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RISK MANAGEMENT PORTFOLIO

MEASURING AND COMMUNICATING SECURITY'S VALUE

A COMPENDIUM OF METRICS FOR ENTERPRISE PROTECTION



GEORGE K. CAMPBELL

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The SEC Process Outcome: Security Leader and Program Success

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Contents

About the Author.....	xiii
Foreword.....	xv
Special Thanks.....	xvii
A Short Story to Set the Stage.....	xix
Some Notes to the Reader on Using This Book.....	xxiii

CHAPTER 1 Metrics Management—It is Not About the Numbers 1

Introduction.....	1
Metrics Program Assessment.....	2
Using This Assessment.....	6
Building Your Program.....	7
Step 1: Identify the Business Drivers and Objectives for the Security Metrics Program.....	8
Step 2: Determine Who Your Metrics Are Intended to Inform and Influence.....	9
Step 3: Identify the Types and Locations of Data Essential for <i>Actionable</i> Security Metrics.....	9
Step 4: Establish Relevant Risk-Related Metrics.....	11
Step 5: Focus Your Metrics on Demonstrating Security’s Multiple Benefits to the Business.....	12
Step 6: Establish Internal Controls to Ensure Integrity of All Data, Data Assessments, and Protection of Confidentiality.....	13
A Few Closing Thoughts.....	15
Great Data, Great Opportunity but <i>Bad</i> Presentation!.....	16
What is the State of the Art in Corporate Security Metrics?.....	18
Is This the State of Our Art?.....	19
Benchmarking Your Metrics with Peers.....	27
Finding Value in Security Benchmarking.....	28
Introduction.....	28
The Challenge.....	29
Established Models of Benchmarking Comparison.....	30
Current State of Security Benchmarking.....	30
Qualitative or Quantitative?.....	32
Key Performance Indicators.....	32
Key Risk Indicators.....	33
Best Practices.....	34

Managing the Limitations of Benchmarks and Benchmarking.....	34
Getting the Most Out of Valuable Responses.....	36
Conclusion.....	36
Benchmarking Security Metrics Programs.....	36
Who Is Driving the Need from above?.....	37
What Business Drivers Are Pushing the Need for Improved Metrics from within the Security Organization?.....	37
What Have Been the Roadblocks to Metrics Development?.....	37
Observation.....	38
What Security Programs Are the Focus of Your Metrics?.....	38
What Best Describes the Current Status of Your Security Metrics Program?.....	39
Single versus Multisector Benchmarking.....	42
Summary.....	43
CHAPTER 2 Quantifying & Communicating on Enterprise Risk	45
Introduction.....	45
Managing Enterprise-Wide Board Risk.....	46
A Conceptual Risk Picture.....	46
Enterprise Risk Council.....	47
Security's Role in Risk Management.....	48
Next Steps.....	48
Operating the Radar and the Relevance of "What If".....	50
Leading Indicators.....	50
Addressing the Obvious.....	51
Managing Competency.....	51
Protecting the Supply Chain.....	51
Managing "What If?".....	52
Managing Accountability.....	52
Managing System Reliability.....	52
Summary.....	52
Identifying Exploitable Security Defects in Business Processes.....	52
Risk Management Strategy.....	53
Where Are the Data?.....	54
A Caution on Likelihood.....	54
Focus Your Metrics on Avoidable Risk.....	54
Measuring the Impact of Background Investigations.....	55

Tracking Preventable Risk	56
Risk Management Strategy	57
Cost Assignment to Preventable Security Incidents	58
Identify and Advertise the Causes of Loss	59
Risk Management Strategy	60
Measuring the Elements of Effective Access Management	60
Strategy	62
Measuring Security Awareness	65
Surveys Deliver the Data	66
Testing Delivers the Data	67
Risk Awareness Assures Preparedness	67
Workplace Violence	69
Advertising the Failure to Act	71
Leveraging the Learning	72
Measuring Compliance Risk	73
Risk Management Strategy	73
When Does an <i>Avoidable</i> Risk Become <i>Inevitable</i> ?	75
The Idea	75
The Business Risk Profile	76
The Risk Management Strategy	76
Tracking Nuisance and False Alarms	77
Reducing Nuisance Alarms	79
Summarizing Avoidable Risk	80
Meters and Dials—Tracking and Monitoring Key Risk Indicators	80
Key Risk Indicators at the Enterprise Level	80
Summary	81
Key Risk Indicators at the CSO Level	82
Take a Deeper Dive on Multiyear Trends to Highlight Risk	85
Build a Risk Indicator Dashboard	86
Risk Management Strategy	86
Measuring Risk Assessment Program Effectiveness	87
Identifying the Threshold of “Acceptable” Risk	88
Creating a Business Unit Scorecard	90
Objective	90
Risk Management Strategy	90
Where Are the Data?	92

Tracking Risk in Outsourcing.....	92
Information Technology Contractor Risk.....	92
Where Are the Data?	93
Tracking Key Risk Indicators in Business Continuity	94
Business Integrity and Reputational Risk.....	95
Broken Windows in the Boardroom	96
Risk Personified—The Knowledgeable Insider.....	98
Incident Analysis Identifies Evolving Insider Threats.....	101
What Is the Cost of a Bad Employee?.....	103
Use Your Metrics to Influence Policy	104
Measuring Impact of Security Incidents on Business Productivity	106
Tracking Internal Investigations	108
Tracking Disciplinary Action	110
Insider Risk in Outsourced Business Process.....	110
Tracking Losses from Fraud, Waste and Abuse	111
Confidential Hotline Reporting	112
A Simple Dashboard on Reputational Risk.....	113
Unintended Consequences—Another View of Incident Impact on Productivity	114
Summarizing Insider Risk Measurement	115
Transitions—Moving the Lens from Risk to Performance Indicators	115
CHAPTER 3 Measuring Security Program Performance	117
Introduction.....	117
Key Performance Indicators	118
KPI Objectives.....	119
Strategy	119
Communicating Program Performance with Dashboards	120
Summary	124
Physical Security Is Measurable.....	124
Alerting Management to High Probability Risk.....	126
Risk Management Strategy	127
Measuring and Managing Your Regional Security Team	128
Challenges.....	129
Measuring and Managing Your Guard Force Performance and Cost	130
Measuring Vendor-Based Alarm Response.....	133
Tracking Protective Services Key Performance Indicators	134
Risk Management Strategy	135
Summary	135

Security Operations Control Center Metrics 136

 Operational Criticality 136

 Performance Measurement 137

Secure Area Reliability 138

The Critical Measure of Time to Respond..... 138

 Risk Management Strategy 139

 Summary 141

Measuring for Operational Excellence in Security Services 141

Measure Risk Exposure with Security Inspections 143

 Risk Management Strategy 143

 Where are the Data? 144

 What Do You Want to Achieve with This Information? 145

Measuring and Managing Cost..... 145

 Show Me the Money: Task and Time Analysis 147

 Expense Management: The Inevitable KPI..... 148

 Slash and Burn 148

 Showing the ROI of Contract Security Forces 151

Cycle Time: An Expected Measure of Performance..... 153

Information Security 155

Metrics are Bidirectional: Failure as a Performance Indicator 155

Measuring Progress of Annual Plans and Objectives 156

 Summary 158

Is Compliance a Key Risk Indicator or a Key Performance Indicator? 158

 Objective 159

 Risk Management Strategy 159

Security Contract Compliance Auditing 161

 Background 161

 Risk Management Strategy 162

 Questions 163

Measuring for Integrity: Background Investigations 163

 Risk Management Strategy 163

 Summary 165

Measuring Executive Protection Programs..... 165

Business Unit Criticality, Resilience, and Continuity

 Planning 166

 Summary 168

Measuring Security Awareness Programs..... 169

 Risk Management Strategy 169

The Absence of Awareness Is a Key Contributor to Risk 171

Ability to Influence the Business Is a Key Performance Indicator	173
Warning Signs of Security's Decreasing Influence	174
Measure Influence by Tracking Acceptance of Recommendations	177
Risk Management Strategy	178
Security's Value Proposition: Value Is a Key Performance Indicator	179
Finding a Corporate Security Value Proposition	179
Measuring Security's Value	181
Do Business Units Value Security Recommendations?	184
Use Metrics to Demonstrate Security's Alignment with Business Objectives	186
Risk Management Strategy	186
A Simple Analysis Yields Valuable Results	187
Security's Balanced Scorecard	188
Benchmarking Security Operations	189
Security Expense versus Cost of Loss	191
A Few Metrics You Should Really Consider	193
Key Risk Indicators	194
Influence Indicators	194
Key Performance Indicators	195
Value Indicators and Financial Perspective	195
Value Indicators: Customer Perspective and Business Process Enablement	195
Some Closing Thoughts	196
Index	197

COMPLEMENTARY SAMPLE FOR SEC PRACTITIONER COMMUNITY

About the Author

George Campbell has served as a member of the Emeritus Faculty of the Security Executive Council (SEC) from day 1. In addition to consulting activities with the SEC, he has focused his research and development on corporate security performance measures and metrics. He retired in 2002 as Chief Security Officer at Fidelity Investments, the world's largest privately owned financial services firm. Under George's leadership, the global corporate security organization delivered the full range of proprietary security risk management services. He previously owned his own security consulting firm and was the Group Vice President at a system engineering firm supporting high security US Government security programs from 1978 to 1989. His criminal justice career from 1965 to 1978 was spent in various line and senior management assignments within federal, state, and local government agencies.

He is a member of ASIS International since 1978 and a frequent speaker and contributor to professional security journals and seminars. He is the coauthor of the *ASIS International Chief Security Officer Standard for Organizations*, author of *Measures and Metrics in Corporate Security* published in 2005, and contributing editor of *Adding Business Value by Managing Security Risks* published in 2009 by the SEC. He was the 2006 CSO Magazine Compass Award winner and selected as Security Magazine's 25 Most Influential People in Security in 2009. George is a graduate of American University; a life member, former president, and Board member of the International Security Management Association; and an alumnus of the US Department of State, Overseas Security Advisory Council.

COMPLIMENTARY SAMPLE COPY
FOR SEC PRACTITIONER COMMENTARY

METERS AND DIALS—TRACKING AND MONITORING KEY RISK INDICATORS

Just as we use the gauges on our car to monitor the status of critical components, security's metrics may be organized to provide a selectable variety of indicators to support our ability to anticipate and avoid hazards and risk. This next discussion provides multiple examples of how we can build and present our information for internal tracking and security program management while also delivering some essential reports to management.

Take special note of the critical importance of an established, reliable incident reporting and information management process to developing and communicating on risk. Ensure that any sensitive data receive the level of protection established by policy or as directed by counsel.

I believe one of the most important objectives of a corporate security organization is to maintain a variety of processes calculated to provide the enterprise with timely, actionable, and reliable information on the full range of security-related threats and risks confronting the enterprise. Key risk indicators are the metrics that enable management to gauge its appetite for risk, measure performance of its safeguards, and address gaps in protection.

KEY RISK INDICATORS AT THE ENTERPRISE LEVEL

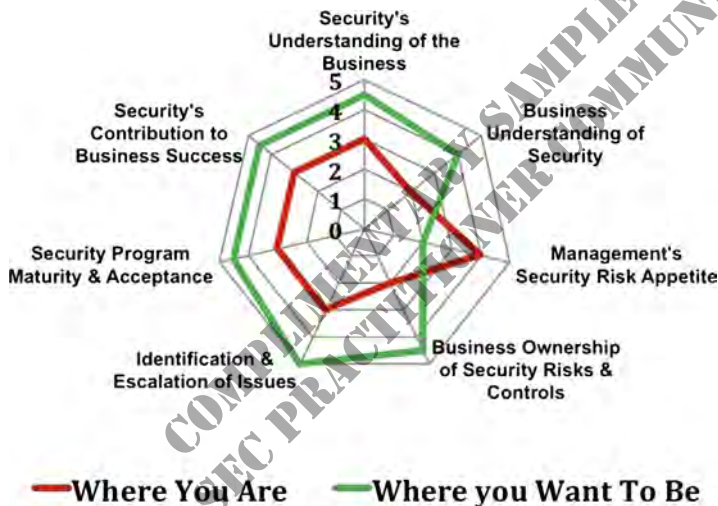
How connected is your security organization to senior management's business and risk management strategies? How connected are they to your programs and their shared responsibilities for enterprise protection? Probing the quality of these connections should be a core element of the security executive's risk management agenda. Consider the following approach to support this probe.

An interesting and often revealing conversation takes place when a security leader sits down with his or her boss or a senior executive from a business unit and asks them to rank on a scale on which 1 = low to 5 = high questions like the following:

- What is management's appetite for security risk?
- What is management's level of knowledge and understanding of the security mission?
- How well do you think we in security understand the business?

- To what extent do you see business units taking ownership for security risk and controls within their areas of operations?
- To what extent does management see security contributing to the success of the business?
- What is your perception of the maturity and acceptance of the security program here?
- Do you believe security risk issues are appropriately identified and escalated from the business units to security?

The quality of our communication and the metrics that accompany and support the messages are key players in influencing and informing management's appetite for risk. What we see in the following chart is a failure to communicate at a critical level. There is a fairly significant disconnect between the parties on where the business sees risk and the perception of security management. It appears that the lack of a shared strategy is at the heart of some real problems here. Management's risk appetite is higher than it should be, and the business is not appropriately engaged in ownership of risk controls because it really does not understand what security does or how it can contribute to enterprise success. Nor does management see security effectively understanding the business, so how can they talk the same language? At this point, it is not possible that this security organization can effectively drive security policy, impact risky business practices, or build a collaborative relationship with their key business clients.



This is a conversation that every security executive should have with their business leaders. These are fundamental questions that have answers that not only drive a strategic and measurably effective relationship. They are the essence of enterprise risk management.

SUMMARY

A chart like this provides an excellent opportunity to discuss the relevance and resilience of key business relationships with the security program and the template is

easily found in your PowerPoint application. This is an example of how key risk indicators (KRIs) might be illustrated in assessing where you are at a point in time against where your organization's security program aspires to be. I have found this little drill to yield interesting discussions between security managers and their boss or others in senior leadership. The idea is simple: you pick several key risk indicators at the enterprise level and then score where you believe the company lies on a scale on which 1 = low/bad to 5 = high/best. Then get the scores from your top executives. I bet you end up with some interesting differences of opinion from different sources.

The bottom line is that KRIs should be "key" risk indicators—macro level and focused on the enterprise. There are no magic indicators, but there are some (tone, appetite, transparency, ownership of controls, etc.) that line up with what others in audit, legal, risk management, etc. may be conveying. Try this out on a colleague there to refine your selection.

In this example, we are using several indicators that are keyed to reflect how security is seen as an element in the governance infrastructure and to elicit some honest opinions on security's role and level of alignment with the business. How you resolve where you think you are versus where your CEO quantifies these factors is your problem. I guarantee that it is a discussion worth having. Think about how that conversation might go in your organization.

Now, let us take a more detailed look at key risk indicators.

KEY RISK INDICATORS AT THE CSO LEVEL

Does a CSO have a *legal* obligation to inform management about risk? Is there a fiduciary obligation? Ask your legal counsel. This is an important consideration in metrics reporting by members of the corporate governance team.

Regardless of the legality and without question, we have an obligation to inform, educate, and advise. Our scope and lens on risk is unique within the governance infrastructure. Our programs reveal volumes on business unit attentiveness to enterprise protection—a window to broader issues of risk management. I believe one of the most critical, value-centered, and influential management reporting obligations security managers have is to provide relevant KRIs to their corporate management and, through appropriate gates, to the board.

An excellent research paper commissioned by the Committee of Sponsoring Organizations of the Treadway Commission⁷ (COSO) entitled "How Key Risk Indicators can Sharpen Focus on Emerging Risks" summarizes the purpose and value of these metrics as follows:

"The development of KRIs can provide relevant and timely information to both the board and senior management, which is significant to effective risk oversight. Effective KRIs can provide value to the organization in a variety of ways. Potential value may be derived from each of the following contributions:

⁷"How Key Risk Indicators can Sharpen Focus on Emerging Risks", Mark S. Beasley, Bruce C. Branson, Bonnie V. Hancock, Committee of Sponsoring Organizations of the Treadway Commission, December 2010.

Risk appetite—KRI require the determination of appropriate thresholds for action at different levels within the organization. By mapping KRI measures to identified risk appetite and tolerance levels, KRIs can be a useful tool for better articulating the risk appetite that best represents the organizational mindset.

Risk and opportunity identification—KRIs can be designed to alert management to trends that may adversely affect the achievement of organizational objectives or may indicate the presence of new opportunities.

Risk treatment—KRIs can initiate action to mitigate developing risks by serving as triggering mechanisms for organizational units charged with monitoring particular KRIs. As well, KRIs can serve as controls by defining limits to certain actions.

Risk reporting—By design, KRIs can provide measurable data conducive to aggregation. Summary reports can be quickly communicated to appropriate senior managers and board members with oversight responsibilities.

Compliance efforts—For organizations subject to regulatory oversight, KRIs may be useful in demonstrating compliance with established requirements.

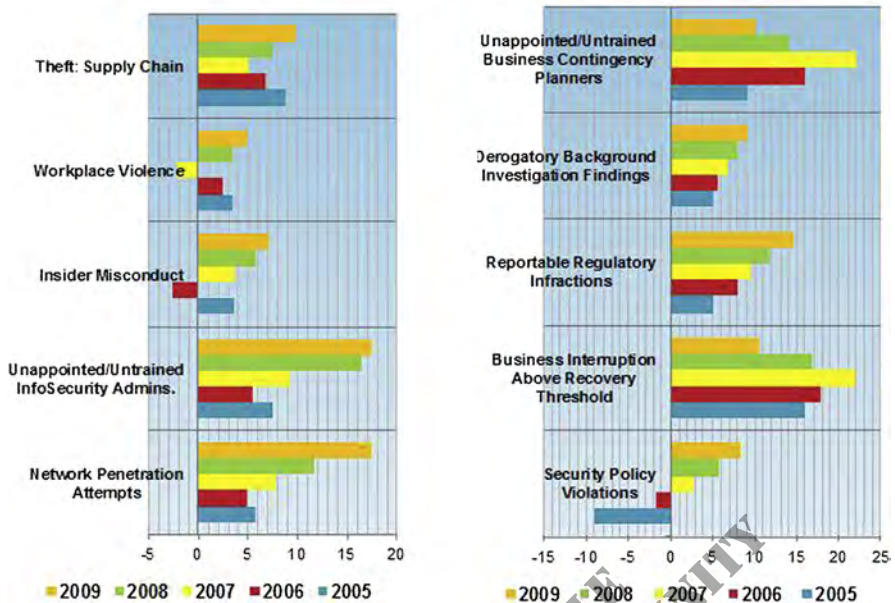
KRIs designed to assist the board and executive management in anticipating trends in potential risk-related events can add considerable value to enterprise-wide risk oversight efforts by positioning the board and management so that they can proactively adjust strategies in advance of or in response to risk events. The design and roll-out of a set of KRIs is an important element of an organization's enterprise risk management process."

Key risk indicators are your tracking tools for avoidable risk management and security awareness.

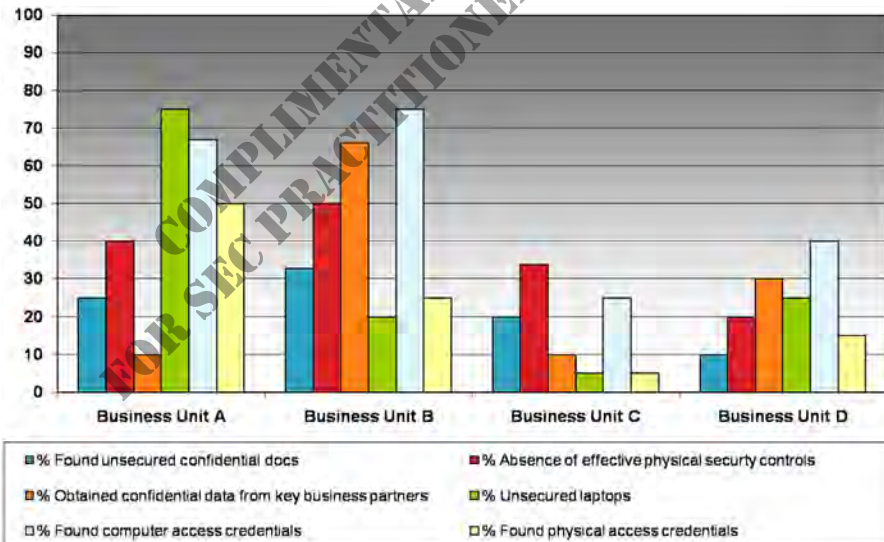
I have found that establishing a linkage between key performance indicators (KPIs; discussed later in this book) and KRIs to be a highly effective means of communicating what we know about the root causes of risk and how well accountable parties (including security) are doing in meeting risk reduction objectives. KRIs, after all, impose a defined set of actions.

In the following example, the CSO has selected a variety of KRIs for quarterly management reporting. He might choose to focus on the relationship of a couple of trends like untrained information security administrators and network penetration attempts or regulatory infractions and internal misconduct. There is program performance progress visible here, as well as disturbing leading indicators that have gone ineffectively addressed. This example may better serve as a summary display given the diversity and amount of data presented. What it does offer is a dashboard that provides longer-term trend data to contribute to program performance assessment and focus targeted audiences on areas requiring increased engagement. There are likely linkages between several of the internal risk trends seen here that should be driving analysis and collaborative efforts across the corporate governance team. The correlation of the timing of economic recession on this company is also a potential contributor that deserves probing.

Key Risk Indicators (% Increase/Decrease)



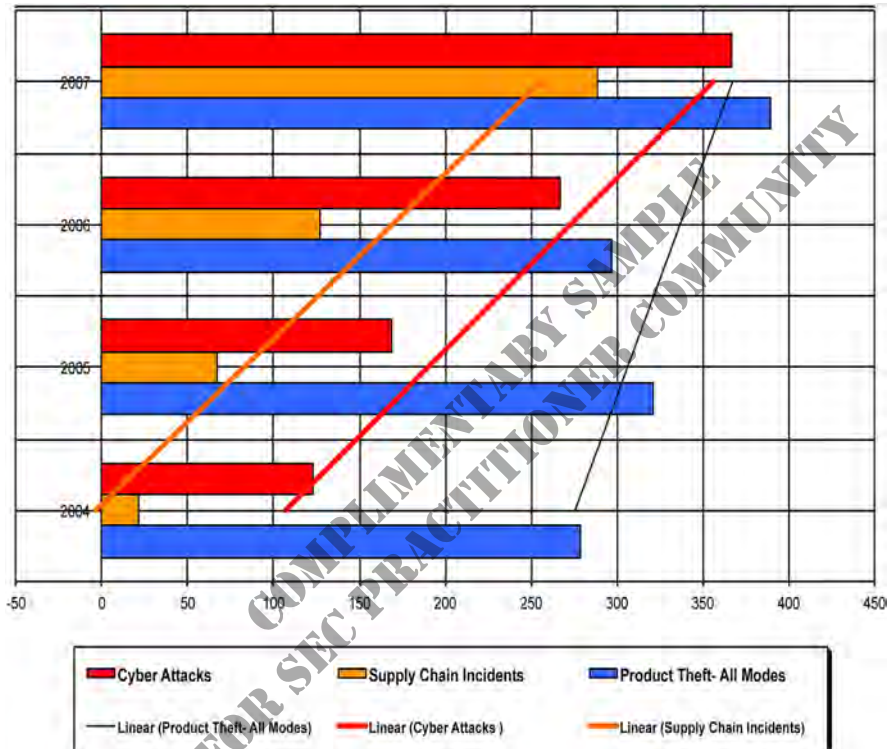
In the graphic below, the CSO is focusing more specifically on four business units, thus enabling a more pointed discussion on the stewardship of local management for basic security responsibilities. Here, KRIs are not being used as a sharp stick in the eye, but should serve to demand far greater accountability.



Remember that KRIs are critical leading indicators that may signal emerging internal or external risks and that our data are often the singular lens to interpret and provide insight to boards and top management. This is particularly true when that lens is effectively focused and aligned with corporate business objectives. This is an example of ability to enable the business to engage in prospective risk management and another key value indicator for security's programs.

TAKE A DEEPER DIVE ON MULTIYEAR TRENDS TO HIGHLIGHT RISK

In the following chart, you can see use of trend lines to focus management on three areas of loss, which obviously deserve more attention. This is where just counting does serve to shine a light on a variety of internal control failures that must be acknowledged, strategized, and mitigated. This is the use of reliable, collated data to eliminate plausible denial and force a discussion on the acceptability of notable categories of risk.



But the real story behind this chart is the absence of attention and accountability. The data have been there, increasingly flying these red flags for four years! One has to wonder where security management was looking and seriously question the condition of the company's risk management program. Cyber attacks are up 188%, and there has been a 56% increase in product thefts and a 13-fold increase in supply chain

security incidents. This dramatic supply chain statistic was later found to have its root causes in the total lack of risk assessment and controls associated with extensive outsourcing initiatives in Southeast Asia and Mexico.

Would an established program of tracking and reporting on these areas of business risk have arrested these avoidable losses? Not without access and engagement of management. If you are appropriately investigating and documenting incident findings, having the right data is the easy part. The ability to influence policy and action is the test of security management's use of its information and the metrics that flow from it.

BUILD A RISK INDICATOR DASHBOARD

We need to find responsive ways to display and communicate the key information a manager needs to monitor a set of measures and effectively communicate the status of those measures. You are busy, and so are those you seek to inform. Immediate comprehension of business information is essential. The data in a risk indicator dashboard are presented in such a way as to maximize understanding with a minimum of explanation. You also reinforce basic security policy with periodic updates like this.

Organizational Integrity Dashboard: Our Critical Business Processes

	This Year	Last Year
CRITICAL BUSINESS PROCESS RISK ASSESSMENTS WITH APPROVED RESOLUTIONS	98 of 112	64 of 106
% UPDATED & TESTED BUSINESS CONTINUITY PLANS WITH ASSOCIATED REMEDIAL ACTIONS	77%	58%
% OF SECURITY INCIDENTS THAT EXPLOITED EXISTING VULNERABILITIES WITH KNOWN SOLUTIONS	9%	29%
% OF INFORMATION SECURITY POLICY COMPLIANCE REVIEWS WITH NO POLICY VIOLATIONS	31%	85%
% AUDITED COMPLIANCE WITH APPLICABLE BUSINESS INTEGRITY REGULATIONS	97%	78%

RISK MANAGEMENT STRATEGY

With an increased focus on transparency, regulatory compliance and board-level reporting, directors, CEOs, and CFOs have been increasingly open to immediate, proactive, and glaringly obvious warning lights. Your corporate security program

can use this type of traffic light image in dashboard dials to present information to management on risk indicators. This next graphic provides a simple set of risk indicators that have been selected for a senior management briefing. The comparative data reflect several business processes the risk management team has selected under the heading of organizational integrity. The significance and tone is set by the fact that the data are based on confirmed results—risk assessments, compliance reviews, and incident postmortems.

It is also clear that this organization maintains an aggressive, ongoing program of risk assessment, the results providing high-level visibility and influence to the security team. If I were briefing this chart, I would be ready for some interesting discussion around the percent of incidents that exploited existing vulnerabilities with known solutions. What five critical business process risks are you tracking and reporting? What are the implications for top management and owners of the business process? What do you propose that security will do, and what are your recommendations for the process owners? How will progress be measured?

MEASURING RISK ASSESSMENT PROGRAM EFFECTIVENESS

It may be said that the absence of an effective risk assessment program should be at the top of the key risk indicator checklist.

Look at the continuum in the three metrics reported on the chart below. First, we are doing risk assessments; second, the results are driving remedial action; third, security is leveraging its role in enterprise risk management; and fourth, there is a clear trend of business unit engagement. But are we seeing good news or bad in this chart?

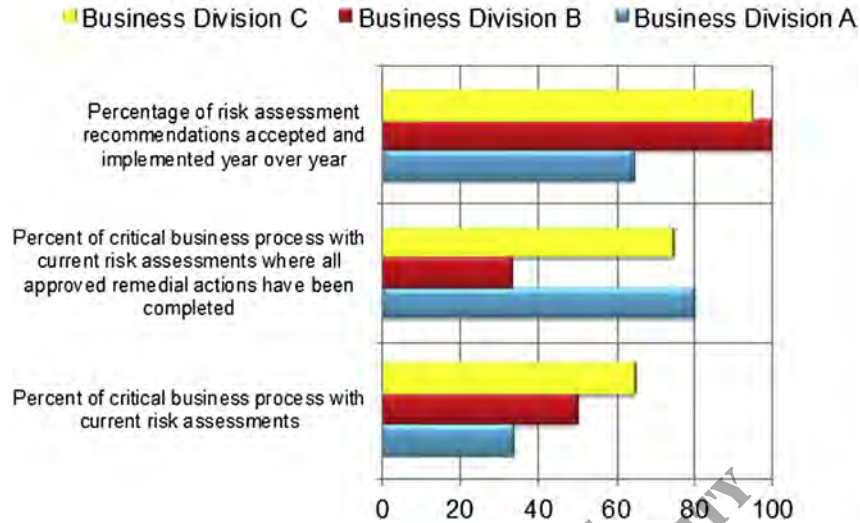
Is there a lack of apparent maturity in this risk assessment program? The advertisement is for “3 key divisions,” all of which clearly possess critical business processes. However, on average only half of these critical processes have been engaged in basic risk assessment.

Look at business division B as an example.

- Half their critical processes have been risk assessed, but which half?
- Of that half, only a third have approved remedial actions. So do we feel satisfied with understanding this level of exposure around only 17% of this unit’s critical processes?
- 100% of our recommendations have been accepted and implemented for this portion of B’s critical processes. Was this acceptance driven by the potential for consequences, influencing by security or something else?

If you were the CEO looking at this chart, what questions would you ask and why? If you were the CSO presenting, what story would you tell if you only had a 5-min slot? Or, as the CSO, how would you have delivered a heads-up alert to the executives of these three divisions that you were going to brief this to the CEO? You are looking for responsive collaboration around change and building bridges. But if they take the wrong turn, you still have the evidence on your side.

Status of Risk Assessment Processes in 3 Key Divisions of the Company



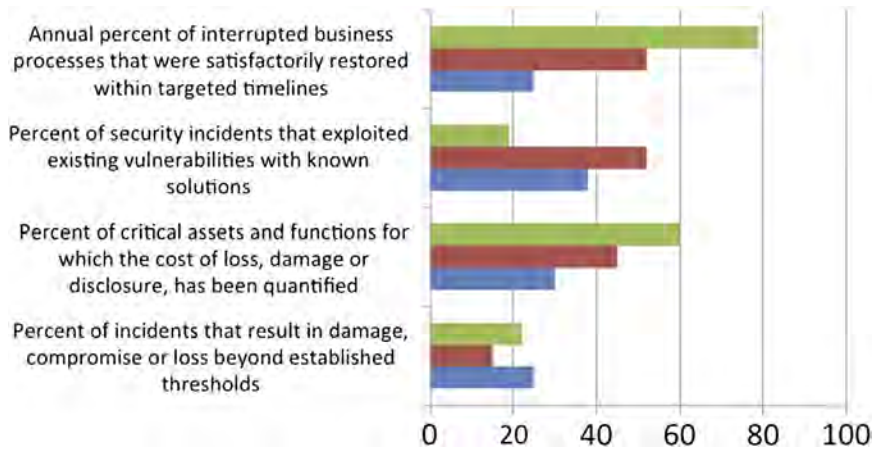
Here is another view of how focusing what we learn from our risk assessments in the right places with the right information can be a powerful incentive for improved risk management.

In this example, we see a security program that has effectively tracked losses and critical process downtime attributable to defective internal controls, pushed deeper and more focused risk assessments and deployed a variety of tools for proactively identifying risky behavior.

Coupling solid risk assessment results with key risk indicators that are supported by root cause analysis offers up headlines that get management attention. Our objective is to eliminate plausible denial. But we have an obligation to probe and inform and targeting those risks that can threaten the franchise provides an incredible opportunity to put the security program positively in front of senior management and the board.

IDENTIFYING THE THRESHOLD OF “ACCEPTABLE” RISK

What is an “acceptable” risk in your world of exposure to security risk management? How much loss can be tolerated before some threshold of damage is breached? We know that zero risk is as unachievable as 100% protection, but without somehow pushing a consensus notion around some baseline target, we cannot get a handle on how much resource to devote to protection activities. Essentially, we are probing the company’s tolerance for risk, and this is a critical discussion that too few security managers are prepared to have with senior management.



What factors help define an appropriate level of acceptance or tolerance? Here are a few:

- From our history, it is not probable and below what we can accept as intolerable.
- The consequences of occurrence are reasonably deemed to be minimal and manageable.
- The cost of protection is likely more than what we can estimate for total impact cost.
- Our insurers, regulators, and authorities say it is acceptable.
- The benefits outweigh the potential risks (for example, we will do business in a risky region with significantly lower costs and higher payoff).

The four measures seen in the above chart are linked to the need to identify potential, probable, and known impact from security-related events. But, of importance to a business-centered security manager, each one contributes to considerations around return on security investments, assessment of cost effectiveness, and program performance measurement.

Percent of critical assets for which a cost of loss, damage or disclosure has been quantified

This is absolutely key to protection planning and program management. Our whole risk management scheme relies on the ability to understand, in real economic terms, what the consequences of compromise could be given a set of rational—not absurd—scenarios. This is why linking what is learned from business continuity planning about recovery timing and cost is relevant to security resource management. All security planning should reside on a foundation of delivering the requisite level of protection at the lowest possible cost. “Requisite” means measurably consistent with criticality and consequences of loss.

Percent of incidents that result in damage, compromise, or loss beyond established thresholds

This is a KRI that clearly implies concern for the quality of detective, preventive, and response activities. Here, we have taken the quantified estimate of loss noted above and tracked those incidents that exceed that threshold. Obviously, our goal is to see that no incident has an impact beyond that standard and that can help define protection plans and safeguard capabilities. A simple example is a 5-min standard for response to certain types of calls or alarms.

Annual percent of interrupted business processes that were restored within targeted timelines

This is the counterpoint to the one immediately above, at least as it applies to business continuity risk. But you could extend to “percent of theft incidents with acceptable levels of recovery” or “investigations completed within planned cost” or any number of similar measures. These are important key performance indicators.

Percent of security incidents that exploited existing vulnerabilities with known solutions

I hope and trust that you are doing risk assessments. This should be a compulsory metric in every security presentation because it tells a number of compelling stories about security’s proactive diligence and business unit accountability.

If you are not tracking metrics like these, I would recommend that you have a discussion with your corporate risk management or finance team. They can advise on how they are approaching larger business process risk tolerance considerations and factors they deem appropriate to impact measurement.

COMPLIMENTARY SAMPLE
FOR SEC PRACTITIONER COMMUNITY

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