

## **Radar as Risk Management Paradigm**

**Increasingly sophisticated, forward-facing techniques such as scenario and cross-impact analysis will be crucial in coping with the fast-changing nature, pace and severity of risks**

---

2015-03-12T00:00:00, by David X Martin

If there's anything that smart investors know for sure, it's that the future looks nothing like the past. We need only reflect on recent failures in business and in government to see that established ways of thinking about risk are faulty. Managing risk in the future requires a paradigm shift - one that takes into account three emerging trends in systemic risk.

First, global networks have created increased interdependencies among independent systems, and new vulnerabilities we do not fully understand. For example, our energy and transportation infrastructures and financial systems are increasingly interdependent. A power blackout in New York City could severely curtail our ability to respond to a cyber attack on the U.S. financial system.

Second, the velocity and magnitude of potential disruptions are increasing exponentially - not unlike piles of grain that become more prone to avalanches because they reach their tipping points much faster.

Third, as we attempt to change the future, we change. For example, the regulatory environment will force financial Institutions to change and shed capital-intensive businesses. As a result, they will become more similar and perhaps even more correlated in terms of risk.

### **What's Needed**

Consider the human body: Your five senses receive stimuli and convey data to your brain in order to spot potential dangers and anticipate problems. Historical memory helps you predict potential outcomes based on past experiences, and helps you plan potential responses.

Your five forward-looking senses, coupled with your historical memory, are continuously monitoring your immediate environment to alert you to potential danger. For example, the smell of smoke and/or the heat of an approaching fire tells you how imminent and how severe is your risk of being harmed by the fire. The sharper your senses, the more quickly your body can react to protect itself.

So, too, in terms of risk management: Your organization's risk management system should be continuously sensing any potential risks ahead, determining how serious they are to your business, and providing effective mechanisms to respond quickly.

The most comparable forward-looking system for detecting potential risk is radar. What's unique about radar is that while it uses historical performance - not unlike your body's historical memory - it also looks forward to predict a future outcome.

Here's how it works: The radar antenna transmits radio waves that bounce off any object in their path. The bounced-back energy returns to a dish that determines the object's range, altitude, direction and/or speed. Tracking algorithms predict future positions of the moving object. These algorithms are, for the most part, based on historical performance, with frequent forward facing updates.



*Veteran risk manager David X Martin puts forward "risk radar" as the basis for a new paradigm.*

## **Forward-Facing Risk Management**

So, too, today's risk managers need to go beyond their traditional historical experiences and analysis and sharpen their future vision to spot emerging risks to better predict and plan future outcomes.

Regulators may very well need to create their own risk radar that fosters a generic and disciplined way of thinking about systemic interdependencies and circuit breakers. In the same vein, senior management and boards in particular need to develop risk radar to respond to the new systemic risks that are evolving.

One of the best forward-facing approaches is scenario analysis, because it helps in creating the right state of focus in order to put your finger on the key facts or insights that enable essential understanding of the future.

Simply put, scenarios are stories that attempt to intertwine the relevant factors that will shape the future. These factors fall into two domains: (1) things we think we know something about (i.e., assumptions about demographic shifts); and (2) elements we consider uncertain or unknowable (i.e., future interest rates, outcomes of political elections or rates of innovation). We link these factors - the known and the unknown - into a meaningful story or framework, a scenario. Sometimes the event or scenario is correct, but the magnitude or acceleration of the event is seriously underestimated. This sometimes makes it too big a leap for senior executives to commit resources or curtail business opportunities. Therefore, it's best to couple scenarios with a cross-impact analysis.

## **Understanding Interactions**

The cross-impact technique was first developed in the 1950s by Olaf Helmer of the Rand Corporation. It builds on the convergence of large sets of variables by considering interactions between trends and events, illuminating relationships that might not be considered otherwise. Cross-impact analysis allows senior executives to visualize a more complete future, reflecting the complicated blend of trends and events of the real world in which we operate.

A good example is how to allocate spending on cyber security - especially if you believe that it is not a question of whether your company will be attacked, but how you will respond to it. Knowing the value of assets you are trying to protect, and the impact of various scenarios on those particular assets, will help you get the best "bang for the buck" on your cyber spend.

Another technique that can be re-invented is risk mapping, commonly used in operational risk.

Risk maps generally identify every major function and sub-function, the risk surrounding the function, as well as mitigating controls. What needs to change is that in the future, maps should be broadened to include enterprise risks and be updated continuously, thereby becoming living, working documents. Updates and reevaluations should include anytime you are surprised, errors, post mortems, audit comments, key personnel changes, and follow-ups from action plans to mitigate all types of risks.

What is innovative about this approach is that it constantly tests your evaluation of the magnitude of the risks you are assuming against actual experience and provides a mechanism for continuous improvement.

## **Tripwires**

In a world where the velocity and magnitude of potential disruptions are increasing exponentially, the factors that are most relevant need to be continuously monitored. Tripwires or "stops" should be used to create your own, customized monitoring systems, to let you know if any of your scenarios is playing out or not.

Consider this example: The FBI in effect reverse-engineered a terrorist operation. They looked at a potential terrorist incident and then worked backwards to pinpoint all the elements a terrorist would require to achieve this goal. The FBI then had a roadmap of possible clues to an impending plot. It was no coincidence that after they asked laboratories that supply certain chemicals or biological materials to report any suspicious purchases that they uncovered a plot to blow up a home of a former President.

Tripwires should ensure that you are not lulled into false complacency by failing to consider a variety of potential scenarios, or being blind-sided because you did not monitor the right things.

## **The New Paradigm**

Financial institutions, asset managers and insurance companies are large, complex organizations that require long lead times to effect change. The purpose of forward-facing approaches, or what could be termed risk radar, is not simply to identify potential problems, but to do something about them.

Every scenario worthy of consideration should have specific action plans in place - with specific deliverables identified, along with timelines and deadlines, as well as key responsible individuals designated.

Risk radar is a value-added, forward-looking risk management strategy that will prove extremely helpful, given the interdependencies of global networks, quicker tipping points and our approaches to change the future. Failure to adapt to today's realities can, and probably will, be lethal. Perhaps W. Edward Deming said it best: "It is not necessary to change. Survival is not mandatory."

*David X Martin (davidxmartin1@gmail.com) is a former chief risk officer of AllianceBernstein and enterprise risk manager of Citibank, and was the founding chair of the Investment Company Institute's Risk Committee, co-chair of the Buy Side Risk Manager's Forum and a member of Oliver Wyman's Senior Advisory Board. He is an adjunct professor at New York University's Stern School of Business, special counselor to the Center for Financial Stability and a member of the Sanctions Subcommittee of the U.S. Department of State's Advisory Committee on International Economic Policy. A subject matter expert on emerging risks, enterprise risk management, corporate governance and cyber security, Mr. Martin has published numerous white papers on compliance and risk as well as two books, "The Nature of Risk" and "Risk and the Smart Investor," and currently consults for a number of financial institutions.*