

# DATA DRIVEN INSURANCE:

HARNESS DISRUPTION  
AND LEAD THE WAY

BUSINESS  
CONSULTANTS

DEEP  
TECHNOLOGISTS

## FOREWORD

Data is an asset.

That is the mindset companies in the insurance industry must quickly embrace if they are to remain competitive in a landscape that is being challenged from seemingly all angles. From product commoditization, shrinking margins and disruptive startups to aging technology and processes, changing customer expectations and regulatory uncertainty, insurance companies face a critical imperative to harness data assets existing within their enterprise today.

The industry has long collected mountains of data and is in the process of modernizing core systems, but it has yet to tap the full power of that information. Today, companies across the industry have opportunities to leverage data in new ways across all lines of business, and in many functional areas, technology and real-time analytics can bring significant value to their organizations.

Advanced analytics allows carriers and brokers to identify new revenue opportunities, improve the customer and agent experience, perform operational diagnostics and improve control mechanisms. But, as this report reveals, most organizations don't feel they're fully realizing the benefits – even though they recognize the potential lift to their business.

The table is set for insurers to close this gap, following dramatic decreases in the cost of processing and storing data. And a sense of urgency shouldn't be hard to come by in an industry beset by a soft market in standard lines, increased bottom-up disruption from technology-enabled competitors and increasingly demanding customers. "Every innovation we've made in advanced analytics has been because clients are asking questions and we're coming up with data-driven answers," says an executive vice president at a top 10 global insurance brokerage firm.

We hope the following report, which covers the thoughts and feelings of brokers and carriers in the property and casualty and life and annuity sectors, will illuminate this important evolution. Our work in the industry and research from this report provide key takeaways and recommendations to embrace data as an asset – an important and industry-reshaping opportunity.

— *Greg Layok, Senior Director, West Monroe Partners' Technology & Advanced Analytics Practice*  
and *Carrie Camino, Director, West Monroe Partners' Insurance Practice*

## Data: The Insurance Industry's Untapped Resource

In a quickly changing insurance industry, data is proving to be one of the most important and valuable assets. But only 11 percent of companies in the industry expressed certainty that their organizations were realizing the full benefits of that data via advanced analytics, according to our recent survey of 122 executives. That's disappointing, as there are significant advantages that can be achieved through technology and real-time analytics.

"Big data used to be a buzzword that everyone made fun of," says Bradley Ptasienski, Senior Manager at West Monroe Partners. "That's not true anymore. Big data is real, it's here – and big data technologies will allow you to do in days what used to take months, either through the testing of concepts in the market or the analysis of historical information. It's time to get on board, as the use of new data will not slow down – it will only speed up."

The insurance industry is mature – and by its nature, conservative. As one expert says, "We're not Silicon Valley." But competitive pressures are mounting as incumbent players search for ways to differentiate their offerings and search for new revenue opportunities in a soft market. Lou Brothers, Senior Manager at West Monroe Partners, says insurers are "looking to find more dollars from the same customer base. They're looking for any edge they can get." This edge may

include leveraging data to enhance the customer experience around servicing the customer/agent. A report by the World Economic Forum last year found that disruption is ripe within the insurance industry, with the report's lead author, R. Jesse McWaters, saying, "There's a recognition from many insurance executives that we talked to that the cultures of innovation within their institutions are very weak."

Part of the problem is the stubborn difficulty of showing definitive return on investment for data and analytics-related innovations. One survey respondent even said, "It may not be possible to directly correlate ROI with advanced analytics in our business." A producer at a top 10 insurance broker says advanced analytics is "baked into the cake" with his company's fee structure: "There's no question it provides enormous value, but it's extremely difficult to measure that value and pass along the information to our customers."

Respondents to our survey who had implemented advanced analytics said it had already had an impact within their organizations. This includes the promising forty-six percent of respondents that said they somewhat agreed that their organizations were taking full advantage of advanced analytics. But hurdles remain – including significant concerns about data quality and accuracy, analysis paralysis and segmentation issues. There's also no clear answer when it comes to ownership of advanced analytics within organizations and a lack of clarity on where it fits into insurance companies' budgets.

But one thing is very clear: advanced analytics and data-informed experiences are already affecting the industry – and will for years to come with new data sources emerging by the week.

“The opportunity for customized products and services will only accelerate with the rapid growth of the Internet of Things and our increased ability to draw from that dataset,” says Carrie Camino, Director at West Monroe Partners. “We’ll be able to create rich predictive models around behaviors and environmental factors to shape customer interactions and purchasing decisions. It’s really a unique and exciting time – and we’re at its very beginning.”

What follows are our key takeaways, a full breakdown and analysis of the survey results and, perhaps most importantly, recommendations for companies in the industry as they make their way in this brave new world. With obvious benefits – improved pricing accuracy, timely and efficient loss control and prevention, and deepening customer relationships with new products, for starters – companies that fail to take advantage of the opportunities in front of them will likely feel the market impact of that misstep, and soon.

#### KEY TAKEAWAYS

**Failure to extract advanced analytics’ full benefits:**

Just 11 percent of respondents strongly agreed that their organizations were fully realizing the benefits of advanced analytics. Forty-six percent somewhat agreed that their organizations were.

**Data’s opportunity as a business accelerator:** About a quarter (27 percent) named improved customer experience as the greatest potential benefit of advanced analytics. Twenty-one percent said they could reduce claims costs and 14 percent chose increased sales.

**Major worries about data quality:** Nearly two-thirds of respondents said data quality and accuracy was the greatest challenge associated with advanced analytics.

When asked about the greatest risk, about half chose inaccurate data.

**Current focus on claims modeling and reduction:**

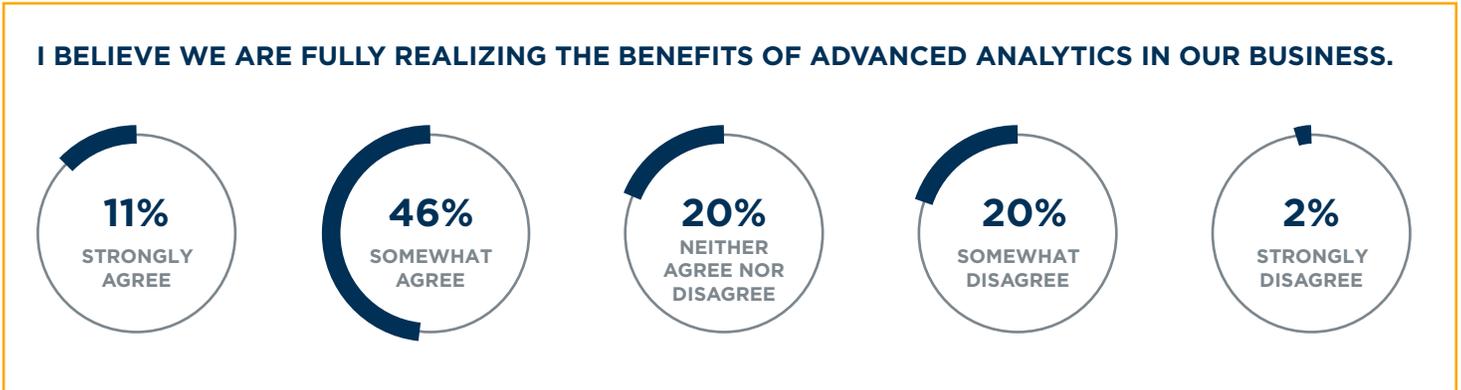
Fifty-one percent of respondents said they already used advanced analytics in that area, followed by 42 percent who said they used actuarial model testing.

**Lack of investment in disruptive data sources:**

Seventy-six percent of respondents said they were not investing in disruptive data sources, though about half of those respondents said they were considering making an investment in secondary sources that would augment their own data.

## Full Survey Results and Analysis

### The Big Picture.



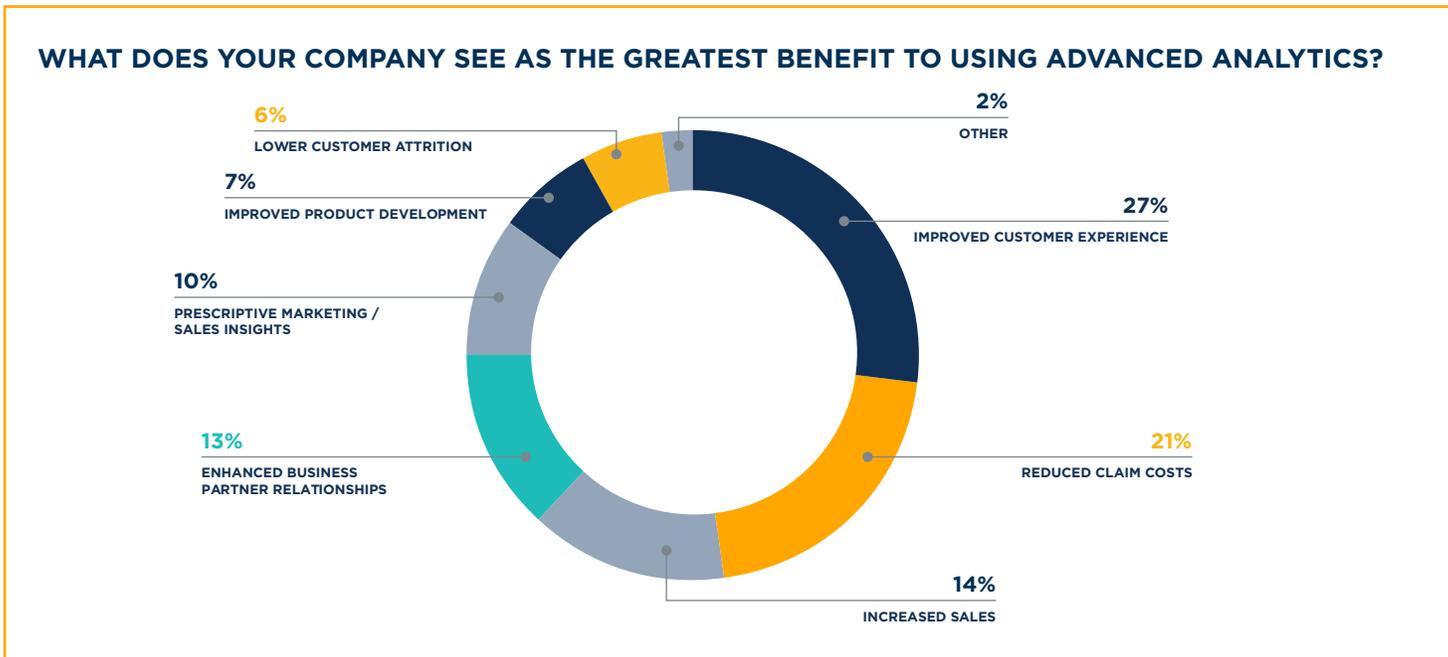
The shift toward advanced analytics began this decade in the insurance industry – and it makes obvious sense. Companies in the insurance business have always possessed a great deal of data. Now, with the modernization of their core systems as well as the availability and increasing affordability of the necessary computing power, those companies can do more than traditional broad-based risk analysis. And new data sources – from social media, smartphones, connected devices and wearables – are emerging.

Just 11 percent of survey respondents strongly agreed that their organizations were realizing advanced analytics' full benefits. The plurality of respondents (46 percent) somewhat agreed that their organizations were. Both findings are consistent with our assessment of the overall marketplace, in which insurers understand the potential benefits of advanced analytics and have started to take action. But they're not yet where they need to be.

There were three main groups of respondents to the survey – representatives from life and annuity (L&A) carriers, property and casualty (P&C) carriers and brokers. Breaking down the findings for those groups, a greater percentage of P&C representatives (18 percent) strongly agreed their organizations were taking advantage of advanced analytics. That's encouraging – and also logical. Those companies have more touchpoints with customers, through sales, renewals, claims, etc. L&A respondents, on the other hand, generally deal with customers at the point of sale and when the claim is realized, leading to low engagement.

**Recommendation:** Companies can perform a multi-function collaboration with actuaries, sales, marketing, claims and others to conceive of new opportunities for data-driven analyses that use deeper information more closely tied to individuals and leverage predictive models. From those concepts, they can prioritize and pilot a few of them to test the value. Then iterate.

## The Potential.



Improved customer experience was the top choice, especially among brokers – who are increasingly under pressure to become stronger advisors, even experts, for customers as insurance becomes increasingly commoditized. Products that are increasingly similar require brokers who can differentiate on service. “Each year, our role evolves further from traditional brokers to consultants,” says a producer at a top 10 broker.

In addition to providing better information to consumers, the insurance industry can use advanced analytics – more quickly than ever – to increase sales. That was the top benefit as perceived by L&A respondents – likely the result of their companies looking to expand from their traditional focus to other areas, such as employee benefits.

Interestingly, P&C respondents’ views on this question differed from other types of respondents.

While they were focused on improving customer experience, their top choice for this question was improved product development. This is likely an indication that P&C companies are further along when it comes to advanced analytics and are eager for new developments.

**Recommendation:** Many of these areas are interrelated – e.g., improved product development was likely viewed by some respondents as a way to increase sales or improve customer experience. Big picture: insurance companies should use advanced analytics to focus on manageable tasks with goals like increased engagement, improved production by existing advisors and reduced attrition. This is increasingly important when cast against the ever-evolving regulatory landscape that could cut into bottom lines, including rule changes recently enacted by the U.S. Department of Labor, which alter the way independent broker-dealers can be compensated on products involving clients’ retirement accounts.

### GREATEST CHALLENGES WITH ADVANCED ANALYTICS



64%

DATA QUALITY/  
ACCURACY



27%

SEGMENTATION OF  
DATA ACROSS  
SYSTEMS



20%

LACK OF INTERNAL  
TECHNOLOGY  
STRATEGY



15%

LIMITED  
QUALIFIED  
TALENT



12%

DATA VOLUME  
TOO HIGH



11%

SEGMENTED  
OWNERSHIP  
OF DATA



9%

LIMITED BUDGET

### GREATEST RISKS WITH ADVANCED ANALYTICS



51%

INACCURATE  
DATA



34%

ANALYSIS  
PARALYSIS



33%

DATA  
SECURITY



25%

PRIVACY  
CONCERNS



13%

REGULATORY/  
GOVERNANCE  
ISSUES



2%

LEGAL  
ISSUES



2%

OTHER

## The Hurdles.

We then asked respondents about the greatest challenges and the greatest risks associated with advanced analytics. Accuracy of data was the top choice for both questions. “It can be like a game of telephone,” says a producer. “We know that the ultimate findings need to be checked and double-checked.”

Concerns about data quality were especially pronounced for L&A respondents. These respondents were also more concerned about data privacy than the other groups. This likely stems from the large number of claims that involve personal information protected by HIPAA and the emergence of cloud-based insurance systems. While data accuracy was a concern for P&C respondents, they said the greatest risk was analysis paralysis. Simply put, all insurance companies have lots of data – and a lot of time can be spent merging the information and looking at it in different ways in order to tease out new answers.

Another top challenge was segmentation of data across systems – likely a result of information integration after acquisitions and a lack of consolidated policy and claims systems. Sometimes, companies must find ways to extract data from large mainframes – especially when the institutional knowledge of those systems is maintained by longer-term workers. Fields labeled one way in 2003 might have been labeled very differently in 1993.

**Recommendation:** Companies should consider new tools and systems to help aggregate data in more cost-effective ways, including lean analytics, data lakes and data pools. Those concerned about analysis paralysis likely need to improve governance around report and analytics creation, and make sure they’re aligned with business objectives to show the value of those reports. Start to build the tidal wave one answer at a time, by identifying a specific business question and using advanced analytics to surface solutions.

Additionally, the next five years will be a pivotal time for companies to extract key operations information from longer-tenured employees, before they retire. “There’s not a 20-something in the world who wants to maintain these older legacy systems,” says Bradley Ptasienski, Senior Manager at West Monroe Partners.

## The Implementation.

### IN WHAT FUNCTION(S) DO YOU USE ADVANCED ANALYTICS?



SALES & DISTRIBUTION



UNDERWRITING



MARKETING



CUSTOMER SERVICE



BUSINESS OPERATIONS  
MANAGEMENT



FINANCE

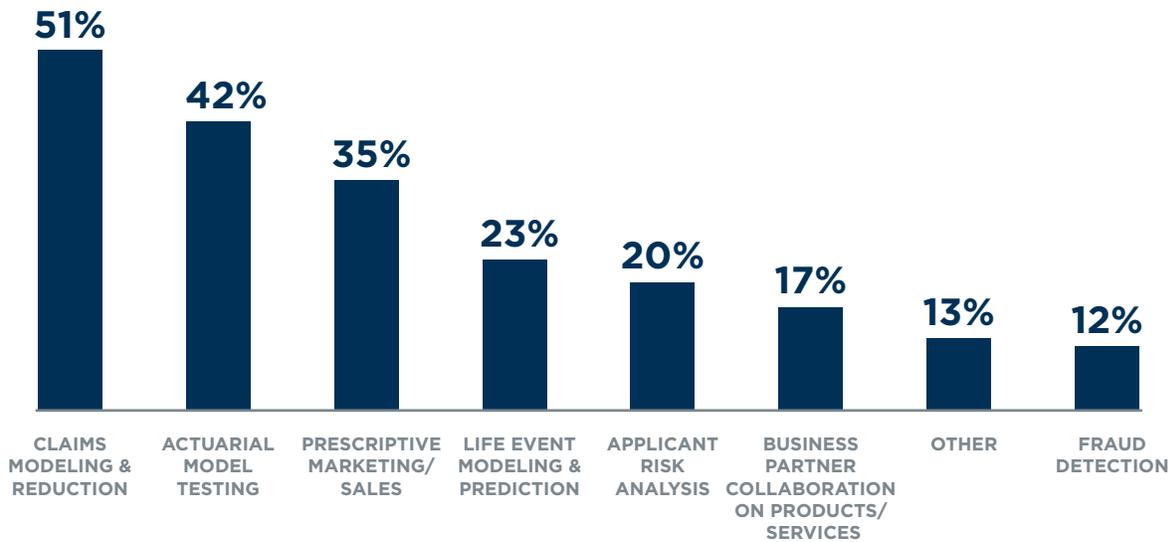


RISK & COMPLIANCE



HR & PERFORMANCE  
MANAGEMENT

### AT YOUR COMPANY, WHAT DO YOU USE ADVANCED ANALYTICS FOR?



Sales and distribution was the top choice among respondents when asked about the functions in which they use advanced analytics; this was driven by P&C respondents and L&A respondents. We allowed respondents to pick more than one answer for this question, and 100 percent of those from L&A carriers picked sales and distribution. Many in that group also picked marketing.

Brokers were less focused on sales; a plurality of them – perhaps reflecting a focus on their increasing advisory roles in a commoditized market – said they were using advanced analytics in customer service.

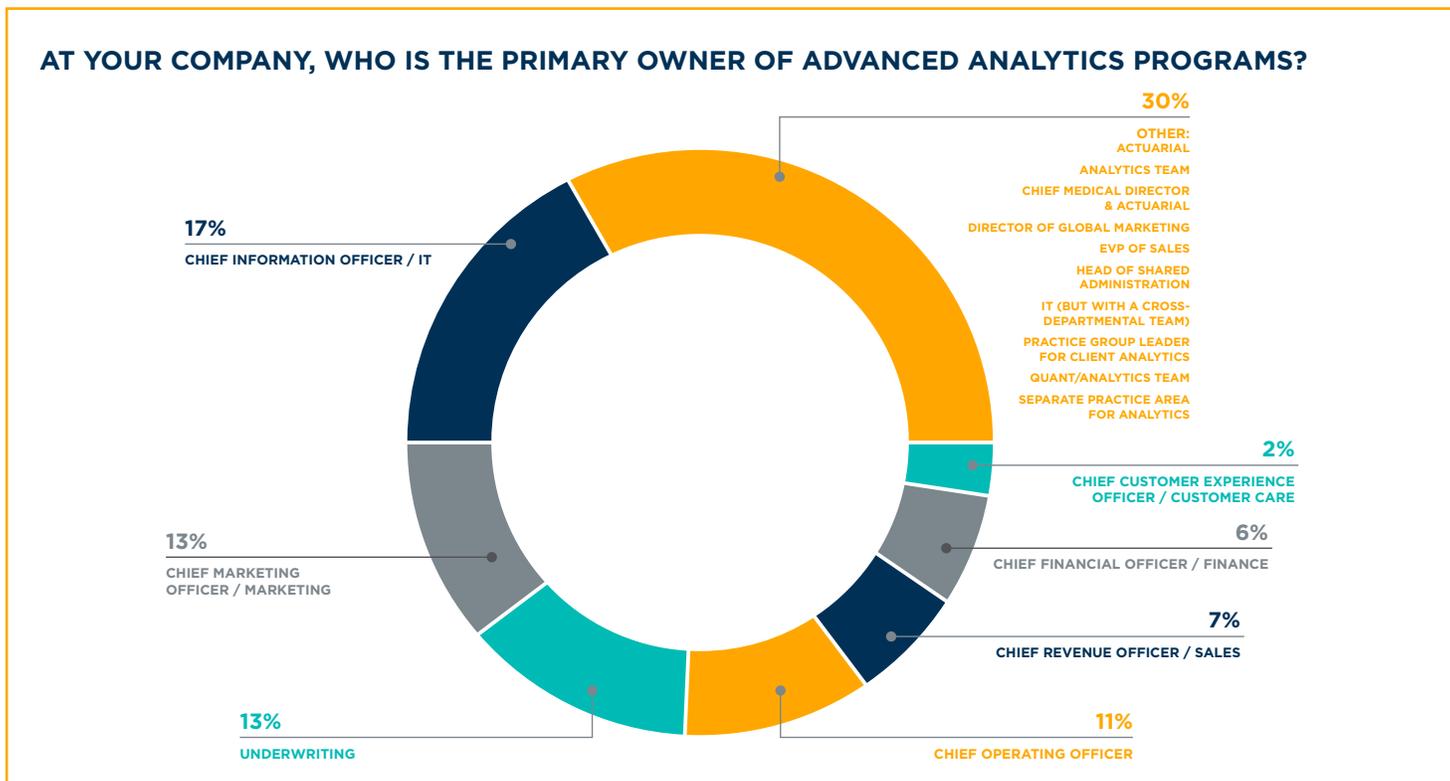
Insurance companies have long used data analytics for claims modeling and reduction, so it's not surprising that was the top choice when we asked respondents what functions they used advanced analytics for. As one survey respondent said, "It is important both for the insurance company and its insured to understand the claims data, otherwise meaningful discussions on future premiums cannot be had." Another respondent said his company "ingests large amounts of claims and policy data to help benchmark and use predictive analytics to quantify savings for our clients."

In an indication that advanced analytics is making some inroads, prescriptive marketing and sales scored well – particularly among P&C and L&A respondents. It was the top choice among L&A respondents, likely because those carriers are seeking new ways to sell more products through their existing marketing channels.

Prescriptive marketing and sales is a big part of the future for all industries, and insurance is no exception. Consumers, especially younger ones, increasingly want personalized experiences; one respondent said his company's highest priority was, "Generational purchasing habits and buying behaviors." In addition, carriers are looking for better ways to advise their customers on other products they sell, using recommendation engines based on the data they retain about the customers (from both within their four walls and public data such as social media). Beyond that, there's an impetus to improve B-to-B communication within the industry – e.g., brokers calling carriers for information will increasingly expect personalized experiences for their customers.

**Recommendation:** Our findings show there is still great untapped potential for insurers to use analytics to inform a superior customer experience and drive revenue growth. Further, Forrester's Customer Experience research (June 21, 2016) positively correlates customer experience with revenue growth. We recommend insurers place the highest priority on using data and analytics to enhance the customer relationship and accelerate product personalization, with resulting revenue lift providing the potential to fund additional data asset investments over time.

## The Owner.



When it came to the question of owning the analytics function, the “Other” category led the way, especially among brokers. P&C respondents chose underwriting more than any other option. L&A respondents chose chief marketing officer and marketing. The lack of uniformity on this point isn’t surprising. “The finding is partially about how a business case for advanced analytics at a core level isn’t being made,” says Greg Layok, Senior Director, West Monroe Partners’ Advanced Analytics Practice.

On this topic, more than any other covered by our survey, it is difficult to generalize. Putting advanced analytics under the CIO or the IT department could perpetuate the wrong (and dated) mindset that advanced analytics work is mostly focused on data cleansing and BI, which

is a limited view. It’s possible that another C-suite executive or business unit owner should lead advanced analytics efforts – taking into account the importance of coordination with the CIO and IT department and understanding the need for greater data quality and accuracy. In the future, it is likely that a Chief Data Officer or Chief Analytics Officer will be the owner of the analytics function.

**Recommendation:** It doesn’t matter who the executive sponsor of the analytics function is as long as there is executive sponsorship. We believe that advanced analytics shouldn’t be viewed as an IT occupation, but rather a function used to quantify, validate and advise business strategy. Bottom line: advanced analytics absolutely must be used to solve complex business issues and be concretely linked to driving value to the customer.

## The Budget.

### DO YOU HAVE A BUDGET FOR ADVANCED ANALYTICS?



Fifty-six percent of respondents said they either didn't have a budget for advanced analytics or they were unsure whether they had one. Many respondents made a related point: that they struggled to show return on investment for advanced analytics. As one put it, "No budget = no ROI." Trying to determine expected ROIs from a single analytics project will likely be fruitless – analytics is the fabric from which good insights are derived. Until the data is appropriately served to and utilized by the business, it is impossible to determine an expected ROI.

Thirty-one percent of respondents said they had a budget for advanced analytics, but it was folded into another functional area, with Operations, Benefits and Sales the most common choices. Brokers were most likely to have a dedicated budget or include advanced analytics under a different functional area. L&A respondents were likely to include advanced analytics in other functional areas, and P&C respondents were more

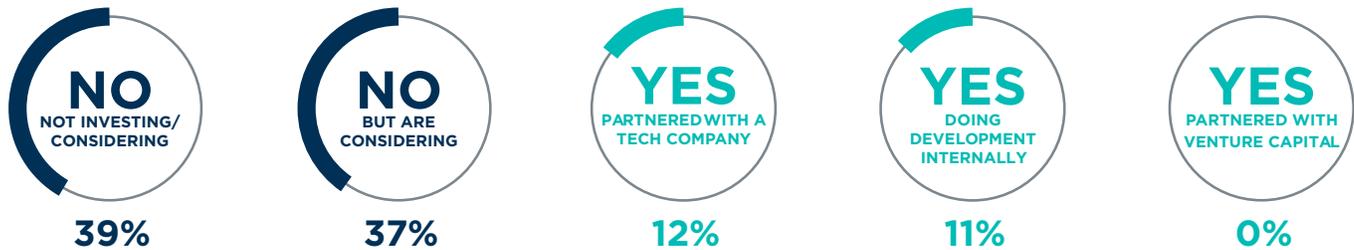
likely to say that they did not have a budget for advanced analytics.

These findings, perhaps more than the others in the survey, reflect the still-emerging alignment of advanced analytics and the creation of business value in the insurance industry. They also might show that there's no single best way to go.

**Recommendation:** Companies need to decide where advanced analytics best lives within their organizations and then budget for it like any other business-critical function. If split across business units, an overall spend assessment should be compiled, and cross-functional resources should be utilized to help ensure that a common approach is used to produce outputs and measure results. In all cases, it is essential to drive a clear alignment with value to customers and market growth.

## The Disruption.

**ARE YOU INVESTING OR LOOKING TO INVEST IN DISRUPTIVE DATA SOURCES** (E.G. TELEMATICS, INTERNET OF THINGS, ACTIVE MONITORING DEVICES, ETC.)?



Sixty percent of respondents said they were either considering investing in disruptive data sources, partnering with a technology company or doing development internally. As one respondent said, explaining the organizational rationale, “Everything will connect to the person, the house, the car, the job.” Others noted the potential value of health data from smartphones and fitness trackers.

Recently, carriers have started creating innovation centers, and some have launched venture capital funds. These functions work with outside technology firms to leverage capabilities that enhance offerings and create new offerings/ services around products. Still, nearly 40 percent of respondents said they weren’t investing and weren’t considering investing in disruptive data sources.

All three respondent groups had a significant portion of respondents who said they were not investing at all in disruptive data sources. But if

they invested, the investments varied somewhat by respondent group. P&C companies and brokers were more likely to partner with a technology company, while L&A carriers focused on internal development.

**Recommendation:** It might be tempting to simply dive in after one or more of these sources, but that shouldn’t be the first step. Companies should start by making sure they have a measurable objective and then determine what disruptive data sources fit best. Start by networking at innovation-based conferences to see what smaller, nimbler companies are doing with disruptive data sources and discuss how it impacts them. Once the data is in hand, companies need to know that its quality can be suspect – and before it’s used in an actionable way, it should be cleaned, analyzed and piloted with closely monitored results.

## Where Do You Go from Here?

We've seen remarkable strides in recent years when it comes to the insurance industry utilizing the mountains of available data. But there's a mindset that still persists: Big data can help control costs, but using it for revenue generation or elsewhere is confusing. Where should organizations struggling to take advantage of advanced analytics begin?

Here is our advice.

### Step 1 – Start with a Specific Business Problem

First, focus on a specific business problem – with the goal of demonstrating advanced analytics' value in ways that can be broadcast across the company. One example would be to use consumer information (perhaps based on engagements to be married, home sales, etc.) to identify suitable products to recommend to those individuals at their time of need or life event. The information, in the hands of producers, can increase sales. Measuring the impact can help demonstrate the value of advanced analytics to executives and entire organizations, paving the way for broader efforts and investments.

The key here is showing return on investment – which our respondents flagged as a major challenge. In addition to recommending the next product to purchase, or rolling out new products based on actionable and predictive modeling, organizations can use advanced analytics to assess top-performing products and find ways their success can be used as a model for others.

### Step 2 – Make Sure Data Is Clean and Accurate

It's obviously difficult, if not impossible, for organizations to derive much value from bad data – and there's the matter of convincing individuals throughout organizations that the data is accurate and will stay accurate.

Companies should measure data quality issues through an integrated exception reporting process – which documents abnormalities that demand attention – ideally managed by a data governance committee. Without knowing where the problems lie, steps cannot be taken to address and permanently correct them.

Put another way: Without confidence in the quality of your data, planning for next steps is extremely difficult. The business owners of the datasets – e.g., client data, financial information, etc. – must be responsible for monitoring data quality. The problems must be identified and addressed before they go downstream for analysis.

### Step 3 – Attack Data Segmentation Problems

These issues typically stem from difficulty in unifying data from an acquired company or dealing with disparate legacy systems within an organization.

As far as acquisitions go, it is imperative that organizations have a formalized process to integrate data from an acquired company on the first day post-acquisition. When it comes to integrating information from disparate legacy

systems, options include using lean analytics or data warehouses to aggregate data for analysis.

Extracting data from large mainframe systems is a problem that bedevils older industries, including insurance. It should be noted that many of the longtime employees who understand the data through their years working with it are retiring. The next five to seven years will be a critical window for organizations to use that institutional knowledge to modernize core systems and combine it with new technologies and experts.

#### **Step 4 – Focus on the Possible and Results**

The biggest mistake companies make is trying to move forward without any sort of analytics strategy. To be effective, the analytics strategy must be aligned to organizational and market objectives, and include components that are measurable against business processes.

When creating an analytics strategy, gather input from business leaders within the organization to find opportunities to inject data into a business process or customer journey – staying focused on the goal of providing an edge for the business. Going back to the first step, this is about identifying an actionable hypothesis based on a

problem that data can help solve, then solving it and, finally, demonstrating the results. The proof, in other words, needs to be in the pudding.

## **CONCLUSION**

Obviously, there's a lot of talk about what advanced analytics can do for the insurance industry. Too often, organizations get excited about what the future holds and immediately turn to their technology experts. While that kind of input is important – and technology is a key partner in helping implement solutions – creating value from data via advanced analytics must be driven by business strategy leaders and the C-suite.

The last five years have seen changes in technology, such as the rise of cloud computing, that have made solution creation and the ability to drive value happen much more quickly. Further developments in areas like artificial intelligence and cognitive computing are becoming more accessible to improve everyday decision-making. Harnessing data assets and advanced analytics at this stage is not only important in and of itself. It's the first step to prepare for these coming megatrends.

### **Methodology**

In August and September 2016, online surveys were distributed to decision-makers at insurance companies across the United States. The results were tabulated, analyzed and released in January 2017.

Respondents identified themselves as C-level executives (32 percent), vice president or senior vice president (51 percent), director (5 percent) or manager level (11 percent).

In total, 122 companies completed the online survey, including representatives from life and annuity carriers, property and casualty carriers and brokers.

Percentages in certain questions exceed 100 percent because respondents were asked to check all answers that applied. Due to rounding, percentages used in all questions may not add up to 100 percent.

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