

European life insurers are finding analytics treasures

2020 Life Insurance Predictive Analytics Survey

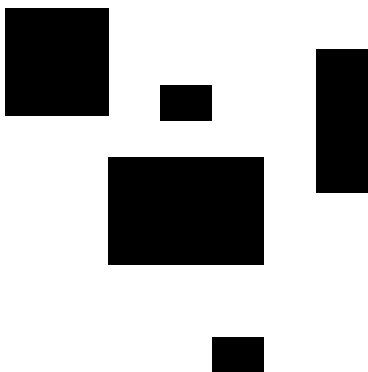


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Contents

Survey background	2
Key findings	3
Impact and usage	5
Drivers and challenges	7
Human and technical factors	8
Survey take-outs – accessing the analytics treasure trove	9



How are life insurance companies across Europe already using predictive analytics in their businesses and how do they envisage using them in the future? Our 2020 survey shows that greater appreciation of the potential benefits and increasing ambitions are often held back by capacity and resource constraints.



Survey background

Recent years have seen more life insurers adopting the predictive analytics and automation that have already become a competitive necessity for property and casualty (P&C) insurers around the world. Predictive analytics involves the use of data (often enriched from external sources) to identify and analyse patterns and trends to better predict what may happen, and to inform business decisions. The analytics can be simple, but insurers increasingly have a toolbox of more advanced techniques, such as machine learning, at their fingertips.

Potential benefits such as being able to deploy new products and update prices in hours rather than days or months (alongside improved governance and fairness metrics, and reduced IT complexity and costs) have typically focused attention around pricing. But there are also growing opportunities to use analytics and automation to better understand claims trends and customer behaviour that can support, for example, better underwriting, cross-selling, in-force management, and more efficient customer management.

Beyond these, the coronavirus pandemic has also introduced new operational factors for insurers to consider. How do you manage a medical underwriting approach where perhaps medical attendance reports are difficult to obtain or being dispensed with out of pragmatic necessity? Or how do you ensure your underwriting is flexible and agile enough to reflect emerging COVID-19 infection and claims trends, together with those of other medical conditions?

Against that background, our 2020 survey sought to explore how far European insurers have progressed with the use of predictive analytics and the scale and nature of their future ambitions, if indeed they have any.

Insurers responded to a web-based survey, with questions covering:

- The impact of predictive analytics on business results
- Key applications – today and in the future
- Types of data being leveraged for predictive analytics
- Types of technology being used
- How analytics work is completed
- New modelling techniques that are gaining momentum

For the purposes of this summary report, the survey findings have been grouped in three sections:

	1. Impact and usage
	2. Drivers and challenges
	3. Human and technical factors



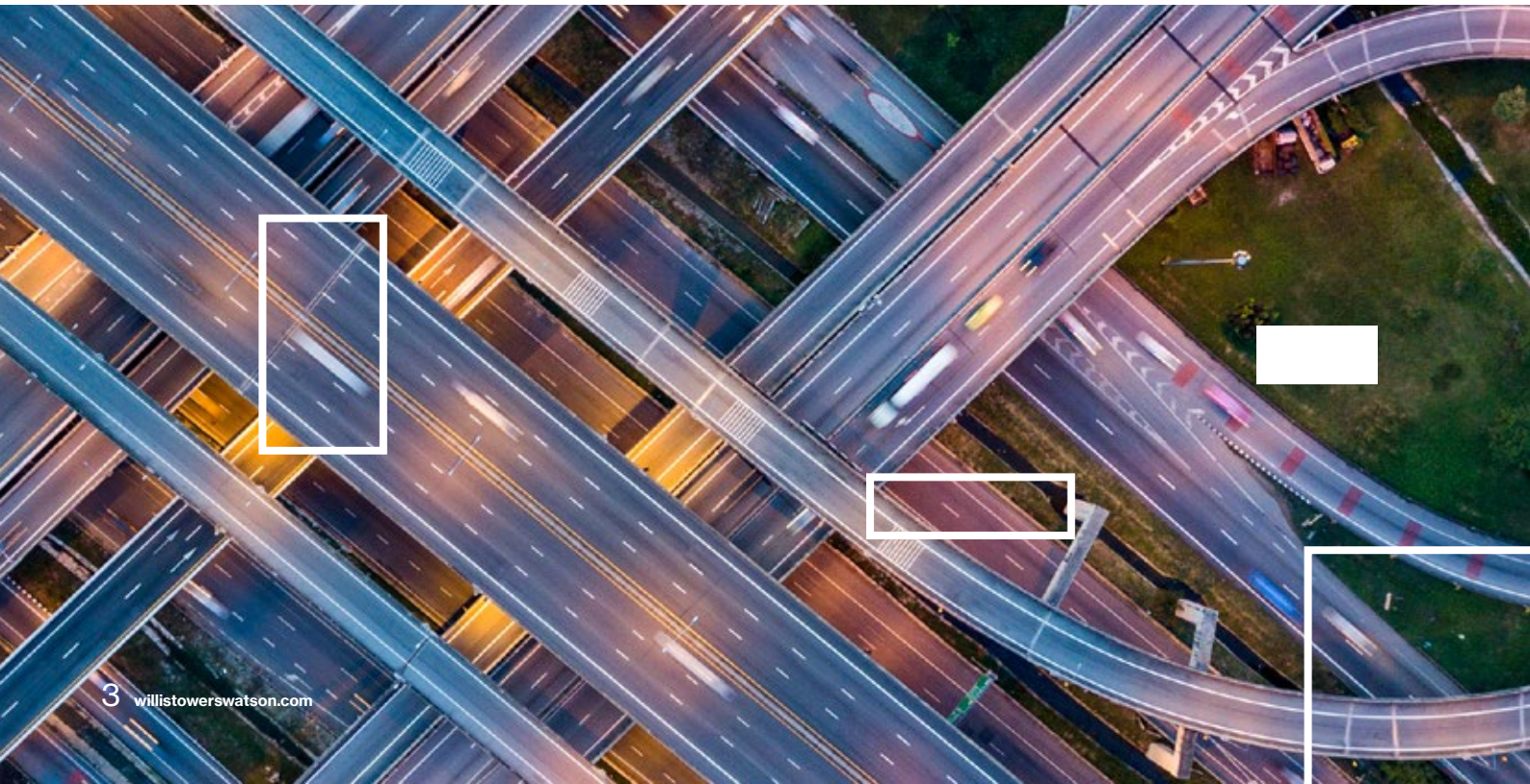
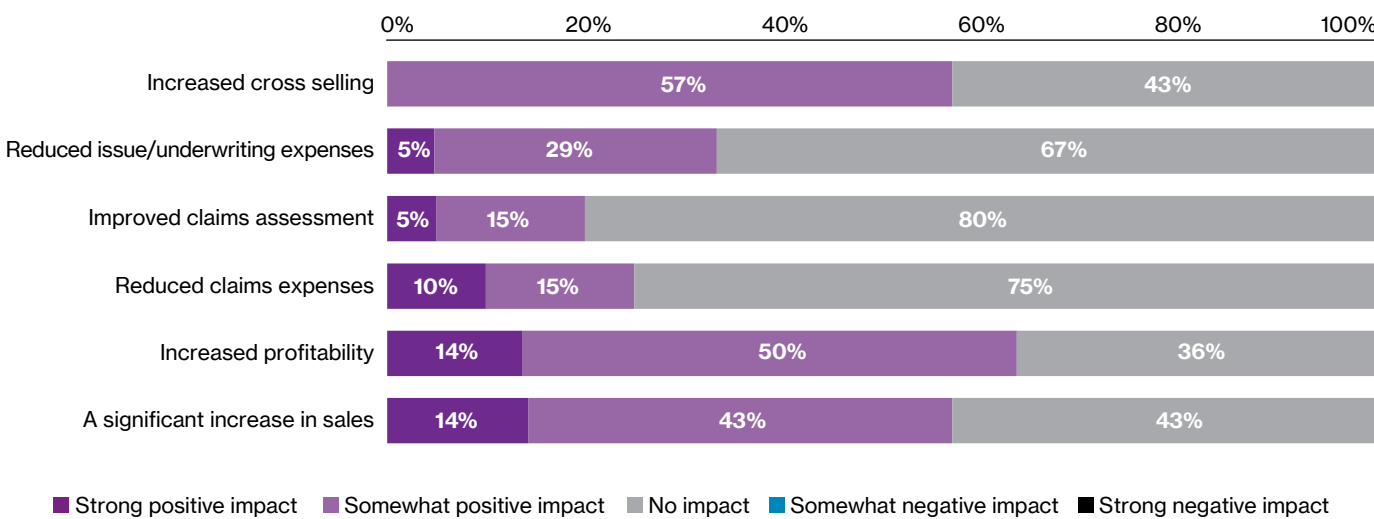
Representatives from 39 companies based in nine different countries, including both some of the largest European multinationals and domestic insurers, participated in the survey. We are extremely grateful to those who took part, particularly given the current challenges associated with responding to the COVID-19 pandemic.

Key findings

1. Impact and usage

- Over 80% of companies that already use predictive analytics report that their use has had a positive impact on the business – none report negative outcomes.
- Over 30% of companies are already using predictive analytics for individual and group risk business. Similar percentages of companies expect to be doing so within two years.
- Composite insurers use predictive analytics more, especially in individual and group risk, reflecting the crossover from P&C business.
- The use of predictive analytics is most common in pricing and mortality analysis. The biggest expansion areas in the next two years are expected to be in disseminating the approach adopted in some more competitive markets to new markets, as well as underwriting, policyholder behaviour to support selling and retention management, and marketing/lead generation.

Figure 1. Impact of predictive analytics on performance to date



2. Drivers and challenges

- The main drivers for companies investing in predictive analytics are in-force management, improving customer experience and competitive positioning.
- In one way or another, all the major challenges companies face in implementing predictive analytics involve data. Nearly 60% cite data volume, quality and reliability as a significant challenge.
- Ranged against that, no companies have any concerns about clarity of strategy related to predictive analytics.
- Whilst the majority of respondents anticipate no change, a third of multinationals expect the COVID-19 situation to accelerate the use of predictive analytics.

3. Human and technical factors

- A substantial minority (30%) of respondents believe their analytics and/or actuarial teams don't have the capacity to accomplish their predictive analytics goals.
- Companies mainly look to life actuaries and data scientists with insurance backgrounds to turn their plans in to reality (such as retention analysis that leads to actions whose benefits outweigh any costs, or pricing analysis that can be readily deployed to live pricing), suggesting companies will need to source more of these types of skills and backgrounds.
- IT bottlenecks are a significant concern to over 30% of respondents.
- While companies typically use traditional desktop and server environments for analytics, nearly two thirds are either already using the cloud or exploring cloud-based options.

Figure 2. **Relative importance of various business drivers on predictive analytics adoption**

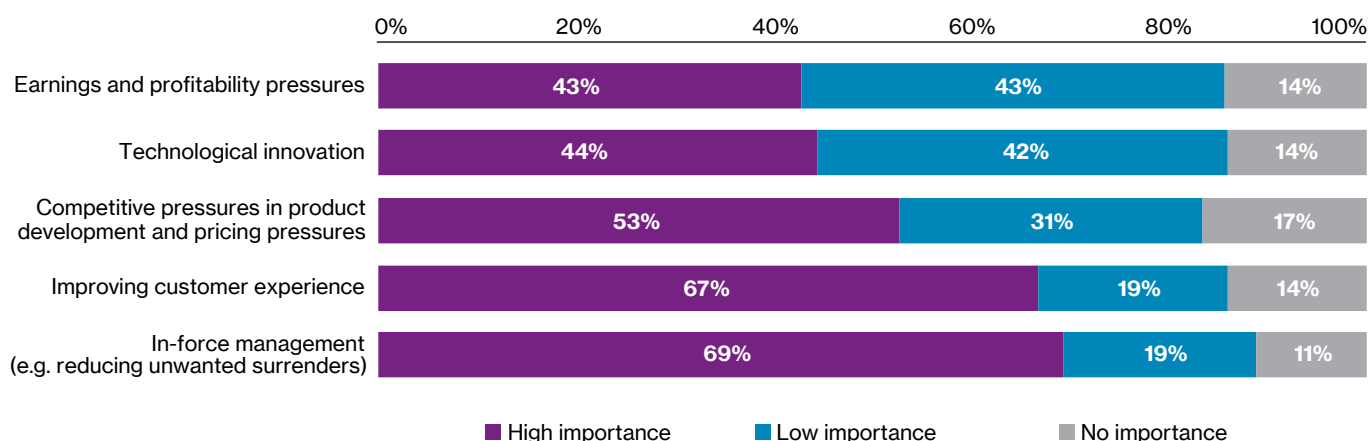
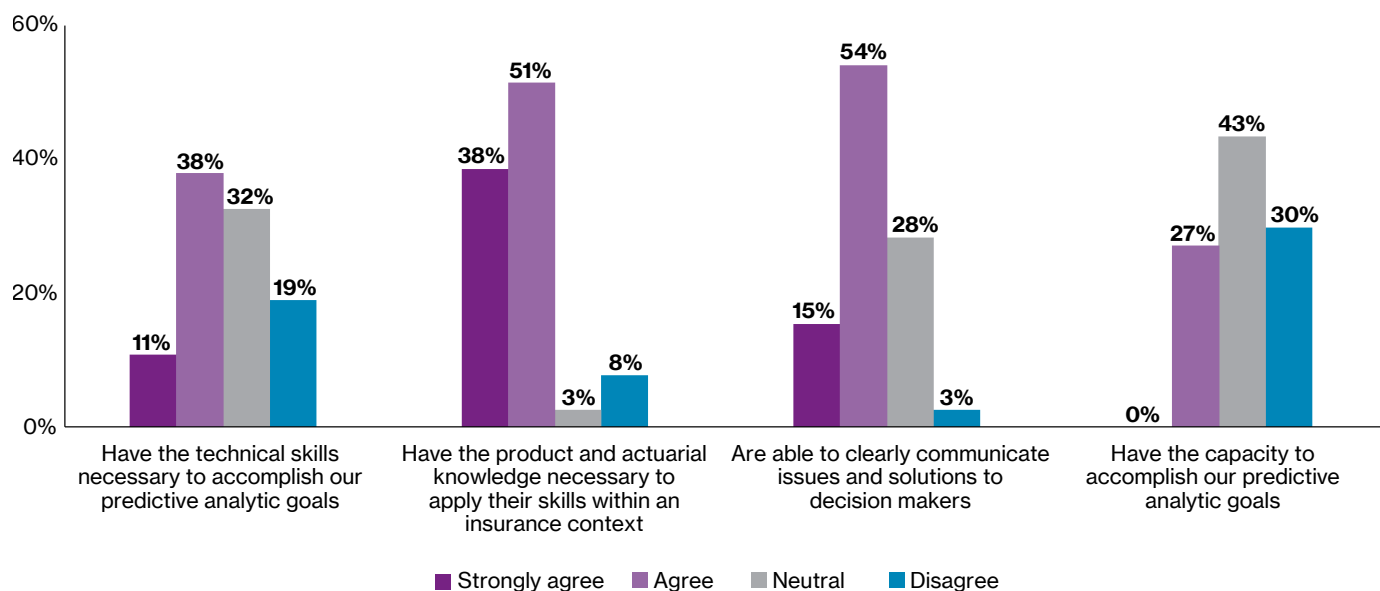


Figure 3. **Perceptions of in-house analytics capability**



1. Impact and usage

Life insurers' use of predictive analytics, often in tandem with greater automation, is an emerging good news story. 80% of the companies surveyed that are already using predictive analytics said it had provided a positive business impact.

It is likely that the other firms are still identifying and working on the right use case for analytics. Or some may have tried to use analytics unsuccessfully in a particular area, with the results perhaps not meeting their high expectations. This 'shortfall' could reflect data issues, or modelling issues, or the analytics not being sufficiently rooted in the practical insurance application. We note though that no firms say the use of predictive analytics has had a negative impact!

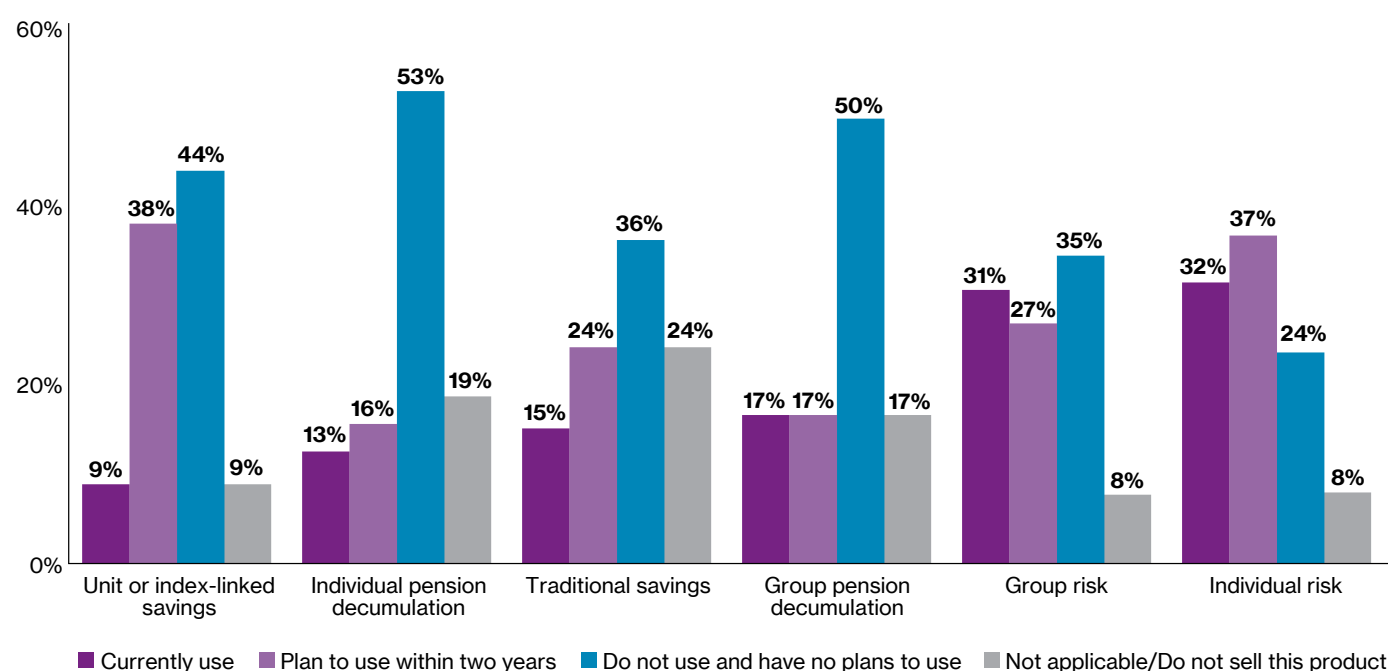
The use of predictive analytics to date has focused on increased sales and profitability, rather than reducing expenses. Of course, improved profitability will be the main driver for any investment. Sales and cross-selling are typically the key business areas where we have found additional analytics and understanding drives improved

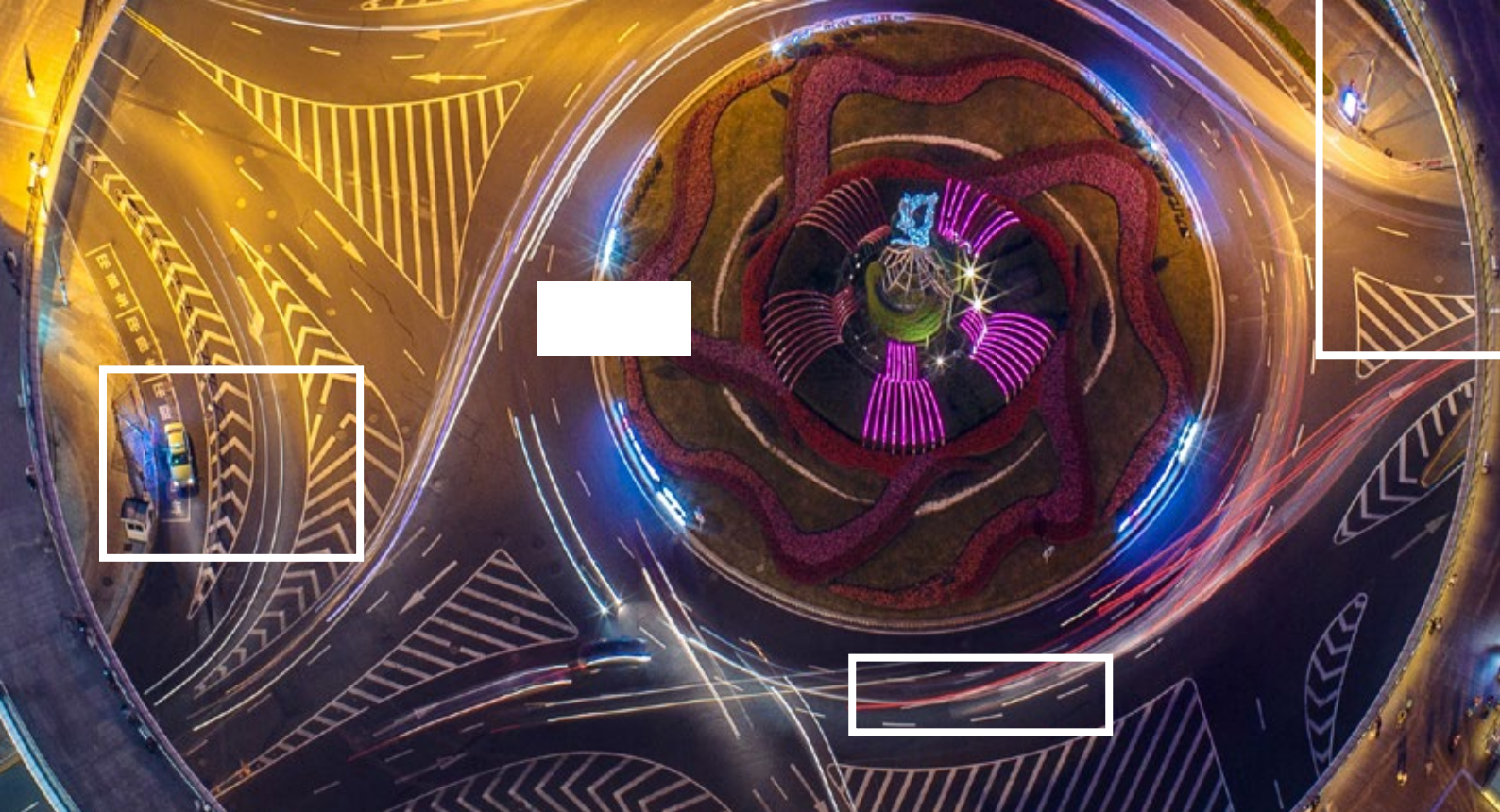
business results, as these are the areas at the sharp end of a competitive market, where small changes in marketing, delivery and price can have a bigger impact on business volumes and profits.

We see the uses around reducing expense/improving efficiency can also have a material effect, such as using smart analytics to modify and improve the underwriting process, and expect the use in this area to grow.

As might be expected of markets which are particularly competitive and focused on insurance risk, the biggest applications of analytics by market segment to date have been in individual and group risk (*Figure 4*). Furthermore, many companies say they have plans to expand their use of analytics in these segments in the next two years. Other markets with the most anticipated expansion of analytics use over that period are unit or index-linked savings and traditional savings products. This perhaps reflects that early adopters of predictive analytics have focused on individual and group risk and are now looking to expand. In the U.S. for example, the use of automated underwriting has recently expanded from protection products to unit-linked products. We have also seen analytics used in savings business to better target marketing (including cross-selling), and also to help suggest investment strategies for customers based on their profile.

Figure 4. Use of predictive analytics by product type





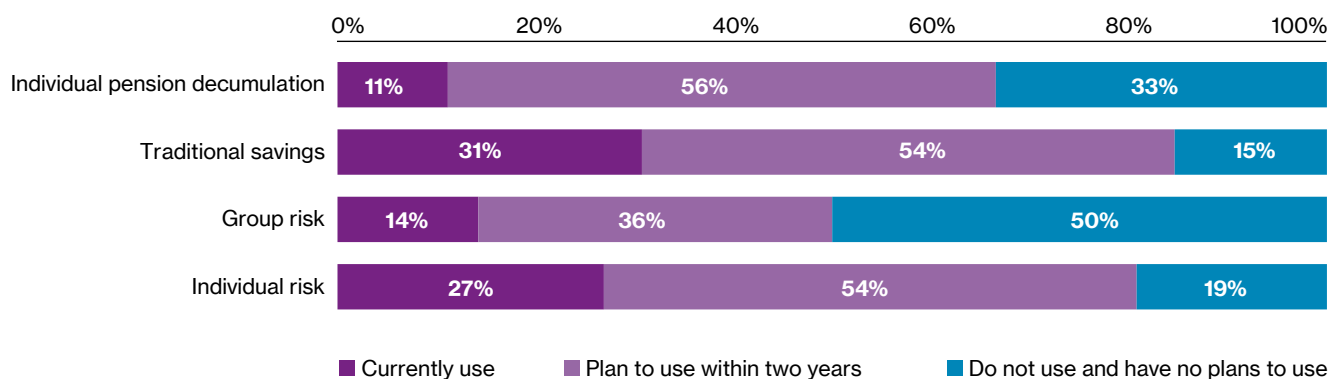
The prioritisation of analytics use in different parts of the life market is also reflected in the nature of current and expected applications. So, for example, areas where analytics use is already relatively widespread include pricing for individual and group risk, mortality/longevity analysis for pension decumulation and policyholder behavior for both risk and traditional savings products.

The areas targeted for the greatest expansion include individual and group risk underwriting – an obvious next step it would seem given the wide range of data that is now potentially available to assess risk and reduce

uncertainty, including not only lapses and claims experience, but factors such as lifestyle and credit history.

In the savings arena, the big expected growth areas include policyholder behavior (60% additional uptake within two years in unit savings), marketing and lead generation (69% additional uptake in unit savings), and in-force management (75% additional uptake in unit savings – see *Figure 5*). As for how companies are undertaking or plan to undertake predictive analytics, 68% are counting on doing it themselves, an interesting point given the challenges noted in the next section.

Figure 5. **Use of predictive analytics – in-force management**



2. Drivers and challenges

Our survey respondents say that the most important drivers for their use of predictive analytics are in-force management, improving customer experience, and competitive pressures in product development and pricing. The main components of customer experience that respondents say they are targeting are faster service (54%), followed by ease of access to information, decision support and personalisation – primarily using internal customer data and, increasingly, customer interaction surveys.

The motivation is clear then, a conclusion supported by clarity of strategy being seen as the least of the challenges faced in implementing analytics. This probably reflects that firms in the survey have set their strategic rationale for the use of predictive analytics, but the challenges come when that strategy needs to be implemented.

The raw material for making improvements in these areas, and in all areas of analytics in reality, is data. And here is where companies admit they face the biggest challenges.

Top challenges to implementing predictive analytics

-  **1. Data volume/quality/reliability**
-  **2. Data capture/availability**
-  **3. Infrastructure/data warehouse constraints**
-  **4. IT/information services bottlenecks/ lack of coordination**
-  **5. Data accessibility/not easily integrated**
-  **6. GDPR**



Without some resolution of these kinds of issues, companies may find it difficult to keep on track with what they say they want to achieve with analytics in the next couple of years, particularly as they engage with data that perhaps they haven't looked at before.

Nonetheless, respondents say they are continuing to expand their data horizons. By far the most widely used data across business lines currently is demographic and socio-demographic information. Among non-traditional data sources, unstructured internal customer and claims information together with customer interaction data are regarded as the most promising. The much-touted use of data from wearables has convinced few companies to date, but 29% of respondents say they are considering using it for individual risk business in the next five years.

Whilst customer fairness is always a consideration, this was only considered to be a “minor challenge” by many respondents. Typically, we advise insurers to have clarity on what they consider to be fair treatment of customers first, and then perform any predictive analytics within those boundaries.

COVID-19 impact

We could hardly talk about challenges of any sort in the life insurance business currently without mentioning COVID-19. From a sales perspective, what we have observed to date is depressed demand in most life market segments, but a rise in demand for protection products. This demand spike does, however, come with some new challenges for underwriting and pricing that could determine how safe it is to write more protection business in the short term and how resilient underwriting remains in a medium- to longer-term, post-COVID world. Yet the majority (over 80%) of survey respondents, and domestic life insurers in particular, don't expect this to significantly affect their use of analytics in the short term. This may be down to (over) reliance on reinsurers for pricing and underwriting – so this may be an opportunity for insurers to build more internal capacity to avoid ceding too much profit margin unless essential. Multinationals have a different view though; a third of them expect the pandemic to accelerate analytics implementation, potentially as a result of an increased focus on digitalisation and automation.



3. Human and technical factors

The other typical variables in implementing predictive analytics are people with the right skills and systems that are fit for purpose.

So, the fact that a substantial minority (30%) of respondents believe their analytics and/or actuarial teams don't have the capacity to accomplish their predictive analytics goals seems like a potential problem.

Since companies mainly look to life actuaries (51%) and data scientists with insurance backgrounds (43%) to implement their plans, the combination of these findings suggests companies will need to source more time from the in-demand people with insurance expertise and data manipulation skills.

Assuming they can do this – and, as already mentioned, 68% of respondents are of the opinion they will undertake predictive analytics in-house – those people will also need the right tools for the job at hand, recognising that technology can move on very quickly. Currently, many companies are relying on open source software and living with the limitations these tools place on data control and governance. Given the significant financial and reputational impacts of inappropriate data usage, or mis-pricing for example, as well as the need to integrate solutions with actual front-end sales and customer service systems, we anticipate more tailored solutions may be needed as competition based on analytics intensifies.

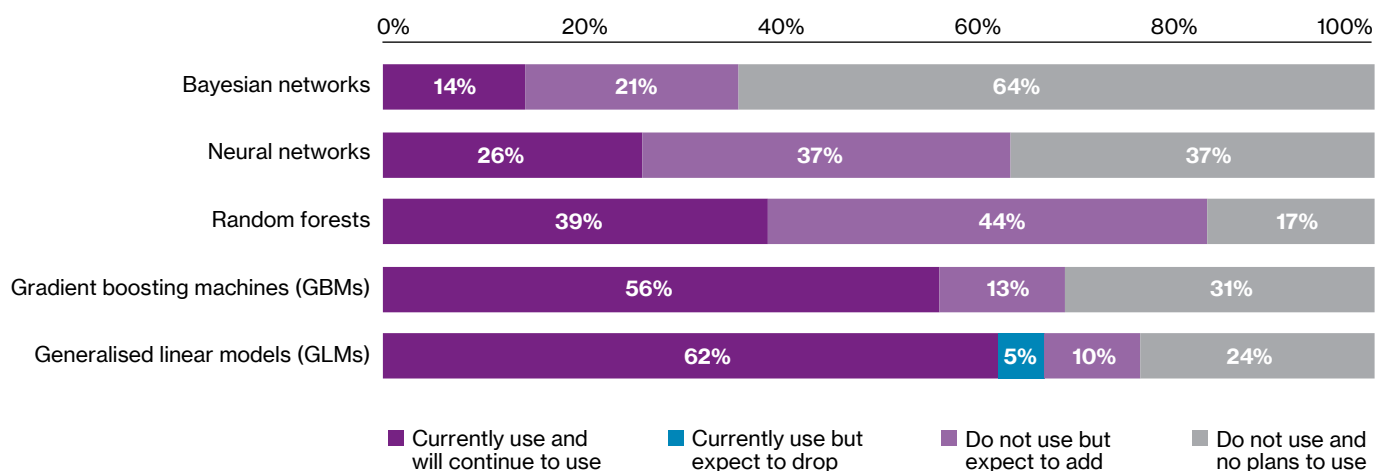
In the face of such competition, increased sophistication of analysis could also be available from the modelling techniques used to investigate often complex interacting trends. Generalised linear models (GLMs) are typically the go-to approach for getting started with predictive analytics and 62% of companies in our survey are indeed using them, alongside 61% that use one-way analyses. Going forward, however, usage of techniques such as random forests, neural networks and clustering algorithms is expected to expand quite significantly (*Figure 6*).

Customer lifetime value

Analytics can provide a quantum leap in customer-centric strategies through the development of robust Customer Lifetime Value (CLTV) metrics. In one recent project for a large European bancassurer, we developed multifactorial models in Radar for the main components of value. For savings products the key components are generally persistency, upsell and cross-sell propensity.

We used these component models to create an overall CLTV, and hence categorise policyholders into various bands of future value to the company. These bandings allowed the insurer to fine-tune its service offering to policyholders, and develop a new approach to manage the low value policyholders.

Figure 6. Predictive analytics modelling technique usage



Survey take-outs: accessing the analytics treasure trove

Our survey highlights that after a relatively slow start, certainly within the European life market as a whole, more companies are going in search of the business treasures that we believe predictive analytics can unlock. Illustrating that point, around 75% of the UK protection market, for example, is already served by companies that are using some or all of Willis Towers Watson's award-winning Radar analytics and pricing suite (see case study on the next page). We view high calibre analytics to be one of the biggest sources of potential competitive advantage in the European life insurance industry – alongside improving operational efficiency.



Over the next two years, our survey hints at considerable changes in the way analytics will be used in areas from pricing and underwriting to customer experience and marketing in life insurance, certainly in the protection and savings product areas.

That said, there appear to be some capacity, resourcing and technology issues to be resolved if reality is to match expectations.

In our experience of working with both P&C and life companies on predictive analytics projects, a few factors could be key to creating compelling business use cases and a greater likelihood of successful outcomes.



Often, useful data is staring you in the eye.

Data is essential in unlocking analytics insights.

But you don't necessarily have to search far and wide for useful information. The customer and experience data you have within the organisation, when accessed and analysed appropriately, will help achieve many objectives. Joining previously unconnected data sources can provide a cheap but often fruitful dataset.



Pick business use cases wisely. As the saying goes, Rome wasn't built in a day. Nor can you transform a business to be data and analytics driven overnight.

Build up gradually, demonstrate success with defined metrics, and take the organisation with you. This also has the advantage that, occasionally, when some projects don't achieve all that was hoped for, setbacks are limited and do not derail the broader direction of travel.





Select the right tool for the job. Choose appropriate analytics techniques for the objective. There's a whole raft of techniques and software out there, including AI and machine learning, but choosing the best method for the job at hand, based also on domain expertise, is important. Early on, it will be important to use methods that stakeholders can understand, even if not the most predictive.



Beware legacy constraints. As the survey results illustrate, legacy or fragmented IT systems could be a potential obstacle to making progress with predictive analytics. Depending on circumstances, we typically suggest companies start small and work on the quick wins first, and over time integrate and orchestrate the analytics to enhance the platform to serve the full customer journey.



Avoid 'not made here' syndrome. Learn from what is working well for others in both the life and P&C markets and equally what is not working so well. Within Willis Towers Watson we are able to leverage our experience and expertise across life and P&C and different countries.

Case study

Predictive analytics at work at major UK-based insurer

Willis Towers Watson helped the client transform pricing in its protection business using the Radar software suite as the basis for introducing real-time and optimised pricing.

In doing we also met key requirements of flexibility to change rates quickly, strong governance and training of in-house staff to take control of decision making and pricing adjustments.

Rather than the previous six weeks, the client is now able to make price changes in under a day, and simultaneously amend rating structure and pricing factors without the need for any IT build. The project has led to a greater emphasis on differential pricing by distribution channel. An initial, relatively cautious pricing change led to an increase of 3% in new business value, with further increases in value following.



Further information

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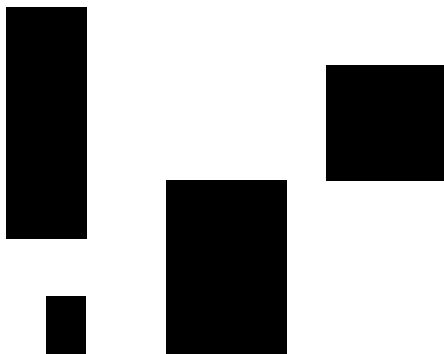
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