Risk Pros Are Expanding BC To Include Most Operational Risks

by Stephanie Balaouras and Salvatore Schiano February 11, 2019

Why Read This Report

As 100-year floods and cyberattacks grow more frequent, and as organizations become completely dependent on complex technology, business continuity (BC) preparedness must be a cornerstone of a resilient organization.

A resilient firm can absorb the impact of any unexpected event without failing to deliver on its brand promise. In this report, the first in a series highlighting the current state of BC, Forrester examines today's shifts in mission, priorities, organizational structure, and funding.

Key Takeaways

BC Preparedness Affects Your Top And Bottom Lines

Without proper business continuity preparedness, repeated outages or large-scale disruptions are likely to hurt customer experience and loyalty, erode company profits, and damage your reputation, business opportunities, and future revenues.

BC Pros Have Expanded Their Mission To Include Most Of Operational Risk

Many BC leaders are seeking to increase their relevance and value to the business by expanding the mission of their business continuity management (BCM) programs to include mitigating a variety of operational risks.

Climate Change Will Make Business Continuity A Top Priority Again

Too many BC pros have a misconception that climate change impacts are still decades away. The impacts are already here. In the next two to three years, BC pros will lead the charge on climate change preparedness and adaptation by becoming climate change literate and translating those risks into practical actions.

Risk Pros Are Expanding BC To Include Most Operational Risks

by Stephanie Balaouras and Salvatore Schiano with Laura Koetzle, Kate Pesa, Elsa Pikulik, and Peggy Dostie February 11, 2019

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The Forrester State Of Business Continuity Research Series

This is the first in a series of reports that will enable risk professionals to compare their BC efforts with those of the rest of the industry as well as with emerging trends. The quantitative data is the result of several years of market studies on BC and disaster recovery (DR) developed in partnership by Forrester and Disaster Recovery Journal. Each report in the series will couple this data with primary research interviews to examine important aspects of BC preparedness, including: 1) program management — mission and priorities, executive support, reporting structure, and funding; 2) planning — business impact analysis, risk assessment, plan development, maintenance, and exercises; 3) people and communication — workforce disruptions, communication disruptions, third-party risk; and 4) invocations — causes, lessons learned.

Business Continuity Affects Your Firm's Top And Bottom Line

Your business' ultimate end customers — be they consumers, patients, clients, or citizens — have little tolerance for disruption to either communication channels or product and service delivery. Customers no longer care about the source of the disruption; whether it was a hurricane, cyberattack, software corruption, or employee strike, they expect your firm to continue operating. And this is true of your partners as well. Few businesses work in isolation; you rely on a bevy of strategic relationships to deliver your products and services, and others rely on you. If you're down, they're down. Repeated service disruptions or a single outage with broad impact can:

- > Hurt customer experience (CX). On the morning of April 15, 2018, as millions of US citizens attempted to file their tax returns and make payments, the website of the US Internal Revenue Service (IRS) suffered a major outage that lasted until the next day.¹ And although it's harder for citizens to switch to a government's competitor (they'd have to emigrate) than it is for them to change banks or mobile carriers, governments must prioritize customer experience. For every 1-point increase in a government agency's Customer Experience Index (CX Index™) score, 2% more customers do what the organization asks of them. This can have a big impact on revenue from taxes and fees. Among customers who rate the US IRS CX as poor, just 86% say they file accurate tax returns.²
- Perode company profits. In May 2017, a power outage forced British Airways (BA) to cancel 726 flights over three days, stranding 75,000 passengers. A month later, the firm estimated that the outage would cost them at least £80 million.³ In September 2018, the airline disclosed a breach of 380,000 transactions. It's unclear yet how much breach response and customer compensation will cost the company, but it could pale in comparison to a possible GDPR fine. The airline appears to have met GDPR breach notification requirements, but regulators could still hit BA with a fine for the breach itself. SPG Law is already threatening a £500 million lawsuit.⁴
- Damage reputation and future business opportunities. In June 2018, Australian communications firm Optus angered millions of football (soccer) fans when its live streaming of the World Cup suffered multiple technical failures and outages that lasted through the weekend. To appease



outraged fans and even the prime minister, the firm gave refunds to affected subscribers and allowed SBS, a public broadcaster, to broadcast the remaining games for free — despite having spent millions for the rights. Optus also took out ads in major newspapers across Australia to apologize, some of which contained a personal apology from the CEO.⁵

BC Pros Are Expanding Their Missions To Include Most Of Operational Risk

The mission and scope of business continuity is evolving. In the past, BC focused primarily on continuing to operate during extreme weather like hurricanes or during human-caused events such as acts of terrorism. Today, it encompasses other types of operational risks, including supply chain risk, vendor and third-party risk, cybersecurity risk, and even employee risks like strikes and skill shortages. As an example, one head of BC for a regional US bank told us that her team now approves all new vendors. This evolution is leading to:

> A transformation of the BC role and its value to the business. This is transforming not only the role of the BC professional but her relationship with business leaders. Increasingly, BC pros engage at the C-level and develop strategic capabilities that create both business and operational benefits like the ability to balance workloads across employee locations for availability, performance, and 24x7 customer service. BC professionals measure success in business terms like the availability, quality, experience, and other characteristics of products and services to customers. Thus, the next chapter in the history of BC management will focus on how BC pros help their firms become operationally resilient. Forrester defines operational resilience as:

The ability of an organization to absorb the impact of any unexpected event without failing to deliver on its brand promise.

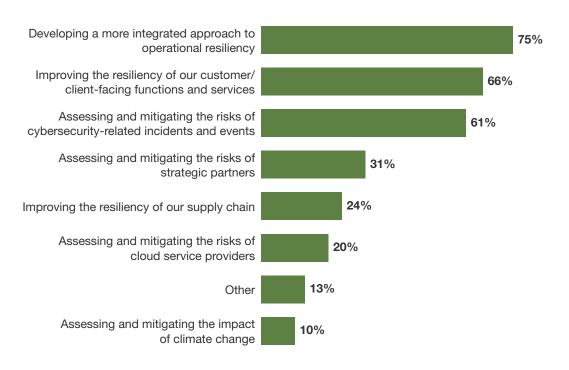
- The pursuit of operational resilience. Operationally resilient firms have plans in place to handle failures, and they also do their best to eliminate unnecessary risk and build redundancy into the business itself. For example, as firms expand, BC pros can help select locations for new offices, plants, warehouses, and data centers that minimize natural disaster risk, have reliable and cheap power, and have access to skilled staff. In addition, BC pros can ensure that each local manufacturing facility has redundant equipment to deal with both peak demand and hardware failures and reduces vendor risk by contracting with multiple local suppliers of key inventory. As one BC leader of a large beverage company explained, her BC purview goes from the "grain to the glass." This explains why 75% of BC decision makers and influencers say developing a more integrated approach to operational resiliency is one of their top initiatives (see Figure 1).
- > The support of brand resilience. Your firm's performance is now more reliant on its brand than ever. Today, 80% of the net worth of the S&P 500 comes not from physical assets, such as real estate and industrial equipment, but from intangible assets like brand health, CX, and data.⁶
 Operational resilience is a critical element to achieving brand resilience, which is critical to the long-term success of your organization. Forrester defines brand resilience as:



The ability of the brand experience to live up to and remain consistent with the brand promise, maintaining its integrity even in the face of damaging interactions, events, or circumstances.⁷

FIGURE 1 Improving Operational Resilience Is The Top BC Priority

"Which of the following will be the top priorities or initiatives for your business continuity initiatives during the next 12 months?"



Base: 120 BC decision makers and influencers

Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

A CRO Or A CISO Could Be Your Next BC Executive-Level Sponsor

In our 2017 survey, approximately 87% of respondents had executive-level sponsorship for BC preparedness — that's nearly identical to 2014's 88%. This demonstrates that we've matured beyond the time when we had to explain that BC preparedness was not just an expensive insurance policy for rare catastrophic events or a compliance mandate. However, there continues to be no single corporate executive who most often sponsors BC. It's not unusual to find the CEO, the CIO, the head of facilities, or even the CFO as the exec sponsor for BC. And exactly who sponsors your BC efforts can play an outsized role in defining the mission, scope, and value of these efforts. Our research revealed that:

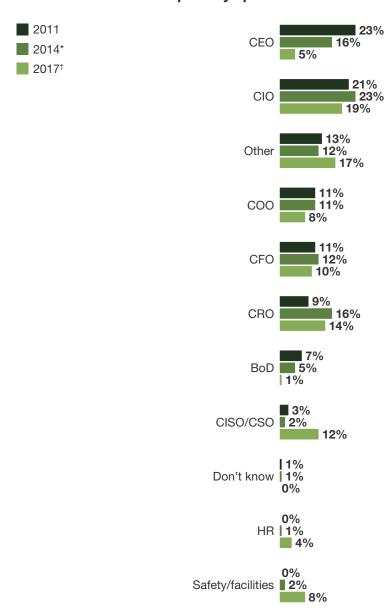


- Most executive sponsors sit outside IT and security, but this is changing. Overall, approximately 69% of sponsors still come from non-IT and nonsecurity roles (e.g., CEO, CFO, head of HR). The CIO continues to be the most common executive-level sponsor, but we've seen significant increases in sponsorship by the chief information security officer (CISO) (see Figure 2). This is because: 1) no single business leader other than the CEO has ever had any momentum as the ultimate BC exec sponsor and 2) firms' dependence on technology has increased.
- > The CRO is the likely sponsor when firms have made a move to consolidate risk silos. Fourteen percent of respondents said that the CRO was the executive-level BC sponsor. This trend represents the desire on the part of some firms to unify, or at least attempt to integrate, disparate operational risk domains. Risk management domains such as information security, business continuity, and supply chain all require the same contextual knowledge of how the business operates and the interdependencies between people, physical resources, and technology assets and services but they still approach their responsibilities independently, which is inefficient and error-prone. These disciplines should also all adopt a common approach to objectively identifying, analyzing, evaluating, and treating risk.



FIGURE 2 Exec Sponsorship Is Shifting To The CRO, CIO, And CISO

"Which executive is the primary sponsor?"



Base: 261 BC decision makers and influencers that have executive level support

*Base: 154 BC decision makers and influencers that have executive level support

†Base: 166 BC decision makers and influencers that have executive level support

Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

BCM Programs Still Face Governance And Organizational Challenges

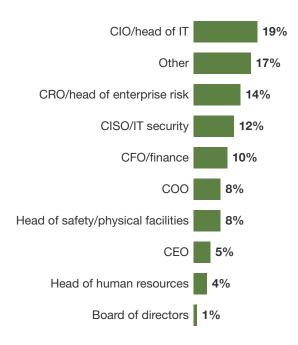
BC pros have mixed feelings about the maturity of their BC management (BCM) programs. In our survey, 47% of respondents rated their programs as a 3 on the COBIT 4.1 maturity model, which defines the levels as: 0 — nonexistent; 1 — ad hoc; 2 — repeatable; 3 — defined; 4 — measured; and 5 — optimized. Only 27% were more optimistic about their programs, rating their programs as a 4 or 5. There are several reasons for this less-than-ideal state. Consider that:

- PCM programs reporting into the CIO's organization can focus on tech too much. Our respondents say that 31% of BCM programs report into the CIO's or CISO's organization. Several consultants that we spoke with said that reporting does change by industry. For example, BCM programs at consumer products and pharmaceuticals report into operations, while BCM programs at technology-oriented companies do often report into the CIO's organization. Reporting into the CIO's org can be successful if a majority of your business relies on online transactions or other digital channels. However, even for a business that's completely digital, reporting into the CIO's organization can lead to deficiencies if the BCM team isn't careful. Typical areas these tech-focused teams overlook include: workforce disruption planning; crisis communication with employees, partners, and customers; and identifying and mitigating nontechnology risk.
- b BCM programs that report into a leader without broad influence can suffer. Fourteen percent of BCM programs report into an enterprise risk department or CRO (largely unchanged from 2014), while 28% report directly into business line executives (CEO, COO, CFO, HR, board) (see Figure 3). As CROs become more common and evolve their role to include all of enterprise risk management, we expect that more BC leaders will report directly into the CRO, but until that happens, the CEO, COO, or even CFO are good alternatives. Reporting into a C-level executive that doesn't have broad influence or a span of control that reaches across the company, such as the head of facilities or a corporate security officer, can stunt the BCM program.
- back pros struggle with centralized versus decentralized governance models. Large firms that have multiple business units or operate in many different regions need some level of centralized BCM with local execution. This is because most operational risks are unique to the local geography, political climate, or regulatory environment. Several of the consultancies we interviewed reported that their most successful clients pursue a tightly federated model one in which a central team sets policy, standards, and guidelines, while local business leaders and BC pros develop, test, and maintain their own strategies and plans. The local teams must be accountable for their own resilience, but the centralized team must support them with oversight, tools, education, and best practices. However, the federated approach can be challenging if you don't have enough staff. One firm we interviewed had only 1.5 full-time staff equivalents (FTEs) at HQ for central BCM and had to support 200 people worldwide responsible for local execution.



FIGURE 3 Today's BCM Teams Report Higher Up Into The Business

"Into which department or office does the head of business continuity management report?"



Base: 166 BC decision makers and influencers

Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

BCM Funding Will Increase Or Remain Flat

There's good news when it comes to BC budgets: Few respondents to our survey expect decreases in funding during the next 12 months. More specifically, Forrester found that:

- > Thirty-six percent of respondents expect to increase funding. A further 53% expect it to stay the same, while only 11% of respondents expect their funding to decrease (see Figure 4-1). BC leaders usually spend their dedicated budget on employees responsible for managing the corporate BCM program, on helping local regions or individual departments conduct business impact analysis (BIA) and risk assessments, and on formally documenting and exercising those plans.
- > Firms spend 30% of their budgets on technology (see Figure 4-2). BC teams spend on technology in addition to CIO's team's investments in IT recovery. When firms need third-party services for IT recovery or workforce recovery, BC teams can help fund them. BC teams also frequently help select and fund communication services for crisis management and automated notification (e.g., Everbridge, MIR3, OnSolve).8

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- > Twenty percent of the budget goes to BCM governance solutions. This includes software that supports the BC planning life cycle (e.g., Fusion Risk Management, MetricStream, RecoveryPlanner, RSA Archer, SAI Global), risk intelligence services for everything from weather to supply chain risks (e.g., DisasterAWARE, Lumina Analytics, NC4, Verisk Analytics.) and consulting services to augment the BC team.
- he increasing risk and prior events are the primary funding drivers. When asked what prompted the increased funding, respondents cited increasing or evolving risks to the business; a prior crisis, event, or incident; regulatory compliance; and increasing customer expectations as the top four reasons (see Figure 4-3). The top three drivers have been consistent since our first survey 10 years ago, but increasing customer expectations and brand protection are now close behind. This shows how powerful customers have become. Social media has given customers a forceful voice, while online and mobile technologies enable them to make more-informed choices and to decide where and when they buy products and services.⁹

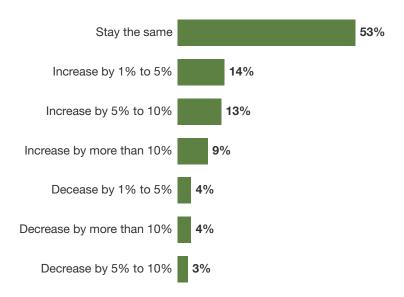
As one BC pro told us: "If you don't provide product, you've lost a sale, and maybe even a customer, permanently." Protecting brand almost made the top four. We expect this to become a higher priority in the future, especially as firms become more customer obsessed.



Risk Pros Are Expanding BC To Include Most Operational Risks

FIGURE 4 Firms Will Spend More On BC To Mitigate Increasing Risk And To Meet Customer Expectations

4-1 "How do you expect overall funding for business continuity initiatives to change in the next 12 months?"



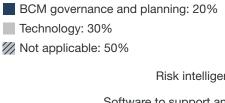
Base: 128 BC decision makers and influencers

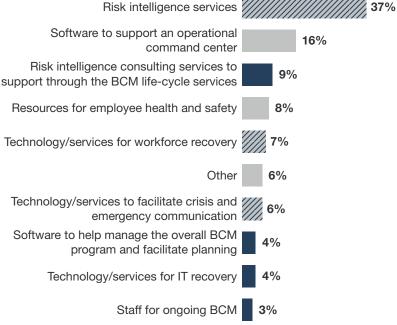
Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

FIGURE 4 Firms Will Spend More On BC To Mitigate Increasing Risk And To Meet Customer Expectations (Cont.)

4-2 "Please estimate the percentage of your business continuity preparedness budget that will be spent on each of the following in 2018."





Base: 131 BC decision makers and influencers

Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

FIGURE 4 Firms Will Spend More On BC To Mitigate Increasing Risk And To Meet Customer Expectations (Cont.)

4-3 "What is driving the increase?" (Rank the top three)



Base: 120 BC decision makers and influencers

Source: Forrester/Disaster Recovery Journal Q3 2017 Global Business Continuity Management Online

Survey

BC Pros Are Unprepared For The Increased Risks From Climate Change

Just 10% of respondents identified assessing and mitigating the impact of climate change as a BC priority for the next 12 months. This is shortsighted: Climate change is already increasing the frequency and impact of acute physical risks like hurricanes, typhoons, and other natural disasters as well as the risks from chronic physical changes like rising sea levels, increasing temperatures, and changes in precipitation patterns (see Figure 5). BC pros have failed to prioritize climate change adaptation because:

There is a misconception that climate change impacts are decades away. The impacts are already here, becoming more visible with time. In fact, the number of weather-related loss events has tripled since the 1980s, and the five warmest years in global record occurred in the 2010s.

In the US, man-made climate change is responsible for boosting Hurricane Florence's rainfall by 50% (estimates for insured losses from Florence range from \$2.8 billion to \$5 billion). ¹⁰ Also in the US, according to Lloyd's of London, a 20-centimeter rise in sea levels since the 1950s increased insured losses from Hurricane Sandy by 30%. ¹¹ Climate change more than doubled the likelihood of the extreme temperatures and drought that occurred in Europe in the summer of 2018. ¹² Hospitals in the US experienced a major shortage of intravenous (IV) bags, which threatened patients' lives, when Hurricane Maria took down Baxter manufacturing plants in Puerto Rico. ¹³

- BC pros don't know how to conduct climate change risk assessments. To conduct a risk assessment, most BC pros rely on historical data. For example, in the US, the Federal Emergency Management Agency (FEMA) maintains a list of declared disasters by state and county going back decades, and the US Department of Transportation (DOT) maintains a list of air, rail, and other transportation-related accidents. Using these kinds of sources, a BC pro can quickly assess a proposed data center location, regional sales office, or manufacturing facility for physical risks. However, what happens when climate change has reduced the relevance of historical data? BC pros need new skills and tools to conduct a new type of risk assessment that involves more complex scenario analysis and risk modeling.
- obes include measured commitments to mitigate it, most firms have yet to consider climate change as a risk multiplier in long-term planning. BC pros have always planned for weather-related risks, but climate change resilience requires a comprehensive understanding of climate change's effects on the business as a whole. From rising seas to resource scarcity, the uncertain specifics and time frame make planning difficult. Complicating matters, actions to improve infrastructure resiliency require public investment, and climate change has become a political football. As scientists continue to draw new conclusions about the impacts of climate change, details become more certain and the business case clearer. For example, one recent study found that rising temperatures' effect on worker productivity will cost the global economy \$2 trillion by 2030.¹⁴



FIGURE 5 Climate Change Will Exacerbate Physical Risks To The Business

Risk	Definition	Examples
Acute	Event-based physical risks, including the increased severity and frequency of extreme weather events (e.g., flood, hurricane, wildfire)	 The Camp Fire was the deadliest and most destructive wildfire in California's history and the costliest natural disaster of 2018, at \$16.5 billion in losses. Relentless rain caused the worst flooding in decades for Japan, destroying over 100,000 homes and displacing more than 2 million people in 2018.
Chronic	Long-term physical risks, including rising sea levels, rising average temperatures, changes in precipitation patterns, availability of fresh water, etc.	 It's estimated that global warning's effect on worker productivity will cost the global economy \$2 trillion by 2030. Within the next 15 years, sea level rise will submerge and damage critical internet infrastructure in the US. Droughts in South Africa cut agricultural output by 20% in 2018.

Recommendations

Take An Outside-In Approach To Business Continuity Management

Many BC pros focused their programs on reducing the cost of downtime and improving recovery time and recovery point capabilities. These are important goals, but they're not business goals. Today's leading firms differentiate on their ability to win, serve, and retain customers. Thus, BC pros need to focus on their firm's promises to its end customers. Understanding the customer journey is key to taking an appropriately outside-in view of strategic planning for resilience, business impact analysis, risks assessment, risk mitigation, and contingency planning. You can't transform your BCM program overnight; it will take months, even years, for some very large enterprises. To get there, BC pros must tackle some strategic and tactical activities:

> Fight to report into a C-level executive with influence. It's important that you report into a C-level executive, ideally the CEO, COO, CFO, or CRO. For firms that are heavily tech dependent, reporting into the CIO or CISO are also good options given the size of their budgets and their span of influence. If you do report into a technology leader, make sure you devote adequate attention to workforce disruptions, supply chain disruptions, and other operational risks. If the head of facilities is your sponsor, you may overfocus on responding to employee health and safety incidents at your physical locations and underspend on providing continuity for end-to-end business services that span regions and corporate functions.



- Realign BCM processes to customer priorities. The more you can highlight linkages to the customer and embed customer obsession into your program, the easier it will be for you to demonstrate value and get the business support you deserve. During BIAs and risk assessments, prioritize more highly any potential impact of risk on the business that affects customers directly. Look for opportunities for BCM to differentiate from competitors and emphasize how planning for long-term threats like climate change will make your firm more resilient, viable, and customer obsessed.
- > Pick one or two priorities to begin expanding the mission of your BCM program. Most of the BC leaders that we spoke with had one to two additional risk domains that they planned to address during the next 12 months. For those we interviewed, supply chain risk and overall vendor risk were critical, followed by partnering with the security team to address the response to cybersecurity incidents like DDoS attacks, embarrassing customer breaches, and ransomware attacks.
- > Use one software tool to automate governance and to unite risk domains. BC pros and consultants both agreed that a tightly federated model was the best governance approach. You obviously need enough staff centrally to support such a model, but it also helps if you can select a single software solution to support both your BCM and broader operational risk efforts. These solutions, from vendors like MetricStream, RSA Archer, and SAI Global, ensure that the entire firm is using common approaches, tools, and templates for BIAs, risk assessments, and plan development, maintenance, and exercise. These solutions provide workflow, reporting, and audit capabilities and can scale and automate many aspects of BCM globally. Some of these solutions can also help to bring other risk management domains under a single umbrella.
- PReconnect with IT leaders responsible for technology risk. If you don't report into the CIO's organization, you'll need to reach out to the CIO's team. At many firms, BC programs and IT disaster recovery efforts are separate and only loosely coupled through higher-level risk committees. At these firms, we often find that the teams don't preplan together, don't develop contingency plans together, and don't exercise/test their plans together. While not responsible for overall BC preparedness, IT infrastructure and operations teams often play an outsized role in contingency solutions for workforce and communication disruptions, and they can provide the technical support for solutions that you rely on for intelligent mass notification and the BCM software itself.

What It Means

Climate Change Will Make Business Continuity A Top Priority Again

For years, BC pros struggled to convince executives that BC was more than just an expensive insurance policy for rare, catastrophic events. Now, just as that effort has succeeded to a large extent, climate change will force BC pros to refocus their efforts on planning for the expected increases in the frequency and impact of acute physical events and on making the business case for long-term planning. In the next two to three years, BC pros will lead the charge on climate-change preparedness



and adaptation by becoming climate change literate and translating those risks into practical actions. This will require BC pros to develop new skills for climate risk assessment and modeling and to invest in tools and services for physical risk intelligence and analysis. Organizations that don't prioritize business continuity and climate change adaptation will lose revenue and ultimately disappear. Those that do prioritize those actions will realize the benefits of adaptation and flourish.

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Supplemental Material

Survey Methodology

In the months of July and August 2017, Forrester Research and Disaster Recovery Journal (DRJ) conducted an online survey of 242 business continuity decision makers and influencers. In this survey:

All respondents indicated that they were decision makers or influencers concerning planning and purchasing technology and services related to business continuity.



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Respondents were from a range of company sizes, revenues, a variety of industries, and had substantial operations across North America; Europe, the Middle East, and Africa; South America; and Asia.

This survey used a self-selected group of respondents (predominantly DRJ members and Forrester clients) and is therefore not random. These respondents are more sophisticated than the average. They read and participate in business continuity and disaster recovery publications, online discussions, etc. They have above-average knowledge of best practices and technology in BC/DR. While nonrandom, the survey is still a valuable tool in understanding where advanced users are today and where the industry is headed.

Endnotes

- ¹ Source: Alan Rappeport, "I.R.S. Website Crashes on Tax Day as Millions Tried to File Returns," The New York Times, April 17, 2018 (https://www.nytimes.com/2018/04/17/us/politics/want-to-pay-your-taxes-come-back-later-says-irs. html).
- ² For more information, see the Forrester report "Why And How To Improve Government CX."
- ³ Source: Gwyn Topham, "IT meltdown has cost British Airways £80m so far, says Willie Walsh," The Guardian, June 15, 2017 (https://www.theguardian.com/business/2017/jun/15/it-meltdown-cost-british-airlines-80m-so-far-willie-walshiaq).
- ⁴ Source: Kate O'Flaherty, "How The British Airways Breach Will Reveal The True Cost Of GDPR," Forbes, September 20, 2018 (https://www.forbes.com/sites/kateoflahertyuk/2018/09/20/how-the-british-airways-breach-will-reveal-the-true-cost-of-gdpr/#111e7a9b3edf).
- ⁵ Source: "Optus takes first steps towards redemption," News.com.au, June 29, 2018 (https://www.news.com.au/sport/football/world-cup/optus-takes-first-steps-towards-redemption/news-story/2db237bf0eb071a2f59f45c4372914d3).
- ⁶ Source: "Intangible Asset Market Value Study," Ocean Tomo (http://www.oceantomo.com/intangible-asset-market-value-study/).
- Protecting hard-earned corporate reputations takes on greater importance as companies shift strategic priorities to win, serve, and retain customers. When a crisis strikes whether the result of executive malfeasance, a product safety recall, a security breach, or another violation of a company's brand values the results can be disastrous. Given that, risk professionals can no longer overlook the growing value and vulnerability of corporate reputations. For more information on the role of risk professionals in brand resilience, see the Forrester report "Brand Resilience: Understanding Risk Managers' Key Role In Protecting Company Reputation."
- 8 For more information, see the Forrester report "Now Tech: Crisis Communication And Mass Notification Solutions, Q4 2018."
- The age of the customer is here. To prove this, we analyzed recent economic and survey data and reviewed the practices of over a dozen companies that have made customer-focused transformations. We found that customers are now more mobile, consume more reviews, and buy more online than ever before. Companies must respond by becoming customer obsessed and adopting four mutually reinforcing market imperatives: 1) Get a quick start by embracing the mobile mind shift; 2) attain maximum customer intelligence by turning big data into business insights; 3) seek a broad impact by transforming their customer experience; and 4) become more effective by accelerating their digital business. This transformation happens locally, from the bottom up, and globally, with the backing of the CEO, CIO, and CMO. For more information on empowered customers, see the Forrester report "Winning In The Age Of The Customer."



Risk Pros Are Expanding BC To Include Most Operational Risks

- ¹⁰ Source: Kevin A. Reed, Alyssa M. Stansfield, Michael F. Wehner, and Colin M. Zarzycki, "The human influence on Hurricane Florence," CDN, September 11, 2018 (https://cpb-us-e1.wpmucdn.com/you.stonybrook.edu/dist/4/945/files/2018/09/climate_change_Florence_0911201800Z_final-262u19i.pdf).
- Source: "RMS Estimates Insured Losses From Hurricane Florence Will Be Between USD \$2.8 Billion and USD \$5.0 Billion," RMS press release, September 24, 2018 (https://www.rms.com/newsroom/press-releases/press-detail/2018-09-24/rms-estimates-insured-losses-from-hurricane-florence-will-be-between-usd-28-billion-and-usd-50-billion).
- ¹¹ Source: Mark Carney, "Breaking the tragedy of the horizon climate change and financial stability," Bank of England, September 29, 2015 (https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability).
- ¹² Researchers from the Environmental Change Institute (ECI) at the School of Geography and Environment, Oxford University collaborated with the World Weather Attribution (WWA) network on a study which revealed that climate change more than doubled the likelihood of the European heat wave, which could come to be known as regular summer temperatures. Source: "Heatwave in northern Europe, summer 2018," World Weather Attribution, July 28, 2018 (https://www.worldweatherattribution.org/attribution-of-the-2018-heat-in-northern-europe/).
- ¹³ Source: Jordan Ecker, "How Neglect of Puerto Rico Sparked a National IV Bag Shortage," The American Prospect, February 20, 2018 (https://prospect.org/article/how-neglect-puerto-rico-sparked-national-iv-bag-shortage).
- ¹⁴ Source: Tord Kjellstrom, Ph.D., "Impact of Climate Conditions on Occupational Health and Related Economic Losses," SAGE Journals, January 26, 2015 (https://journals.sagepub.com/doi/abs/10.1177/1010539514568711?journalCode=a pha).
- ¹⁵ For more information, see the Forrester report "The Forrester Wave™: Governance, Risk, And Compliance Platforms, Q1 2018."





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