An aerial, high-angle photograph of a festival or fair. The scene is dominated by a large number of colorful, square pop-up tents arranged in a grid-like pattern. The colors of the tents include shades of pink, purple, blue, green, yellow, and white. People can be seen walking between the tents, and some stalls or displays are visible. The lighting suggests it might be late afternoon or early evening, with some shadows cast by the tents.

Predictive analytics speeds innovation for life insurers

Life Predictive Analytics Survey Report
(Americas)

How, and to what extent, are life insurance companies viewing predictive analytics as a way to transform their businesses? Our survey of the Americas' life insurers shows the market is at a tipping point.

About the survey

Willis Towers Watson's 2018 Predictive Analytics Survey asked life insurance executives based in the Americas for their insights on the future of predictive analytics. The web-based survey was fielded from August 15 to September 25, 2018, and covered:

- Key applications that are used today and ones being considered for the future
- Types of external data being leveraged for predictive analytics exercises
- Types of technology being leveraged
- Organizational structure of analytics teams and users
- New modeling techniques that are gaining momentum
- The impact of predictive analytics on business results
- How fast change is expected to happen

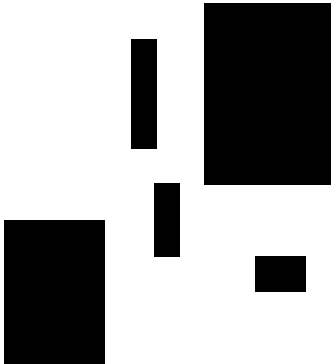
Representatives from 51 companies, totaling over \$138 billion of annual premium, participated in the survey.

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Table of contents

- Introduction 2
- Competition and customer centricity 3
- All core functions in play 4
- The financial rationale 5
- Potential barriers to overcome 6
- Survey takeaways: running down the predictive analytics hill 7



Introduction

Predictive analytics speeds innovation for life insurers

The use of predictive analytics – the application of data and analysis techniques to gain more accurate insights to run businesses and enhance customer experiences – has grown in selected pockets of the Americas’ life industry in recent years.

But our latest survey shows that growing competitive pressures and changing customer expectations, in particular, are raising the stakes and building momentum for future investment (Figure 1). Life insurers in the Americas are not

exactly staring over a precipice, but many – led by large individual life carriers that have set the pace to date – certainly see themselves as at or near the top of a predictive analytics hill with market gravity exerting greater force.

So how, and in what areas, do they propose to accelerate their innovation plans?

Figure 1. Current and future trends for investment in predictive analytics

Large carriers (> \$3 billion written premium)	Now	Two years
Individual life	70%	90%
Group life	71%	100%
Retail individual annuities	71%	71%
Institutional annuities	50%	83%
Individual health	40%	80%
Midsize carriers (\$1 – \$3 billion written premium)	Now	Two years
Individual life	50%	75%
Group life	67%	100%
Retail individual annuities	13%	38%
Institutional annuities	50%	75%
Individual health	20%	40%
Small carriers (< \$1 billion written premium)	Now	Two years
Individual life	53%	89%
Group life	23%	46%
Retail individual annuities	18%	32%
Institutional annuities	11%	33%
Individual health	15%	38%



Competition and customer centricity

Companies report multiple drivers for why predictive analytics capabilities are increasingly seen as essential for life insurers. Competition – ranked of high importance by 78% of respondents – is the biggest factor. This also translates into a perceived need to invest to protect earnings and profitability (Figure 2).

The other principal driver is fortifying the customer relationship. Technology has already transformed the wider notion of customer experience in a whole range of sectors, and life insurers clearly feel they need to up their game, with over two-thirds rating this as an area of high importance.

When asked what changes this will entail in the next two years, the leading responses involve offering faster service (84%), more personalized experiences (71%), faster and easier access to policy details and information (64%) and a more mobile-friendly way of interacting (58%).

Need for data







There is recognition that insurers will need to access and use more data to achieve all or most of these goals. Internal customer data will be most important, but so will the abundance of information now available from wider online activity (Figure 3).

The use of data from wearables witnessed the biggest percentage point jump. Globally, more products are incentivizing healthier lifestyles, wellbeing and condition prevention, so it's no great surprise that individual life insurers are among those most interested in wearables. In fact, in five years' time their anticipated use is expected to increase from the current 5% of companies that use them to 42%. However, usage in the annuities markets is expected to remain relatively peripheral.

Figure 2. Relative importance of factors behind investment in predictive analytics

	High importance	Low importance	No importance
 Competitive pressures in product development and pricing	78%	18%	4%
 Customer relationship management	67%	22%	11%
 Earnings and profitability pressures	64%	27%	9%
 Technological innovation	60%	36%	4%
 Regulatory pressures	4%	45%	51%

Figure 3. Top data sources life insurers use now and plan to use in two years to improve customer centricity

	Now	Two years
 Internal customer data	55%	82%
 Customer interactions/surveys	55%	73%
 Clickstream data	18%	45%
 Social media	13%	35%
 Web scraping	11%	29%
	Now	Five years
 Wearables	6%	38%

All core functions in play

Life insurers expect to expand the use of analytics across all of their core functions (Figure 4).

Improved underwriting is a priority for individual life carriers – 92% plan to use predictive analytics within two years, up from a current 52%. This does raise the question of where this leaves the other 8% if the forecasts materialize. More generally, over half of all life insurers in all lines of life business anticipate using predictive analytics in underwriting by or shortly after 2020.

Pricing and rate setting are also poised for big growth in predictive analytics use with a small base to a majority showing in most lines of business. And although predictive analytics is currently more established in assessing mortality and morbidity risk, its use is expected to increase significantly.

Fast-tracking claim management

Life insurers are committed to improving the customer experience and, as Figure 4 shows, are very interested in how predictive analytics can lead to better claim management – particularly for group life policies.

Fraud detection and prevention are key targets, with 86% of participants (up from a current 38%) planning to use predictive analytics to assess fraud potential – predominantly from claimants but also in applications from customers, agents and brokers, and in potentially excessive bills from third-party treatment providers. A majority of these companies are also looking to apply predictive analytics within two years to identify complex claims and to evaluate claims for litigation potential.

Figure 4. Function-based plans for expansion of predictive analytics

Pricing/Rate setting

	Now	Two years
Group life	31%	56%
Institutional annuities	28%	64%
Individual life	18%	55%
Individual health	9%	73%
Retail individual annuities	7%	47%

Underwriting

	Now	Two years
Individual life	52%	92%
Group insurance (medical underwriting)	44%	63%
Individual health	27%	73%
Group insurance (case-level underwriting)	25%	56%

Mortality and morbidity risk

	Now	Two years
Institutional annuities	55%	91%
Retail individual annuities	40%	73%
Individual health	28%	64%
Individual life	23%	75%
Group life	19%	56%

Claim management

	Now	Two years
Group life	37%	87%
Individual health	28%	64%
Institutional annuities	10%	55%
Individual life	10%	40%
Retail individual annuities	7%	40%

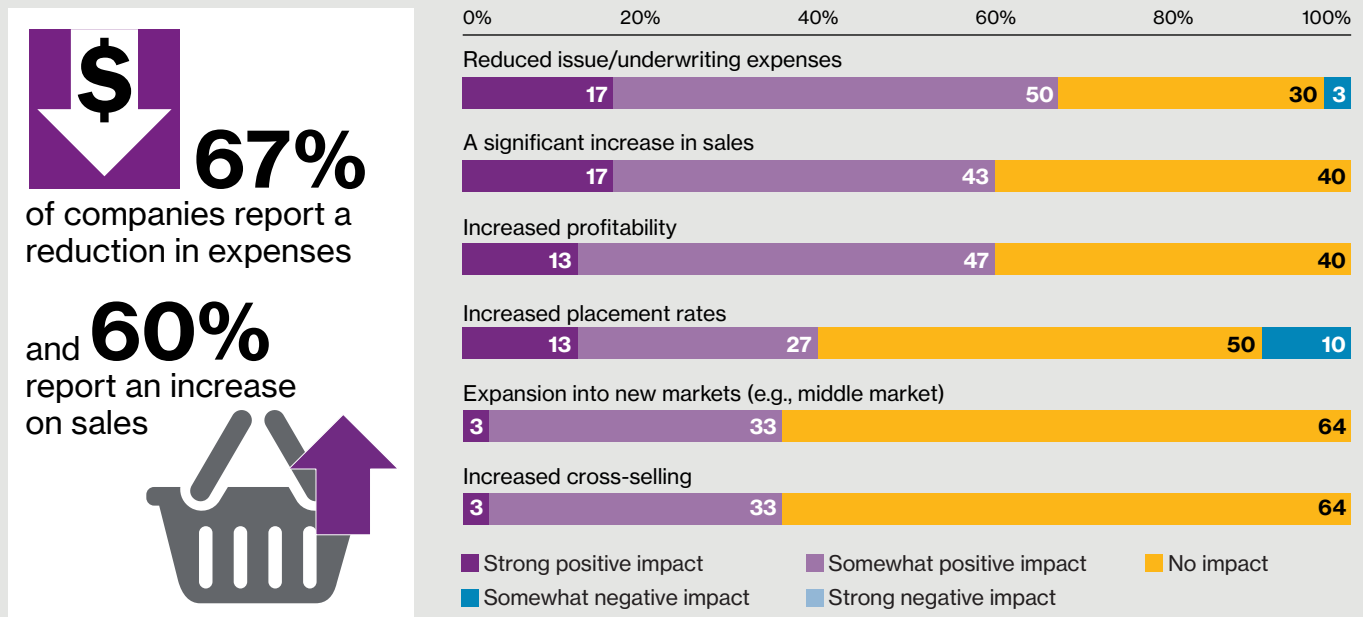
The financial rationale

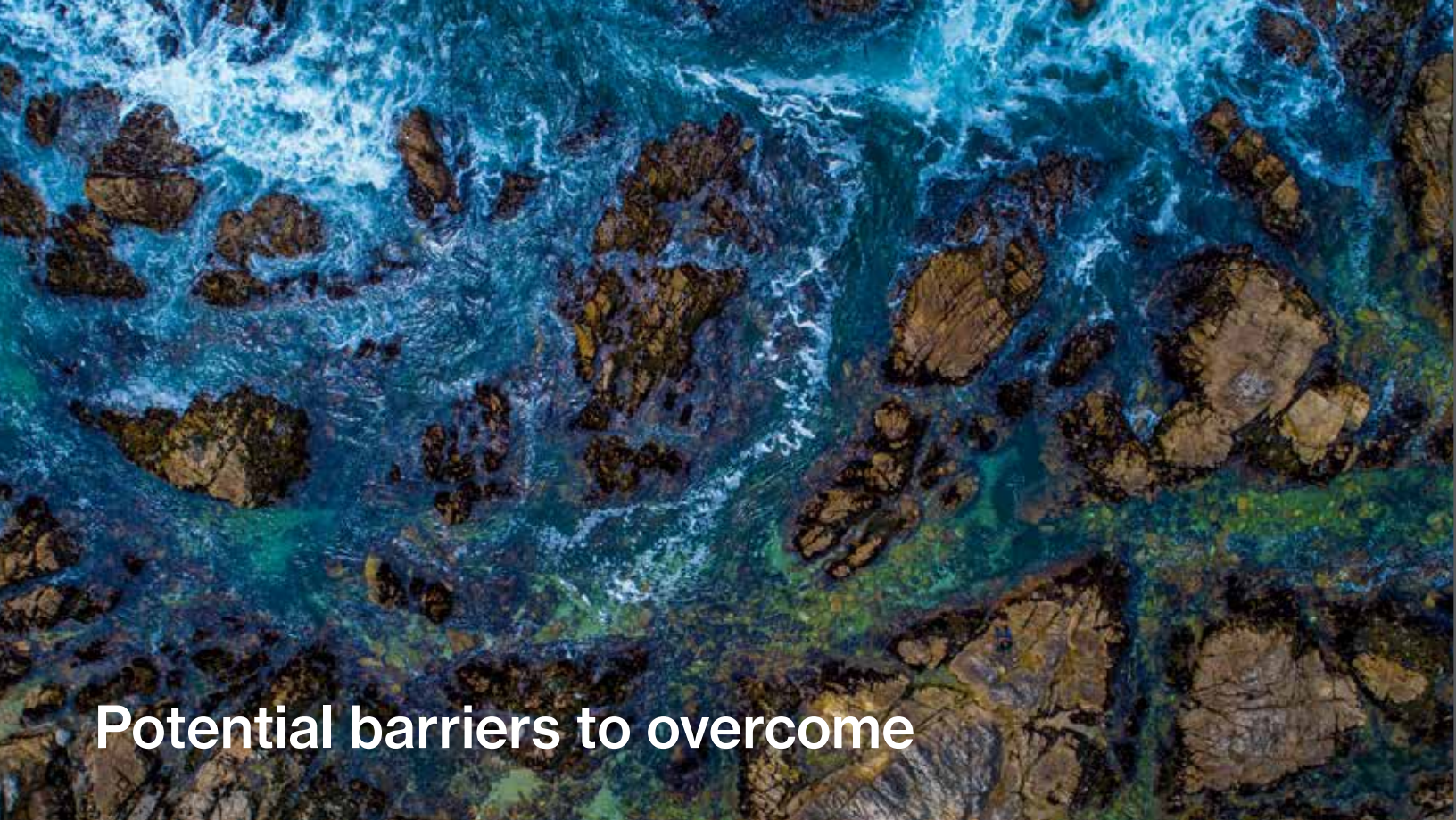
Companies are not making plans on a whim or a hunch. Results are providing a strong endorsement for participants' proactive strategies, according to those already using predictive analytics. Over two-thirds report that predictive analytics have helped reduce issue/underwriting expenses, while 60% credit the additional insights for increases in sales and profitability (Figure 5).

This impressive showing is strengthening the will to explore new methodologies linked to predictive analytics. These include artificial intelligence (AI) and machine learning, which

can support objectives already mentioned such as cost reduction, enhanced underwriting and fraud detection. The biggest application seen for these techniques over the next two years (60%) is the reduction of time spent by humans on repetitive tasks. Nearly half expect to augment the work of human underwriters in this time frame, and upward of 40% are working toward ways to improve organizational understanding of risk and apply this in risk models that support decision making.

Figure 5. How life insurers currently use predictive analytics to assess business performance





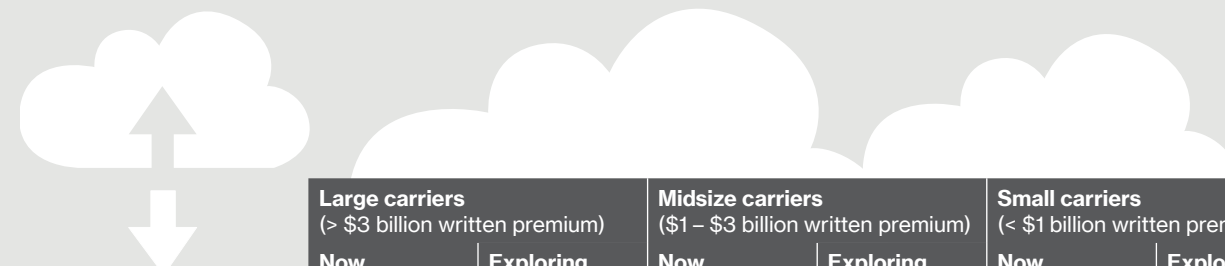
Potential barriers to overcome

For all the enthusiasm for predictive analytics and its perceived benefits, the plans of life insurers in the Americas will inevitably involve growing volumes of data and require greater processing power to handle the associated analysis. As it stands, these would stretch many carriers' in-house IT facilities.

Many insurers of all sizes are one step ahead, already exploring solutions such as cloud-based environments and Hadoop, a framework for managing and using big data (Figure 6).

Perhaps the bigger challenge – one many insurers recognize – is to help business stakeholders understand enhanced model results so timely action can be taken. Only 13% of respondents think models are currently well or very well understood by those outside the data science and actuarial teams. By contrast, 40% say that broader understanding is very limited or nonexistent.

Figure 6. How life insurers in the Americas are preparing for growing volumes of data



	Large carriers (> \$3 billion written premium)		Midsize carriers (\$1 – \$3 billion written premium)		Small carriers (< \$1 billion written premium)	
	Now	Exploring	Now	Exploring	Now	Exploring
Cloud-based (Amazon Web Services, Azure)	55%	27%	0%	50%	14%	36%
Hadoop	18%	27%	33%	17%	18%	11%

Survey takeaways: running down the predictive analytics hill

Our survey demonstrates the rapid progress that life insurers in the Americas expect to make with predictive analytics over the next two years. It seems that many life insurers are on the cusp of a real transformation in the core functions of their business.

Plans or intentions are one thing, but bringing them to life, quite another. Based on our experience supporting both property & casualty (P&C) and life insurers in implementing predictive analytics, we believe it's likely to involve the following:

- **Choosing and accessing the most valuable data.** For those who may have read our previous P&C advanced analytics survey report, we make no apology in repeating that the biggest, quickest wins will typically come from sourcing new (or better) experiences and/or customer data, some of which may already exist within the organization.
- **Analytics with a purpose.** 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 is important.
- **Picking winners.** Transforming an entire business in one hit is unrealistic. In the relatively early days, at least, target areas for improvement precisely so successes can be shared and, if things don't work out as expected, lessons can be learned without severe collateral damage.
- **Overcoming legacy.** Legacy IT systems are potentially a major obstacle to making progress with advanced analytics. Companies may need to invest to innovate, including looking at what's coming out of the InsurTech movement.
- **Taking the business along for the ride.** The survey results demonstrate that most companies have work to do. They need to spread the word and build understanding across their businesses – among underwriters, claims and customer services teams, and marketers – that enhanced predictive models will shape insurers' competitive future.

Further information

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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.



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