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FM Global

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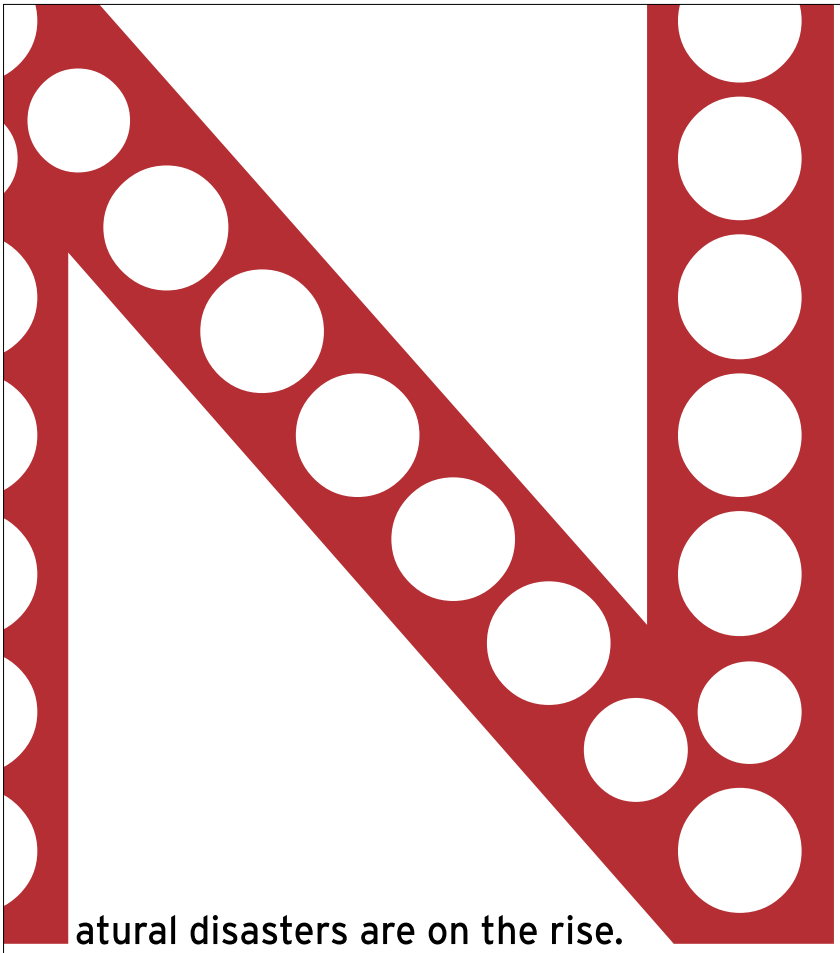
property risk and insurance solutions for a complex world

Flirting with DISASTER


Risk

In a recent survey, 96 percent of executives said their companies have operations that are exposed to natural catastrophes like hurricanes, floods and earthquakes, yet fewer than 20 percent said they were "very concerned" about such disasters negatively affecting their bottom line. Why can't we read the signs?

Flirting with DISASTER



atural disasters are on the rise. According to Swiss Re's annual research on natural catastrophes and man-made disasters, the number of significant events on average nearly tripled since the early 1980s. Concurrently, insured losses have exploded annually from, on average, less than US$10 billion to more than US$100 billion in recent years. There is a geographic diversity in losses as well, with nearly half of the events originating in Asia.

Warned by such statistics, one would expect organizations in natural disaster-prone areas of the world to immediately respond by making physical risk improvements to their key business facilities, and to those of their critical suppliers, to prevent or reduce the possibility of property damage and to ensure business continuity. Yet the reverse—doing little or nothing—often is the case.

BUSINESS RISK

Findings from FM Global's *2008 Natural Disaster Business Risk Study* indicate that many businesses fail to heed the risk of natural disasters. Ninety-six percent of financial executives surveyed said their companies have operations that are exposed to natural catastrophes like hurricanes, floods and earthquakes, yet fewer than 20 percent said their organizations were "very concerned" about such disasters negatively affecting their bottom line. Additionally, although 80 percent of companies have operations located in regions exposed to hurricanes, nearly 50 percent reported that they are not well-prepared for a hurricane. Other findings within the study point to a similar lack of preparedness for the risk of floods and earthquakes.

"The findings reveal a surprising and concerning gap between the levels of natural catastrophe exposure and the level of preparedness," comments Ruud H. Bosman, FM Global vice chairman. "They either underestimate the extent to which a natural catastrophe exposes them to risk, or overestimate their level of preparedness."

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Insurance companies absorbing the costs of many natural disasters certainly don't underestimate the risk. For example, private insurance companies largely pass on the opportunity to market and sell flood insurance, deeming the risk of a flood close to near certainty in many regions of the country. Yet, only 20 percent of U.S. homes at risk for floods are covered by government-provided flood insurance.

"Many property owners focus on what they consider to be high upfront costs associated with loss prevention, and fail to consider that these investments can provide financial value over a very long period of time."

– DR. HOWARD KUNREUTHER
PROFESSOR OF DECISION SCIENCES AND PUBLIC POLICY, THE WHARTON SCHOOL

Bosman notes that a natural disaster affects an organization beyond just property damage and loss. Companies experience disruption in the normal flow of business that has far-reaching implications, affecting customer service and their relations with vendors and buyers in the global supply chain. Many organizations have outsourced the manufacture of various components within their products to lower-cost suppliers around the globe, which, in turn, do much of the same. Were a typhoon to shut down the supply of goods from Taiwan or a flood to disrupt the manufacture of computer components in China, the reverberations would extend well beyond the suppliers in these regions. "In this era of lean inventories, any breakdown in the supply chain can spell disaster for a company's business continuity," says Bosman. "Although risk management is in its infancy in many emerging economies, these losses are largely preventable. Companies that realize this can gain a competitive edge."

Howard Kunreuther has studied the effect of human psychology on natural disaster decision-making as the Cecilia Yen Koo professor of decision sciences and public policy at the Wharton School of the University of Pennsylvania (USA), where he is co-director of the risk management and decision processes center. He has a long-standing interest in the ways that society can better manage low-probability/high-consequence events related to man-made and natural hazards.

"If one considers the 25 most costly insured catastrophes anywhere in the world between 1970 and 2008, all of them occurred after 1987 and two-thirds of them occurred since 2001," Dr. Kunreuther notes. "Yet, a survey of 1,100 adults living along the (U.S.) Atlantic and Gulf Coasts in 2006—one year after Hurricane Katrina—revealed that only 17 percent of the respondents had taken steps to fortify their homes. And just three years after Katrina, many residents of the Bolivar Peninsula in Texas (USA) refused to heed urgent evacuation warnings as Hurricane Ike approached—a reluctance that led to the deaths of more than 100 people. Why is this happening? What drives this behavior?"

And what if these attitudes about natural disaster-related risk are brought into the workplace and affect business decision-making?

Other questions abound. Why aren't more businesses protecting their facilities to withstand the expected financial loss scenarios of a natural disaster? Was the true extent of risk not adequately communicated? Do current methods of describing risk fail to tell this story compellingly? Why do some individuals, businesses and communities seem so reluctant to invest in disaster preparedness and purely accept the risk when the long-term benefits are so obvious and significant? Are companies taking the threat of other property-related risks, such as fire and equipment breakdown, seriously? Why do some organizations prepare for risk while others do not? Shouldn't more companies elevate the importance of physical risk management?

PSYCHOLOGY AND DECISIONS

Human psychology, in terms of its manifestation in behavior, appears to be a foremost factor in why people underestimate the risk of a natural disaster, despite scientific evidence. "A fundamental tenet of human nature is deniability, the belief that bad things will not happen to me," says Dr. Steven Timmons, founder and president of Solutions for Organizational Survival, a Santa Fe, N.M., USA-based crisis management consulting firm. Dr. Timmons has worked for the last 30 years applying his doctorates in psychology and management to research in crisis management and response.

He is not alone in this view. Michael Topf has devoted his 30-year career to safety, health and environmental training, as founder and CEO of Topf Initiatives in Wayne, Pa., USA. Topf says there are three elements of human psychology compelling a failure to take action in advance of a disaster.

"People are creatures of habit," Topf explains. "The more time that slips by without a predicted disaster, the greater a person's deniability. When disaster does strike and miraculously avoids or does little damage to a person's business facility or home, he or she becomes prone to feelings of invincibility, making his or her behavior even riskier.

"Then, there is the curious human behavior that often follows a disaster that does occur and actually causes damage or loss—the wrongheaded opinion that because it has now happened, it won't happen again, at least not for a long time," he says.

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3 elements

of human psychology compelling a failure to take action in advance of a disaster

1. The bad thing is not going to happen.
2. If the bad thing does occur, it will affect others and not me.
3. If the bad thing does affect me, the effects will be minimal.

Topf is referring to what some psychologists call the "Gambler's Fallacy" (also known as the "Monte Carlo Fallacy")—the misconception that what has recently occurred will affect what will occur next, even if the two events are independent. An example is a coin toss that repeatedly comes up "heads." A gambler may bet on "tails" coming up next, even though the chance of this has not increased; the odds still remain 50-50.

In the context of a natural disaster, once a catastrophe occurs, many people believe the chance of its repeat is remote. Thus, they may be less inclined to prepare for the event. An example of this form of irrational behavior is post-Hurricane Katrina New Orleans, USA. Despite the disaster's human and financial carnage, the city still remains ill-prepared to withstand the devastation of another major hurricane. "Despite public outcry to improve building codes and the levees, the costs are deemed excessive to truly and adequately protect the city from a 1-in-100-year hurricane," Topf says. "People think 100 years is a long time away, not realizing that another hurricane the magnitude of Katrina could happen tomorrow. Human denial is very powerful."

Kunreuther provides a reason why people tend toward irrational observations and biases when scientific data supports the converse. "There are only so many things people can worry about at any point in time, and we often use decision rules that suggest if the likelihood of a devastating event is perceived low enough, then we prefer not to think about it," he says.

Timmons says, "Most people deny what they know to be true because they are more concerned about short-term pleasures than long-term consequences that might be painful. This is evident in a public company, which makes decisions to maximize short-term gains for its shareholders, as opposed to decisions that are geared to long-term strategic value. The organization may scrimp on preparing for a natural disaster or investing in other forms of physical site risk management and loss prevention, believing it financially costly in the current quarter. The organization refuses to accept that the long-term costs of the disaster occurring will be far costlier, in terms of its bottom line, share price and reputation."

Timmons believes many companies emphasize disaster recovery and business continuity, when instead they should be focused on proactive loss prevention and risk mitigation, rendering those concerns obsolete. An obstacle, he cites, is the perceived cost of such tactics, compelling business leaders to postpone the needed action. Kunreuther agrees, calling this behavior the "not-in-my-term-of-office" phenomenon. "Many property owners focus on what they consider to be high up-front costs associated with loss prevention, and fail to consider that these investments can provide financial value over a very long period of time," he says.

Yet, as Topf notes, "Much of the loss from natural disasters is preventable. Many people think that the risks and resulting loss are beyond their control, which can lead to a fatalistic attitude and inaction. While you can't stop a windstorm from occurring, you can implement loss engineering strategies to reduce the risk and prevent or lesson the severity of resulting losses."

"Companies don't have to be victims," says Bosman. "Organizations can either accept the risk and take a fatalistic approach or do something about it—the deterministic approach."

Other possible factors explaining why many people fail to reduce their exposure to a natural disaster include the mistaken belief that insurance will make them whole in the event of loss.

But companies like regional railroad RailAmerica know that insurance will pay for only so much. The company stated in its 2010 annual financial report (10-K) that its "operations may be affected from time to time by natural disasters such as earthquakes, volcanoes, floods, hurricanes or other storms," which "could have a material adverse effect" on its operations and financial condition. The Risk Factors section of the report indicates that "even with insurance, if any catastrophic interruption of service occurs, we may not be able to restore service without a significant interruption to operations, which could have an adverse effect on our financial condition."

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> VICE CHAIRMAN, FM GLOBAL

With regard to insurance, Kunreuther believes that people psychologically may be willing to accept risk in the belief that an insurance policy absolves the need for concern. Bosman concurs, noting that insurance does not cover loss of market share or damaged reputation. "Organizations would do better to devote more of their attention to preventing and controlling disaster risks than transferring them to an insurance company," he says.

When natural disasters do strike and cause financial loss, the impact can extend beyond the bottom line. Bosman points to an FM Global-commissioned study that unearthed a high statistical correlation between a company's physical risk management practices and its earnings volatility. Conducted by the U.K.-based Oxford Metrica, an independent research and analytics organization specializing in corporate reputation and international investments, the study "indicates both empirically and quantitatively that there is a strong correlation between physical risk management and earnings stability," says Dr. Deborah Pretty, the Oxford Metrica principal who headed the research effort and author of Risk Financing Strategies: The Impact on Shareholder Value.

"Companies pursuing best practices in managing their property risks produced earnings, on average, that were 40 percent less volatile than companies with less advanced physical risk management," Dr. Pretty adds. "The research findings indicate that resources allocated to control property risks are well-spent, given the demonstrable improvement in earnings stability, a key driver of shareholder value."

Bosman sees other values in risk preparedness. "The most significant consequence of poor disaster risk management is loss of competitiveness," he says. "By implementing an effective risk management program, companies protect their ability to compete. Nothing is more fundamental to business success."

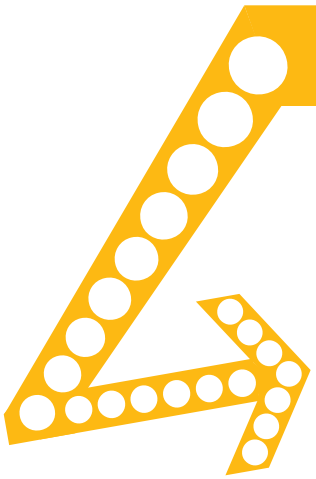
Given the financial and other benefits in preparing for the risk of a natural disaster, irrational human behavior arguably must be controlled.

THE POWER OF TRUTH

"Pretending that there is no risk of a natural disaster striking will not make it go away," Timmons states. But, are there ways to overcome the tendency to avoid scientific facts and take appropriate action accordingly? One is to alter the current method of describing the risk of a disaster. Dr. Lou Gritzo, vice president of research at FM Global, believes the traditional mathematical model defining this risk—the customary 1-in-100-year or some other ratio—may be inadequate. "In essence, what you are doing is creating the illusion that the chance of the disaster is so far in the future, it does not warrant attention right now," Gritzo says. "Then, when the disaster strikes, it creates another illusion that since it has already occurred, another one will not happen for 100 years, which is erroneous thinking."

Gritzo explains that the actual probability of a 1-in-100-year event occurring one or more times over a 30-year time horizon is 26 percent, which may represent a more telling way to define the threat of the risk. "Informing the CEO there is a 26-percent chance of a major flood or a windstorm over the life of a building is a more compelling way to describe the risk than by saying it's a 1-in-100-year event."

Another way to communicate the probability of a natural disaster is through the transfer of actual knowledge. Showing people the physical damage caused by a natural disaster can deeply affect behavior. Gritzo points to the reactions of visitors to the FM Global Research Campus, the world's largest center for property loss prevention research and education. More than 2,000 people visit the Research Campus in West Glocester, R.I., USA, each year. "Many



There are 11 psychological and situational barriers to how individuals make decisions about natural disaster risk. Among those theories are:

RISK UNDERESTIMATION
even when residents are aware of the risks, they believe that the future disaster will not happen to them.

PROCRASTINATION
the natural tendency to postpone taking actions that require investments in time and money.

SHORT-TERM FOCUS
the difficulties computing the cost-benefit trade-offs of investing in natural disaster preparedness.

HYPERBOLIC DISCOUNTING
individuals put too much weight on immediate considerations, rather than the long-term benefits of investing in mitigation measures that promise to prevent or reduce losses many years hence.

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– DR. DEBORAH PRETTY
PRINCIPAL, OXFORD METRICA

people come back from their visit with a different interpretation of disaster risks and related controls once they see a warehouse-size fire or typhoon-force winds replicated in our laboratories," he says.

Why do some people and organizations take action while others fail to? Timmons responds, "What separates the people who do prepare for disasters from those who don't is a mental acceptance of the fact that crisis could, indeed, occur. Such people tend to have a high degree of ethical behavior, integrity and, most importantly, the courage to face reality and deal with it. They do not choose to ignore the fact they are vulnerable to a certain event that could jeopardize their business and people."

Take, for example, Continental Airlines, which, in 2008, was well-prepared when Hurricane Ike struck its headquarters in Houston, Texas, USA, as a strong Category 2 storm. The storm, the third costliest hurricane ever to make landfall in the United States, forced the airline to shut down the hub of its worldwide systems operations for two days. The high wind and eye wall passed directly through the city. However, two years earlier, the company had the foresight to establish a backup emergency operations center 50 miles (80 kilometers) away. As a result, the airline's proactive risk management efforts kept its systems running globally throughout the storm.

"The key to our emergency preparedness is getting ready for events you pray will never occur," says Pete Fahrenthold, managing director of risk management for Continental. "We know Houston is in a hurricane corridor, so we felt—particularly when we digested Katrina's impact on New Orleans—we had to develop a business continuity plan that would let us operate no matter what the weather brought us. We honestly hoped we'd never have to use this facility, but we knew that if disaster struck, we'd be ready."

After the storm passed, Continental's Houston headquarters building was unscathed.

Bosman offers several suggestions for companies to become more prepared for the risk of natural disaster. "Boards should request that the companies they oversee put a process in place to manage physical site risks," he says. "Our work indicates that companies with strong risk management practices have automatic protection systems like fire sprinklers, carefully conceived processes for dealing with hazardous situations, safe construction practices, and robust human element programs to prevent or minimize human errors. The problem is that safety practices and standards are not uniform around the world, and that presents a big exposure for many companies. The challenge for boards of directors is to make sure there are equally high standards around the globe."

Bosman acknowledges that changing human behavior is difficult, but the rewards are worth the effort. "The clients FM Global works with make risk improvement an objective, but it is not an easy task," he says. "If more organizations considered the impact of psychological behaviors on their disaster risk preparedness, the world would be a much safer place."

He concludes that fortunately, the majority of all property loss is preventable. "Companies should consider physical risks a future reality rather than a probability," Bosman says. "And risk improvement through loss engineering can help ensure that, if Mother Nature strikes, a company won't have to explain the business impact in its annual report." [R]

3 questions to ask...

1 Does your organization assess risk in the proper context, both with its owned facilities and its supply chains?

2 Does your organization's operating philosophy heavily rely on accepting that insurance will address the risk? Does it adequately address the longer-term consequences of potential loss of reputation and competitiveness?

3 Does your organization look at prevention and preparedness as a long-term investment or a short-term expense?

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