurance needs and risk involved with a particular customer segment.

3.1.2. Big Data fights insurance fraud through better identification

Big Data analytics can be crucial in enabling insurers to identify fraudulent activity in the event of a claim. In addition to conducting trend analysis from historical data in terms of claims made by a policyholder, insurers can also receive live data from GPS-enabled devices, blogs, tweets, and social media platforms. Insurers can therefore move beyond algorithmic fraud-detection models and use more person-centric techniques such as pattern and cohort analysis. By 2016 it is estimated that 25% of global insurers will use Big Data analytics to detect fraud cases, according to a survey by Deloitte. Discovery, an insurer based in South Africa, has been able to identify and recover millions of dollars in fraudulent claims using Big Data analytics. Discovery realized savings of \$25m in 2013 through fraud and forensic recovery programs, backed by robust data analytics. With over 3.2 million clients globally, Discovery captures all client interaction data in its systems, building actionable insights from customers' clinical profiles, financial behavior, and driving behavior.

3.1.3. Improving customer services by developing insights from Big Data

Big Data can play a significant role in enriching the customer experience, resulting in increased customer satisfaction and retention. Insurers can greatly benefit if data can be used to build insights into customers' needs and behaviors. However, the challenge is integrating different forms of data to generate actionable insights. For instance, customer care logs with comments from incoming customer calls can be used to understand customer sentiment, along with structured enrollment data. This can enable insurers to assess whether, for example, perceived negative service led to a customer discontinuing an insurance policy. Most customers only interact with an insurer at the time of obtaining a quote or settling a claim. Big Data tools can help insurers send relevant messages to customers at particular times. Sending an email, or letter for value-added activities, such as providing advice during severe weather, can help the insured take precautions. This can reduce potential claim sizes and enable insurers to interact positively with customers.

3.1.4. Overcoming adverse selection with Big Data analytics

Insurers can face challenges in understanding customer profiles, as customers may not always want to reveal their true identities or characteristics. Insurers can use Big Data analytics to overcome the problem of adverse selection, as well as to access a multi-faceted customer view to settle identity issues and establish matches between an individual and their identity and profile. Insurers have also realized the need to effectively correlate premiums with risk. Big Data enables insurers to validate data sets, identify risk at a personalized level, and price premiums accordingly. This has the potential to minimize insurers' loss ratios and increase their profitability. The South Africa-based insurer AllLife uses Big Data to underwrite entirely new risk that could not previously be covered profitably. AllLife offers life and disability insurance at low premiums for manageable diseases such as HIV and diabetes. Using Big Data analytics, AllLife assesses policyholders' risk every three to six months, and clients who do not adhere to strict medical protocols will have their benefits or cover reduced.

3.1.5. Better pricing models is possible through Big Data analysis

Pricing is at the heart of insurance operations as, in the past, it was hard to refine pricing models. IoT has lowered the barriers to innovative pricing; not only is it now possible to monitor a vehicle's location or the temperature of a building or cargo, sensors can also provide real-time rich data that gives instant and granular insight into the presented risk. As a result, new business models can be derived (e.g. behavior driven models). The analysis of behavioral data aids in quantifying risk and enables insurers to take action to mitigate and eventually prevent the risk. The price rate change of risk can be determined at a micro level, unlike in the traditional pricing model where historical data is collected. Using sensors and IoT technologies, data is collected in real-time.

A notable example of combining IoT-enabled data and other external public sources, such as weather information, comes from IBM, which collects weather, geolocation, and ground-truth data. Using algorithms and AI, all this information can be aggregated, crunched, measured, and modeled, and risk can be priced accordingly. However, IoT-enabled data, news feeds, and other external data will not incite innovation of pricing models utilized by insurers. Insurers have to decouple their pricing models from the IT department and bring them closer to the line underwriting department. The role of insurance here is, ultimately, to prevent loss or damage. In marine insurance, for example, underwriters have always accessed historical data on vessels, but if they could access data in real-time they could impose policies and send alerts if a vessel was about to enter risky or restricted waters.

3.1.6. Data-driven decision making takes out the guesswork

Insurance is about risk management. Effective risk management is vital for the industry's survival. Decisions about risk pricing are made by collecting, analyzing, and modeling available data. Yet the process of risk assessment and pricing is based on looking backwards, to what happened and why it happened, rather than on what is likely to happen and how risk can be predicted by looking at future scenarios. We are not suggesting that the industry has not made progress in using advanced analytics such as predictive analytics – in fact, some innovative insurers have begun to use ML to make better decisions about risk. The challenge for the industry, however, is to shift to a forward-thinking focus about risk, using data and analytics to provide real-time responses to agents and policyholders.

Real-time data that yields predictive insights could transform the underwriting process and improve profitability and the sales conversion ratio. Prescriptive analytics appears to offer an even more promising approach than is seen with predictive analytics. It would provide automated recommendations and advice on the actions that need to be taken to prevent risk and damage, ultimately offering insurers the opportunity to shift from a reactive to a proactive (preventative) role. It would make the task of underwriting even easier and transform insurers to trusted partners that do not merely compensate for loss but are advisors on risk management.

4. The Impact of Big Data on Insurance

The use of data in insurance is still relatively limited. There are several high-profile examples, but these are isolated. The immediate future for the industry will be defined by a data race, with insurers trying to work out how best to analyze and use data to avoid being left behind by competitors. There is a strong argument that the biggest challenge facing insurers in the whole insurtech revolution is not coming from start-ups, tech companies, or expensive system upgrades but simply inactivity and allowing competitors to edge ahead. While incumbents have struggled to adapt, it is only a matter of time before some big players gain a competitive advantage by doing so.

4.1.1. Some attempts to introduce Big Data collection have been unpopular

A developing trend likely to become far more commonplace is price optimization: analyzing non-risk-related data – shopping habits, for example – to target people with personalized profiles. A survey in 2013 by Ernix found that 45% of large companies and 26% of small companies already use some form of price optimization when pricing premiums. It is a controversial issue, however, as Admiral recently found out when it was blocked from using Facebook to gain access to personal data, which Admiral had planned to use to decide on a person's level of risk. Admiral said it would only do so after it had obtained the customer's permission, and that it would never use this data to increase premiums.

But the concept led to a wave of negative press, which highlights the challenge for insurers looking to modernize – many suffer from poor levels of public trust, and any moves they make are greeted with cynicism. Workplace wearables are another possibility, which would see employees enroll in optional wellbeing programs and receive certain benefits for submitting data to employers. While benefits can be seen for both parties, the idea of giving personal data to employers is unlikely to be universally popular. Jobs where activity is important and therefore productivity can be tracked would be even more controversial, and legal issues certainly lie ahead here.

4.1.2. Big Data and insurance regulation is a difficult obstacle

From an insurer's point of view, the biggest issue regarding customer data is exactly where it can be used and what can be done with it. The general rule is that an insurer can do what it pleases as long as it has customer consent, although that is not always best practice. Consent is only required when the data is not individualized but aggregated. The most important news regarding data is GDPR, which has been implemented across the EU. The regulation was adopted in April 2016 and came into force in May 2018 following a two-year transition period. The regulation requires customers to have the ability to dispute automated decisions made on an algorithmic basis. Consent laws will be tightened, with it needing to be explicit for both the collection and use of data, with parental consent needed for children below the age of 13. Substantial fines and the need to disclose all information will be a legal requirement in the event of a cyberattack or data leak.

4.1.3. Big Data infrastructure and interoperability

The sophistication and reliability underpinning predictive models depends on the richness and quality of the data. Vendor positioning in this space can do much to support incumbent carriers to ensure their analytics models are optimized – particularly to support the increasing range of business partners contributing to a carrier's data platform. Hence, a critique of the relevance and value of historical data sitting across disparate legacy systems is paramount. Culturally, incumbents can lean on partners to refine subsets of customer data. Equally, collaboration on best practice can accelerate the rate at which providers can progress along the predictive route. With the sector now geared towards IoT, considerable opportunities as well as considerable challenges are emerging. Hence, all of these fundamentals need to be anchored:

- Masses of internal data such as claims files, policy slips, legal reports, or loss adjusters reports held as paper-based and PDF versions.

- Digitization of these documents into valuable data remains a top priority among traditional insurers as they look to emulate insurtechs. Vendors are critical for the provision of digital document management systems and text mining tools.
- Filtering external data in insurance so that useful information to support tactical insight is highlighted. As with other verticals sectors, identifying and incorporating meaningful data has proven to be problematic for insurers.
- Meaningful use dictates robust data governance, which will increasingly involve regulatory compliance. Insurers spend too much time on data preparation. Moreover, the quality and consistency of the data extracted from different systems varies. Extraction of data from policy administrations and claims systems, then merging different sources of data while building the predictive model(s), is a very time consuming process.

4.1.4. Industry is suffering from a lack personnel shortages

As with other sectors, insurance is suffering from a dearth of IT talent. Data scientists/analysts are in even shorter supply, with line of business experience rare. Therefore, predictive analytics vendors should bear in mind their solutions do not necessarily fully support carriers' strategic planning. Vendors should encourage carriers to work with developers to train algorithms so that the delivered outcomes can be interpreted to support line of business planning.

4.1.5. Commitment from the C-suite is poor

We have already touched upon the importance of data analytics skills across insurance. Scaling high-value predictive algorithms necessitates entrusting predictive analytics platforms and tools to understand how they work, using them consistently, and integrating them with workflow. Frontline decision-makers such as the underwriter, marketing manager, or claim adjuster should utilize predictive analytics to help unleash their business value. But getting decision-makers to use predictive analytics tools has proven difficult due to a lack of trust in ML algorithms.

Predictive analytics is the catalyst for cultural change within an organization and must be pushed by leadership. Day-to-day, continuous education of employees on the importance of the full integration of predictive analytics tools is equally vital. Despite these challenges some companies are embarking along this route, and there is a growing aspiration to invest in predictive analytics over the coming years. If investment is to be unlocked, vendors should look to support IT teams to build a business case and work to cultivate stronger appreciation among the C-suite. It is not surprising that the early adopter incumbents are those with strong leadership.

The key reasons why CEOs/CFOs are hesitant to embrace predictive analytics are mainly associated with perceptions around time and money. CEOs/CFOs are concerned about the time and cost of implementation of predictive modeling. It is therefore important for vendors to build contextual solutions, and communicate the value of incorporating predictive analytics in ways that will secure buy-in. This requires the ability to translate IT goals into language the broader business can understand. Implementing a predictive analytics solution is just one piece of the puzzle – insurers will have to incorporate predictive analytics into a broader strategy with measurable goals to substantially outperform the market.

4.1.6. Insurers demand contextual solutions

The insurance sector lags far behind verticals such as retail and manufacturing, where predictive analytics are a core business function. Insurance carriers have undoubtedly become more receptive to the potential offered by predictive analytics, but life insurers are particularly lacking in how they plan and implement predictive analytics, suffering from a lack of predictive analytics skills, data silos, and legacy infrastructure that is diluting transformation initiatives and deterring investment. Contextualized solutions tailored towards cost savings and shorter lifecycle implementation will see increasing demand.

Given that predictive analytics cuts across the entire insurance value chain and offers new tools to understand risk and sustain profitability, vendors and their partners can base their propositions on a variety of approaches:

- Data digitization solutions that help traditional insurers digitize and extract insights from paper and handwritten data that resides in insurer or broker systems, digital document management systems, text mining, and manual re-keying of specific data items into structured data formats is crucial to build reliable predictive models.
- Managed services are increasingly in demand yet remain under-resourced, primarily as insurance carriers develop their own data ecosystems. Data-as-a-service vendors will play an important role in providing insurance with filtered and sliced data from the web and IoT. This data would feed into predictive models and can provide a stronger understanding of risk profiling, while enhancing customer engagement through targeted marketing campaigns.
- Cloud-based predictive analytics is gaining traction, particularly among SME carriers, which are arguably more appreciative of the pay-as-you-go model that accompanies the cloud. Clinging to onsite but disconnected systems makes it difficult to lower the total cost of ownership and develop analytical models collaboratively while sharing insights.
- There is high demand for contributory data and innovative modeling, supported by a “forward and backward looking” approach that blends actuarial models, science advancements, financial demographics, and government data. Vendors must shore up their solutions with standardized industry databases and sophisticated tools that allow analysts and underwriters to analyze policies, segments, and entire portfolios against a common industry database.
- Non-technical predictive analytics are mandatory capabilities across insurers’ business units, and hence require solutions that can support non-analytics experts, such as marketing managers. User GDIN-TR-S005 Big Data in Insurance 27 June 2018 www.globaldata.com 20 interfaces with interactive visualization capabilities will support self-service to enable collateral design and generate wider buy-in.
- Embedded predictive analytics solutions: most insurance systems work in isolation, complicating any effort to make meaningful use of existing data sets to better support customer insights and profile building. Consequently, there is an emerging push to embed analytics capabilities within core systems such as underwriting and claims systems. This in turn will accelerate the rate at which underwriters and adjusters can respond to volumes of claims and settlements.

5. Recommendations on Big Data for Insurers

There are a few key areas that insurers need to focus on if they want to make Big Data work for their business. This includes creating an environment that allows innovation to thrive. Insurance companies have been criticized in the past for lacking truly innovative new ideas and Big Data opportunities could be easily stifled by a change resistant culture. Effective partnering is also essential; there are many expert Big Data companies that can provide solutions, insurers need not waste resources on developing expensive bespoke analysis techniques, when many already exist.

5.1.1. Identify IT and analytics leaders

The project will need someone to work with business units to identify and articulate problems, as well as someone that can work with modelers and vendors to find the most appropriate approaches. Some insurers have hired people with titles such as chief data officer to head new digital departments. But finding people with the desired combination of technical skills and business leadership experience will not be easy as global demand for technical and managerial talent grows.

5.1.2. Culture transformation

A comprehensive data-driven culture where the decision-making process is based on data analytics must become the norm throughout insurance organizations. Achieving this involves the introduction of different performance metrics. Insurers might start their analytics journey by asking whether they should create one advanced analytics center of excellence or multiple hubs for each business unit.

5.1.3. Understanding your technology requirements

Insurance carriers should start their predictive analytics journey without poor data quality and limited technology infrastructure. An internal discussion can identify data and technology requirements, address questions as to what technology infrastructure is required to source and store data or what types of visualization tools are needed.

5.1.4. Partnership ecosystems

Quality data is best achieved by those in partnerships. Insurers should delegate a team responsible for scanning the market for third parties, evaluating offerings and identifying opportunities to secure high-value relationships

5.1.5. Advanced predictive analytics capabilities

Insurers are reliant on adjacent technology; the deployment of reliable predictive models demands access to large sets of data, ranging from claims to unstructured data. The inclusion of the growing number of third-party data sets that are shared with and among carriers necessitates migration to cloud platforms.

6. Insurance companies in a strong Big Data Position

Most of the world's biggest insurance companies have been exploring data analytics techniques for decades, but the information locked in Big Data collection is still relatively new to insurance. For the most part the leading insurers actions include close monitoring and consultation with Big Data analytics suppliers and finding ways to capitalize on their better understanding of clients' needs and actions.

Figure 1: Value chain of Big Data management players

	Data Integration	Data Aggregation	Data Processing	Data Storage	Data Analysis	Business Intelligence	Data Governance and Security
Tasks	Extract, Transform, Load Data Preparation Data Exchange	Data Warehousing Data Data Replication	Stream or Batch Machine Learning SQL Execution	Distributed File systems Relational Databases Non-relational	Predictive Analytics Data Mining AI Frameworks	Data Visualization Reporting Data Discovery	Master Data Data Quality Data Security
Players	Informatica TIBCO IBM SAP Red Hat SAS Denodo Technologies Alteryx	Capsenta Delphix DataVirtuality Informatica Teradata Oracle Amazon Cloudera Mark Logic	Cloudera Amazon Google Microsoft Oracle TIBCO Informatica Software AG Oracle	Oracle SAP IBM Amazon Google Hortonworks Microsoft PostgreSQL	IBM Google Amazon Microsoft SAS RapidMiner Dataiku Alpine Data Labs	SAS Tableau Qlik Oracle Birst Logi Analytics MicroStrategy IBM TIBCO	Alteryx Informatica IBM SAS Dataiku Reltio TIBCO Talend

Source: Global Data

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6.1.1. AXA

AXA has been innovative in applying Big Data and AI to reimagine its business models, specifically shifting its insurance business to prevention. AXA has made several strategic investments in start-ups. For example, it has invested in Neura, a company that utilizes deep learning to create digital identity profiles for customers.

6.1.2. GEICO

The second-largest insurer in the US, GEICO has introduced AI virtual assistance to its mobile app. The insurer is aiming to improve the customer experience. The app will assist customers through voice recognition technology, which can receive and respond to voice commands with personalized answers. Voice assistance is available for customers 24/7, and is programmed to provide insurance information and knowledge.

6.1.3. Metromile

Metromile is a US-based insurtech that specializes in pay-per-mile insurance products. It has launched a smart claims platform/assistant that applies ML and AI to data telematics/driving data and images sent by the customer to assess the accident, assist with claims, and prescribe new options for the underwriting process.

6.1.4. Progressive

Progressive was among the early adopters of Big Data analytics and ML algorithms for its underwriting and claims processing. The insurer collects data on billions of drivers using telematics, mobile apps, and snapshots. Progressive has partnered with H2O.ai to build open source ML.

6.1.5. Swiss Re

In 2015 the Swiss reinsurer partnered with IBM to utilize the IBM Watson platform to develop a number of solutions for its life and health underwriting division, in particular to obtain better insight from Big Data – for example, predicting an applicant's smoking propensity without fluid-testing.

6.1.6. Transamerica

Transamerica uses Big Data, ML, and a recommendation engine to guide customers and simplify the purchasing experience. The company leverages an H2O.ai ML and AI model for marketing and customer service teams to optimize product recommendations and marketing campaigns and exploit opportunities to cross-sell and up-sell.

6.1.7. USAA

USAA is using Big Data and ML to inform personalized cross-selling and up-selling. USAA has increased investment to grow its income from existing customers across its banking, investment, and insurance segments. It has partnered with Google TensorFlow to develop ML models. USAA's insurance division partnered with Google Advance Solutions Lab to build a range of skills specific to its insurance needs.

7. Appendix

7.1. Further reading

Millennial Banking: Big opportunities await financial services companies, MarketLine Case Study

Future of Financial Services: Five new trends changing the banking, insurance, payments and wealth management industries, MarketLine Case Study

Visa Inc.: How the world's leading payment company is embracing Fintech, MarketLine Case Study

American Express: Embracing & Exploiting Fintech, MarketLine Case Study

MasterCard Incorporated: How a leading payment provider is embracing Fintech, MarketLine Case Study

Robinhood Fintech start-up and zero-fee trading app applies for traditional banking service charter, MarketLine Case Study

8. Ask the analyst

We hope that the data and analysis in this case study will help you make informed and imaginative business decisions. If you have any questions or further requirements, MarketLine's research team may be able to help you. The MarketLine Research team can be contacted at ReachUs@MarketLine.com.

9. About MarketLine

At MarketLine, we deliver accurate, up-to-date insights on over 100,000 companies, 3,500 industries, 215 countries, and 3,000 cities as well as the latest news and financial deal information from within your market and across the globe.

Established in 1997 when the Internet was in its infancy, we recognized the need for a convenient and reliable data service to help our clients understand local and global markets and the companies operating within them.

In today's information-rich world, sifting fact from fiction to pick out what's relevant and what's up to date has become the new 'holy grail' in business information provision.

Hundreds of dedicated research professionals aggregate, analyze, and cross-check facts in line with our strict research methodology, ensuring a constant stream of new and accurate information is added to MarketLine every day.