Milliman Risk Institute Survey

Prepared by Oxford Economics for Milliman

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Milliman

Creating value through enterprise risk management

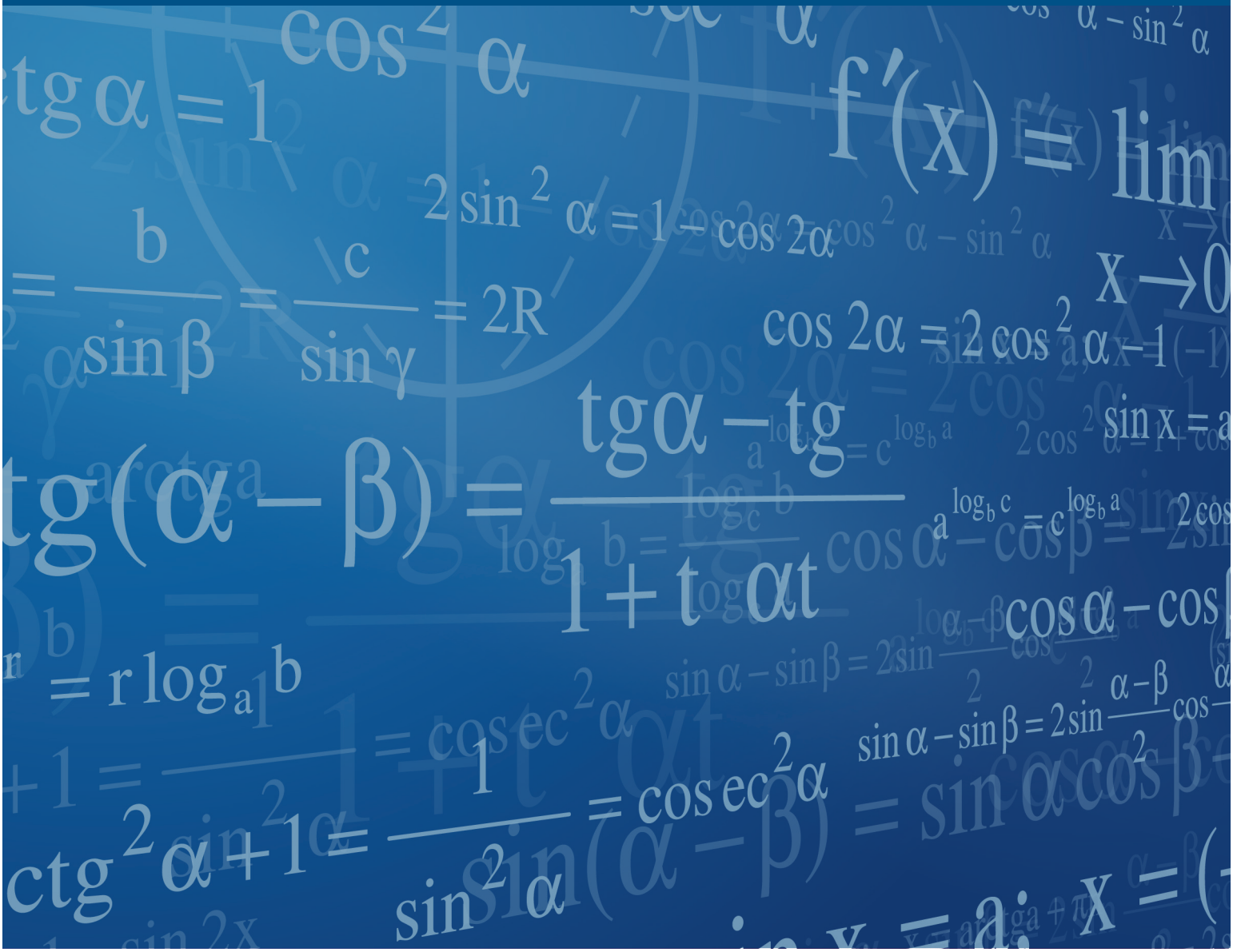


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WELCOME FROM THE CEO

In 2011, we formed the Milliman Risk Institute to support evidence-based research on large organization enterprise risk management (ERM) practices. By providing a forum for academics, actuaries, and risk executives to discuss current market practices and challenges, we hoped to discover key learnings and share them with interested parties. At the last meeting of our Institute Advisory Board we agreed to partner with Oxford Economics in a new risk survey of North American risk executives. Our focus was on understanding how ERM activities translate into business value, in addition to supporting any regulatory or rating agency requirements.

I am pleased to share with you our survey findings, along with some observations and commentary. One of the many interesting themes of the report is the segmentation of beginners, transitionals, and trendsetters. Since the maturity level of risk activities is always a point of discussion, the grouping of survey respondents into three categories provides an informative method of distinguishing one group from another. I think you'll enjoy the narrative and how the report highlights the interesting survey results around these different maturity levels.

During the first couple of years, the Risk Institute has focused on North America. Looking ahead, we'd like to include information from Europe, the Middle East, and Asia in our upcoming research efforts. I think most of us would agree that almost every geographic, jurisdictional, and industry environment we operate in today seems far more risk aware than in years past. Thanks for taking the time to review the information in this report. We would enjoy receiving any suggestions on how we can improve our efforts.



Stephen A. White
President and CEO
Milliman, Inc.

ABOUT THE SURVEY AND MILLIMAN RISK INSTITUTE

I am pleased to release our 2014 enterprise risk management (ERM) survey of North American risk executives. Our focus was on how we can understand the value creation resulting from ERM activities. Many discussions about ERM include an attempt to rationalize the resources an organization devotes to ERM in relation to regulatory, rating agency, and business value expectations. We think that you'll find our survey findings, commentary, and ERM market observations quite interesting.

As we work with financial and corporate risk executives, there is more emphasis on understanding how risk activities support and enhance returns. While fulfilling regulatory and rating agency requirements is still very important, there is a market shift taking place that that will require more transparent linkage between ERM processes and meeting financial objectives. For example, boards of directors are asking for an easier-to-understand translation of risk to financial and capital goals. The days when an index-driven heat map of risks displayed in stop light colors would satisfy active board members are fading quickly. Directors are taking their responsibility for risk oversight more seriously and they are asking better questions than ever before.

There is increased emphasis on financial quantification of all risk exposures and their relationship to financial and capital goals. In addition, operational executives are beginning to require more collaboration between risk activities and financial planning. They don't want a disconnected risk process that doesn't communicate with and integrate into financial forecasting. Finally, we are also seeing a closer collaboration between ERM processes and internal audit as the audit plans become more and more risk focused.

Thanks for taking the time to read through this survey report. We hope you will find some practical information that will be helpful to your organization. If you have any suggestions for how to improve on our research efforts, please contact us.



Mark Stephens
Executive Director
Milliman Risk Institute

The Milliman Risk Institute was founded in 2011 to support science-based ERM research to better understand the successes and challenges around this rapidly developing business process. The advisory board for the Milliman Risk Institute will guide our research efforts; its members are listed at the conclusion of this report.

I. INTRODUCTION: THE UPSIDE OF ERM

For many executives, enterprise risk management (ERM) conjures up images of security breaches, corporate espionage, acts of terrorism, black swans—negative and even catastrophic events that can severely weaken or even destroy a company.

But risk is not all doom and gloom. For a growing number of forward-thinking companies, ERM is not only about protecting the firm from harm, but creating measureable value that can strengthen their position in the market. Recent studies have found that companies implementing robust ERM programs enjoy advantages in firm value, share price, and stock price volatility (see section III, "Becoming a Trendsetter" on page 11). At Pacific Life Insurance Company, "defining our risk appetite more clearly has really helped us develop our business strategy," says Joe Celentano, the company's senior vice president and chief risk officer. "That's some of the value we see in ERM."

WHAT IS 'ENTERPRISE RISK MANAGEMENT'?

"ERM is a three-part process. First, ERM must address the core risks facing the organization—including strategic business risks, operational risks, and financial risks. Second, ERM must encompass the key levers of risk governance and policies, risk analytics, risk-return optimization, and monitoring and reporting. Finally, ERM must consider aggregate exposures and risk interdependencies across the organization's risk portfolio and the overall ecosystem with respect to systemic risks. Taken together, these steps enable executives to improve enterprise-wide processes, assess the risk in new opportunities, and build value for the company."

—*James Lam, President, James Lam & Associates and author*,
Enterprise Risk Management: From Incentives to Controls *(Wiley)*

Our survey of 125 North American risk executives shows that large majorities see improved risk-adjusted decision-making (72%), enhanced board risk oversight (60%), and improved performance management (59%) as benefits of basic ERM. But for half or more of respondents, ERM is also creating value across a broader range of areas, including improved capital efficiency (58%), organizational and process optimization (55%), higher-quality strategic planning (54%), improved regulatory compliance (53%), and improved brand reputation (50%). (While ERM and the compliance function are often closely linked, our survey focused entirely on ERM except as it works directly with compensation.)

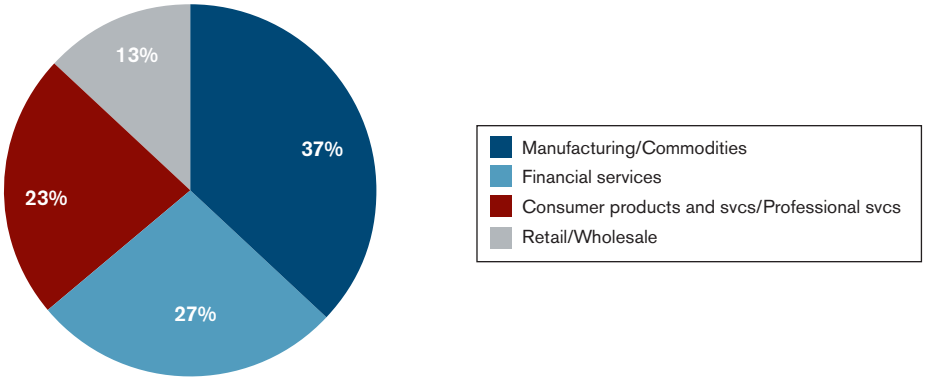
WHO TOOK THE SURVEY?

Our survey group is distributed across a range of industries (see Figure 1 on page 4). More than one-third of respondents (37%) were from manufacturing and commodities companies, and more than one in four from financial services (27%).[1] Companies with medium-sized to large annual revenues ($1 billion–$4.99 billion) make up more than 60% of the sample, followed by a 25% share of larger companies ($5 billion and above). Most survey respondents were either top executives (43%) or risk managers (41%).

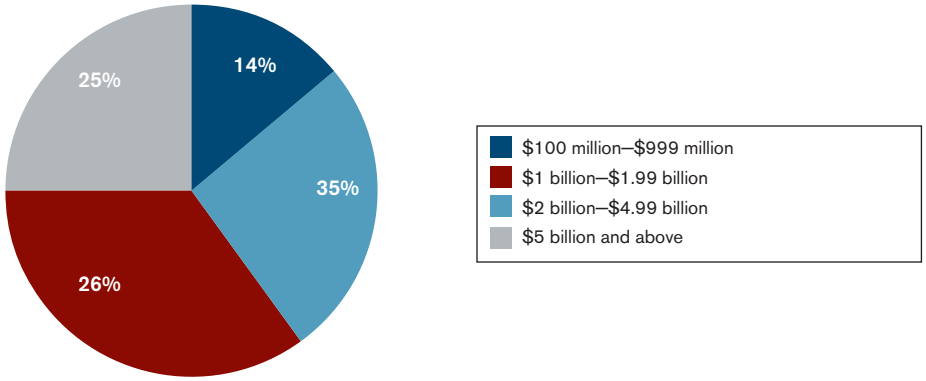
1 Industry sector and level of ERM sophistication are among the factors that affect the direction of the survey findings. Readers should bear in mind, for example, the high participation in our survey by financial services firms, many of which apply ERM to a wider range of activities than other industries and implement risk-adjusted budgeting outside the ERM function.

FIGURE 1: SURVEY RESPONDENTS BY INDUSTRY AND SIZE

What is your industry segment?



What is your annual revenue?



Large majorities see improved risk-adjusted decision-making, enhanced board risk oversight, and improved performance management as benefits of basic ERM.

How does ERM help companies to achieve these results? To better understand the qualities that define ERM value creation, we measured survey respondents across eight attributes of risk management proficiency (see "Who are ERM Trendsetters?" on page 6):

- Embedding ERM in the strategic planning process
- Implementing a proactive and forward-looking risk strategy
- Maintaining timely, high-quality data related to risk
- Linking corporate- and business-unit-level risk tolerances
- Giving ERM a strong role in the budgeting process
- Creating more data-driven ERM processes
- Collaborating closely with internal audit
- Integrating compliance across the organization

THREE LEVELS OF PROFICIENCY

Based on how strongly each of these attributes fits each of the companies in our survey, we identified three levels of proficiency at creating value through ERM:

For **Beginners**, which make up 20% of companies in our survey, risk is managed in silos. In none of the eight attributes do more than 40% of these respondents have strong capabilities (see Figure 2 below), although they report some progress at making risk management more proactive and creating a unified set of risk tolerances. Two out of five say risk management is proactive and forward-looking, while more than one-third (36%) say it links corporate- and business-unit-level risk tolerances. However, no more than 20% say the risk function collaborates closely with internal audit and compliance, or is integrated across the organization. This suggests that these companies have a long way to go in making ERM a process that creates value.

Transitionals, which compose 67% of survey respondents, have a formalized ERM program, but still lag in integration and collaboration. Half or more say they are creating value by improving the timeliness and quality of their data, and by making ERM a bigger part of the strategic planning and budgeting processes, for example. Far fewer, however, are integrating data more deeply into their risk-management decision making, integrating risk management itself across the organization, or building greater collaboration with internal audit and compliance.

At chemicals manufacturer Huntsman Corporation, Brian W. Merkley, global director, corporate risk management, notes that the company's formalization of ERM is relatively recent.

"It has, however, become part of our strategic planning process when making bolt-on acquisitions abroad—in India, Turkey, China, and Russia, for example. As we look for new opportunities, we always have to carefully weigh the risks that go with them," he says (see "Case study: Huntsman uses ERM to assess new opportunities" on page 10).

"I see [ERM] as a way to be successful. I see it as a must-do in order to be competitive on a global basis and to respond to our shareholders."

— Brian W. Merkley, Global Director, Corporate Risk Management, Huntsman Corporation

FIGURE 2: BEGINNERS AND TRANSITIONALS ARE FAR BEHIND IN ALMOST EVERY FACET OF RISK PROFICIENCY

To what extent do you agree with the following statements about your company's risk management practice? *Top two responses on 1–5 scale.*

	Total	Trendsetters	Transitionals	Beginners
It is embedded in our strategic planning process	**57%**	94%	57%	32%
It is proactive/forward-looking	52%	88%	49%	**40%**
It maintains timely, high-quality data related to risk	50%	**100%**	50%	20%
It links corporate- and business-unit-level risk tolerances	48%	75%	46%	36%
It plays a strong role in the budgeting process	48%	31%	**58%**	24%
It is becoming more data-driven	41%	**100%**	38%	12%
It collaborates closely with internal audit and compliance	38%	88%	33%	20%
It is integrated across the organization	36%	81%	33%	16%

Trendsetters–13% of respondents–are most successful at creating value through ERM. Overwhelmingly, these companies say their risk management practice is considered in the strategic planning process. Trendsetters are also becoming more data-driven (100%), and these companies say they maintain timely, high-quality risk-related data (100%). The risk management function is more collaborative at these companies, particularly with internal audit and compliance (88%), and is integrated across the organization (81%). Trendsetters are also far more likely to have a chief risk officer (CRO) (75% versus 44% of others). This suggests ERM is more formalized and is being embedded deeply into these companies in ways that make value creation sustainable.

WHO ARE ERM TRENDSETTERS?

To better define the extent to which companies are creating value through ERM, we differentiated them based on their answers to Q11 in the survey ("To what extent do you agree with the following statements about your company's risk management practice?"). We added their scores across the eight categories of risk proficiency, from Level 1 (strongly disagree) to Level 5 (strongly agree), to produce the following three groups:

- Companies scoring 30 or higher we identified as Trendsetters; 16 companies qualified.
- Companies scoring 24–29 we identified as Transitionals; 84 companies qualified.
- Companies scoring below 24 we identified as Beginners; 25 companies qualified.

In contrast with the overall survey sample, over two-thirds of Trendsetters are financial services firms. Trendsetters also tend to be larger companies: over 62% report $2 billion or more in total revenues.

Please note that due to the small size of the Trendsetter and Beginner groups, results do not represent definitive findings, but a directional profile of the most (and least) proficient ERM practitioners.

None of these three groups, however–even Trendsetters–can be said to have fully embedded ERM in their strategic planning and budgeting processes, which distinguishes the most sophisticated ERM practitioners. And while most companies we surveyed measure the cost-benefit of ERM in some way, no single method is generally accepted. Some clear weaknesses emerge that apply to almost all companies, including failure to require risk-adjusted budgets and capital requests. And use of risk appetite statements is nowhere near universal, while those companies that have adopted them do not always monitor and update them regularly or communicate them across the organization.

Going forward, companies will need to focus more attention on surmounting these weaknesses. At a time when businesses face an increasingly complex global market filled with new and sometimes unforeseeable risks, ERM has never been more important. "I see [ERM] as a way to be successful. I see it as a must-do in order to be competitive on a global basis and to respond to our stakeholders," says Mr. Merkley at Huntsman.

But it is no longer enough to view risk management merely as a cost center that wards off negative events. Companies that want future market success will leverage ERM to improve business processes, make better decisions, and even identify new opportunities for growth.

RISKS AND TRENDS MOST AFFECTING COMPANIES

Differences in ERM proficiency between Trendsetters and other companies–Beginners and Transitionals–are also reflected in their perspective on the trends they see as most affecting their business.

Trendsetters are critically concerned about new legal and regulatory requirements (75%) and increased competition (56%). By contrast, no risk category was cited by more than 40%, collectively, of Beginners and Transitionals. These two groups are far more concerned about larger economic trends–global financial and geopolitical instabilities (32%) and commodity-price volatility (28%), for example–than are Trendsetters (19% and 6%, respectively).

Trendsetters' focus on legal and regulatory risks is explained in part by the fact that most are larger companies, which tend to be more organizationally complex than others (see "Who are ERM Trendsetters?" on page 6). Moreover, 69% of Trendsetters are financial services firms, which manage risk in the financial markets as part of their day-to-day operations and therefore have a long history of developing and implementing advanced risk management practices. Regulation is an especially critical concern for these and other companies with exposure to securities, commodities, and derivatives markets. "Regulation is a key pressure we are facing right now, especially in the area of derivative instruments, as a result of the Dodd-Frank Act and regulatory developments in Europe and Asia," says Aftab Saleem, vice president of enterprise and derivative risk at World Fuel Services in Miami.

Despite their different priorities, one commonality between Trendsetters and other companies is that both place more complex supply chains at the bottom of their list of key trends (0% and 26%, respectively). This suggests that companies across these groups need to focus more on an area that globalization and outsourcing continue to make more challenging.

TO LEARN MORE ABOUT IMPROVING ERM

The Milliman Risk Institute will take a closer look at the elements of successful ERM in two further publications that will appear shortly:

* *The role of top management and the board in ERM,* and

* *Creating a virtuous circle with leading-edge processes and tools*

These short papers will focus especially on changes that companies in the Transitionals group–generally older companies in sectors that are traditionally less risk-sophisticated–can make to become ERM Trendsetters.

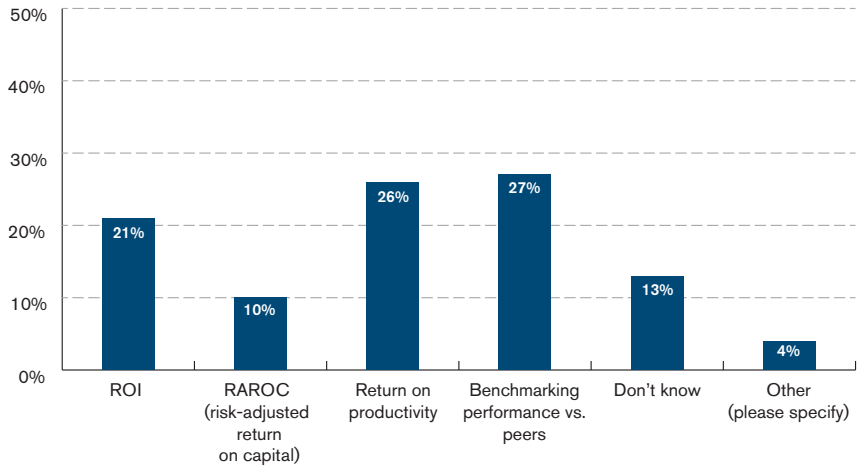
II. CHALLENGES TO ERM VALUE CREATION

Quantifying the value contribution of ERM has become increasingly important–but here, too, companies face difficulties. Confronted with a challenging competitive environment, they must justify any capital allocation that does not go directly to high-return activities. Most use some measure to assess the cost-benefit of ERM to evaluate the deployment of capital for other business activities, yet no single method has emerged as a best practice. The most widely used (see Figure 3 below) are:

- Benchmarking performance against peers (27%)
- Return on productivity (26%)
- Return on investment (21%)

FIGURE 3: MOST COMPANIES USE AT LEAST ONE TECHNIQUE TO MEASURE THE VALUE OF ERM

How does your company calculate the cost-benefit of its ERM program? *Check one.*



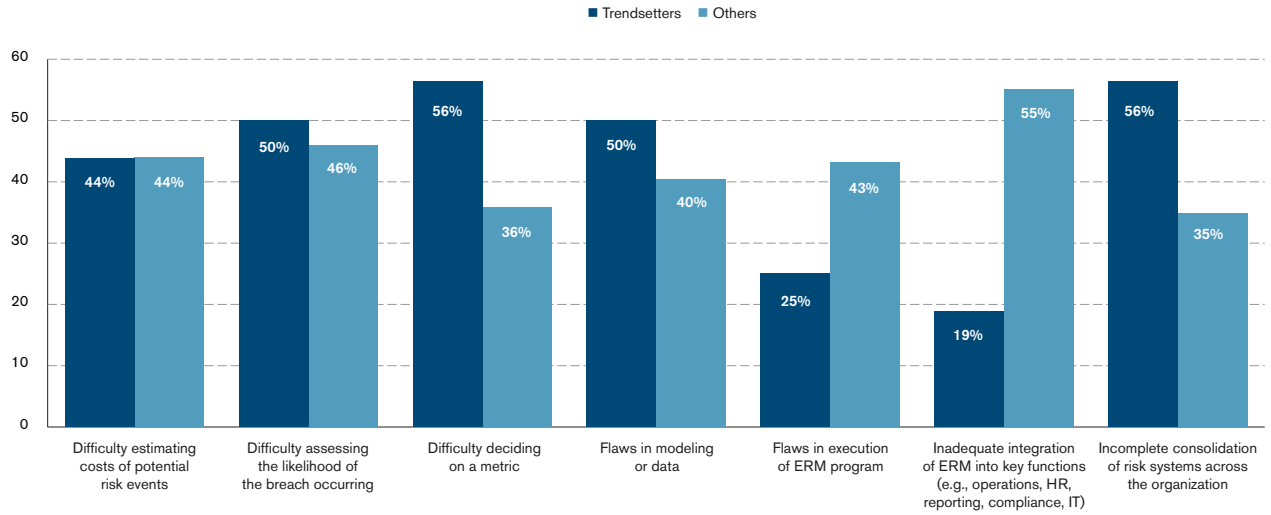
For Trendsetters, the major difficulties in quantifying the value of ERM are technical (e.g., difficulty deciding on a metric); for Beginners and Transitionals, they are more fundamental to the ERM program itself (e.g., flaws in program execution).

Sometimes the company's ability to measure ERM value creation is limited by the nature of the industry within which it operates. At Pacific Life, "We do some peer benchmarking, but it can present challenges," says Mr. Celentano. "There is no consistent approach, and it can be hard to evaluate among peers if people are hesitant to provide information that is often proprietary."

Even companies that regularly quantify the value from ERM encounter difficulties doing so, however (see Figure 4 on page 9). Overall, survey respondents most often mention inadequate integration of ERM into key functions such as operations, HR, reporting, compliance, and IT (50%) and difficulty assessing the likelihood of a breach occurring (46%). For Trendsetters, the major issues are technical: difficulty deciding on a metric and incomplete consolidation of risk systems across the organization (56% each), followed by flaws in modeling or data (50%). For Beginners and Transitionals, the issues are more fundamental to the ERM program itself, including inadequate integration of ERM into key functions (55%), difficulty estimating the cost of potential risk events (44%), and flaws in execution of the ERM program (43%).

FIGURE 4: TRENDSETTERS AND OTHERS FACE DIFFERING CHALLENGES IN MEASURING ERM VALUE CREATION

What are the most important challenges to measuring ERM value creation? *Select the top three.*



ISSUES IN ERM EXECUTION

The lack of a widely accepted method to measure value points to deeper problems with ERM value creation, even for Trendsetters. Respondents note challenges ranging from the difficulty of estimating the potential cost of risk events to difficulties in execution of the ERM program itself. Only 33% say their company requires risk-adjusted budgets, and only 23% require risk-adjusted capital requests (see Figure 5 below). No more than 44% of respondents at any of the three levels of proficiency are confident of their ability to model and understand the impact of a combination of catastrophic risk scenarios—an increasingly important capability in a more complex risk environment.

More surprising is that only one-third have established a secure technical framework for third parties, and only 18% carry out supply-chain assessments. Even leaders are laggards in this respect: only 31% of Trendsetters have either a secure technical framework for communicating and sharing information and data with suppliers and other third parties, or carry out supply-chain assessments.

FIGURE 5: MANY COMPANIES REMAIN WEAK IN PROCESSES THAT SUPPORT ERM

With which of the following statements about your company's management and board do you agree?

	Total	Trendsetters	Others
Have a decision-making framework for deployment of risk mitigation or control capital	56%	69%	54%
Have a contingency planning/crisis management process in place	54%	88%	50%
Regularly monitor or audit ERM program to evaluate its effectiveness	51%	81%	47%
Have a management- or board-level risk committee	42%	75%	38%
Embed a risk-aware culture throughout the organization	42%	69%	39%
Integrate ERM with performance management	35%	56%	32%
Require risk-adjusted budgets	33%	**19%**	35%
Model and understand the impact of a combination of catastrophic risk scenarios	31%	44%	29%
Require risk-adjusted capital requests	**23%**	**19%**	**24%**

Risk appetite statements are an important element of ERM, enabling the company to create a common, analytically precise understanding of the tradeoffs it is willing to accept between risk and return. Yet only a little more than half of survey respondents (56%) have risk appetite statements. Less than half (48%) monitor and update risk appetite statements regularly, and only 44% communicate them precisely and effectively to all levels of the organization.

Even companies with relatively sophisticated ERM processes have trouble crafting a risk appetite statement. At Huntsman Corporation, where this document is still a work in progress, "It's just the different perspectives that each level of the organization has, and the board has," says Brian Merkley. "If you ask 100 people what's your appetite for a particular risk, you might get 100 different answers. So, it gets tough to pull that together into one meaningful consensus statement."

Addressing these issues could help many companies tackle the difficulties of measuring ERM value creation, and in so doing, demonstrate more powerfully the need for greater resources to be devoted to risk management.

CASE STUDY: HUNTSMAN USES ERM TO ASSESS NEW OPPORTUNITIES

Balancing risks and opportunities is a global undertaking at Huntsman Corporation, a manufacturer of intermediate chemical products that sells to other large companies around the world from 80 manufacturing and R&D facilities in over 30 countries. "In many ways our business reflects the global economy, and that represents a key risk for us," says Brian W. Merkley, global director, corporate risk management. "We watch our exposure to various parts of the world and consider how fast we are able to respond to changing circumstances."

Huntsman for many years followed a decentralized approach to risk management, as founder and current Chairman Jon Huntsman, Sr., believed managers should take ownership of risk. While that same expectation exists today, Huntsman has been working over the past four years to adopt a more structured, enterprise-wide framework, including formal risk assessments carried out periodically by way of surveys and interviews. In addition, Mr. Merkley typically joins meetings every fall with division presidents or function heads to discuss risks specific to those areas.

ERM has enabled Huntsman to assemble continuity plans at key overseas locations and audit them through an internal group, improving the company's ability to withstand a crisis. It has also helped the company to look closely at its exposure to sole-source suppliers. "Basically, ERM helps us to look hard at the interplays between all our divisions on a global scale and to quantify our various exposures," says Mr. Merkley. "When you look at what happened in 2011—a massive quake and tsunami in Japan and devastating floods in Thailand—you have to understand your potential exposures and the accumulations of risk that accompany them."

But Huntsman's approach to managing its business risks also helps it to spot new opportunities—for example, by providing greater transparency within the company's global operations. This helps to make the case for moving production from one region or country to another when circumstances change.

For example, Huntsman recently completed a substantial restructuring of its Textile Effects division, which manufactures high-quality dyes and chemicals for the textile industry, moving the unit's headquarters to Singapore and its operations to Thailand, India, and Mexico. "The customer base in Europe has moved away, primarily to Asia, and we needed to realign the business to stay close to those customers," says Mr. Merkley. "In addition, the strengthening of the Swiss franc has adversely affected our production costs." The move, which also shortened decision-making processes for the division, has saved Huntsman some $75 million annually in adjusted earnings before interest, taxes, depreciation, and amortization (EBIDTA).

III. BECOMING A TRENDSETTER

Perhaps the most fundamental way ERM creates value is by improving the decision-making process, infusing it with a keener understanding of the risks involved in, say, a decision to enter a new product market or shift manufacturing to a new geographic region. But ERM also enhances the company's brand and its standing with stakeholders by raising its reputation for strategic adeptness and ability to respond successfully to new opportunities in the market (see Figure 6 on page 12).

How do companies become Trendsetters? The profile of Transitional companies that emerged from our survey suggests a top-down pattern that starts with incorporating the risk management function into strategic planning (58% of Transitionals say they have done so) and the budgeting process (59%). Transitionals cite increased competition as the most important trend they face (42%), suggesting this is often what spurs them to make risk management a part of their decision-making.

Closer attention to ERM implementation and adoption of a fuller spectrum of the tools and techniques ERM makes available emerge as key differentiators between Trendsetters and Transitionals.

Almost two-thirds (65%) use ERM to facilitate alignment between people, processes, and infrastructure—more than either Trendsetters or Beginners—but far fewer are implementing it consistently across units or monitoring and updating the function regularly. Quantitative and qualitative risk assessments, which can play a role in strategic and budgetary decisions, are the analytic tools that Transitionals are most likely to use—33% and 36%, respectively—but they use other, more cutting-edge tools, such as horizon scanning and predictive methodologies like scenario planning, much more rarely. Collectively, these attributes suggest that closer attention to implementation and adoption of a fuller spectrum of the tools and techniques ERM makes available are a key difference between Trendsetters and Transitionals.

The effect of a fuller adoption of ERM on value creation has been borne out in several prominent studies in recent years. A 2011 study by Robert E. Hoyt and Andre P. Liebenberg of 275 insurance companies found that those implementing ERM programs over an 11-year period enjoyed a 20% premium in firm value over those that didn't.[2] Standard & Poor's five-year-old "ERM opinion" rating program for North American and Bermudian insurance companies likewise has reported a stronger positive change in equity prices and lower stock volatility in most years for insurers that it rates as having "excellent" or "strong" ERM programs.[3] Our study shows that Trendsetters are far more likely to get value out of ERM in the following ways:

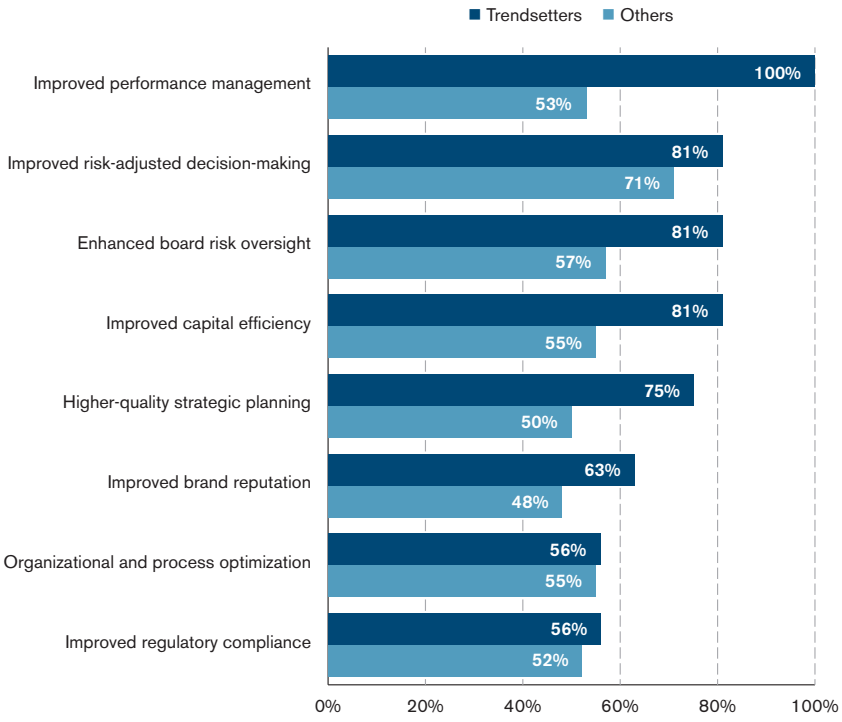
- **Enhanced board oversight.** 81% of Trendsetters create value in this area versus 57%, collectively, of Beginners and Transitionals. This ensures that the board is not only more closely attuned to the company's risk profile, but also better prepared to act on suggested improvements to the ERM framework and processes.
- **Higher-quality strategic planning.** 75% versus 50%. An efficient economic capital model makes for better strategic planning, improving the company's ability to evaluate strategic initiatives such as mergers and acquisitions.
- **Better capital efficiency.** 81% versus 55%. Better risk-based decisions lead to improved capital efficiency, yielding better return on assets.
- **Improved performance management.** 100% versus 53%. A clearly defined risk appetite statement sharpens performance management, both at the company and business-unit levels.
- **Stronger brand reputation.** 63% versus 48%. A robust ERM system is more likely to prevent negative incidents that could damage a company in the eyes of investors and other stakeholders. Further, it enhances the company's reputation for grasping the risks and rewards in new opportunities.

2 Robert E. Hoyt and Andre P. Liebenberg, "The Value of Enterprise Risk Management," *The Journal of Risk and Insurance*, 2011, Vol. 00, No. 0, 1–28. The authors used James Tobin's Q Ratio (the market value of equity plus the book value of liabilities, divided by the book value of assets) as a proxy for firm value.

3 "Process Improvements And Regulation Drive ERM Of North American And Bermudian Insurers Forward," Standard & Poor's Rating Services, April 18, 2013. The latest report covered 146 insurers.

FIGURE 6: TRENDSETTERS REAP GREATER VALUE FROM ERM

To what extent does ERM create value for your company in the following areas? *Creates some or significant value.*



At Trendsetters, the CRO is far more likely to report directly to the CEO or CFO, suggesting that management and the board are more effectively engaged in risk-management decision-making.

What do Trendsetters do differently that enables them to turn more proficient ERM into greater success at value creation? Our survey found they typically follow six best practices:

1. CLOSER COLLABORATION WITH TOP MANAGEMENT

Among Trendsetters, the CRO is far more likely to report directly to the CEO or CFO (73%) than Beginners or Transitionals (13% and 20%, respectively). Management and the board are also more effectively engaged in risk management decision making; Trendsetters are more confident of their board's decision-making process for deploying risk mitigation or to control capital (56% vs. 36% of Beginners and 48% of Transitionals).

At a large manufacturer headquartered in the Midwest, the head of risk management says ERM is initiated and championed by management and the board. As a result, the risk function has no need to justify its value "by crunching the numbers. As they tour the company, our CEO and CFO are asking the same questions we are about risk."

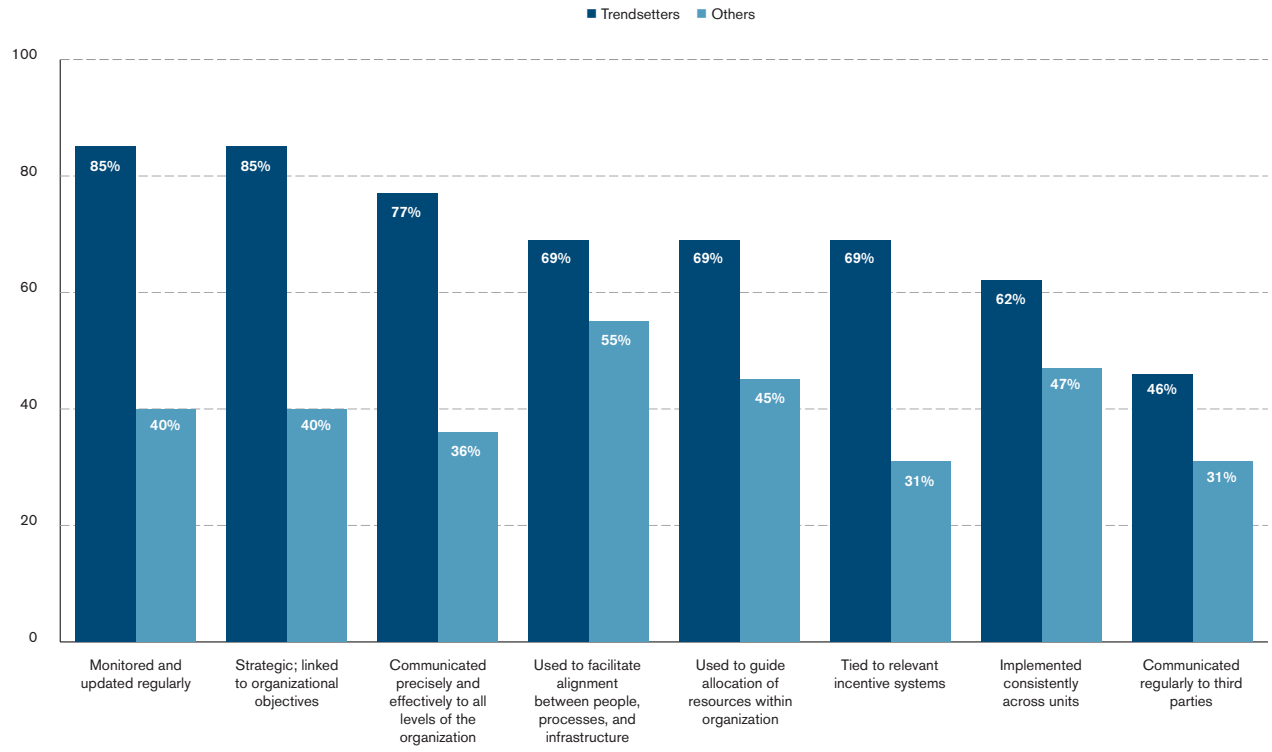
Top-management support and board-level engagement are critical to the success of any initiative aimed at improving ERM processes. At World Fuel Services, Aftab Saleem, vice president of enterprise and derivative risk, is working on two improvements he says will push the ERM program to the next level (see "Case study: World Fuel Services focuses on market-price risk" on page 15). One is implementation of a "cash flow at risk" model relating to the company's trading on exchanges and on the over-the-counter market. The other is an analysis of the price risks embedded within each business unit against the return the business unit generates, plotting the results on a risk-return matrix. The final step in pushing these initiatives forward will be securing alignment with top management and the board.

2. BETTER USE OF RISK APPETITE STATEMENTS

Trendsetters are much more likely to have adopted a risk appetite statement (81%) than Transitionals (53%) or Beginners (56%). Trendsetters are also more likely to integrate their statements across every aspect of risk management, from resource allocation to setting corporate objectives (see Figure 7 below). Pacific Life, for example, ties its value measurement to what Mr. Celentano terms its number-one goal of satisfying its risk appetite metrics, which aim to balance risk prevention against opportunities. While making the process effective has required work, it has provided a platform to engage the board regarding the ERM program, he says.

FIGURE 7: TRENDSETTERS INCORPORATE RISK APPETITE STATEMENTS INTO MORE ASPECTS OF RISK MANAGEMENT AND BUSINESS STRATEGY

How would you describe your company's risk appetite statements? They are...*Top two responses on 1–5 scale.*



3. LINKING RISK TOLERANCES AT THE CORPORATE AND BUSINESS-UNIT LEVELS

Three out of four Trendsetters report having achieved proficiency in this area, compared with only 46% of Transitionals and 36% of Beginners. This suggests the vast majority of companies have not instilled a common understanding of risk throughout the organization.

Pacific Life is addressing this problem by developing risk limits at the division and corporate levels that it can then monitor and maintain going forward. "If we get that done, we would move from a five or six to an eight or maybe a nine, on a 1-10 scale of risk proficiency," says Mr. Celentano.

4. ADVANCED TOOLS AND METHODOLOGIES

Nearly across the board, Trendsetters use tools such as economic capital modeling and quantitative and qualitative risk assessments far more frequently than Transitionals or Beginners–and expect to retain that lead in the next three to five years.

Huntsman Corporation makes use of Monte Carlo analyses–algorithms that use large numbers of random variables to generate a range of possible outcomes–to assess the risk of natural disasters. "One of our key risks is also a process safety failure and the catastrophe that might result from that," says Mr. Merkley. "Monte Carlo simulations have helped us in that area."

Better tools, and the scenarios and assessments they regularly generate, have the added value of helping to maintain an ongoing risk discussion at the highest levels of the organization, says the head of risk management at the Midwestern manufacturer. "It creates value just because we are always talking about it. So it is always on the minds of our CEO and CFO," he says.

5. MORE FREQUENT ERM AUDITS

ERM program audits are one area where Transitionals may be catching up with Trendsetters. Over 64% of Transitionals perform ERM audits at least annually, compared with 69% of Trendsetters and 52% of Beginners.

At Huntsman Corporation, Mr. Merkley participates in interviews with heads of business units and functional areas each fall that include a detailing of risk exposures. The company then uses these to, among other things, develop the internal audit plan for the following year, ensuring that an updated view of risk and how the company is addressing it is always included in the audit.

6. TAKING A MORE PROACTIVE APPROACH

Anticipating and preparing for known risks in advance gives Trendsetters a further advantage. While only 40% of Beginners and 49% of Transitionals say their company's risk management practice is proactive/forward-looking, 88% of Trendsetters say this is the case. As an example, the head of risk management at the Midwestern manufacturer points to the approach his company took in anticipating the 2002 Sarbanes-Oxley Act, which set new reporting standards for U.S. public companies. While many firms took a wait-and-see posture toward the proposed law, "as soon as that legislation came under discussion, we began the necessary work to comply with it before we were mandated to do so," he says. "We knew the act would become reality, and we were well prepared when it came into effect."

CASE STUDY: WORLD FUEL SERVICES FOCUSES ON MARKET-PRICE RISK

Market-price risk is a top enterprise risk concern at World Fuel Services (WFS), a Miami-based Fortune 500 company with a global presence in the price-volatile fuel products market. WFS provides marketing, sale, and distribution of a wide range of marine, aviation, and land fuels through more than 3,000 service locations worldwide, and has traditionally made extensive use of derivative products to provide hedging for customers and suppliers as well as its own positions.

"I think of ERM as managing enterprise price risk across all our many lines of business," says Aftab Saleem, vice president, enterprise and derivative risk at WFS. "It may be price risk inherent in contracts, inventory, or trading activity."

Management of price risk begins in the early stages of any new business. The company has a vetting committee that looks at each new commercial opportunity, identifying a risk range and risk appetite that it can translate into numbers and manage. This includes factors such as market value at risk, the stop-loss limit, and other restrictions that the team might want to put in place.

This proactive approach applies at the everyday trading level as well. WFS's trading book has a stop-loss limit set for each quarter. This triggers discussions to manage the book's exposure to market-price risk.

Managing enterprise risk is evolving at WFS, however, particularly in how it supplies management with data that enable forward-looking decisions—a defining quality of companies that create value through enterprise risk management.

WFS has two initiatives to push the program to the next level.

The company is taking a more fine-grained approach to risk as an element of strategic planning. WSF has divided its business into multiple units and has assessed each for its embedded risks, measured against returns. It looks at historical performance as well as forecasts over three years. The results are overlaid on a risk/return framework, forming a basis for management decisions.

Mr. Saleem is also developing a cash-flow-at-risk model that will show the net position at risk across a broad range of commodities and allow simulations showing the impact on the cash position. "Each type of fuel has different units of measurement and different prices," he says. "We translate these into one common unit of measure and price, using an underlying conversion factor, and we use that number for simulations."

IV. CONCLUSION: ACTION ITEMS FOR BETTER ERM VALUE CREATION

Few if any companies have reached perfection in ERM value creation–at least not yet. Even Trendsetters have significant weaknesses to address, and Transitionals and Beginners must improve their execution of basic ERM functions. "There is definitely still room for improvement here," says Mr. Merkley at Huntsman. "If you look at a spectrum of one to five, where at one ERM is sort of nonexistent, and at five it is formalized and working well–we're probably at about three and a half."

Even Trendsetters lag in prioritizing management of third-party and supply-chain risk–despite the fact that both are increasingly critical in a more interconnected, global economy.

To achieve ERM that is fully embedded in their operating plans, budgeting and capital requests, and strategic processes, companies need to:

- **Go back to basics.** Most companies still need to improve ERM processes and corporate-wide execution, and sharpen their ability to anticipate the cost of key risk events. Companies should consider enhancing collection of top-down and bottom-up data on risk exposure and improve risk-related communication between divisions and the corporate level. Those that have not done so should create and implement an ERM procedures guide, and explore ways to make workflow for ERM governance more efficient. Doing so will also improve companies' ability to measure ERM value.
- **Get the ERM metrics right.** Creating value from ERM hinges on translating the analysis of risk exposures into financial and operational goals. This requires developing formulas, calculations, and structures that relate to the key performance indicators the company applies to each of its divisions. It can also include establishing a process for rapid scenario development.
- **Upgrade quantitative tools for analyzing and managing risk.** Companies must be able to make far more rapid decisions about how to address specific risks and combinations of risks, based on more reliable and comprehensive analysis. To do so, they must transition from qualitative to quantitative risk assessment methods, including a high-quality risk metrics framework, risk correlation mapping, economic capital modeling, risk reporting and dashboards, and early-warning systems.
- **Give ERM a stronger role in budgeting and capital allocation.** High-return activities are usually associated with high risk exposure or potential downside impact. Risk-adjusted analysis and ERM collaboration in budgeting and capital allocation assure the soundness of highest-level decisions.
- **Integrate ERM with performance management.** ERM activities support the company's current business goals, help executives understand any potential variation from objectives, and help link risk-taking activities to risk appetite and tolerance ranges.
- **Make third-party and supply-chain risk a priority.** Even Trendsetters are lagging in these two areas, which are both increasingly critical in a more interconnected, global economy. Global companies in particular must extend their ERM processes to their broader network of partners and suppliers.

The payoff from these efforts is an ERM framework that creates measurable value while making enterprise-wide risk management much more effective at responding to a rapidly changing risk environment.

EDITOR'S NOTE

While enterprise risk management is gaining wider visibility and appreciation, board members and senior executives continue to look for evidence that justifies the financial and business costs of upgrades to their ERM processes. Compounding the difficulty of this task is the onset of several new regulatory frameworks, all of which challenge the ability of ERM to become an internally designed, value-added process rather than simply a compliance activity. As the world of risk and risk management continues to rapidly evolve, it is important to remember that ERM processes and activities can offer immediate value while iterating and becoming more mature over time.

The results of this survey provide insight into the complexities of the ERM process. Future Milliman Risk Institute research and survey efforts will continue to evaluate overall ERM best practices while also providing more targeted industry and maturity-level analysis.

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