Dynamic Risk Assessment (DRA) is a proprietary methodology developed by KPMG’s network of member firms to help bring a better understanding of the risks organizations face in today’s complex world of digital and technological developments, emerging markets, climate change, growing income inequality, demographic shifts, and other mega trends that interact to shape our future. DRA takes an unprecedented approach to gaining insights into clients’ risk environments by pinpointing central risks and shedding new light on the effectiveness of controls.

In today’s highly interconnected and volatile world, the past is no longer a reliable guide to the future. Past data alone is an inadequate basis for making predictions as the forces and trends that shape our future have increasingly not manifested themselves before. Moreover, risks combine. They spill over into each other — they don’t manifest neatly in isolation — and we no longer have the luxury of dealing with risks discretely.

There is a need to advance beyond historical risk analyses comprising two-dimensional depictions of expected probability and severity, and consider a third, and indeed a fourth dimension: velocity and contagion. This, together with the consideration of global trends that are shaping our world, is what Dynamic Risk Assessment encompasses.

The DRA methodology combines qualitative and quantitative data to help identify:

- your greatest systemic risk exposures, combinations and risk clusters to inform a risk mitigation plan
- how risks will impact each other in the network and how they behave in a dynamic manner over time
- the impact of “mega trends” and their effects on your business
- insights that may help you improve mitigation of systemically critical risks, to aid you in developing an investment strategy to counter those weaknesses
- a framework to revisit the risk tolerance statement and overall risk management strategy.

**Traditional, two dimensional risk map**

- Potential Impact
- Likelihood of risk occurring

**Inter-connected view**

- Likelihood and severity of this cluster exceeds those of this single risk
- Connectivity strength:
  - low
  - medium
  - high

Certain risks connect more to each other than all other risks in the network, forming clusters.
Pioneered by global lead Andries Terblanché, a KPMG Partner and Research Fellow to the Institute of Global Finance, and a team of data scientists, mathematicians and economists, DRA takes an unprecedented approach to gaining insights into clients’ risk environments by pinpointing central risks and shedding new light on the effectiveness of controls.

DRA applies graph theory, the science of expert elicitation, actuarial modeling, sophisticated mathematics and financial mathematical algorithms, advanced data & analytics and accounting science to assessments from experienced risk and non-risk frontline and back-office individuals within the business. This is done in a KPMG proprietary (and patent pending) methodology to identify, connect and visualize risk in four dimensions.

Dynamic Risk Assessment project plan

- KPMG works with key stakeholders to identify the key internal and external risks facing the organization.
- These risks can be technological, financial, social, or cultural, amongst others.
- These risks can be unprecedented and/or behavioral, i.e., quantitative data on them is limited.

- Key stakeholders complete an online survey, for the collection of data on the characteristics of the risks facing the organization.
- The survey requires approximately 45 minutes to complete.

- KPMG applies advanced network theory to the aggregated survey responses to identify the organizations interconnected risk network, and it’s dynamics.
- Network theory enables KPMG to quantify the risks, leading to actionable outcomes.

- KPMG reports and discusses findings with key stakeholders.
- DRA modeling reveals where risks can be expected to form critical clusters or trigger ‘contagion’ with other risks.
- Focusing on systemic risks helps produce agile risk management and enhances strategic decision-making.

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