

FROM RISK TO STRATEGY: EMBRACING THE TECHNOLOGY SHIFT



KEY TAKEAWAYS

- 1** Technological change and digitalisation can help risk functions increase their efficiency and effectiveness, but this will require new skills at an individual level, a supportive organisational environment, and a well-managed transformation program.
- 2** Despite strong intentions to digitalise the risk function, a shortage of technical skills continues to hamper implementation. This calls for risk managers to develop digital fluency and learn from their peer networks, and for organisations to secure a more technology-conversant risk workforce.
- 3** Digitalising the risk function will require a mindset shift whereby risk professionals see technology as an opportunity, constantly search for ways in which technology can benefit the organisation, and accept change and experimentation.
- 4** Risk functions are increasingly moving toward being a strategic business advisor, and our survey respondents see significant opportunities for technology to enable their move toward higher-value services.
- 5** Amongst cross-functional colleagues, risk managers perceive an inadequate understanding of the risk function and a lack of risk management thinking. Stronger communication skills on the part of the risk manager, alongside cross-organisational risk-adjusted KPIs and incentives, can help improve connectivity and cultivate a stronger risk culture.
- 6** Organisations see themselves generally aware of the risks introduced by emerging technologies, but lacking in the capabilities needed to manage them. This presents a challenge for risk managers, but also an opportunity to demonstrate their relevance in these areas.

PREFACE

We are excited to present the results of the second collaboration between PARIMA, a leading professional association for risk and insurance managers, and Marsh & McLennan Companies (MMC). This follows our successful joint publication in 2017 *Targeting a Technology Dividend in Risk Management*.

In our previous report, we discussed how the risk management profession was facing an increasingly complex and shifting business landscape, while also being constrained in terms of resources. We identified emerging technologies and a more digitalized risk function as a promising solution, allowing risk managers to do more with less.

In this follow-up, we revisit and build on this theme, examining the degree to which a risk manager's role must evolve in order to effectively incorporate emerging technologies into the risk function. We also look at how this shift will both enable and require the risk manager to contribute to more value-adding initiatives in a business advisory role, in order to remain relevant.

To better understand how executives see the role of their risk function changing, we again carried out a survey of PARIMA's members, spanning more than 75 respondents in 13 different industries in Asia-Pacific. We also conducted a series of interviews with business leaders for additional insights.

This research calls for a fundamental shift in the way one sees and defines risks, as well as a repositioning of the risk manager's role in the organization. We hope this report challenges risk managers to embrace new perspectives when managing risks and developing themselves.



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CEO,
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THE CHANGING YET UNCHANGED ROLE OF THE RISK MANAGER

The role of the risk manager has always been to understand and manage threats to a given business. In theory, this involves a very broad mandate to capture all possible risks, both current and future. In practice, however, some risk managers are assigned to narrower, siloed roles, with tasks that can seem somewhat disconnected from key business objectives.

Amidst a changing risk landscape and increasing availability of technological tools that enable risk managers to do more, there is both a need and an opportunity to move toward that broader risk manager






role. This need for change – not only in the risk manager’s role, but also in the broader approach to organizational risk management and technological change – is driven by five factors (Exhibit 1).

The rapid pace of change has many C-suite members questioning what will happen to their business models. Research shows that 73 percent of executives predict significant industry disruption in the next three years (up from 26 percent in 2018).¹ In this challenging environment, risk managers have a great opportunity to demonstrate their relevance.

“There are currently two types of risk managers: those who realize they are not well prepared enough yet, and those who are not well prepared enough yet.”

Steve Tunstall,
PARIMA General
Secretary

EXHIBIT 1: THE CASE FOR CHANGE IN RISK MANAGEMENT

 <p>New technologies</p> <p>Technologies such as Robotic Process Automation have led to the automation of some “lower level” risk management tasks. In a positive sign, 63 percent of PARIMA members surveyed responded that automation provides risk managers a significant opportunity to enhance their contributions to the company through more value-adding initiatives, while only 6 percent see automation as a threat.</p>	 <p>Continued technical skills gap</p> <p>Risk functions often lack the technical skills needed to support an organization’s technology objectives. Our survey respondents cited a lack of technology skills as the key barrier to technology adoption, noting low proficiency in specific emerging technologies and a significant gap between current and desired skillsets. These issues have been persistent since our 2017 survey.</p>	 <p>Communications gap</p> <p>Miscommunication still exists between the risk function and the wider business, limiting organizations’ ability to benefit from risk management insights. Two-thirds of survey respondents cited a lack of “risk management thinking” as the main barrier for risk managers to liaise with those in the wider business.</p>	 <p>New emerging risks</p> <p>There is growing recognition that as new technologies are adopted, they themselves introduce new risks. Sixty-five percent of organizations surveyed anticipate that these new risks will require some (47 percent) or significant (19 percent) changes to their organizational models, frameworks, processes, and controls.</p>	 <p>Faster pace of change across the business</p> <p>Businesses themselves are evolving in a faster, more agile way (for example, rapid launches to market) and traditional risk governance approaches such as monthly new product approval committees are likely to be a roadblock. Risk must adapt to the new way that businesses operate.</p>
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WHAT DO RISK MANAGERS NEED FOR SUCCESS IN A CHANGING TECHNOLOGICAL LANDSCAPE?

¹ Mercer 2019. Global Talent Trends Study 2019: Connectivity in the Human Age.



A FUTURE-READY
TOOLKIT FOR
RISK MANAGERS

We asked PARIMA members where they allocate their risk management resources today, and what they expect allocation to look like in five years (Exhibit 2). The top activities in both periods were relatively unchanged, including risk identification and assessment, controls and compliance, risk framework, and policy development. Notably, though, there was a significant expected increase in resources devoted to advisory services to senior management, innovation development, and ad-hoc analytics and stress testing.

PARIMA members' responses offer an exciting view of what the risk function of the

future could look like: **an innovative team that provides strong strategic advisory services, backed by sound analysis.**

In order to ensure that this vision can be realized, it is important to first develop five key capabilities at the individual risk manager level:

- Using new tools to manage existing risks
- Cultivating a “digital-first” mind-set
- Improving communication skills to serve as a business translator
- Managing the new risks from emerging technologies
- Utilizing networks to stay up-to-date with industry best practices

EXHIBIT 2: RESOURCE ALLOCATION AMONG RISK MANAGEMENT ACTIVITIES

ON A SCALE FROM 1 (LEAST RESOURCES) TO 10 (MOST RESOURCES), ON WHICH ACTIVITIES DO YOU CURRENTLY SPEND MOST OF YOUR RESOURCES? WHAT DO YOU ENVISION YOUR SPENDING TO LOOK LIKE IN 5 YEARS?
AVERAGE RESPONSE



Source The Emerging Tech in Risk Management Survey 2019

USING NEW TOOLS TO MANAGE RISKS

Emerging technologies present compelling opportunities for the field of risk management. As discussed in our 2017 report, the three levers of data, analytics, and processes allow risk professionals a framework to consider technology initiatives and their potential gains.² Emerging tools can support risk managers in delivering a more dynamic, in-depth view of risks in addition to potential cost-savings.

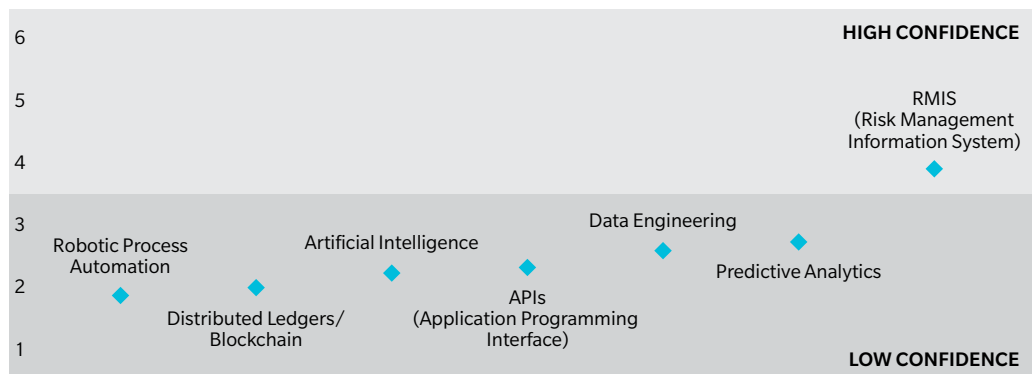
However, this year’s survey shows that across Asia-Pacific, risk managers still feel they are severely lacking knowledge of emerging technologies across the business (Exhibit 3). Confidence scores were low in all but one category, risk management information systems (RMIS). These scores

were only marginally higher for respondents in highly regulated industries (financial services and energy utilities), underscoring the need for further training across all industries.

When it comes to technology, risk managers should aim for “digital fluency”, a level of familiarity that allows them to first determine how technologies can help address different risk areas, and then understand the implications of doing so. They need not understand the inner workings of various technologies, as their niche should remain aligned with their core expertise: applying risk technical skills, principles, and practices.

EXHIBIT 3: RISK MANAGERS’ CONFIDENCE IN THEIR KNOWLEDGE OF EMERGING TECHNOLOGIES

ON A SCALE FROM 1 (LOW CONFIDENCE) TO 6 (HIGH CONFIDENCE), HOW CONFIDENT ARE YOU IN YOUR KNOWLEDGE OF THE FOLLOWING TECHNOLOGIES?
AVERAGE RESPONSE



Source The Emerging Tech in Risk Management Survey 2019

“The technical aspects of technology will always be the domain of subject matter experts. In fact, being too much of an expert in a specialist field will lead to the risk manager being myopic and arguably providing less value. Instead, the risk manager needs to know enough about a lot [of different technologies] in order to see across the issues, find the linkages, and guide solutions.”

Costa Zakis, Head of Marsh Risk Consulting, Pacific

² PARIMA and Marsh & McLennan Companies 2017. Targeting a Technology Dividend in Risk Management.

“Traditionally there’s been a belief that companies in financial services have more data than those in other industries. But actually, we find that organizations outside of financial services simply haven’t been looking at their data.”

Abhimanyu Bhuchar, Partner in Oliver Wyman’s Consumer, Industrials & Services Practice

Digital fluency will allow risk managers to use and monitor technologies effectively, and to achieve gains across two main dimensions:



Risk management efficiency



Risk management effectiveness

Gaining digital fluency to unlock these (and many more) new capabilities currently present an especially exciting opportunity, given the vast amount of data available to analyze. This data, combined with better processing abilities, can help risk managers better manage the risks traditionally in their remit, and also risks that have historically been difficult to measure (Exhibit 4).

EXHIBIT 4: APPLICATION OF MODERN DATA SCIENCE TECHNIQUES FOR RISK MANAGEMENT

BUSINESS USE	APPLICATION	TECHNIQUE
PREDICTIVE MAINTENANCE	Optimization of parts inventory and service schedules in the airline industry	Predictive analytics based on smart algorithms and historical crime data
CONTINGENCY PLANNING	Monitoring the potential for extreme weather events to disrupt supply routes/logistics	Use of scientific data to model exposure to multiple event variants and planned routing
CYBERSECURITY	Defending ICT networks and devices against novel exploits and insider threats	Use of machine learning to define normal behavior and report on abnormalities in real time
ILLICIT ACTIVITY DETECTION	Improved accuracy and faster response to fraudulent and other bad behavior	Leverage big data and advanced analytics for the fast recognition of suspicious patterns
BEHAVIORAL TRACKING	Detection of customer preferences to predict future changes in demand	Monitoring of human behavior using IoT technologies and predictive analytics
COUNTRY RISK MANAGEMENT	Prediction of rising threats to provide early warning to operations and dependencies	Sentiment-based model to dynamically map and track hotspots and threat-level changes

Source Marsh & McLennan Insights 2018. Material Improbabilities: Getting Practical with Emerging Risks

IN PRACTICE

DIGITAL FLUENCY AND PARIMA'S COMPETENCY FRAMEWORK

In 2019, PARIMA released a competency framework articulating the behaviors and skills necessary for risk professionals to meaningfully contribute to their organizations. One skill in this framework is digital fluency: the ability to understand the IT environment and relationships between its various components and systems, including the workflow of data through these systems. This competency centers around risk managers developing their ability to understand and leverage new, improved digital technologies to achieve the desired outcomes.

At a foundational level, risk managers would have a working knowledge of their organizations' information and systems environments, including a basic understanding of risks associated with information, privacy, and data.

At an intermediate level, risk managers should be able to monitor the applications and effectiveness of their organizations' information systems, as well as their associated risks. This level also includes monitoring recent technology developments and recommending implementation where practical.

At the advanced and expert levels, a digitally fluent risk manager would be at the forefront of anticipating new digital trends and translating these into business applications that add value and provide competitive advantage. This would involve, for example:



Leveraging the latest technology to synthesize, analyze, communicate, and present data in a compelling manner



Championing productive technology solutions, such as technology upgrades and enhancements, to meet business needs (for example, faster risk assessment for projects or investments)



Embedding risk management into IT systems

To ensure that risk managers at Filipino conglomerate Aboitiz Equity Ventures are equipped with these and other relevant skills, First Vice President and Chief Risk Officer Annacel Natividad has helped bring a similar competency framework to the organization. "As part of sustaining risk management culture in the long term, in 2018, we established and implemented our own Group Risk Management Competency Framework, which sets out technical and behavioral competencies, as well as the minimum proficiency levels required, for our risk managers, team leaders, and team members," she shares. "This initiative propelled other teams or departments in Aboitiz Group to tailor the same framework to their respective units. This framework will be used in developing ladderized training programs for risk managers."

CASE STUDY 1**LEVERAGING TECHNOLOGY FOR RISK MANAGEMENT EFFICIENCY**

Japanese oil company INPEX is now implementing a risk management information system (RMIS) with several opportunities in mind. The first is to reduce administrative workload and cost of risk management by eliminating repetitive insurance contract management tasks, including (re)insurance policy administration, premium settlement management with receivable and payable status, and policy booking and financial closing matters. Moreover, the RMIS will be accessible to not only the INPEX insurance group itself, but also third parties such as INPEX's corporate insurance broker and captive management company. In this way, the system will allow all relevant stakeholders to reduce administrative costs and access the latest shared information in a timely, email-free manner.

A second benefit of implementing an RMIS will be the ability to centralize both risk financing information and analysis of corporate effectiveness. Such a system will allow risk managers to analyze the company's total cost of risk, including captive operating results and insurance expenses incurred by specific business units (for example, policy arrangement costs and local taxes), without needing to search for information in various databases.

Third, INPEX hopes to use an RMIS to share aggregated risk information with different business units and project owners. "In order to promote risk management culture, we would like to broaden access to this system beyond just the insurance group," Takashi Kubo, Managing Executive Officer and Senior Vice President of Logistics & IMT, says. "The information we would share could include project-specific loss records or engineering survey reports recommending loss prevention and risk improvement plans. This will help facilitate risk thinking among the whole group."

CULTIVATING A “DIGITAL-FIRST” MIND-SET

Successful technology adoption does not only present a technical skills challenge. If risk function digitalization is to be effective, risk managers must champion a cultural shift to a “digital-first” mind-set across the organization, where all stakeholders develop a habit of thinking about how technology can be used for organizational benefit.

For example, the risk manager of the future will be looking to glean greater insights using increasingly advanced analytics capabilities. To do this, they will need to actively encourage their organization to collect more data, to use their data more effectively, and to conduct more accurate and comprehensive analyses.

Underlying the risk manager’s digital-first mind-set will be three supporting mentalities (Exhibit 5).

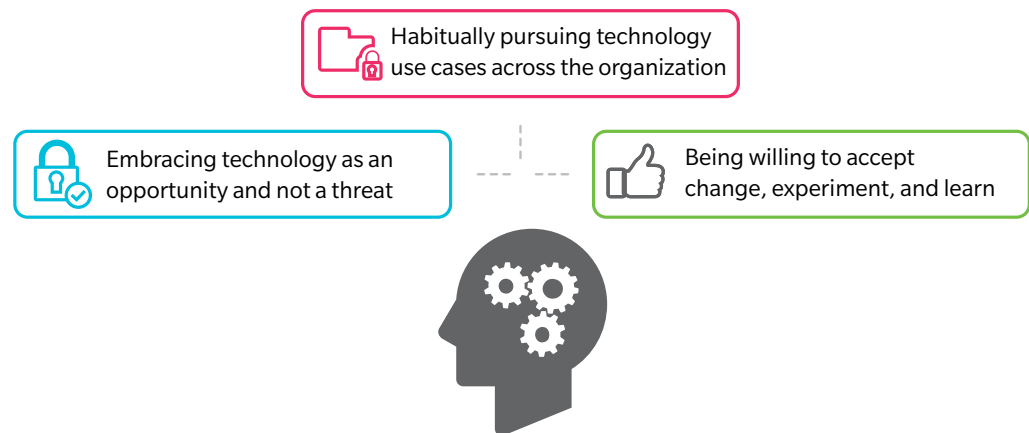
- 1. The first of these is the perception of technology as an opportunity rather than a threat.** Some understandable anxiety exists on this topic, since technology vendors often portray technology as a means of eliminating

human input and labor. This framing neglects the gains in effectiveness and efficiency that allow risk managers to improve their judgment and decision-making, and spend their time on more value-adding activities.

In addition, the success of digital risk transformations will depend on the risk professionals who understand the tasks being digitalized; these professionals will need to be brought into the design and implementation process right from the start. After all, as the Japanese saying goes, “it is workers who give wisdom to the machines.”³

Fortunately, 87 percent of PARIMA surveyed members indicated that automating parts of the risk manager’s job to allow greater efficiency represents an opportunity for the risk function. Furthermore, 63 percent of respondents indicated that this was not merely a small opportunity, but a significant one (Exhibit 6). This positive outlook makes an even stronger statement than findings from an earlier global study in which 72 percent of employees said they see technology as a benefit to their work.⁴

EXHIBIT 5: MENTALITIES TO SUPPORT A DIGITAL-FIRST MIND-SET




Source Marsh & McLennan Insights analysis


³ Mercer, Oliver Wyman, Thomas Kochan, 2018. Engaging the Workforce in Digital Transformation: A New Model to Enable Your Digital Strategy.


⁴ Mercer 2019. Global Talent Trends Study 2019: Connectivity in the Human Age.

2. The second supporting mentality will be a habit of looking for ways in which technology can be used for benefit across the organization, not just within the risk function but also in business processes and client solutions.

Concretely, the risk manager can embody this culture by adopting a data-driven approach, whereby they consider:

 How existing organizational data sources can be better leveraged for risk management

 How new data sources – both internal and external – can be explored

 How data accuracy and completeness can be improved

“Risk managers can also benefit from considering outside-the-box use cases, as well as keeping up with the

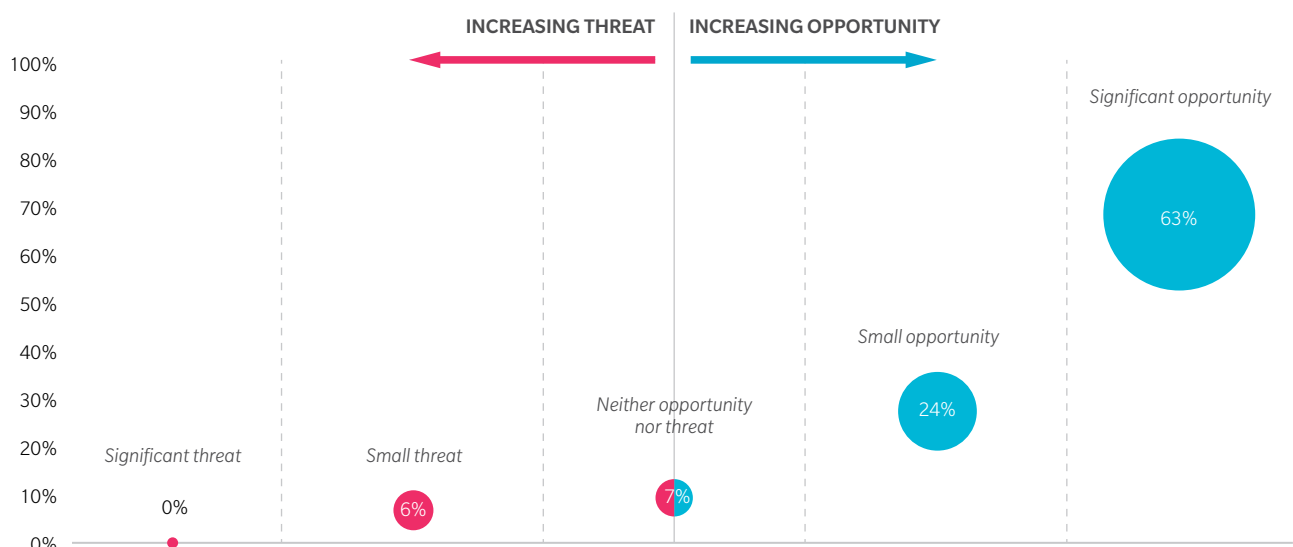
technologies used by competitors,” adds Keith Xia, Chief Risk Officer of OneHealth Healthcare in China.

This is an illustrative rather than comprehensive list, as a data-driven approach – and more broadly, a digital mind-set – is fundamentally about a new way of thinking. If risk managers can grow accustomed to reflecting on technologies’ potential applications, they will be able to pre-emptively spot opportunities, as well as identify and resolve issues such as data gaps.

3. All of this will be complemented by a third mentality: the willingness to accept change, experiment, and learn, such as in testing new data collection and analysis methods. Propelled by cultural transformation and shifting mind-sets, risk managers will need to learn to feel comfortable with – and ultimately be in the driver’s seat for – the trial, error, and adjustment that accompanies digitalization.

EXHIBIT 6: PERCEIVED IMPACT OF AUTOMATION ON RISK MANAGEMENT

PLEASE CHOOSE THE ANSWER THAT COMPLETES THE STATEMENT TO MOST CLOSELY REFLECT YOUR PERSONAL OPINION: “PERSONALLY, I FEEL THAT AUTOMATING PARTS OF A RISK MANAGER’S JOB FOR THE SAKE OF GREATER RISK MANAGEMENT EFFICIENCY REPRESENTS _____.”
% OF RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

COMMUNICATING FOR RESULTS

Kelvin Wu, Group Risk and Insurance Manager from International SOS, shares how his risk team manages their communication strategy to get the best results.

“We usually **manage our message quite deliberately** depending on who we are communicating with. We map out the different stakeholders that we need to engage, and we look at what would be needed to convince that individual and bring them onboard with our thinking.

It might be ensuring that they first have the **right level of senior buy-in**, for example, through their boss or reporting line, or we can ask ourselves what is the **pain point** for that individual that we might be able to help address through our project.”

IMPROVING COMMUNICATION SKILLS TO SERVE AS A BUSINESS TRANSLATOR

Our survey findings highlighted that PARIMA members believe a risk manager’s role as a trusted advisor will increase in importance over the next five years, reaching similar levels as the more traditional objectives of avoiding losses and achieving compliance with regulations (Exhibit 7). Respondents also expected a significant increase in the importance of driving constant innovation.

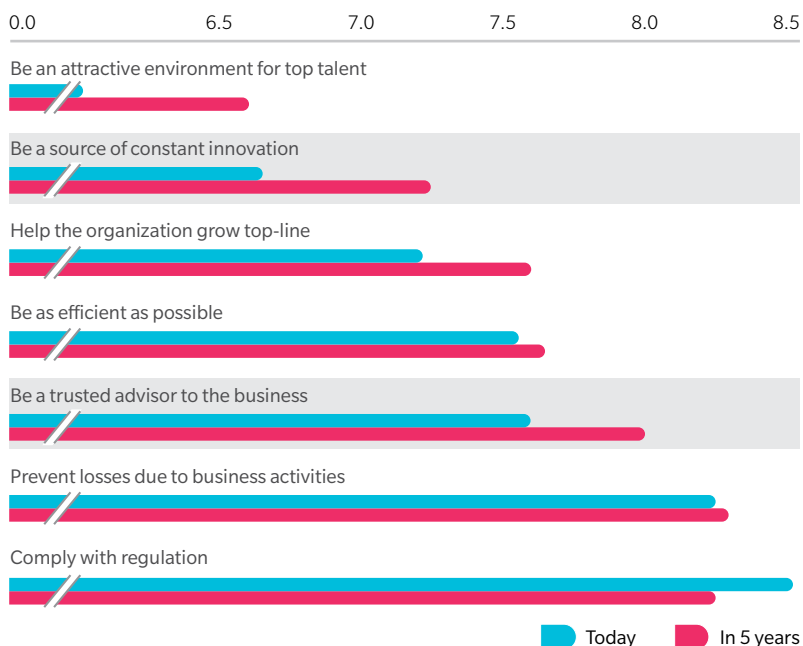
To be effective in their increasingly important advisory role, risk managers must also find ways to more effectively present the risk agenda. This will involve maintaining a balance between their technical toolkit and

complementary soft skills, such as communication and persuasion.

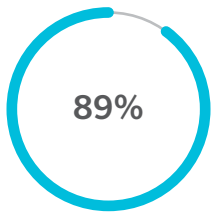
However, our survey results also suggest that many organizations experience a communications gap. Risk managers are confident in communicating with cross-functional colleagues about what risk outputs mean in terms of useful business insights, but feel that other parts of the business do not adequately understand the risk function (Exhibit 8). While we did not ask cross-functional colleagues the same questions about the risk function, even a perceived disconnect (in either direction) is enough to indicate a communications gap.

EXHIBIT 7: KEY RISK MANAGEMENT OBJECTIVES

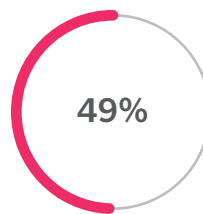
ON A SCALE FROM 1 (LOWEST PRIORITY) TO 10 (HIGHEST PRIORITY), PLEASE RANK THE IMPORTANCE OF YOUR RISK MANAGEMENT FUNCTION’S CORE OBJECTIVES – BOTH CURRENT AND IN 5 YEARS
AVERAGE RESPONSE



Source The Emerging Tech in Risk Management Survey 2019

EXHIBIT 8: COMMUNICATIONS GAPS BETWEEN RISK AND WIDER ORGANIZATION

Of risk managers, when asked how confident they feel in their ability to communicate with internal stakeholders, rank themselves between 1 and 3 on a scale where 1 means “very confident” and 6 means “not confident at all”



Of risk managers, when asked how well they think non-risk colleagues understand the risk management function, responded between 4 and 6 on a scale where 1 means “very well” and 6 means “not well at all”

Source The Emerging Tech in Risk Management Survey 2019

MAKING INFORMATION ACCESSIBLE

As risk managers use technology to generate more sophisticated outputs (such as analyses and assessments), it is important that they assist colleagues across the organization in interpreting what these outputs mean.

RELEVANT SKILLS INCLUDE:

- Translating outputs into business implications via measures or performance indicators that are used across the organization (for example, revenue impacts)
- Learning and utilizing terminology that caters to respective audiences
- Leveraging more advanced communication tools (for example, data visualization and consolidated reporting systems)
- Guiding stakeholder attention to the most important areas of focus

MAKING INFORMATION IMPACTFUL

In addition to helping others understand risk outputs, a risk manager should aim to go one step further and persuade others to use this information in decision-making. To support this next step, risk managers can focus on a few key levers.

RELEVANT SKILLS INCLUDE:

- Communicating based on thorough understanding and explicit attention to stakeholders’ key motives and pain points
- Improving credibility by citing relevant and timely illustrations and examples
- Projecting confidence – if you do not show you believe in the value of your own work, others will also be hard-pressed to see its value

“The ability to put yourself into the shoes of the person who’s hearing your messages is absolutely critical. You need to make sure you’re getting the right tone, the right topic and pushing on doors that are gently opening anyway, and not pushing on doors that are permanently locked.”

Steve Tunstall, PARIMA General Secretary

COMMUNICATING WITH EXECUTIVES

Risk managers need to be mindful of how they communicate with executives, who can decide whether or not to incorporate risk perspectives into their decision-making. “Risk managers run the risk of being marginalized as the people who prevent innovation because they look at downside,” says Costa Zakis, Head of Marsh Risk Consulting, Pacific. “The phrase ‘risk management is stopping us from doing this or that’ is all too common, so risk managers need to think about how they communicate, about what, and when.”

Beyond broadly aiming to make their messages more accessible and impactful, risk managers can do the following to sharpen their communication in meetings with executives:



GET READY

- Develop a clear agenda and focus on a few key, short messages
- If you’d like others to review your materials before a meeting, share them a few days in advance
- Know the executives in the room (for example, their agendas, pain points, and biases)
- Understand the group dynamics, and potentially discuss your idea with people individually before the group meeting
- Garner support for or testimony about your idea from internal opinion leaders so you can present this as supporting evidence
- Know your full set of asks, but be prepared to settle for less



FRAME YOUR IDEA

- Start on common ground. Nothing about the context/set-up you give should be disputed
- Illustrate how your idea supports existing business objectives, and define your idea in terms of business outcome, not logistical requirements
- Highlight key figures/statistics to support your idea
- Call out the impact of risks associated with NOT implementing your idea



BE HELPFUL AND FOCUSED

- Propose a handful of options to which executives can respond, rather than coming to the table with only questions and no potential answers
- Support new ideas with risk management insights. Rather than say why something won’t work, make it a two-way conversation by saying “We might be able to do that, here’s what it will require”
- These behaviors over time will signal to other colleagues that they can come to you for both new ideas and help in making their own proposals a success



FINISH STRONG

- Anticipate questions around implementation
 - What needs to happen now vs. later on?
 - Who needs to be involved?
 - How to measure results?
- Aim for partial commitment: get the listener to agree to some action, leaving the door open for later commitments to other parts of your proposal

MANAGING THE NEW RISKS FROM EMERGING TECHNOLOGIES

The same technological developments and tools that are enabling organizations to transform and advance are also introducing their own set of potential threats.

Our survey shows the PARIMA community is aware of this dynamic, with 96 percent of surveyed members expecting that emerging technologies will introduce some – if not substantial – new risks in the next five years. Exhibit 9 gives a further breakdown of views from this 96 percent of respondents, and the perceived sufficiency of their existing frameworks.

These risks are evolving in an environment where there are already questions about the relevance and sufficiency of risk identification frameworks. Risk management has become more challenging due to the added complexity from rapid shifts in technology, and individual teams are using risk taxonomies with inconsistent methodologies, which further highlight the challenges that risk managers face in managing their responses to new risk types.⁵

To assess how new technology in any part of the organization might introduce new risks, consider the following checklist (Exhibit 10).

EXHIBIT 9: ANTICIPATED RISKS FROM EMERGING TECHNOLOGIES

TO WHAT EXTENT DO YOU THINK EMERGING TECHNOLOGIES WILL POSE NEW RISKS FOR YOUR ORGANIZATION IN THE NEXT 5 YEARS?
% OF RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

⁵ Oliver Wyman 2018. Non-Financial Risk Convergence and Integration: Breaking Down the Silos.

EXHIBIT 10: HIGH-LEVEL RISK CHECKLIST FOR EMERGING TECHNOLOGY

- 1 Does the use of this technology cut across existing risk types (for example, AI risk presents a composite of technology risk, cyber risk, information security risk, and so on depending on the use case and application)? If so, has my organization designated this risk as a new, distinct category of risk with a clear definition and risk appetite?⁶
- 2 Is use of this technology aligned to my company's strategic ambitions and risk appetite? Are the cost and ease of implementation feasible given my company's circumstances?
- 3 Can this technology's implications be sufficiently explained and understood within my company (e.g. what systems would rely on it)? Would our use of this technology make sense to a customer?
- 4 Is there a clear view of how this technology will be supported and maintained internally, for example, with a digitally fluent workforce and designated second line owner for risks introduced by this technology (e.g. additional cyber risk)?
- 5 Has my company considered the business continuity risks associated with this technology malfunctioning?
- 6 Am I confident that there are minimal data quality or management risks? Do I have the high quality, large-scale data necessary for advanced analytics? Would customers perceive use of their data as reasonable, and will this data remain private, complete, and safe from cyberattacks?
- 7 Am I aware of any potential knock-on effects or reputational risks – for example, through exposure to third (and fourth) parties that may not act in adherence to my values, or through invasive uses of private customer information?
- 8 Does my organization understand all implications for accounting, tax, and any other financial reporting obligations?
- 9 Are there any additional compliance or regulatory implications of using this technology? Do I need to engage with regulators or seek expert advice?
- 10 For financial services companies: Could I explain any algorithms in use to a customer, and would they perceive them to be fair? Am I confident that this technology will not violate sanctions or support crime (for example, fraud, money laundering, terrorism finance)?

Source Marsh & McLennan Insights analysis

⁶ Oliver Wyman 2019. AI Risk: The Newest Non-Financial Risk Every CRO Should Be Preparing For.

“Right now, you’re either a risk person or a cyber person. Moving forward, I would say that all risk managers need to develop a set of capabilities around technology risk – but the problem everybody’s struggling with now is that this type of person doesn’t exist yet.”

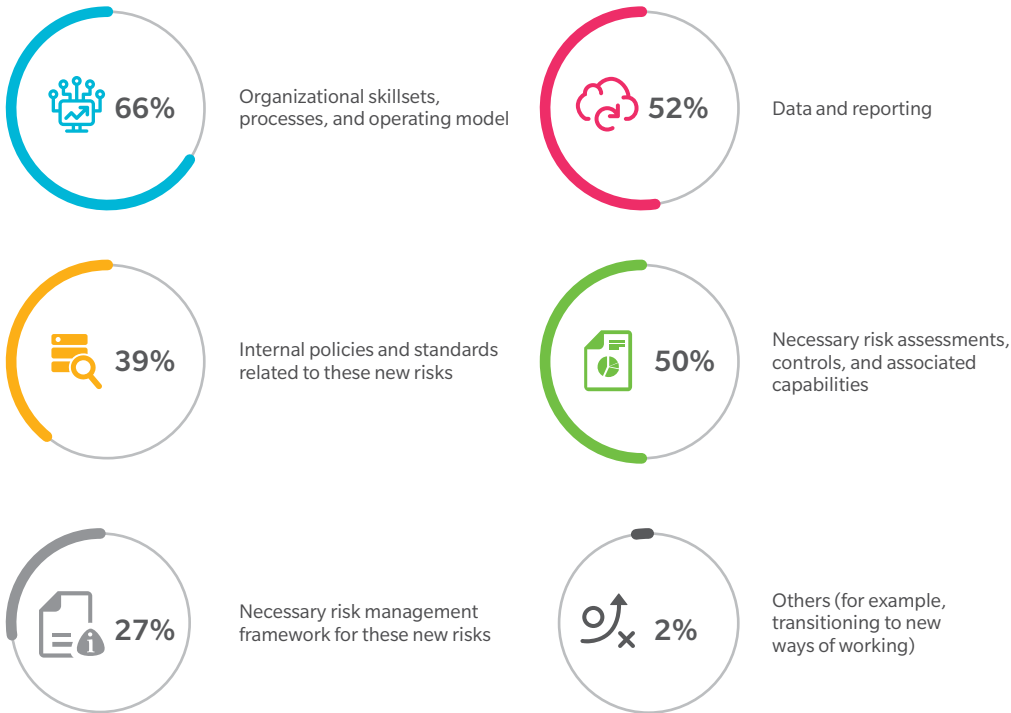
Vadim Kosin, Partner in Oliver Wyman’s Digital, Technology, Operations and Analytics Practice

The emergence of fundamentally different and material threats, from cyber and data security risk to model and technology-specific operational risk, has challenged organizations to review their level of preparedness. When asked in which areas their organization is least prepared, 66 percent cited organizational skillsets, processes, and operating model (Exhibit 11).

Notably, respondents consider the more operational components, including data and reporting, to have the larger gaps as compared to risk identification and measurement – this suggests that firms see themselves as aware of emerging technology risks, but with less able to manage them.

EXHIBIT 11: AREAS LACKING ORGANIZATIONAL PREPAREDNESS

IN WHICH AREAS IS YOUR ORGANISATION LEAST PREPARED FOR THE NEW RISKS POSED BY EMERGING TECHNOLOGIES? PLEASE SELECT UP TO 3 CHOICES
% OF RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

ELEMENTS OF AN EMERGING TECHNOLOGY RISK MANAGEMENT FRAMEWORK

To properly address emerging risks – both technology-related and otherwise – risk functions need to examine how they identify, assess, monitor, and manage them. Ultimately, this work around emerging risks can then be utilized by different stakeholders during decision making (Exhibit 12). Which of these steps has your risk function taken in the past 12 to 24 months with respect to emerging technology risks?



1. IDENTIFY POTENTIAL VULNERABILITIES

- Regularly map organizational elements and the firm's core assets (tangible or intangible) to have an up-to-date systems view
- Triangulate threat information from a wide array of perspectives and sources (for example, risk register, external publications, expert interviews or workshops, bespoke data mining or social media analyses)
- Challenge “house truths” by getting internal views from different levels and locations in the firm, from senior management to colleagues in front-line business units



2. ASSESS AND CHARACTERIZE RISKS

- Measure the risk both quantitatively (for example, scenario-based stress testing and potential financial impact) and qualitatively (for example, expert judgment), comparing this to the organization's risk appetite
- Focus on potential impacts and knock-on consequences more than probability
- Analyze and prioritize risk scenarios. The working group should generate a long list and the steering group should narrow that down to a short list
- Seek senior management review and approval of key areas for protection
- Determine controls or mitigants, considering whether several levers could collectively address some of the firm's top threats at once



3. MONITOR AND REPORT RISKS

- Monitor risks via internal, external, quantitative, and qualitative indicators
- Build an accessible repository of intelligence on emerging risks that can be fed and accessed by risk, strategy, and the business units
- Conduct regular internal reporting to senior management
 - Changes in corporate risk profile, either recent or expected
 - Stress test outcomes
 - View on adequacy of current response and further recommendations
- Consider external reporting for benefit of the wider industry



4. MANAGE AND MITIGATE RISKS

- Develop relevant internal policies (for example, keeping computers current and patched as well as establishing oversight mechanisms for model development)
- Train employees in relevant protocol
- Test internal systems and response plans via simulation
- Purchase relevant insurance based on the company’s fundamental risk profile and benchmarking against similarly situated industry peers
- Consider engaging a specialized third-party
- Use emerging risks analysis to:
 - Frame or test strategy, business continuity planning, and major transactions/investments
 - Stress test corporate financial resilience
 - Rehearse crisis-management preparedness
 - Explore pressure points on personnel, processes, and systems
 - Exercise effective governance oversight

EXHIBIT 12: PURPOSES OF EMERGING RISKS WORK AND KEY INTERNAL STAKEHOLDERS

					
GOAL	Frame or test strategy and medium-term planning, also major transactions and investments	Stress-test corporate financial resilience and the likely effectiveness of risk mitigation measures	Rehearse crisis management preparedness and the interaction of participants	Explore pressure points on personnel, processes and systems involved in implementing major initiatives	Exercise effective governance oversight mindful of critical threats to corporate value over the short and long term
ULTIMATE USERS	Business units Strategy, FP&A	Finance Treasury	External relations Senior management	Business units/lines Relevant functions	Boards of directors

Source The Marsh & McLennan Insights 2018. Material Improbabilities: Getting Practical with Emerging Risks

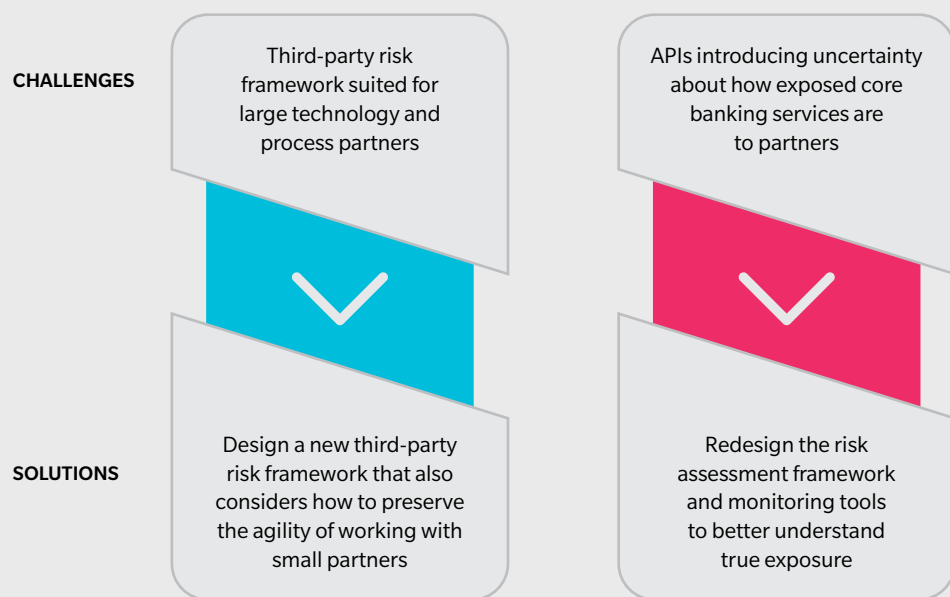
Source Marsh & McLennan Insights analysis
 Marsh & McLennan Insights 2018. Material Improbabilities: Getting Practical with Emerging Risks.
 Marsh & McLennan Insights and WomenCorporateDirectors 2018. Cyber Risk Management Response and Recovery: Global Governance Insights on Emerging Risks.

CASE STUDY 2

MANAGING TECH RISKS IN A PARTNERSHIP MODEL

Oliver Wyman recently worked with one of the fastest-growing small banks in South Asia whose strategy, given its size, was to achieve growth through tech-related partnerships. More partnerships, however, meant that the amount and frequency of data flowing to third parties and external players was rapidly increasing (Exhibit 13). While this case is based on a bank, many of the lessons learnt are relevant for other industries, particularly those interacting frequently with third parties.

EXHIBIT 13: TECHNOLOGY CHALLENGES IN A PARTNERSHIP MODEL



Source Oliver Wyman analysis

CHALLENGE A: RISKS FROM THIRD-PARTIES

The bank had a traditional approach to risk assessment for engaging third-parties, designed to deal with situations where the bank would perform outsourcing to large technology and process partners. The framework was not suited to deal with new challenges arising as the bank increasingly partnered with nimble organizations like fintech players, micro distribution agents, and technology providers. The bank required a framework that would allow them to better manage the risks from working with these parties, while not throttling their chief strength: agility.

SOLUTION

Oliver Wyman developed a new system for assessing third-party risk, with a newly defined strategy and risk appetite; governance structures; risk identification, measurement and mitigation lifecycle; and monitoring and reporting mechanisms. These elements helped bring the risk function's capabilities in line with today's evolving technological landscape – and allowed the organization to pursue a more innovative business model.

CHALLENGE B: RISKS FROM APPLICATION PROGRAMMING INTERFACES

At the same time, the bank was heavily leveraging another form of partnership to enhance its product offerings: Application Programming Interfaces (APIs), which are software intermediaries allowing different applications to share data or functionality. By connecting to an API, for example, distribution partners could use point-of-sale devices to help customers open a new bank account on the spot. The bank was starting to expose areas of their core banking services via APIs, but without a structured approach to understanding what exactly was being exposed, the security and customer confidentiality of whatever was shared, and the overall risk impact. The risk function's involvement in such decisions was limited.

SOLUTION

Oliver Wyman helped develop a risk framework and assessment process for APIs, with recommendations such as the establishment of specific monitoring metrics and the roll-out of customized training for employees. With these new tools, the bank's risk function was equipped to both understand and properly manage the risks from APIs. At the end of the day, whether or not to utilize a specific third party or API still remained a business decision – but crucially, one that risk managers were far better placed to advise on.

UTILIZING NETWORKS TO STAY UP-TO-DATE WITH INDUSTRY BEST PRACTICES

It is insufficient for risk management professionals to consider upskilling a one-off exercise. Instead, risk managers should embrace learning agility and view professional development as a continuous journey – one in which internal and external networks play a key supporting role.

It can be challenging for a risk manager to stay up-to-date, particularly in organizations with smaller risk teams. This is where peer networks and special interest groups such as PARIMA can be useful. They allow for discussions in a non-competitive setting to understand new ideas, hear implementation success stories (and challenges), and to stay on top of peer practices.

Our survey revealed external conferences or networking events to be the most

popular (71 percent of responses) source for risk managers to learn about emerging technologies and their applications (Exhibit 14).

External professional networks and internal networks within the workplace are less utilized (47 percent each). We see external networks likely becoming increasingly important as they adapt to technological changes and bring more relevant topics to their members. The benefits from internal networks are also set to increase due to a large technology skills gap that requires organizations to share their limited human resources effectively. Indeed, this dynamic has already prompted some companies to expand their internal networks by hiring former and retired employees for projects and consulting on a temporary basis.⁷

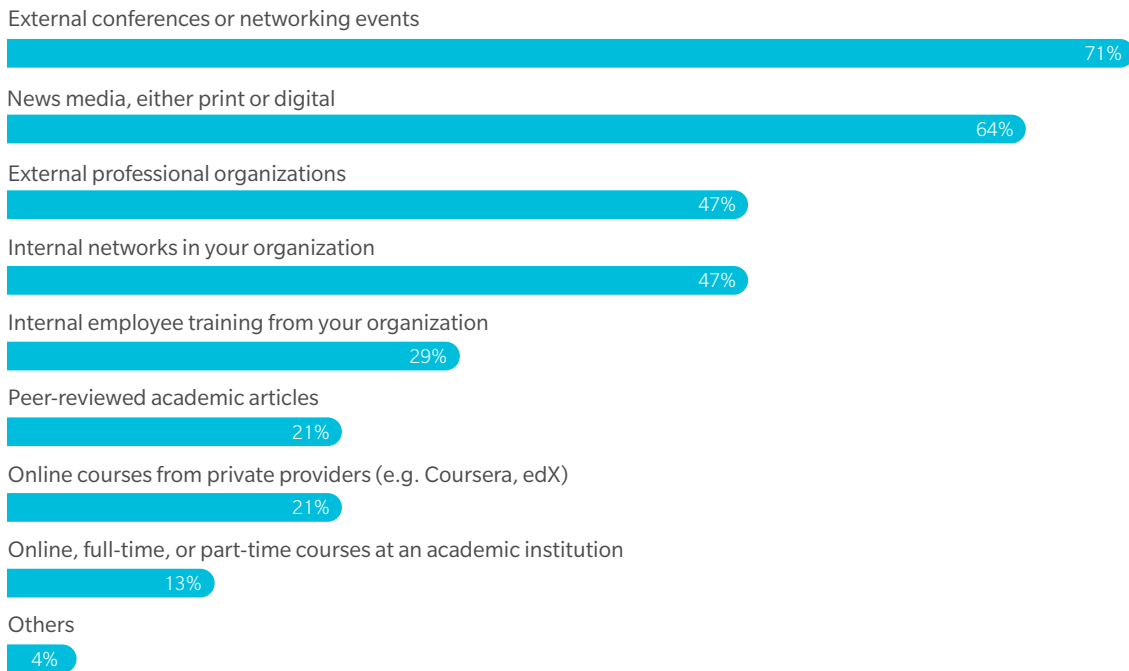
“Risk management is a new field and we need all the help that we can to increase awareness and promote the profession... It will really help if we can raise the competency of risk management in the region, but we cannot do this alone. It is about collaboration – with our peers, customers, insurers, and regulators.”

Victoria Tan, Executive Director and Head of Group Risk Management and Sustainability, Ayala Corporation

⁷ Mercer 2019 (Forthcoming). The Twin Threats of Aging and Automation: A Corporate Response.

EXHIBIT 14: SOURCES OF INFORMATION ABOUT EMERGING TECHNOLOGY

WHERE DO YOU GET YOUR INFORMATION ABOUT EMERGING TECHNOLOGIES AND HOW THEY CAN BE USED FOR RISK MANAGEMENT? PLEASE SELECT ALL THAT APPLY
% OF RESPONDENTS



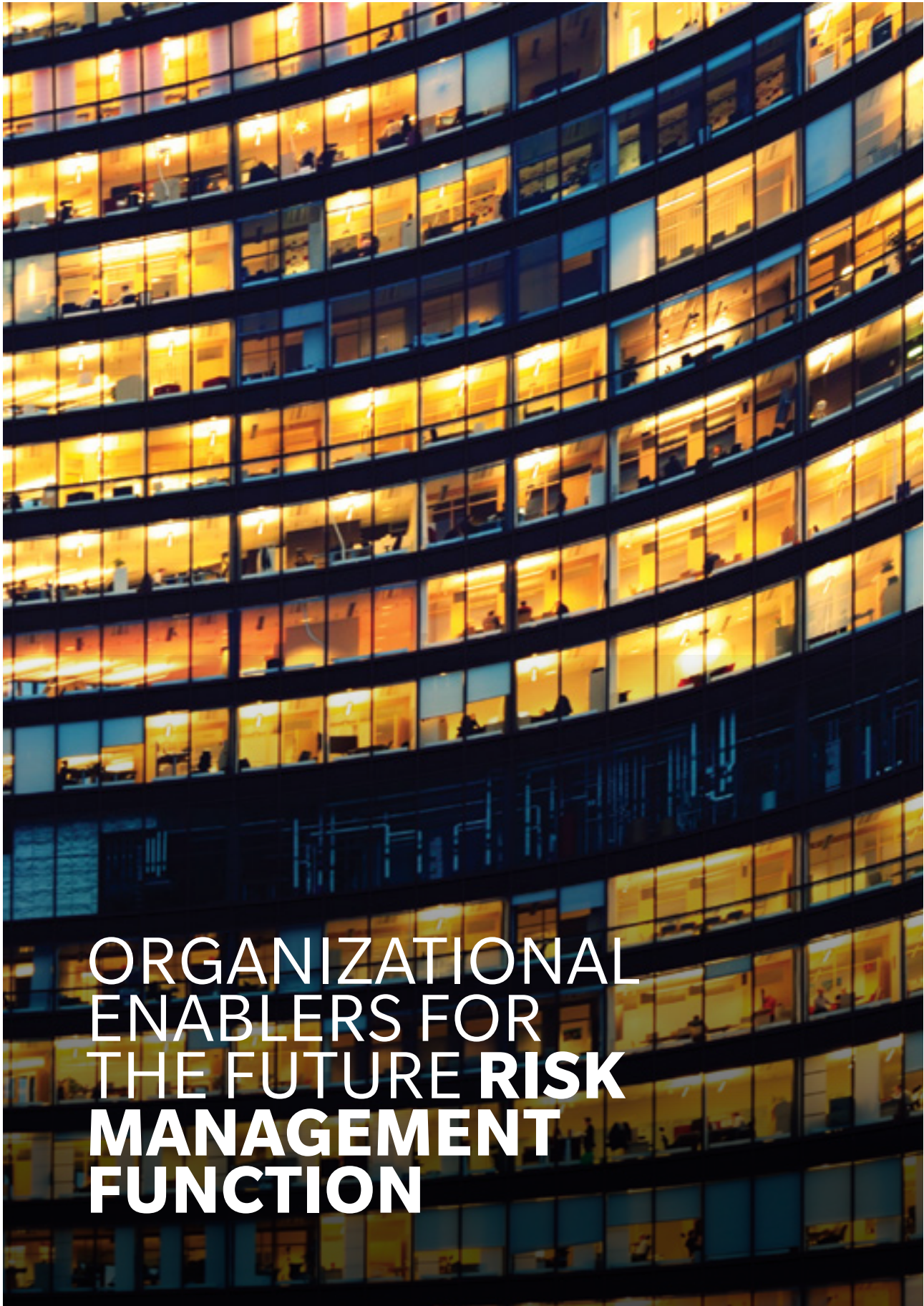
Source The Emerging Tech in Risk Management Survey 2019

HARNESSING INTERNAL NETWORKS

Kelvin Wu, Group Risk and Insurance Manager at International SOS, shares an example of how harnessing internal networks has paid off.

“International SOS recently launched an internal initiative to see how we can build up smarter and more agile data analytics capabilities for all departments. Through internal networks, we were able to uncover strong existing data capabilities, in the form of coders and data engineers who were working on a specific client offering. If we are **capable of doing such projects for our clients**, then there is also great potential for channeling these capabilities into internal initiatives.

In an organization of 11,000 people, there are going to be **pockets of expertise**, and sometimes we just need to know where to look. We need to make sure we ourselves are able to interpret that capability and **translate that into a use.**”



ORGANIZATIONAL ENABLERS FOR THE FUTURE **RISK** **MANAGEMENT** **FUNCTION**

The first section of this report focused on how organizations can future-proof the skillset and role of individual risk managers. However, the success of the risk function – or any function, for that matter – does not solely depend on the skillsets and roles of individual risk managers.

A function's success also depends on how the company as a whole operates. A recent survey, for instance, found that innovations by one unit often fail to be adopted across the wider company due to issues with how different parts of the business relate to each other.⁸ Thus, if organizations hope to benefit from future-ready risk managers, they must also **reinvent the workplace in ways that enable a successful risk function.**

There are four organizational enablers needed to complement the capabilities of individual risk managers:

- A more technology-conversant risk workforce
- Improved connectivity between risk and the wider business
- Risk culture embedded throughout the organization
- A successful transformational change program

“As the role of the risk function is redefined, the relationship with various parts of the organization will change – and this needs to be managed carefully. Business and functional leaders across the company must buy into the ‘need for change’ for risk and be accountable for delivering the transformation.”

Anupama Jain, Principal in Oliver Wyman’s Organizational Effectiveness Practice

⁸ Oliver Wyman and IESE Business School 2018. Organizational agility: Why large corporations often struggle to adopt the inventions created by their innovation units and how to improve success rates in a rapidly changing environment.

SECURING A MORE TECHNOLOGY-CONVERSANT RISK WORKFORCE

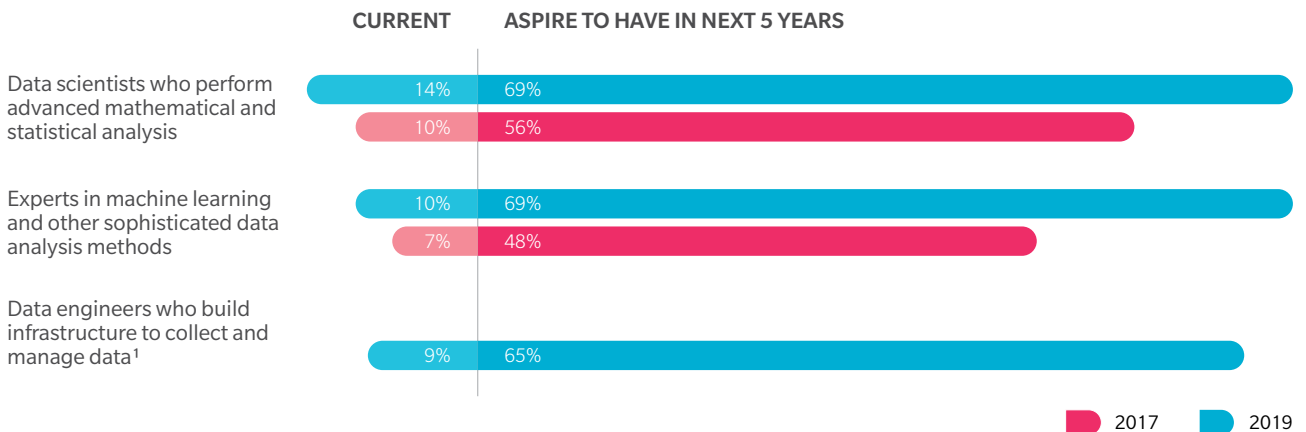
As risk managers focus on digitalizing their function, it is important that organizations support this with an equally deliberate approach to their people strategy. This is for two reasons, as Kate Bravery, Global Solutions Leader, Career at Mercer, explains: “First, each technological leap requires an equivalent revolution in talent; and second, talent typically becomes more important following disruption.”⁹ While upskilling the current workforce is a positive step, as addressed in Section 1, organizations must also consider a more holistic talent management approach.

Risk managers understand this imperative, with survey respondents indicating a strong desire to increase technology expertise in their function within the next five years.

Yet, little progress has been made in adding these skills to the risk function, with a significant gap persisting between aspirations and the reality on the ground (Exhibit 15). In both 2017 and 2019 surveys, the number of risk managers hoping to recruit technology experts has been at least 4.5 times the number of teams currently possessing those skills.

EXHIBIT 15: GAP BETWEEN DESIRE FOR TECHNOLOGY SKILLS AND REALITY ON THE GROUND

WHAT SKILLS DOES YOUR RISK MANAGEMENT FUNCTION CURRENTLY CONTAIN? WHICH SKILLS WOULD YOU LIKE TO ADD/MAINTAIN IN THE NEXT 5 YEARS?
% OF RESPONDENTS



1. 2017 results are not available

Source The Emerging Tech in Risk Management Survey 2017 and 2019

This finding is symptomatic of a far wider issue: digital talent is scarce, yet only one in three HR leaders strongly agrees that their executive team prioritizes human capital risks.¹⁰ Recent research highlights digital talent shortages as an evolving risk in several major regional Asian economies.¹¹

In Indonesia, for example, 62 percent of companies report that talent shortages in data science and analytics have hindered their ability to deliver quality big data analytics to customers.¹² Meanwhile Japan is also facing an acute labor shortage in the cybersecurity and blockchain sectors; despite cyber risks topping the country's concerns, 2017 saw a shortfall of about 130,000 IT professionals.¹³

In seeking new technology-conversant recruits for the risk function, organizations

will need to creatively source and compete for talent (Exhibit 16). Digital skills are in high demand and often possessed by a younger generation of employees, who are frequently wooed by jobs in large technology or professional services firms.

Organizations must improve their value proposition to compete, framing risk management as purposeful work with better and more varied growth opportunities (for example, rotations and secondments), career paths, and employee benefits.

Employees in Asia generally report that their employers do not focus on their health and wellbeing or offer flexible work options.¹⁴ Organizations that do use such levers, therefore, will stand out to job seekers.

EXHIBIT 16: WHAT TALENT STRATEGIES IS YOUR ORGANIZATION USING TO ENABLE RISK FUNCTION CAPABILITIES?



BUILDING talent by developing technology expertise within the existing Risk team. 55% of organizations are planning to train risk managers in strategic competencies, such as understanding how technology can help innovate and improve the Risk function.



BUYING talent by recruiting new Risk hires from less traditional fields. 60% of risk managers in our survey expected their team to look for data science and analytics expertise in its next new hires (Exhibit 17).



BORROWING talent by outsourcing parts of risk management to third parties, freelancers, contractors, consultants, a shared industry talent pool, and so on.

Source The Emerging Tech in Risk Management Survey 2019 and Mercer analysis

10 Mercer 2019. Global Talent Trends Study 2019: Connectivity in the Human Age.

11 Marsh & McLennan Insights 2018. 14 Shades of Risk in Asia-Pacific: Evolving Risk Concerns in Asia-Pacific, Volume 3, Part 2.

12 Asia-Pacific Economic Cooperation 2017. Data Science and Analytics Skills Shortage: Equipping the APEC Workforce with the Competencies Demanded by Employers.

13 The Straits Times 2017. Japan govt looks to India to fill nation's IT talent shortfall.

14 Mercer 2019. Global Talent Trends Study 2019: Connectivity in the Human Age.



IN PRACTICE

HIRING FOR THE FUTURE RISK FUNCTION

Amid talk of a technology-conversant workforce, who is actually being hired on the ground? We asked survey respondents what type of expertise they would expect their risk team to hire in the near future (Exhibit 17).

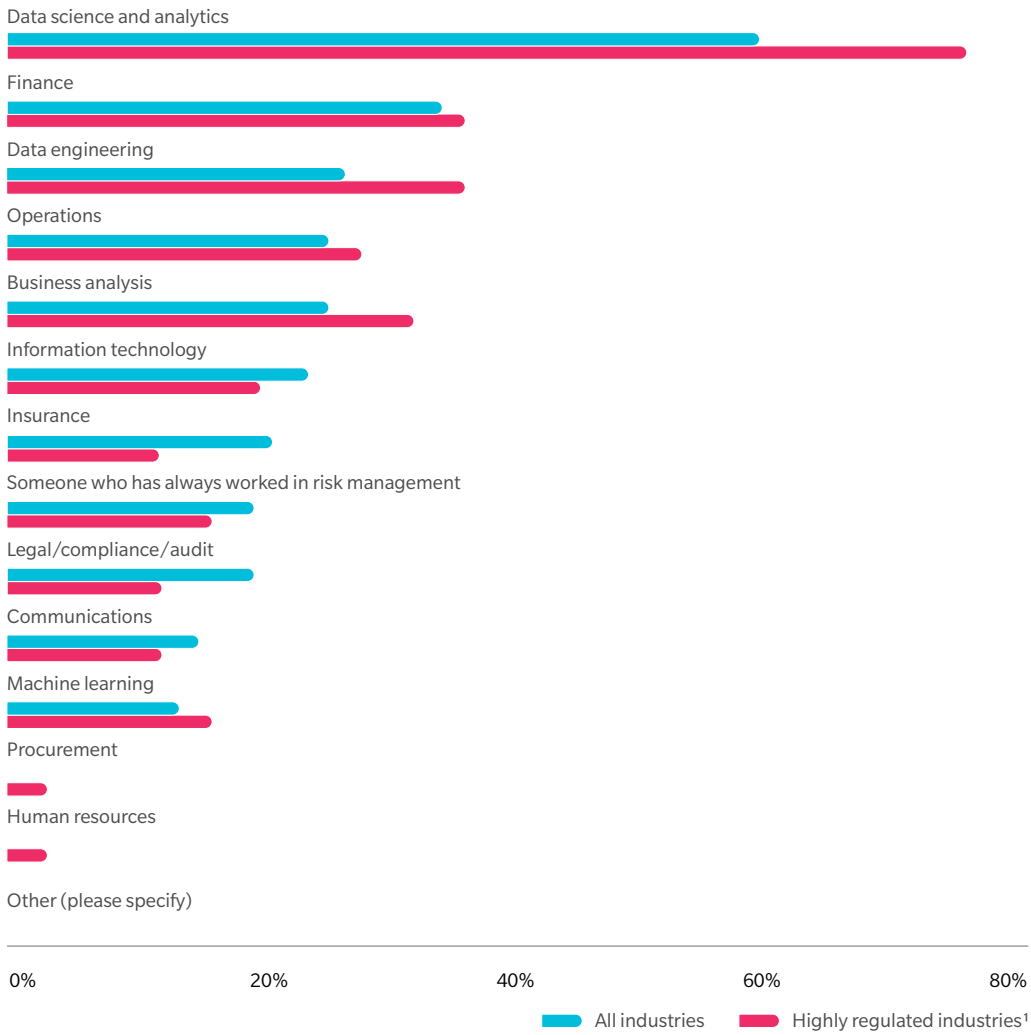
By far, the most popular response was that risk managers are seeking to augment their team's skillset with data scientists (60 percent) who would perform advanced mathematical and statistical analysis. This speaks to the increasing digitalization of the risk function, whereby teams are looking to use analytics in delivering better risk insights.

The second most sought after expertise was finance, with 34 percent of respondents saying they would seek to hire these skills. Upon further investigation, these responses come from a subset of the survey population that currently spends more resources on innovation, has better skills in emerging technologies, and rates technology skills shortages as less of a barrier to implementing emerging technology than the survey averages. These results suggest that even as technology skills grow, traditional skillsets will remain relevant and play a role in helping the risk function be effective.

From there, many of the remaining skillsets were chosen by about one-quarter of respondents. This includes some expertise in areas that will be needed to support the risk function's digital goals, such as data engineering (27 percent) – which involves building software systems, pipelines, and storage solutions for collecting and managing data – and information technology (24 percent). At the same time, a similar number of respondents are looking to hire expertise in operations (25 percent), business analysis (25 percent), and insurance (21 percent). Going forward, even a digitalized risk function will need a wide range of skills, which will likely need to be sourced using innovative means (for example, third party forums, contractors, gig economy, crowd sourcing, shared services).

EXHIBIT 17: DESIRED EXPERTISE IN FUTURE RISK FUNCTION HIRES

WHAT EXPERTISE DO YOU EXPECT YOUR RISK MANAGEMENT TEAM TO LOOK FOR IN ITS NEXT 3 NEW HIRES? PLEASE SELECT UP TO 3 OPTIONS
% OF RESPONDENTS



1. Includes financial and insurance institutions, as well as energy and utilities (and related conglomerates)
Source The Emerging Tech in Risk Management Survey 2019

PROMOTING INTERNAL CONNECTIVITY

Annacel Natividad, First Vice President and Chief Risk Officer at Aboitiz Equity Ventures, shares how her organization promotes connectivity between the risk team and other parts of the business.

“New executives and members of the board of directors have **one-on-one sessions** with the Chief Risk Officer (CRO) during their on-boarding. There are also **bite-sized e-learning modules** in the pipeline to help them (and other employees) get a better grasp of the basics of risk.

We also hold risk management briefings for the Aboitiz Group’s Board of Directors and Senior Executives, where we **invite external speakers** (for example, from Marsh & McLennan Insights) to share their knowledge on topics that are relevant to the risk community. This is our way of increasing our Group’s collective understanding of global and emerging risks.”

IMPROVING CONNECTIVITY BETWEEN RISK AND THE WIDER BUSINESS

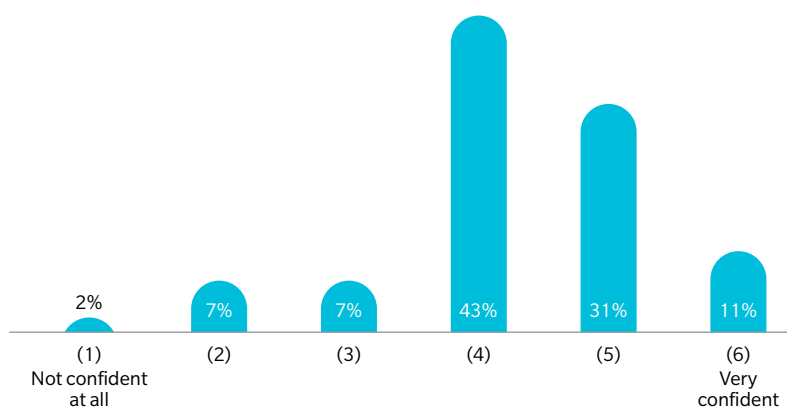
A strong risk management function alone is insufficient to safeguard an organization, as managing risk is the responsibility of every employee. To support this shared task, organizations must ensure there is sufficient connectivity, whereby the risk function has sufficient business knowledge, and the wider organization also understands the risk function’s current thinking, priorities, challenges, and opportunities. Furthermore, risk needs to be sufficiently agile and flexible in its approach to be able to accommodate the new ways in which business units are operating (for example, rapidly taking new products to market) without lowering standards.

In a positive sign, 85 percent of PARIMA surveyed members consider themselves to have a decent understanding of the wider organization, although the potential exists for positive bias in self-assessment (Exhibit 18).

Understanding other areas of the organization, however, does not necessarily translate into effectively working together. We asked survey respondents what barriers they face in liaising with other parts of the business and – in addition to the most frequent answer of culture and incentives, which we will discuss in the next section – our results highlighted some structural issues (Exhibit 19).

EXHIBIT 18: RISK MANAGERS’ SELF-REPORTED UNDERSTANDING OF THE WIDER BUSINESS

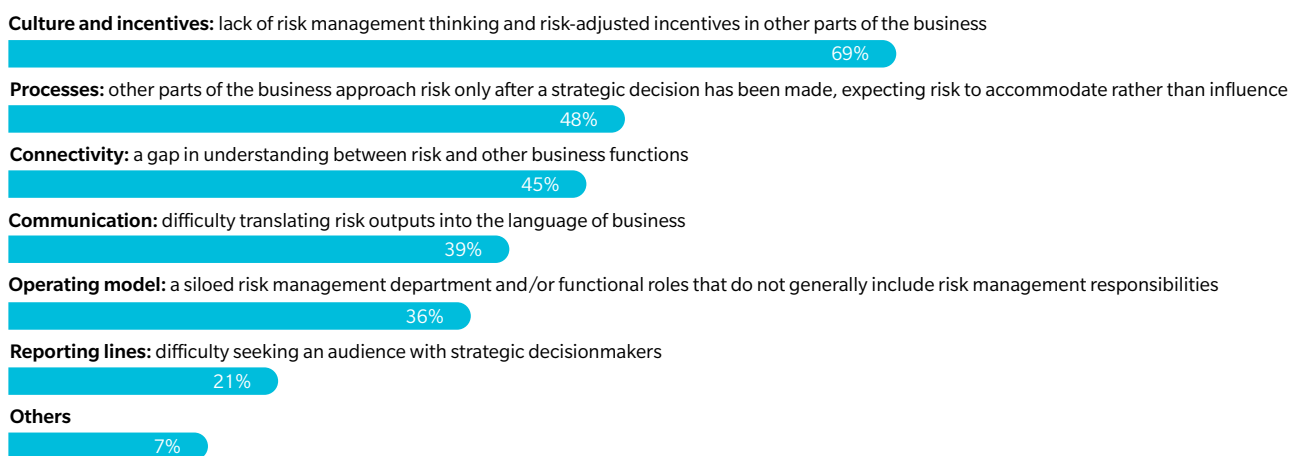
ON A SCALE FROM 1 (NOT CONFIDENT AT ALL) TO 6 (VERY CONFIDENT), HOW CONFIDENT ARE YOU IN YOUR UNDERSTANDING OF THE WIDER ORGANIZATION AND ITS UP-TO-DATE BUSINESS PRIORITIES, CHALLENGES, AND OPPORTUNITIES?
% OF RESPONDENTS



Note Numbers do not total 100 due to rounding
Source The Emerging Tech in Risk Management Survey 2019

EXHIBIT 19: BARRIERS TO THE RISK FUNCTION WORKING WITH OTHER PARTS OF THE BUSINESS

WHAT BARRIERS DOES YOUR RISK MANAGEMENT FUNCTION FACE IN LIAISING WITH OTHER PARTS OF THE BUSINESS?
PLEASE SELECT ALL THAT APPLY
% OF RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

Breaking down the impact of these structural barriers requires some initiative from risk managers themselves. In Asia-Pacific, it is largely incumbent on the risk function to prove its continued value across the organization, and risk managers may even need to circumvent official processes to get things done.

At the same time, organizations can also support improved connectivity by facilitating opportunities for different units to learn from one another and work together. The former could include rotations or short-term projects that risk managers can sign up for in the wider firm, as well as topical events or trainings hosted by the risk function for cross-functional colleagues. Collaboration, meanwhile, could involve

joint planning sessions between the risk function and front-line staff or issue-specific partnerships, for instance, with marketing for reputational risk and procurement for environmental and supply chain risk.

For Ly Xuan Thu, Risk and Compliance Manager at IKEA Purchasing & Logistics Southeast Asia, the key principle has been to increase her engagement with business units. “Better embedding risk management in strategic decision-making can be a challenging area, but I always keep it in my agenda as an important thing,” she says. “Now more people are talking about risk, and are aware of my presence in the office and approach me when needed. That’s a good signal.”

“The usual advice we give to young risk practitioners is to crash the meeting. Go to the meeting even if you aren’t invited so that you can interact with the right people and access the information you need. There is an element of courage required, but that way, we make sure we can deliver on our official mandate.”

Franck Baron, PARIMA Chairman

HOW IS YOUR RISK FUNCTION BROUGHT INTO DECISION-MAKING?

It is important that a risk function has the supporting infrastructure necessary to meaningfully contribute to decision-making. This will ensure that enough information is flowing throughout the organization, between the right people, and at the appropriate frequency – and ultimately allow risk managers to use its analytical toolkit in promoting revenue growth opportunities for the organization.



GOVERNANCE STRUCTURES

- Is there a risk function that's independent of risk-taking activities to ensure separate risk oversight?
- Are there three lines of defense (front office, risk function/middle office, internal audit) with clear roles established for each?
- Is there an executive management-level risk committee – or several issue-specific subcommittees – in place to oversee risk-taking activities (for example, a combination of risk managers and sales personnel) to ensure there is another independent committee to which issues can be escalated?



REPORTING LINES AND CONTENT SHARING

- Is risk information reaching the relevant decision makers and oversight bodies in all layers of the organization?
- Is the right information being reported to each group, and frequently enough?
For example:
 - **Board and Ex-Co:** quarterly report on enterprise risk and appendix of relevant risk types
 - **Risk Committee:** overview of risk trends compared to historical performance via monthly summary of enterprise risk, report on relevant risk types, and appendix of risk type specifics
 - **Risk Function:** detailed risk oversight via daily summary of relevant risk types, report on risk type specifics, appendix detailing organizational position and exposure
- Is reported information clearly linked to a classification system and proactive contingency plans? (for example, Green: business as usual; Orange: contingency plans put in action, monitoring increased; Red: Board intervenes as last resort)
- Is data comparable over time?
- How effective are current escalation processes?

That said, the risk function will naturally be brought into key decision-making processes if the business sees that it can value-add through insights and advice. “Risk functions should try to create this ‘pull’ factor so that yes, you have the stick – the formal ways risk can push to institutionalize their influence – but you also have the carrot,” says Michelle Daisley, a partner in Oliver Wyman’s Finance & Risk and Organizational Effectiveness Practices. In this way, “it becomes the norm to involve risk, not an obligation. This requires high caliber people in the risk function who understand the business and can be assertive when necessary.”

CASE STUDY 3

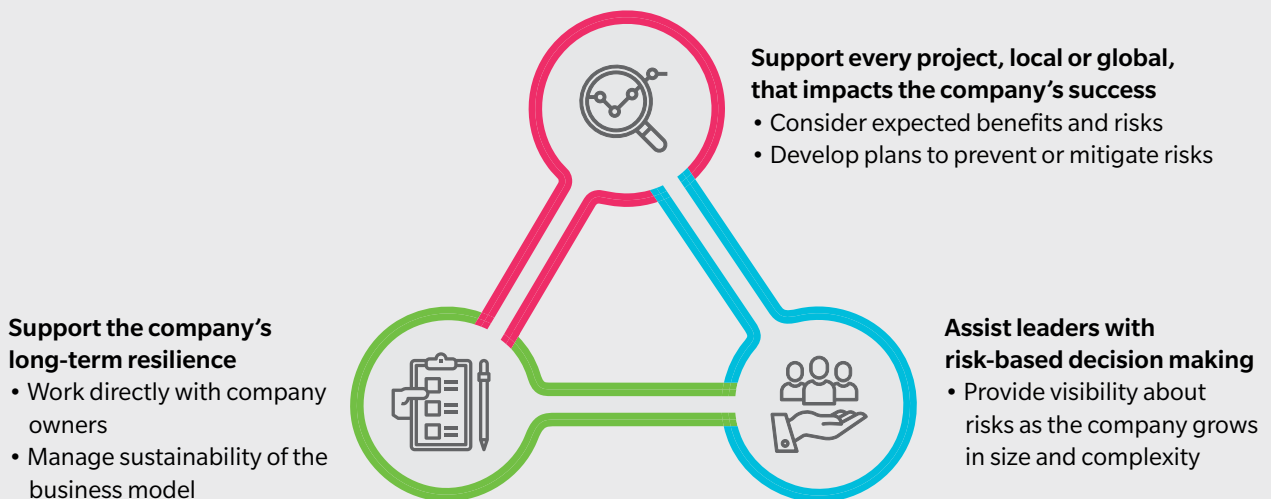
INCREASING INTERNAL COLLABORATION

International SOS is the world's largest provider of medical and travel security services for organizations with traveling employees. In a company with 11,000 employees and operations in 90 countries, how do risk employees manage to foster connectivity between risk and the wider business?

VISION

First and foremost, the "tone at the top" has been crucial in establishing a significant role for the organization's risk function. The company's owners have set a clear mandate for risk management (Exhibit 20).

EXHIBIT 20: VISION FOR INTERNATIONAL SOS' RISK FUNCTION



Source International SOS

IMPLEMENTATION

Putting into practice the owner's holistic vision for risk management has required effective communication across divisions of the company, and Franck Baron, Group General Manager for Risk Management & Insurance, has two suggestions for peers who struggle to "break down the silos."

- 1. Frequently support cross-functional colleagues on an ad-hoc basis.** "Whenever we can help people, regardless of how important the topic is, we see this as an opportunity to build our legitimacy and relevancy to do more critical things in the future," Franck says. "The fact that we competently provide support through insurance and risk every day means that people now tend to proactively come to us with all sort of questions. They know that we can be useful to them."
- 2. Aim for not only frequency, but also breadth of support across the organization.** Franck's risk team regularly interacts with every business line, function, and region when leaders craft their business plans and budget proposals. In these meetings, risk managers might ask "What are the opportunities or risks that you want to tackle by asking for additional resources?" This helps to ensure that throughout the company, leaders gradually learn to incorporate a risk mind-set into their work.

CHALLENGES MOVING FORWARD

Even after using these tips, however, integrating the risk team into decision-making can still be challenging. For example, sometimes the team is unaware of new business initiatives and only brought to the table after-the-fact. "But obviously when brought to the table, then it's up to us to show that whatever we bring to the conversation is relevant, and that we should have been involved earlier," shares Kelvin Wu, Group Risk and Insurance Manager. "The onus is also on us to make sure we're regularly interacting with stakeholders and striving to keep up-to-date with business developments."

At the end of the day, the risk manager navigates a tricky space between collaborating internally and also trying to maintain some distance to serve as a check on the business. "There is always the need for some neutrality in the way you engage with people and structure the dialogue," explains Franck. "The risk management program should not be leveraged in an inappropriate manner and seen as a tool for a business line to ask for additional resources. At the same time, it should not be seen as an internal police figure." This dynamic requires a balance between both empowering and monitoring the organization.

EMBEDDING RISK CULTURE THROUGHOUT THE ORGANIZATION

Our survey found that a lack of risk management thinking in other parts of the organization is the biggest barrier the risk function faces in working with other business units (Exhibit 19). This is a crucial and somewhat alarming finding – but new technologies may be able to help.

As technology allows for increasingly accurate, relevant, and holistic risk measures, organizations should find it easier to develop risk-based KPIs and incentives that can help employees throughout the business incorporate a risk-aware approach into their daily activities.

EXHIBIT 21: KPIs CURRENTLY USED IN RISK MANAGEMENT

BY WHAT KPIs ARE MEMBERS OF YOUR RISK MANAGEMENT TEAM ASSESSED? PLEASE SELECT ALL THAT APPLY
% OF RESPONDENTS



1. Transaction/procurement KPIs, number and cost of material breaches/risk events, or total cost of insurable risks
 2. Demonstration of risk mitigation strategies' cost-effectiveness and return on investment, or potential loss outcomes
 3. Relationships with regulators or other external stakeholders
 Source The Emerging Tech in Risk Management Survey 2019

From an organizational perspective, a first step would be to describe risk limits and risk tolerance in a language that all stakeholders can relate to, such as potential losses. Organizations can then cascade these firm-wide risk concepts down to operational business units, translating risk language into tangible and relevant incentives that encourages behavior that is consistent with firm values. Research shows that employees in Asia want this linkage, citing a desire to better align their individual goals with business goals.¹⁵ The question thus becomes how risk processes can be made an easy, intuitive part of employee routines.

It is also important to consider KPIs for the risk team itself as a way of encouraging desirable behavior and further embedding a risk-aware culture. Already a majority of

surveyed PARIMA members use some form of KPIs in their teams (81 percent), and the fact that reporting performance is the most popular service level measure supports the expectation that PARIMA members actively keep their organization informed (Exhibit 21).

At the same time, these survey responses also raise a number of questions. Forty percent of organizations indicate that they measure reporting performance, but far fewer are measuring accuracy (15 percent) or timeliness (16 percent) of risk analytics – which are necessary to achieve improved reporting performance. Moreover, the most-utilized KPIs in this year’s survey tended to be tangible measures around cost, from which it can be difficult to distinguish a mature risk function from a lucky one.

69 percent of respondents cited culture and incentives – a lack of risk management thinking and risk-adjusted incentives in other parts of the business – a barrier to cross-functional collaboration.

¹⁵ Mercer 2019. Global Talent Trends Study 2019: Connectivity in the Human Age.

SUPPORTING TRANSFORMATIONAL CHANGE PROGRAMS

Even with a desire from individual risk managers to digitalize and complement organizational intentions, barriers still exist that can leave risk managers using basic tools. In 2017, cost and budgeting concerns were the single, standout barrier to risk function digitalization, chosen by 67 percent of respondents, well clear of second placed human capital concerns at 18 percent. This year's survey responses were much closer, with a host of ongoing barriers, six of which were cited by more than 40 percent of respondents (Exhibit 22).

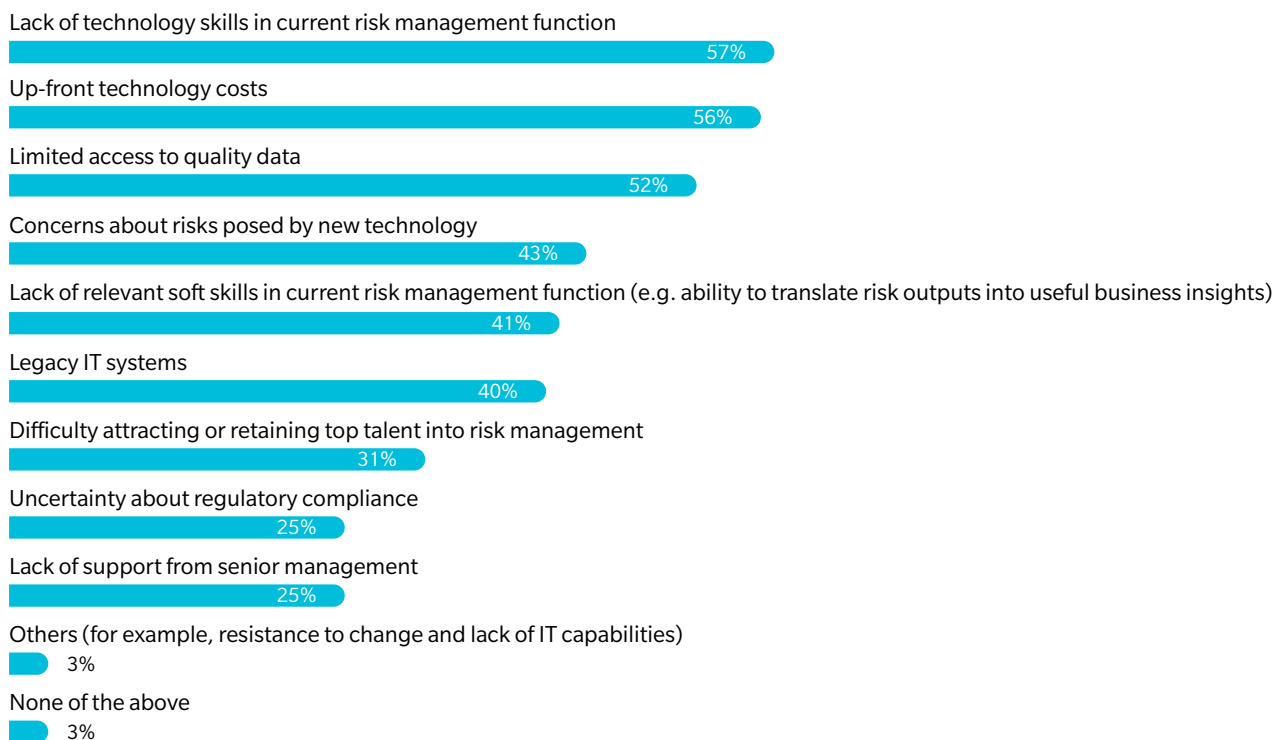
Implementing the nuts and bolts of digitalization will require a holistic transformation program to address all these barriers. That is not to say that initiatives must necessarily be massive in scale. In fact,

well-designed initiatives targeting specific business problems can be a great way to demonstrate success that can then be replicated elsewhere to boost innovation.

Transformational change is inherently difficult, in particular where it spans both technological as well as people dimensions. Many large organizations have generally relied solely on IT teams for their "digital transformation" initiatives. This approach has had limited success, as such teams are usually designed to deliver very specific business functionalities, as opposed to leading change initiatives. If risk managers are to realize the benefits of such transformation, it is incumbent on them to take a more active role in influencing and leading transformation programs.

EXHIBIT 22: BARRIERS TO DIGITALIZING THE RISK FUNCTION

WHAT BARRIERS DOES YOUR ORGANISATION FACE IN USING NEW TECHNOLOGIES FOR RISK MANAGEMENT?
PLEASE SELECT ALL THAT APPLY
% OF RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

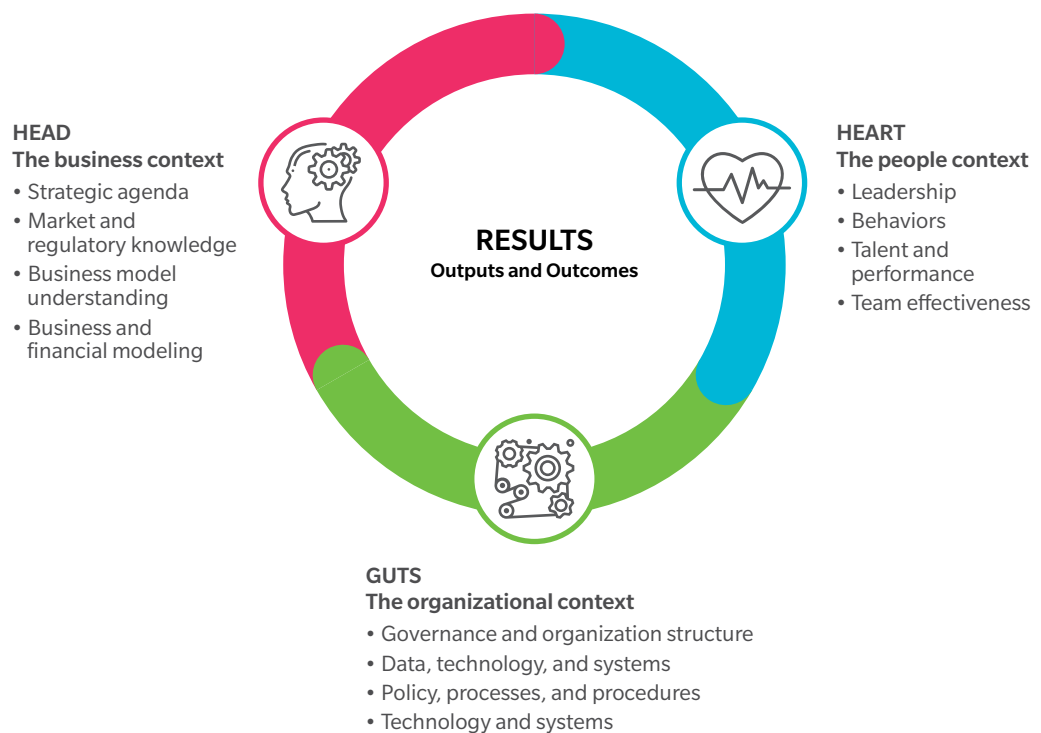
MANAGING CHANGE PROGRAMS

Successful change in an organization requires alignment between three key components: the head, the heart, and guts (Exhibit 23). In our experience, about 70 percent of change programs fail due to difficulty in the 'heart' dimension.

Common challenges include:

- **Leadership misalignment and lack of capability:** “My leaders are not communicating or role modeling a consistent approach to the change”
- **Employee resistance to change:** “My employees are weary of multiple change efforts and are not responding to the latest priority”
- **Limited capability to manage the change:** “My leaders don’t have the skills to lead the change effectively or to deal with the difficult situations”

EXHIBIT 23: ELEMENTS OF A SUCCESSFUL CHANGE PROGRAM



Source Oliver Wyman analysis

To navigate the complexities of such “people”-related issues, consider the following steps that Oliver Wyman uses to support clients:



ALIGN LEADERSHIP

- Map current state through interviews, observation, surveys
- Build consensus
- Guide behavioral change with competency diagnostics and frameworks
- Embed individual new ways of working through coaching, facilitation



ARCHITECT THE APPROACH TO CHANGE

- Gauge intent and readiness through employee interviews, focus groups, surveys
- Agree on an approach



EXPERIMENT AND ACTIVATE CHANGE

- Define business goals and scope
- Pilot the approach with small-scale trials



COMMUNICATE AND ENGAGE THE BUSINESS

- Help employees understand through effective communication
- Help employees change behaviors through engagement (like events and tools)



BUILD CHANGE CAPABILITIES

- Change readiness tools to track progress
- Delivery mechanisms
- Delivery approach



**GETTING
STARTED**

The potential benefits of emerging technology for risk departments are vast and largely achievable today, yet many risk functions are still being held back from success. Organizations cannot rely on technology itself leading a digital transformation of the risk function. Rather, the risk manager must be enabled to pursue this success, which will require elements to be in place for both the individual and the organization.

This shift is not only about how risk managers can leverage new technologies and data to better manage risks and insurance; it is about seizing the opportunity to further collaborate internally with colleagues and stakeholders, break down silos, be even more cross-functional, and finally leverage common technologies and data-driven systems.

There are several concrete steps relating to the risk manager's role that can be taken to catalyze the risk function's movement toward digitalization.



FROM AN INDIVIDUAL RISK MANAGER PERSPECTIVE:

Educate yourself on emerging technologies

Individual skills-building, not to become a technical whizz, but to achieve the level of digital fluency, is required to effectively use technology and understand its limitations.

Build visibility in the organization

Wherever possible, take on all and every cross-functional role to build connections, understand priorities and pain points, and establish yourself as a trusted partner.

Lean on networks

Reach out and lean on networks and professional organizations to get on top of latest trends, know what your peers are doing, and how they have overcome some of the same challenges that you are facing.



FROM AN ORGANIZATIONAL PERSPECTIVE:

Review organizational structures

Take a critical look at the organizational structure, to understand the constraints that are hindering connectivity and limiting the development of a risk-culture across the company.

Incorporate more flexible HR strategies

Re-assess hiring strategies, perform root-cause analysis to understand why current and desired skillsets remain divergent, while keeping a realistic grasp of the external environment (for example, global technology talent shortages).

Commit to transform

Without the full commitment of the organization to bring all elements and stakeholders together, many transformation programs are destined to fail. Change takes significant time, resources, effort, and requires buy-in from the top to the bottom.

This is an area where PARIMA and Marsh & McLennan Companies can help, with a broad offering of insights, trainings, and customized projects to support organizations in building up their technology capabilities and transforming their organization. Marsh & McLennan Insights also regularly publishes relevant and related content under a number of themes including emerging risks, transformative technologies, cyber resilience, and the workforce for the future.¹⁶

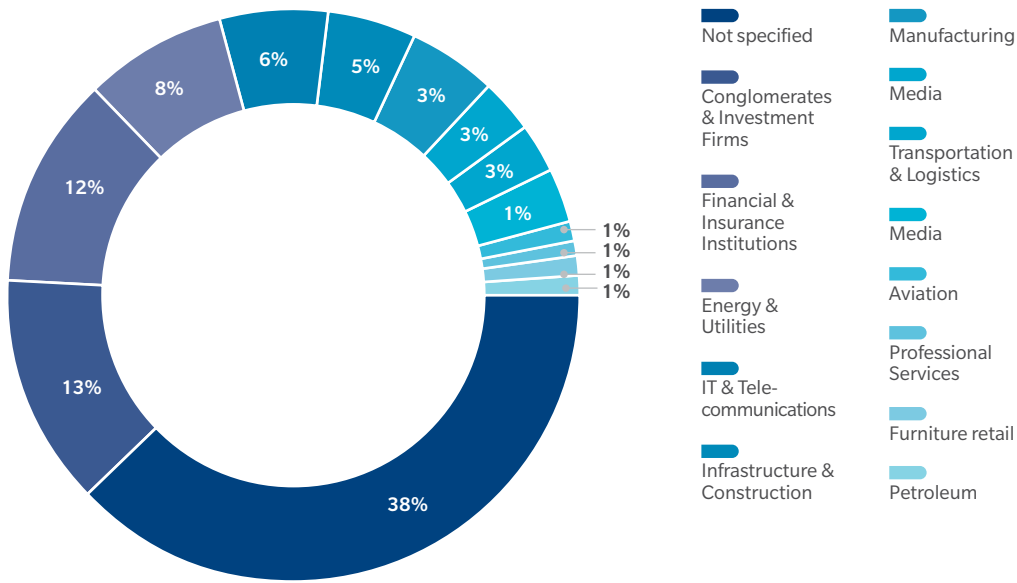
¹⁶ See www.mmc.com/insights for Marsh & McLennan Insights content.

ABOUT THE SURVEY

The Emerging Tech in Risk Management Survey 2019 sampled more than 75 executives across 13 different industries in Asia-Pacific to understand business' status and opinions about the evolving role of the risk manager in today's technological environment. The survey was conducted between January and March 2019.

About 13 percent of respondents to this survey were C-suite executives (60 percent of whom were Chief Risk Officers), and 85 percent of respondents were manager-level or above. The sample reflects views across major geographic markets in the Asia-Pacific region, with Southeast Asia representing 58 percent of inputs and Japan accounting for 10 percent. The rest came from Greater China, Australia, New Zealand, India, and South Korea.

EXHIBIT 24: INDUSTRY COMPOSITION OF SURVEY RESPONDENTS



Source The Emerging Tech in Risk Management Survey 2019

EXHIBIT 25: SENIORITY COMPOSITION OF SURVEY RESPONDENTS



Source The Emerging Tech in Risk Survey 2019

To read the digital version of From Risk to Strategy: Embracing the Technology Shift, please visit www.mmc.com/insights or <http://parima.org/>.

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About PARIMA

PARIMA is the Pan-Asia Risk and Insurance Management Association. It is a not-for-profit professional association dedicated to developing risk management as a profession and providing a platform for risk & insurance managers to connect. We aim to strengthen and enhance the culture of risk management by creating opportunities for education and dialogue within the community. We aim to strengthen and enhance the culture of risk management by creating opportunities for education and dialogue within the community.

For more information on PARIMA and its activities, please visit <http://parima.org/>.

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MARSH & McLENNAN COMPANIES (NYSE: MMC) is a global professional services firm offering clients advice and solutions in the areas of risk, strategy and people. Marsh is a leader in insurance broking and risk management; Guy Carpenter is a leader in providing risk and reinsurance intermediary services; Mercer is a leader in talent, health, retirement and investment consulting; and Oliver Wyman is a leader in management consulting. With annualized revenue approaching \$17 billion and approximately 75,000 colleagues worldwide, Marsh & McLennan Companies provides analysis, advice and transactional capabilities to clients in more than 130 countries. The Company is committed to being a responsible corporate citizen and making a positive impact in the communities in which it operates.

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About Marsh & McLennan Insights

Marsh & McLennan Insights uses the unique expertise of Marsh & McLennan Companies and its networks to identify breakthrough perspectives and solutions to society's most complex challenges. Our work draws on the resources of Marsh, Guy Carpenter, Mercer and Oliver Wyman – and independent researchers. We collaborate with industry, government, non-governmental organizations, and academia around the world to explore new approaches to problems that require shared solutions across economies and organizations. Marsh & McLennan Insights plays a critical role in delivering the MMC Advantage – Marsh & McLennan's unique approach to harnessing the collective strength of our businesses to help clients address their greatest risk, strategy and people challenges.

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TARGETING A TECHNOLOGY DIVIDEND IN RISK MANAGEMENT

As the inaugural collaboration between PARIMA and MMC, this report examines how – in a time of resource constraints – risk managers can be more effective and productive by embracing new technologies.



GLOBAL TALENT TRENDS STUDY 2019: CONNECTIVITY IN THE HUMAN AGE

This report discusses Mercer’s latest global study of top workforce trends and how high-performing organizations are using people-centered transformation to build their workforce for the future.



MMC CYBER HANDBOOK 2019

This handbook provides new perspectives on how businesses can increase their resiliency in the face of ever-growing cyber risk, drawing on insights from both MMC business leaders and experts from Microsoft, CyberCube, Cisco, and FireEye.



DELIVERING THE WORKFORCE FOR THE FUTURE: OPEN-SOURCE TALENT

Amidst increasing digitization and the rise of the “gig” economy, this joint report from Mercer and Oliver Wyman discusses how an “open-source talent” approach can help businesses source the skills they need and engage multiple types of talent.



NON-FINANCIAL RISK CONVERGENCE AND INTEGRATION: BREAKING DOWN THE SILOS

This Point of View from Oliver Wyman details key strategies and actions financial institutions can consider to revamp their non-financial risk management approach.



GETTING AHEAD IN CYBER RISK: A DIFFERENTIATED APPROACH FOR COMMUNICATIONS, MEDIA AND TECHNOLOGY PROVIDERS

This report highlights the current cyber risks facing communications, media and technology providers, then outlines industry best practices such as the use of cyber insurance as a risk-transfer tool.



FROM THREATS TO IMPACT: EVOLVING RISK CONCERNS IN ASIA-PACIFIC

Part 1 of Marsh & McLennan Insights’ annual Evolving Risk Concerns in Asia-Pacific report, this publication examines the risk landscape for businesses in Asia-Pacific. It also drills down into the risks of critical infrastructure failure/shortage and talent shortage, before exploring options to mitigate such risks.



14 SHADES OF RISK IN ASIA-PACIFIC: EVOLVING RISK CONCERNS IN ASIA-PACIFIC

Part 2 of Marsh & McLennan Insights’ annual Evolving Risk Concerns in Asia-Pacific report, this publication presents snapshots of the risk landscape in 14 key regional economies, followed by key takeaways for each economy that business leaders can use to set strategic and risk priorities.

The logo for BRINK, featuring the word "BRINK" in white, bold, uppercase letters inside a blue trapezoidal shape that tapers to the right.

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