Aon Risk Solutions

Global Risk Management Survey

2017

Risk. Reinsurance. Human Resources.

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Introduction

We live in an era of unprecedented volatility. Trends across three major dimensions—economics, demographics, and geopolitics—combined with the exponential pace of technology change, are converging to create a challenging new reality for organizations around the world. While these forces create new and sometimes unforeseen opportunities, they also create new risks, which must be managed, often in new ways.

Against this backdrop, Aon's 2017 Global Risk Management Survey is designed to offer organizations the insights necessary to compete in this increasingly complex operating environment.

Conducted in the fourth quarter of 2016, the bi-annual survey gathered input from nearly 2000 respondents at public and private companies of all sizes and across a wide range of industries globally, making it Aon's largest to date and one of the most comprehensive surveys globally. The 2017 findings from the web-based survey underscore that companies are grappling with new risks and that we lack consensus on how to best prioritize and respond to them.

For the second time running, **damage to brand and reputation** emerged as the top-ranked risk in our survey. **Political risk/uncertainties** has re-entered the top 10 this year and **cyber risk** climbed into the top five. The connection between these two risks has been highlighted by a series of events during 2016 driven by an increase in organized cyber-crime, which directly impacted government institutions, political parties and global infrastructures.

The interconnected nature of risk is underscored by two other risks in our top 10, namely the **failure to attract and retain top talent** and the **failure to innovate**. There is no question that organizations are under intense pressure to attract and retain talent and to maximize the productivity of their people. Companies that cannot appropriately motivate and incentivize their workforce will quickly fall behind their competition.

At Aon, we believe in the power of data and analytics, combined with expert insight, to provide clients with innovative solutions that help them manage volatility, reduce risk and realize opportunity. We complement this data driven insight with robust business intelligence, such as the Global Risk Management Survey; we hope you find this year's results insightful and actionable.

If you have any questions or comments about the survey, or wish to discuss the survey further, please contact your Aon account executive, or visit **aon.com/2017GlobalRisk.**

Best regards,

Greg Case
President and CEO

Executive Summary

When it comes to political risks, one stereotypically thinks of conflicts in emerging or frontier markets—wars in the Middle East; military coups, regime changes or territorial disputes in Asia and Africa; or election turmoil in Latin America. However, this perception no longer holds true, and the trend is shifting.

Nowadays, wherever one goes, be it Krakow, or Singapore, some of the perpetual conversation topics among business people are inevitably related to the Brexit negotiations; the elections in the Netherlands, France and Germany; President Donald Trump and his immigration and U.S.-centric trade policies; as well as South Korea's presidential impeachment. Interestingly, developed nations, which were traditionally associated with political stability, are becoming new sources of volatility and uncertainty that worry businesses, especially those in the emerging markets.

Globalization is no doubt a contributing factor. It has driven greater connectivity, enabling people, goods and services to move freely improving the quality of life, especially for people in the developing world. However, globalization has also triggered backlash from those who have been left behind, prompting populist leaders in the West to pull back and protect what they believe is in their national interest. Thus, the rising economic and ideological nationalism in the West, coupled with different brands of nationalistic fervor stoked up by political leaders in Russia, China, the Philippines and Turkey, have sparked concerns for potential trade wars, stock and currency market crashes, territorial disputes and military conflicts.

Such sentiments are reflected in Aon's 2017 Global Risk Management Survey, where political risk/uncertainties has emerged as a top concern for global organizations. Ranked at number 15 in 2015, political risk/uncertainties has re-entered the Top 10 risk list. Regionally, organizations in Asia Pacific and Latin America rank the risk much higher than those in North America, probably due to concerns about the inward-looking policy platforms and protectionism that could harm businesses in their regions.

Aon's biennial web-based survey, one of our many efforts to help organizations stay abreast of emerging issues relating to risk management, features analyses and detailed facts and figures gleaned from 1,843 organizations. Participants who represent 33 industry sectors in 64 countries and regions have been asked to identify and rank key risks that their organizations are facing.

In this survey, we have gathered the largest number of participants since its inception in 2007. This large pool of responses has enabled us to gauge the latest trends in risk management more accurately. Some of our discoveries are encouraging, but others are worrisome. For example, despite the availability of more data and analytics, and more mitigation solutions, surveyed companies are less prepared for risk. Risk-preparedness is at its lowest level since 2007. With the fast speed of change in a global economy and increasing connectivity, the impacts of certain risks, especially those uninsurable ones, are becoming more unpredictable and difficult to prepare for and mitigate.

Top 10 risks vs. top news headlines

Aon's 2017 Global Risk Management survey has revealed a host of daunting challenges driven by today's divisive and yet interdependent environment. The report focuses on the selected Top 10 risks for detailed discussion, one of the perennial highlights:

1.	Damage to reputation/brand
2.	Economic slowdown/slow recovery
3.	Increasing competition
4.	Regulatory/legislative changes
5.	Cyber crime/hacking/viruses/malicious codes
6.	Failure to innovate/meet customer needs
7.	Failure to attract or retain top talent
8.	Business interruption
9.	Political risk/uncertainties
10.	Third party liability (inc. E&O)

Before examining these risks, let's look back at some of the major news events that dominated the headlines during a 12-month period before our survey was conducted. It is an interesting exercise to check the Top 10 risk lists against major news stories in 2016 and see how external factors influence and shape participants' risk perceptions:

- Stock market rallies—Argentina (45 percent), Brazil (39), Canada (17.5), Indonesia (15), Norway (18), Russia (52), the U.K. (14.4), and the U.S. (13.4).
- The U.S. economy grew 1.6 percent for all of 2016.
- Large corporations faced massive product recalls and government investigations.
- Catastrophic flooding, earthquakes and hurricanes hit China, Italy, Ecuador and countries in the Caribbean.
- Syrian government forces recaptured Aleppo.
- The U.K. voted to quit the European Union.
- The pound fell to a 31-year low against the U.S. dollar.
- Hacked emails of the U.S. Democratic National Committee.
- Violent attacks in Brussels, Istanbul, Nice, and Orlando.
- Sports Authority and Aeropostale filed for bankruptcy, and other large retailers closed stores.
- China admitted that its economy was still facing downward pressure.
- Donald Trump was elected President of the United States.
- The U.S. Federal Reserve hiked short-term interest rates.
- Hackers attacked Dyn, several web giants lost access.
- Jobless rates in the U.S. and in the Euro zone fell.
- North Korea conducted nuclear and ballistic missile tests.
- Brazil and South Korea impeached their presidents.

By comparing the two lists, it is easy to see their correlations: An increasing number of high-profile product recalls, scandals, and the popularity of news on social media have heightened organizations' exposure to reputational risk. At the same time, buoyant stock markets worldwide and the Fed's interest hike indicated an improved economic outlook. However, such modest gains in the global economy became somewhat disconnected from the economic reality, especially as consumer spending and business investment remained weak, and the downward pressure in large nations such as China, India and Brazil continued. Therefore, economic slowdown/slow recovery still weighs heavily on the minds of global business leaders.

In addition, cyber risk stands out as another illustration of the influence of news events on risk perception. The high-profile attacks on Dyn and email leaks relating to the Democratic National Committee inevitably elevated cyber risk to number five. Participants in North America, where most of the large-scale hacking events took place, rank the risk at number one. Meanwhile, globalization and technological developments intensified business competition, forcing traditional stores such as Sports Authority and Aeropostale into bankruptcy. The large number of natural and manmade disasters around the globe increased the risks of business interruption.

The new faces of old risks

The majority of the top risks identified in the survey are nothing new to risk managers. However, a closer examination has revealed many new driving factors that are now transforming the traditional risks, adding new urgency and complexity to old challenges.

Take "damage to reputation" as an example. Over the past few years, while defective products, fraudulent business practices or corruption continue to be key reputation wreckers, new media technologies have greatly amplified their negative impact, making companies more vulnerable. In the age of Twitter or viral videos, damage to reputation could occur because of an inappropriate tweet by an executive, or a video by an employee complaining about sexual harassment or discrimination. On a related note, fake news, which started as a way to influence elections on social media, has begun to spill over to the corporate world. A made-up story about a pizzeria in Washington D.C. led to gun violence on its premises in December 2016, after the story was widely circulated online. Therefore, because of these new variables, damage to reputation/brand has maintained its number one spot, even though it was predicted in 2015 to be number five.

At the same time, cyber crimes have evolved from stealing personal information and credit cards to staging coordinated attacks on critical infrastructures. For example, a series of attacks on the distributions systems of three energy companies in Ukraine presented another more devastating and lethal side of cyber attacks. Cyber threat has now joined a long roster of traditional causes—such as fire, flood and strikes—that can trigger business interruptions because cyber attacks cause electric outages, shut down assembly lines, block customers from placing orders, and break the equipment that companies rely on to run their businesses. This explains the dramatic rise in ranking, from number nine in 2016 to number five this year. For survey participants who are risk managers, they have voted it a number two risk, probably because cyber breaches are becoming more regulated, with many companies in the U.S. and Europe facing mandatory disclosure obligations. Similar requirements are being introduced in Europe and elsewhere. As a result, cyber concerns will continue to dominate the risk chart.

As for talent attraction and retention, businesses in North America and Europe have always faced challenges caused by an aging population, low birthrates, and a declining unemployment rate during economic recovery. Governments in those regions used to pursue highly skilled immigrants as a temporary fix, but the new restrictive immigration policies and rising anti-immigrant sentiments could reverse the gains and further aggravate talent shortages.

As these traditional risks are evolving, organizations can no longer rely on their traditional risk mitigation or risk transfer tactics. They have to work closely with management and explore new ways to cope with these new complexities.

New entrants

In the 2017 survey, we have added disruptive technologies/innovation as a new risk category and participants have ranked it number 20. In 2020, it is predicted to be number 10 globally, number two for the technology industry, and number three for the telecommunications and broadcasting industries.

The term disruptive technology first appeared in a book written by Harvard Professor Clayton Christensen, who categorized technologies as "sustaining" and "disruptive." While the former produces incremental improvements in the performance of established products, Christensen said the latter "tends to reach new markets, enabling their producers to grow rapidly, and with technological improvements to eat away at the market shares of the leading vendors."

A **report** by the McKinsey Global Institute recently identified 12 technologies that could drive truly massive economic transformations and disruptions in the coming years. Among the list are advanced robotics, energy storage, 3D printing and the internet of things. The report estimates that applications of the 12 technologies could have a potential economic impact of between USD 14 trillion to USD 33 trillion a year in 2025. Some of the innovations, said the report, could profoundly disrupt the status quo, alter the way people live and work, and rearrange value pools. With such significant impact, it is not surprising that participants project this risk to be number 10 in three years.

Disruptive technologies/innovation doesn't simply apply to the technology sector. In fact each industry has its own potential disruptors and there are many unknowns out there. According to Jeffrey Baumgartner, who authored “The Way of the Innovation Master”, far-sighted companies do not ignore radical new inventions that threaten to disrupt their markets. It is critical that business and policy leaders understand which technologies will matter to them, and prepare accordingly. They either chase the market by quickly changing their strategies and products to maintain their place in the same marketplace, or explore new markets based on their expertise.

Another new entry to Aon's list of key risks is major project failure, which, the International Project Leadership Academy estimates, could cost the global economy hundreds of billions of dollars annually. Surveyed organizations rank it number 15 and those in Asia Pacific even list it number 10 because a major project failure could potentially undermine a company's reputation, and in many cases, put a company on the brink of a bankruptcy.

While major project failure is sometimes caused by external factors—such as regime change, government policy adjustment, terrorist attacks or a natural disaster—experts also attribute it to internal elements, such as failures related to market and strategies, organizational planning, leadership and governance, underestimation in analysis, quality, risk prediction, skills and competency, and teamwork and communications. Mitigating the risk of a major project failure requires coordinated efforts of a whole organization.

Key drops on the top risk list

Property damage, which was ranked number 10 in Aon's 2015 survey, has slipped to number 13. This could reflect changing priorities. Political risk/uncertainties has understandably taken on a new urgency. But for surveyed organizations in North America, it still stands at number 10 because continued threats of natural catastrophes such as Hurricane Matthew, the strongest and the deadliest natural catastrophe of the year, and a number of other severe weather events there incurred very high losses for businesses. In fact, economic losses from Hurricane Matthew amounted to USD 8 billion; a hailstorm in Texas USD 3.5 billion, and flooding in Louisiana and Mississippi, USD 10 billion. In Canada, wildfires sparked the biggest-ever loss for Canada's insurance industry, with economic losses reaching USD 3.9 billion.

Two related risks have dropped in ranking in the 2017 survey—distribution or supply chain failure has fallen from number 14 to number 19, the lowest since 2009, when it was in the top 10; failure of disaster recovery plan declined from number 21 to 28. Their declines in ranking could be driven by the fact that they overlap with business interruption, which is rated number eight. Their low rankings could also lead to the assumption that these risks are underrated. In view of growing economic nationalism, disruption or supply chain failure should be higher on participants' lists as reliance on historical tax and trade agreements are no longer certain.

Divergence in company sizes, regional and participant role priorities

This year's survey has revealed some divergent perspectives. While surveyed companies with revenues of over USD 1 billion have selected damage to reputation/brand as their top risk, smaller organizations are more concerned about economic slowdown and increasing competition. The same is true with cyber crime/hacking/ viruses/ malicious codes—larger companies see it as their second highest risk, but smaller companies rank it much lower. Meanwhile, political risk/uncertainties has not even entered the Top 10 list for smaller companies, making one wonder about the wider impact of this risk.

For breakdown by region, damage to reputation/ brand, economic slowdown/slow recovery and regulatory/legislative changes are the three risks that all participants agree to include in the Top 10 priorities. All regions except Latin America have chosen increasing competition, failure to innovate, and cyber crime/hacking/viruses/malicious codes for their Top 10. Latin America seems to be grappling with a different set of priorities. In a climate in which public trust in corporations is near an all-time low due to a series of corruption scandals, there is a growing awareness by companies there of the need to engage in community and philanthropic projects in order to rebuild trust. That explains why corporate social responsibility/sustainability and environmental risk are ranked high in Latin America. Two other issues, exchange rate fluctuation and cash flow/ liquidity risk, are related to the drastic economic slowdown that has plagued the region in recent years.

Surprisingly, business interruption is not considered a Top 10 risk by companies in the Middle East & Africa, which have historically seen higher exposure to incidents that interrupt business operations. Exchange fluctuations and directors/officers' personal liabilities have increased in importance.

Failure to attract and retain talent hasn't made it into the Top 10 list in Europe or Latin America. As the workforce shrinks (due to an aging population) and immigration policies become more restrictive, it is slightly worrisome that companies in those two regions have not seen it as a top risk.

As expected, CEOs and CFOs rank very high those risks with strong concrete financial implications—economic slowdown/slow recovery and damage to reputation/brand, while risk managers worry more about cyber security and political risk/ uncertainties. Such diverse views illustrate the importance of gathering a cross section of stakeholders in the decision-making process since each one can bring a different perspective. It is also imperative that senior executives and the board of directors communicate with risk managers, and take an active role in assessing and overseeing the company's risk exposure to ensure it is in line with the company's strategic goals.

Projected risks

2017 Top 10	2020 Projected Top 10	Change
1. Damage to reputation/brand	Economic slowdown/slow recovery	↑
2. Economic slowdown/slow recovery	Increasing competition	↑
3. Increasing competition	Failure to innovate/meet customer needs	↑
4. Regulatory/legislative changes	Regulatory/legislative changes	⟷
5. Cyber crime/hacking/viruses/malicious codes	Cyber crime/hacking/viruses/malicious codes	⟷
6. Failure to innovate/meet customer needs	Damage to reputation/brand	↓
7. Failure to attract or retain top talent	Failure to attract or retain top talent	⟷
8. Business interruption	Political risk/uncertainties	↑
9. Political risk/uncertainties	Commodity price risk	↑
10. Third party liability (inc. E&O)	Disruptive technologies/innovation	↑

In its latest economic outlook report, the International Monetary Fund points out:

After a lackluster outturn in 2016, economic activity is projected to pick up pace in 2017 and 2018, especially in emerging market and developing economies. However, there is a wide dispersion of possible outcomes around the projections, given uncertainty surrounding the policy stance of the incoming U.S. administration and its global ramifications. Notable negative risks to activity include a sharper than expected tightening in global financial conditions that could interact with balance sheet weaknesses in parts of the euro area and in some emerging market economies, increased geopolitical tensions, and a more severe slowdown in China.

With such a murky and uncertain economic outlook, economic slowdown will continue to remain a top concern in 2020. A related risk, commodity price fluctuations, is meanwhile projected to re-enter the Top 10 list. Meanwhile, political risk/uncertainties will likely rise due to a more divisive political environment in Europe and the U.S., the geopolitical tension in Asia, the threats of ISIS, the raging civil war in Syria, and the chaos on the Korean Peninsula.

In addition, as we have discussed in the previous section, disruptive technologies/innovation is expected to enter the Top 10 list.

Risk management department and function

The majority of organizations in the survey report having a formal risk management / insurance department in place. The larger a company's revenue, the more likely it has a formal risk management department. Regardless of whether the organization has a risk management department or not, responsibility for risk aligns most often with the finance department or the chief executive/president. Risk management department staffing levels have remained static, with 75 percent of respondents saying that they maintain one to five employees. Respondents have also indicated on a subjective scale that they feel risk management is still undervalued within their organizations.

Approach to risk management, risk assessment and cross-functional collaboration

Seventy-six percent of respondents say they have adopted either a formal or partially formal approach to risk oversight and management at a board level. Large companies, with annual revenue greater than USD10 billion tend to take more formalized approaches to governance, with the board of directors or a board committee establishing policies on risk oversight and management (96 percent). The result is an expected one since many of these organizations are likely publically traded, and subject to disclosure requirements on their risk oversight and management practices.

Nearly 71 percent of respondents say that their organizations engage in cross-functional collaboration in risk management, but the process is still too exclusive and more parties need to be brought to the table for input.

When examining the methods for identifying and assessing risk, a large majority of respondents say they use two or more methods to execute these processes.

In this survey, respondents are also asked to rate on a scale of one to 10 how proactively their organizations identify, assess and manage risks. The average score is six, which equates to "need improvement." While these results illustrate a solid commitment to a proactive approach to risk management across survey respondents, they also suggest the existence of an "effectiveness gap" when evaluated together with other findings in the survey.

Key controls and mitigation

Less than a quarter of survey respondents report tracking and managing all components of their Total Cost of Risk or TCOR. This downward trend is troubling as it is difficult to manage what is not measured. If this basic process gets lost, it could be laying the groundwork for future challenges.

Organizations continue to utilize a combination of methods—broker and independent consultants, management judgment and experience, and cost benefit premium vs. limits purchased—to select the appropriate level of limits. For companies operating in a tougher legal environment (litigious) or having increasing exposures to large-scale natural catastrophes, risk managers rely more on a comprehensive approach than other regions because single methods alone cannot meet the challenges.

For the second straight time since its introduction as an option, coverage terms and conditions is cited as the top criterion in an organization's choice of insurers, followed closely again by claims service and settlement.

Cyber risk assessment and coverage

In response to this now emergent threat, more companies are either adopting cyber risk assessments (53 percent), transferring greater risk to the commercial insurance market (33 percent), or evaluating alternative risk transfer measures (captive use is projected to rise from 12 percent to 23 percent by 2020).

However, only 23 percent of companies currently employ any financial quantification within the cyber risk assessment process. Without the financial stats, risk managers will find it hard to adequately prioritize capital investment in risk mitigation, or attract sufficient attention from a potentially less tech-proficient board.

About 33 percent of surveyed companies are now purchasing cyber coverage, up from 21 percent in the previous survey. Regionally, this uptake remains inconsistent. North American companies lead the regions in purchasing cyber coverage (68 percent) while those in Latin America remain way behind at nine percent.

Captives

Captives continue to be a popular way for clients to finance risk, with considerable interest in forming a new captive or protected cell company (PCC) in the next five years, especially in North America, Asia Pacific and the Middle East. The healthcare, energy, beverages and conglomerates sectors tend to use captives more. Property damage including business interruption and general liability continue to be the most popular lines underwritten in captives. We have seen a significant amount of interest from companies looking for ways to use their captive to underwrite cyber coverage.

Multinational programs

Exposures to loss, aka “risk”, whether directly or indirectly related to international operations, continue to be well represented in the list of top challenges for respondents in Aon’s 2017 survey. Of the 20 top risks identified by survey respondents, about 16 can be tied to international exposures, either directly or as a contributing consideration.

About 49 percent of all respondents—the largest group among all respondents—report having control over all insurance purchases including corporate and local placements from corporate headquarters, a four percent increase from that of 2015. Those reporting control from both the headquarters and local operations have decreased from 44 percent in 2015 to 41 percent in 2017.

General liability and property coverage continue to be the lines of business most frequently purchased as a multinational program, including master and local policies. When asked to rank the reasons for purchasing multinational insurance programs based on their importance, respondents put desire for coverage certainty on the top of the list.

Evolution and innovation in risk management

As in prior surveys, we hope to call attention to the interdependency among the top risks as well as those outside of the Top 10 rankings. Social media has created a rapidly expanding network of new connections between individuals and groups, and technologies have accelerated accessibility. But as more people turn to social media for news or to post stories, organizations are becoming more vulnerable to reputational risks. When the dominos start to fall, they fall fast. Damage to reputation restricts a company's ability to attract and retain talent, which in turn results in failure to innovate and meet customer needs. The list goes on. The same can be said about political risk/uncertainties, which deters business investment and could lead to economic slowdown. On the other hand, slow economic growth could spawn more protectionist policies, and lead to trade wars and political tension. This interdependency among risks illustrates that organizations can no longer evaluate risk in isolation but must consider their interconnectedness.

More importantly, the study shows that insurable risks among the featured Top 10 list, such as business interruption, third party liability and property damage, seem to be gradually moving down. Risks that are currently difficult to insure are emerging as major concerns for global organizations. This means that the insurance industry will have to be more innovative and expand their products and programs to address some of the most complex and challenging risks.

We live in an era of unprecedented volatility—uneven and slow economic growth, changing demographics and rising geopolitical tensions, combined with the rapid pace of changes in technology—are converging to create a challenging new reality for our clients. These forces create opportunities that we cannot even imagine, but also present new frontiers to be explored.

Global Risk Management Survey risk ranking

partially insurable | uninsurable | insurable

1 Damage to reputation/brand	2 Economic slowdown/ slow recovery	3 Increasing competition	4 Regulatory/ legislative changes
5 Cyber crime/ hacking/viruses/ malicious codes	6 Failure to innovate/meet customer needs	7 Failure to attract or retain top talent	8 Business interruption
9 Political risk/ uncertainties	10 Third party liability (incl. E&O)	11 Commodity price risk	12 Cash flow/ liquidity risk
13 Property damage	14 Directors & Officers personal liability	15 Major project failure	16 Exchange rate fluctuation
17 Corporate social responsibility/ sustainability	18 Technology failure/ system failure	19 Distribution or supply chain failure	20 Disruptive technologies/ innovation
21 Capital availability/ credit risk	22 Counter party credit risk	23 Growing burden and consequences of governance/ compliance	24 Weather/ natural disasters
25 Failure to implement or communicate strategy	26 Merger/acquisition/ restructuring	27 Injury to workers	28 Failure of disaster recovery plan/ business continuity plan

Global Risk Management Survey risk ranking (cont...)

partially insurable | uninsurable | insurable

29 Loss of intellectual property/data	30 Workforce shortage	31 Environmental risk	32 Crime/theft/fraud/employee dishonesty
33 Lack of technology infrastructure to support business needs	34 Inadequate succession planning	35 Product recall	36 Concentration risk (product, people, geography)
37 Aging workforce and related health issues	38 Accelerated rates of change in market factors and geopolitical risk environment	39 Interest rate fluctuation	40 Globalization/emerging markets
41 Unethical behavior	42 Outsourcing	43 Resource allocation	44 Terrorism/sabotage
45 Climate change	46 Asset value volatility	47 Natural resource scarcity/availability of raw materials	48 Absenteeism
49 Social media	50 Sovereign debt	51 Pandemic risk/health crisis	52 Share price volatility
53 Pension scheme funding	54 Harassment/discrimination	55 Kidnap and ransom/extortion	

Respondent Profile

Respondent Profile

Aon's 2017 Global Risk Management Survey, a web-based biennial research report, was conducted in Q4, 2016 in 11 languages. The research represents responses of 1,843 risk decision-makers from 33 industry sectors, encompassing small, medium and large companies in more than 60 countries across the world.

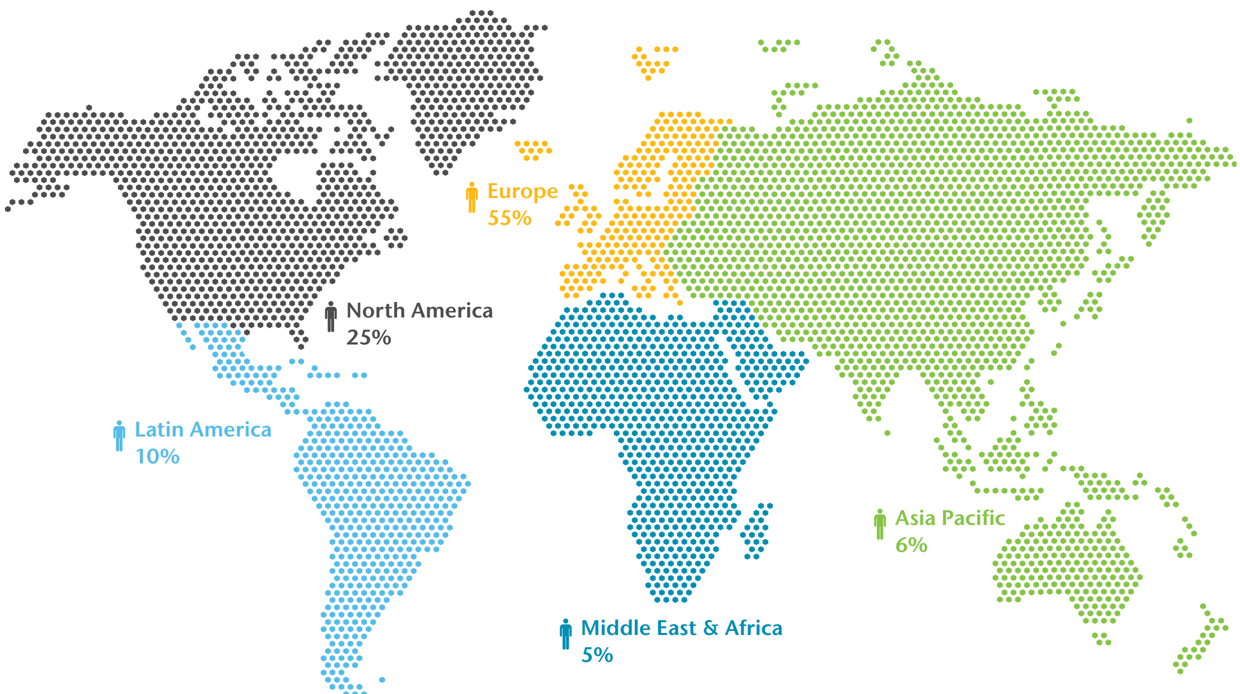
About 64 percent of the participants represent privately-owned companies and 23 percent public organizations. The rest are primarily government or not-for-profit entities.

The robust representation of the 2017 survey has enabled Aon to provide insight into risk management practices by geography and industry, and has validated the data that illustrate risks common to all industries.

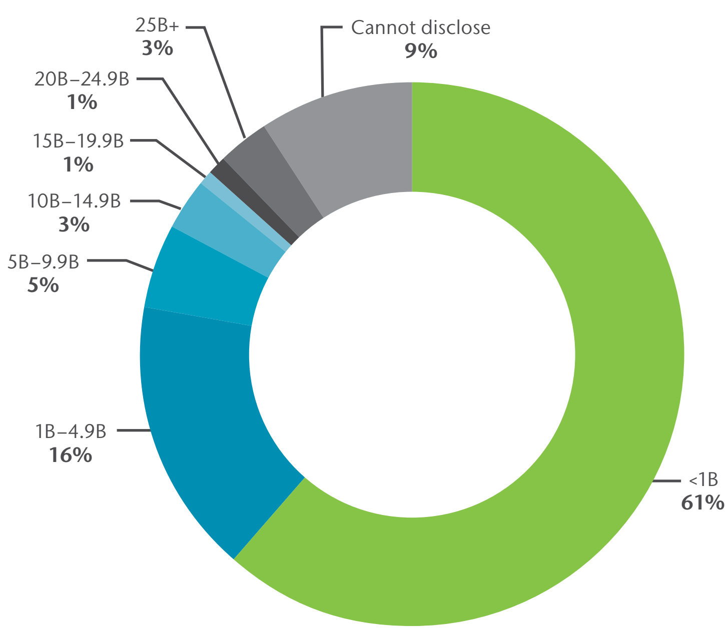
Survey respondents by industry

Industry	Percent	Industry	Percent
Agribusiness	3%	Machinery and Equipment Manufacturers	3%
Aviation	1%	Metal Milling and Manufacturing	3%
Banks	3%	Non-Aviation Transportation Manufacturing	2%
Beverages	1%	Non-Aviation Transportation Services	4%
Chemicals	4%	Nonprofits	2%
Conglomerate	2%	Power/Utilities	6%
Construction	8%	Printing and Publishing	1%
Consumer Goods Manufacturing	4%	Professional and Personal Services	5%
Education	2%	Real Estate	3%
Energy (Oil, Gas, Mining, Natural Resources)	4%	Restaurants	1%
Food Processing and Distribution	3%	Retail Trade	4%
Government	3%	Rubber, Plastics, Stone, and Cement	1%
Health Care	5%	Technology	4%
Hotels and Hospitality	1%	Telecommunications and Broadcasting	2%
Insurance, Investment and Finance	7%	Textiles	1%
Life Sciences	1%	Wholesale Trade	4%
Lumber, Furniture, Paper and Packaging	2%		

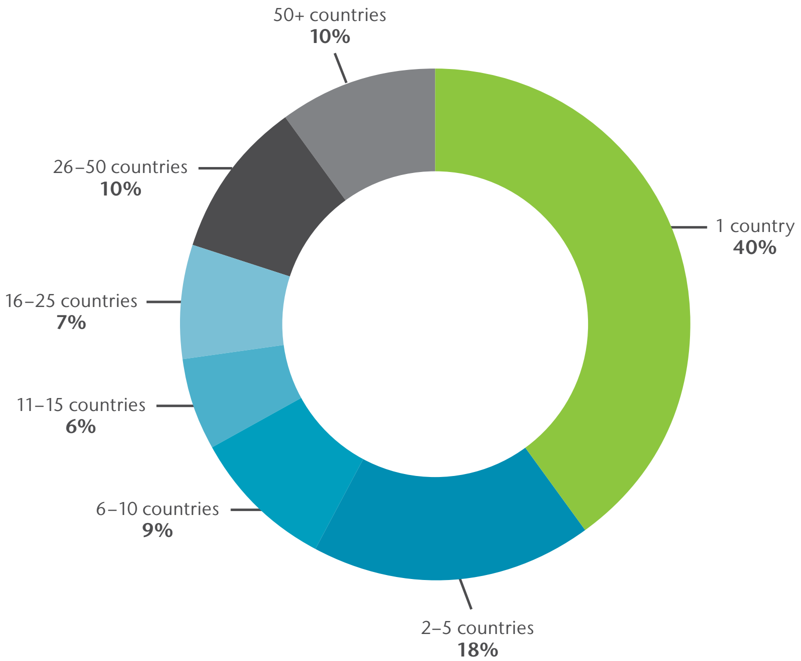
Survey respondents by region



Survey respondents by revenue (in USD)



Survey respondents by number of countries in which they operate



Survey respondents by number of employees

Survey respondents by role

Role	Percent
Chief Administration Officer	6%
Chief Counsel/Head of Legal	3%
Chief Executive	3%
Chief Financial Officer	12%
Chief Operations Officer	1%
Chief Risk Officer	7%
Company Secretary	1%
Finance Manager	7%
General Business Manager	2%
Head of Human Resources	2%
Managing Director/Partner	3%
Member of the Board of Directors	1%
President	1%
Risk Consultant	2%
Risk Manager or Insurance Manager	29%
Treasurer	3%
Other	18%

Top 10 Risks

1. Damage to reputation/brand
2. Economic slowdown/slow recovery
3. Increasing competition
4. Regulatory/legislative changes
5. Cyber crime/hacking/viruses/malicious codes
6. Failure to innovate/meet customer needs
7. Failure to attract/retain top talent
8. Business interruption
9. Political risk/uncertainties
10. Third party liability (incl. E&O)

1

Damage to Reputation/Brand

Rankings in previous surveys

2017	1
2015	1
2013	4
2011	4
2009	6
2007	1

Number 1 risk for the following industries:

Banks

Beverages

Consumer Goods Manufacturing

Food Processing and Distribution

Hotels and Hospitality

Insurance, Investment and Finance

Non-Aviation Transportation Manufacturing

Non-Aviation Transportation Services

Non profits

Professional and Personal Services

Retail Trade

Telecommunications and Broadcasting

A tech worker in China purchased a newly released electronic device in October 2016, but while he was charging it, the device caught fire. Shocked and frustrated, he videotaped the incident and uploaded it to a chat group. Within a few hours, the clip was watched and reposted millions of times by users around the world. Soon, customers in other countries began reporting similar incidents with this product.

Even though the defective devices accounted for less than 0.1 percent of the entire volume sold, this video caused widespread panic among consumers and distributors, undermining their confidence in the product. A month later, the company producing the electronic device issued a global recall and stopped its production. The corrective measure cost them an estimated USD 5 billion and sent the company share price plummeting. Ironically, the manufacturer, known for its cutting edge technology to make it easier for the public to share information, became a victim of the tech revolution.

This headline-grabbing incident, which took place right before Aon conducted our biennial global risk management survey, helps illustrate and explain why damage to reputation/brand has once again ranked as the number one risk in Aon's 2017 Global Risk Management Survey. In an age when a crisis could spread globally within hours or minutes thanks to instant social media, the risk of reputational damage has exploded exponentially.

In 2016, while defective products, customer service issues, workplace accidents, corporate malfeasance, fraudulent business practices or corruption continued to be key reputation wreckers, new media technologies greatly amplified their negative impact. In addition, damage to reputation also occurred because of an inappropriate tweet by an executive and a posting by an employee who complained about sexual harassment or discrimination.

At the same time, the U.S. election in November 2016 has spawned a new trend—many companies with politically outspoken owners or CEOs are being increasingly caught in political crossfire that could threaten their corporate brands. In addition, fake news, which started by political parties as a way to influence elections, has begun to spill over into the corporate world. Since social media platforms have no fact checkers, fake news is gradually becoming rampant. An online story in October 2016 about a fabricated quote by the CEO of a prestigious international beverage company, for example, triggered a boycott by some consumers.

Aon industry expert view:

"The beverage industry has ranked damage to brand and reputation as its number one risk. The industry has come under frequent attacks by consumers and health organizations. Sugar seemingly has become public enemy number one, not just in the U.S. but around the world. This has led to soda taxes, advertising restrictions, and other governmental regulations targeting the industry—which is part of the regulatory changes that beverage companies must now address."

Tami Griffin, National Practice Leader, Food System, Agribusiness & Beverage, U.S.

Even though brand equity, mostly comprised of customer loyalty, prestige and positive brand recognition, is considered part of a company's intangible assets, it directly impacts a company's bottom line. Past studies by Aon suggest that there is an 80 percent chance of a public company losing at least 20 percent of its equity value in any single month over a five-year period because of a reputation crisis.

In this year's survey, the financial services industry, which is still facing negative perception due to the 2008 global financial crisis and some on-going government investigations, considers reputational risk as a top threat. Meanwhile, a series of product recalls and a much publicized controversy involving an emission control software issue heighten the concerns of this risk in the non-aviation transportation manufacturing sector. For those in consumer goods manufacturing, beverages, food processing and distribution, automobiles, hotels and hospitality, where a negative online review or complaint could have a direct impact on profitability or survival, it comes as no surprise that damage to reputation/brand is rated as a top threat.

Rankings in the regions	
Asia Pacific	1
Latin America	1
North America	2
Europe	2
Middle East & Africa	5

Regionally, surveyed organizations in Asia Pacific and Latin America have ranked this risk as a number one threat partially because of a series of high-profile product recalls and widely publicized corporate corruption and bribery scandals across the two regions in 2016.

Given that reputational events often arrive with little or no warning, organizations are forced to respond quickly and effectively in real-time. So, it is important for companies to have a comprehensive reputation risk control strategy in place to preserve consumer trust. Meticulous preparation and executive training could prevent a critical event from turning into an uncontrollable crisis, and help maximize the probability of recovery.

"It's about being out there, being on the front foot, and having a clear plan about what the eventualities might be. It's all about communicating."

Tim Ward, CEO Quoted Companies Alliance

2

Economic Slowdown/ Slow Recovery

Rankings in previous surveys

2017	2
2015	2
2013	1
2011	1
2009	1
2007	8

Number 1 risk for the following industries:

Chemicals

Construction

Hotels & Hospitality

Lumber, Furniture, Paper and Packaging

Machinery and Equipment Manufacturers

Metal Milling and Manufacturing

Real Estate

Restaurants

Textiles

In mid-December 2016, the Federal Reserve in the U.S. raised its benchmark interest rate by 0.25 percent, the second since the financial crisis of 2008. The move signified the Fed's confidence in the American economy, even though it only grew at 1.6 percent in 2016, way below the recovery's tepid 2.2 percent average.

Meanwhile, the World Bank indicates that the Eurozone economy ended 2016 on a bright note at 1.7 percent growth rate, and it is expected to continue at a steady pace. The debilitating budget deficit will continue to edge down and the fiscal stance remain non-restrictive. In Asia and the Pacific region, China continued its gradual transition to slower but more sustainable growth, from 6.7 percent in 2016 to 6.5 percent in 2017. For the rest of that region, growth remained stable at about 4.8 percent.

These moderate growth stats offer organizations some reasons for cautious optimism. Economic slowdown/slow recovery, which was consistently ranked as the number one risk facing companies worldwide since 2009, has understandably dropped for the second time to number two. Only three in 10 respondents say they have a plan for, or have undertaken a formal review of, this risk and the percentage of organizations suffering a loss of income in the last 12 months has dropped slightly from 46 in 2015 to 45 in the current survey.

The perception of economic slowdown/slow recovery varies by industry. The construction, lumber, furniture, paper and packaging, machinery and equipment manufacturing sectors, all of which are sensitive to capital spending, see economic slowdown/recovery as a number one risk. It is hardly surprising. A Reuters 2016 economic analysis report points out that governments and companies cutting or flat-lining their capital expenditures in 2016 outpaced those that increased spending by a factor of more than two to one. With the overall slow economic growth and uncertainties worldwide, companies are holding back on capital expenditures.

Also in 2016, while the broader slump in the commodities market, the continued volatility in the currency markets (especially after Britain's Brexit vote) and sluggish demands in the emerging markets directly affected industries listed in the above chart. Among them, the chemicals, metal milling and manufacturing, and machinery and equipment manufacturing, and textile sectors were hit the hardest.

The uncertainties in the economy dented consumer confidence, which in turn negatively impacted restaurant/fast food businesses. In June 2016, Stifel analysts even released a report, claiming that the slowing restaurant businesses were telltale signs of a sector-wide recession. Reports like this no doubt cast shadows over our perception of this risk.

Aon industry expert view:

"A strong and growing economy is critical for the real estate industry, especially continued growth in job creation. A growing job market will spur increased demand for office, retail, industrial, multifamily and hospitality space. Until recently the global economy has had sluggish growth in many regions, so it is no surprise that this risk tops the list for the sector worldwide."

Kevin Madden, Real Estate Practice Leader, U.S.

Rankings in the regions	
Asia Pacific	5
Europe	1
Latin America	3
Middle East & Africa	1
North America	5

Similar to 2015, the geographical breakdown shows that economic slowdown/slow recovery remains the number one risk for survey participants in Europe. There, amid fierce contentions over trade agreements, concerns about the impending negotiations for Britain's exit from the EU, and political instability across the region, companies still feel that they are in an economic downturn. The same holds true for organizations in the Middle East & Africa, where the economy accelerated slightly at 2.8 percent in 2016, but such growth only occurred in a limited number of countries. The rest of the region is still being wrecked with armed conflicts, terrorism and political chaos, all of which stunted economic activities.

Looking forward, even though many businesses consider the global recovery as being too slow, the World Bank and the U.S. Federal Reserve seem to see the outlook as healthy. In the U.S., the Fed predicts that the country's GDP will grow between the ranges of two percent to three percent. Meanwhile, the current administration's agenda to cut corporate and individual taxes, build more roads and bridges, and cut away regulations could boost growth if it is implemented.

For Europe, the World Bank believes that the labor market gains and increases in private consumption could enable companies to overcome the hindrances to growth. In its 2017 economic forecast, growth in the euro area is expected to be 1.5 percent in 2017 and 1.7 percent in 2018. In Asia Pacific, experts say the economy will remain resilient over the next three years.

Concerns over the world's economy may not go away soon, so organizations should learn from lessons in the past and embrace it for the long-term from a global perspective. We are no longer sitting on an island by ourselves. What happens on the other side of the world can have a direct impact on every organization, whether you have international operations or not.

3

Increasing Competition

Rankings in previous surveys

2017	3
2015	4
2013	3
2011	3
2009	4
2007	4

Number 1 risk for the following industries:

Non-Aviation Transportation Manufacturing

Non-Aviation Transportation Services

Retail Trade

Wholesale Trade

While analyzing this risk in the last survey report, we cited the example of Xiaomi, an Asian smartphone startup that was emerging as a game changer in the smartphone industry. In 2015, the company, then valued at USD 45 billion, shocked the tech world by selling more than 60 million phones in China alone, while planning to dip into the European and U.S. retail space.

However, in a matter of two years, the company found itself struggling with declining sales due to tough competition from other domestic and international giants such as Huawei, Apple, and Samsung. In 2016, its smartphone shipments were said to be so disappointing the company chose not to release figures about them, and several of its senior executives departed. Inevitably, its plan for worldwide relevance has also been sidelined.

At any given time, if we search "increasing competition" on Google, we'll see hundreds of news items coming up and the majority are related to similar stories we have quoted—companies missing earnings and sales targets or talent shortages due to "increasing competition."

This risk affects organizations of all types and sizes, from prestigious telecommunications and healthcare companies to small retail stores and educational institutions. The situation validates the result in Aon's survey, where respondents consider increasing competition in the top three risks overall, jumping a notch from 2015. In fact, during the previous survey, many respondents projected that this threat would top the risk chart.

The survey results remind organizations of the volatile business environment in which we operate. According to The Global Competitiveness Report 2016–2017 published by WEF, or the World Economic Forum, a new wave of technological convergence and digitalization has increased the pressure for businesses to create new products and services, and find new ways to produce things. In an open trade economy, while companies can benefit from free flow of labor and technology transfer that comes from imports and foreign investment, they also face more exposure to fierce international competition and new ideas. More newcomers are now competing against established market leaders that have formidable brands, customer loyalty and deep resources.

As a result, the percentage of companies falling out of the top three rankings in their industry increased almost seven fold over the past five decades, says a research article at the Harvard Business Review. Market leadership is becoming an "increasingly dubious prize." All this uncertainty poses a tremendous challenge for traditional business strategies that worked well in a relatively stable and predictable world. In many cases, the competition has become so fierce that it is virtually impossible for executives to clearly identify in what industry and with which companies they're competing.

Surveyed non-aviation transportation manufacturers, mostly automakers, have ranked increasing competition as a number one risk because the battles for market share among the world's largest automakers have become much tougher as the gaps in technology, quality and style among them continues to narrow, and newcomers from China and India are also jumping into the fray.

Meanwhile, companies in this sector are also facing intense competition as they attempt to shrink the time and cost of moving goods between the manufacturer and the customer's point of purchase. Smaller regional carriers are now competing with those integrated transportation companies that have significantly greater financial, technical and

Aon industry expert view:

"For the higher education sector, this is an underrated risk at rank 5. Increasing competition for a diminishing number of traditional students and the growing inability to recruit from certain countries are having revenue impacts that threaten the survivability of some institutions and should be at the top of their agenda."

Leta Finch, National Practice Leader, Higher Education, U.S.

marketing resources, while the rising cost of diesel has intensified competition between trucking and rail industries. According to a Wall Street Journal article in June 2016, more large trucking companies in the U.S. were failing in the first two quarters of the year due to competition and low demands than in the previous year.

Increasing competition is understandably seen as a number one threat by participants in the retail and wholesale trade sectors, which are evolving as digital media is becoming effective at serving people's basic shopping and distribution needs and the public's dependence on traditional physical stores to serve as distribution points for products is rapidly diminishing.

In Europe and Asia Pacific, increasing competition is perceived as a number three risk, down from number two in previous surveys. Companies in Europe continue to operate in a highly competitive environment because the region has seen slower growth for years and the EU has stringent laws against anticompetitive practices and mergers. While organizations compete fiercely with their rivals within the EU, they also compete with big multinationals in North America and newcomers from Asia.

In Asia Pacific, excessive labor capacities, easy entries and risk maturity of multinationals have increased competition. More importantly, China's rise has posed challenges for companies in the region's established economies, such as Australia, Japan, Korea, Singapore and Taiwan. If that is not enough, many of those aggressive new competitors are government-backed enterprises with access to lower-cost capital.

Rankings in the regions	
Asia Pacific	3
Europe	3
Latin America	12
Middle East & Africa	7
North America	7

On a macro level, leaders at WEF believe that breakthroughs in technologies such as artificial intelligence, biotechnology, robotics, the internet of things, and 3D printing will drive healthy competition for businesses. However, as the world's major economies are struggling with the double challenges of slowing productivity growth and rising income inequality, policy-makers are resorting to more inward-looking and protectionist policies. "Declining openness in the global economy is harming competitiveness and making it harder for leaders to drive sustainable, inclusive growth," said Klaus Schwab, WEF's founder and executive chairman.

For individual companies hoping to build an enduring competitive advantage, experts who have authored the previously mentioned Harvard Business Review article urge them to improve adaptability by reviewing their business strategies periodically, and setting direction and organizational structure on the basis of an analysis of their industry and some forecast of how it will evolve. Those that thrive are quick to read and act on signals of change, says the article. They have learned how to experiment frequently, not only with products and services, but also with business models, processes, and strategies.

4

Regulatory/Legislative Changes

Rankings in previous surveys

2017	4
2015	3
2013	2
2011	2
2009	2
2007	2

Number 1 risk for the following industries:

Health Care

Life Sciences

Power/Utilities

Speaking of regulations, experts in the U.S. always bring up the Dodd-Frank Act of 2010 to illustrate the costly burdens that regulators have imposed upon businesses. The Dodd-Frank law came out in the aftermath of the global financial crisis with a noble intent—stopping banks from taking excessive risks to prevent another financial disaster. But at nearly 281 pages, the law, laden with complex reporting and disclosure requirements that involve five federal agencies to implement, has become a key financial risk for businesses.

In 2016, Bloomberg quoted American Action Forum as saying that the cost of implementing the legislation, the most expensive in the law's history, soared to USD 36 billion and 76 million paperwork hours over a period of six years. From 2000 to 2007, Forbes says the developed economies' top performing banks had achieved an average return on equity of 26 percent. Today, the returns for many of these same banks are in single digits; as a result, most are forced to reduce their size / footprint. A study by Harvard Kennedy School of Government concludes that the Dodd-Frank Act accelerated the decline of America's community banks.

Businesses in other industries and other parts of the world face similar hurdles in the post-recession world. For example, in July 2016, the EU adopted legislation that imposes cyber security and reporting obligations on industries such as banking, energy, transport and health, and on digital operators like search engines and online marketplaces. Similar laws are being implemented in other countries, such as Australia and the U.S. (i.e. the state of New York). Businesses in the U.K. alone could face up to 122 billion pounds in regulatory penalties for breaches when the new EU cyber legislation comes into effect in 2018.[xiv]

That explains why participants in Aon's Global Risk Management surveys have consistently ranked regulatory and legislative changes as a top risk during the past decade. In fact, in Europe, Asia/Pacific and North America, regulations have generated so much backlash that many pro-business politicians have made it a centerpiece in their political platforms. Britain's effort to leave the EU was partially driven by what many perceive as controls of "the meddling governments and dictates from Brussels." In the U.S., President Trump also repeatedly promised businesses to roll back regulations.

Over the past two years, the leaders in countries such as Canada, Australia and the U.K. have implemented policies to ease regulations for businesses. In the U.K., for every new rule issued, the government stipulates that three existing rules must be eliminated. The Hill, a U.S. political website quoted the U.K. government as saying that such new requirements saved businesses 885 million pounds from May 5, 2015 to May 26, 2016.

These positive and yet gradual changes in the global regulatory landscape are reflected in Aon's 2017 survey, where respondents rank the risk at number four, down from number three in 2015 and number two in previous years. At the same time, the reported readiness by companies for regulatory/legislative changes is cited by 44 percent of respondents, down from 53 percent in 2015.

Aon industry expert view:

"Regulatory/Legislative change has and will continue to be the top risk for the health care industry, especially with the recent election and changes in the legislative and executive branches of government and a new appointment to the Supreme Court. A potential repeal of the ACA and new legislation may create great uncertainty in the regulatory and reimbursement environment."

Dominic Colaizzo, Chairman National Healthcare Practice, U.S.

As we see in previous surveys, healthcare, pharmaceuticals and biotechnology companies, which have been under closer and broader scrutiny from drug discovery and lab tests to pricing and post-marketing surveillance, view regulatory/legislative changes as a number one risk. The power/utility sectors express similar concerns as global air and water quality standards are tightening. Interestingly, the banking industry is not on this chart—the recent high profile government investigations against large banks have made mitigating reputational risk a priority. It is also possible that banks are gradually adjusting to a spate of robust regulatory and legislative changes since 2008. In addition, the elections of Donald Trump and other pro-business leaders around the globe, who campaigned vigorously on anti-regulation promises, have offered financial institutions some encouragement.

In Asia where experts say the legal and regulatory environments have become noticeably volatile due to political changes, respondents rank it consistently as the number two risk. In China, regulators have ramped up their regulatory enforcement over the past three years, and both local companies and multinationals are under increasing scrutiny for alleged monopoly, safety, corruption and bribery charges. The tension there probably contributed to this perception.

Rankings in the regions	
Asia Pacific	2
Europe	4
Latin America	5
Middle East & Africa	6
North America	4

For companies in North America and Europe, changes are underway. A few days after President Trump took office, he followed the actions of leaders in the U.K. and Canada, and signed an executive order that directed federal agencies to identify at least two existing regulations for repeal for every new regulation that the government wishes to enact. That order also asks that the costs of all new regulations put forth in 2017 be offset by the elimination of existing regulations. In another order, he called for the establishment of regulatory reform task forces to research existing regulations and identify those deemed to be burdensome on the U.S. economy for possible repeal or rewrites.

Regardless of how the regulatory landscape will evolve, companies have increasingly recognized that regulation is no longer a secondary concern, but is now a primary consideration in their business strategies. Rather than seeing it as a burden, they look at this risk as an opportunity to create a competitive advantage over their peers who do not manage this process effectively.

5

Cyber Crime/Hacking/ Viruses/Malicious Codes

Rankings in previous surveys

2017	5
2015	9
2013	18
2011	18
2009	25
2007	19

Number 1 risk for the following industries:

Aviation

Education

Government

In March 2016, hackers posed as an internet account-services provider and sent out a group email to the U.S. National Democratic Committee, claiming that passwords had been compromised and urging staff to click on a false link and make the password changes there.

While most recipients discarded this phishing email, an aide to Hillary Clinton's campaign accidentally took the bait due to a miscommunication with the IT department. The blunder gave hackers access to this aide's 60,000 emails, which, upon their release by Wikileaks, caused unexpected upheavals in the run-up to the U.S. election. Partisan politics aside, many shudder at the massive damages by such pervasive cyber assaults.

This event was correctly predicted by Stroz Friedberg, an Aon company which is a global leader in the field of cyber security. In its 2016 Cyber Security Predictions, Stroz Friedberg not only projected that hackers would wage an information war and influence the U.S. election, but also warned of the perils of unsecured internet of things devices, such as the one in October 2016, when a series of attacks on a U.S. based domain-name service provider disrupted access to a host of the world's best-known e-commerce, media and social media websites.[xvi]

These incidents have no doubt changed the perceptions of Aon's survey participants, making them more aware of the deadly consequences of this rising risk. In the current survey, cyber crime/hacking/viruses/malicious codes jumped to number five. The risk entered the Top 10 list for the first time (at number nine) in 2015.

Their concerns are justified. The Ponemon Institute, a data security research organization, has recently released its latest cyber security study of 237 organizations in six countries. According to the study, the annual average cost of a cyber incident in 2016 rose to $9.5 million, a 21 percent net increase over the past year. Virtually all surveyed organizations in the Ponemon study have suffered malware attacks, which are linked with malicious code attacks over the four-week benchmark period. Ransomware is a newer example of malware and is believed to be a growing problem. Phishing and social engineering attacks increased significantly from 62 percent in 2015 to 70 percent in 2016.

Meanwhile, according to a recent Aon Benfield report, there has been a significant uptick in demand for cyber insurance, particularly in the wake of high-profile cases. With approximately USD 1.7 billion in premiums, annual growth for cyber insurance coverage and product is running at 30 to 50 percent.[xviii]

In July 2016, officials at the European Aviation Safety Agency revealed that the world's aviation systems are subject to an average of 1,000 attacks each month. Malware or security breaches involving aircrafts in the U.S., Turkey, Spain, Sweden and Poland have provoked delays, and loss of information. The fear is that one day terrorists may crash planes through cyber attacks. This announcement underscores the severity of the risk facing the aviation industry, which ranks it as number one in Aon's current survey.[xix]

Aon industry expert view:

"Cyber risk was ranked sixth by retail participants, which was surprisingly low for this sector. In the previous survey in 2015 cyber risk was ranked in third place. Cyber fatigue seems to be setting in with retailers, however, a breach could be damaging to their brand and reputation. Quick post-breach response is now a focus for brand protection."

MaryAnne Burke, National Practice Leader, Retail, U.S.

Rankings in the regions	
Asia Pacific	7
Europe	6
Latin America	18
Middle East & Africa	8
North America	1

The same is true for government entities, which increasingly have become targets. In the U.S., a report by the Government Accountability Office surveyed 24 federal agencies and found that between 2006 and 2015, the number of cyber attacks had climbed 1,300 percent—from 5,500 to more than 77,000 a year.[xx]

When it comes to data breaches, educational institutions have not received much media attention. However, the rising number of incidents has raised the concerns of surveyed institutions. According to an education website, University Business, since 2005, higher education institutions in the U.S. have been the victim of 539 breaches involving nearly 13 million student records.[xxi] In the UK, recent research found that every hour, one-third of universities there are hit by a cyber attack.[xxii] In May 2016, Japanese student hackers took down 444 school networks simultaneously.

Participants in North America see cyber crime/hacking/viruses/malicious codes as a number one threat. The result is consistent with a recent survey by Pew Research Center, which found that Americans identify cyber attacks as the second greatest global threat to the U.S., behind ISIS.[xxiii] It is also becoming a growing threat for European companies. In the U.K., Beaming, an internet service provider that polled 540 companies regarding cyber security, said cyber-attacks may have cost businesses as much as 30 billion pounds in 2016.[xxiv]

In its latest report, Stroz Friedberg outlined six predictions for 2017 to help security professionals and business leaders:

1. Criminals harness IoT devices as botnets to attack infrastructure.
2. Nation state cyber espionage and information war influences global and political policy.
3. Data integrity attacks rise.
4. Spear-phishing and social engineering tactics become craftier, more targeted and more advanced.
5. Regulatory pressures make red teaming the global gold standard with cyber security talent development recognized as a key challenge.
6. Industry first-movers embrace pre-M&A cyber security due diligence.[xxv]

As cyber crimes become more rampant, more costly, and take longer to resolve, companies need to improve their risk readiness. This, according to Stroz Friedberg, will require companies to recruit and build best-in-class red teaming capabilities, and accept that cyber security risk management is a critical part of doing business across industries.

Insurance specifically designed to cover the unique exposure of data privacy and security can act as a backstop to protect a business from the financial harm resulting from a breach. While some categories of losses might be covered under standard policies, many gaps often exist. Risk managers should work with their insurance brokers to analyze such policies and determine any potential gaps in existing coverage because cyber events can impact numerous lines of insurance coverage.

6

Failure to Innovate/ Meet Customer Needs

Rankings in previous surveys

2017	6
2015	6
2013	6
2011	6
2009	15
2007	14

Number 1 risk for the following industries:

Life Sciences

Printing and Publishing

Rubber, Plastics, Stone and Cement

Technology

In May 2016, Aol Finance posted 30 nostalgic photos that depict some of America's most iconic companies and brands that have vanished over the past three decades—Woolworths, Polaroid, Alta Vista, Kodak, Blockbuster, Borders, Compaq, MCI and General Foods. The list goes on. There is an underlying factor in the featured companies—they believed that their product or service had an unlimited shelf life, but when they lost their competitive edge, they closed. These pictures convey a stark message—innovate or fail.[xxvi]

Despite the urgency and massive investments of time and money, innovation still remains a frustrating pursuit in companies worldwide. In Aon's current and previous surveys, respondents have consistently listed failure to innovate/meet customer needs as a Top 10 risk. Three years from now, the risk is expected to climb to number four in the rankings.

Innovation poses a special challenge for the life sciences industry, which still feels the ill effects of shrinking R&D resources from the 2008 recession, a wave of patent expirations on best-selling medications, and competition from lower-priced generic medicines. Therefore, innovating R&D to speed discovery of new medicines is a must for survival.

The printing and publishing sector has been facing unprecedented pressure in today's market place as the mega-trends of readership and ad dollars are migrating to digital, the cost of printing is rising, and ad rates are shrinking. While companies are relying on radical cost containment in their attempt to balance their books, many are searching for radical innovation in editorial products and business models to reinvent themselves.

For the rubber, plastics, stone and cement industries, the need for innovation in materials, production process, performance and technology has never been more urgent in meeting increasingly diversified customers' demands, tougher environmental standards, shorter lead times, and lower prices.

As in previous surveys, failure to innovate/meet customer needs poses the number one threat for participants in technology, where the lifetime of products continues to shrink, the race to market has intensified, and consumer needs are fickle. FindtheCompany, a corporate research site, recently ran a list of "30 companies that could disappear in 2017" Technology and computer companies make the most appearances on the list, with nine total corporations at risk.[xxvii] But, meanwhile, technology companies are also leading the world in innovation. In its most recent survey of the most innovative companies by Boston Consulting Group, technological companies such as Apple, Google, Microsoft and Facebook have taken up half of the top 10 spots.[xxviii] These results speak to the volatility of tech firms, which can grow at record rates, then fall at the hands of a disruptive competitor.

Aon industry expert view:

"Failure to innovate, disruptive technology, coupled with attracting and retaining top talent, increasing competition and brand risk will maintain their Top 5 status for the Technology sector for the foreseeable future. These factors will also increase for other industries that are going through digitization and digital disruption."

Eric Boyum, National Practice Leader, Technology, U.S.

While companies in emerging growth markets such as the Middle East & Africa and Asia have benefited from existing technologies and management experience in advanced countries, they now see innovation as being critical in sustaining their competitive advantage. For example, Dubai—where new startup concepts used to be dominated by replicas of successful business models in more advanced markets—is now becoming a launch pad for innovative businesses across multiple geographies, experts say.

In the 2016 Global Innovation Index, China has joined the ranks of the world's top 25 most innovative economies for the first time. Meanwhile, Singapore, South Korea, Japan, New Zealand and Australia have all made progress in the rankings. Asia is also the top destination for corporate R&D, accounting for 35 per cent of total in-region R&D, including domestic and imported R&D.[xxix]

In theory, successful innovations lead to competitive advantage, allowing for unique brand positioning and differentiation, establishing brand reputation equity, and most importantly, boosting profitability. But frequently, innovation initiatives fail abysmally, and successful innovators often have difficulty sustaining their performance.

In his book, *Unrelenting Innovation*, University of Southern California Professor Gerard Tellis says during an interview with Time Magazine that companies are in greatest danger of failing when they are at the peak of their success because they tend to protect current products. Change is constant and protecting your current product is a formula for disaster.

Rankings in the regions	
Asia Pacific	4
Europe	5
Latin America	22
Middle East & Africa	3
North America	6

Tellis believes that unrelenting innovation requires companies to willingly embrace risks. When an innovation fails, one should learn from failures in order to hit on the successful innovation that creates the next big mass market. Amazon CEO Jeff Bezos emphasizes similar ideas in a recent talk. "At Amazon, we have to grow the size of our failures as the size of our company grows," he said. "We have to make bigger and bigger failures—otherwise none of our failures will be needle movers."[xxxi]

Professor Tellis says the innovator often comes from within an organization—employees have the best ideas for innovations from their deep experience and knowledge of customer response. Firms can unleash the power of innovation by recognizing and empowering the talent within. Through idea fairs, funding contests, prototype races, and competing commercializations, an organization can foster bottom up innovation from the crowd instead of top down innovation from a fallible few.[xxxii]

7

Failure to Attract or Retain Top Talent

Rankings in previous surveys

2017	**7**
2015	**5**
2013	**5**
2011	**7**
2009	**10**
2007	**7**

The dramatic changes in the global economic and political landscapes in the months leading up to Aon's survey has made it necessary to focus on how the macro-environment impacts the way organizations perceive the risk of failure to attract and retain talent.

1. Economic factors. In 2016, as the global economy slowly recovers from the recession that started in 2008, the unemployment rate in major economies has fallen dramatically, with the U.S. dipping to 4.6 percent, U.K., 4.8 percent, Germany, 4.2 percent, and Australia, 5.6 percent. Improved economic performance has resulted in a demand for talent that outstrips supply.

Meanwhile, in India and China, rapid development in the past decade has created a ravenous appetite for jobs, and expanded demand for skills. Even though the two countries seem to have abundant untapped human capital, a severe brain drain—a large fleet of well-educated and well-trained scientists and tech workers ending up in industrialized nations—is actually causing a talent deficit.

2. Demographic factors: Population aging in industrialized countries such as Japan, where 26.3 percent of its population is now 65 years of age or older, has taken skilled employees out of the workforce at a faster rate than they can be replaced. At the same time, countries like Spain and Greece are experiencing severe immigration-driven "brain drain" due to their dire economic conditions and mismatched skills among young people.

3. Political factors: The governments in the U.S. and Europe have always pursued highly skilled immigrants as a temporary fix to ease talent and skill shortages in the native labor force. However, pending immigration reforms will reverse the gains, exacerbating their abilities to fill certain positions in fields such as technology, healthcare, and finance.

4. Workplace Factors: According to Aon Hewitt's People Trends 2017, the workplace is changing with the addition of millennials who have different expectations about work, the rise of contingent workers, and shifting work boundaries. Nearly one in five technology firms report 25 percent of workers are contingent. Meanwhile the expanding middle class in emerging markets requires organizations to rethink their value propositions and recruitment strategies.[xxxiii]

These factors have no doubt deepened concerns for corporations, adding more complexities to addressing the risk of "failure to attract and retain top talents." In Aon's 2017 survey, respondents have ranked this risk at number seven.

In Aon's survey, respondents from the technology sector consider failure to attract and retain top talent as a number three risk. Experts contribute the severity of this risk to the fact that technologies are under tremendous pressure to deliver complex, specific solutions at faster speeds, creating a demand for employees with highly flexible and specific skill sets. In the U.S., government statistics show that 500,000 computing jobs are currently left unfulfilled, but there are only 50,000 computer science graduates a year.[xxxv]

From a regional perspective, North American participants have rated this risk at number three. Low unemployment paired with shorter skills cycles due to the speed of technological change have contributed to the difficulties in filling positions. The shortages are particularly acute in industries like manufacturing, construction, transportation and education.

Aon industry expert view:

"Failure to attract and retain talent did not appear in the Top 10 for the energy sector in this year's survey. From my point of view, this makes it an underrated risk for the sector, because of greater focus on other areas in the depressed commodity environment. Historically, talent retention coupled with innovation has been a key driver for the energy sector and it will continue to be a key risk in the longer term."

Bruce Jefferis, CEO Energy & Mining. U.S.

In the Middle East & Africa, which is on the cusp of a significant economic transformation, companies rank this risk at number four because the region has been known for its severe talent shortages. Without proper access to education, its young people lack the training and development necessary to contribute productively to the regional and global economy. Moreover, the unstable political environment has robbed the region of many skilled workers who have migrated to industrialized nations in Europe and North America.

Failure to attract and retain top talent threatens to undermine future economic productivity and jeopardizes a company's competitiveness and profitability. While many external factors are beyond the control of businesses, experts say companies should take proper measures to boost their efforts to mitigate this risk.

One of these measures should be creating an ethical and employee-friendly work culture that helps attract and retain talent. According to Corporate Responsibility Magazine, 86 percent of surveyed females and 67 percent of males indicated that they would not join a company with a bad reputation. Alternatively, many would be tempted by significantly lower pay if a company possessed a stellar reputation and corporate culture.

When it comes to filling in talent gaps, experts at Aon Hewitt recommend that HR proactively utilize analytical tools to measure human capital like financial capital, both in terms of rigor and leverage. Meanwhile, companies should initiate special skill training and development programs for both new hires and managers to meet future needs. The training could include coding, programming, data analytics, communications and negotiations.

Rankings in the regions	
Asia Pacific	8
Europe	13
Latin America	16
Middle East & Africa	4
North America	3

For retention, senior management and HR should rethink their value propositions. A recent Aon Hewitt report says that 43 percent of millennials plan to actively look for a new job in 2015 because they feel that their employers' current values focus on more organizational-oriented themes, such as teamwork, profit and customer satisfaction, rather than more relationship-oriented values, including work/home balance, employee recognition, loyalty and respect.

Another related, but often overlooked program, is recognition. Aon Hewitt's People Trends 2017 indicates that having an effective recognition program can create up to a 40 percent difference in engagement. Some companies are now focusing on finding unique reward options for employees who are seeking to trade off free time for salary while others are designing around telecommuting. Organizations that provide for work-life balance will likely have more appeal as workplace preferences continue to change. In short, organizations that effectively incorporate talent strategies in their overall business planning can definitely gain an edge in the war for talent.

In short, organizations that fail to strategically and aggressively address the challenges in attracting and retaining talent could lose the competitive edge needed to thrive. At the same time, those who effectively incorporate talent strategies in their overall business planning can certainly gain an edge in the war for talent.

8

Business Interruption

Rankings in previous surveys

2017	8
2015	7
2013	7
2011	5
2009	3
2007	2

In its most recent report, Aon Benfield's Impact Forecasting team has recorded 315 natural catastrophe events in 2016 that generated economic losses of USD 210 billion. Overall, just 26 percent (USD 54.6 billion) were covered by insurance. The top three perils—earthquakes (Japan), flooding (i.e. China and the state of Louisiana), and severe weather (i.e. Hurricane Matthew and winter storms in the U.S.)—combined for 70 percent of all losses.[xxxviii] In a separate report by Swiss Re, economic losses resulting from man-made disasters in 2016 were estimated to be USD 7 billion.[xxxix]

During these calamities, business interruption typically accounts for a much higher proportion of the overall loss than it did 10 years ago. According to a study by Allianz Global Corporate & Specialty, the average large business interruptions insurance claim has now exceeded USD 2.4 million, 36 percent higher than the corresponding average property damage claim.[xi]

These staggering facts underscore the serious threat of business interruption, a common and traditionally key risk for organizations around the world. Business interruption has been on the Top 10 list since Aon's survey started in 2007, when respondents ranked it at number two. Over the years, it has slipped slightly in rankings because organizations feel that they have a better handle on this risk due to their rising awareness, management's more diligent efforts in risk preparedness and prevention, better catastrophe modeling /scenario analyses, and the availability of more robust risk transfer options.

However, as supply chains have become global, there is increasing interdependency among companies. Such an industrial environment is heavily affected by uncertainties that have the potential to turn into unexpected disruptions. Moreover, the focus on inventory reduction and lean supply chains has also amplified such potential. For example, China's city of Tianjin, the world's third largest port, is home to offices of more than half of the Fortune 500 companies, and to factories that build cars, airplane parts, and mobile phones. As one can imagine, the deadly explosions in 2015 caused supply chain disruptions for companies around the globe.[xii]

More importantly, the proliferation of cyber attacks has also added new urgency. Cyber attacks can now cause electric outages, shut down assembly lines, block customers from placing orders, and break the equipment companies rely on to run their business. Officials at Lloyd's estimate that cyber-related business interruption could cost businesses as much as USD 400 billion a year.[xiii] In Aon's "Cyber—the fast moving target" report released in April 2016, participants identified business interruption, both during a breach and post-breach, as the top cyber risk concern.[xiiii]

In addition to cyber, one cannot ignore those occurring at a smaller scale, such as arson, a bomb threat, a fire or a power outage, all of which could cause disruptions on a scale equal to a natural hazard or a well-coordinated act of terrorism. In 2014, a contract worker set fire at an airport control center in Chicago, resulting in more than 2,000 flights being cancelled. Incidents like this highlight such vulnerability.

Aon industry expert view:

"The risk of business interruption has evolved into a Top 10 risk for global manufacturers due to the increasing complexity of manufacturing processes and reliance on complex global supply chains."

Mike Stankard, National Practice Leader, Heavy Industry/ Manufacturing, U.S.

Rankings in the regions	
Asia Pacific	5
Europe	9
Latin America	2
Middle East & Africa	13
North America	8

Participants in the aviation industry—vulnerable to interruptions caused by inclement weather conditions, computer glitches, mechanical problems, terrorist attacks, power outages and unruly customers—rate business interruption at number two. The same ranking is registered for the lumber, furniture, paper and packaging sector, which depends heavily on natural resources and weather. Both as suppliers and customers, this industry is more susceptible to interruptions that could lead to high cost and loss of customers.

From a regional perspective, organizations in Latin America rank the risk at number two because the region has experienced a range of natural hazards, including droughts, earthquakes, hurricanes, forest fires, tsunamis, and volcanoes. According to a 2016 report by USAID, El Niño and La Niña, extreme phases of natural climate cycles periodically exacerbate the weather conditions there. Unplanned urban expansion, environmental degradation, and poor land-use management also increase populations' vulnerability to natural hazards.

Companies in Asia Pacific also rank it high—the costly earthquakes in Japan, which produced USD 31 billion in losses and the summer floods in China that caused USD 20 billion in damage—have probably contributed to this perception.

As the pace of climate change accelerates, severe weather conditions could become more frequent and unpredictable. This could increase the frequency of business interruption. The interconnectivity of the global economy has amplified the negative impact of a single business interruption event. At the same time, with the emergence of cyber attacks, businesses can no longer use a litany of traditional risk management solutions to handle business interruptions. New innovative solutions are needed.

Even though disasters, both natural and manmade, are not always preventable, having a new and innovative business continuity plan in place can help reduce the impact of both traditional and new emerging risks related to business interruptions. More importantly, risk managers should take a much broader view of risks, both traditional and emerging ones, and address them in a coordinated and holistic way.

Being prepared enables companies to keep running during natural disasters, cyber or terrorist attacks or reputational crisis. While insurance can cover some of the property and operational losses, it cannot make up for the loss of market share, reputational damages, declines in investor confidence, or share price drop caused by an interruption. Therefore, a fortified and robust business continuity plan will boost a company's resilience in the event of a business interruption.

9

Political Risk/Uncertainties

Rankings in previous surveys

2017	**9**
2015	15
2013	10
2011	14
2009	18
2007	21

Political risk/uncertainties is one of the biggest enemy of business. It increases the cost of doing business and long-term investment and trade decisions cannot be made under uncertainty.

Participants in Aon's 2017 Global Risk Management Survey certainly share this view. Political risk/uncertainties, ranked at number 15 in 2015, has now re-entered the Top 10 risk list, at number nine. At the same time, risk readiness has also declined from 39 percent in 2015 to the current 27 percent.

The elevated ranking and decreased risk readiness could be largely driven by the persistent and escalating tumult in 2016, which CNBC called "one of the biggest years for political risks." Interestingly, developed nations, which were traditionally associated with political stability, are now becoming new sources of volatilities and uncertainties that worry global businesses.

The prolonged economic stagnation and overwhelming refugee crisis in Europe spawned the rise of the populism, or far right movement, that could cause turmoil in upcoming elections in countries like France, Germany, and Italy. Of course, the uncertainty of UK's Brexit negotiations not only led to turbulence in the financial market, but also aggravated concerns over the future of the EU. In the U.S., President Trump's pledge to “balance” trade with other countries—his decision to dismantle the Trans-Pacific Partnership or the TPP, which aimed to slash tariffs and foster trade among 12 Asian and North American countries, and his attempt to renegotiate NAFTA—have increased the prospect of global trade wars.

Rankings in the regions	
Asia Pacific	10
Europe	15
Latin America	5
Middle East & Africa	2
North America	21

In Russia, Vladimir Putin's brand of nationalism is now menacing the Baltic States. Meanwhile, China's continued saber rattling in the South China's Sea has further strained its relations with Japan. The move by the U.S. to deploy a missile defense system known as THAAD to protect South Korea against a belligerent North Korea has put China and the U.S. at a dangerous military tipping point. The Chinese government also initiated a series of retaliatory actions against South Korean companies, forcing many to close their operations in major Chinese cities. Meanwhile, in the Middle East, the on-going civil war in Syria continues to deepen the refugee crisis for Europe and its neighboring countries.

Events like these can no doubt undermine business confidence, deter investment, disrupt their operations and obstruct talent acquisition.

From a regional perspective, companies in the Middle East consider political risk/uncertainties as a number two risk because the region has been wrecked with Islamic extremism, eroding power and influence of the state, faltering oil prices, and age-old sectarian conflicts.

For surveyed organizations in Latin America, political risk/uncertainties is ranked at number five. In Mexico, policies changes in the U.S. have caused jitters in the business community and led to currency fluctuations. In Brazil, political corruption scandals have stalled its economic reforms while Venezuela's economic hardships could give rise to widespread social disorder and trigger instability throughout Latin America.

Aon industry expert view:

"Over the years the rankings have remained relatively stable for the public sector based solely around risks that threaten their ability to continue operations. Government entities will continue to rank political risk/uncertainties and related items that may in any way shut down an essential service as their top risks."

William Becker, National Practice Leader, Public Sector, U.S.

Rankings by industry	
Energy (Oil, Gas, Mining, Natural Resources)	2
Government	3
Agribusiness	5

Participants in Asia Pacific rate political risk/uncertainty at number 10 amid the rising tension between China and Japan over trade, and territorial disputes relating to the South China Sea. South Korea is facing an election following the impeachment of its president. Meanwhile, North Korea is now destabilizing the region through a series of nuclear and ballistic missile tests, and the Philippines' anti-American policy has altered the geopolitical landscape there.

European companies rank this risk at number 15. However, a detailed analysis indicates that for all European countries, except Italy, the average ranking actually stands at number seven, Italy at number 33. It shows that political uncertainties created by the Brexit vote and several upcoming elections have impacted their risk perceptions. Italian respondents, many representing smaller companies, probably have a relatively high tolerance for political tumult, which has plagued the country in recent years, and their priorities are mostly related to issues like slow economic recovery, immigration, competition and talent shortages.

Surveyed companies in North America also see political risk/uncertainties as a low-level risk because of their confidence in the political institutions and the support by many U.S. companies for Trump's domestic efforts to reduce corporate taxes, increase infrastructure investment and simplify regulations.

For a breakdown by industry, the energy sector lists political risk/uncertainties at number two due to the recent political turbulence and violence in the oil producing and mineral rich countries/regions. Aon's 2017 Terrorism and Political Risk Maps reveal that this sector was the most terrorism-affected sector in 2016, accounting for 42 percent of attacks globally, so the high ranking comes as no surprise. Governmental organizations rank it at number three because political chaos has a direct impact on governmental organizations, in terms of priorities, budgets and reputation.

Political risk/uncertainties will continue to plague companies in the coming years. The biggest source of political risks/uncertainties could be the U.S., where President Trump's new policy initiatives could trigger more controversies both at home and overseas.

Meanwhile, Europe's populist movements are on the cusp of sweeping far-right, nationalist and Euroskeptic parties into power in France, Germany and possibly also Italy. With the UK having triggered Article 50 on March 29, 2017 to start its exit from the EU, more uncertainty across Europe is expected. The relations between the U.S. and Russia, and between Russia and EU remain volatile. In Asia, China's Communist Party will choose its top leaders in 2017 and China's escalating tension with its neighbors could lead to geopolitical conflicts.

The rise of populism and trade protectionism will likely have significant economic and social implications globally, according to various political risk experts. Therefore companies should consistently assess their political and security risks for all the countries and regions in which they operate or transact business, allowing them to make informed decisions and protect their operations and investments.

10

Third Party Liability (including E&O)

Rankings in previous surveys

2017	10
2015	8
2013	13
2011	13
2009	9
2007	3

For the second consecutive year, third party liability—injury, loss or damage caused to a third party as a result of action, inaction, or negligence—has been cited a significant concern for organizations around the world, at number 10 this year.

Historically, the fluctuations in ranking (from number three in 2007 to number 13 in 2013 and number 10 in 2017) have less to do with an overall reduction in third party liability claims. Rather, they reflect a shift in business objectives. As the economy plunges or recovers, business objectives have followed suit and other risks have taken higher priority.

Experts say third party liability concerns are indicative of a general trend in many jurisdictions toward increasing liability claims. While U.S.-based companies have been known for operating in a more litigious business environment than their peers (U.S. citizens spend about 2.2 percent of gross domestic product, roughly USD 310 billion a year, or about USD 1,000 for each person on tort litigation, the highest in the world,[xlvi]), the influence of U.S.-style risk and legal liability is increasingly evident in Australia, Europe and Latin America.

As the "compensation culture" gains a greater global foothold, the litigiousness of the general public is growing, especially since governments in the emerging economies have broadened their consumer right laws and begun imposing stricter liability on product and service providers. As a result, class or group actions and punitive damage awards are now being increasingly seen in countries outside of the U.S.

In the 2016 Litigation Trends Annual Survey, Norton Rose Fulbright, an international law firm, polled more than 600 corporate attorneys representing companies across 24 countries. Respondents in North America and Australia listed class action lawsuits as the top litigation issue. The U.K. ranked an overall increase in litigation—including frivolous lawsuits—as a number one concern.[xlvii]

Meanwhile, regardless of their domicile, organizations that export products and services to the U.S. also must deal with the immediate issue of increased exposure, and must proactively consider the impact on their risk profile.

Rankings by industry	
Conglomerate	1
Government	6
Chemicals	7
Health Care	7
Restaurants	7

As expected, third-party liability is perceived as a number one risk by participants who represent conglomerates, which have experienced a large share of third party class action lawsuits, not only in developed nations, but in emerging markets, where changing laws have made it easier to file claims. In addition, the Norton Rose Fulbright survey revealed a correlation between a company's revenue and its litigation spending, with the median average at 0.1 percent of total revenue.

Aon industry expert view:

"Restaurants traditionally have multiple exposures to third party liability risk from foodborne illness, personal injury, discrimination, liquor liability, and various employment suits. In addition to their own exposure, a franchisor may be held vicariously responsible due to the acts of a franchisee, thus highlighting the importance of correctly managing this risk."

Tami Griffin, National Practice Leader, Food System, Agribusiness & Beverage, U.S.

Government entities also consider third party liability as a significant risk due to a rising wave of lawsuits. For example, Governing Magazine says that New York City spends USD 720 million on lawsuits every year, and in 2016, Los Angeles was urged to issue up to USD70 million in bonds to cover some of its large lawsuits. Meanwhile, a group of lawyers in China is suing the Chinese government for its failure to control smog in Beijing.

Other industries that rank third-party liability including error & omissions in the Top 10 list—chemicals, healthcare and life sciences, professional and personal services, construction, and metal milling and manufacturing—have traditionally been known for their heightened exposure to this risk either through the services they provide, or the products they manufacture and sell. For example, studies show that life sciences and healthcare companies around the world have reported the highest incidence of lawsuits against them in recent years.

Geographically, third party liability continues to be a dominant issue for both multinationals and local companies in Latin America. The U.S. Chamber Institute of Legal Reform recently released two reports that examined new and proposed changes to civil legal systems across Latin America and their likely impacts.
It identified several troubling trends in the region, including laws that encourage lawsuits with questionable merit, financial incentives to bring mass litigation, and an unbalancing civil justice system that tips the scales between plaintiffs and defendants.[xliv]

Rankings in the regions	
Asia Pacific	16
Europe	12
Latin America	4
Middle East & Africa	23
North America	12

Overall, experts say that the risk of third party litigation will continue to rise. External factors such as amendments to class action laws in Europe, Asia Pacific and Latin America could further increase the exposure to third party claims. Besides, the proliferation of third party litigation funding (wealthy individuals and companies helping to fund lawsuits that plaintiffs might not otherwise bring) will certainly worsen the situation in terms of frequency and severity.

While the insurance market for third party liability has generally been stable and responsive to risk exposures, businesses should use the combination of sound risk management techniques and a solid supplemental insurance policy to protect themselves against the threat of a third-party liability lawsuit.

Top 10 risks

	2017	2015	2013	2011	2009	2007
1	Damage to reputation/ brand	Damage to reputation/ brand	Economic slowdown/ slow recovery	Economic slowdown	Economic slowdown	Damage to reputation/ brand
2	Economic slowdown/ slow recovery	Economic slowdown/ slow recovery	Regulatory/ legislative changes	Regulatory /legislative changes	Regulatory/ legislative changes	Business interruption
3	Increasing competition	Regulatory/ legislative changes	Increasing competition	Increasing competition	Business interruption	Third-party liability
4	Regulatory/ legislative changes	Increasing competition	Damage to reputation/ brand	Damage to reputation/ brand	Increasing competition	Distribution or supply chain failure
5	Cyber crime/hacking/ viruses/malicious codes	Failure to attract or retain top talent	Failure to attract or retain top talent	Business interruption	Commodity price risk	Market environment
6	Failure to innovate/ meet customer needs	Failure to innovate/meet customer needs	Failure to innovate/ meet customer needs	Failure to innovate/ meet customer needs	Damage to reputation/ brand	Regulatory/ legislative changes
7	Failure to attract or retain top talent	Business interruption	Business interruption	Failure to attract or retain top talent	Cash flow/liquidity risk	Failure to attract or retain staff
8	Business interruption	Third-party liability	Commodity price risk	Commodity price risk	Distribution or supply chain failure	Market risk (financial)
9	Political risk/ uncertainties	Computer crime/ hacking/viruses/ malicious codes	Cash flow/liquidity risk	Technology failure/ system failure	Third-party liability	Physical damage
10	Third party liability (including E&O)	Property damage	Political risk/ uncertainties	Cash flow/liquidity risk	Failure to attract or retain top talent	Merger/acquisition/ restructuring Failure of disaster recovery plan

Top 10 risks by region

	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
1	Damage to reputation/brand	Economic slowdown/ slow recovery	Damage to reputation/brand	Economic slowdown/ slow recovery	Cyber Crime/hacking/viruses/ malicious codes
2	Regulatory/legislative changes	Damage to reputation/brand	Business interruption	Political risk/undertainties	Damage to reputation/brand
3	Increasing competition	Increasing competition	Economic slowdown/ slow recovery	Failure to innovate/meet customer needs	Failure to attract or retain top talent
4	Failure to innovate/meet customer needs	Regulatory/legislative changes	Third party liability (including E&O)	Failure to attract or retain top talent	Regulatory/legislative changes
5	Economic slowdown/ slow recovery	Failure to innovate/ meet customer needs	Social responsbility/ sustainability	Damage to reputation/brand	Economic slowdown/ slow recovery
6	Business interruption	Cyber crime/hacking/viruses/ malicious codes	Political risk/undertainties	Regulatory/legislative changes	Failure to innovate/meet customer needs
7	Cyber crime/hacking/viruses/ malicious codes	Commodity price risk	Regulatory/legislative changes	Increasing competition	Increasing competition
8	Failure to attract or retain top talent	Counter party credit risk	Exchange rate fluctuation	Cyber crime/hacking/viruses/ malicious codes	Business interruption
9	Major project failure	Business interruption	Environmental risk	Exchange rate fluctuation	Weather/natural disasters
10	Political risk/undertainties	Directors & Officers personal liability	Cash flow/liquidity risk	Directors & Officers personal liability	Property damage

Note: Where ranking for a risk was tied, the All respondent ranking was utilized to determine which risk would be ranked higher.

Top three risks by industry

Industry	Key Risk 1	Key Risk 2	Key Risk 3
Agribusiness	Commodity price risk	Weather/natural disasters	Regulatory/legislative changes
Aviation	Cyber crime/hacking/viruses/ malicious codes	Business interruption	Major project failure
Banks	Damage to reputation/brand	Regulatory/legislative changes	Cyber crime/hacking/viruses/ malicious codes
Beverages	Damage to reputation/brand	Regulatory/legislative changes	Distribution or supply chain failure
Chemicals	Economic slowdown/slow recovery	Increasing competition	Business interruption
Conglomerate	Third party liability (incl. E&O)	Damage to reputation/brand	Economic slowdown/slow recovery
Construction	Economic slowdown/slow recovery	Increasing competition	Major project failure
Consumer Goods Manufacturing	Damage to reputation/brand	Economic slowdown/slow recovery	Exchange rate fluctuation
Education	Cyber crime/hacking/viruses/ malicious codes	Damage to reputation/brand	Regulatory/legislative changes
Energy (Oil, Gas, Mining, Natural Resources)	Commodity price risk	Regulatory/legislative changes	Political risk/uncertainties
Food Processing and Distribution	Damage to reputation/brand	Commodity price risk	Business interruption
Government	Cyber crime/hacking/viruses/ malicious codes	Damage to reputation/brand	Political risk/uncertainties
Health Care	Regulatory/legislative changes	Damage to reputation/brand	Increasing competition
Hotels and Hospitality	Damage to reputation/brand	Economic slowdown/slow recovery	Cyber crime/hacking/viruses/ malicious codes
Insurance, Investment and Finance	Damage to reputation/brand	Regulatory/legislative changes	Cyber crime/hacking/viruses/ malicious codes
Life Sciences	Regulatory/legislative changes	Failure to innovate/ meet customer needs	Damage to reputation/brand
Lumber, Furniture, Paper and Packaging	Economic slowdown/ slow recovery	Business interruption	Commodity price risk
Machinery and Equipment Manufacturers	Economic slowdown/ slow recovery	Increasing competition	Failure to innovate/ meet customer needs
Metal Milling and Manufacturing	Economic slowdown/ slow recovery	Commodity price risk	Increasing competition
Non-Aviation Transportation Manufacturing	Damage to reputation/brand	Increasing competition	Economic slowdown/ slow recovery
Non-Aviation Transportation Services	Damage to reputation/brand	Increasing competition	Economic slowdown/ slow recovery
Nonprofits	Damage to reputation/brand	Regulatory/legislative changes	Economic slowdown/ slow recovery

Top three risks by industry continued

Industry	Key Risk 1	Key Risk 2	Key Risk 3
Power/Utilities	Regulatory/legislative changes	Cyber crime/hacking/viruses/ malicious codes	Damage to reputation/brand
Printing and Publishing	Failure to innovate/ meet customer needs	Damage to reputation/brand	Economic slowdown/ slow recovery
Professional and Personal Services	Damage to reputation/brand	Economic slowdown/ slow recovery	Regulatory/legislative changes
Real Estate	Economic slowdown/ slow recovery	Damage to reputation/brand	Property damage
Restaurants	Economic slowdown/ slow recovery	Damage to reputation/brand	Increasing competition
Retail Trade	Damage to reputation/brand	Increasing competition	Economic slowdown/ slow recovery
Rubber, Plastics, Stone and Cement	Failure to innovate/ meet customer needs	Increasing competition	Commodity price risk
Technology	Failure to innovate/ meet customer needs	Damage to reputation/brand	Failure to attract or retain top talent
Telecommunications and Broadcasting	Damage to reputation/brand	Increasing competition	Cyber crime/hacking/viruses/ malicious codes
Textiles	Economic slowdown/ slow recovery	Counter party credit risk	Damage to reputation/brand
Wholesale Trade	Increasing competition	Economic slowdown/ slow recovery	Counter party credit risk

Note: Where ranking for a risk was tied, the All respondent ranking was utilized to determine what risk would be ranked higher.

Risk readiness for top 10 risks

The majority of companies have plans in place to address and manage risks. However, the downward trend that emerged in the previous survey has continued: average risk readiness for the current top 10 risks has dropped from 58 percent in 2015 to 53 percent in 2017. It slipped six percent from the 2013 survey where it was at 59 percent.

Given that the current survey has included the largest number of participants, with better industry and demographic representation, the result is worrisome. Basically, we have surveyed more people than before and they appear to be less ready to manage the top 10 risks.

The biggest drop in risk readiness between 2013 and 2017 is for economic slowdown/slow recovery, which has declined from 54 percent to 30 percent. One explanation could be that the uneven and unpredictable recovery of the global economy has made it increasingly difficult to prepare for and mitigate risks impacts. Meanwhile, risk readiness for increasing competition has also experienced a sharp drop, from 65 percent to 45 percent—globalization and the increasing connectivity through the internet of things have intensified competition for global businesses.

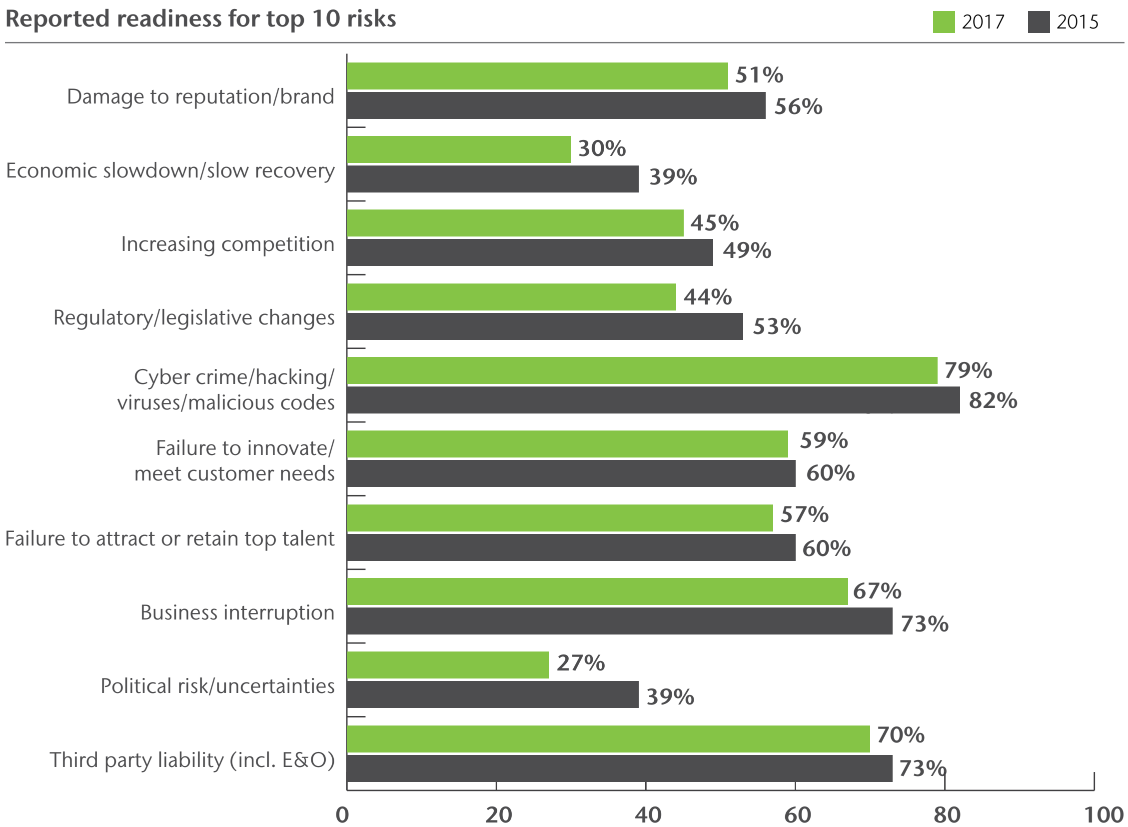
It is worth noting that the level of preparedness for the two insurable risks on the top 10 list—business interruption and third party liability—have been above average. At the same time, cyber crime/hacking/viruses/malicious codes, a partially insurable risk, registers the highest reported readiness (79 percent). The result could be driven by the rising awareness of cyber security in recent years.

Surprisingly, however, surveyed organizations feel the least prepared for political risk/uncertainties, which is also partially insurable. The number stands only at 27 percent, a 12 percent decrease from that in 2015. This could reflect a series of recent events, such as the Brexit vote, the U.S. elections, the political corruption scandals in Latin America, and the wars in the Middle East, all of which have helped create more political uncertainties around the world.

In a breakdown by industry, aviation has improved its readiness by six percent while lumber, furniture, paper & packaging and wholesale trade remain unchanged. However, risk readiness for the rest of the industry groups has slipped. The overall drop could be attributable to the challenges that corporate leadership is facing in managing the constantly evolving and mostly uninsurable risks in times of greater uncertainty.

Geographically, the level of reported preparedness in Asia Pacific has improved, whereas all other regions have shown decreasing levels of readiness. Latin America sits at the bottom of the risk readiness chart.

Reported readiness for top 10 risks



Average reported readiness for top 10 risks by region

Region	2017	2015	2013
Asia Pacific	66%	64%	63%
North America	63%	69%	60%
Europe	47%	58%	55%
Latin America	46%	57%	55%
Middle East & Africa	58%	68%	75%

Average reported readiness for top 10 risks by industry

Industry	2017	2015	Change
Agribusiness	46%	66%	-20%
Aviation	66%	60%	6%
Banks	59%	69%	-11%
Beverages	55%	N/A	N/A
Chemicals	50%	65%	-14%
Conglomerate	54%	71%	-17%
Construction	40%	51%	-11%
Consumer Goods Manufacturing	49%	63%	-15%
Education	55%	N/A	N/A
Energy (Oil, Gas, Mining, Natural Resources)	62%	72%	-10%
Food Processing and Distribution	52%	62%	-10%
Government	41%	59%	-18%
Health Care	53%	74%	-21%
Hotels and Hospitality	56%	60%	-4%
Insurance, Investment and Finance	64%	60%	4%
Life Sciences	44%	68%	-24%
Lumber, Furniture, Paper and Packaging	64%	64%	0%
Machinery and Equipment Manufacturers	51%	66%	-14%
Metal Milling and Manufacturing	50%	58%	-7%
Non-Aviation Transportation Manufacturing	50%	56%	-6%
Non-Aviation Transportation Services	47%	50%	-3%
Nonprofits	50%	N/A	N/A
Power/Utilities	59%	70%	-11%
Printing and Publishing	35%	N/A	N/A
Professional and Personal Services	51%	62%	-10%
Real Estate	53%	68%	-15%
Restaurants	46%	N/A	N/A
Retail Trade	59%	72%	-12%
Rubber, Plastics, Stone and Cement	49%	58%	-10%
Technology	59%	66%	-7%
Telecommunications and Broadcasting	49%	69%	-20%
Textiles	41%	N/A	N/A
Wholesale Trade	41%	41%	0%

Losses associated with top 10 risks

Contrary to popular belief that the decline in risk readiness normally corresponds with the rise in loss of income, the Aon survey shows that losses from the top 10 risks have decreased as well, from 27 percent in 2015 to 24 percent in 2017, the lowest average percentage of income losses since the beginning of the survey.

The lack of a straight forward correlation between levels of risk preparedness and loss of income can be attributed to the interconnectivities and difficulty quantifying losses related to some of these risks. At the same time, one cannot discount the "luck factor" in terms of losses since our request for insight was based on a 12-month period.

A closer examination of the losses related to the top 10 risk shows that most of the insurable or partially insurable risks—business interruption, third party liability and political risks and uncertainties—have all experienced decreases in losses of income.

For cyber crime, however, the losses have risen slightly. The frequencies and levels of this risk are escalating so fast (hackers are using more sophisticated methods and targeting more organizations) that risk management solutions have not yet been created fast enough to prevent or mitigate losses.

However, in comparison with the other risks on the top 10 list, cyber has actually incurred the smallest losses, along with damage to brand/reputation, at only 10 percent. Losses for these risks could be underestimated since they are sometimes difficult to identify and measure. Again, rising public awareness and the increasing efforts by companies to implement risk mitigation techniques could also be contributing factors.

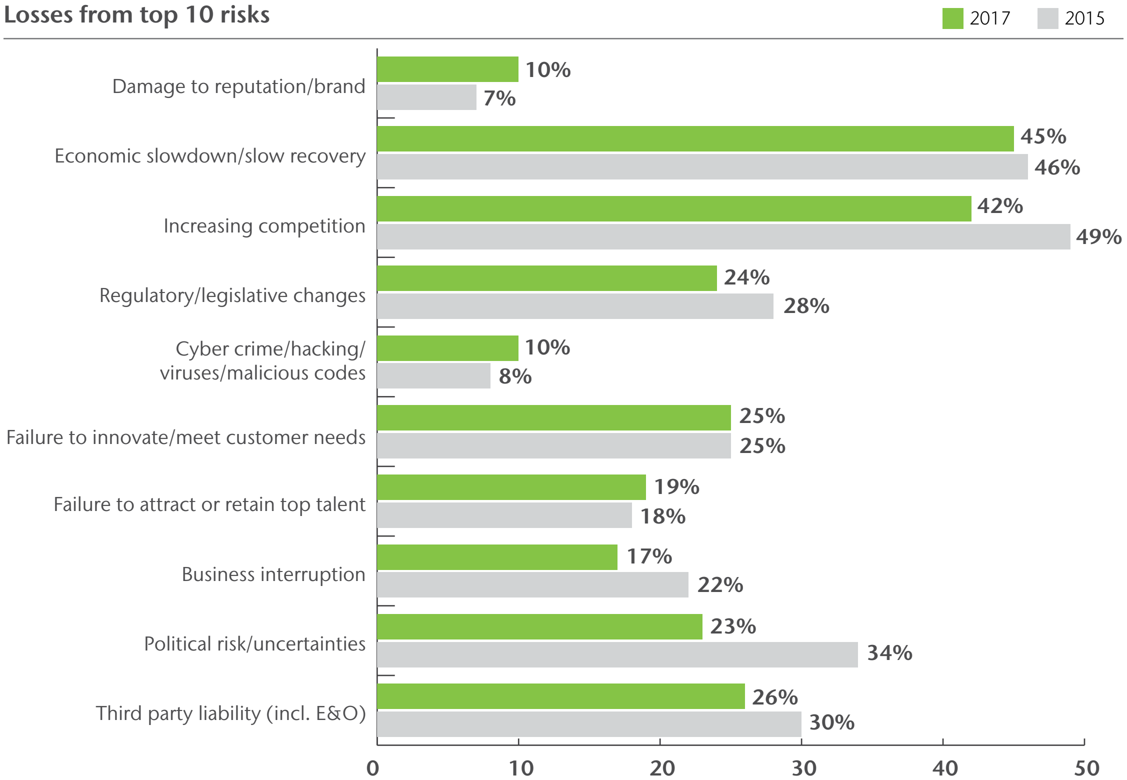
If we check previous surveys for the loss of income history related to damage to reputation/brand, we will see an interesting trajectory: About nine percent of respondents reported loss of income for damage to reputation/brand in 2009. The percentage jumped to 60 percent in 2011 and then 40 percent in 2013 before dipping to seven percent in 2015 and 10 percent in 2017.

This arc for damage to reputation/brand roughly corresponds with an economic cycle. In the immediate aftermath of the 2009 recession, organizations struggled with their reputation/brand, which was tarnished by a series of government investigations and rising public resentment against corporate greed and massive layoffs. As the economic recovery picks up, public perception is changing and companies have also become more proactive in managing reputational risks.

From a regional perspective, Middle East & Africa is the only region reporting increased loss of income during the last 12 months, probably due to the slow economic recovery, the volatile commodity market and rising political risks there. Other regions have reported their smallest loss of income associated with the top 10 risks.

In a breakdown by industry, participants in the chemicals, conglomerates, energy, insurance, investment & finance, non-aviation transportation services and technology sectors have seen increases in loss of income.

Losses from top 10 risks



Average reported loss of income from top 10 risks by region

Region	2017—Average loss of income experienced from top 10 risk in the last 12 months	2015—Average loss of income experienced from top 10 risk in the last 12 months	2013—Average loss of income experienced from top 10 risk in the last 12 months
Latin America	22%	27%	39%
Europe	23%	25%	42%
Asia Pacific	23%	29%	41%
North America	24%	29%	43%
Middle East & Africa	31%	28%	50%

Average reported loss of income from top 10 risks by industry

Industry	2017—Average loss of income experienced from top 10 risk in the last 12 months	2015—Average loss of income experienced from top 10 risk in the last 12 months	Change
Agribusiness	18%	34%	-17%
Aviation	18%	28%	-10%
Banks	23%	33%	-10%
Beverages	21%	N/A	N/A
Chemicals	22%	18%	4%
Conglomerate	23%	20%	3%
Construction	18%	30%	-12%
Consumer Goods Manufacturing	25%	24%	1%
Education	24%	N/A	N/A
Energy (Oil, Gas, Mining, Natural Resources)	30%	24%	6%
Food Processing and Distribution	23%	29%	-5%
Government	17%	25%	-8%
Health Care	29%	31%	-2%
Hotels and Hospitality	27%	32%	-5%
Insurance, Investment and Finance	27%	18%	9%
Life Sciences	19%	23%	-4%
Lumber, Furniture, Paper and Packaging	26%	29%	-3%
Machinery and Equipment Manufacturers	28%	28%	0%
Metal Milling and Manufacturing	23%	27%	-5%
Non-Aviation Transportation Manufacturing	21%	25%	-4%
Non-Aviation Transportation Services	28%	27%	1%
Nonprofits	21%	N/A	N/A
Power/Utilities	25%	27%	-2%
Printing and Publishing	34%	N/A	N/A
Professional and Personal Services	26%	28%	-2%
Real Estate	19%	20%	0%
Restaurants	31%	N/A	N/A
Retail Trade	27%	33%	-6%
Rubber, Plastics, Stone and Cement	19%	31%	-12%
Technology	26%	22%	4%
Telecommunications and Broadcasting	24%	30%	-6%
Textiles	21%	N/A	N/A
Wholesale Trade	16%	22%	-6%

Top 10 risks in the next three years

In every survey, we ask participants to project the top 10 risks facing their organization in the next three years. It is an interesting proposition because their projections not only enable us to gauge what might be on the horizon, but also allow us to compare what they have predicted with the actual results, and see how risk perceptions change and what factors are driving this change.

In the 2015 Aon survey, participants correctly predicted economic slowdown as the number two risk, and political risk/uncertainties as number nine. However, two risks, commodity price and corporate governance/compliance, were projected to be on the top 10 list and have ended up at number 11 and 23 respectively.

Other risks in the 2017 top 10 list were correctly predicted, but not exactly in the right order. For example, participants thought damage to brand and reputation would be at number five, but it has actually maintained its number one spot this year. Cyber crime/hacking/viruses/malicious codes, ranked at nine in 2015 and predicted to be seven, actually has jumped to number five in the current survey. North American companies have rated it as a number one risk. This reflects the fast evolving cyber security landscape and the growing concerns about rampant data breaches that companies have been experiencing since the last survey.

Looking forward to the next three years, an interesting new entrant to the top 10 list is disruptive technologies/ innovation—a groundbreaking innovation or technological product that shakes up the industry or creates a completely new market. It is ranked at 20 in the 2017 survey and with the rapid pace of technological advancement, participants are expecting more game changers like the internet of things or drones in the next three years. Understandably, technology and telecommunications and broadcasting industries predict it to be a number two risk.

For 2020, participants expect economic slowdown/ recovery to be the number one concern. This could indicate their wavering confidence in the current slow economic recovery. Many businesses believe that another recession could strike again following a 10-year recovery and sharp slowdowns in emerging countries such as China. The other top projected risks include: increasing competition, failure to innovate/meet customer needs and political risk/uncertainties. Given the escalating frequency and scales of cyber attacks, cyber crime/ hacking/ viruses/malicious codes will also remain on the top 10 list. Meanwhile, the overall ranking for damage to reputation/brand is expected to fall from number one to number six in 2020.

From an industry perceptive, 31 of the 33 industry groups have reported a projected change in their top risk ranking, with cyber crime/hacking/ viruses/malicious codes as well as political risk/ uncertainties and disruptive technology/innovation becoming more prominent on the top 10 list, thus validating the fact that risks are always evolving, and organizations must constantly monitor and evaluate them, and make corresponding plans.

2017

Projected 2020

Where current top 10 risks are projected to be in 3 years

Risk description	Risk rank	Top ten risks 3 years from now
Damage to reputation/brand	1	6
Economic slowdown/slow recovery	2	1
Increasing competition	3	2
Regulatory/legislative changes	4	4
Cyber crime/ hacking/ viruses/ malicious codes	5	5
Failure to innovate/meet customer needs	6	3
Failure to attract or retain top talent	7	7
Business interruption	8	21
Political risk/uncertainties	9	8
Third party liability (incl. E&O)	10	16

Top 5 risks in the next 3 years by region

	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
1	Failure to innovate/ meet customer needs	Economic slowdown/ slow recovery	Economic slowdown/ slow recovery	Economic slowdown/ slow recovery	Cyber crime/ hacking/viruses/ malicious codes
2	Damage to reputation/brand	Increasing competition	Political risk/ uncertainties	Political risk/ uncertainties	Failure to innovate/ meet customer needs
3	Regulatory/ legislative changes	Failure to innovate/ meet customer needs	Exchange rate fluctuation	Failure to innovate/ meet customer needs	Failure to attract or retain top talent
4	Increasing competition	Regulatory/ legislative changes	Regulatory/ legislative changes	Failure to attract or retain top talent	Economic slowdown/slow recovery
5	Economic slowdown/ slow recovery	Commodity price risk	Damage to reputation/brand	Increasing competition	Regulatory/ legislative changes

Note: Where ranking for a risk was tied, the Projected All ranking was utilized to determine what risk would be ranked higher.

Top 3 risks in the next 3 years by industry

Industry	Key Risk 1	Key Risk 2	Key Risk 3
Agribusiness	Commodity price risk	Weather/natural disasters	Increasing competition
Aviation	Workforce shortage	Increasing competition	Cyber crime/hacking/ viruses/malicious codes
Banks	Regulatory/ legislative changes	Cyber crime/hacking/ viruses/malicious codes	Damage to reputation/ brand
Beverages	Damage to reputation/ brand	Economic slowdown/ slow recovery	Commodity price risk
Chemicals	Increasing competition	Economic slowdown/ slow recovery	Commodity price risk
Conglomerate	Economic slowdown/ slow recovery	Increasing competition	Major project failure
Construction	Economic slowdown/ slow recovery	Increasing competition	Workforce shortage
Consumer Goods Manufacturing	Economic slowdown/ slow recovery	Increasing competition	Failure to innovate/ meet customer needs
Education	Cyber crime/hacking/ viruses/ malicious codes	Damage to reputation/ brand	Regulatory/ legislative changes
Energy (Oil, Gas, Mining, Natural Resources)	Commodity price risk	Regulatory/ legislative changes	Economic slowdown/ slow recovery
Food Processing and Distribution	Damage to reputation/ brand	Failure to innovate/ meet customer needs	Commodity price risk
Government	Damage to reputation/ brand	Cyber crime/hacking/ viruses/ malicious codes	Failure to attract or retain top talent
Health Care	Regulatory/legislative changes	Cyber crime/hacking/ viruses/ malicious codes	Failure to innovate/ meet customer needs
Hotels and Hospitality	Economic slowdown/ slow recovery	Cyber crime/hacking/ viruses/ malicious codes	Political risk/ uncertainties
Insurance, Investment and Finance	Failure to innovate/ meet customer needs	Regulatory/ legislative changes	Cyber crime/hacking/ viruses/ malicious codes
Life Sciences	Regulatory/ legislative changes	Merger/acquisition/ restructuring	Failure to innovate/ meet customer needs
Lumber, Furniture, Paper and Packaging	Economic slowdown/ slow recovery	Commodity price risk	Political risk/uncertainties
Machinery and Equipment Manufacturers	Economic slowdown/ slow recovery	Increasing competition	Globalization/ emerging markets
Metal Milling and Manufacturing	Economic slowdown/ slow recovery	Commodity price risk	Increasing competition

Top 3 risks in the next 3 years by industry (cont'd)

Industry	Key Risk 1	Key Risk 2	Key Risk 3
Non-Aviation Transportation Manufacturing	Economic slowdown/ slow recovery	Failure to innovate/ meet customer needs	Product recall
Non-Aviation Transportation Services	Increasing competition	Economic slowdown/ slow recovery	Failure to innovate/ meet customer needs
Nonprofits	Political risk/uncertainties	Failure to innovate/ meet customer needs	Regulatory/ legislative changes
Power/Utilities	Regulatory/ legislative changes	Cyber crime/hacking/ viruses/malicious codes	Major project failure
Printing and Publishing	Failure to innovate/ meet customer needs	Failure to attract or retain top talent	Cash flow/ liquidity risk
Professional and Personal Services	Economic slowdown/ slow recovery	Failure to attract or retain top talent	Damage to reputation/ brand
Real Estate	Economic slowdown/ slow recovery	Property damage	Failure to innovate/ meet customer needs
Restaurants	Economic slowdown/ slow recovery	Damage to reputation/ brand	Workforce shortage
Retail Trade	Economic slowdown/ slow recovery	Increasing competition	Failure to innovate/ meet customer needs
Rubber, Plastics, Stone and Cement	Economic slowdown/ slow recovery	Increasing competition	Failure to innovate/ meet customer needs
Technology	Failure to innovate/ meet customer needs	Disruptive technologies/ innovation	Failure to attract or retain top talent
Telecommunications and Broadcasting	Failure to innovate/meet customer needs	Increasing competition	Disruptive technologies/ innovation
Textiles	Economic slowdown/ slow recovery	Increasing competition	Failure to innovate/ meet customer needs
Wholesale Trade	Increasing competition	Economic slowdown/ slow recovery	Commodity price risk

Note: Where ranking for a risk was tied, the Projected All ranking was utilized to determine what risk would be ranked higher

Risk Management Department and Function

Risk Management Department and Function

Who is handling risk?

While Aon's survey demonstrates the common risk themes shared across regions and industry sectors, it also provides insight into how organizations are organizing themselves to manage risk.

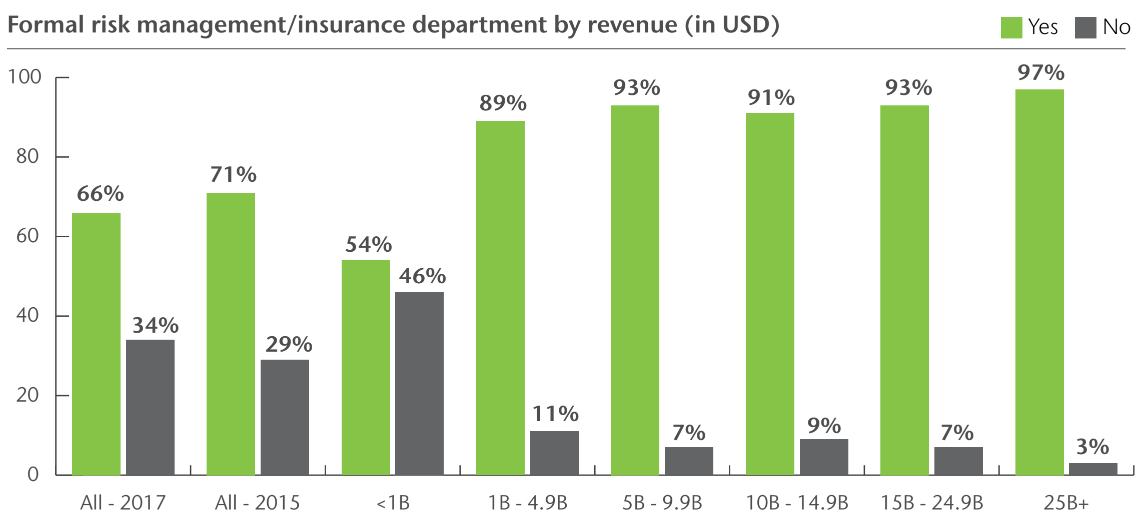
The responsibility for risk management and the reporting line for risk management function vary by organization. Their structure is greatly influenced by an organization's loss exposure levels and senior management's perception of the value of risk management. At the same time, the organization's mission and the type of exposures it faces also play a part in determining the reporting line or responsibility.

Compared to 2015, the number/percentage of firms with formal risk management departments has decreased five percent. This change could reflect this year's respondent profile change—an increasing number of smaller companies have participated in this year's survey.

The larger a company's revenue, the more likely it is to have a formal risk management department. In this survey, more than 90 percent of companies greater than USD1 billion in revenue report this dedicated function. Large companies also have more formalized approaches to governance, with the board of directors or a board committee establishing policies on risk oversight and management.

However, the situation is less clear for smaller companies (with turnovers under USD1 billion). About 54 percent report having a formal risk management/insurance department. Individual organizations normally invest in a dedicated risk function when they have reached a threshold where there is sufficient complexity of operations and associated risk exposure.

Formal risk management/insurance department by revenue (in USD)

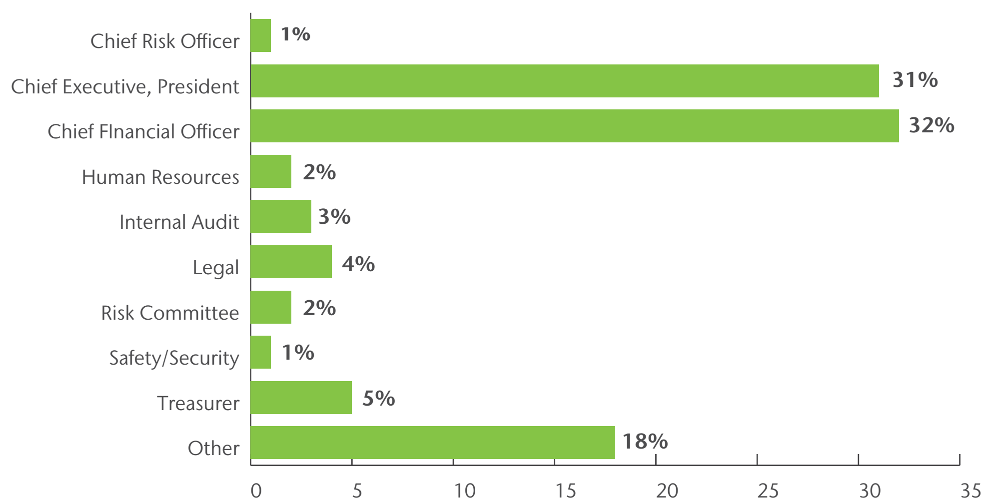


Overall, whether the organization has a risk management department or not, responsibility for risk aligns most often with the finance department or the chief executive/president. Among organizations with a risk management department, 47 percent say their risk management department reports to the finance/treasury/chief financial officer. In the case where no formal risk management department exists, 32 percent say their CFO handles risk management and 31 percent say it is their CEO/president. The remainder of the survey sample reveals a fragmented picture of risk responsibility.

Organizational reporting for risk management

Department	2017	2015	2013
CFO/Finance/Treasury	47%	49%	51%
Chief Executive, President	15%	13%	12%
Chief Risk Officer (CRO)	10%	8%	11%
Other	9%	8%	8%
General Counsel/Legal	8%	11%	9%
Chief Administrative Officer	4%	2%	1%
Human Resources	2%	2%	2%
Company Secretary	1%	2%	2%
Controller	1%	2%	1%
Internal Audit	1%	2%	3%
Safety/Security	1%	1%	1%

Responsibility for risk when no insurance department



The size of the risk management department

Since the start of Aon's Global Risk Management survey in 2007, risk management department staffing levels have remained static, with 75 percent respondents saying that they maintain one to five employees.

As indicated in this and previous surveys, the size of a risk management department generally corresponds with an organization's revenue size. However, it is interesting to note some exceptions. A few large companies do have disproportionately small risk management teams, reflecting their internal resource constraints or their election to outsource some risk management activities to third party vendors.

By industry, banks and insurance, investment and finance companies report having large risk teams, along with 'asset intensive' operations such as energy, power and transportation, and 'people intensive' operations such as retail, health care, education and governmental agencies.

Department staffing by revenue (in USD)

Staffing level	All—2017	All—2015	<1B	1B–4.9B	5 B–9.9B	10B–14.9B	15B –24.9B	25B+
1-2	46%	46%	60%	37%	27%	21%	21%	17%
3-5	29%	31%	24%	35%	48%	33%	23%	20%
6-8	10%	8%	7%	15%	11%	19%	15%	15%
9-11	5%	5%	3%	3%	7%	5%	13%	15%
12-15	3%	3%	2%	3%	3%	5%	10%	4%
16-20	2%	2%	1%	1%	2%	2%	5%	9%
21-25	1%	1%	0%	2%	1%	5%	3%	4%
26-30	1%	1%	1%	1%	0%	5%	0%	2%
31-35	0%	0%	0%	0%	0%	0%	3%	2%
36-40	0%	0%	0%	1%	0%	0%	0%	0%
Over 40	3%	3%	1%	2%	1%	7%	8%	13%

Department staffing by industry

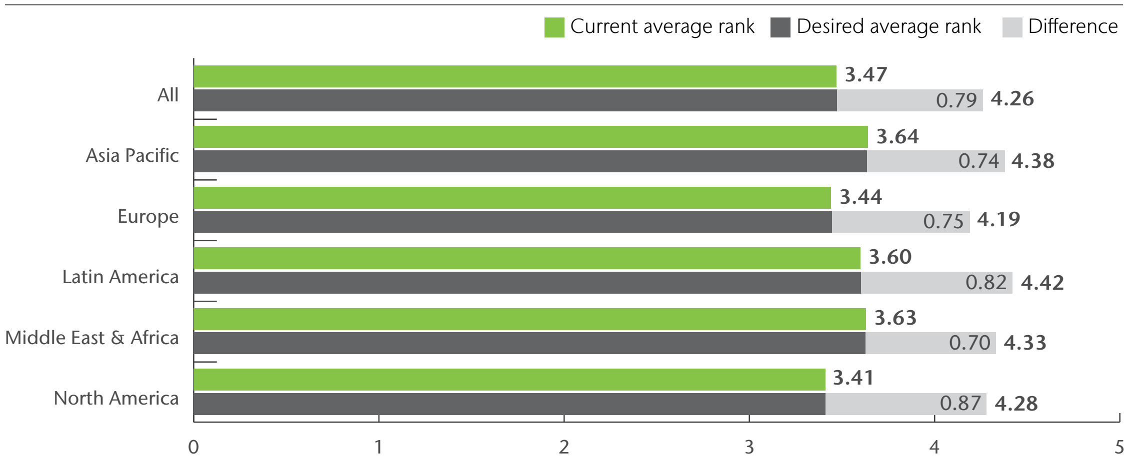
Industry	1-2	3-5	6-8	9-11	12-15	16-20	21-25	26-30	31-35	36-40	41+
Agribusiness	57%	29%	7%	0%	4%	4%	0%	0%	0%	0%	0%
Aviation	26%	68%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Banks	20%	22%	9%	6%	6%	6%	4%	4%	2%	0%	22%
Beverages	40%	47%	0%	7%	0%	0%	0%	0%	0%	0%	7%
Chemicals	45%	32%	13%	5%	5%	0%	0%	0%	0%	0%	0%
Conglomerate	46%	23%	15%	15%	0%	0%	0%	0%	0%	0%	0%
Construction	57%	23%	6%	8%	4%	1%	1%	0%	0%	0%	0%
Consumer Goods Manufacturing	45%	38%	2%	10%	0%	2%	0%	2%	0%	0%	0%
Education	39%	39%	6%	6%	3%	3%	0%	0%	0%	3%	0%
Energy (Oil, Gas, Mining, Natural Resources)	31%	32%	15%	13%	6%	2%	0%	2%	0%	0%	0%
Food Processing and Distribution	59%	19%	16%	3%	0%	3%	0%	0%	0%	0%	0%
Government	33%	28%	21%	7%	2%	5%	0%	0%	2%	0%	2%
Health Care	40%	33%	12%	7%	3%	3%	0%	1%	0%	0%	0%
Hotels and Hospitality	43%	14%	21%	0%	7%	7%	0%	0%	0%	0%	7%
Insurance, Investment and Finance	30%	31%	16%	4%	3%	1%	5%	3%	1%	0%	6%
Life Sciences	69%	15%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Lumber, Furniture, Paper and Packaging	68%	27%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Machinery and Equipment Manufacturers	78%	9%	13%	0%	0%	0%	0%	0%	0%	0%	0%
Metal Milling and Manufacturing	52%	35%	3%	3%	0%	6%	0%	0%	0%	0%	0%
Non-Aviation Transportation Manufacturing	53%	32%	5%	5%	0%	0%	0%	0%	0%	0%	5%
Non-Aviation Transportation Services	35%	42%	13%	2%	2%	0%	2%	0%	2%	0%	2%
Nonprofits	64%	23%	9%	0%	0%	5%	0%	0%	0%	0%	0%
Power/Utilities	41%	32%	11%	5%	6%	1%	0%	1%	0%	0%	2%
Printing and Publishing	86%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional and Personal Services	46%	30%	7%	4%	2%	0%	2%	0%	0%	2%	7%
Real Estate	56%	25%	14%	0%	6%	0%	0%	0%	0%	0%	0%
Restaurants	67%	22%	11%	0%	0%	0%	0%	0%	0%	0%	0%
Retail Trade	47%	20%	8%	4%	10%	4%	0%	2%	0%	0%	6%
Rubber, Plastics, Stone and Cement	71%	29%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Technology	50%	33%	5%	5%	2%	0%	0%	0%	0%	0%	5%
Telecommunications and Broadcasting	40%	40%	12%	0%	0%	4%	4%	0%	0%	0%	0%
Textiles	69%	13%	13%	0%	6%	0%	0%	0%	0%	0%	0%
Wholesale Trade	74%	18%	5%	0%	3%	0%	0%	0%	0%	0%	0%

Perceived rank of risk management vs. desired rank of risk management within organizations

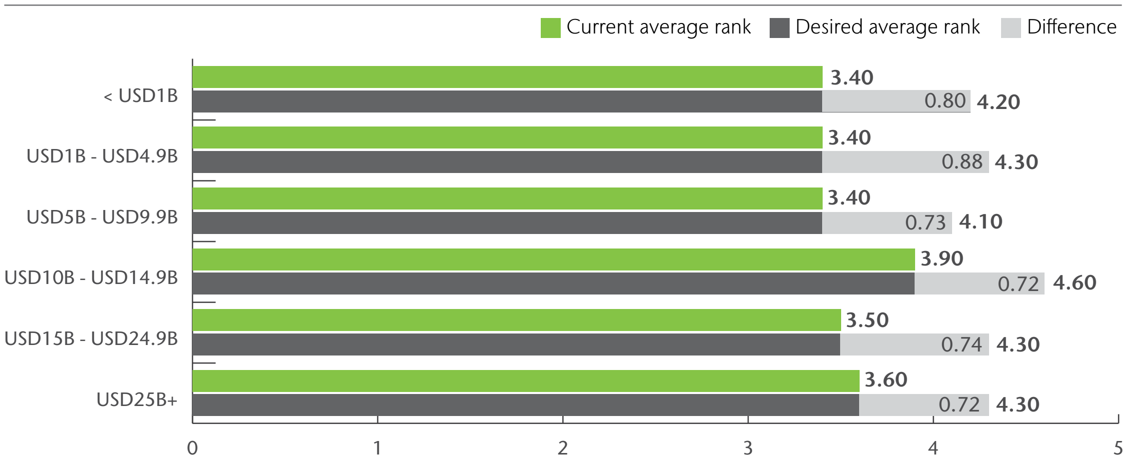
In this new question, respondents were asked to rank the profile of the risk management function within their organizations on a scale of one to five. The average score stands at 3.47, which means "good," but, when it comes to how risk management function "should" be ranked, participants give it a score of 4.26, indicating that they desire it to be rated at least 22 percent higher on the subjective scale.

Anecdotal evidence suggests that the overall profile of the risk function in an organization is often influenced by the misperception of risk management as a cost to businesses rather than as an enabler. This means that risk management professionals could devote more time to promoting and demonstrating the value they bring to the business.

Current and desired rank of risk management by region



Current and desired rank of risk management by revenue (in USD)



Approach to Risk Management, Risk Assessment and cross-functional collaboration

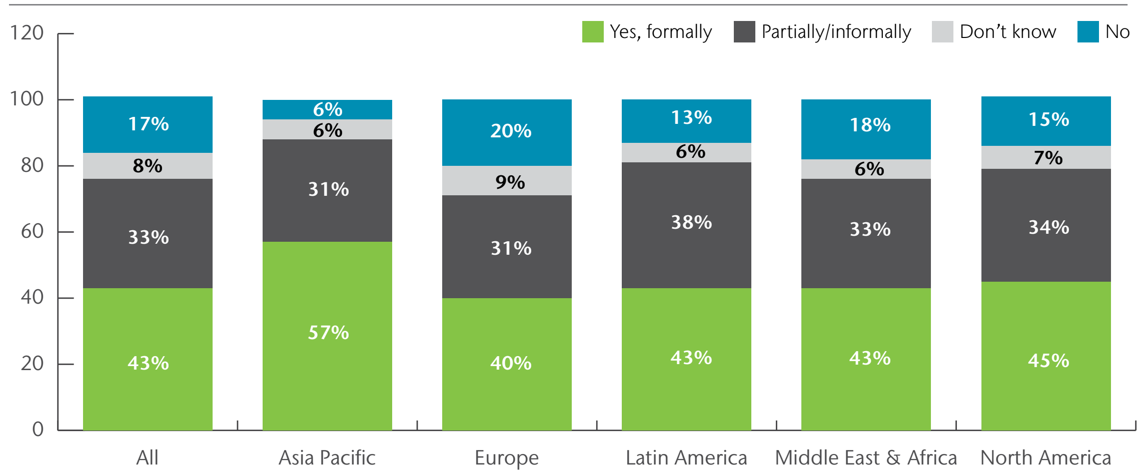
Approach to Risk Management, Risk Assessment and cross-functional collaboration

Policies on risk oversight and management

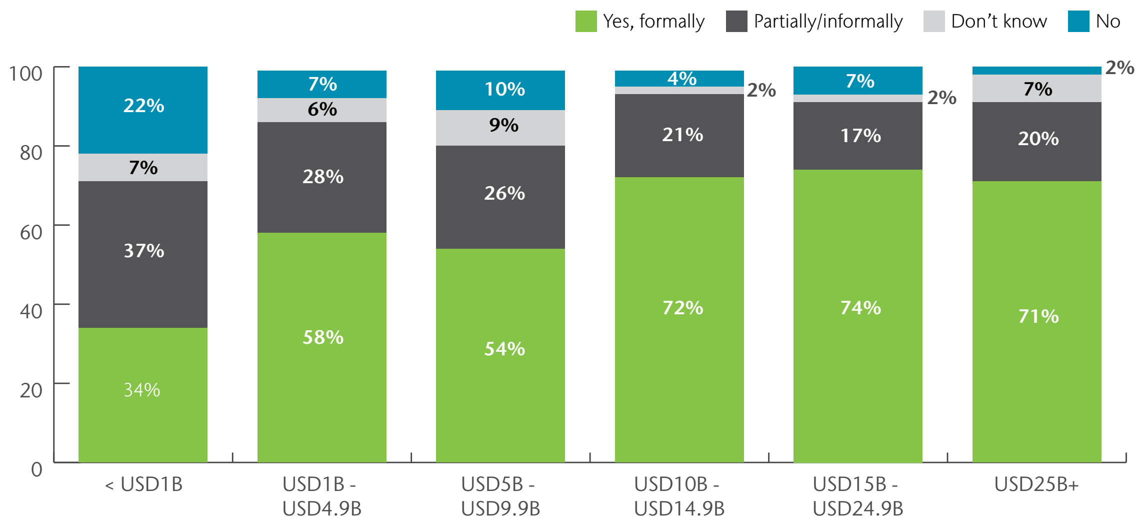
Seventy-six percent of respondents say they have adopted either a formal or partially formal approach to risk oversight and management at a board level. Large companies, about 96 percent with annual revenue greater than USD10 billion, tend to take more formalized approaches to governance, with the board of directors or a board committee establishing policies on risk oversight and management. The result is expected since many of these organizations are likely publically traded and subject to disclosure requirements on their risk oversight and management practices.

On the other hand, 22 percent of smaller to medium size organizations with annual revenue less than USD1 billion indicate that they have no formal risk oversight and management policy and some don't even know if one exists. This is quite startling. Regardless of organization sizes or the nature of their operations, good business practice dictates that one needs to have some types of established policies on risk oversight and management, even if the approach to risk may be an informal one.

Policies on risk oversight and management by region



Policies on risk oversight and management by revenue (in USD)



Cross-functional collaboration and key risk management decisions—who is involved?

About 71 percent of respondents say that their organizations engage in cross-functional collaboration in risk management. While the high percentage is very encouraging, it also highlights the fact that almost one in three organizations still take a more siloed approach.

Nowadays, many organizations operate with multiple subsidiaries around the world, across numerous business functions, with thousands of colleagues and processes. The scope and nature of such operational structures means that multiple risk owners are now spread across corporate functions and operating divisions. Such complexities have made it very difficult for organizations to understand and respond to their integrated risk profile through a single business function or geography.

Aon's Risk Maturity Index Insight Report, developed in close collaboration with the Wharton School at the University of Pennsylvania, has identified three key factors that differentiate high and low risk maturity operations:

– *Awareness* of the complexity of risk

– *Agreement* on strategy and action

– *Alignment* to execute

The report also points out that increasing performance along these dimensions requires a robust process that focuses on:

– the *identification* of strengths and weaknesses

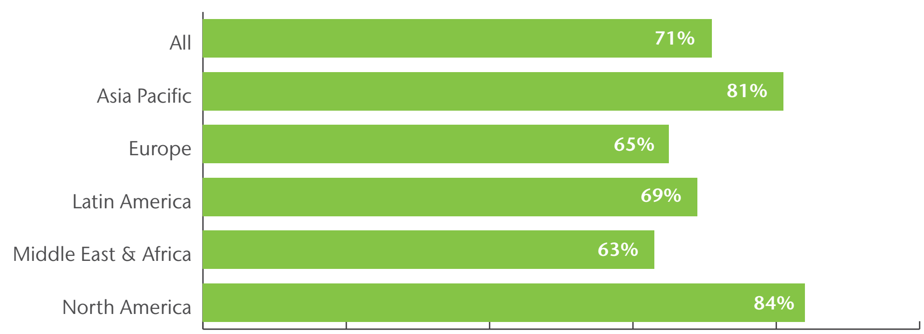
– strong *communication* of risks and risk management across functions and at all levels of the organization

– building *consensus* regarding the steps to be taken

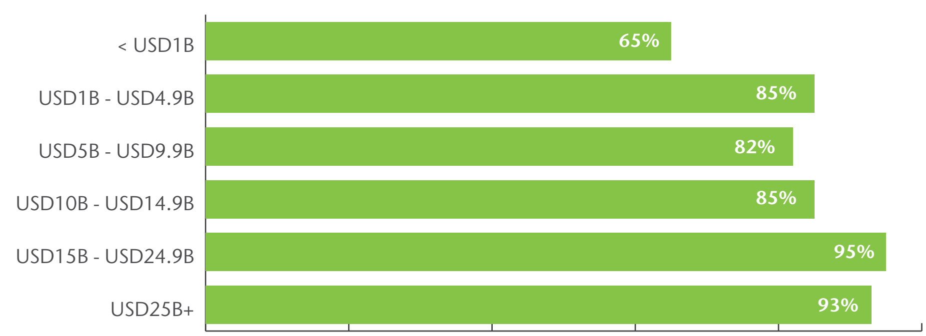
Involving people performing different functions and at various levels in the risk maturity assessment process enables a company to check its current status against these dimensions, providing the foundation for identifying areas for ongoing improvement.

Once again, Aon's survey shows that larger organizations with more complex operational structures tend to adopt more sophisticated practices to risk oversight and management, with over 86 percent saying they engage in cross-functional collaboration, compared to 65 percent for smaller to medium sized companies.

Risk management program with cross-functional input on key risks by region



Risk management program with cross-functional input on key risks by revenue (in USD)



How key risk decisions are primarily made

In the 29 percent of surveyed organizations that do not take a cross-functional approach to risk management, the chief executive, president, finance/treasury/chief financial officer or risk management/insurance department are responsible for key risk decisions.

Regionally, about 36 percent of surveyed North American companies rely on their risk management/ insurance department to independently make risk management decisions. However, in Europe, Asia and the Middle East & Africa, organizations (about 34 to 45 percent) defer to their chief executives or presidents for key risk management decisions.

In organizations with no formal risk management department, the responsibility resides most often in the office of the chief executive/ president (45 percent) and finance/treasury/ chief financial officer (21 percent).

How key risk decisions are primarily made by region

Category	Overall	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Independently by the Chief Executive, President	37%	35%	45%	16%	34%	17%
Independently by the Finance/Treasury/ Chief Financial Officer	20%	15%	18%	31%	14%	27%
Independently by the Risk Management/ Insurance Department Function	14%	10%	9%	27%	3%	36%
Independently by Other	12%	25%	10%	16%	21%	10%
Independently by the Chief Administrative Officer	4%	0%	5%	4%	3%	1%
Independently by the General Counsel/Legal	3%	0%	3%	0%	0%	4%
Independently by the Company Secretary	2%	5%	3%	0%	0%	0%
Independently by the Chief Risk Officer	2%	5%	1%	0%	10%	4%
Independently by the Safety/Security	2%	0%	2%	4%	3%	0%
Independently by the Controller	2%	0%	1%	2%	10%	0%
Independently by the Internal Audit	1%	5%	1%	0%	0%	0%
Independently by the Human Resources	1%	0%	1%	0%	0%	0%

How key risk decisions are primarily made by revenue (in USD)

Category	<1B	1B–4.9B	5B–9.9B	10B–14.9B	15B–24.9B	25B+
Independently by the Risk Management/ Insurance Department Function	11%	28%	47%	43%	0%	50%
Independently by the Chief Risk Officer	2%	2%	0%	14%	50%	0%
Independently by the Finance/Treasury/ Chief Financial Officer	20%	21%	18%	14%	50%	0%
Independently by the Chief Administrative Officer	5%	0%	0%	0%	0%	0%
Independently by the Chief Executive, President	41%	19%	24%	14%	0%	50%
Independently by the Company Secretary	3%	0%	0%	0%	0%	0%
Independently by the Controller	2%	0%	0%	0%	0%	0%
Independently by the General Counsel/Legal	2%	7%	6%	0%	0%	0%
Independently by the Human Resources	1%	0%	0%	0%	0%	0%
Independently by the Internal Audit	1%	0%	0%	14%	0%	0%
Independently by the Safety/Security	2%	2%	0%	0%	0%	0%
Independently by Other	12%	21%	6%	0%	0%	0%

Additional functions involved in key risk management decisions

As referenced earlier in this report, cross-functional collaboration in risk oversight and management enables organizations to effectively determine the strengths and weaknesses of their risk mitigation programs and build consensus around actionable steps to address evolving risks.

When considering which stakeholders to include in the risk conversation and risk decision making process, 73 percent of surveyed organizations say they involve the executive management team, 67 percent their finance team and more than 40 percent a combination of their IT, HR, operations and legal teams. Regionally, the three most common groups to be involved in cross-functional discussions are executive management, finance, legal and compliance.

Additional functions involved in key risk management decisions by region

Category	Overall	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Executive Management	73%	80%	70%	56%	79%	81%
Finance	67%	75%	63%	73%	69%	72%
Legal & Compliance	56%	65%	44%	58%	55%	79%
Operations	47%	65%	35%	48%	61%	65%
Human Resources	42%	53%	36%	46%	45%	50%
Information Technology	41%	53%	34%	24%	48%	56%
Risk Committee/Council	35%	53%	27%	36%	53%	43%
Internal Audit	33%	49%	28%	30%	40%	40%
Corporate Strategy	32%	51%	28%	34%	34%	36%

Additional functions involved in key risk management decisions by revenue (in USD)

Category	<1B	1B – 4.9B	5B – 9.9B	10B – 14.9B	15B – 24.9B	25B+
Corporate Strategy	28%	42%	40%	37%	28%	46%
Executive Management	71%	76%	81%	83%	73%	74%
Finance	65%	71%	74%	73%	65%	85%
Human Resources	40%	51%	35%	59%	45%	50%
Information Technology	37%	50%	42%	61%	43%	56%
Internal Audit	26%	49%	43%	61%	45%	44%
Legal & Compliance	46%	77%	73%	83%	60%	80%
Operations	43%	56%	63%	61%	58%	59%
Risk Committee/Council	26%	50%	50%	44%	60%	56%

Identifying and assessing major risks

Risk experts have long recommended that companies employ a structured, enterprise-wide risk identification and assessment process to tackle current and emerging risks. However, Aon's 2017 survey reveals a discouraging trend. Overall, only 40 percent of surveyed organizations utilize a structured, enterprise-wide method to identify risks (down from 46 percent in 2015) while 33 percent use this process to assess their risks (down from 40 percent in 2015).

When we stratify the findings by organization size, the numbers look more encouraging: 59 percent of organizations with revenue greater than USD1 billion adopt a structured enterprise-wide method to identify risks while more than half of them also use this process to assess their risks.

Since participants were allowed to pick multiple answers, a large majority indicated using two or more methods for identifying risk and assessing risk. This is consistent with what we have observed in practice.

In addition to cross-functional collaboration, organizations with advanced risk maturity also use sophisticated quantification methods. Analysis from Aon's Risk Maturity Index Insight Report shows that organizations with higher levels of risk maturity successfully incorporate advanced risk quantification techniques into their risk decision-making process. However, in this survey, only 28 percent say they use this process to assess major risks. Given the increasingly complex and changing risk landscape, this low percentage is discouraging.

Identification of major risks by region

Category	All 2017	All 2015	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Senior management judgment and experience	52%	62%	59%	46%	42%	62%	66%
Board and/or management discussion of risk during annual planning, risk assessment or other processes	51%	63%	64%	49%	51%	53%	51%
Risk information from other function-led processes (e.g. internal audit, disclosure, compliance, etc.)	46%	54%	66%	42%	38%	41%	52%
Structured enterprise-wide risk identification process	40%	46%	50%	37%	38%	51%	42%
Industry analysis, external reports	33%	36%	40%	28%	23%	40%	46%
No formalized process	15%	3%	7%	18%	24%	11%	9%

Identification of major risks by revenue (in USD)

Category	<1B	1B–4.9B	5B–9.9B	10B–14.9B	15B –24.9B	25B+
Structured enterprise-wide risk identification process	30%	56%	57%	63%	61%	68%
Board and/or management discussion of risk during annual planning, risk assessment or other processes	52%	51%	50%	43%	46%	55%
Senior management judgment and experience	53%	56%	53%	48%	44%	59%
Risk information from other function-led processes (e.g. internal audit, disclosure, compliance, etc.)	43%	52%	54%	46%	51%	57%
Industry analysis, external reports	31%	37%	38%	43%	46%	45%
No formalized process	17%	11%	5%	9%	10%	5%

Assessment of major risks by region

Category	All 2017	All 2015	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Senior management judgment and experience	51%	65%	67%	47%	38%	60%	62%
Board and/or management discussion of risk during annual planning, risk assessment or other processes	45%	56%	54%	45%	48%	47%	40%
Structured enterprise-wide risk assessment process supported by a standard toolkit and methodology	33%	40%	44%	32%	34%	34%	34%
Consult with external service provider/advisor	31%	32%	35%	27%	31%	25%	40%
Risk modeling / risk quantification analysis	28%	34%	35%	26%	27%	25%	33%
No formalized process	16%	2%	8%	18%	18%	15%	11%

Assessment of major risks by revenue (in USD)

Category	<1B	1B–4.9B	5B–9.9B	10B–14.9B	15B –24.9B	25B+
Senior management judgment and experience	52%	58%	51%	52%	34%	53%
Board and/or management discussion of risk during annual planning, risk assessment or other processes	47%	42%	38%	41%	39%	36%
Structured enterprise-wide risk assessment process supported by a standard toolkit and methodology	29%	32%	32%	41%	51%	36%
Consult with external service provider/advisor	26%	48%	48%	52%	39%	64%
Risk modeling / Risk quantification analysis	21%	42%	35%	35%	49%	55%
No formalized process	19%	9%	7%	9%	7%	4%

Proactivity of organizations in identifying, assessing and managing current and emerging risks

In their 2012 Harvard Business Review article titled "Managing Risks: A New Framework," Professors Robert Kaplan and Anette Mikes emphasize the importance for organizations to have active and cost-effective risk management processes. They urge managers to think systematically about the multiple categories of risks they face and institute appropriate processes for each, rather than relying exclusively on rules and compliance.

Aon's Risk Maturity Index Insight Report reaches similar conclusions. The report says that identifying, assessing and managing risks proactively is a critical variable that distinguishes higher risk maturity organizations from others. Those with high levels of risk maturity generally register superior stock price performance, lower stock price volatility and superior financial performance.

In this survey, respondents were asked to rate on a scale of one to 10 how proactively organizations identify, assess and manage risks. The average score is six, which equates to "need improvement". Larger organizations with revenue greater than USD1 billion have achieved a higher score of seven. While these results illustrate a solid commitment to a proactive approach to risk management across survey respondents, they also suggest the existence of an "effectiveness gap" when evaluated together with other findings in the survey.

Some best practices in proactive risk management include:

- establishing a structured enterprise-wide risk identification and assessment process
- implementing a risk management performance system that assesses effectiveness across a combination of quantitative and qualitative measures
- integrating advanced risk quantification techniques with outputs from the risk decision making process

Proactivity of organization in identification, assessment and management of current and emerging risks by region

Region	Score 1 – 4 High Need for Improvement	Score 5 – 7 Need for Improvement	Score 8-10 Lower Need for Improvement	Average Score
All	18%	54%	28%	6.26
Asia Pacific	10%	58%	32%	6.73
Europe	20%	56%	24%	6.06
Latin America	11%	52%	37%	6.64
Middle East & Africa	29%	49%	22%	5.63
North America	15%	52%	33%	6.54

Proactivity of organization in identification, assessment and management of current and emerging risks by revenue (in USD)

Region	Score 1 – 4 High Need for Improvement	Score 5 – 7 Need for Improvement	Score 8-10 Lower Need for Improvement	Average Score
< USD 1B	21%	56%	23%	6.02
USD 1B – USD 4.9B	15%	54%	31%	6.51
USD 5B – USD 9.9B	5%	57%	37%	6.95
USD 10B – USD 14.9B	2%	52%	46%	7.20
USD 15B – USD 19.9B	9%	61%	30%	6.52
USD 20B – USD 24.9B	17%	44%	39%	6.94
USD 25B+	0%	44%	56%	7.64

Methods of evaluating effectiveness of risk management

The Aon Risk Maturity Index Insight Report has demonstrated that organizations with higher levels of risk maturity generally invest time and effort in reviewing the performance and effectiveness of their risk management programs. Measuring program effectiveness involves the following key areas:

- Reduction of Total Cost of Risk
- Alignment of strategic risk management activities with the risk management plan and overall strategic objectives of the organization
- Identification of best practices and expansion of their application
- Identification of weak practices and taking correctional steps
- Performance benchmarking against peers

In this survey, 63 percent of respondents say they measure some level of effectiveness and among those who do, 62 percent use more than one method. It is somewhat discouraging that 37 percent of all respondents indicate they do not measure the effectiveness of their risk management programs. This represents an increase from 29 percent in 2015. In addition, between 13 percent and 28 percent of surveyed organizations with annual revenue greater than USD1 billion do not review if their risk control programs are effective.

Regionally, companies in North America and Asia Pacific perform slightly better, with 25 percent and 28 percent of organizations saying they do not measure the effectiveness of risk management, compared to 38 percent for Latin America and 43 percent for Europe and Middle East & Africa.

In North America, the most common method to assess risk management effectiveness is the reduction of Total Cost of Risk (46 percent), followed by comparing historical results of safety and loss control programs (i.e. decreasing losses, faster return-to-work), and comparing historical results from risk events against effectiveness of risk management programs. In Asia Pacific and Middle East & Africa, surveyed organizations tend to rely more on the identification and tracking of risk management involvement within the organization (41 percent and 32 percent respectively). There is no one stand out method deployed by organizations in Europe and Latin America.

Methods of evaluating effectiveness of risk management by region

Category	All 2017	All 2015	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Do not measure effectiveness	37%	29%	28%	43%	38%	43%	25%
Compare historical results from risk events against effectiveness of risk management programs	30%	36%	37%	25%	28%	22%	43%
Lower Total Cost of Risk	27%	32%	21%	23%	13%	8%	46%
Identify/track involvement of risk management within organization	27%	34%	41%	24%	26%	32%	29%
Compare historical results of safety and loss control programs (i.e. decreasing losses, faster return-to-work)	24%	31%	27%	15%	24%	17%	45%
Evaluate the extent to which risk concepts are integrated into business investments and strategic decisions	23%	12%	35%	19%	27%	28%	26%
Identify income generated or other financial/strategic benefits associated with a company captive	7%	9%	7%	4%	10%	13%	11%
Other	4%	5%	3%	3%	4%	4%	5%

Methods of evaluating effectiveness of risk management by revenue (in USD)

Category	<1B	1B – 4.9B	5B – 9.9B	10B–14.9B	15B –24.9B	25B+
Do not measure effectiveness	44%	28%	26%	13%	20%	15%
Lower Total Cost of Risk	23%	30%	46%	42%	40%	57%
Compare historical results from risk events against effectiveness of risk management programs	26%	33%	47%	56%	38%	52%
Compare historical results of safety and loss control programs (i.e. decreasing losses, faster return-to-work)	18%	32%	36%	44%	40%	44%
Identify/track involvement of risk management within organization	22%	36%	33%	47%	43%	39%
Evaluate opportunity cost associated with business investments that would not have been possible without risk management	20%	35%	19%	31%	35%	28%
Identify income generated or other financial/strategic benefits associated with a company captive	4%	9%	13%	20%	23%	28%
Other	2%	6%	2%	4%	5%	7%

Key Controls and Mitigation

Measuring Total Cost of Risk (TCOR)

Less than a quarter of survey respondents indicate that they are tracking and managing all components of their Total Cost of Risk or TCOR. There has been a continued downward trend in the measurement of TCOR and each of its components in the past six Aon surveys. This is troubling as it is difficult to manage what is not measured and if this basic process gets lost it could be laying the groundwork for future challenges.

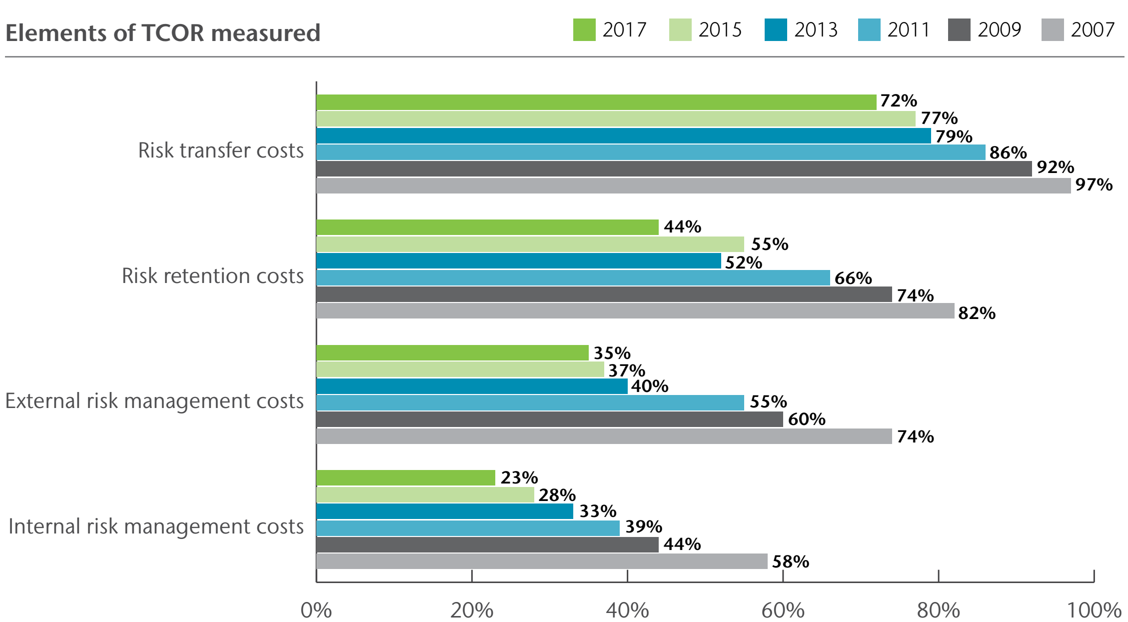
Consistently measuring and managing TCOR is considered one of the most effective ways to evaluate an organization's risk management strategies. An organization's TCOR comprises risk transfer costs (insurance premiums), risk retention costs (retained losses and claims adjustment costs), external (brokers, consultants and other vendors) and internal (staff and related) risk management costs.

When asked how companies measure each element of TCOR, 72 percent of respondents cite risk transfer costs as the element most measured, down from 77 percent in 2015; 44 percent currently measure risk retention costs, down from 55 percent; 35 percent track external risk management costs, down from 37 percent; and 23 percent measure internal risk management costs, down from 28 percent in the earlier survey.

The percentage of respondents measuring full TCOR is correlated to an organization's size. Thirty-three percent of companies with revenues of USD1 billion or more measure full TCOR, whereas only 17 percent of companies under USD1 billion do.

Organizations with formal risk management departments are more likely to measure their full TCOR (34 percent), than those without one (15 percent). This indicates companies with higher revenues and/or with risk management departments have more resources to focus on measuring the full TCOR.

Elements of TCOR measured



Determining limits of insurance

Similar to the prior survey results, organizations continue to utilize a combination of methods to select the appropriate level of limits. Of all the methods available, a broker or independent consultant is the most common approach at 61 percent, followed closely by management judgment and experience at 57 percent.

Ultimately, the decision on what level of risk to transfer via insurance policies is driven by a number of factors such as risk severity, risk mitigation measures already in place or under consideration, the regulatory environment in which companies operate, historical trend of loss activities, the insurance marketplace and appetite for risk. What works for one organization may not work for another.

Therefore, organizations are becoming more conscious of the limitations of using only one method, such as benchmarking, in determining limits and shifting to using a combination of methods. Furthermore, many organizations, especially larger ones, appear to have adopted a more analytical approach such as scenario analysis and risk modeling to augment the more traditional methods of analysis for determining limits. As more organizations move to incorporate an enterprise-wide approach to risk management and apply analytics to all aspects of business decisions, we expect this trend to pick up.

As shown in the exhibits, respondents in North America say they use the most combinations of the methods to help determine what limits of insurance to buy. This is not surprising—the tougher legal environment (litigious) and the increasing exposure to large-scale natural catastrophes require that risk managers rely more on a comprehensive approach than other regions because a single method alone cannot meet the challenges.

Determination of limits by region

Category	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Rely on broker or independent consultant	61%	74%	59%	51%	54%	69%
Management judgment and experience	57%	71%	47%	43%	60%	78%
Cost benefit analysis premium cost vs. limits purchased	45%	50%	39%	49%	46%	53%
Benchmark against peers	41%	46%	30%	27%	22%	71%
Industry claims data/large losses	30%	29%	23%	29%	32%	45%
Scenario analysis	25%	25%	23%	39%	14%	25%
Risk modeling	21%	25%	16%	21%	20%	31%
Other	4%	4%	4%	6%	3%	2%

Determination of limits by revenue (in USD)

Category	<1B	1B – 4.9B	5B – 9.9B	10B – 14.9B	15B – 24.9B	25B+
Benchmark against peers	32%	60%	71%	74%	47%	62%
Industry claims data/large losses	23%	42%	56%	60%	42%	42%
Risk Modeling	14%	29%	38%	50%	50%	62%
Cost benefit analysis premium cost vs. limits purchased	42%	52%	54%	52%	37%	65%
Scenario analysis	18%	37%	38%	31%	55%	42%
Management judgment and experience	55%	67%	74%	67%	53%	54%
Rely on broker or independent consultant	62%	61%	65%	60%	61%	44%
Other	3%	4%	2%	7%	11%	4%

Priorities in choice of insurer

For the second consecutive time since its introduction as an option, participants have cited coverage terms and conditions as the top criterion in an organization's choice of insurers, followed closely again by claims service & settlement. This has been a consistent and clear message for insurers. Rounding out the top three is value for money. Concerns for competitive pricing continue to be tempered by having the broadest coverage and strong claim services.

While organizations in different regions share many common criteria in the choice of insurers, the actual rankings differ, in some instances quite dramatically. In North America, financial stability/rating is ranked number two. In the Middle East/Africa, capacity is the number one criterion, and value for money/price is ranked number nine. Respondents in Latin America also view capacity as an important criterion, ranking it number three, whereas value for money/price is at number five. In Asia Pacific, industry experience is valued much higher than in other regions, at number two, and value for money/price and claims service and settlement much lower than the overall ranking. In other words, since each geography is uniquely different, companies will value the criteria differently based on their current and historical market conditions and cultural norms.

As expected, smaller organizations (under USD1 billion in revenue) rank value for money higher than larger firms, two vs. four, probably because they typically have less sophisticated risk financing programs and retain less risk than larger organizations. Therefore, a greater portion of their premiums are directly associated with risk transfer. At the same time, industry experience is also ranked high by smaller companies. This is probably because they are less likely to have a risk management department than larger organizations. Without access to in house risk management expertise, they depend more on third parties for guidance in insurance matters.

For larger companies (over USD1 billion in revenue), financial stability/rating, and ability to execute and deliver risk finance support proximate to global locations are ranked higher—two vs. four and five vs. 10 respectively. These two items are priorities because larger companies typically purchase higher limits, have more defined policies around carrier financial security and more complex risk profiles. Most importantly, they are more likely to operate in multiple locations worldwide.

Priorities in choice of insurer

Category	2017	2015	2013	2011	2009	2007
Coverage terms and conditions	1	1	n/r	n/r	n.r	n/r
Claims service & settlement***	2	2	1	3	3	4
Value for money/price	3	3	3	2	2	2
Financial stability/rating	4	4	2	1	1	1
Capacity	5	5	5	7	4	n/r
Industry experience	6	6	4	4	5	6
Flexibility/innovation/creativity	7	8	7	8	7	3*
Long-term relationship	8	7	6	6	6	n/r
Speed and quality of documentation	9	10	9	10	10	5
Ability to execute and deliver risk finance support proximate to global locations	10	9	8	9	8	8**

**This was the ranking for Flexibility only in the 2007 survey*
*** This was the ranking for Global Representation*
****Settlement was added to Claims Services in 2013 survey and Prompt Settlement of Large Claims was removed*

Cyber Risk Assessment and Coverage

Since the last Aon survey, cyber risks have continued to evolve in complexity and financial magnitude, from record-setting data breaches in excess of a billion records, and politically manipulative leaks during national elections to ransomware attacks on the healthcare, education, and public sectors and successful hacking that took down power grids.

The escalation of these attacks have changed the perception of cyber security accordingly. In the Aon survey, participants rank cyber crime a number five top risk, from number nine in 2015. In fact, 56 percent of organizations with more than USD1 billion in revenue rank this risk at number two. The findings have underscored its growing urgency and importance over the past two years.

In response to this now emergent threat, companies have been advancing their cyber risk management strategies. This is most evident in Aon's survey, which shows fairly significant increases in the percentage of organizations adopting cyber risk assessments, from 42 percent in 2015 to 53 percent in 2017, transferring greater risk to the commercial insurance market, from 21 percent to 33 percent, or evaluating alternative risk transfer measures - captive use is projected to rise from 12 percent to 23 percent by 2020.

However, to keep pace with the pervasive and fast evolving cyber threats that go hand in hand with the dizzying speed of technological innovation, much more progress is needed in the area of cyber risk control and mitigation.

Currently, 23 percent of companies employ financial quantification metrics in cyber risk assessment. Without measuring the actual financial impact of identified cyber threats, companies will not be able to adequately prioritize their capital investment in risk mitigation, financing, and transfer, or link cyber to the risk appetite, and risk managers will not obtain sufficient attention from a potentially less tech-savvy board.

Furthermore, Aon's survey also reveals a lack of cross-functional collaboration in risk management decision-making. When cyber risk assessment does take place, about 38 percent of respondents say risk control strategies involve the risk department (this low number could be influenced by the fact that many surveyed organizations do not have a risk management department), and 86 percent within the technology group, 13 percent within the legal department and five percent within the HR team.

This is troubling. As sweeping cyber regulatory changes relating to privacy and disclosure are occurring throughout the EU and Asia, and social engineering—hackers trick people into offering them access to sensitive information through phone calls, emails or social media—is becoming one of the most effective attack paths into an organization, companies need to broaden their collaboration with other functions to ensure an integrated approach to the cyber challenge.

The overall findings in this section prompt four observations:

1. **Risk readiness falls**

   While the key risk rating criteria, such as cyber risk perception, cyber risk assessment, and cyber insurance purchase are continuing their upward trends in Aon's Global Risk Management Surveys, organizational preparedness for cyber risk has been on the decline, from 82 percent in 2015 to 79 percent in 2017.

	2017	2015
Risk perception	#5	#9
Cyber risk assessment	53%	42%
Effectiveness of coverage	80%	78%
Insurance purchased	33%	21%
Not purchased and no plans	48%	61%
Captive utilization	12%	8%
Loss of income	10%	8%
Cyber Readiness	79%	82%

What could be causing this phenomenon?

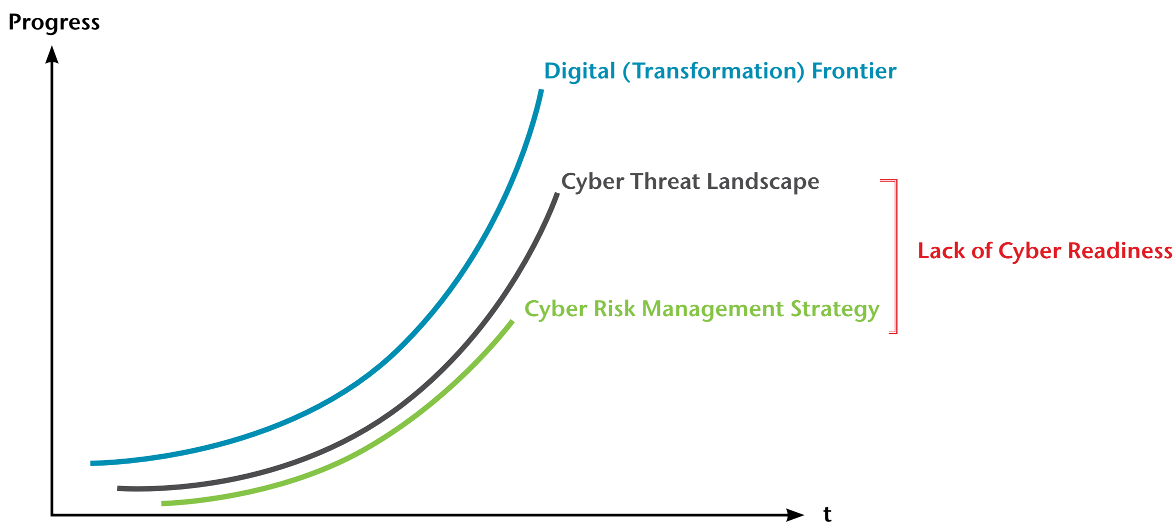
Theorem 1: "Known Unknowns"

Companies are increasingly using more sophisticated cyber risk assessment techniques to explore and measure their cyber vulnerabilities. These metrics have highlighted some previously unknown aspects of the cyber threat landscape or the true extent of the risk.

Theorem 2 : " Digital Cyber Advancement

Rapid changes in digital transformation continue to create more cyber vulnerabilities, triggering exposures across the business so quickly that companies find it challenging to deploy timely and adequate risk management strategies, (fig one below)

Digital-Cyber Advancement Curves



2. Failure to actively evaluate cyber risks results in lack of effective strategies

Those industries that report the lowest rate of cyber risk assessments are the least likely to be buying or intending to buy cyber insurance. If we compare the list of 10 industries having the lowest percentage of companies engaging in cyber risk assessment with that of 10 industries that are the least likely to purchase or plan to cyber insurance, we notice that the following eight sectors are on both lists.

- Rubber, Plastics, Stone and Cement
- Agribusiness
- Wholesale Trade
- Chemicals
- Non-Aviation Transportation Manufacturing
- Machinery and Equipment Manufacturers
- Consumer Goods Manufacturing
- Non-Aviation Transportation Services

3. Latin America lags behind

Surveyed organizations in Latin America continue to lag behind other regions in deploying appropriate risk evaluation, mitigation, and transfer strategies to tackle cyber risk.

	Latin America	All
Risk perception	#18	#5
Cyber risk assessment	38%	53%
Effectiveness of coverage	56%	80%
Insurance purchased	9%	33%
Not purchased and no plans	71%	48%
Captive utilization	8%	12%

4. The larger the company, the higher the priority

Companies with revenues over USD1 billion perceive cyber threats as a greater challenge than smaller organizations. Cyber is cited as a top number four threat or higher for larger companies on both current and future projected lists.

Conversely, organizations with revenue under USD250 million are not prioritizing cyber as a top strategic threat. Survey participants could have underestimated this risk because smaller organizations are becoming primary targets for cyber criminals, who predominately attack with ransomware to steal personal identifiable information and engage in online fraud activities for financial gains.

Cyber risk assessment

In Aon's survey, 53 percent of surveyed companies—an increase of 11 percent from 2015—say they are performing some form of cyber risk assessments triggered by a combination of drivers:

- Cyber security being a new key component of many internal compliance frameworks
- Changes in privacy regulations in countries such as the EU, Japan, Australia, Singapore
- Board governance on the topic
- Increasing scrutiny on IT/cyber security budgets and rising awareness of the need to prioritize security programs

Regionally, companies in North America lead the pack, with 76 percent saying they perform cyber risk assessments, a 19 percent increase from 2015. Latin American companies remain the slowest adopters of cyber risk assessments, at 38 percent. However, in comparison with 2015, this still indicates an upward movement of 19 percent.

In terms of risk assessment, the most advanced industries are

- Education
- Insurance, Investment and Finance
- Banks
- Aviation
- Non-profits
- Printing and Publishing
- Lumber, Furniture, Paper and Packaging
- Professional and Personal Services
- Technology
- Real Estate

Completion of cyber risk assessment by industry

Industry	2017	2015
Agribusiness	38%	23%
Aviation	69%	54%
Banks	71%	58%
Beverages	53%	n/a
Chemicals	56%	27%
Conglomerate	50%	41%
Construction	36%	32%
Consumer Goods Manufacturing	40%	35%
Education	73%	47%
Energy (Oil, Gas, Mining, Natural Resources)	59%	38%
Food Processing and Distribution	50%	24%
Government	58%	41%
Health Care	57%	72%
Hotels and Hospitality	56%	38%
Insurance, Investment and Finance	73%	59%
Life Sciences	50%	40%
Lumber, Furniture, Paper and Packaging	62%	32%
Machinery and Equipment Manufacturers	45%	39%
Metal Milling and Manufacturing	39%	32%
Non-Aviation Transportation Manufacturing	52%	24%
Non-Aviation Transportation Services	44%	34%
Nonprofits	66%	N/A
Power/Utilities	54%	39%
Printing and Publishing	64%	N/A
Professional and Personal Services	62%	40%
Real Estate	60%	45%
Restaurants	40%	N/A
Retail Trade	47%	58%
Rubber, Plastics, Stone and Cement	28%	36%
Technology	61%	52%
Telecommunications and Broadcasting	50%	48%
Textiles	48%	N/A
Wholesale Trade	35%	24%

As companies around the globe are struggling to have the correct data and analytics capabilities to determine the value at risk related to their cyber risk profiles, 23 percent of participants claim to perform quantitative cyber risk assessments.

Departments that are actively involved in the risk assessment process are largely limited to risk management (38 percent) and technology (86 percent), legal (19 percent), operational (13 percent), and HR (5 percent). With the increasing complexities of cyber risks and changing regulatory landscape, a cross-functional approach is becoming more appropriate than ever.

Completion of cyber risk assessment by region

Region	Completed an assessment	Yes, Quantitative	Yes, Qualitative	Yes, both, quantitative & qualitative	Yes, but not sure what type	Not sure	No
All	53%	2%	12%	21%	18%	16%	31%
North America	76%	2%	13%	35%	25%	8%	16%
Asia Pacific	51%	2%	15%	21%	13%	13%	36%
Europe	45%	3%	11%	16%	15%	18%	37%
Middle East & Africa	43%	4%	14%	8%	17%	17%	40%
Latin America	38%	2%	9%	13%	15%	26%	36%

Completion of cyber risk assessment by revenue (in USD)

Revenue	Completed an assessment	Yes, Quantitative	Yes, Qualitative	Yes, both, quantitative & qualitative	Yes, but not sure what type	Not sure	No
< USD 1B	45%	2%	10%	15%	17%	17%	39%
USD 1B – USD 4.9B	72%	5%	18%	33%	17%	9%	19%
USD 5B – USD 9.9B	74%	5%	16%	29%	24%	9%	17%
USD 10B – USD 14.9B	69%	2%	18%	29%	20%	18%	13%
USD 15B – USD 24.9B	78%	0%	17%	44%	17%	5%	17%
USD 25B+	75%	0%	7%	56%	11%	15%	11%

Departments actively participating in the cyber risk assessment process by region

Category	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Information Technology	86%	82%	84%	86%	77%	90%
Risk Management	38%	55%	31%	30%	45%	46%
Legal & Compliance	19%	24%	15%	17%	16%	25%
Security	18%	16%	16%	29%	10%	19%
Operations	13%	18%	11%	14%	16%	14%
Other	8%	5%	10%	10%	0%	7%
Human Resources	5%	5%	4%	5%	6%	6%
Not sure	2%	2%	3%	3%	0%	0%

Cyber insurance coverage

As cyber risk has jumped in ranking on Aon's top 10 list, from nine in 2015 to five in 2017, it is hardly surprising that the number of companies purchasing cyber insurance coverage has also increased from 21 percent to 33 percent.

Meanwhile, more companies are evaluating their risk profile with different cyber risk assessment metrics (up 10 percent) and financial losses continue to rise (up two percent).

Although cyber attacks know no borders or industries, companies in different regions and industries see it differently, and the uptake in cyber insurance purchase remains inconsistent. North American companies remain the leader in purchasing cyber coverage at 68 percent while those in Latin America lags far behind, at only nine percent.

As for breakdown by industry, rubber, plastics, stone and cement respondents have reported no purchases of cyber insurance. The education sector, which has experienced a number of high profile ransomware attacks, has registered the highest level, at 68 percent, followed by government entities at 58 percent.

Purchase of cyber insurance coverage by region

Category	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Insurance currently purchased	33%	30%	17%	9%	24%	68%
Plan to purchase	19%	23%	22%	20%	20%	13%
Not purchased and no plans to purchase	48%	46%	61%	71%	57%	19%

Purchase of cyber insurance coverage by revenue (in USD)

Category	Insurance currently purchased	Not purchased and no plans to purchase	Plan to purchase
< 1B	25%	56%	19%
1B –4.9B	50%	31%	18%
5B –9.9B	44%	28%	28%
10B –14.9B	30%	52%	18%
15B –24.9B	38%	44%	19%
25B+	64%	27%	18%

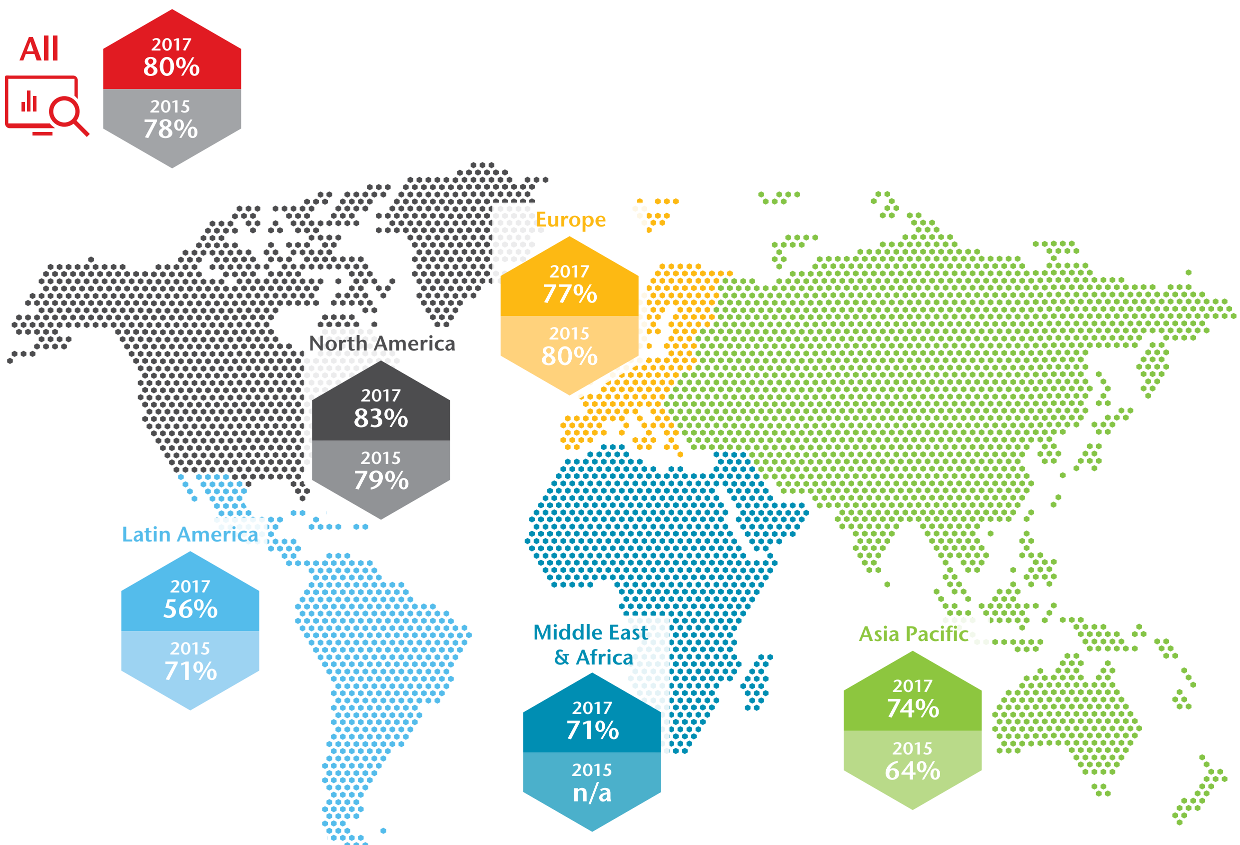
Purchase of cyber insurance coverage by industry

Industry	Insurance currently purchased	Plan to purchase	Not purchased and no plans to purchase
Agribusiness	17%	8%	75%
Aviation	24%	33%	43%
Banks	50%	23%	28%
Beverages	36%	27%	36%
Chemicals	17%	17%	67%
Conglomerate	15%	26%	59%
Construction	23%	15%	62%
Consumer Goods Manufacturing	12%	23%	65%
Education	68%	16%	16%
Energy (Oil, Gas, Mining, Natural Resources)	17%	22%	61%
Food Processing and Distribution	20%	18%	63%
Government	58%	23%	19%
Health Care	51%	10%	39%
Hotels and Hospitality	55%	27%	18%
Insurance, Investment and Finance	56%	16%	28%
Life Sciences	13%	40%	47%
Lumber, Furniture, Paper and Packaging	25%	7%	68%
Machinery and Equipment Manufacturers	18%	16%	66%
Metal Milling and Manufacturing	12%	27%	61%
Non-Aviation Transportation Manufacturing	11%	22%	67%
Non-Aviation Transportation Services	17%	19%	64%
Nonprofits	52%	24%	24%
Power/Utilities	35%	26%	40%
Printing and Publishing	10%	20%	70%
Professional and Personal Services	40%	26%	34%
Real Estate	46%	19%	35%
Restaurants	40%	30%	30%
Retail Trade	51%	11%	38%
Rubber, Plastics, Stone and Cement	0%	19%	81%
Technology	52%	15%	33%
Telecommunications and Broadcasting	44%	28%	28%
Textiles	25%	25%	50%
Wholesale Trade	20%	7%	72%

Effectiveness of terms and adequacy of limits for current cyber insurance coverage

Companies' perceptions of coverage effectiveness and adequacy of limits have also improved, with 80 percent considering the terms and conditions of their cyber coverage to be sufficient in managing their exposures (up two percent).

Effectiveness of current cyber insurance coverage by region



**Not enough data for a Middle East & Africa breakout in 2015*

Effectiveness of current cyber insurance coverage by revenue (in USD)

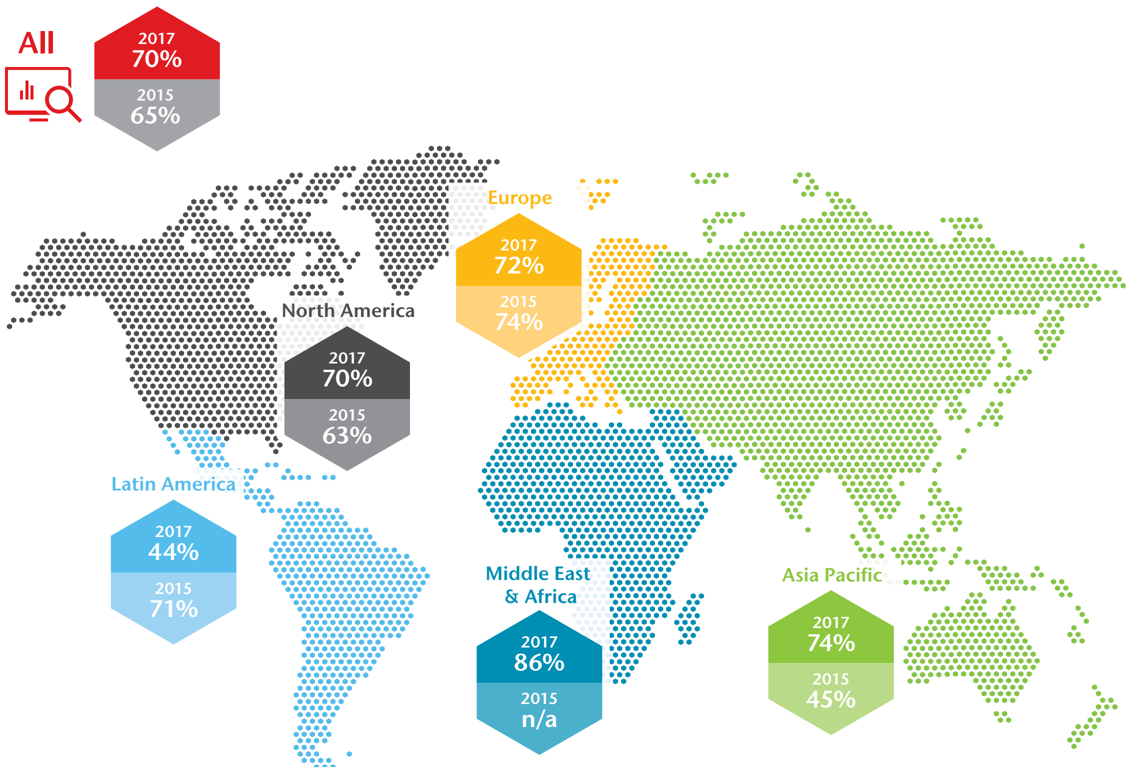
Revenue	2017	2015
< 1B	80%	80%
1B –4.9B	81%	77%
5B –9.9B	83%	100%
10B –14.9B	90%	69%
15B –24.9B	71%	67%
25B+	78%	77%

Effectiveness of current cyber insurance coverage by industry

Industry	2017	2015
Agribusiness	60%	N/A
Banks	78%	89%
Chemicals	60%	100%
Construction	79%	67%
Consumer Goods Manufacturing	75%	60%
Education	87%	N/A
Energy (Oil, Gas, Mining, Natural Resources)	57%	N/A
Food Processing and Distribution	88%	100%
Government	67%	100%
Health Care	85%	83%
Insurance, Investment and Finance	87%	76%
Lumber, Furniture, Paper and Packaging	100%	N/A
Machinery and Equipment Manufacturers	71%	75%
Metal Milling and Manufacturing	40%	60%
Non-Aviation Transportation Services	86%	100%
Nonprofits	92%	N/A
Power/Utilities	88%	67%
Professional and Personal Services	77%	85%
Real Estate	93%	50%
Restaurants	33%	N/A
Retail Trade	89%	85%
Technology	83%	73%
Telecommunications and Broadcasting	70%	100%
Wholesale Trade	64%	40%

**Not enough data for Aviation, Beverages, Conglomerate, Hotels and Hospitality, Life Sciences, Non-Aviation Transportation Manufacturing, Printing and Publishing, Rubber, Plastics, Stone and Cement and Textiles*

Adequacy of limits for cyber insurance coverage by region



**Not enough data for a Middle East & Africa breakout in 2015*

About 70 percent of surveyed companies believe that sufficient limits are available. Compared with the results in the 2015 survey, in which a third of companies expressed concern over adequacy of their limits carried, this is a positive development.

Adequacy of limits for cyber insurance coverage by revenue (in USD)

Revenue	2017	2015
< 1B	79%	74%
1B –4.9B	61%	60%
5B –9.9B	70%	56%
10B –14.9B	70%	38%
15B –24.9B	38%	67%
25B+	59%	68%

Adequacy of limits for cyber insurance coverage by industry

Industry	2017	2015
Agribusiness	40%	N/A
Banks	67%	95%
Chemicals	60%	0%
Construction	74%	58%
Consumer Goods Manufacturing	50%	80%
Education	80%	N/A
Energy (Oil, Gas, Mining, Natural Resources)	43%	N/A
Food Processing and Distribution	75%	100%
Government	56%	60%
Health Care	79%	63%
Insurance, Investment and Finance	74%	76%
Lumber, Furniture, Paper and Packaging	100%	N/A
Machinery and Equipment Manufacturers	71%	25%
Metal Milling and Manufacturing	60%	40%
Non-Aviation Transportation Services	57%	67%
Nonprofits	83%	N/A
Power/Utilities	62%	67%
Professional and Personal Services	77%	69%
Real Estate	100%	50%
Restaurants	33%	N/A
Retail Trade	63%	48%
Technology	78%	64%
Telecommunications and Broadcasting	70%	71%
Wholesale Trade	73%	40%

**Not enough data for Aviation, Beverages, Conglomerate, Hotels and Hospitality, Life Sciences, Non-Aviation Transportation Manufacturing, Printing and Publishing, Rubber, Plastics, Stone and Cement and Textiles*

Cyber captive utilization

As anticipated, the number of companies using captives to retain cyber risk has only grown slightly. Currently only 12 percent of surveyed companies report utilizing their captives for cyber coverage, 11 percent below the 2015 projection. Even so, cyber liability still represents the third fastest growing cover to be retained by captives.

The number of companies underwriting cyber coverage through a captive trails significantly behind those who utilize captives to underwrite property damage/business interruption (51 percent) and general/third party liability (47 percent).

When respondents were asked to project captive coverage in 2020, 23 percent indicate that they will use captives to underwrite cyber/network liability. This finding suggests that cyber will become the fastest growing risk underwritten by captives (+120 percent) and the gap between cyber liability and the more traditional insurance classes underwritten by captives will be narrowed.

To achieve this growth, Aon believes that the following will need to occur in the next two years:

- An increase in the number of organizations performing cyber risk assessments (up from the current 53 percent) will help management better understand the insurability of their cyber risk profile.
- More application of quantitative metrics by more companies to measure the financial impact of the cyber risk (up from the current 23 percent) will be important in determining the appropriate limits/retentions and pricing model.

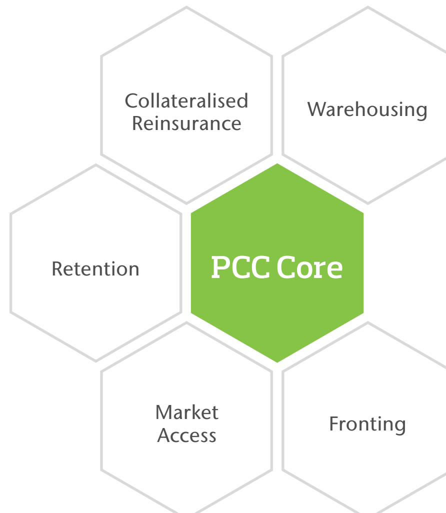
Captives

Organizations that use captives

Captives continue to be a popular way for organizations to finance risk, and participants in Aon's survey have reported a very high level of interest in forming a new captive or protected cell company (PCC) in the next five years, especially in North America, Asia Pacific and the Middle East. Certain industries, such as healthcare, energy, beverages and conglomerates, remain big users of captives, while others, including hotels and hospitality, machinery and equipment, energy and life sciences, have expressed a strong desire to form a new captive in the next five years.

There is a definitive trend of companies using captives in more strategic ways and at the same time expanding captive utilization to include a broader range of lines written such as cyber/network liability, warranty, credit and employee benefits.

Protected Cell Companies



Protected Cell Companies continue to increase in popularity as a viable captive alternative. Originally devised as a simple and cost effective risk retention mechanism, PCC has expanded its functions to include fronting, warehousing reserves, access to reinsurance and various Insurance Linked Securities structures.

Organizations that use captives (including current and future use) by region

Category	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Currently have an active captive or PCC	14%	7%	10%	8%	19%	25%
Plan to create a new or additional captive or PCC in the next 3 years	6%	9%	4%	4%	10%	9%
Have a captive that is dormant / run-off	2%	1%	1%	1%	0%	5%
Plan to close a captive in the next 3 years	2%	0%	1%	1%	6%	2%

Organizations that use captives (including current and future use) by revenue (in USD)

Category	< USD 1B	USD 1B – USD 4.9B	USD 5B – USD 9.9B	USD 10B – USD 14.9B	USD 15B – USD 25B +
Currently have an active captive or PCC	5%	20%	33%	55%	53%
Plan to create a new or additional captive or PCC in the next 3 years	3%	11%	14%	13%	10%
Have a captive that is dormant / run-off	0%	4%	6%	8%	6%
Plan to close a captive in the next 3 years	1%	3%	0%	3%	2%

Regionally, North American companies have formed the majority of captives, with 25 percent confirming that they currently use a captive or PCC. For European companies the equivalent statistic is 10 percent. This finding is consistent with what we have seen in our captive business. Over the past decade, there has been greater interest in new captive formations in North America. Relatively speaking, the rates of captive or PCC usage in other regions of the world are surprisingly high, reflecting the respondent profile from those regions.

In North America, nine percent of respondents plan to create a captive or PCC in the next three years. Given the maturity of the captive market in North America, this number is very high. However, if we look at the same question in prior surveys, respondents tended to be overly optimistic in their intentions but even so, this is still a material increase. We suspect that this could be driven by factors such as the confidence gained by most industries from positive economic growth in the last five years, growing interest in captives from middle market and upper middle market organizations and continued improvement in the science applied by organizations to assess, quantify and mitigate their own risk.

Similar potential is also reported in Asia Pacific and the Middle East at nine percent and 10 percent respectively, but one should keep in mind that there were fewer respondents in these regions and most represented larger companies. The majority of Asia Pacific captives are owned by Australian parents although we have experienced an increase in interest from Asian companies in both captives and risk management. Just recently Hong Kong declared their goal to become a world-class domicile, projecting to have 50 captives by 2025. The Middle East is likewise showing significant interest in the captive concept although this has yet to materialize into more than a handful of captive formations.

It is clear that size continues to matter when it comes to captives—larger companies are more likely to own a captive. Of note here is that 10 percent of surveyed organizations above USD15 billion plan to create a captive or PCC in the next three years. Although the majority of this growth will come from North America, we expect a continued upward trend in all other regions as well. This includes Europe, where they have been contending with the implementation of Solvency II for the past few years. Given more certainty around the regulatory environment, we are again seeing an interest in new captive formation.

Organizations with a captive or PCC by current and future use by industry

Industry	Currently have an active captive or PCC	Plan to create a new or additional captive or PCC in the next 3 years	Have a captive that is dormant / run-off	Plan to close a captive in the next 3 years	No Captive or PCC
Agribusiness	12%	5%	0%	0%	83%
Aviation	21%	4%	0%	8%	75%
Banks	14%	9%	7%	5%	72%
Beverages	31%	8%	0%	0%	62%
Chemicals	22%	4%	2%	0%	73%
Conglomerate	25%	9%	0%	0%	72%
Construction	10%	3%	1%	2%	84%
Consumer Goods Manufacturing	9%	9%	2%	2%	80%
Education	6%	0%	3%	0%	91%
Energy (Oil, Gas, Mining, Natural Resources)	33%	11%	7%	2%	49%
Food Processing and Distribution	14%	4%	0%	2%	80%
Government	5%	2%	0%	5%	88%
Health Care	34%	4%	3%	1%	59%
Hotels and Hospitality	7%	14%	0%	0%	79%
Insurance, Investment and Finance	13%	5%	2%	2%	79%
Life Sciences	11%	11%	11%	0%	67%
Lumber, Furniture, Paper and Packaging	10%	3%	3%	0%	87%
Machinery and Equipment Manufacturers	8%	14%	4%	0%	76%
Metal Milling and Manufacturing	8%	9%	4%	2%	79%
Non-Aviation Transportation Manufacturing	10%	5%	0%	0%	85%
Non-Aviation Transportation Services	16%	3%	2%	2%	79%
Non profits	0%	4%	4%	0%	93%
Power/Utilities	15%	7%	0%	1%	80%
Printing and Publishing	0%	0%	0%	0%	100%
Professional and Personal Services	10%	7%	0%	1%	84%
Real Estate	20%	9%	0%	2%	68%
Restaurants	0%	0%	0%	0%	100%
Retail Trade	15%	10%	2%	0%	76%
Rubber, Plastics, Stone and Cement	5%	11%	0%	0%	84%
Technology	16%	4%	4%	0%	79%
Telecommunications and Broadcasting	14%	3%	3%	0%	83%
Textiles	5%	0%	0%	10%	90%
Wholesale Trade	3%	3%	1%	1%	91%

The top four industries with a captive are beverages, conglomerate, energy (oil, gas, mining, natural resources) and healthcare. They form captives for a variety of reasons:

The beverage industry, often closely linked to the food and agricultural space, tends to use captives to write their core lines of insurance including property, general liability, workers compensation and auto. A significant number of them however also write products liability, marine, credit, crime and environmental coverages.

The heterogeneous risk profiles for conglomerates often make them very suitable candidates for a captive as they can obtain a greater spread of risk through industry diversification across the group. The captive is often used as a data center to help measure Total Cost of Risk, a central point for risk assumption that matches the overall parents risk appetite; and a mechanism to influence good risk management behaviors on a consistent basis in separate business units and countries. As one would expect, traditional lines of business are underwritten in the captive but at times it is also used strategically as a business enabler or incubator for emerging risks, such as cyber.

Large organizations in the energy industry, including mining, are heavy users of captives. They tend to be capacity buyers, which use a captive to control and coordinate the insurance program structure and access additional capacity through the reinsurance markets. As one would suspect, the largest line written is property, followed by general liability and marine. It is notable that a significant number of respondents in the energy industry (11 percent) plan to form a new captive or PCC in the next three years.

Captives in the healthcare industry are almost exclusively based in North America with medical professional liability being the largest line written, followed by general liability, workers compensation, property and cyber. Given that cyber threat has been ranked the number one risk by companies in North America, we expect more healthcare companies to underwrite cyber in their captives in the coming years.

The top four industries that plan to create a captive or PCC in the next three years are listed below, along with the key coverage lines they are likely to write:

- Hotels and hospitality: general liability, workers compensation and property
- Machinery and equipment manufacturers: property, general liability, marine, workers compensation, auto and products liability
- Life sciences: property, general liability, marine, workers compensation and product liability
- Energy: property, general liability and marine

While the majority of surveyed organizations that do not have a captive are understandably in the education, government and nonprofit segments, we are surprised that none in the printing and publishing and the restaurant sectors has indicated having a captive or even planning to consider one in the next three years. This probably reflects the fact that most participants are smaller companies. In our captive business, we have seen captive usage in these segments, particularly in restaurants.

Reasons for captives

Reasons for captives

Category	2017	2015	2013
Strategic Risk Management Tool	37%	33%	18%
Cost Efficiencies	13%	16%	18%
Reduction of Insurance Premiums	10%	11%	12%
Risk Finance Expense Optimization	5%	8%	12%
Control on Insurance Programs	15%	10%	11%
Access to Reinsurance Market	5%	9%	7%
Cashflow Optimization	3%	4%	7%
Other	4%	4%	6%
Tax Optimization	6%	4%	4%
Ability to Establish Reserves	3%	4%	4%

Reasons for captives by region

Category	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Strategic Risk Management Tool	37%	17%	33%	42%	24%	44%
Control on Insurance Programs	15%	8%	19%	5%	6%	15%
Access to Reinsurance Market	5%	8%	4%	5%	6%	6%
Cost Efficiencies	13%	25%	14%	32%	18%	9%
Ability to Establish Reserves	3%	8%	2%	0%	18%	1%
Reduction of Insurance Premiums	10%	17%	13%	0%	18%	6%
Tax Optimization	6%	8%	4%	0%	0%	8%
Cash Flow Optimization	3%	0%	3%	0%	0%	3%
Risk Finance Expense Optimization	5%	8%	4%	11%	6%	4%
Other	4%	0%	4%	5%	6%	3%

The charts confirm that captives for most organizations lie at the core of their risk management strategy. The use of captives as a strategic risk management tool has increased significantly from 18 percent in 2013 to 37 percent in 2017. There are a number of contributing factors:

- As complexity, interconnectivity and uncertainty are bringing increased volatility to the risk landscape, organizations often look to their captive to consolidate their assumption of risk in one vehicle as a way to manage and monitor their global risk appetite, as well as incubate emerging risks under controlled conditions in the captive.
- The ease of operating on a multinational level has enabled many more companies to expand to multiple countries much sooner than they might otherwise have. This adds to the complexity of their risk profile and the need to use a captive mechanism to control and finance their risk management program.
- Organizations are becoming more scientific in their assessment and quantification of risk, especially more standard risks such as property damage or general liability. This adds a level of comfort to their decisions to retain risk, thus resulting in increased captive utilization.
- For organizations that measure Total Cost of Risk, the captive serves as an excellent mechanism to collect auditable risk management data and explore loss trends and develop insurance programs to influence positive risk management behaviors across subsidiaries.

Access to reinsurance, a particularly important reason for capacity buyers to form a captive, has dropped in this survey from nine percent to three percent, which we find surprising. This is also often a benefit that materializes for captive owners over time and not necessarily apparent at the feasibility study stage. Recently, in a separate captive survey of its own client base, Aon asks whether having access to reinsurance benefits captive owners:

- Thirty-five percent think that using captives give them moderate or significant access to markets they wouldn't otherwise have been able to access. When considering whether it helps companies access additional markets, the same proportion of respondents rank captive eight out of 10 or higher.
- About 28.5 percent say that using captives have given them a more than 10 percent cost reduction through accessing additional markets.
- About 28.5 percent of captive owners think that using their captive gives them moderate or significant coverage improvements from gaining access to markets they wouldn't otherwise have been able to do.

The percentage of companies using captives for tax optimization has increased from four to six. In the past five years, this has been a growing trend in the U.S. where companies form smaller captives and file under section 831 (b) of the U.S. tax code, which allows for a tax deferral on underwriting profit in captives. Recent legislation there has doubled the maximum tax-deductible premium limit to USD2.2 million for qualification under section 831 (b), but also imposed some additional requirements to restrict the use of these captives as wealth management devices.

Regionally, 44 percent of North American companies form captives for strategic purposes, as one would expect. Owners from the Asia/Pacific region rank cost efficiencies as the most common reason for forming a captive. In Latin America, using captives as a strategic risk management tool is the number one reason at 42 percent, followed by cost efficiencies at 32 percent.

Based on our experiences, captives are used more strategically in regions where there is a higher level of risk management maturity and the driving factors often vary with company size. Larger companies use captives in more strategic ways while smaller companies tend to focus on reducing insurance premiums and controlling insurance program costs.

Key risks underwritten

Property (property damage and business interruption) and general liability continue to be the most popular lines underwritten in captives, and they are also the largest lines underwritten across all regions. At the next level down, some regional differences emerge: workers compensation, auto liability and professional liability rank highest for North American companies while European companies are more concerned with product liability.

Looking to the future, there is no change in the top two lines currently written. However the survey reveals an increased use of captives to underwrite cyber/network liability, employee benefits, credit and warranty.

Cyber/network liability—The survey reveals that twelve percent of respondents currently insure cyber risk in their captive, with 23 percent considering cyber in their captive in the next five years. This indicates a material increase. We at Aon have also seen a significant amount of interest from our clients as well. The conversation usually shifts to an analysis of the client's cyber exposure including a quantification of those exposures to help inform the decision on retention versus transfer. As clients develop a stronger understanding of their cyber risk profile, they tend to use their captive to finance the frequency elements of this risk while looking to transfer the severity exposure to insurance or reinsurance markets.

Employee benefits—We expect to see more multinational companies use captive programs to manage employee benefits so they can reduce expenses, retain cash flow inside the organization, align risk retention with group risk appetite, and gain greater transparency of the program data. This interest is fueled by changes in global talent profiles due to demographics, location of work, nature of work, digitalization and the like.

Credit—In different surveys, one frequently sees credit listed as a risk that organizations are interested in adding to their captive repertoire. While Aon's survey suggests that this line of business will almost double as a risk written by captives in the next five years, our own client data indicate a more gradual increase of roughly 10 percent a year.

Warranty—In Aon's survey, we have detected a trend in captives writing customer related business, including warranty. Generally predictable with low volatility, this business is traditionally highly profitable and it enhances risk spreading for the captive. Captives can extend beyond warranty business to include, for example, credit life, personal lines and pet health insurance.

Current and future risk underwritten in a captive or PCC

Captive coverage	Currently underwritten	Plan to underwrite in future	Percentage change
Property (Property Damage and Business Interruption)	51%	48%	-3%
General/Third Party Liability	47%	45%	-2%
Employers Liability/Workers Compensation	29%	29%	0%
Auto Liability	28%	28%	0%
Product Liability and Completed Operations	25%	26%	1%
Professional Indemnity/Errors and Omissions Liability	24%	23%	-1%
Directors & Officers Liability	18%	15%	-2%
Marine	16%	19%	2%
Other	16%	16%	0%
Terrorism	16%	15%	-1%
Catastrophe	15%	18%	4%
Environmental/Pollution	14%	16%	2%
Life	13%	13%	0%
Health/Medical	12%	15%	3%
Cyber/Network Liability	12%	23%	11%
Crime/Fidelity	10%	13%	3%
Third-Party Business	10%	12%	2%
Credit/Trade Credit	10%	18%	8%
Employee Benefits (Excluding Health/Medical and Life)	10%	20%	10%
Employment Practices Liability	8%	11%	3%
Owner/Contractor Controlled Insurance Program	7%	9%	2%
Aviation	6%	5%	-1%
Financial Products	5%	8%	3%
Warranty	2%	7%	5%
Sub-contractor Default Insurance	2%	5%	3%

Current risks underwritten in a captive or PCC by region

Captive coverage	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Property (Property Damage and Business Interruption)	51%	50%	67%	62%	29%	39%
General/Third Party Liability	47%	25%	45%	38%	14%	57%
Employers Liability/Workers Compensation	29%	0%	24%	15%	7%	41%
Auto Liability	28%	25%	16%	31%	21%	39%
Product Liability and Completed Operations	25%	8%	32%	15%	14%	23%
Professional Indemnity/ Errors and Omissions Liability	24%	8%	21%	8%	7%	31%
Directors & Officers Liability	18%	25%	19%	31%	21%	13%
Marine	16%	25%	22%	31%	21%	8%
Other	16%	8%	16%	8%	43%	15%
Terrorism	16%	8%	11%	15%	14%	20%
Catastrophe	15%	25%	15%	23%	7%	13%
Environmental/Pollution	14%	8%	15%	15%	7%	14%
Life	13%	17%	16%	38%	21%	5%
Health/Medical	12%	17%	13%	38%	0%	10%
Cyber/Network Liability	12%	25%	13%	8%	7%	11%
Crime/Fidelity	10%	8%	10%	8%	14%	10%
Third-Party Business	10%	25%	7%	0%	14%	12%
Credit/Trade Credit	10%	25%	15%	15%	14%	2%
Employee Benefits (Excluding Health/Medical and Life)	10%	8%	11%	0%	7%	10%
Employment Practices Liability	8%	8%	4%	8%	14%	10%
Owner/Contractor Controlled Insurance Program	7%	8%	5%	8%	29%	5%
Aviation	6%	0%	3%	8%	14%	7%
Financial Products	5%	8%	5%	15%	0%	4%
Warranty	2%	0%	4%	0%	0%	2%
Sub-contractor Default Insurance	2%	8%	2%	0%	0%	1%

Future risks underwritten in a captive or PCC by region

Captive coverage	All	Asia Pacific	Europe	Latin America	Middle East & Africa	North America
Property (Property Damage and Business Interruption)	48%	36%	57%	69%	36%	40%
General/Third Party Liability	45%	36%	42%	50%	21%	51%
Employers Liability/Workers Compensation	29%	18%	24%	13%	14%	38%
Auto Liability	28%	18%	23%	19%	21%	35%
Product Liability and Completed Operations	26%	36%	29%	25%	29%	22%
Cyber/Network Liability	23%	55%	21%	25%	7%	24%
Professional Indemnity/ Errors and Omissions Liability	23%	27%	18%	6%	21%	29%
Employee Benefits (Excluding Health/Medical and Life)	20%	27%	23%	0%	21%	18%
Marine	19%	36%	24%	38%	21%	10%
Catastrophe	18%	27%	15%	31%	7%	20%
Credit/Trade Credit	18%	36%	26%	19%	14%	10%
Other	16%	18%	12%	19%	43%	16%
Environmental/Pollution	16%	27%	13%	25%	7%	17%
Directors & Officers Liability	15%	36%	12%	25%	29%	14%
Health/Medical	15%	18%	15%	25%	0%	15%
Terrorism	15%	18%	9%	13%	7%	20%
Life	13%	18%	15%	31%	14%	9%
Crime/Fidelity	13%	18%	16%	25%	7%	9%
Third-Party Business	12%	18%	8%	0%	14%	15%
Employment Practices Liability	11%	0%	10%	6%	0%	14%
Owner/Contractor Controlled Insurance Program	9%	27%	7%	6%	21%	8%
Financial Products	8%	9%	9%	19%	7%	6%
Warranty	7%	0%	10%	0%	0%	7%
Aviation	5%	0%	4%	6%	7%	5%
Sub-contractor Default Insurance	5%	9%	3%	0%	0%	6%

Multinational Programs

Multinational Programs

Exposures to loss, aka “risk”, whether directly or indirectly related to international operations, continue to be well represented in the list of top challenges for respondents in Aon’s 2017 survey. Of the 20 top risks identified by survey respondents, about 16 can be tied to international exposures, either directly or as a characteristic or contributing consideration.

As a specific risk, “globalization” continues to drop in the participants' ranking of top risk concerns, slipping from number 36 to number 40. This may be because globalization is becoming more understood and accepted as an integral part of risk associated with businesses, all of which are deeply affected by heightened global influence at all market sizes, geographies, and industries, as opposed to being its own topic. For example, in the 2017 survey, one cannot help but factor in foreign influences when thinking about the top five risks identified.

Looking at control and placement of risk finance programs for multinational risks, the number of surveyed organizations controlling all insurance from the corporate headquarters is up by four percent and the number reporting control from both the headquarters and local operations is down by three percent. Notably, the number of organizations claiming that they control all risk finance decisions from the center is highest amongst those that operate in the fewest number of countries.

General liability and property coverage continue to be the lines of business most frequently purchased as a multinational program, including master and local policies. At the same time, the use of multinational programs for other areas remains about the same with a few exceptions, such as in areas that represent significant opportunity to leverage spend and control cover on frequently purchased lines (i.e. auto), or in areas with increasing awareness and availability of multinational programs (i.e. product recall).

Although globalization continues to drop in the top risk ranking, it remains a consistent risk consideration for companies pursuing improved operational results by venturing outside of their home country in any way. As such, risk managers focusing on larger geographic spread of exposures to loss will need to continue reviewing variations in regulatory controls, exposures, available solutions and examining how they may or may not respond across geographies when working toward optimal multinational risk finance program design.

The 2017 survey aims to gauge how companies handle such challenges and opportunities relating to multinational risk management strategies and insurance.

Multinational insurance purchasing habits

About 49 percent of all respondents—the largest group amongst all respondents—reported having control over all insurance purchases including corporate and local placements from corporate headquarters, a four percent increase from that of 2015. While this may suggest greater control being exhibited across all respondents, the number is skewed by a prevalent use of this approach amongst respondents with operations in two to five countries.

Multinational insurance purchasing habits

Category	All* 2017	All* 2015	2-5	6-10	11-15	16-25	26-50	51+
Corporate headquarters controls procurement of ALL insurance programs (global/local)	49%	45%	60%	43%	42%	44%	49%	41%
Corporate headquarters controls some lines and leaves local office to purchase other lines	41%	44%	23%	43%	47%	49%	46%	55%
No, each operation buys its own insurance with no co-ordination from corporate headquarters	10%	11%	16%	14%	11%	6%	5%	4%

** All represents respondents operating in more than one country.*

Types of multinational insurance coverage purchased

Consistent with the results in prior years, general liability and property damage are the most frequently purchased multinational programs. While the use of multinational programs for other areas remains about the same, there is an increase in the use of programs across lines of coverage such as auto, which are historically reserved for local purchase, and lines (i.e. product recall) historically purchased on a global basis without underlyers at the parent level.

Multinational insurance purchasing habits

Category	All* 2017	All* 2015	2-5	6-10	11-15	16-25	26-50	51+
General Liability/Public Liability	85%	81%	90%	81%	82%	87%	86%	81%
Property (Property Damage and Business Interruption)	79%	79%	82%	71%	71%	82%	82%	80%
Directors & Officers Liability	69%	73%	59%	67%	74%	76%	74%	70%
Workers Compensation/ Employers Liability	49%	48%	59%	47%	40%	50%	41%	47%
Marine/Ocean Cargo	48%	49%	40%	44%	37%	53%	58%	58%
Auto/Motor Vehicle Liability	46%	42%	59%	49%	29%	43%	38%	45%
Crime	40%	42%	40%	39%	25%	46%	49%	39%
Product Recall and Contamination	21%	18%	13%	23%	21%	25%	28%	21%
Trade Credit	18%	17%	13%	14%	23%	18%	23%	21%
Other	11%	11%	9%	15%	7%	13%	13%	11%

** All represents respondents operating in more than one country.*

Importance to multinational program purchase decision

When respondents are asked to rank the importance of each defined group of reasons for purchasing multinational insurance programs, they put desire for coverage certainty at the top of the list. Interestingly, program performance and fiscal compliance have swapped positions in the ranking. The consistency in the rankings from survey to survey suggests that respondents have not faced challenges that would sway their priorities in selecting the best multinational program option.

Importance to multinational program purchase decision (1 being the highest priority)

Category	All* 2017	All* 2015	2-5	6-10	11-15	16-25	26-50	51+
Certainty of Coverage—Knowledge of what coverage is included in the program	1	1	1	1	1	1	1	1
Cost—This approach is more economical	2	2	2	3	4	2	3	3
Statutory Compliance—Access to local admitted coverage where non admitted is prohibited	3	3	4	4	2	3	2	2
Program Performance—Access to local claims and/or other services from local insurer/ policy provider	4	5	3	2	3	4	5	4
Fiscal Compliance—Ability to pay insurance premium and related taxes	5	4	5	5	5	5	4	5
Accounting—Ability to allocate risk transfer costs to local operations vs. pay from corporate	6	6	6	6	6	6	6	6

** All represents respondents operating in more than one country.*

Sources

i James Manyika, Michael Chui, Jacques Bughin, Richard Dobbs, Peter Bisson, and Alex Marrs, *Disruptive technologies: Advances that will transform life, business, and the global economy*, The McKinsey Global Institute, May 2013, http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/disruptive-technologies

ii Aon Benfield, *2016 Annual Global Climate and Catastrophe Report*, January 2017

iii Peter Shadbolt, *How can a company repair a damaged reputation?*, BBC, 13 October 2016

iv FocusEconomics, http://www.focus-economics.com/regions/euro-area, February 1, 2017

v *World Bank: Stable Growth Outlook for East Asia & Pacific in 2016-18*, Oct. 4, 2016

vi FocusEconomics, http://www.focus-economics.com/regions/euro-area/news/ea-economic-outlook-feb-2017

vii Klaus Schwab, World Economic Forum, *The Global Competitiveness Report 2016–2017*

viii Martin Reeves, Mike Deimler, *Adaptability, the New Competitive Advantage*, Harvard Business Review, 2011

ix Klaus Schwab, World Economic Forum, *The Global Competitiveness Report 2016–2017*

x Martin Reeves, Mike Deimler, *Adaptability, the New Competitive Advantage*, Harvard Business Review, 2011

xi Sam Batkins, Dan Goldbeck, *Six Years After Dodd-Frank: Higher Costs, Uncertain Benefits*, American Action Forum, July 20, 2016

xii Steve Culp, *Managing Regulatory Risk a Major Hurdle for Banks*, Forbes, May 8, 2012

xiii John Berlau, *Harvard Study Confirms Dodd-Frank's Harm to Main Street*, Competitive Enterprise Institute, February 10, 2015

xiv Rebecca Smith, *UK firms could face £122bn in cyber security fines in 2018*, City A.M., Octber 17, 2016

xv LYDIA WHEELER, *Trump plots two-for-one assault on Obama regs*, the Hill, December 20, 2016

xvi Stroz Friedberg's *2017 Cybersecurity Predictions Report*, https://content.strozfriedberg.com/2017-stroz-friedberg-cybersecurity-predictions-report

xvii Ponemon Institute, http://www.ponemon.org/local/upload/file/2016%20HPE%20CCC%20GLOBAL%20REPORT%20FINAL%203.pdf

xviii Aon Benfield, *Reinsurance Market Outlook*, http://thoughtleadership.aonbenfield.com/documents/20160911-ab-analytics-rmo.pdf

xix Business Insurance, http://www.businessinsurance.com/article/00010101/STORY/160719966/Aviation-systems-subject-to-an-average-of-1,000-attacks-every-month-Official

xx Yahoo Finance, http://finance.yahoo.com/news/cyberattacks-against-us-government-1-231500815.html

xxi Charles E. Harris and Laura R. Hammargren, *Higher education's vulnerability to cyber attacks*, September 6, 2016

xxii https://www.scmagazineuk.com/third-of-uk-universities-victimised-by-cyber-attacks/article/531801/

xxiii https://publicpolicy.wharton.upenn.edu/live/news/1607-cyberwarfare-policy-challenges-for-21st-century

xxiv https://www.infosecurity-magazine.com/news/cyber-attacks-cost-uk-firms-30bn/

xxv Stroz Friedberg's *2017 Cybersecurity Predictions Report*, https://content.strozfriedberg.com/2017-stroz-friedberg-cybersecurity-predictions-report

xxvi https://www.aol.com/article/2016/05/25/memorable-companies-that-have-vanished/21383738/

xxvii http://listings.findthecompany.com/stories/14107/companies-disappear-2017

xxviii https://www.bcg.com/d/press/12january2017-most-innovative-companies-2016-142287

xxix *Global Innovation Index 2016*, https://www.globalinnovationindex.org/gii-2016-report

xxx Anita Hamilton, *Innovate or Die: Wisdom from Apple, Google and Toyota*, Time Magazine, January 2013

xxxi Taylor Soper, http://www.geekwire.com/2016/amazon-founder-jeff-bezos-offers-6-leadership-principles-change-mind-lot-embrace-failure-ditch-powerpoints/

xxxii Anita Hamilton, *Innovate or Die: Wisdom from Apple, Google and Toyota*, Time Magazine, January 2013

xxxiii Aon Hewitt, *People Trends 2017*, https://apac.aonhewitt.com/home/resources/thought-leadership/people-trends-2017

xxxiv http://www.manpowergroup.com/talent-shortage-explorer/#.WNi6DPnyuUk

xxxv https://obamawhitehouse.archives.gov/blog/2013/12/11/computer-science-everyone

xxxvi http://www.prnewswire.com/news-releases/annual-corporate-responsibility-magazine-survey-reveals-females-far-less-likely-to-join-a-company-with-a-bad-reputation-300161114.html

xxxvii http://ir.aon.com/about-aon/investor-relations/investor-news/news-release-details/2015/Aon-Hewitt-Study-Reveals-Nearly-Half-of-Millennials-Intend-to-Pursue-New-Jobs-in-2015/default.aspx

xxxviii Aon Benfield, *2016 Annual Global Climate and Catastrophe Report*

xxxix Swiss Re, http://www.swissre.com/media/news_releases/preliminary_sigma_estimates_total_losses_from_disaster_events_rise_to_USD_158_billion_in_2016.html

xl Allianz, http://www.agcs.allianz.com/about-us/news/business-interruption-on-the-rise/

xli Sarah Veysey, *China port explosion to drive up insurance costs*, Business Insurance, August 30, 2015

xlii Stephen Gandel, *Lloyd's CEO: Cyber attacks cost companies $400 billion every year*, Fortune, January 23, 2015

xliii Aon, "*Cyber, the Fast Moving Target*," http://www.aon.com/russia/files/Final_2016_Cyber_Captive_Survey.pdf

xliv http://sncaadvisorycommittee.noaa.gov/sites/%20Advisory%20Committee%20for%20the%20Sustained%20National%20Climate%20Assessment/Meeting%20Documents/Our-Changing-Planet_FY-2016_full_.pdf

xlv Alexandra Gibbs, http://www.cnbc.com/2017/01/04/2017-may-be-the-biggest-year-for-political-risk-since-the-end-of-world-war-ii-expert.html

xlvi Paul Rubin, *More Money Into Bad Suits*, New York Times, November 16, 2010

xlvii Norton Rose Fulbright, http://www.nortonrosefulbright.com/news/142350/norton-rose-fulbright-releases-2016-litigation-trends-annual-survey

xlviii Phoebe Stonbely, "*Governing: Municipalities Spend Millions of Dollars a Year on Settlements and Claims From Citizens*," Governing Magazine, November 4, 2016

xlix http://www.instituteforlegalreform.com/resource/new-us-chamber-reports-highlight-growing-danger-of-lawsuit-abuse-in-latin-america

Methodology

This Web-based survey addressed both qualitative and quantitative risk issues. Responding risk managers, CROs, CFOs, treasurers and others provided feedback and insight on their insurance and risk management choices, interests and concerns.

Aon Centre of Innovation and Analytics conducted, collected and tabulated the responses. Other Aon insurance and industry specialists provided supporting analysis and helped with interpretation of the findings.

All responses for individual organizations are held confidential, with only the consolidated data being incorporated into this report. Percentages for some of the responses may not add up to 100 percent due to rounding or respondents being able to select more than one answer. All revenue amounts are shown in US Dollars.

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About Aon Global Risk Consulting and the Aon Centres for Innovation and Analytics

With more than 1100 risk professionals in over 50 countries worldwide, Aon Global Risk Consulting (AGRC), the risk consulting business of Aon plc, delivers risk management solutions designed to optimize client's risk profiles. Our suite of services encompasses risk consulting; risk control and claims; and captive management. AGRC helps clients to understand and improve their risk profile. We do this by identifying and quantifying the risks they face; by assisting them with the selection and implementation of the appropriate risk transfer, risk retention, and risk mitigation solutions; and by ensuring the continuity of their operations through claims consulting.

Aon's Centres for Innovation and Analytics in Dublin and Singapore are the cornerstone of Aon's $350M global investment in analytics. The Centres deliver data-driven insights to clients by leveraging our unmatched data capabilities across both risk and people solutions.

Established in 2009, the Dublin Centre is comprised of over 140 colleagues analysing millions of data points every day. As the owner of Aon's Global Risk Insights Platform (GRIP®), one of the world's largest repositories of risk and insurance placement information, we analyse Aon's global premium flow to identify innovative new products and to provide impactful, fact-based market insights and reports as to which markets and which carriers present the best value for our clients around the globe. We empower results by transforming data received directly from brokers and other sources into actionable analytics.

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