Advanced analytics: Insurers move forward despite obstacles and competing priorities

2021 P&C Insurance Advanced Analytics Survey Report (North America)

Willis Towers Watson

Advanced analytics: Insurers move forward despite obstacles and competing priorities

2021 P&C Insurance Advanced Analytics Survey Report (North America)

Table of contents

Executive summary

Advanced analytics: Insurers move forward despite obstacles and competing priorities

Continuing the theme of the last Willis Towers Watson survey of North American insurers' intentions for, and progress with, advanced analytics in 2019, the 2021 edition shows there is little doubt that expanding and improving the use of advanced analytics in a number of facets of operations remains high on the agenda of many companies.

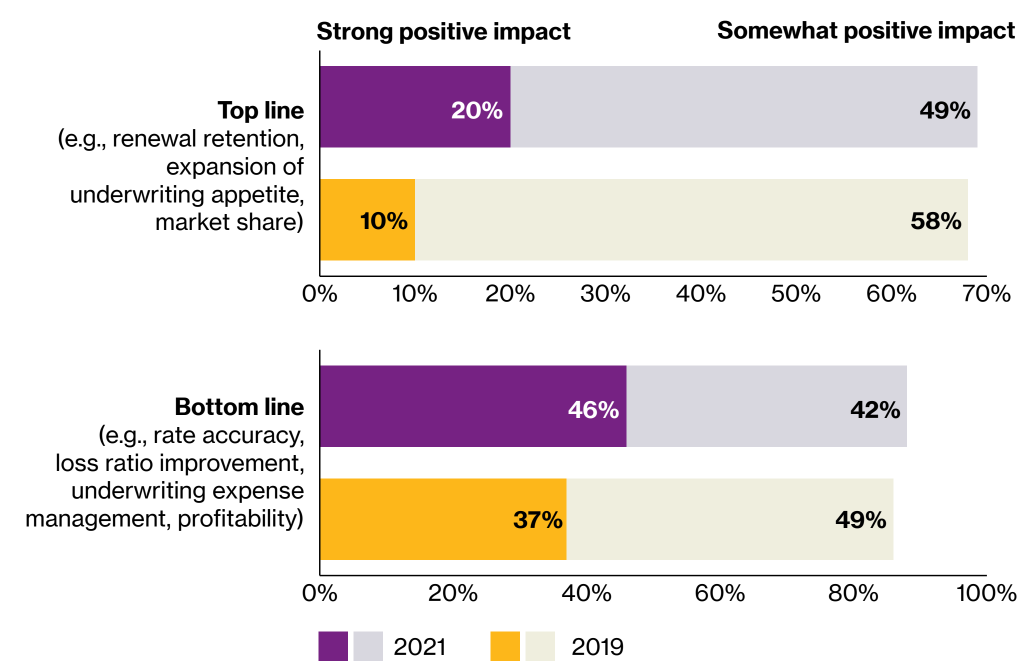
Virtually across the board – but most obviously in pricing, underwriting and claims – insurers who responded to the survey report that their use of and plans for advanced analytics have increased over the past two years.

Significantly, double the percentage of respondents (20% versus 10%) say advanced analytics has had a strong positive impact on the top line compared with the 2019 survey. It's the same story with bottom-line performance, with 46% in 2021 compared with 37% in 2019 citing a strong positive impact (Figure 1).

Nonetheless, many insurers say they have struggled to juggle priorities and overcome obstacles that would enable them to make progress at a faster pace, as many had envisioned. Time is the biggest enemy, mentioned by half of the respondents, but data management, handling and warehousing are also key factors mentioned in slowing or delaying progress. Interestingly, while dealing with the effects of the COVID-19 pandemic has clearly played its part in limiting the time and resources available to work on advanced analytics projects since early 2020, it seems to have had only a marginal impact on advanced analytics plans. One indication of this is signs of more extensive engagement with InsurTech activities.

The motivation for doing more with advanced analytics seems firmly established. The challenge for insurers is to find the time and headspace to allow them to take greater advantage of advanced analytics, tapping, for example, into opportunities that technology continues to offer for wider process automation, data integration, and more in-depth analysis to support competitive positioning and customer engagement.

Figure 1: **Comparative assessment of impact of advanced analytics on top and bottom lines**



Base: Total respondents using advanced analytics (2021 n=82, 2019 n=113)

Survey highlights

Advanced analytics is becoming firmly established as a key source of potential competitive advantage among North American property & casualty (P&C) insurers. Despite most companies facing issues around prioritization or resource constraints, there have been strong pockets of progress in the two years since our last survey.

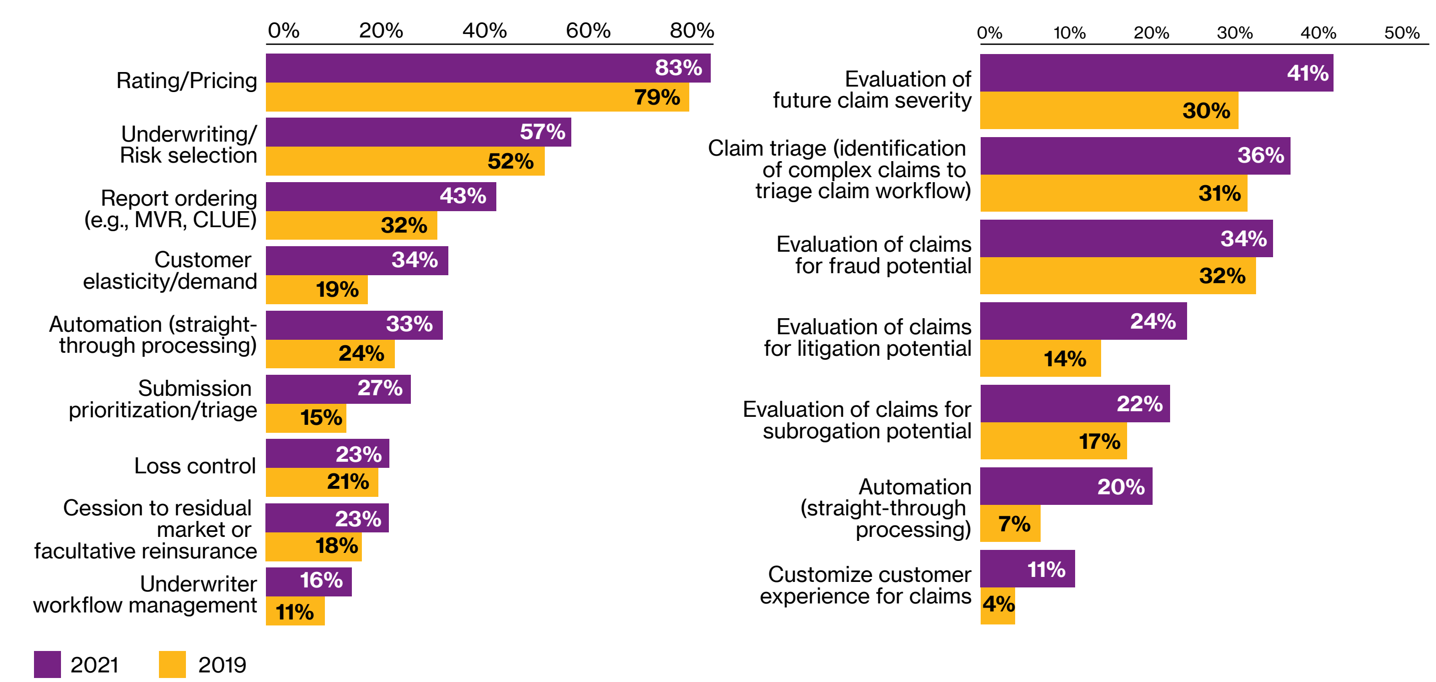
Underwriting/pricing and claims continue to lead the way

These are the big-ticket competitive positioning items, so it's no surprise that they command a lot of insurers' attention. The results suggest that while companies recognize there is room to increase the use of advanced analytics in rating/pricing, bigger leaps are anticipated in the underwriting process, including the levels of automation and decision support employed. Similarly, uses of advanced analytics in claims have accelerated at a faster rate, partially because there are more gaps to fill in capabilities in our estimation (Figure 2).

Figure 2: **Current uses of advanced analytics in pricing/underwriting and claims**

For which aspects of underwriting/risk selection and/or **rating/pricing** does your company group currently use or plan to use advanced analytics?

For which aspects of **claims** does your company group currently use advanced analytics?



Base: Total respondents (2021 n=90, 2019 n=122)

Insurers embrace InsurTech more

Over half of respondents describe themselves as having active working relationships with the InsurTech community, and 10% are fully commercialized. The percentage saying they do nothing with InsurTechs has fallen from 22% in 2019 to 16% in 2021.

Hindrances to progress

Whatever their intentions, many companies report that implementing advanced analytics is not smooth sailing. Prioritization of projects within the wider business is seen as an issue by over 60% of respondents. Other frequently mentioned obstacles are perceived complexities linked to IT, data, modeling and customer understanding.

The uncertainty of the pandemic hasn't derailed plans for advanced analytics

While the pandemic has certainly increased time pressures to do other things and delayed some investments in support of advanced analytics, it hasn't affected plans to any great degree. Just under 40% say they didn't anticipate any change to plans as a result of COVID-19. In addition, many have already adjusted models or performed new analytics to reflect pandemic experience, with others saying they are planning to do so.

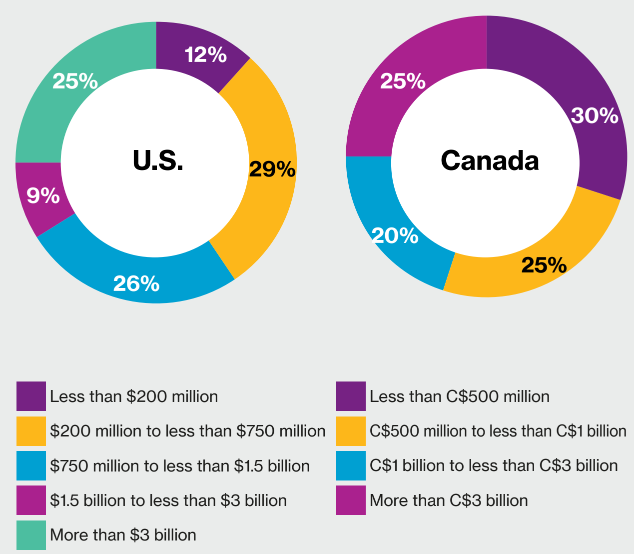
Expected growth in telematics has not materialized

The survey shows use of telematics data has stayed the same or slightly declined since 2019. This may be because companies that went in early and strongly on telematics usage and propositions have taken off some of the sheen and attractiveness of the potential opportunities in certain markets for companies that didn't. Equally, companies may feel there are less complex advanced analytics targets and benefits for them to pursue.

About the survey

Willis Towers Watson's 2021 P&C Insurance Advanced Analytics Survey asked P&C insurers in the United States and Canada for their insights on the future of advanced analytics. Two distinct web-based surveys – one targeting technical roles, the other senior executives – were fielded in the first half of the year. A total of 90 representatives (56 technical and 34 executive) from 71 P&C insurers participated, comprising 62 multiline carriers, three commercial lines carriers and six exclusively personal lines carriers. Respondents include six of the top 10 P&C insurers in the U.S. and five of the top 10 in Canada.

Participants reported annual direct written premium as follows:

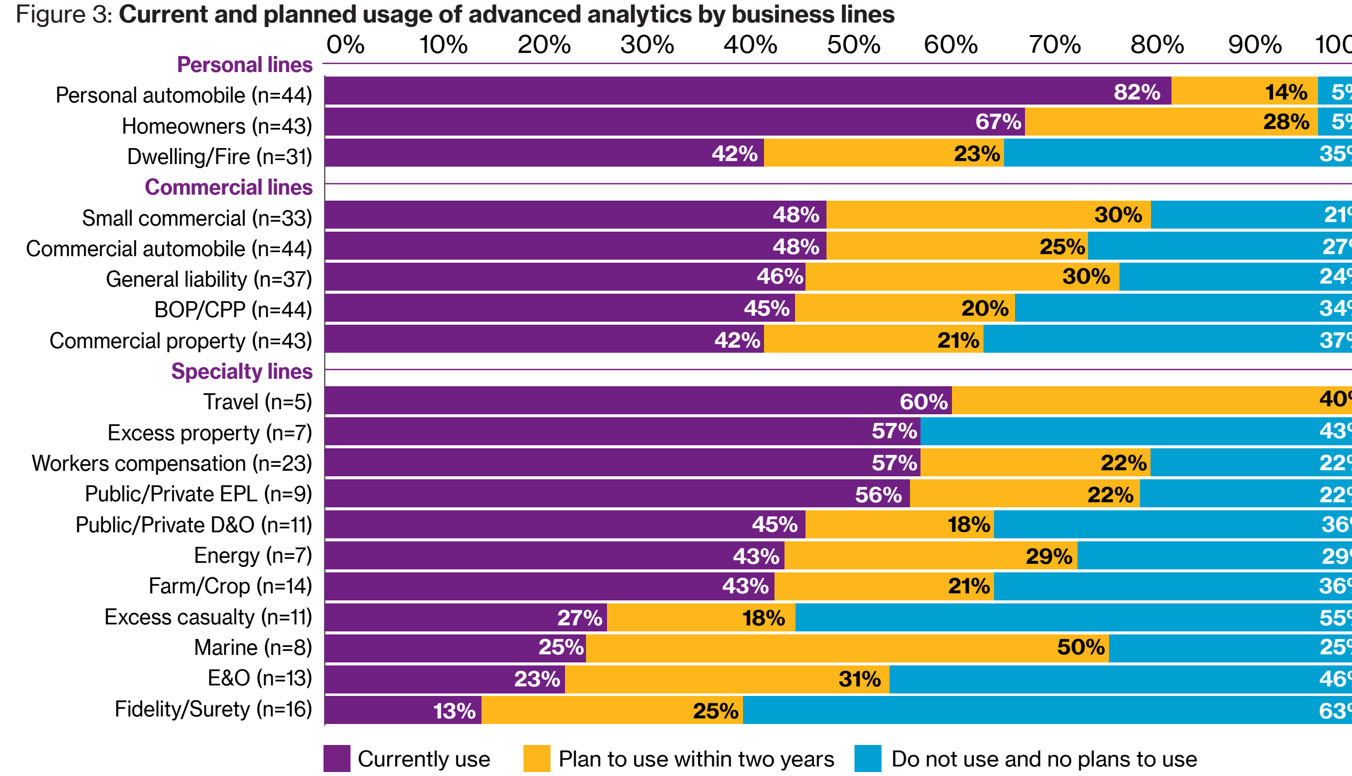


Note: Percentages might not equal 100% due to rounding.

Where next for advanced analytics in North America?

Many P&C insurers have had a taste of the benefits that advanced analytics can bring to their businesses and want more. Despite a small reduction in the percentage of private auto insurers using advanced analytics compared with the 2019 survey result (from 88% to 82%), current and planned usage in virtually all other lines, including commercial and specialty, is up. Particularly large increases in current usage have been seen in the excess property (from 10% to 57%), employers' public liability (from 30% to 56%) and travel (from 40% to 60%) lines of business (Figure 3).

Figure 3: **Current and planned usage of advanced analytics by business lines**

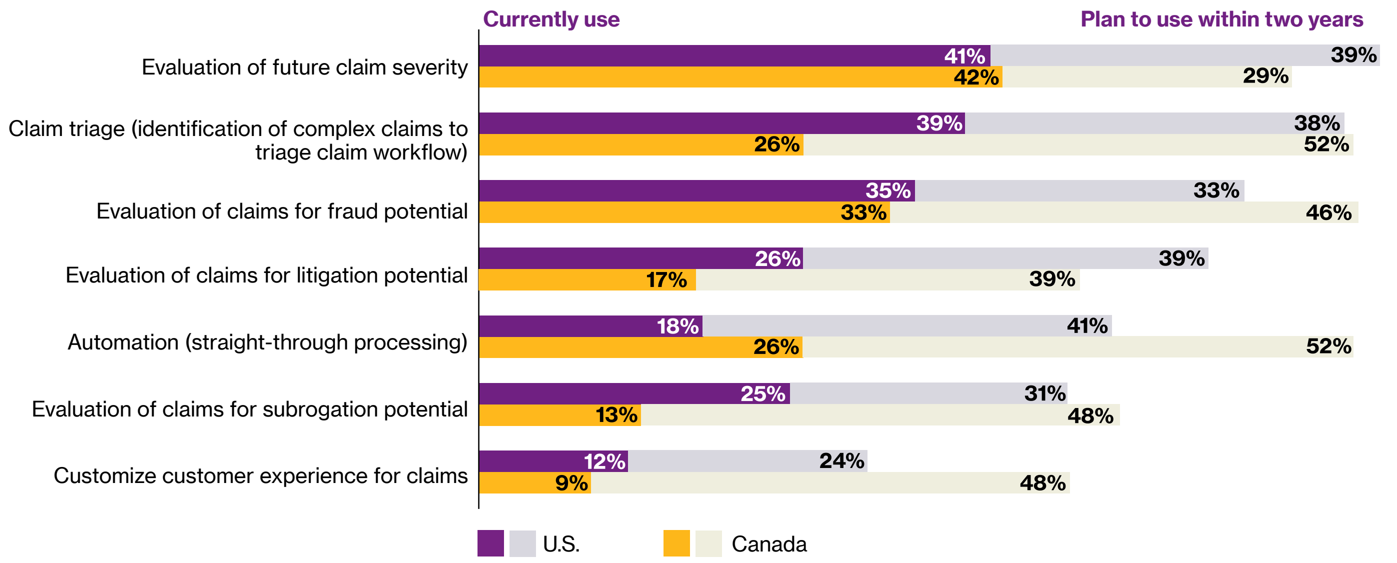


Base: Total technical survey respondents using or planning to use advanced analytics for underwriting/risk selection and/or rating/pricing applications (n varies)

To date, and as referenced in the survey highlights, the focus has mainly been on the underwriting, pricing and – more recently – claims areas. Developing areas that are taking the use of advanced analytics beyond technical pricing and starting to have a bigger impact on pricing decisions in personal and specialty lines in particular include retention modeling, new business conversion analysis and customer lifetime value.

However, the survey results suggest continued room for enhancements in claims. The proportion of companies that are using advanced analytics in various areas of claims looks set roughly to double in the next two years according to the survey – a trend that is particularly strong among Canadian insurers (Figure 4) and evenly spread across different business lines. Big leaps in applications, such as straight-through processing using automation and claim triage to identify complex claims, are expected. As part of that emphasis on claim triage, there is a growing focus on countering fraudulent or inaccurate applications, including where brokers and agents are involved.

Figure 4: **How insurers currently use and expect to use advanced analytics in claims**

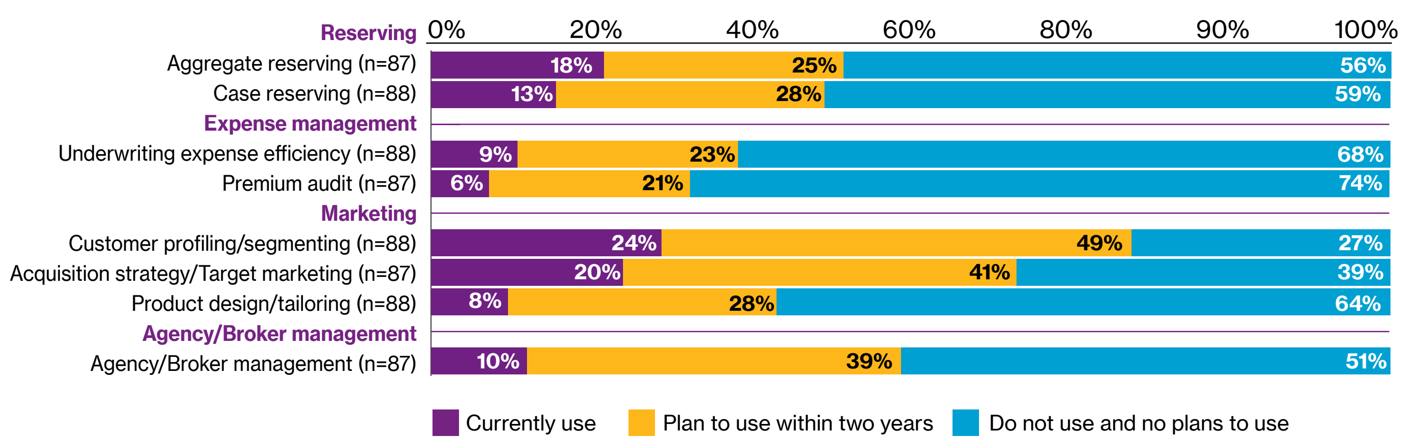


Base: Total respondents (U.S. n=66, Canada n=24)

Where will the next breakthroughs for the use of advanced analytics come? Progress in other business areas, such as reserving, expense management, marketing and agency/broker management, has stalled or even fallen back from the 2019 survey levels – most likely victims of the prioritization issues already mentioned.

In insurers' eyes, the biggest untapped potential for using advanced analytics is in marketing (Figure 5). Its application in customer segmentation is anticipated to rise from the current 24% to 73% in two years. Just below that, the 20% of insurers who use advanced analytics in acquisition strategy/target marketing is expected to rise to over 60%. Time will tell if that is achievable.

Figure 5: **Business areas beyond pricing/underwriting and claims where companies use or plan to use advanced analytics**



Base: Total respondents

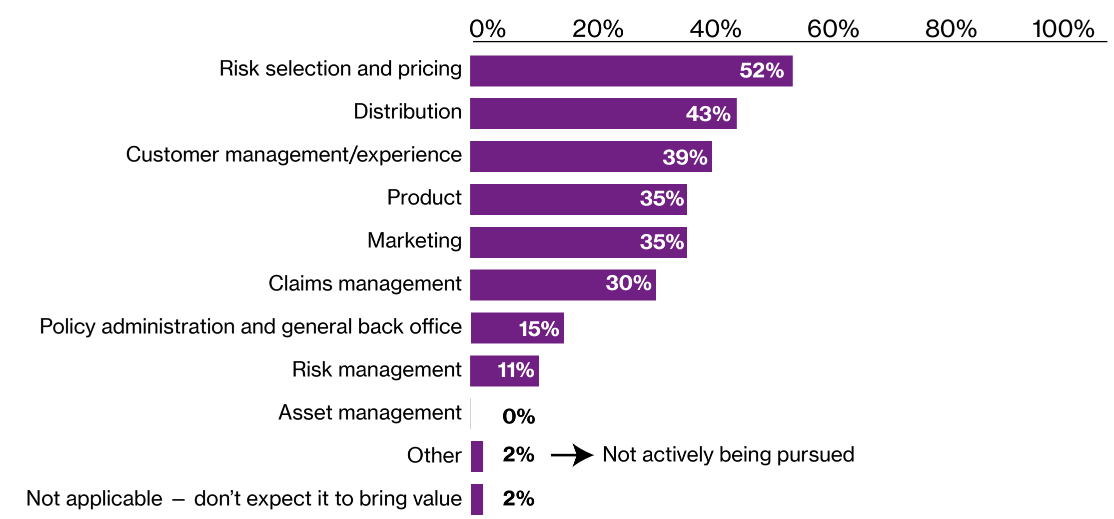
What role for InsurTechs?

One avenue that could help more companies realize their advanced analytics ambitions is getting involved in InsurTech activities.

Currently, 10% of respondents say they are "commercializing" InsurTech relationships, while 46% say they are at an "experimenting and testing" stage. The percentages of companies that are either "observing" or "doing nothing" with InsurTechs have fallen since the 2019 survey, representing 28% and 16% of respondents, respectively. These drops may reflect that nearly half of companies see the potential for InsurTechs to create significant or game-changing competitive advantage for their businesses. Despite the recent trend of more InsurTechs working with or as part of incumbents to improve operations, about a third of survey respondents still see considerable potential for market disruption.

Based on a question asking them to rank their top three areas of opportunity, companies expect InsurTech to have a beneficial impact across broad areas of the value chain (Figure 6).

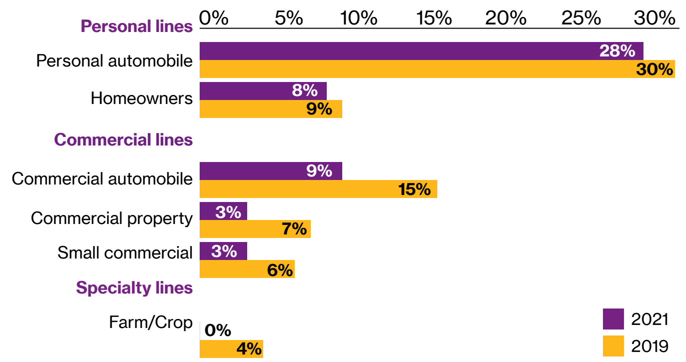
Figure 6: **Anticipated areas of the value chain most affected by InsurTech**



Base: Technical survey respondents (n=54)

Telematics use not accelerating

Figure 7: Current use of telematics by business line compared with 2019 survey results



Base: Technical survey respondents writing the line of business (n varies)

Figure 7 illustrates that the use of telematics has lost some of its luster to insurers in all lines of business since the last survey in 2019, although it should be noted also that 42% of the private auto insurers and 40% of the commercial auto insurers surveyed plan to use telematics data in the next two years. Survey responses, perhaps unsurprisingly, show a strong correlation between the relative size of the insurer based on premium volume and the commitment to telematics.

Further data cuts support the view that telematics is becoming more of a niche play for insurers that have been early adopters. One explanation for this is that insurers' principal concerns about telematics are now more founded on the cost/benefit trade-off and customer acceptance than on implementation or technology issues. Nearly 70% of those surveyed named the cost/benefit trade-off as the main barrier to further exploration of the technology.

Data and techniques

Notwithstanding the difficulties that many insurers say they're encountering linked to data (see "Survey highlights" and "Immovable obstacles to progress?"), there has still been an uptick in the range of data sources that commercial and specialty lines respondents say they are using and find valuable in their business. The uses of account experience, geo-demographic information and drone imagery in standard commercial lines have seen particularly large increases since 2019 (Figure 8).

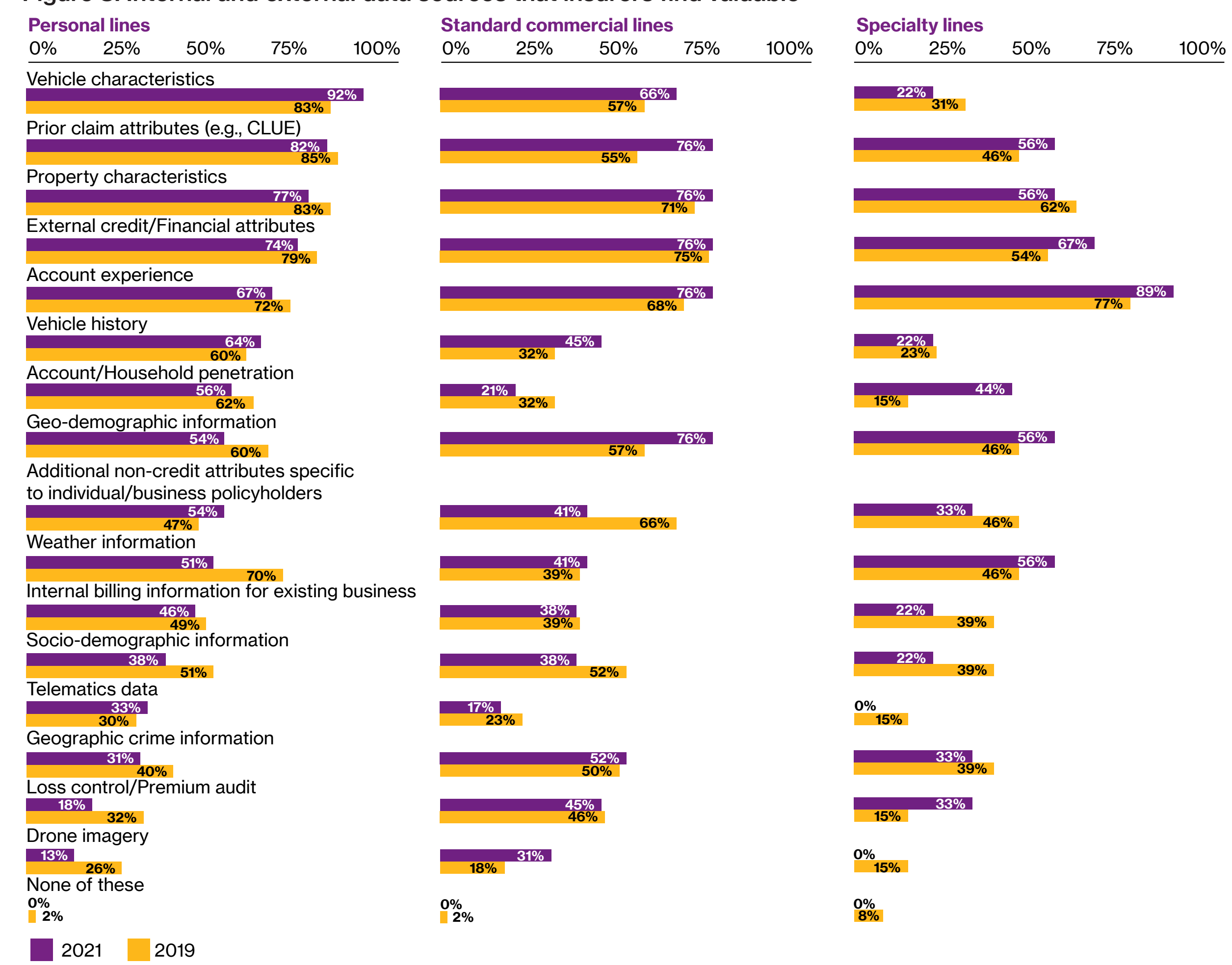
In personal lines, however, consolidation has occurred in several areas since the 2019 survey, perhaps demonstrating that many companies have chosen to or have had to prioritize among the diverse range of sources from which they were already drawing.

In a similar vein, there have been rises and falls in the use of nontraditional data sources. Unstructured claims and underwriting information and images are the most popular or fastest rising, whereas applications of data from social media and customer interactions have fallen back somewhat. An emerging area for those writing auto insurance is accumulating data from advanced driver assistance systems (ADAS).

Collectively, data are being used to model more coverages/perils. The largest percentage of insurers writing homeowners (39%) and private auto policies (50%) model five to seven perils. Across commercial and specialty lines, insurers are typically modeling one to four perils.

The techniques used for modeling are still dominated by one-way analyses (used by 93% of respondents) and generalized linear models (83%). This almost certainly has a lot to do with the techniques that have been approved by regulators in rate filings; however, there is evidence of growth in the use of techniques such as principal component analysis, clustering and gradient boosting machines. One trend worthy of also noting separately is the significance attached to the use of text mining/natural language processing in the claims and marketing areas, where 79% and 47% of companies, respectively, use or plan to use the technique.

Figure 8: Internal and external data sources that insurers find valuable



Base: Technical survey respondents using advanced analytics for underwriting/pricing and/or claims in at least one personal (2021 n=39, 2019 n=47), standard commercial (2021 n=29, 2019 n=44) or specialty (2021 n=9, 2019 n=13) line of business

Immovable obstacles to progress?

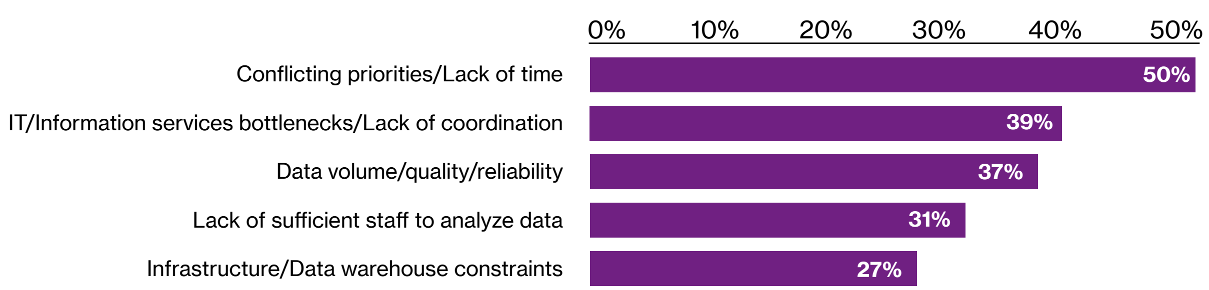
Amid all the positivity about what advanced analytics is doing and can do for insurers' businesses, there are clearly some frustrations about constraints caused by structure, systems and resource availability.

The longer-term picture will therefore be determined or influenced by how permanent these constraints are or prove to be.

Time and conflicting priorities – cited by 50% of respondents – top the list of obstacles preventing companies from increasing their use of advanced analytics. On the plus side, prioritization is within the control of insurers, and the demands that the COVID-19 pandemic has put on time and resources should be diminishing over time. The effects of the pandemic certainly haven't derailed where most insurers are looking to get to with advanced analytics (see "Survey highlights").

So, potentially more damaging to ambitions for uses of advanced analytics are the frequently raised concerns linked to IT bottlenecks, data management and the availability of staff with appropriate analytics expertise (Figure 9). Another concern would be that the level of internal understanding of model outputs has barely moved since the 2019 survey.

Figure 9: Responses to top three challenges facing insurance companies in relation to advanced analytics



Note: Percentages indicate selection in the top three choices.
Base: Total respondents (n=90)

From an IT perspective, many companies already appear to be taking action to remedy problems with data storage, processing and model run capacity. Since 2019, there has been a 23-percentage-point increase in companies using the Microsoft Azure cloud for analytics, together with small increases in uses of other cloud providers.

Another encouraging sign is that in numerous areas, including risk understanding, building risk models, process automation and fraud identification, more companies are making use of artificial intelligence (AI), including machine learning. Thirty-one percent of companies say they now use AI to better understand risk drivers, up from 20% in 2019.

Time and conflicting priorities top the list of obstacles preventing companies from increasing their use of advanced analytics.

Conclusion: Reigniting momentum

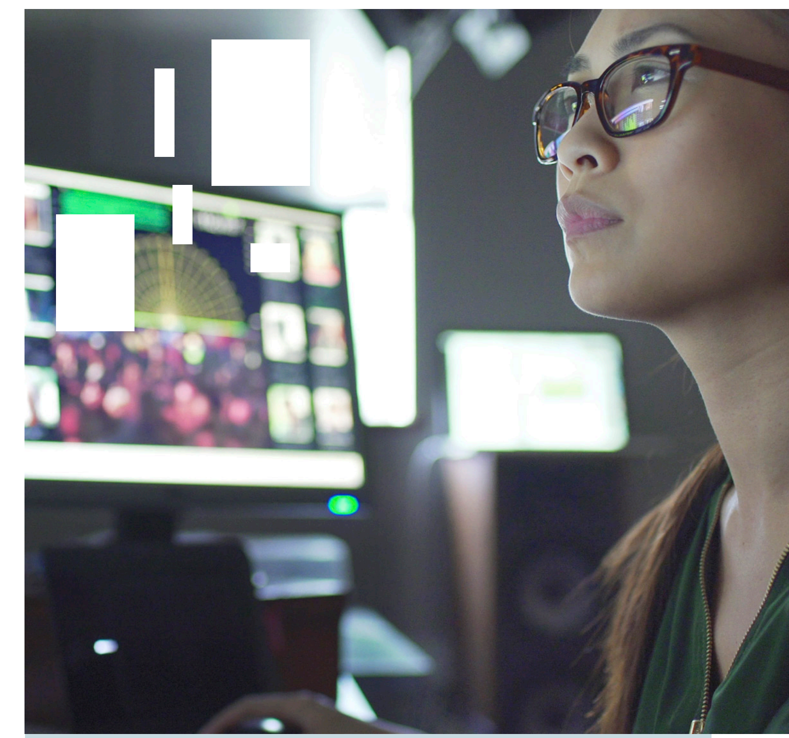
Outside a small set of respondents who express doubts about the business case for advanced analytics, either due to concerns about cost or the ability to explain outputs to either management or customers, the North American P&C market still looks set on a course for increased use of advanced analytics. Continuing optimism from the companies surveyed about the impact that advanced analytics has had on both top- and bottom-line performance would seem to cement that theory.

Progress, however, since Willis Towers Watson's last advanced analytics survey in 2019 has been patchy. The COVID-19 pandemic has undoubtably played a part, but other reasons for some of the struggles that insurers have faced in keeping their ambitions on track lie closer to home. These include IT infrastructure, the dexterity with which they handle data and corporate cultural barriers.

Actions that we believe will help many insurers restore or build momentum behind targeted applications of advanced analytics include:

- **Automation:** Reduce costs and increase time available to explore the value-adding potential of data and analytics, including decision support for more complex risks. AI and machine learning could handle many aspects of more homogenous business lines and also streamline manual tasks that take time and that are prone to human error.
- **Flexible IT capacity:** More analytics means more data, which exacerbates problems with IT bottlenecks and/or connectivity between systems. The survey shows more companies taking advantage of the cloud and upgrading analytics tools, but these have largely scratched the surface of what can be achieved with the likes of on-demand capacity and API-enabled software.
- **Investment in data analytics expertise:** Harness data analytics specialists to maximize the return on investment in data and analytics and to help build broader business understanding of the benefits it delivers.
- **Leveraging of InsurTechs:** The number of early-stage and more established InsurTech businesses has ballooned in recent years.[1] For the large majority, their primary focus is now on enhancing aspects of the insurance value chain by working with incumbents rather than disrupting the market. Collectively, they offer a smorgasbord of value-adding advanced analytics opportunities.
- **Maximum harvesting of your internal data.** Many companies still hold huge amounts of useful but unexploited internal data. We find this is particularly the case for claims and marketing data. With the right technology, data available from sources such as images, unstructured claims, underwriting and customer information, and text mining increasingly have the power to transform product propositions and profitability.

[1] See https://www.willistowerswatson.com/en-US/News/2021/07/global-insur-tech-funding-balloons-to-dollar-4-point-8-billion-in-q2-up-89-percentage-from-q1



Contacts

For further information about the survey or to find out more about how Willis Towers Watson is helping North American insurers develop capabilities in advanced analytics, contact your usual consultant or:

Nathalie Bégin – Canada
Director – Insurance Consulting and Technology
nathalie.begin@willistowerswatson.com

Lisa Sukow – U.S.
Director – Insurance Consulting and Technology
lisa.sukow@willistowerswatson.com

About Willis Towers Watson

Willis Towers Watson (NASDAQ: WLTW) is a leading global advisory, broking and solutions company that helps clients around the world turn risk into a path for growth. With roots dating to 1828, Willis Towers Watson has 45,000 employees serving more than 140 countries and markets. We design and deliver solutions that manage risk, optimize benefits, cultivate talent, and expand the power of capital to protect and strengthen institutions and individuals. Our unique perspective allows us to see the critical intersections between talent, assets and ideas – the dynamic formula that drives business performance. Together, we unlock potential. Learn more at willistowerswatson.com.

willistowerswatson.com/social-media

WTW24611/11/2021

willistowerswatson.com

Willis Towers Watson