To feel brave in this new world of enterprise risk management, bankers need the correct methods to produce the right solutions. This article spans nearly 35 years of concepts, first by introducing tame and wicked problems, which premiered in 1973, and also messes, introduced in 1970. The author then uses a matrix approach to a fourth type of problem—the wicked mess—introduced in 1996.

Audit and risk management functions won’t be able to meet the requirements for enterprise risk management (ERM) as demanded by the draft COSO report without some changes to their mindset. While this may not come as a surprise to most, we might be curious to know why. It’s because current systems can’t deliver an understanding of socio/economic and political complexities, which will increasingly be key to delivering successful outcomes in the future. Managers will need to be on a first-name basis with such concepts as change management; high-performance teams; motivation, emotional, behavioral attributes; and the learning organization.

Problem Solving
In the past, financial institutions have tended to solve problems through analytical methods, breaking things down into parts, fixing components, and assessing the probability of known sequences of failures leading to an accident or loss. In the new world, this type of problem is labelled as a tame problem and tame problems tend to enjoy consensus. Everybody pretty much agrees to why something needs to be done and the right way to go about doing it. To solve a tame problem, we develop systems that gather all the data, we then analyze that data, formulate a solution, and finally implement the solution (see Figure 1). Do not mistake tame for simple—some of these problems are extremely difficult to solve. Over the years IT systems have carried out the processes faster and faster, until today’s systems achieve results in real time. However, there are still times when we fail and fail pretty dramatically.

Because of this we have recognised that things have become more complicated. We are increasingly faced with problems of organised complexity, clusters of interrelated or interdependent problems, or systems of problems. Problems that cannot be solved in relative isolation from one another form messes. We sort out messes through systems methods and modelling, focusing on processes, and interdisciplinary approaches. Rather than simply breaking things down into parts and fixing...
components, we examine patterns of interactions among parts. We organize ourselves to sort out messes through such things as cross-functional groups, redundancy, and learning organizations. Simply building more freeways doesn’t solve vehicle congestion. A primary danger in mistaking a mess for a tame problem is that it becomes even more difficult to deal with the evolving mess. However, problems persist because managers continue to believe that there are such things as unilateral causation and independent and dependent variables.

Charles Perrow in his book *Normal Accidents* elaborates on some of the problems inherent in messes. First, interactive complexity is the measure of the degree to which we cannot foresee all the ways things can go wrong. This may be because there are just too many interactions to keep track of. More likely, it is because our various theories are simply not up to the task of modelling socio-technical interactions. Second, coupling is a measure of the degree to which we cannot stop an impending disaster once it starts. This may be because we don’t have enough time, because it is physically impossible, or because we don’t know how. The greater the degree of interactive complexity, the less our capacity to prevent surprises; and the greater the degree of coupling, the less our capacity to cure surprises. Therefore, the greater the degree of interactive complexity and coupling, the greater the likelihood that a system is an accident waiting to happen—what he terms a normal accident. In such systems, “operator errors” merely serve as triggers. Strategies and risk management techniques for dealing with messes are therefore quite different from those appropriate for tame problems. Thus, increasing our capacity to prevent unanticipated interactions among components entails simplifying systems; increasing our capacity to cure them entails decoupling major components (e.g., build in longer times to respond).

All this is fairly straightforward and fine as long as most of us share an overriding social theory or overriding social ethic. If we don’t, we face wickedness. Wicked problems are termed as “divergent” as opposed to “convergent” problems. A convergent problem promises a solution. The more it is studied, the more various answers sooner or later converge. Tame problems are convergent by definition. Messes are convergent if we agree on what overlaps, on appropriate strategies, and on the kind of climate we wish to maintain. A divergent problem does not promise a solution. The more it is studied, the more people of integrity and intellect inevitably come to different solutions. As with messes, there are very real dangers in solving the wrong problem. Mistaking or misrepresenting wicked problems for messes, let alone tame problems, almost inevitably leads one to conclude that those with different answers lack integrity, intellect, or both. The great danger is that such conclusions undermine trust, and trust is a fundamental strategy for collectively coping with wicked problems. If wicked problems are becoming more common in our modern era, and there is compelling evidence they are, we face a strategic choice. We can continue to misrepresent them as messes or tame problems, hoping they will not degenerate. On the other hand, we can acknowledge wicked problems for what they are and try to stabilize them as conditions. This is not going to be easy, because wicked problems offend our sense of logic and our common beliefs even more than messes. In our modern times, it is pretty hard to accept that a problem has no solution. This seems tantamount to giving up. Given that many people care about or
have something at stake in how the problem is resolved, the process of solving a wicked problem is fundamentally social, and solving a wicked problem is fundamentally a social process.

Much work has been done on behavioral complexity and dynamic complexity. What confuses real decision making is that the two coexist and interact in what we call wicked messes (see Figure 2).

The fact that behavioral problems cannot be solved in isolation from one another makes it even more difficult to deal with people’s differing assumptions and values: people who think differently must learn about and create a common reality—one that none of them initially understands adequately. Systems of interlinked problems interact with the misunderstandings, divergent assumptions, and polarized beliefs of different groups of people. Improving communication and trust among different camps is not enough; people still are likely to focus on symptoms rather than deeper causes and to pursue low-leverage changes. Conversely, even if deeper understanding of the systemic forces at play is achieved, such understanding will be viewed with suspicion by the different, competing interests and mental models.

Solutions

The main thrust to the resolution of these types of problems is stakeholder participation and “satisfying.” This is because wicked problem resolving produces no single optimum solution but has many alternative satisfactory solutions. Therefore the production of that solution must be “boxed” or “bounded” either by time or financial constraints to avoid it going on ad infinitum.

So how do we propose to deal with wicked messes? The strategic issue is whether we choose to allow wicked messes to degenerate into chaos, whether we choose to stabilize them as conditions, or, more radically, whether we choose to try to dissolve them together.

From the risk perspective, real listening and dialogue are essential to mapping the boundaries and learning to recognize the patterns of those interactions, which are the crux of sorting out wicked messes. Real listening is also essential in establishing trust, and trust is the sine qua non of effectively working together. More significant, mistrust is the dark heart of wicked messes. The strategic principles for establishing trust is grounded in the realization that our commonalities are far more significant and profound than our differences. In sum, these strategic principles are essential to sorting out wicked messes together. More significant, in our increasingly complex and interdependent times, these principles guide us to live in ways that help us dissolve what is problematic.

What does this mean for the world of finance and internal audit? Let us first look at the concepts of management and leadership. It is key to draw a distinction between management and leadership. For our purposes, let’s use John Kotter’s definitions. Here management is about coping with complexity, and its practices and procedures are largely a response to the emergence of large organisations and complex projects. Leadership, by contrast, is about coping with change. These different functions—coping with complexity and coping with...
change—shape the characteristic activities of management and leadership. Each system of action involves deciding what needs to be done, creating networks of people and relationships that can accomplish an agenda, and then trying to ensure that those people actually do the job. But each accomplishes these tasks in different ways. Therefore, how can we choose when we require the skills of leadership to dominate against those of management on a project to obtain a successful outcome? I propose that we use the matrix. If we look at the activities required in more detail to see the attributes exhibited by the two principals, it may indicate the type of problems best solved by those skills.

Let’s revisit Figure 2 and look at the characteristics required to address some of these issues. Those required to achieve change are predominantly behaviorally based—needs and emotions—requiring more influence than power to ensure their resolution. Trust and relationships must be developed, indicating a high degree of behavioral complexity. This allows us to segment the matrix into two, where leadership qualities dominate solutions in the upper half and management qualities the lower (see Figure 3).

How can this model help us with our understanding of risk and risk management? In the past, there has been a considerable difference of opinion between the use and legitimacy at various times of qualitative and quantitative risk assessment. If we accept the preceding classification of types of problem as shown by Figure 2 and then analyze how risk analysis may be applied to help us with each type of problem, we can see that as we move farther to the right of the matrix, there appears to be an increased reliance on the use of systems emphasizing an interconnectivity of events. As we move farther toward the top of the matrix, there seems to be an increased reliance on social-science type solutions, where people do not necessarily behave as “soft systems”; rather, their behavior is dominated by belief systems based on their emotions and feelings. If we then apply our two types of risk assessment (quantitative and qualitative) and overlay them on the matrix we produce the diagram as shown in Figure 4.

We can observe that for the bottom sectors, where scientific-based solutions are dominant, quantitative risk data is reliable in the assessment of risk. Our assumption is that there is an optimum solution and therefore an underlying number that we will converge toward. Thus, by generating more and more data, we will move closer to the underlying “truth.” However, as we move up toward the behavioral sector, there is no underlying single solution. The solution will now depend on the feelings and ideologies of the people concerned in the assessment. Here by the use of quantitative data to inform facilitated opportunity—risk workshops, qualitative results will ‘reveal’ those underlying beliefs which will lead to satisfactory solutions.
Here therefore it is critically important to involve all stakeholders who can influence the success of the project and to attempt to limit your boundaries to the case in hand as otherwise the group will grow beyond the limits of achieving a workable solution.

The most difficult part of this role for both auditors and risk managers will be recognizing the type of problem they are facing. To help the reader to achieve this I have used the classification of Tame, Messes, Wicked Problems and Wicked Messes. This has proved useful in ensuring the use of the correct tools to deal with problems based on their level of system and behavioural complexity in social sciences. We have also used the matrix to understand the dominant behaviours required to deliver outcomes when using managers or leaders and finally I have attempted to overlay the concepts of risk management on this matrix to aid in choice of the risk management techniques associated with the type of problem.

The key to the solution of wicked messes lies in the people and the use of discussion and forums to explore these problems and understand the limitations of the solution. Accurate reporting of “near misses” and the use of facilitated workshops to identify root causes can aid this process. However, there must be an open culture with an attitude of “no blame.” It also requires the pursuit of designs that limit system coupling and complexity where possible.

The move to enterprise risk management will require future audit and risk managers to live “comfortably” in all areas of the matrix and to become familiar with and apply the tools and techniques as dictated by their governing laws. Successful problem solving means finding the right solution to the right problem.

To the observant reader it is apparent that as we move to the upper right quadrant, some of the skills for solving problems in this area fall outside the realms of what we presently consider as traditional risk management. Rather, these issues are resolved using a variety of techniques such as scenario planning, political forecasting, and environmental scanning—tools more commonly used by the sociologists and economists. If we are to become successful in the move to ERM, then we need to understand the limitations of our capabilities or embrace these new skills to help us succeed.

We fail more often because we solve the wrong problem than because we get the wrong solution to the right problem. —Russell Ackoff, 1974

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Notes

1 COSO is the Committee of Sponsoring Organizations of the Treadway Commission. The National Commission was jointly sponsored by the five major financial professional associations in the U.S.—the American Accounting Association, the American Institute of Certified Public Accountants, the Financial Executives Institute, the Institute of Internal Auditors, and the National Association of Accountants (now the Institute of Management Accountants). Currently, the COSO Chairman is John Flaherty, chairman, retired vice president, and general auditor for PepsiCo Inc.

www.coso.org—

2 John P. Kotter, considered an expert on leadership at the Harvard Business School, wrote Leading Change, which outlined an actionable, eight-step process for implementing successful transformations.