



Understanding social and environmental risk

**How KPMG Dynamic Risk
Assessment can help**

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More sophisticated risk assessment means more effective risk management

Organizations today – both public and private – face a multitude of environmental, social and governance (ESG) risks.

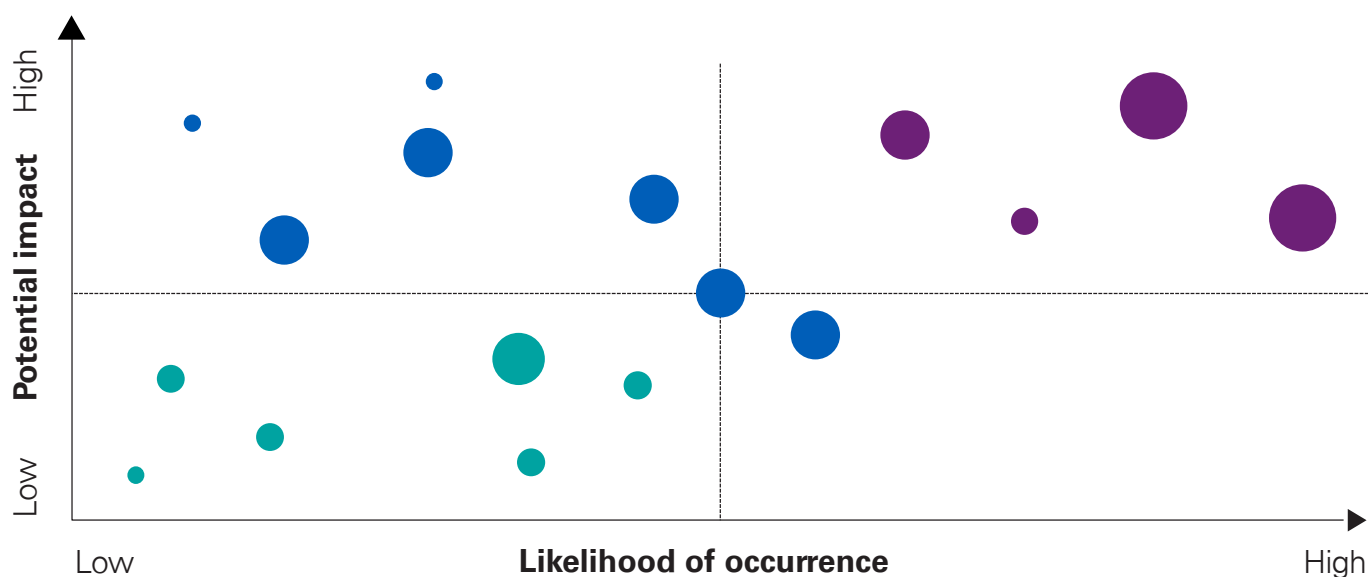
From a booming population to shifting social norms, changing weather patterns to declining ecosystems, the risk landscape grows more complex and interconnected every year.

For decades, organizations have used a two-dimensional approach to predict risk, grading individual risks according to their likelihood and severity. But this method is increasingly incapable of foreseeing and preventing crises that arise from complex chain reactions and tipping points.

KPMG Dynamic Risk Assessment (DRA), by contrast, investigates the structure of the whole risk system to understand the connections between risks and the speed at which risk impacts could occur.

As a result, DRA provides a three-dimensional and dynamic view of risk. It helps organizations make better-informed decisions by understanding what can happen when individual risks combine and interact. It also helps to identify the most effective intervention points to reduce the likelihood and severity of risk clusters and turn challenges into opportunities.

Traditional, two-dimensional and static view of risk



Contact us to find out how KPMG member firms can help you.



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How Dynamic Risk Assessment works

The foundation of DRA is 'expert elicitation': a synthesis of expert opinions. DRA uses human beings as a core tool for risk forecasting because, unlike historical data, human beings are capable of looking forwards as well as backwards.

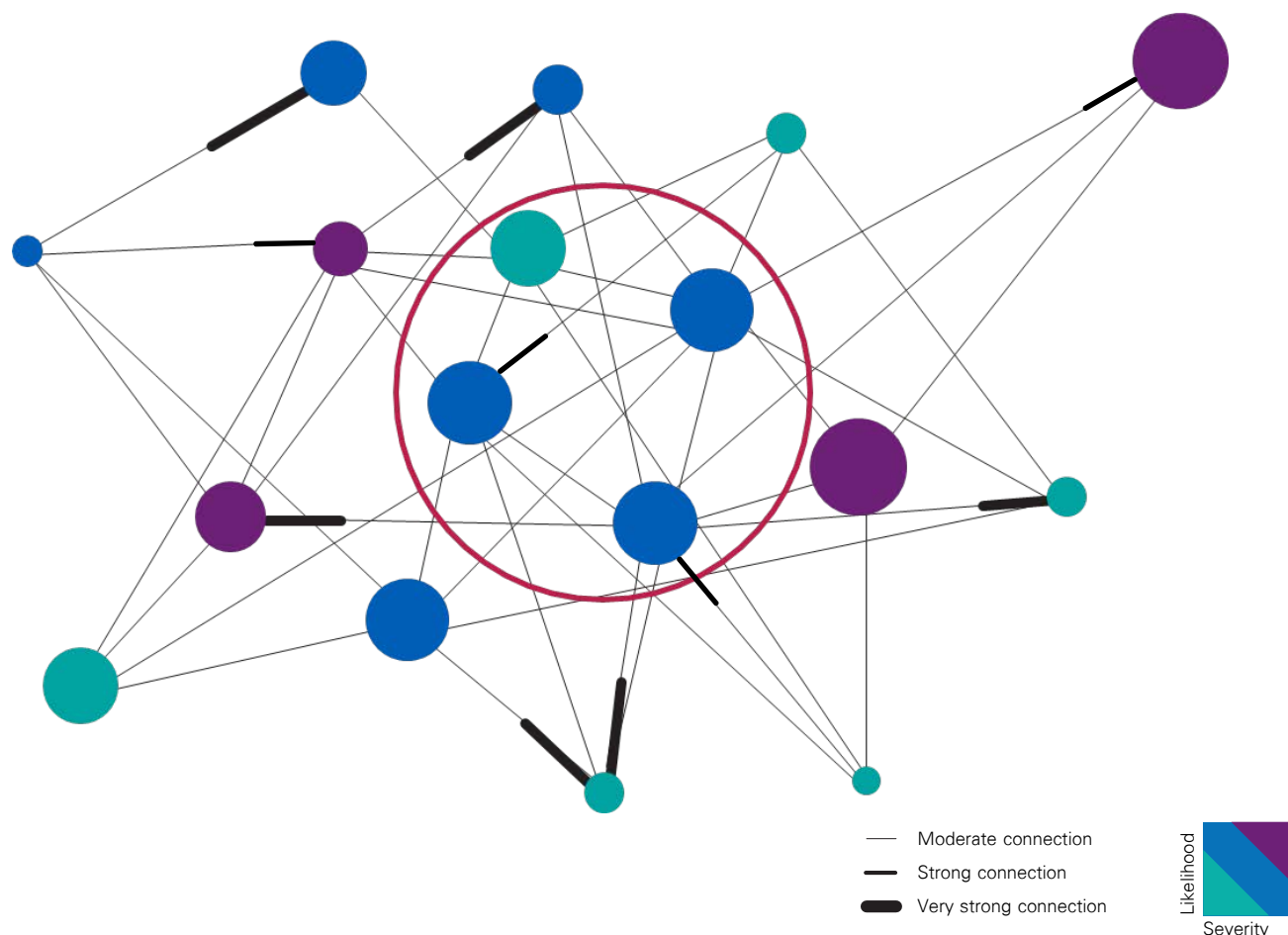
Science tells us that a diverse group of experts, is the most reliable forecasting tool in an unpredictable world. The World Economic Forum, for example, uses a similar technique to produce its annual Global Risks Report.¹

The KPMG Dynamic Risk Assessment process therefore begins with collecting opinions from experts both within the organization and, where appropriate, from outside. In the sustainability context, it can be helpful to involve external experts on environmental and social trends if subject matter expertise within the organization is limited.

Using expert elicitation, DRA taps into the 'sensing capacity' of the experts to draw up a risk list, assess the likelihood, potential impacts and velocity of the risks, and to map the connections and relationships between them.

Three-dimensional and dynamic view of a risk system

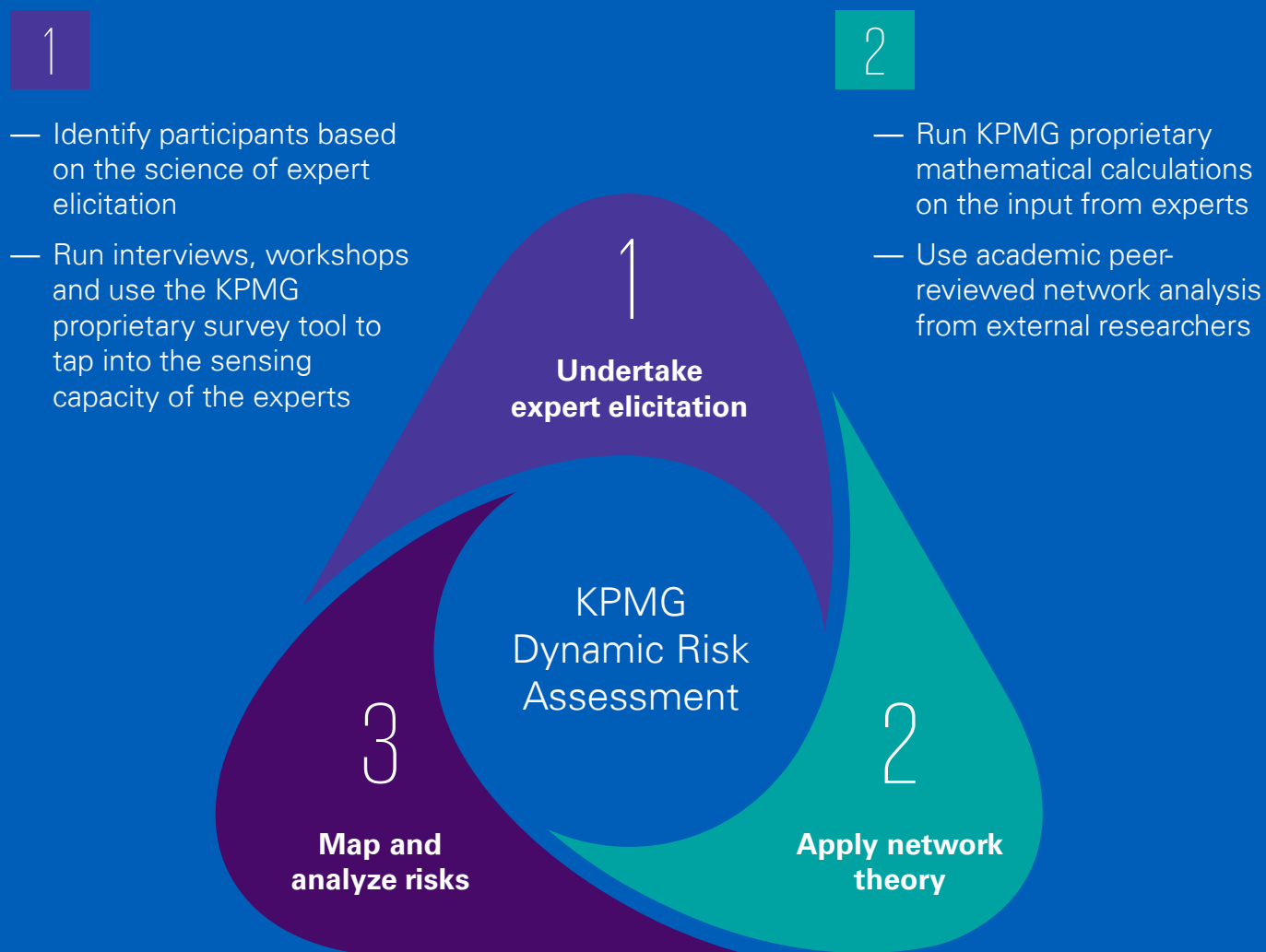
As shown in the diagram below, certain risks are more strongly connected to other risks, forming a cluster. The red circle represents the risks that are most likely to influence or affect other risks, and/or be impacted by other risks.



¹<https://www.weforum.org/reports/the-global-risks-report-2018>

KPMG Dynamic Risk Assessment follows a three-step process

DRA can be applied to any organization in any sector. It is scalable and can be used to understand a broad range of risks, or to perform a deep-dive assessment of how a single risk such as climate change or water scarcity is likely to affect an organization.



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- Map the organization's dynamic risk system
 - Analyze the risk system to identify trigger risks, risk clusters, critical vulnerabilities and opportunities
 - Based on the organization's identified vulnerabilities and opportunities, feed this into its management decision-making or strategy

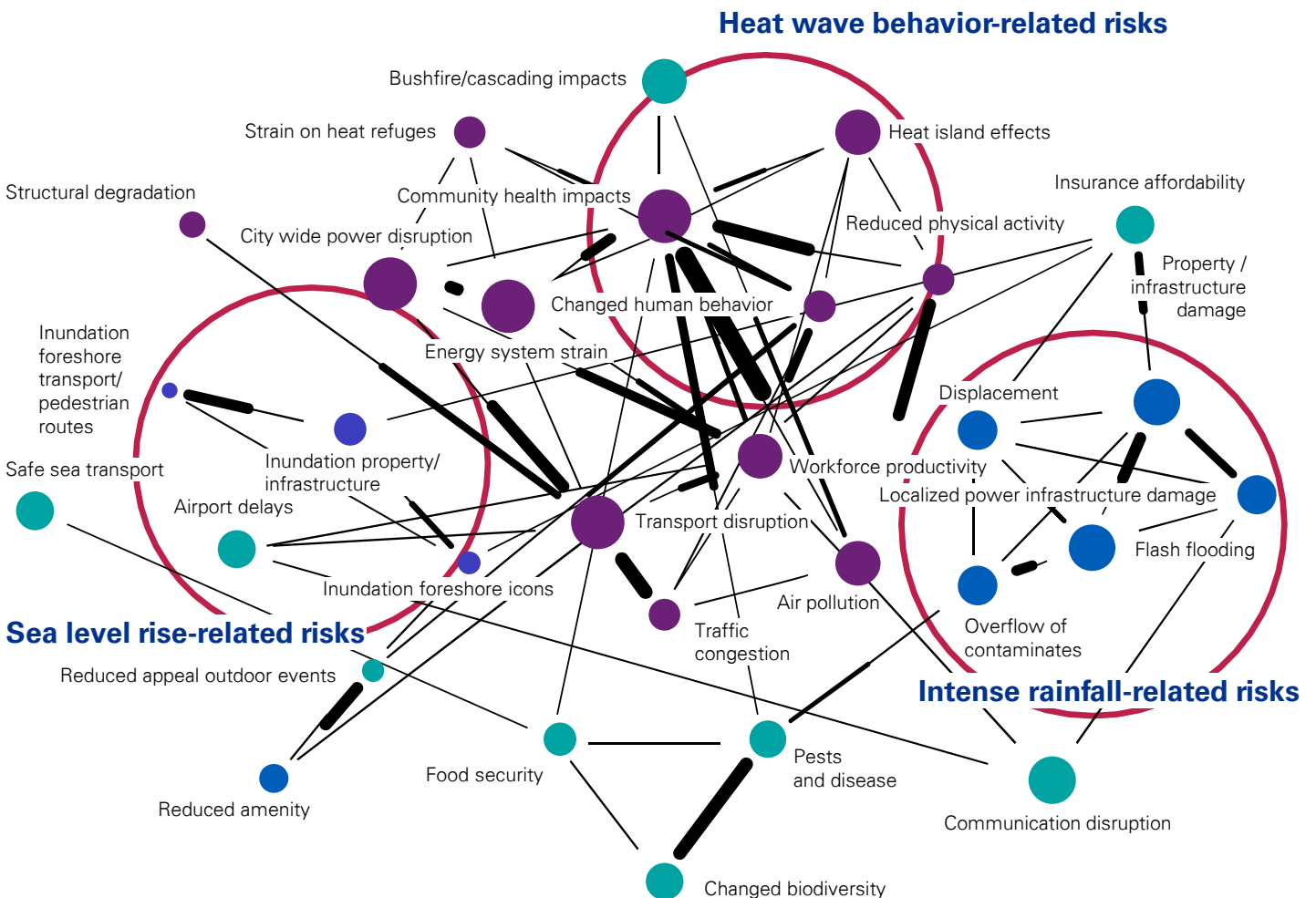
Client story

KPMG Dynamic Risk Assessment helps the City of Sydney develop its climate change strategy

The City of Sydney in New South Wales, Australia needed to understand how climate change is likely to affect the city in 2030 in order to develop an effective Climate Adaptation Plan.

KPMG in Australia performed a DRA to understand the interdependencies between 32 different climate change risks faced by the city. KPMG analysts used expert elicitation to develop a graphic representation of the relationships between the risks and perceptions of severity. Their analysis also identified trigger risks which were central to causing other risks, and those that are most centrally affected by other risks. Clusters of risks that were likely to occur together were also identified, so that these could be managed together.

As a result of the DRA, the Sydney City Council benefited from greatly improved insight into the risks that climate change posed to the city and was in a better position to develop actions to address these.



The thickness of the connecting lines in the diagram illustrates the strength of the connections between the individual risks.²

²Graphic adapted from: RPS (2015) *City of Sydney Climate Risk and Adaptation: Project Report*. Available from: https://meetings.cityofsydney.nsw.gov.au/Data/Environment%20Committee/201512071401/Agenda/151207_EC_ITEM03_ATTACHMENTD.pdf

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Designed by **CREATE**. | CRT100544A | October 2018