Weathering the Storm

Strategic Risk Management and Nonprofit Accountability

Adam Oswald
April 28, 2010

CONTENTS

INTRODUCTION

> *"One of the fundamental lessons Judah Folkman passed on to young people joining his laboratory was that success can often arrive dressed as failure. Success is great—satisfying, good for the ego, capable of bringing reward and prosperity—but doing experiments that invariably bring the expected results may mean the questions aren't tough enough. To fail, then struggle to understand why, may offer more insight and greater learning. Asking 'Why not?' is often an important and productive stop on the way to learning 'why.' "*
>
> – *Robert Cooke,* Dr. Folkman's War

The concept of risk is not unfamiliar. Every day presents new risks to individuals and organizations, many of which are assessed and actively managed. However, everyday risk-management efforts tend to take a tactical approach that deals with the most immediate threats, rather than a long-term strategic process (Young 2006; Herman 2004).

When risk management processes, and the decisions that result from those processes, enter the realm of professional life and become the responsibility of the managers and directors of nonprofit organizations, the livelihood, the reputation, and sometimes the existence of those organizations depends on a successful approach. However, rather than actively engaging risks, the nonprofit sector's understanding of managing risk often appears at the level of tacit assumption, embedded in the fibers of strategic planning and good governance policies and practices (e.g. Bryson 2001; Kearns 1996; Carver 1997).

Risk is two-sided and, in many cases, taking a risk means accepting the possibility of gains as well as losses. Indeed, this paper argues that a culture shift must take place in the nonprofit sector to support the development of a more rounded perspective of risk, one in which both negative and positive outcomes are possible. This paradigm re-casts deliberative, strategic, and systematic risk taking, also called opportunity seeking, as an important and desirable part of mission-driven growth or program development, rather than the common equation of "risky" with irresponsible.

The Concern of this Paper

This paper explores a strategic method of organizational risk management that is systematic in its approach, integrated across operational silos, and holistic in its consideration of different types of risk. In spite of the rise of social innovation and increasing calls for the nonprofit sector to hone their business sense and become more entrepreneurial, the willingness to take risks, or seek out new opportunities, which often defines innovative efforts in the for-profit sector has had difficulty translating to nonprofit work, perhaps in part due to the less tangible nature of nonprofit resources (Young 2006). With the social entrepreneurship movement coming closely on the heels of a renewed societal interest in increased accountability and demonstrable return on investment (Jeavons 2004; Lampkin and Hatry 2009), it will be important that nonprofit organizations not only develop the capacity and competency for effective strategic risk taking, but that they do so in a systematic way that demonstrably relates to mission pursuit.

Managing risk and uncertainty rests on the capability to acquire, assess, and act on limited information—the organization's cognitive ability to create meaningful knowledge from large amounts of mostly unimportant information. This is a two-part goal: (1) creating deliberative, systematic processes for deciphering and analyzing situations, and (2) creating the conditions in which the people that make up an organization can successfully respond in intuitive, instinctual ways to complex, rapidly changing environments (Gladwell 2005, 144). Development of more robust and accountability-driven risk management policies ultimately falls on nonprofit boards of directors. In raising questions about accountability, nonprofit directors and executives must consider their role as stewards of resources that do not belong to them and consider who and what is being put at risk when making decisions (Kearns 1996).

This paper argues for the development of a more sophisticated understanding of the risks facing nonprofit organizations, an expanded willingness to take strategic risks, and the governance

systems to establish policies for managing all risks facing organizations in an integrated, strategic way. Enhancing competency, accountability, and robustness of risk management practices is an important and necessary step toward maximizing social returns and becoming more effective agents of social change.

What This Paper Does Not Discuss

This is not a paper about "pure" or insurable risk for three reasons. First the conception of risk presented here does not assume risk is exclusively concerned with avoiding bad things happening. As will be argued, risk taking can be beneficial if done strategically and with prudence. Second, pure risks tend to be more predictable than those considered here. On the two-dimensional continuum of event likelihood and impact (Herman et al. 2004; Frame 2003), organizations by definition tend to have more experience with those insurable risk events which occur more frequently and have less impact. The assessment and management of such events tends to already be a part of good governance practices and this work tends to be done by typical operating procedures. In the succinct words of Frame (2003):

> Good management is concerned with operating proactively, initiating action that takes the organization where it needs to go rather than responding to a steady stream of mini and major crises that lead the organization to wherever the prevailing currents carry it.

Third, there is much existing literature and consulting work available to assist organizations in their management of insurable risks. While ongoing research in this area can certainly be beneficial to the nonprofit sector, it is not specifically explored here.

Additionally, this is not a paper about crisis management. Putting out fires is a largely tactical response that, in many cases, is a consequence of mismanaging risk. Correspondingly, this paper focuses on the policies and governance roles that either prevent fires in the first place, or

create the conditions that enable a rapid, systematic response, lessening the likelihood of major damage. This perspective does not ignore or downplay the necessity for tactical responses, but does suggest a broader view of the implementation of risk management strategies, motivated at the level of governance.

Overview

This paper is broken into four sections. First is an overview of risk assessment and management, both in general and with specific focus on the nonprofit sector. Second is a close look at the theory behind uncertainty and the concept of information. This section also explores an application to what Oxford's Nick Bostrom calls "existential risk," the risk of an improbably but life-changing and potentially life-obliterating events taking place, called "black swans" (Bostrom 2006; Taleb 2007). The third section explores the concept of strategic risk, first in terms of for-profit risk management, then what lessons can be transferred to the nonprofit sector and how a culture shift may be necessary to accommodate strategic risk taking. The fourth section discusses implications for the role of governance in managing these kinds of risk. Finally, the paper concludes by offering nonprofit managers and directors recommendations for strategically managing risk under conditions of uncertainty.

I. CONCEPTIONS OF RISK

"I count the grains of sand on the beach and measure the sea; I understand the speech of the dumb and hear the voiceless."

– Oracle at Delphi, 560 BC[1]

Types of Risk in Nonprofit Literature

Risk management literature with a specific focus on nonprofit organizations is very sparse. The most comprehensive work is being done by Herman and the Nonprofit Risk Management Center. Herman et al. (2004) describe risk as "a measure of the possibility that the future may be surprisingly different from what we expect" (7). They place risk on a two dimensional plane of likelihood and magnitude (Figure 1), and their process for determining and establishing a meaningful ordering of possible threats in each dimension involves a brainstorming session of knowledgeable experts (Herman et al. 2004, 20). However, they also offer a third measure of risk, "variability: the peril may strike once or possibly several times within a given time period, and the extent of the resulting loss may be fairly predictable or highly variable" (Herman et al. 2004, 41). This concept equates to what other authors refer to as uncertainty, and tends to be captured by the amount of information available about the likelihood and impact of a given event.

Young (2006) recognizes that existing nonprofit risk management literature (e.g. Tremper 1994; Herman et al. 2004)[2] focuses on a "preventative approach to risk management:" trying to "minimize or protect against potential losses" (10). Instead of adding to the existing body, he focuses his work on strategic risk taking and decision theory.

---

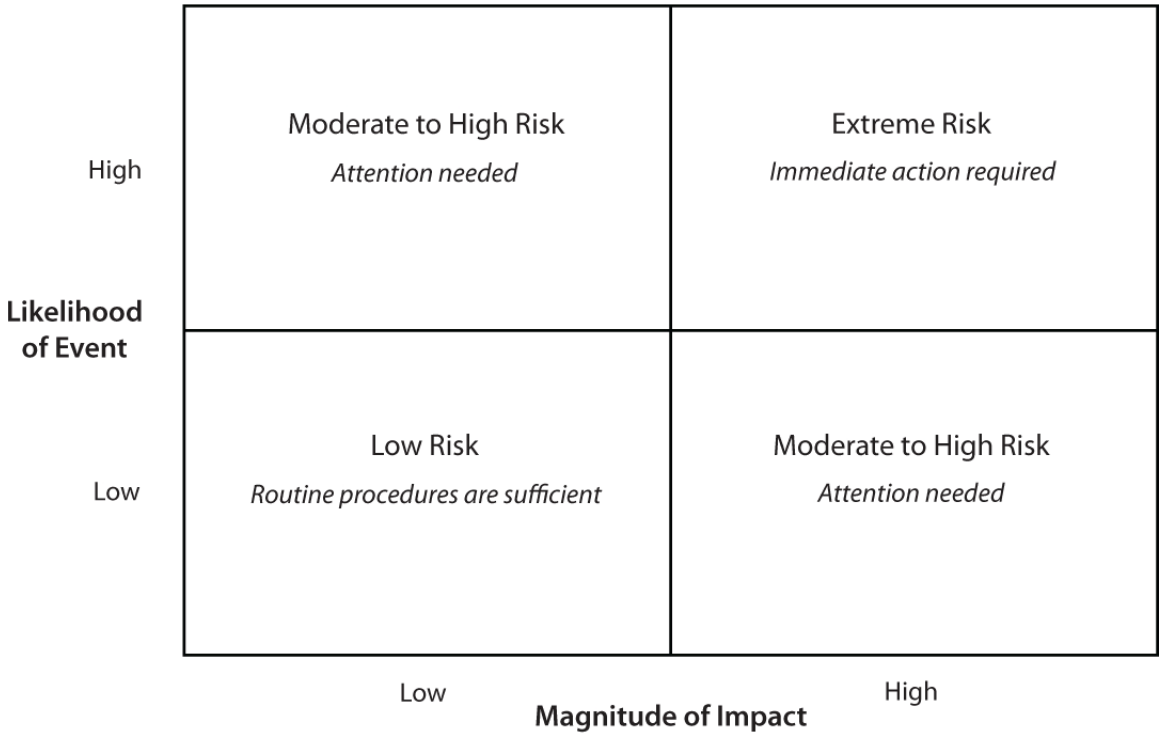
[1] "The history of Herodotus — Volume 1 by Herodotus". Project Gutenberg. http://www.gutenberg.org/catalog/world/readfile?fk_files=1131&pageno=18. Retrieved 2008-06-26.

[2] See Appendix I for a list of risks facing nonprofits.

His core assumption is that finding ways to be strategic about risk is the best method of maximizing social return and that by doing so, organizations can have a greater impact in their work than those with a tendency to be "unduly conservative" in their risk-seeking behavior (Young 2006, 4). He identifies two reasons why taking risks is more challenging for nonprofits than for their for-profit counterparts. First, the measurement of profit and loss is not entirely in dollar terms—social return on investment is at least, if not more important, and that measure tends to be specific to each unique organization (Young 2006, 4).

Second, it is difficult to assign the responsibility and authority for the decision of how much risk to take. The board of directors is ultimately responsible for an organization's choices, but

Figure 1: Risk Assessment: Likelihood and Impact



Adapted from Herman et al. 2004.

nonprofits serve as stewards of resources over which they cannot claim ownership—a condition that is even more pronounced for executive directors (Young 2006, 5). Indeed, nonprofit directors

can implicitly take a position on their organization's appetite for risk taking by hiring a more conservative versus "entrepreneurial" chief executive (Young 2006). The community and societal view of the nonprofit sector is that "nonprofits should be collectively risk-neutral," and should be a safe investment for donors—organizations are entrusted to effectively do public good with the resources of others (Young 2006, 7). Finally, factors of lifecycle, network "embeddedness", and mission can shape preferences for risk and vary from organization to organization, as well as over time (Young 2006, 6; Stevens 2001).

Frame (2003) discusses risk management for organizations with a focus on for-profit entities, though much of his work is readily transferrable to the nonprofit sector. He breaks risk into two general categories. Pure risk is an "exclusive focus on bad things happening" (Frame 2003, 7). Traditional notions of risk assessment and management are concerned with pure risk, where the remedy tends to be some form of insurance. His second view has more to do with "information available to make good decisions" and may consider gains *and* losses, as well as the distinction between guarding against likely future events and making decisions where outcomes are uncertain. Frame's definition of risk also considers the likelihood and impact dimensions of risk (Frame 2003, 7-8; Figure 1).

A further classification is made by considering internal versus external risks, or endogenous versus exogenous risks (Frame 2003; Ormerod 2005). Though strategies exist for managing both sources of risk, it is the internal, endogenous risks that lie within our realm of control, whereas we can only act in response to, or in preparation for, system-wide exogenous risks. This distinction is different from the strategic planning perspective's SWOT or SWOC distinction between internal strengths and weaknesses, and external opportunities and threats/challenges (Bryson 2001). From the planning standpoint, the internal/external division refers to the individual organization, while the risk distinction considers the network or system of actors to be internal. Under a SWOT

analysis, both endogenous and exogenous sources of risk would be considered threats (or opportunities) because they come from outside the organization.[3]

A variety of frameworks and strategies for managing risk appear in the literature as well. Herman et al. (2004) outline a five-step process; Frame (2003) streamlines the Project Management Institute's six-step strategy into a five-step approach. These frameworks, which focus on preventing or ameliorating risks, are representative of many nonprofit risk management strategies.[4] Young (2006) presents a decision-theory strategy for opportunity seeking where probabilities are known. Taleb (2007), a former Wall Street trader, recommends a "barbell strategy" or "convex combination" under conditions of uncertainty: a simultaneously "hyperconservative and hyperaggressive" approach where "you need to put a portion, say 85 to 90 percent, in extremely safe instruments, like Treasury bills . . . The remaining 10 to 15 percent you put in [a diverse array of] extremely speculative bets" (Taleb 2007, 205).

Risk vs. Uncertainty

Concepts of risk are further complicated by a sometimes-made distinction between risk and uncertainty (Frame 2003, 8; Ormerod 2005, 24; Herman et al. 2004, 7). The difference lies in our ability to reasonably discern the probabilities of particular outcomes: "When making decisions under conditions of [pure] risk, you know the probability of the risk event you are examining. When making decisions under conditions of uncertainty, you do not." (Frame 2003, 8)

This paper is about nonprofit risk management, but the types of risk discussed here—strategic risk and existential risk—are characterized by uncertainty. As a result, this problem must be redefined as one of information management and explore different and better ways of dealing

[3] Granted, an endogenous risk could come from within an organization, but this does not have to be the case—it could also come from a competitor. For the sake of limiting the discussion, this paper focuses on risks external to a given organization.
[4] See Appendix II for an example of a risk planning template.

with various manifestations of uncertainty. In the case of existential risk, the complexities presented by hundreds or thousands of causal variables, many entirely unknown and immeasurable, combined with wide-scale exogenous events that often occur so infrequently that we are unable to determine their frequency, and a constantly and rapidly changing environment, make probabilities of occurrence unknowable (Ormerod 2005; Taleb 2007). In the case of strategic risk, there tends to be a gap between intentioned actions, and outcomes in the world (Ormerod 2005). When moving into unknown realms, the ability to process information is reduced even further due to a lack of experience with new activities and programs. The result, again, is a general inability to tie reliable probabilities to projected outcomes, making valuation of different potential courses of action extremely difficult.

Facing this challenge will require a much better understanding of the information problem facing risk managers, as well as the incorporation of some novel problem solving tactics into systematic risk management strategies.

II. UNCERTAINTY

> *"Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know."*
>
> *– Donald Rumsfeld, June 6, 2002*

This section begins from a strong theoretical perspective. Discussion of uncertainty has metaphorical roots in quantum mechanics where, even at the atomic level, observers cannot be certain about what they see. This discussion will stay, for the most part, based in economics, but acknowledging the work of the natural sciences can be useful in thinking about this problem.

Nature of Uncertainty and an Information Problem

Economics is more complex than typically conveyed. Varying levels of uncertainty underlie every assumption and process that takes place (Ormerod 2005, 28), perhaps most importantly, the basic assumption that perfect or complete information is possible to attain. In fact, firms' ability to take market information and transform it into applicable knowledge about how to behave

> …is small compared to the sheer scale of the problems that confront them. Companies can never deal completely with the complexity of the real world. The uncertainty that shrouds the future is not so much a veil as an iron curtain. In the current state of scientific knowledge, it cannot be penetrated. (Ormerod 2005, 35)

Looking into the past offers no additional benefit. In the 1960s, meteorologist and MIT mathematician Edward Lorenz developed a system of equations for predicting future weather patterns based on the comprehensive inclusion of all past meteorological data. But, in what ended up a precursor to modern-day chaos theory, he determined that no amount of historical data could offer reliable predictions more than a few days into the future (Ormerod 2000; Taleb 2007). "No matter how hard we try, no matter how many statistics we collect, there are strict limits to the value

of genuine information we can extract" (Ormerod 2005, 56). This is due to two important concepts:

- *Bounded rationality*: no actor has the cognitive capacity, time, or available information to make rationally optimal decisions.
- *Asymmetrical information*: some actors have more information than others (Ormerod 2005, 108, citing 2001 Nobel Prize work of Joe Stiglitz and George Akerlof; Simon 1982).

The game of chess offers a practical example of both bounded rationality and asymmetrical information (Ormerod 2005, 111-114; Gladwell 2005). In chess, there are only two players and a total of 32 pieces on the board. Due to the rules in place, there is a finite—though sometimes large—number of possible moves in any given situation. Nearly all the information needed to play unstoppably well is on the board, "the constraint to finding the *best* moves is the ability to process it" (Ormerod 2005, 113). However, even in the simplified world of chess, our lack of cognitive abilities to compute the available data and arrive at an optimal solution is not the whole story. Gladwell also makes the point that even with a supercomputer on your side, finding the best moves is not always possible because every constraint cannot be overcome—you cannot see inside your opponent's head. Additionally, sometimes it is not clear whether some moves are actually better than others. For instance, at the start of a game, white may make one of twenty legal moves. Some moves are stronger than others, but there is no "best" opening (Ormerod 2000). This part of the metaphor is particularly relevant for nonprofits, where not all outcomes are easily measurable and the pursuit of different opportunities may yield only different outcomes, not ones that are demonstrably better or worse.

Humans are driven to "seek the compelling elegance of simplicity," (Carver 1997) or, even more broadly, to seek a "God's eye view" of knowledge (Bronowski 1973). Similarly, the social sciences sometimes can have "physics envy," a desire to deal with predictable natural phenomena that can be measured in the lab and whose outcomes or reproducible. Physicists' ongoing quest for

a Grand Unified Theory, or Theory of Everything, can also be found in the social sciences—in the case of risk management the assumed goal is to reach the economic ideal of perfect or complete information in order to find optimal solutions to problems. But as the chess example illustrates, this is most likely never possible in practice. Instead, a slightly different goal should be pursued.

A Possible Solution to the Information Problem

In 2002, the United States military's Joint Forces Command (JFCOM) had put together a two and a half year, quarter billion dollar war game called the Millennium Challenge (Gladwell 2005, 102). In the simulation, the United States, Blue Team, utilized a "comprehensive, real-time map of the combat situation called the Common Relevant Operational Picture (CROP)." The point of the exercise was to overcome the information problem inherent to warfare, "to show that, with the full benefit of high-powered satellites and sensors and supercomputers, [the fog of war] could be lifted" (Gladwell 2005, 106). A Marine Corps veteran, Paul Van Riper, was selected to command the enemy Red Team in the simulated invasion of a small, unstable middle east nation.

> On the opening day of the war game, Blue Team poured tens of thousands of troops into the Persian Gulf. They parked an aircraft carrier battle group just offshore of Red Team's home country. There, with the full weight of its military power in evidence, Blue Team issued an eight-point ultimatum to Van Riper, the eighth point being the demand to surrender.
>
> Van Riper was supposed to be cowed and overwhelmed in the face of a larger foe. But he was too much of a gunslinger for that…When Red Team's surprise attack was over, sixteen American ships lay at the bottom of the Persian Gulf. Had Millennium Challenge been a real war instead of just an exercise, twenty thousand American servicemen and women would have been killed before their own army had even fired a shot. (Gladwell 2005, 109-110)

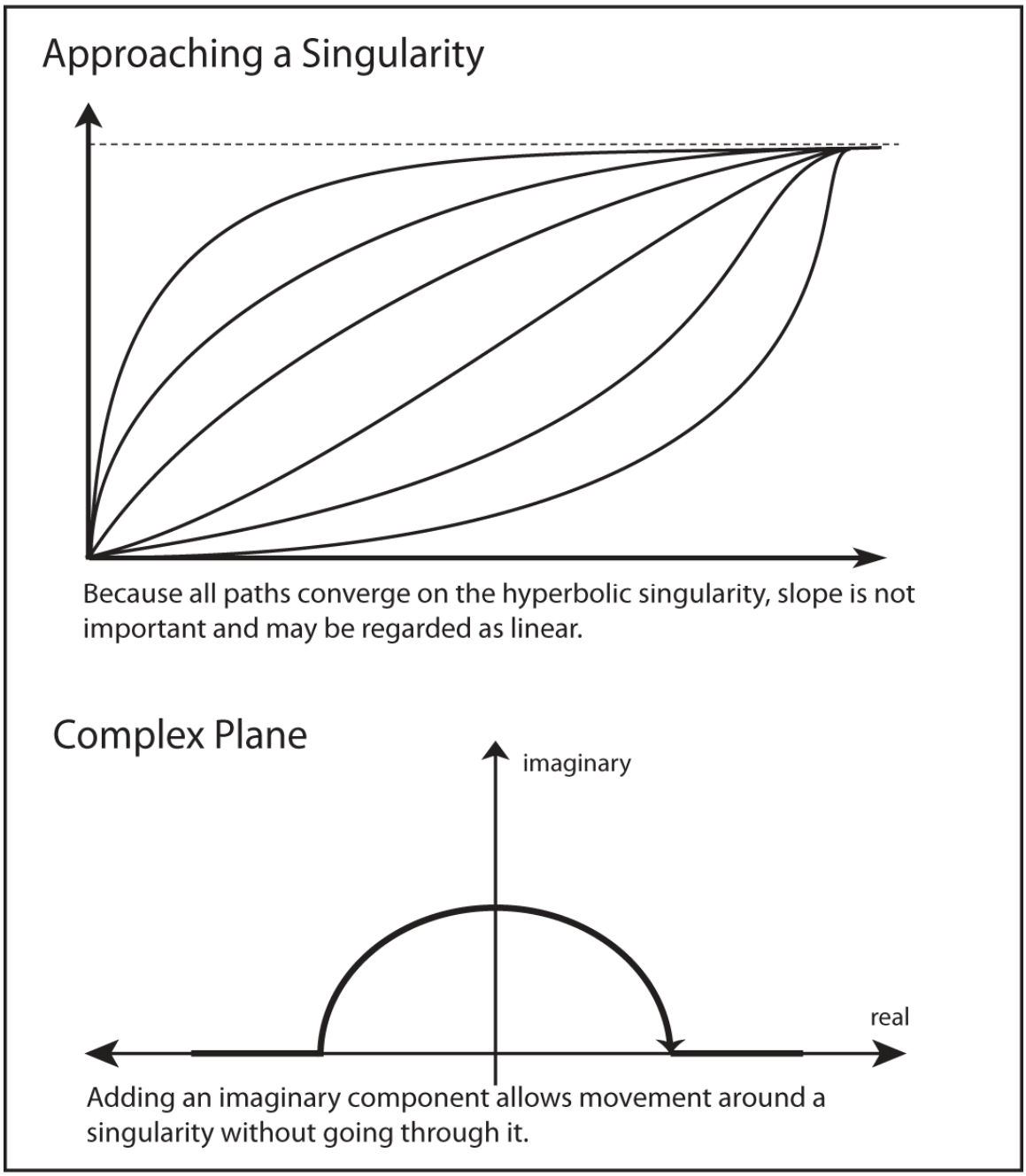
The usual assumption is that the more information collected, the better the decisions that can be made. But two things get in the way. First, as seen above, the barriers to attaining complete information are metaphysical rather than computational—uncertainty cannot be removed from human observations because an act of judgment is always built in (Bronowski 1973). Second, it is

not clear that complete information, *vis a vis* the economics textbook definition, is needed to make good decisions. In fact, Gladwell suggests that this is not the case, that "extra information isn't actually an advantage at all; that, in fact, you need to know very little to find the underlying signature of a complex phenomenon…that extra information is more than useless. It's harmful. It confuses the issues." (Gladwell 2005, 136-137). As the Millennium Challenge shows, aspiring to achieve complete information may be a fallacy.

So instead of continuing to search for *more* information about problems, perhaps the goal should be to conceive of ways to find *better* information (Gawande 2007; Gladwell 2005). Of course, such a conception must account for the nature of this information problem—that it cannot be known ahead of time which, if any, information is in fact better. Going along with the theme of physics envy, one means of imagining what a solution might look like begins with astrophysics and the theory of relativity.

Einstein's theory of special relativity says that no object can accelerate to a speed faster than the speed of light because to do so would require acceleration through the speed of light singularity, where mass becomes infinite, requiring an infinite amount of energy. Additionally, for any outside observer, time for that object would dilate and come to a complete stop as the object reached the speed of light. Even if it were possible, it would still take an infinite amount of time for the object to reach light speed. This is an especially interesting metaphorical example because it too is considered an impasse that cannot be penetrated, given current scientific knowledge (see Figure 2 – Approaching a Singularity).

Figure 2



Adapted from Asaro (1996).

However, a theoretical means of dealing with this problem has been suggested: adding an imaginary component to the object's speed, making it a complex number and allowing the object

to "go *around* the speed of light the way a car faced with an insurmountable road block might leave the road to go around that barrier" (Asaro 1996, 421; Figure 2 – Complex Plane).[5]

Might there be a similar theoretical construct to help thinking about overcoming the singularity of complete information? If so, the answer likely lies in collecting a different kind of information, or more likely, a certain, very specific collection of data that cuts through the "noise." This theory rests on the hypothesis that "perfect information" is not the same thing as "complete information"; that the information needed about a problem in order to find the best solution is much less than the total amount of information about the problem.

The "thin-slicing" method of rapid cognition, allowing years of expertise to inform our judgment, that Gladwell describes throughout *Blink,* may be one possibility that merits further exploration. Most conceptions of information acquisition, assessment, and action operate from the viewpoint of a "central processing unit" where all roads lead to Rome and analysis and decisions are centralized. While this has certain advantages, and aligns precisely with the top-down organization structures that tend to dominate our society, it is very likely that the information needed to make the "right" decisions is already present in many systems; it is merely diffused across a number of people and organizations. If that is the case, then the real barrier standing in the way of attaining complete information is transferring that information to a central hub. Imagine downloading the entire internet to a single hard drive. Not only would finding every last bit of information be extraordinarily challenging, but new content is being created every second. Even if the download were somehow completed, most of the internet would have "refreshed" itself several times during the time needed.

[5] Asaro is quick to note that "no known physical interpretation exists for imaginary speed" and that this is purely a mathematical and theoretical exercise.

Translated to the chess example, while no one player or even a supercomputer has access to all the information in the system, a neural network composed of a supercomputer and both players' brains does. And while a chess match is governed by a zero-sum outcome, the real world often is not (see Brandenburger and Nalebuff's *Co-opetition*, 1996). The challenge becomes finding ways to access and mobilize that information, convert it to knowledge, and apply it to decision-making processes—all without moving the network's information to one brain.

Transferring this model to a more complex real world is difficult, but not impossible. Rod Beckstrom and Ori Brafman give several examples of organizations taking on aspects of neural networks in their book *The Starfish and the Spider* (2007). In fact, capitalism is an example of a system where knowledge and decision-making power are diffused throughout (see Smith, 2003 Nobel Lecture on "Constructivist and Ecological Rationality in Economics").[6] But the most relevant example here is the decentralized command approach utilized by Van Riper and the Red Team in the Millennium Challenge:

> Paul Van Riper's Red Team did not come out on top in that moment in the Gulf because they were smarter or luckier at that moment than their counterparts over at Blue Team. How good people's decisions are under the fast-moving, high-stress conditions of rapid cognition is a function of training and rules and rehearsal (Gladwell 2005, 114).

This is one of the most important aspects for this theory of overcoming the information problem: giving people the space to exercise their own cognition and competence, and to draw on their own experiences to make good decisions in pursuit of a common objective. In Gladwell's words, "[Van Riper] created the conditions for successful spontaneity" (Gladwell 2005, 117). This concept can be taken one step further by suggesting that those conditions include both the space to be creative in problem solving, but also to be working within a deliberative, strategic framework so that individuals on the front lines can see how their work fits into the bigger picture.

[6] In the public and nonprofit sector, a relevant example is captured by Michael Lipsky's "Street Level Bureaucracy."

One strategy that creates the right structure for better decision making at the "street level" may be as simple as introducing checklists, a method that has been successful in hospitals' intensive care units (Gawande 2007; Gladwell 2005). In Gawande's words:

> We now live in the era of the super-specialist—of clinicians who have taken the time to practice at one narrow thing until they can do it better than anyone who hasn't. Super-specialists have two advantages over ordinary specialists: greater knowledge of the details that matter and an ability to handle the complexities of the job. There are degrees of complexity, though, and intensive-care medicine has grown so far beyond ordinary complexity that avoiding daily mistakes is proving impossible even for our super-specialists. (3)

Bounded rationality and asymmetrical information in an increasingly complex world create cognitive bottlenecks that effectively roadblock any ability to reach the complete information paradigm that allows us to make decisions that optimize our outcomes. However, there appears to be a distinction between "complete information" and the information needed to reach an outcome that is just as favorable. Instead of working to get more information, the focus should be on getting better information, which means creating the conditions that enable those on the front lines of organizations to creatively exercise their own discretion.

Exogenous Shocks and Existential Risk

One example of how uncertainty can manifest itself in managing risk is in terms of events that can threaten the existence of an organization. Existential risk, in the context of nonprofit organizations, concerns itself with the likelihood of events that would cause a nonprofit organization to close its doors, perhaps permanently. Exogenous shocks are large-scale events that affect the entire environment in which an organization operates and cannot be controlled by actors in a system, the same way earthquakes, hurricanes, or paradigm-shifting inventions cannot be stopped.

Note that while exogenous shocks affect the entire environment, they are not limited to acts of nature. When Joseph Schumpeter coined the term "creative destruction," what he had in mind was human inventions or innovations that changed the entire playing field—jet engines in a world of propeller-driven airplanes, the microprocessor in a world of building-sized supercomputers, the atomic bomb in a world of conventional weapons. Though these innovations emanate from humans rather than nature, they have fundamentally changed the way people do things and think of the world.

An important question to explore is whether there is a strong correlation between exogenous shocks and existential risk. That is, do existential risks always follow from exogenous shocks and do exogenous shocks always lead to existential risk? One way of getting at this question is to investigate the circumstances in which organizations fail, where the worst-case existential risk scenario occurs.

Ormerod (2005) describes existential risk in economic terms, with a focus on companies, but uses the broad metaphor of the evolution of biological species as a point of comparison. In evolution, long periods of "slow, steady change appear to be interspersed with periods of dramatic change" (160), which renowned evolutionary biologist Stephen Jay Gould referred to as "punctuated equilibrium." This general pattern also appears in extinction rates, both for species during the last hundred-million years and for companies during the last hundred years. Rates of extinction are driven by the frequency and severity of extinction events—similar to standard risk management measures—with a small number of devastating events mixed in with large number of smaller events. Ormerod (2005) deepens this distinction by connecting the devastating events to exogenous, system-wide phenomena, and the smaller events to endogenous causes. The resulting complexity and near-random uncertainty about the future creates a world in which the size of the next extinction event cannot be known, only that a small event is more probable (209).

This distinction recalls the two-dimensional plane of risk analysis that weighs likelihood and impact of potential risk events (Herman et al. 2004; Frame 2003). While large exogenous shocks tend to perpetually loom on the horizon—and truly can be devastating when they occur—their infrequency makes the relative probability of such an event posing an existential risk to a given organization typically less than the collection of high-frequency endogenous threats (Ormerod 2005). The interaction of those more commonly-occurring threats with organizational vulnerabilities (or those of a species, chess player, or military force)—the complex networks in which we live and work, and how those networks evolve over time—are more likely to pose an existential risk than the once-in-a-generation exogenous shock. In short, a company is more likely to be put out of business by a competitor than by a meteor hitting its headquarters, which is not to say a meteor would not put them out of business if it were to hit.

However, large external events are required to generate a more complete model of existential risk. Indeed, there is a positive but imperfect relationship between the largest events and the extinctions of the largest size. But because large events may occur during periods of greater system robustness, companies, species, or organizations within a given environment may have a greater ability to absorb exogenous shocks at certain times (Ormerod 2005, 214-15).

Is Less Really More?

When dealing with uncertainty, risk management becomes, to some extent, information management. The goal is not necessarily finding more information, but better information. In Van Riper's words, "A commander does not need to know the barometric pressure or the winds or even the temperature. He needs to know the forecast. If you get too caught up in the production of information, you drown in the data" (Gladwell 2005, 144). But how might that better information be found and distilled from the noise?

Both Gladwell and Gawande suggest checklists or flowchart-style algorithms as tools for managing the complexity of real life when time is a factor. Checklists seem to be tactical examples—managing crises rather than creating risk strategies—but, as with Van Riper, the strategy here is creating the conditions that make successful tactics possible, the same way a fire-evacuation plan can save lives if needed. Thinking actively and strategically about all kinds of risk, and creating protections within an organization to make it more robust in every way, increase its likelihood of survival against both endogenous and exogenous sources of risk. Turning next to more concrete examples shows that trying to compartmentalize risk management often leaves gaps in an organization's defenses. A better solution is to start at the center of the organization and develop a holistic, integrated risk management strategy.

III. STRATEGIC RISK TAKING

"But why, some say, the moon? Why choose this as our goal? And they may well ask why climb the highest mountain? Why, 35 years ago, fly the Atlantic? Why does Rice play Texas? We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard."

– John F. Kennedy, September 12, 1962

Nonprofits and a Narrow View of Risk

During the past several years, the lines between the business and nonprofit sectors have begun to blur (Massarsky 2005; Dart 2004; Coates and Saloner 2009; Dees 2001; Kellogg Foundation Report: Blurred Boundaries and Muddled Motives 2003). The resulting crossover adaptations have resulted in increased corporate social responsibility and the emergence of double and triple bottom lines among many businesses. Similarly, nonprofits have increased accountability in terms of financial management, return on social investment, and, increasingly, entrepreneurism (Davis and Woodrow 2009). Social entrepreneurism has been described as "a movement springing up [that] can make an enormous difference in the life of the country" (Phills 2008). One of the central tenets of entrepreneurship is strategic risk taking and a willingness to fail (Dees 2001). However, this perspective clashes with the nonprofit sector's understanding of accountability to stakeholders and mission.

In part due to an expanding culture of accountability, and in part due to the tricky questions around the nonprofit sector's resource ownership and stewardship, the risk conceptions of many nonprofits tend to focus on pure risk—preventing often predictable bad things from happening (Young 2006; see Herman 2004a, 564-565). However, on the other, less-seen side of the coin is what can be called speculative or strategic risk, where there is a possibility of gain (D'Arcy and Brogan 2001, 5; Frame 2003; Young 2006). In this paper, strategic risk is defined as intentional risk

taking by a nonprofit; that is, systematically expanding the organization's risk portfolio with the goal of maximizing the effectiveness of resources in the deliberative pursuit of mission. When strategic risks are called for and can yield positive outcomes, risk aversion can hold a nonprofit back from seeking out and capturing new opportunities.

Developing a new approach to risk management requires not only a shift in understandings of management techniques, but also a culture shift—to begin moving away from a conception of risk as only a bad thing and the corresponding ethos of risk aversion. The for-profit sector is characterized by a very different culture, and a closer look at how businesses today manage risk—or seek opportunities—can inform the nonprofit sector as it builds capacities in this discipline.

Enterprise Risk Management

Business or Enterprise Risk Management (ERM) is designed to help business efforts identify, assess, and manage risk and uncertainty (Committee of Sponsoring Organizations of the Treadway Commission, COSO). The definition given by the Casualty Actuarial Society is:

> ERM is the discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risks from all sources for the purpose of increasing the organization's short- and long-term value to stakeholders. (8)[7]

The extremely visible corporate scandals at the turn of the century and ensuing Sarbanes-Oxley legislation of 2002[8] have led to a revamping of approaches to risk management in the business world. Enterprise risk management is still an emerging means of overall risk management. The general approach of such precursors as business, corporate, or strategic risk management is very similar, but where ERM typically departs is that it takes a holistic rather than silo approach

[7] "Overview of Enterprise Risk Management." CAS Enterprise Risk Management Committee, May 2003.
[8] "The Sarbanes-Oxley Act and Implications for Nonprofit Organizations" guidance document by Boardsource and Independent Sector.

that considers every kind of risk facing the company (D'Arcy and Brogan 2001; Warrier and Chandrashekar 2006).

Because ERM is still gaining its footing, and because risks rarely look identical from company to company, there are a variety of frameworks for this style of risk management. For instance, COSO presents a framework in which several steps—e.g. internal environment, objective setting, risk identification, assessment, and response—are strategic, ongoing, and interactive, with no beginning, end, or linear process of any kind. In a sense, this framework is meant to mirror the complexity and chaos of the real world of risks the system is meant to engage. The CAS framework is more linear in nature: establish context, identify risks, analyze/quantify risks, integrate risks, assess/prioritize risks, treat/exploit risks, and monitor and review.

In general, ERM is meant to help organizations achieve their goals, to create and not erode stakeholder value (COSO). Additionally, ERM processes integrate risk management, rather than creating independent treatments for different types of risk, they view risk as potential opportunity as well as threat, they manage risk in good times and bad, and they shift the level of decision-making from risk managers or insurers to the CEO (D'Arcy and Brogan 2001, 3, citing Kawamoto, 2001). This upward shift of responsibility helps align company goals with appetite or preference for risk taking. Going further with the strong management archetype, Harvard's Robert Kaplan believes that finding ways to measure risk and hold managers accountable for risk management is a necessary addition to a Balanced Scorecard approach.[9]

Many of the methods and tools of ERM are being developed alongside the concepts, and in some ways it is that co-development that is making ERM possible. Some examples of competencies needed for ERM are an understanding of financial risk management tools, portfolio

[9] From Harvard Business School Summer Report 2008, Enterprise Risk Management panel at the Centennial Global Business Summit.

theory for correlated risk factors, computer simulation and modeling, and an ability to locate and utilize natural offsets to risks (D'Arcy and Brogan 2001). Due to the variety of risks facing nearly every aspect of an organization, no one person or silo is able to manage every risk and team approaches are often utilized.

In summary, ERM is a product of the changes in the business climate over the last decade or more, the emergence of more varied and advanced conceptions of risk facing companies, and more technical and scientific tools developed to face those risks.

Love it or Leave it: Adapting to the Nonprofit Sector

Perhaps in part because of the open-ended question of nonprofit ownership, and in part because of fewer resources and less ability to directly transfer best practices to diversified organizations, nonprofit risk management efforts tend to approach the concept of risk from a different perspective than business. However, the risks faced by nonprofits are not necessarily less severe. The biggest difference is the measurability of what is at risk and stands to be lost. Much of the value of nonprofits cannot be captured in monetary terms (Lampkin and Hatry 2009; Collins 2005), which is why this approach to nonprofit risk management utilizes a strong consideration of uncertainty, not just in terms of the probabilities of events but in our valuation of tangible and intangible assets. As a result, there is an imperfect translation of ERM frameworks to the nonprofit sector, and wholesale adoption is not feasible or even desirable (Collins 2005).

From a societal view, the public tends to see nonprofit organizations as "collectively risk-neutral" (Young 2006, 7). In this sense, the collective of foundations and private donors can view investments in multiple nonprofits as a means of portfolio diversification—a form of insurance where, at the end of the day, a contribution will not have a worse return than the market rate of delivered public good. While financial return on investment is not as important for nonprofits

compared with social return on investment, it cannot be disregarded. Financial stability makes pursuit of mission possible. The credibility and reputation of the entrepreneurs may be at greater risk in the nonprofit sector due to the culture difference described above: nonprofits tend to take a view of risk aversion, while for-profits tend to have a greater focus on seeking out new opportunities (Young 2006; Herman et al. 2004; Herman 2009). But conceiving of the speculative risk paradigm and making the cultural leap from risk aversion to risk prospecting is one of the most important things to be taken from the for-profit sector.

Finally, organizations outside the for-profit sector tend to have more diffused power structures, regardless of the verticality of the organizational chart (Collins 2005; Brafman and Beckstrom 2007). Correspondingly, the strong management approach to ERM and the centralization of risk management activities does not perfectly transfer. Rather than a CEO at the top of a vertical hierarchy, nonprofit leaders are at the center of a more diffuse network of power structures (Collins 2005). As a result, nonprofit executives and boards of directors take a more collaborative approach to leadership, acting as agents of change for an organization's stakeholders (Young 2006; Herman et al. 2004). Additionally, nonprofit leaders must create risk-management processes that can include actors that fall outside of their control, such as volunteers and partner organizations (Herman et al. 2004). This is one of the central points of this paper and will be discussed next: risk management is strategic and begins at the level of policy with the board of directors.

IV. GOVERNANCE CONSIDERATIONS

"But in all my experience, I have never been in any accident … of any sort worth speaking about. I have seen but one vessel in distress in all my years at sea. I never saw a wreck and never have been wrecked nor was I ever in any predicament that threatened to end in disaster of any sort."
– E.J. Smith, 1907, Captain, RMS Titanic[10]

Risk Management as an Essential Part of Good Governance and Stewardship

Board duties of care, loyalty, and obedience make clear that nonprofit directors must act with the best interests of the organization's resources, mission, and stakeholders in mind. Herman et al. (2004) discuss risk management as a board duty, but only in terms of pure risk aversion—the duty to protect the organization and its assets from bad things happening.

This discussion goes beyond this perspective, suggesting that taking strategic risks can create beneficial outcomes that would not otherwise exist. Carver (1997) states that boards should make policy that is proactive and concerning the broadest possible issues. Expending resources in a deliberate, systematic way is an important part of ensuring an organization is doing everything it can to pursue its mission.

Across the sector, there is a need to redefine standard notions of accountability to include deliberate, strategic risk-taking as a characteristic of good governance (Young 2006). As such, a board competency for the very near future needs to understand deliberative risk taking and gain a willingness and capability to take strategic risks to the extent they align with the organization's preference for risk. But this raises an important question: how to balance organizational risk-taking preferences with a sector culture that generally needs to increase its willingness to take risks.

The accountability challenge with assuming risk is to manage stakeholder resources, internal processes, and program work in ways that both serve the public interest and preserve the public

[10] Quoted in Taleb 2007

trust (Kearns 1996). To some extent, public perception of what the nonprofit sector is and does needs to be reshaped to fit a new paradigm where social entrepreneurship and risky, innovative efforts are not only accepted but expected. This kind of reframing likely will occur by some nonprofits leading the way with reformulated conceptions of risk taking, offering an example for others to follow.

One reason organizations may want to strategically take on more risk is related to existential risk—in this case, the risk of invisible losses due to inaction while the world changes around them. There is no way of knowing or determining what the world of the future looks like, except to say that it will be different from the world today—the governing force is change. This is something Darwin recognized when he studied biological species and something numerous business writers and economists have recognized in their study of companies and organizations (e.g. Schumpeter 1942, Ormerod 2005). Indeed, in the words of Peter Drucker, "All economic activity is by definition 'high-risk.' And defending yesterday—that is, not innovating—is far more risky than making tomorrow" (Drucker 1985, 139). The movement of social entrepreneurship—defined here as the application of entrepreneurial solutions to social concerns through any organizational form—has begun to invigorate the nonprofit sector and show that innovative change can be accomplished without a profit motive. Finally, nonprofit researchers have shown that constant change is a key aspect of organizational lifecycles, and that organizations tend to die fairly quickly if they do not recognize their lifecycle stage or fail to regularly re-invent their systems, processes, and even program work (Stevens 2001; Wood 1992).

A simple corollary might be if an organization receives a large grant, it is typically considered improper stewardship—and sometimes in violation of state charity laws—to let a large sum of money sit in a checking account where it earns no interest (Silk 2005, 77). The only loss that has occurred here is the cost of the missed opportunity. But the concept can be extended to

strategic risk taking. The opportunity costs of taking strategic risks, compared to the fiscal management example, can be much higher, but in many cases, the potential liability could be much greater. Understanding the world in terms of not only threats but also opportunity costs, strategic risk taking becomes an essential part of purposely moving forward and ensuring sustainability with program work, governance policies, and management systems. Motivating the kind of systemic change needed to reshape norms in the nonprofit sector is difficult and will almost certainly be gradual.

According to Herman (2009), "The hardest part of effectively managing risk is *changing the culture* of your organization" (emphasis in the original) (3). Viewing risk management as an integral part of mission fulfillment is a shift that needs to occur for many organizations (Herman 2009a). Beginning to take small steps in that direction can begin to reshape norms and allow strategic risk management to emerge as a cornerstone of good stewardship and governance.

CONCLUSION AND RECOMMENDATIONS

"Nature abhors monotony . . . Diverse ecosystems are so much more stable than one-crop plantations. Diversity itself protects ecosystems against total devastation by diseases and abnormal weather that demolish one-crop plantations."

– Jane Jacobs, The Nature of Economies

Enhancing an ability to perceive information and widen cognitive bottlenecks will become increasingly important as the complexity of the world and the information available continues to accelerate. Strategies for managing information could emerge in the ways described, through some combination of making room for spontaneity and creativity among front-line managers, and providing tools to extract the most meaningful data from the static. Or, as increases in computing power continue to accelerate over the next years and decades, perhaps neural networks will emerge in even more explicit forms, and methods of processing data will become unrecognizable by today's standards.[11]

Until then, it is possible to take steps to better manage information flow and risk in the complex environments faced by nonprofit organizations. In nearly every chapter of the third edition of *Strategic Planning for Public and Nonprofit Organizations*, John Bryson writes that undergoing a strategic planning process is not worthwhile unless it motivates the people that make up an organization to begin to think and act strategically (Bryson 2004). Similarly, the value of risk management is not putting a plan on paper, but rather the development of the ability and capacity for thinking about problems differently. In particular to nonprofits, it means reframing problems or threats as opportunities and recognizing that opportunities can be threatening if they interact the wrong way with organizational weaknesses and even strengths.[12]

---

[11] The work of computer scientist and inventor Ray Kurzweil describes the acceleration of technological change.
[12] For instance, it is unlikely that the French saw the Maginot Line as a weakness—until the German army went around it.

Neurologist Robert Sapolsky defines culture as "the non-genetic transmission of behavioral styles to a next generation."[13] The culture change that needs to occur in the nonprofit sector has already begun its first tentative steps, led by social innovators and entrepreneurs around the world. By creating venues for systematic, strategic risk-taking, organizations can begin to change the existing risk-aversion paradigm, but can do so in a way that maintains accountability and maximizes positive outcomes. Strategies adopted to manage risk can and should be both deliberate and emergent, resulting from design and discovery (Patton 2006; Chait et al. 2004; Gladwell 2005). Finding the right mix will likely be a learning process for each organization. So, in the end, this paper is about capabilities: inventing or developing the individual and organizational capacity for managing information and risk in a changing world.

Strategic Risk Management Under Uncertainty

Creating a framework for managing risk in a strategic way can only be approached here in a very general way because both the process of developing a framework and the product itself will be unique to each organization.[14] As such, no risk management framework should be adopted wholesale as a template. Additionally, due to the prevalence of uncertainty, it is highly unlikely that risk events will unfold precisely according to plan—the most threatening events can be those that no one is able to imagine and prepare for ahead of time. Overcoming this hurdle calls for dynamic, responsive risk management planning that allows the people in an organization to quickly adapt and respond to unexpected and changing events. The recommendations below offer possible approaches for applying this analysis to risk management planning efforts.

---

[13] Robert Sapolsky, 2009 Stanford Class Day Lecture, "The Uniqueness of Humans."
[14] Approaches to managing risk can be found in Frame (2003), Herman et al. (2004), Herman (2004a) and Taleb (2007).

In general, an effective risk management plan:[15]

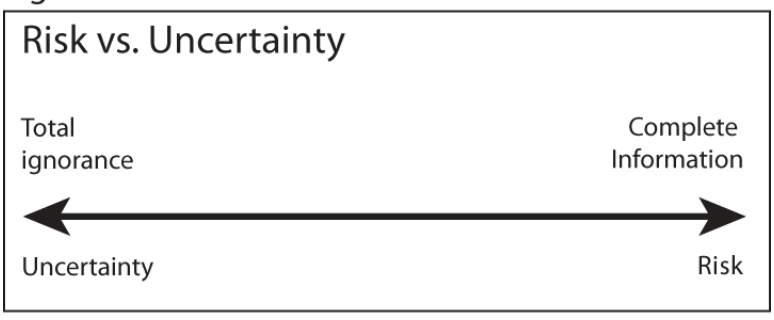
- reflects a wide range of views and perspectives in an organization;
- expresses the nonprofit's belief in and support of risk management;
- states that personnel at all levels of the organization play a vital role in protecting the nonprofit's mission, reputation and assets;
- incorporates the existing risk management policies of the organization;
- reflects the nonprofit's goals and aspirations for its risk management efforts;
- focuses on priority risks and considers secondary risks. (7)

These guidelines offer a good checklist throughout the development of risk management plans and can help ensure alignment to mission.

Risk Management Planning: Varied Approaches for Varied Risks

The question of how best to apply this analysis to nonprofit practices is complicated by several factors. First, the number and variety of risks facing an organization can be overwhelming, especially when considering risks in the long-term, prospective way encouraged here, which can lead to paralysis. Second, no two nonprofits are exactly alike, and the risks facing even two very similar organizations are likely to be slightly different. Third, it is often unclear where potential risks lie on the continuum between pure risk and uncertainty (Figure 3). Fourth, it can be difficult to discern hazards that should be avoided from opportunities that should be pursued. Fifth, the diffused power structures of nonprofit organizations can complicate policy and slow responses to

Figure 3



Adapted from Frame (2003)

[15] "What is a Risk Management Plan?" Community Risk Management, Vol. 14, No. 3. September/October, 2005.

threats. Finally, it can be difficult to quantify threats and opportunities in terms of social value, which can bias risk analyses toward those organizational aspects that more easily lend themselves to numerical representation.

The recommended approaches to managing risk below focus on three general scenarios: where probabilities and possible events can be foreseen, the risks associated with an organization seeking out new opportunities, and risks of highly improbable and unforeseeable future events.

Probabilities can be Estimated, Events can be Imagined

The healthcare provider Kaiser Permanente uses a Hazard Vulnerability Assessment Tool (see Appendix II) in which every imaginable contingency is considered (which, perhaps obviously, leaves out unimaginable risks). The relative threat of each possible risk event is measured according to the following equation:

$$\text{Risk} = \text{Probability} \times \text{Severity}$$

where Severity is Magnitude (human, property, and business impact) minus Mitigation (preparedness, internal response, external response). Each category within magnitude and mitigation, as well as overall likelihood of occurrence, is judged on a 0–3 scale. The final ordering can then remain in tabular form or be displayed as an info-graphic that helps visualize the greatest threats.

A common response to these kinds of predictable risks is to purchase some form of insurance. Head (2004) makes clear that buying insurance against specific risks is a necessary but not sufficient step in risk planning. Attempting to purchase insurance against every possible risk is not only infeasible from the standpoint of insurers, but would also likely bankrupt the organization and fail to protect against those unpredictable events that will end up doing the most harm (Head 2004, 1-2; Taleb 2007). Further, it is possible that buying insurance can be regarded as a catch-all

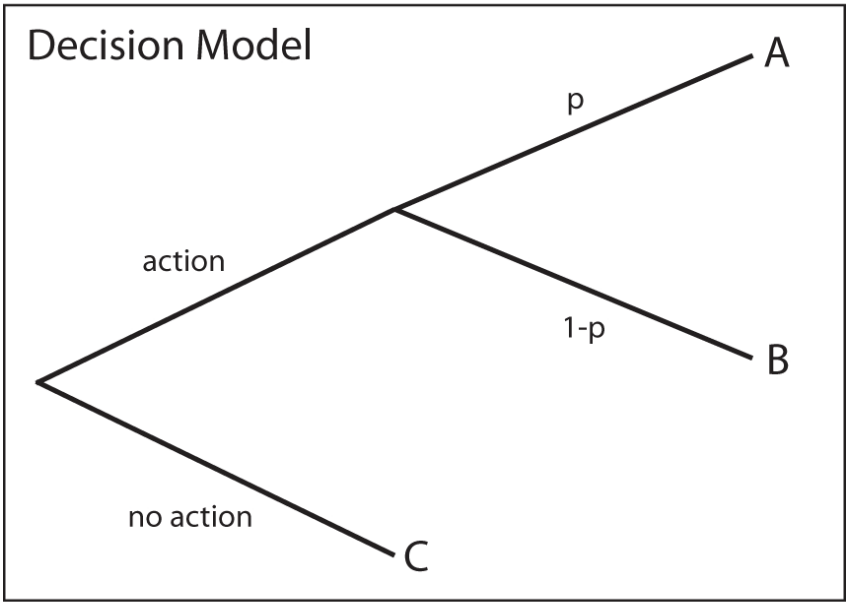
for harmful events and may lead to carelessness (Head 2004, 2-3). This is not to discourage nonprofit leaders from buying insurance, but rather to encourage deliberation and pursuance of other steps first.

Choosing to Take on Strategic Risk

Young (2006) describes a decision-theory model in which probabilities are known or can be reasonably estimated. In the basic decision model for a choice between two possible options, the decision to take action has two possible outcomes, a better outcome A and a worse outcome B, where C is a risk-less third outcome, the result of inaction (Figure 4). Given the decision to take action, the probability of A occurring is p and the probability of B occurring is 1-p, giving the equation: EV=pA+(1-p)B, where EV is the expected value of taking action (Young 2006, 12).

In this case, determining accurate probabilities is difficult, but so is determining value for the possible outcomes. Because of the social value bottom line of nonprofits, and the varying

Figure 4



Adapted from Young (2006)

definitions of social value even within a single organization, establishing a common metric can be a challenge.

One way of facing this challenge can be to create a "quantitative utility index:" assign a 0-10 or 0-100 point scale and utilize the collective wisdom of experts—the board of directors, board and staff, etc.—to establish value ratings for different outcomes (Young 2006, 18). A similar model, developed by the RAND Corporation in the 1960s, called Delphi Forecasting utilizes an anonymous panel of experts, multi-round questionnaires, and statistical modeling of the results to arrive at conclusions (Frame 2003, 79-81).

Events Cannot be Imagined, Probabilities Cannot be Determined

When risk events have the potential to be the most disastrous is under the conditions of the most extreme uncertainty—when events cannot be predicted and, indeed, when the events themselves have not been experienced and fall outside of risk planning models (Taleb 2007; Frame 2003). For example, Frame points out that no risk management plans or formulae predicted the events of September 11, 2001. According to Herman (2009b), "It is not possible to create a formula or algorithm that will generate exact answers in extraordinarily diverse organizations facing differing circumstances."

However, this does not mean risk planning should be abandoned. Under conditions of extreme uncertainty, there are two strategies that can be combined to create a potentially effective approach. First, similar to the experiences described by Gawande (2007) and Gladwell (2005) in intensive care units and war games, respectively, front-line managers should be enabled to face possible risk events in an organic way, and without relying on orders to be handed down from above. This strategy disperses responsibility, creating autonomy at the level of tactics, but still ensuring adherence to the guiding principles of risk management policies. Nonprofit leaders can further support managers' risk management work in highly complex and high-stress situations by

creating tools, as simple as checklists. Checklists have demonstrated success controlling infections in hospital ICUs, streamlining the operation of complicated aircraft control systems, and, as with Van Riper's Red Team, creating the conditions necessary for people to respond creatively to the unexpected.

Second, available data—estimated probabilities, historical data, budgets, etc.—can be used to create simulations of possible events within the bounds of given levels of random variation. Monte Carlo simulations utilize random number generation to "experimentally" create variation according to different assumptions about probability. Different statistical distributions can be used depending on the scenario (see Frame 2003, 118-133), for example:

- Normal/Gaussian Distribution – for when good and bad outcomes are symmetrical;
- Poisson Distribution – for when possible events are infrequent;
- PERT Beta Distribution – for when there is little experience dealing with a new situation and only the best-case, typical, and worst-case scenarios can be imagined;
- Bimodal Distribution – for when rates are believed to have two peaks (e.g. early in a project and near the end)

Combining both strategies can create a baseline expectation for acceptable variances in predicted versus actual outcomes, while simultaneously empowering managers at a variety of levels in an organization to respond to rapidly changing conditions.

Integrating Approaches

A comprehensive risk management plan—a nonprofit corollary to a business Enterprise Risk Management strategy—should combine and prioritize all three of the above approaches, as well as integrating existing risk planning practices. Approaching risk planning in a rigorous, systematic way will help ensure all bases are covered and no system or program is unnecessarily vulnerable—whether they are existing structures or new ventures.

Finding ways of increasing the capabilities—the autonomy, responsibility, and decision-making power—of front-line managers enhances an organization's ability to respond to the unexpected. Any risk management framework should be governed by an overarching strategy or policy that guides the tactical behavior of the organization's leadership, sub-committees, staff departments, formal and informal work groups, and individuals. Additionally, organizations should resist the urge to place risk management in one silo; it should be a part of every silo and coordinated by board and executive leadership.

Finally, strategic planning efforts can integrate both risk management and opportunity seeking. This involves (a) using the strategic plan as a means of assessing risks and establishing the structures to manage future risk events, and (b) allowing the strategic plan to codify risk tolerances and concrete methods for seeking out new opportunities. Sticking with the status quo for too long risks stagnation and missed opportunities—the unseen risks of inaction. Taking measured risks within a framework of governance policy and strategic planning can build competency around risk management and help ensure responsible, systematic risk taking that can ultimately benefit the organization and its mission.

References

Asaro, Catherine, 1996. "Complex Speeds and Special Relativity." Am. J. Phys. 64 (4), April 1996.

Bostrom, Nick, 2006. "Dinosaurs, Dodos, Humans?" Global Agenda, January 2006, 230-31.

Brafman, Ori and Beckstrom, Rod A., 2007. The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations. Decentralized Revolution, LLC., Penguin Group Inc., New York, NY.

Brandenburger, Adam M., and Nalebuff, Barry J., 1996. Co-opetition: A revolutionary mindset that combines competition and cooperation . . . The Game Theory strategy that's changing the game of business. Doubleday. New York, NY.

Bronowski, Jacob, 1973. The Ascent of Man. BBC Documentary Series. Produced by Adrian Malone in association with Time-Life Films.

Bryson, John M., 2004. Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement, 3rd edition. Josey-Bass, John Wiley and Sons, Inc., San Francisco, CA.

Carver, John, 1997. Boards that Make a Difference. John Wiley and Sons, Inc. San Francisco, CA.

Casualty Actuarial Society Enterprise Risk Management Committee, 2003. Overview of Enterprise Risk Management. May 2003.

Chait, Richard P., Ryan, William P., Taylor, Barbara E., 2004. Governance as Leadership: Reframing the Work of Nonprofit Boards. John Wiley and Sons Inc. San Francisco, CA.

Coates, Bethany and Saloner, Garth, 2009. "The Profit in Non-Profit." Stanford Social Innovation Review, Summer 2009.

Collins, Jim, 2005. Good to Great and the Social Sectors. Boulder, CO, Jim Collins, 2005.

Committee of Sponsoring Organizations of the Treadway Commission, 2004. Enterprise Risk Management – Integrated Framework. September 2004.

Cooke, Robert, 2001. Dr. Folkman's War: Angiogenesis and the Struggle to Defeat Cancer. Random House. New York, NY.

D'Arcy, Stephen P., and Brogan, John C., 2001. "Enterprise Risk Management." Journal of Risk Management of Korea, Vol. 12 No. 1.

Dart, Raymond, 2004. "The Legitimacy of Social Enterprise." Nonprofit Management & Leadership, Vol. 14, No. 4, Summer 2004.

Davis, Steve and Woodrow, Sue, 2009. "The L^3C: A new business model for socially responsible investing." Community Divided, Issue 4. Published by the Community Affairs Dept. of the Federal Reserve Bank of Minneapolis.

Dees, J. Gregory, 2001. "The Meaning of 'Social Entrepreneurship.'" May 30, 2001.

Drucker, Peter F., 1985. Innovation and Entrepreneurship: Practice and Principles. Harper & Row Publishers, Inc., New York, NY.

Frame, J. Davidson, 2003. Managing Risk in Organizations: A Guide for Managers. Jossey-Bass, San Francisco, CA.

Gawande, Atul, 2007. "The Checklist." The New Yorker, December 10, 2007.

Gladwell, Malcolm, 2005. Blink: The Power of Thinking Without Thinking. Little, Brown and Co. New York, NY.

Head, George L., 2004. "Everything's Fine—We've Got Insurance" Community Risk Management and Insurance. Vol. 13, No. 1, January/February 2004.

Herman, Melanie; Head, George; Jackson, Peggy; Fogarty, Toni; 2004. Managing Risk in Nonprofit Organizations: A Comprehensive Guide. John Wiley & Sons, Inc. Hoboken, NJ.

Herman, Melanie, 2004a. "Risk Management." The Jossey-Bass Handbook of Nonprofit Leadership and Management, Second Edition. Robert Herman and Associates, ed. Jossey-Bass Inc., San Francisco, CA, 560-584.

Herman, Melanie, 2009. "Culture Shock 2009: Embracing Risk Management is Necessary, But Never Easy." Risk Management Essentials, Vol.18, No. 1. January/February, 2009.

Herman, Melanie, 2009a. "Managing Risk in Turbulent Times." Risk Management Essentials, Vol.18, No. 1. January/February, 2009.

Herman, Melanie, 2009b. "Unmasking the Discipline of Risk Management." Risk Management Essentials, Vol. 18, No. 3. Fall 2009.

Jeavons, Thomas H., 2004. "Ethical Nonprofit Management." The Jossey-Bass Handbook of Nonprofit Leadership and Management, Second Edition. Robert Herman and Associates, ed. Jossey-Bass Inc., San Francisco, CA, 204-229.

Kearns, Kevin, 1996. Managing for Accountability: Preserving the Public Trust in Public and Nonprofit Organizations. Jossey-Bass, Inc. San Francisco, CA.

Kellogg Foundation. "Blurred Boundaries and Muddled Motives." 2003.

Lampkin, Linda M. and Hatry, Harry P., 2009. "Measuring the Nonprofit Bottom Line." Nonprofits and Business. Cordes, Joseph J. and Steurle, C. Eugene., ed. The Urban Institute Press, Washington D.C.

Lipsky, Michael, 1980. Street-Level Bureaucracy: Dilemmas of the Individual in Public Services. Russell Sage Foundation.

Massarsky, Cynthia W., 2004. "Enterprise Strategies for Generating Revenue." The Jossey-Bass Handbook of Nonprofit Leadership and Management, Second Edition. Robert Herman and Associates, ed. Jossey-Bass Inc., San Francisco, CA, 436-465.

Ormerod, Paul, 2000. Butterfly Economics: A new general theory of social and economic behavior. Basic Books, New York, NY.

Ormerod, Paul, 2005. Why Most Things Fail: Evolution, Extinction, and Economics. John Wiley & Sons, Inc. Hoboken, NJ.

Patton, Michael Quinn, 2006. "Evaluation for the Way We Work." Nonprofit Quarterly, Spring 2006.

Phills, James A., 2008. "Q&A with David Gergen." Stanford Social Innovation Review, Fall 2008. Stanford, CA.

"The Sarbanes-Oxley Act and Implications for Nonprofit Organizations" guidance document by Boardsource and Independent Sector

Sapolsky, Robert, 2009. Speech on "The Uniqueness of Humans" for Stanford's Class Day, June 13, 2009.

Schumpeter, Joseph, 1942. Capitalism, Socialism and Democracy. Allen and Lunwin, London.

Silk, Thomas, 2005. The Legal Framework of the Nonprofit Sector in the United States. The Jossey-Bass Handbook of Nonprofit Leadership and Management. Jossey-Bass. San Francisco, CA. 63-80.

Simon, Herbert, 1982. Models of Bounded Rationality and Other Topics in Economics. MIT Press, Cambridge, MA.

Stevens, Susan Kenny, 2001. Nonprofit Lifecycles: Stage-based Wisdom for Nonprofit Capacity. Stagewise Enterprises, Inc. Long Lake, MN.

Taleb, Nassim Nicholas, 2007. The Black Swan: The Impact of the Highly Improbable. Random House, Inc., New York, NY.

Warrier, S.R., and Chandrashekar, Preeti, 2006. "Enterprise Risk Management: From the Boardroom to the Shop Floor." White Paper presented in the Asia Pacific Risk and Insurance Conference, Tokyo, 2006.

Wood, Miriam, 1992. "Is Governing Board Behavior Cyclical?" Nonprofit Management & Leadership, vol. 3 no. 2. Winter 1992. Jossey-Bass Publishers.

Young, Dennis R., 2006. "How Nonprofit Organizations Manage Risk." Working Paper 06-03, Andrew Young School of Policy Studies, Georgia State University.

Appendix I

Types of Risk Facing Nonprofit Organizations

Property Risk. Property is anything that can be owned and can be tangible or intangible and expected benefit from property ownership or rental can be from present or future use.

Income Risk. In a perfect world, income and outflow streams balance and possibly even net a profit; in the real world, disruptions to either or both fund streams are commonplace and of varying severity.

Liability Risk. Legal claims, sanctions, and expenses can interfere with pursuit of mission, even when insurance is in place.

Reputation and Mission Risk. Community perception, beliefs and trust is especially important to nonprofits because they do not earn profits. An organization's reputation can authorize and support its mission, or prevent pursuit of mission.

People Risk. People are a nonprofit's most valuable resource. Events can threaten the lives, health, productivity, perception of the organization, and generosity of staff, volunteers, board members, donors, and other stakeholders with broad consequences.

Governance and Fiduciary Risk. Board members are responsible for dispensing essential duties for the nonprofit. As a result, the selection of and actions taken by individual board members entail risk.

Risks Related to Serving Vulnerable Populations. Programs serving vulnerable populations incur risks of injuries, accidents, mistreatment, real or alleged abuse, intimidation, and more.

Risk of Transporting Clients. Nonprofits offering transportation services run up against a variety of risks related to safety, competence, legalities, appropriate behavior, and professionalism.

Collaboration Risk. Collaborations are inherently risky because partners do not have control over the actions or activities of one another, the consequences of which can manifest themselves in a variety of ways.

Strategic Risk. A consideration of the potential costs and benefits of a decision in order to derive the greatest social return on investment in mission-centered work. Also known as "Business Risk" primarily by for-profit companies.

Pure or Insurable Risk. The likelihood of events causing injury or loss.

Technical Risk. Often associated with technology, technical risks involve the uncertainties associated with doing a task for the first time.

Operational Risk. Common risks associated with everyday operating activities

Political Risk. Unforeseen politics interfere with mission or program work, internally or externally.

Project Risk. New projects face a wide array of unique risks where no past efforts can serve as a reliable guide.

Existential Risk. Particularly from a global context, existential risks threaten to wipe out intelligent life on Earth or "permanently and drastically curtail its potential." This term is adapted here to correspond with an organization's untimely arrival at Stevens' "terminal" lifecycle stage.

Appendix II – Example Risk Management Template

Kaiser Permanente's Hazard and Vulnerability Assessment Tool manages risk with a large number of variables and estimates of probabilities and impact.

HAZARD AND VULNERABILITY ASSESSMENT TOOL
HUMAN RELATED EVENTS

KAISER PERMANENTE®

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Mass Casualty Incident (trauma)								0%
Mass Casualty Incident (medical/infectious)								0%
Terrorism, Biological								0%
VIP Situation								0%
Infant Abduction								0%
Hostage Situation								0%
Civil Disturbance								0%
Labor Action								0%
Forensic Admission								0%
Bomb Threat								0%
AVERAGE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%

**Threat increases with percentage.*

RISK = PROBABILITY * SEVERITY		
0.00	0.00	0.00

Appendix II cont'd

Risks then are placed on a chart to help managers visualize those risks of greater or lesser severity, guiding preemptive action to the greatest hazards.