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# TURNING DATA INTO INFORMATION

Assessing the current and future role of data  
analytics in managing risk and insurance



# Foreword

Data and advanced analytics are often heralded as the answer to risk management challenges and, while the potential is certainly there, harvesting it can still feel elusive for many. The industry is making headway with regard to extracting value out of data; however, several hurdles need to be overcome to capitalise on it fully, not least of which are ensuring the quality of the data in the first place and that the requisite skills are in place to derive actionable insights from it.

At QBE, through our insurtech partnerships and internal programmes, we are revolutionising the way we capture, assess and use data, and our customers are benefitting from tailored coverage that reflects their true exposures, faster claims service and payments, and targeted real-time advice on how to manage the risks they know about and anticipate those they don't.

It is encouraging that members are using data and analytics to forge stronger relationships internally and externally, as collaboration will be central to the successful adoption of analytics across the industry. We need to acknowledge skills gaps and rectify these, either through training, strategic partnerships or a combination of both.

As an industry, we have been doing many things the same way for centuries. We are on the cusp of real change. Data will be key to this transformation, but so too will the experts with the skills to harness it. Just as integral to success will be the collaborative relationships that helped build the risk and insurance industry in the first place.

**Cécile Fresneau, UK Executive  
Director, QBE European  
Operations**



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By Cécile Fresneau,  
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## About this research



This study is part of a wider research project into the future of the risk management professions, entitled *Risk Management: Vision 2020*.

While the main report summarises the full findings of the research project, this is one of five deep dives into the core themes within *Risk Management: Vision 2020*.

The five reports are:

**Assessing risk, realising opportunity and taking reward.** Examining the techniques available to risk and security professionals.

**Understanding external threats to an organisation.** An analysis of the interconnected nature of geopolitical risks and how they can be managed.

**The value of boardroom engagement.** Aligning an organisation's risk profile with governance and liability awareness among directors and officers.

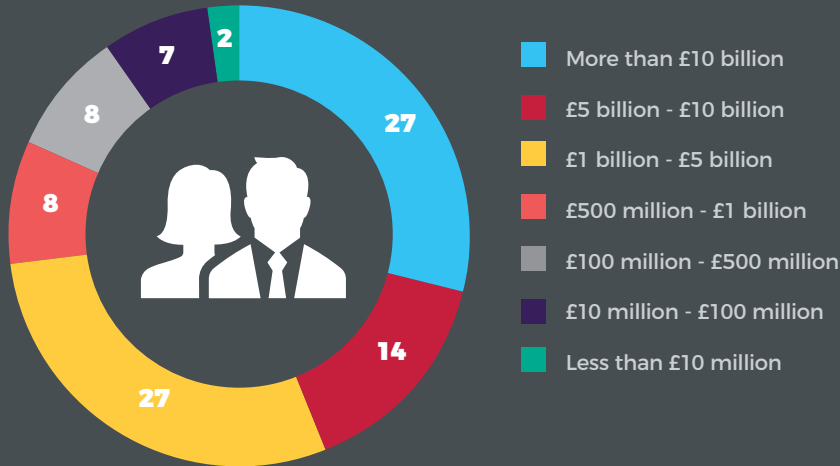
**Turning data into information.** Assessing the current and future role of data analytics in managing risk and insurance.

**Transforming insurance for tomorrow's risks.** Encouraging collaboration between customer, broker and insurer to move risk forward.

## About the respondents

This report, produced by Airmic in collaboration with Longitude and with the support of QBE, is based on the responses of 157 members. While their job roles and sizes of their organisations vary, respondents primarily come from risk and insurance management and enterprise risk management at large multinational businesses. Due to rounding, and the use of multiple-choice questions, some figures and charts in this report may not add up to 100%.

### Global turnover



### Job role



# Executive Summary

## **The insurance industry is at a crossroads.**

**The Airmic survey highlights the disruption of digital transformation across our society and within the world of commerce – great opportunities are there to be realised, but threats and pitfalls can be found along the way.**

**For the insurance market, risks are created by the market standing still. The industry is embracing new data and analytical tools, but the approach is largely sporadic, rarely joined-up, and few standards are being developed. Insurtech start-ups are emerging out of London and other financial centres, promising to transform the way risk is analysed and insurance is procured. However, such tools are unlikely to deliver effective results without the confidence and buy-in from customers or collaboration with brokers and insurers.**

**There is more data to be collected, and more tools to do so, than ever before. The challenge comes**

**in identifying the relevant data, collecting it in an efficient and accurate way, and transforming it into information that can be analysed and used by multiple partners.**

**Forward-thinking leaders are pursuing opportunities to create data-driven solutions for both risk management and insurance. Leading insurers are deploying analytics across their functions such as marketing and distribution, underwriting and claims.**

**Airmic members have expressed a desire to embrace data and analytics, while their priority internally to work closer across business functions will aid this objective further. Patience, support and collaboration will be required by all parties as risk and insurance confronts the challenge and transforms into professions with 2020 Vision, fit for the 21st century.**



**The real power of data is bringing what customers, brokers and insurers hold together**

**Cécile Fresneau, UK Executive Director, QBE**

# The challenge

Risk professionals and the insurance market have always collected and been reliant on data. The mathematical models used by actuaries need relevant data and claims processes, and risk profiles are informed by data. The increased amount of data available presents an opportunity to improve the accuracy and efficiency of risk analysis and insurance purchasing and to help create a data-centric industry. The challenge, however, is turning data into information. As insurance forms and processes go digital, more accurate and complete data collection will inform better benchmarking and data analysis.

Risk professionals have access to vast amounts of data that, if collected and analysed effectively, would provide information to inform risk

assessment and communicating this to their insurance partners. Today's organisations can accurately track, in real time, the movement of their products, people and supplies. Businesses have more information about their customers and their behaviours. Transforming this data into information that informs good risk management and interacts with innovative and more accurate insurance products and value-added services and solutions is the challenge.

We know that Airmic members are keen to develop as strategic business partners, in addition to their position as technical experts. In order to achieve this transition, respondents believe they will need to develop their communication and influence across

their organisation, as well as gaining cross-functional business experience (Figure 1).

Communication and collaboration are collectively powerful enablers of change that will help risk professionals work across their organisations to understand what data might be available and how to collect it.

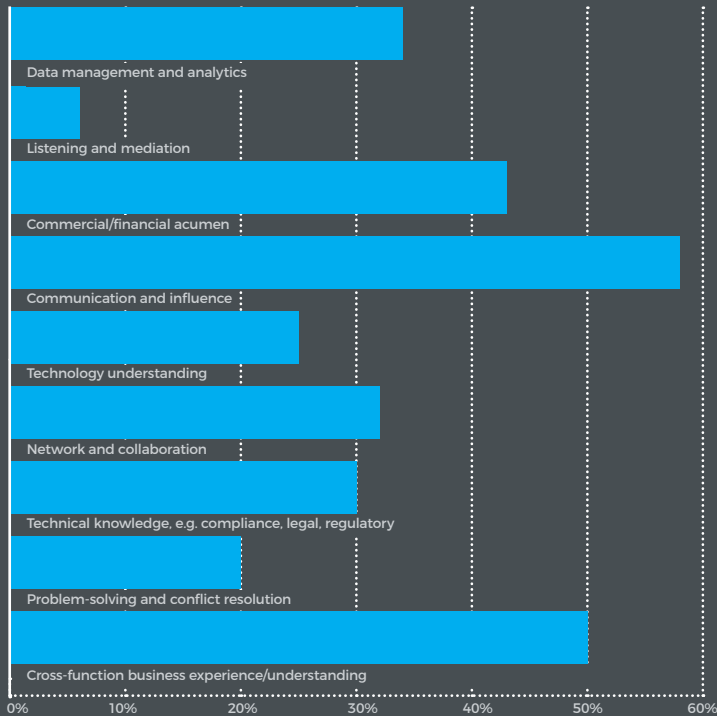
Thirty-four percent of respondents believe that data management and analytics skills will aid this development, but collaboration across the organisation will be key to understanding and collecting the relevant data. Internally, risk managers must first collaborate more widely across their organisations to understand what might be available.



# Results

Figure 1: Members are targeting new skills

Q. What knowledge and skills would you want to develop in order to transition from a technical expert/asset to a strategic expert/business partner within your organisation?



Internal collaboration is crucial to executing an effective data collection and analysis operation that will inform risk and insurance management across the organisation.

Almost two-thirds of respondents said using data and analytics has been “effective” or “very effective” at enhancing relationships across the organisation (Figure 2), demonstrating the role a data-led approach can play in increasing the visibility and influence of the risk professional within their organisation.

Once risk professionals and insurance partners have identified the types of data that may be available and relevant within the organisation, they must begin to work together on how to collect, analyse and share it in a way that will inform better risk

management procedures and more effective insurance purchases. This collaborative approach from the beginning will bring the customer and insurer closer together.

real power of data is bringing what customers, brokers and insurers hold together. This will help us to see the future more clearly and ultimately make better decisions.”

systems will help risk and insurance professionals harness data, a skills gap will need to be closed to convert the opportunities a wealth of data presents. More risk and insurance professionals must learn how to identify trends and data patterns while harnessing and deepening newly forged relationships within the organisation to access data, analyse

According to Cécile Fresneau, UK Executive Director at QBE: “Any one participant in the insurance value chain has a subset of data – the

**The skills gap**

While the implementation of sophisticated new tools and

Figure 2: Data can drive new internal relationships

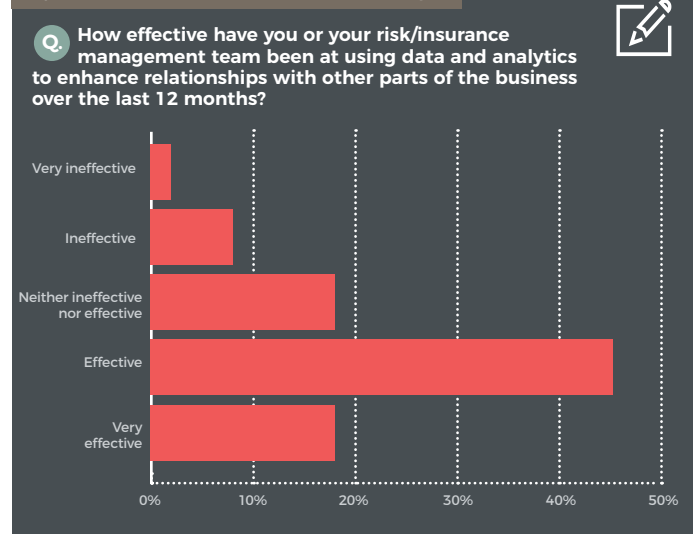
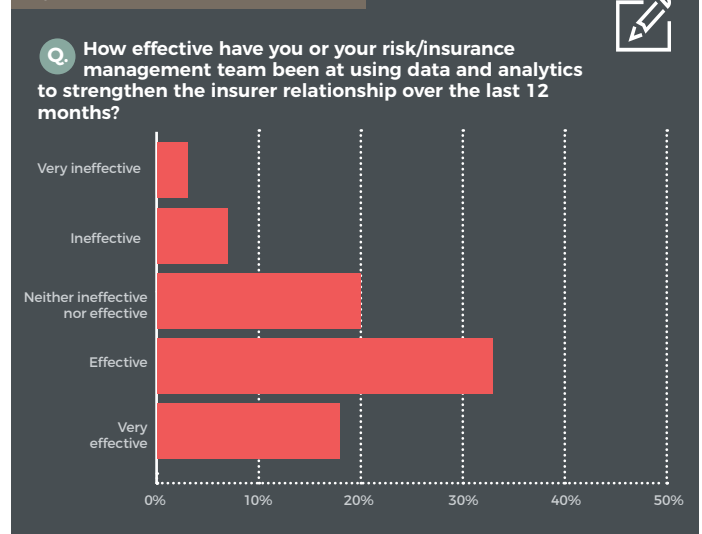


Figure 3: Collaboration with the market



this and enhance enterprise-level information. Getting hold of the data is just the first challenge, transforming it into useful information will demand that the future risk professional is data literate.

The insurance market recognises the need to partner Airmic members on this journey. In *The future of skills in the London market report*, published by the London Market Group in May 2019, the adoption of new technology using data and analytics is identified as a priority for future skills, reflecting a “tipping point” as insurance buyers demand more tailored and data-driven insurance solutions. If a more effective insurance market is going to develop, both insurance buyers and underwriters will need to work together to close the skills gap to ensure they are speaking the same language.

More than half of respondents said the insurance relationship has been strengthened by using data and analytics (Figure 3), suggesting members are beginning to experience these benefits.



**Insurers recognise data and analytics as a priority for future skills and more tailored solutions**

# The data-intelligent organisation

Progress is being made in the process of defining and capturing data. Insurers are using digital forms to collect more relevant and specific information that can be stored, analysed and benchmarked in an effective way. As a result, the benefits of a more informed and user-friendly process and faster policy issuance are now available.

As claims data is defined, collected and analysed more intelligently, benchmarking risk management practices and performance across industry sectors and peers will be realised. While 32% of respondents

have been effective to some degree in delivering benchmarking results (Figure 4), insurers expect this is to become more apparent as better data is collected and analysed across the market.

“Customers increasingly want to know how they compare with their peer group and industry best practices,” says Grant Clemence, Director of QBE’s Operational Transformation Programme. “By having more data, that is retained in a better format, more consistently over time and across carriers, we will be in a much better position to provide valuable

information that helps our customers manage their whole risk profile. To get to this point, and to maximise our return on data investment, underwriters, brokers and tech companies will all need to work together.”

Benchmarking will become much easier if insurers are able to find a common, or similar, way to collect this information. The industry should be working towards a standard that facilitates use of data efficiently, allowing it to be shared seamlessly between partners and across systems.

Digital forms are the start of the process, but live claims reporting and interactive risk management audits are beginning to take it to the next level.

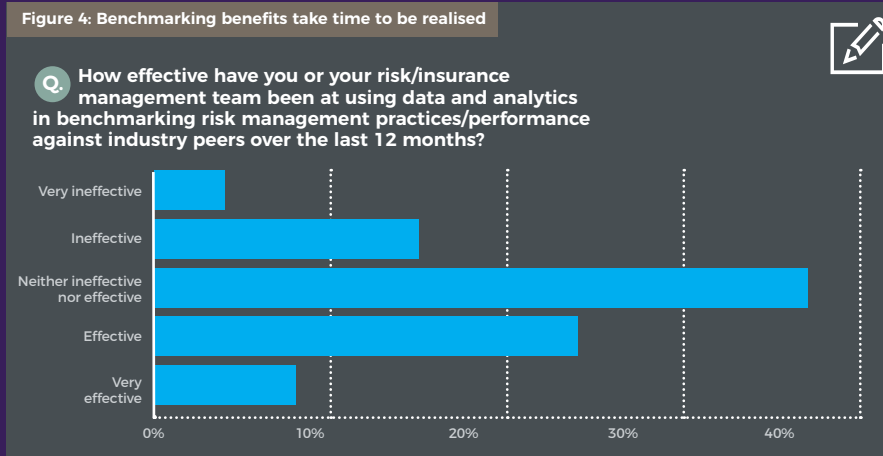
Capturing data internally remains a challenge for those responsible for buying insurance. An effective use of data and analytics tools will bring risk and insurance managers closer

together, while regular dialogue with operations will also be crucial to discover just what data the organisation actually has.

“By collaborating with procurement, for example, the risk manager will be able to work data into information which will mitigate business risk and enhance financial performance,” says Chris Gill,

Head of Risk Solutions at QBE. “Using data-driven information to enhance the customer experience, increase the ability to forecast demand more accurately and solve more complex distribution network problems will improve the efficiency of delivery route planning, and develop greater collaboration in your supply chain network.”

Figure 4: Benchmarking benefits take time to be realised



**Customers want to know how they compare with their peer group and industry best practices**

# Getting practical

Tools and systems for the buyers and providers of insurance already exist and half of respondents said they have already secured more tailored insurance solutions as a result of using data and analytics (Figure 8). Some of the most effective examples already live are also some of the simplest.



## CASE 1: RISK AND SAFETY AUDITING

**Digitalising risk and safety auditing will save time, improve the accuracy of surveys and enhance the capability to share information with fellow team members and across the business. As one of the largest auditing platforms in the world, iAuditor is utilised by risk and safety managers to complete these surveys. QBE has agreed preferential rates for its customers and the system is particularly well used within the manufacturing, construction and transportation industries.**

**Designing bespoke questionnaires and circulating them across the organisation will support the collection of consistent data points in real time. These will be valuable for the risk manager as analysis of the data will inform risk prevention measures, benchmark sites and improve the safety culture. The information can also be shared with insurers and brokers to present a more accurate picture of the risk.**

## CASE 3: TELEMATICS

Historically, risk managers have struggled to see the link between risk prevention measures and pricing. Members expect to see results when they are confident in their own risk management processes.

The use of telematics in the motor industry is a good example of how technology can be deployed to effectively monitor risk and, in turn, influence premium pricing. Motor insurers for consumers and large commercial fleets are deploying sophisticated usage-based insurance (UBI) programmes, which monitor the behaviour and habits of drivers.

Dashboard cameras have also been

integrated into UBIs, aiding both faster claims resolution and further evaluation of the risks faced by drivers. Fleet managers are using this information to:

- Assess why crashes are happening
- Communicate new risks to drivers
- Evaluate driver performance
- Make informed decisions on vehicles and routes

As insurers demonstrate that premiums are coming down as a direct result of improved behaviour and claims activity, such a tool builds trust between the insurer and customer, and produces a more collaborative relationship.

## CASE 2: DATA-DRIVEN UNDERWRITING

Insurers have traditionally used a limited selection of data points depending on the profile of a commercial customer and the line of insurance they are purchasing. These factors may be business address, number of employees, business type and the known loss history (if available).

By using artificial intelligence and billions of external data points, however, risk profiles can quickly be enhanced. New information made possible by application programming interfaces (APIs) that can contribute to a more accurate picture of the risk may include local weather patterns, construction type, fire station proximity and adjacency risk (see Table 1).

QBE is working closely with AI company Cytora to improve its own underwriting decisions and processes across its commercial portfolio. By combining the digital footprint of the customer with the insurer's internal data, premium pricing will be more accurately calculated, underwriting decisions will be quicker and the insurer will better understand its own risk profile.

This approach has proved effective within the small to medium-sized enterprise market. AI and external data points are beginning to be deployed in the assessment of larger and more complex risk profiles, but further collaboration between customer and insurer will be required to continue progress.

Table 1: Multidimensional rating factor framework



Six commercial rating factor groups  
80+ rating factors  
Population and sector specific

Commercial groups	Example rating factors
1. Construction	1. Vertical building height & sprinklers
2. Occupancy and management risk attitude	2. Volatility of board of directors and company financials
3. Protection	3. Distance from fire station
4. Exposure	4. Occupancy of spatial adjacency
5. Socio-economic	5. Regional crowding
6. Plus	6. Proximity to western time border

Source: Cytora

# The rewards

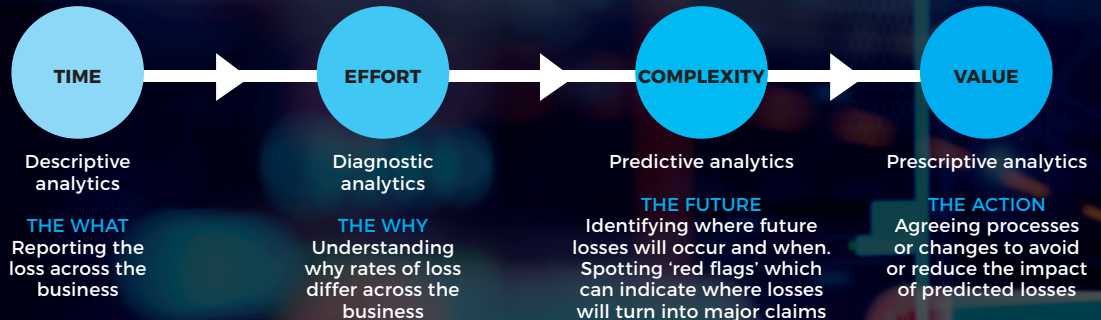
After enhancing relationships across their own organisation, respondents identified the improved quality of risk data and understanding of their organisation's risk profile as the most effective outcomes from using data and analytics over the last 12 months (see Figures 6 and 7).

Risk managers are beginning to work across the business to collect information and analyse it. They are gathering more insight than ever before into their own organisation and are beginning to work more closely with insurers on

claims analysis, producing a much more accurate picture of their risk as a result. They are being less effective when benchmarking risk management practices and performance, and planning for unforeseen events however (Figures 4 and 8).

These results are symptomatic of the stage of maturity that risk departments and the market are finding themselves at concerning data and analytics. Figure 5 shows the journey risk professionals and their organisations must go on, and the results they will gain, as they work to become more sophisticated users of data and analytics.

Figure 5: Four stages of analytical maturity



Source: *Driving the data dividend*, an Airmic paper





## New information can mitigate business risk and enhance financial performance

**Chris Gill, Head of Risk Solutions, QBE**

Figure 6: More accurate risk profiles will be developed

**Q.** How effective have you or your risk/insurance management team been at using data and analytics to improve the understanding of your organisation's risk profile over the last 12 months?

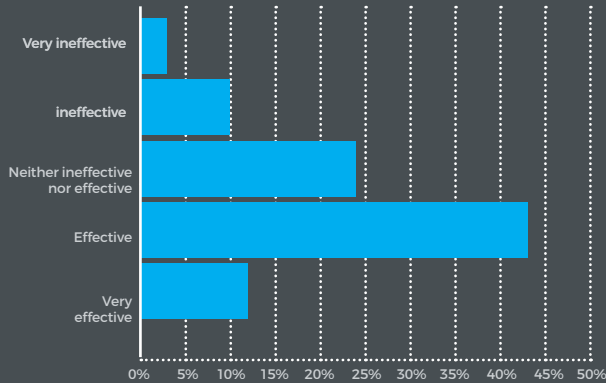
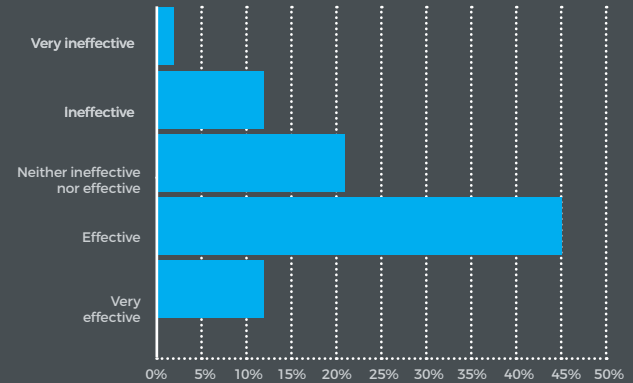


Figure 7: Quality of data is improving

**Q.** How effective have you or your risk/insurance management team been at using data and analytics to improve the quality of risk data over the last 12 months?



## Market development

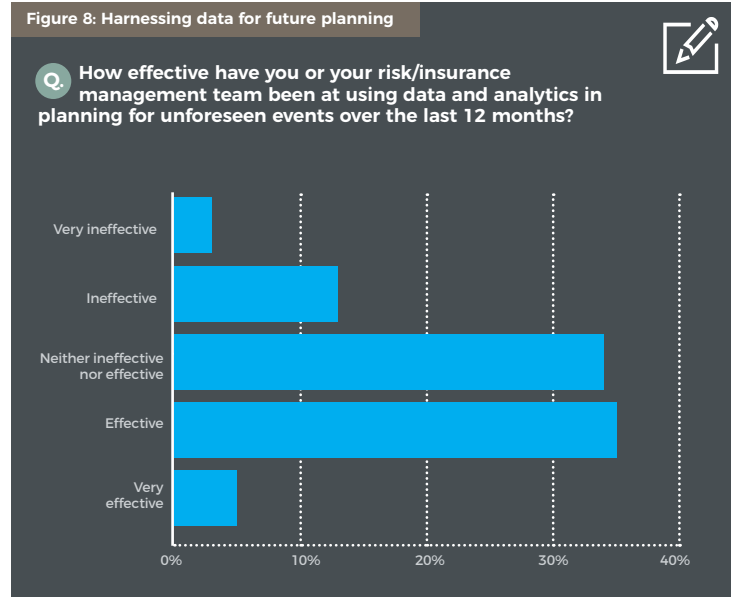
Risk managers will also benefit from developments within the market as insurers and brokers embed more sophisticated data and analytics tools into their business processes.

Historically, two-thirds of insurers' payrolls have been dedicated to input and administration. That will begin to shift as automation and artificial intelligence reduce the workload. Insurance buyers will soon be confronted with a choice between carriers that operate efficiently and do not place the information burden on the client and those that continue business as usual. Utilising APIs and a broader range of external data points, as discussed above, will lead insurers to produce more accurately priced risk, while resources will be freed up to focus more on client engagement, loss prevention initiatives and innovation.

Half of respondents are already reporting that data and analytics have been effective, or very effective, in securing more tailored insurance solutions over the last 12 months (Figure 8). These solutions are not produced in a vacuum, requiring the time and resources of the customer, broker and insurer to fully engage in risk evaluation and insurance design.

"Harnessing the full potential of data and advanced analytics requires collaboration between industry participants and the development of multidisciplinary teams that can give a more rounded perspective of the exposures of a business," believes

Figure 8: Harnessing data for future planning

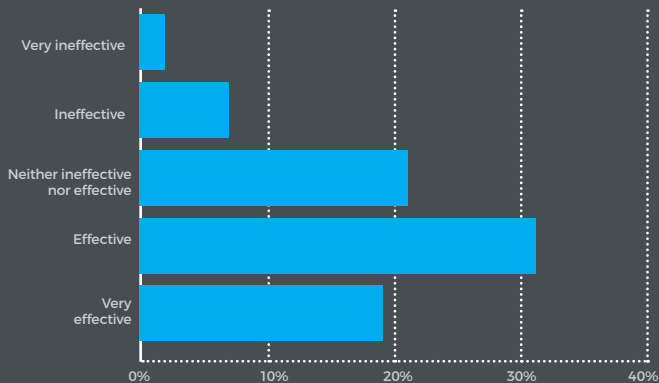


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QBE's Cécile Fresneau. "We need to think laterally about risk and, while data will be critical to that process, having the people who can derive actionable insights from it will be what moves the industry forward."

Figure 9: Better data will inspire tailored solutions

Q. How effective have you or your risk/insurance management team been at using data and analytics to secure more tailored insurance solutions over the last 12 months?



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**Utilising APIs  
and a broader  
range of external  
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# Key takeaways

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Identify, collect and analyse the relevant data available within the organisation



Collaborate and communicate across functions and business units to harness the full potential of available data



Data and analytics will support risk professionals' ambitions to become strategic business partners



Effective use of data and analytics can produce better insurance solutions



**Data is critical but having  
the people who can derive  
actionable insights from  
it will be what moves the  
industry forward**

**Cécile Fresneau, UK Executive Director, QBE**



QBE is a specialist business insurer and reinsurer. We're big enough to make a difference, small enough to be fleet of foot. We may not be the best known, but a large part of the modern world depends on our cover. We have clients as varied as bus and coach fleet drivers and major international infrastructure consortiums. For them, we're the buffer between the best-laid plans and uncertain reality. People who deal with us find us professional, pragmatic and reliable – this is one of the reasons we're still here after 130 years.

Our underwriters are empowered to take decisions that are important to you. (Because we know no computer can replace that human ability.) And we don't just cover your risk. We help you manage it, meaning that you're less likely to have to make a claim in the first place.



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