Cyber Risk & Social Media

Presentation by Ricardo L. Saludo

Center for Strategy, Enterprise, and Intelligence

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The Biggest Cyber Breaches
Business Hacks

Yahoo

- **Date:** 2013-14
- **Impact:** 3 billion user accounts

The Biggest Cyber Breaches
Business Hacks

Marriott International

- Date: 2014-18
- Impact: 500 million customers

The Biggest Cyber Breaches
Business Hacks

Adult Friend Finder

- **Date:** October 2016
- **Impact:** More than 412.2 million accounts

AdultFriendFinder®

The Biggest Cyber Breaches
Business Hacks

eBay

- **Date:** May 2014
- **Impact:** 145 million users compromised

The Biggest Cyber Breaches
State Hacks

US Office of Personnel Management (OPM)

- **Date:** 2012-14
- **Impact:** Personal information of 22 million current and former federal employees

The Biggest Cyber Breaches
State Hacks

Stuxnet

- **Date:** Sometime in 2010, but origins date to 2005
- **Impact:** Meant to attack Iran's nuclear power program, but will also serve as a template for real-world intrusion and service disruption of power grids, water supplies or public transportation systems.

The Biggest Cyber Breaches
State Hacks

Wikileaks

- **Date:** July-November 2010
- **Impact:** Nearly half a million classified US military documents on the US war in Afghanistan leaked, plus 250,000 State Department cables since 1966.

The Biggest Cyber Breaches

State Hacks

The Paris G20 summit

Date: 2011

Impact: An email containing a PDF attachment infected with malware was sent around the French Ministry of Finance. The virus infected around 150 computers with access to confidential G20 data.

The Biggest Cyber Breaches
State Hacks

Sony's PlayStation Network

- **Date:** April 20, 2011
- **Impact:** 77 million PlayStation Network accounts hacked; estimated losses of $171 million while the site was down for a month.

Recent Philippine Cyber Hacks and Attacks

Commission on Elections

- **Date:** April 2016
- **Impact:** 55 million voters' personal and biometric records stolen and posted online

Recent Philippine Cyber Hacks and Attacks

Two dozen Philippine companies hit by ransomware

- **Date: 2017**
- **Impact:** Damage was said to be "small to medium", infecting 30 per cent of servers and computers.

Recent Philippine Cyber Hacks and Attacks

Wendy's Philippines website hacked

- **Date:** April 2018
- **Impact:** More than 80,000 records including users' personal data were exposed

Recent Philippine Cyber Hacks and Attacks

ABS-CBN UAAP shop site

- **Date:** Sept. 2018
- **Impact:** Two sites taken down after reported hacking with possible theft of payment information by a hacker in Irkutsk, Russia. ABS-CBN stock fell 3 percent.

Examples of Cyber Risk Events

Anthem, 2015

Picture 10 of 1

69 million to 80 million records compromised

In February 2015, Anthem, formerly known as WellPoint and the second-largest health insurer in the U.S., revealed its customer database had been breached. Stolen data included names, addresses, dates of birth, Social Security numbers and employment histories — Show more

The legal tussle between Apple and the U.S. Federal Bureau of Investigation (FBI) over access to the iPhone used by a shooter in last year's San Bernardino attacks is now over after authorities announced they had accessed the device.

But the larger debate between technology firms and law enforcement authorities over data privacy and access remains. CNBC explains the case and why it was such a big deal.

Personal details of world leaders accidentally revealed by G20 organisers

Exclusive: Obama, Putin, Merkel, Cameron, Modi and others kept in the dark after passport numbers and other details were disclosed in Australia's accidental privacy breach

Breach of Target customer data

Target says about 40 million credit and debit card accounts may be affected by a data breach. Cards that were swiped during purchases at Target stores in the U.S. between Nov. 27 and Dec. 15 may have been compromised.

Target says the breach affected store purchases and not online transactions. The stolen data includes:

- **Credit/debit card number**
- **Expiration date**
- **Name**
- **Three-digit security code on back of card**

The store advised customers to:

Check statements carefully	Report suspicious charges to credit card company and call Target at 866-852-8680	Report cases of identity theft to law enforcement or the Federal Trade Commission

SOURCE: The company AP

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An untamed beast

Global Risk Management Survey Risk Ranking	
1	Damage to reputation/brand
2	Economic slowdown/slow recovery
3	Regulatory/legislative changes
4	Increasing competition
5	Failure to attract or retain top talent
6	Failure to innovate/meet customer needs
7	Business interruption
8	Third party liability
9	Computer crime/hacking/viruses/malicious codes
10	Property damage
11	Commodity price risk
12	Cash flow/liquidity risk
13	Technology failure/system failure
14	Distribution or supply chain failure
15	Political risk/uncertainties
16	Growing burden and consequences of corporate governance/compliance
17	Exchange rate fluctuation
18	Weather/natural disasters
19	Capital availability/credit risk
20	Directors & Officers personal liability

AON's Global Risk Management Survey:

- 3 out of the Top 20 risks are technology related
- Many of the rest are caused by technology risks (e.g. supply chain failure) or direct consequences (e.g. damage to reputation)
- 2015 Global Cyber Impact Report (Ponemon Institute): 37% of surveyed companies have had significant security breaches in the last one year, averaging US2.1m

"Nine out of 10 respondents have validated our assessment that cyber risk is still not fully understood"

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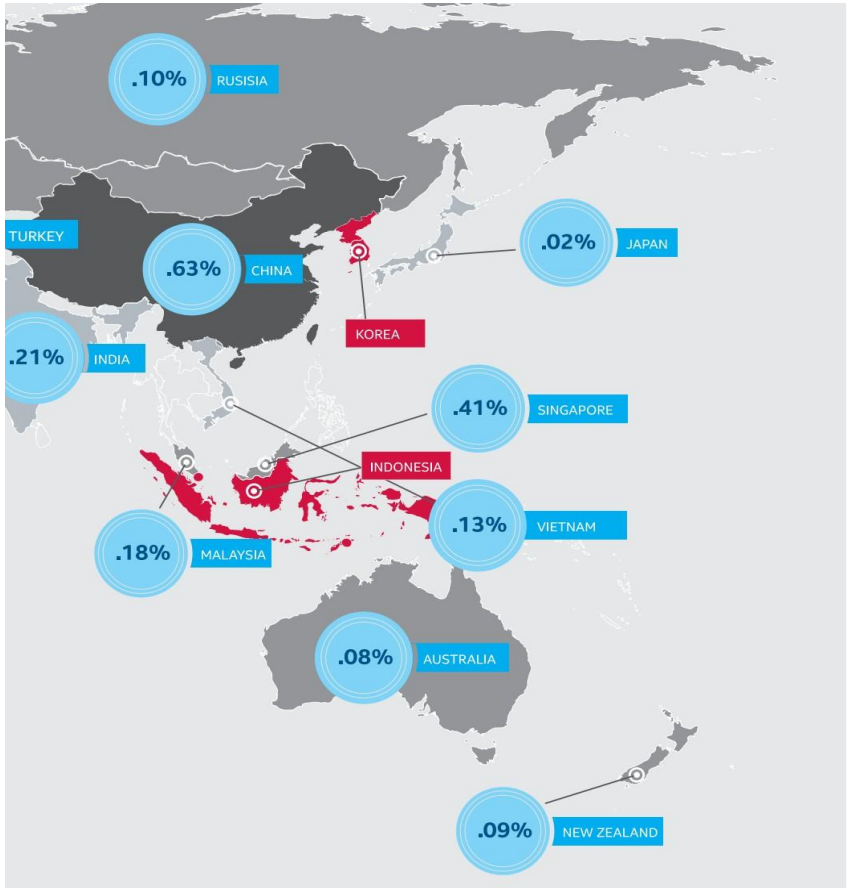
Cybercrime cost as a % of GDP (June 2014)



G20 Countries

Australia (.08%)
Brazil (.32%)
Canada (.17%)
China (.63%)
European Union (.41%)
France (.11%)
Germany (1.60%)
India (.21%)
Japan (.02%)
Mexico (.17%
Russia (.10%)
Saudi Arabia (.17%)
Turkey (.07%)
United Kingdom (.16%)
United States (.64%)

Other Countries

Argentina (n/a)
Colombia (.14%)
Indonesia (n/a)
Ireland (.20%)
Italy (.04%)
Kenya (.01%)
Korea (n/a)
Malaysia (.18%)
Netherlands (1.50%)
New Zealand (.09%)
Nigeria (.08%)
Norway (.64%)
Singapore (.41%)
South Africa (.14%)
United Arab Emirates (.11%)
Vietnam (.13%)
Zambia (.19%)

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Are You and Your Organization Addressing Cyber Risk?

Let’s do a little survey

- Log on to www.menti.com
- Type the code for the given question, and click your answer.
- All replies are confidential.

What does ‘Cyber(space)’ mean?

‘... an interactive domain made up of digital networks that is used to store, modify and communicate information ... includes the internet, but also the other information systems that support our businesses, infrastructure and services.’

The UK Cyber Security Strategy Protecting and promoting the UK in a digital world, UK Government Cabinet Office (2011)

‘... the interdependent network of information technology infrastructures, and includes the Internet, telecommunications networks, computer systems, and embedded processors and controllers in critical industries.

Common usage of the term also refers to the virtual environment of information and interactions between people.’

National Security Presidential Directive 54/Homeland Security Presidential Directive 23 (2008)

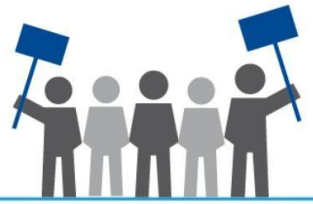
CYBER RISK: WHO MIGHT ATTACK? & WHAT ARE THEY AFTER?

The classic cyber criminal (i.e., organized crime) or skilled individual hackers

Guarded data and personally identifiable information, including health records, for monetary gain

The advanced persistent threat, directed by nation-states

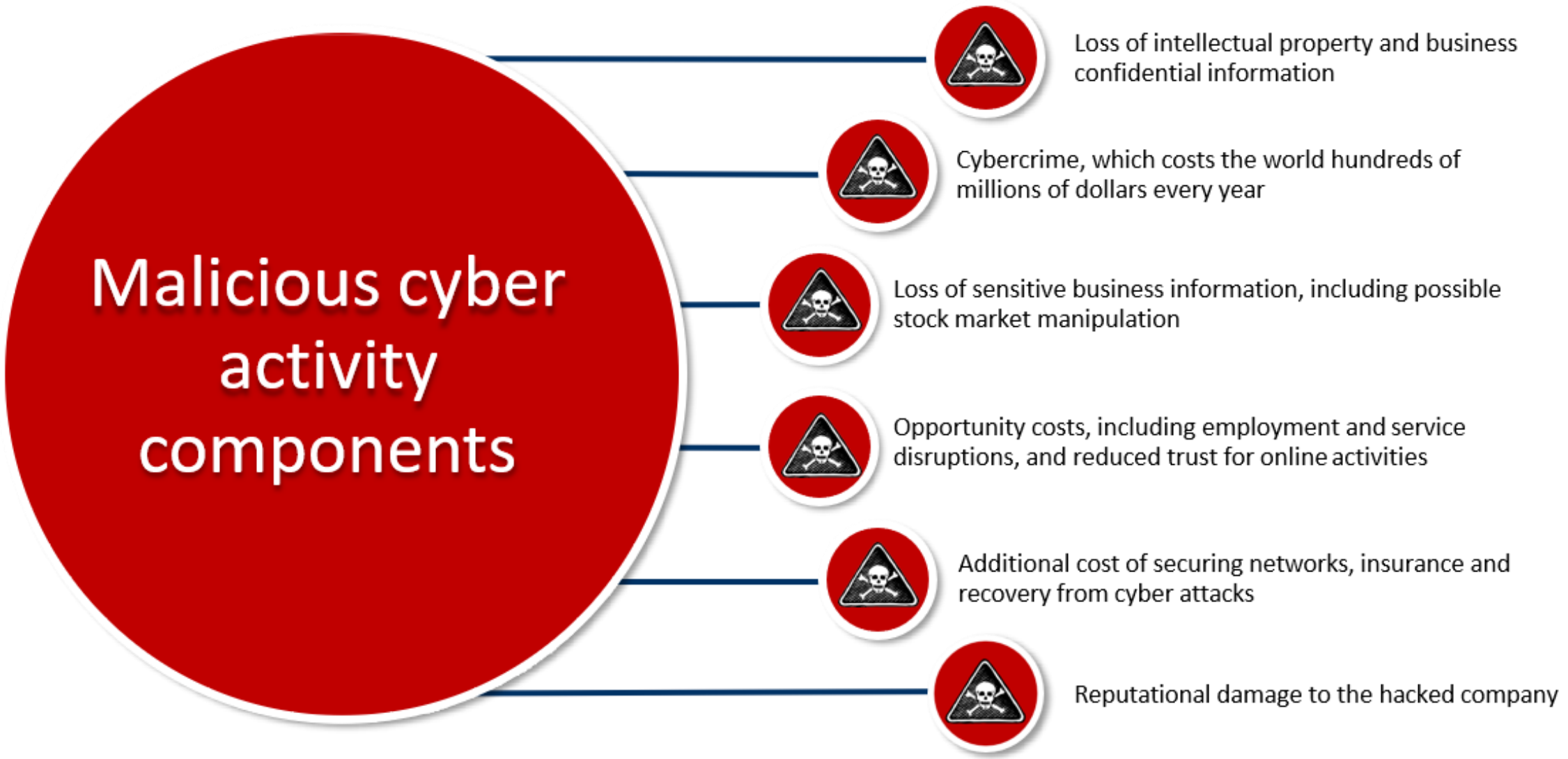
Highly sensitive information, including PHI, infrastructural, or strategic information, to gain an economic or technological advantage



"Hactivists"

Systemic disruption with political, social, or personal motive, often in the form of high profile protest

Deloitte Development LLC (2014)



The Economic Impact of Cybercrime and Cyber Espionage Report, Center for Strategic and International Studies July 2013

Cyber risk is different to normal risk …

Risks associated with cyber activities are relatively new

Boards are unlikely to have a comprehensive understanding of the issues or have past experience of dealing with such risks

Little information sharing on cyber attacks between organisations

Unlike other risks, there are active enemies directing their activities towards damaging companies

A lack of understanding of the issues

… often results in an inappropriate response, such as simply increasing levels of IT security

Boards should be aware

Strategy is increasingly dependent on technology the stability of the company's operations is at risk from cyber attack

Requires a full understanding of the risks

Companies may be focussing their attention and spending on areas that do not reflect the greatest risks

Boards may need to be educated

… and be fully informed and have a complete understanding of the cyber risks faced by the company

Robust cyber security needs to be combined with a properly structured control environment

A SERIOUS ISSUE

64% of Chairs think their Board colleagues take cyber risk very seriously.

WHO OWNS THE RISK?

When asked who owns the cyber risk for their company, Audit Committee Chairs responded with a wide variety of roles.

CYBER IS A BUSINESS RISK

56% of respondents said their strategic risk register includes a cyber risk category.

CYBER SAVVY BOARDS

Most Chairs think their Boards are qualified, to some extent, to manage innovation and risk in a digital age.

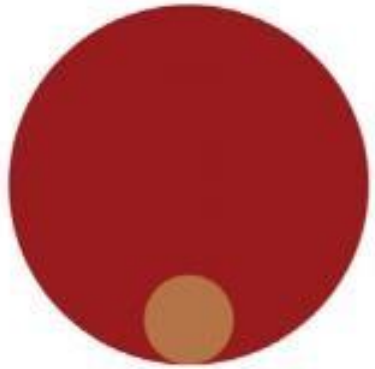
2% indicated their colleagues were 'barely qualified'

36% think they have 'good skills'

11% think they are well positioned for the digital age

TRAIN YOUR BOARD

75% of respondents had not undertaken any cyber or information security training in the last 12 months and 80% of respondents said none of their Board colleagues had undertaken any either.



Respondents who have done training

Respondents who have not done training

Other board members who have done training

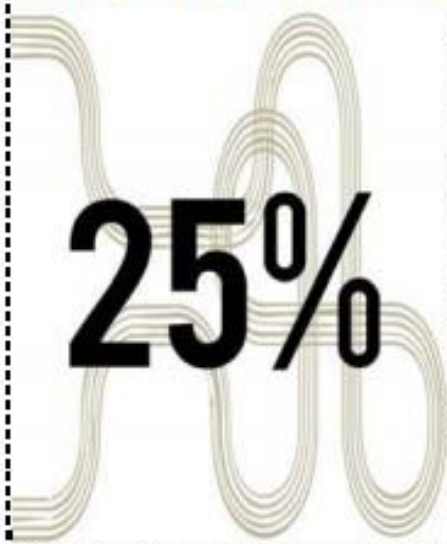
Other board members who have not done training

FTSE 350 Cyber Governance Health Check Tracker Report, UK Government (2013)

KNOW YOUR KEY DATA ASSETS

Over a third of Chairs said the main Board has a very clear understanding of what their company's main information and data assets are.

WHO HAS YOUR KEY DATA ASSETS?



A quarter of respondents said the main Board has a poor understanding of where the company's key information or data assets are shared with third parties (e.g. suppliers, advisors, customers and outsourcing partners).

UNDERSTAND THE THREAT

40% of Chairs said the main Board does not receive regular threat intelligence from their CIO or Head of Security.

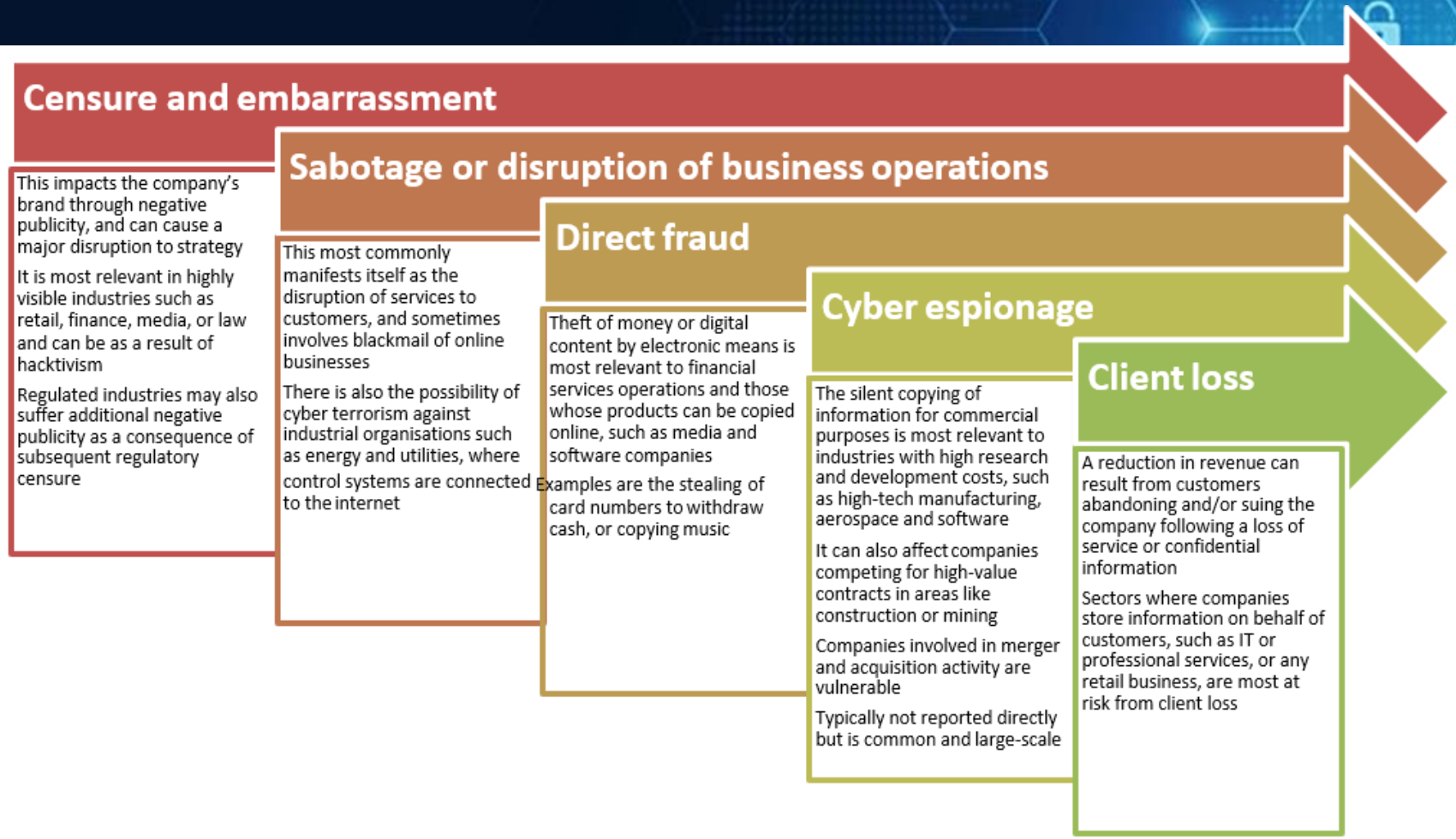
THE IMPACT OF A CYBER ATTACK

Less than half of FTSE 350 Chairs think their main Board has a clear understanding of the potential impact of information and data asset losses.

INFORMATION SHARING

Nearly half of the respondents said their employees are encouraged to share information with other companies in order to combat cyber threats.

Categories of Cyber Business Risk



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Adapted from: *Guidance Note: Cyber Risk*, ICSA (2013)

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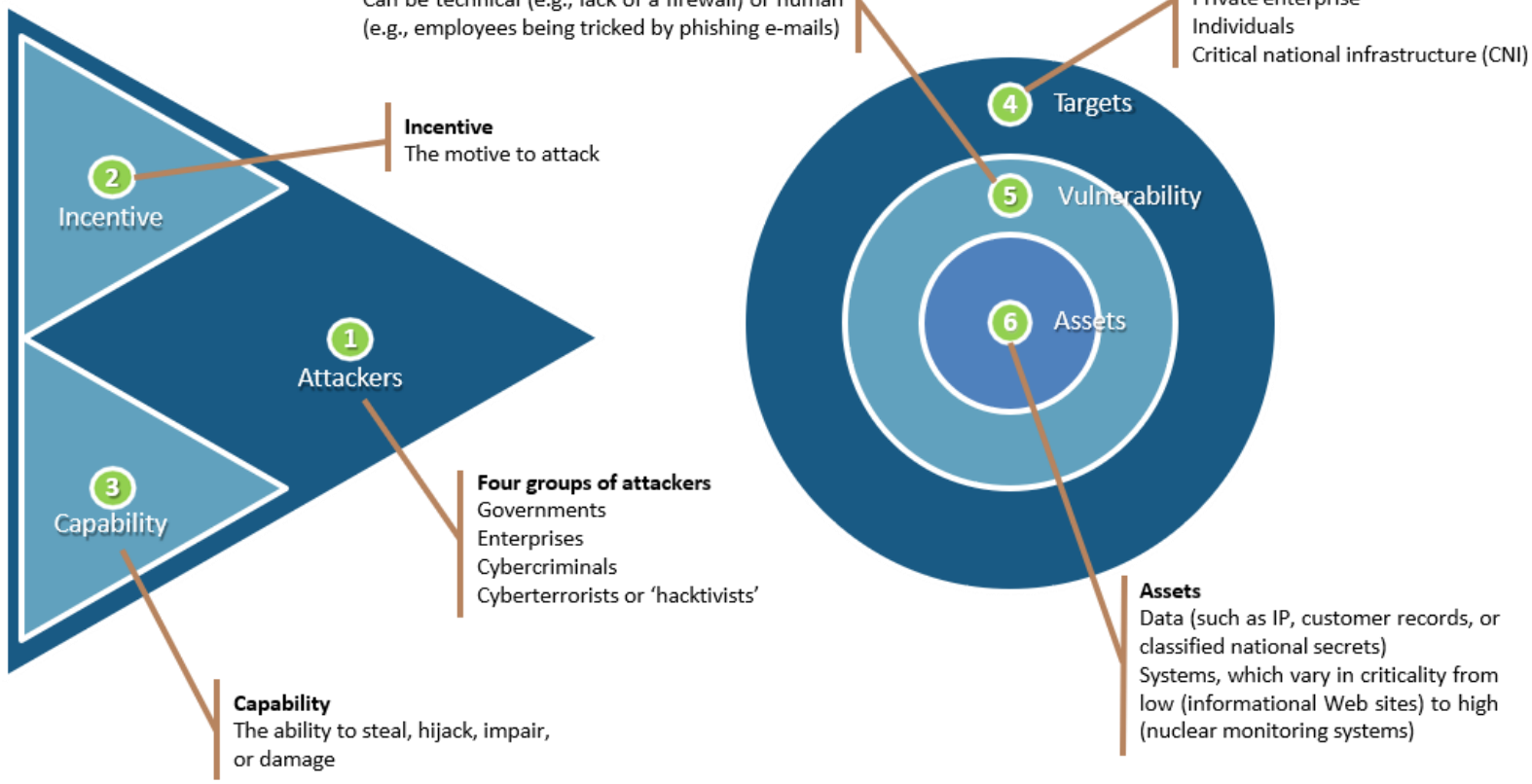
A Taxonomy of Cybersecurity



Adapted from: *Can you hack it? Managing the Cybersecurity Challenge*, McKinsey on Government, Autumn, 2011

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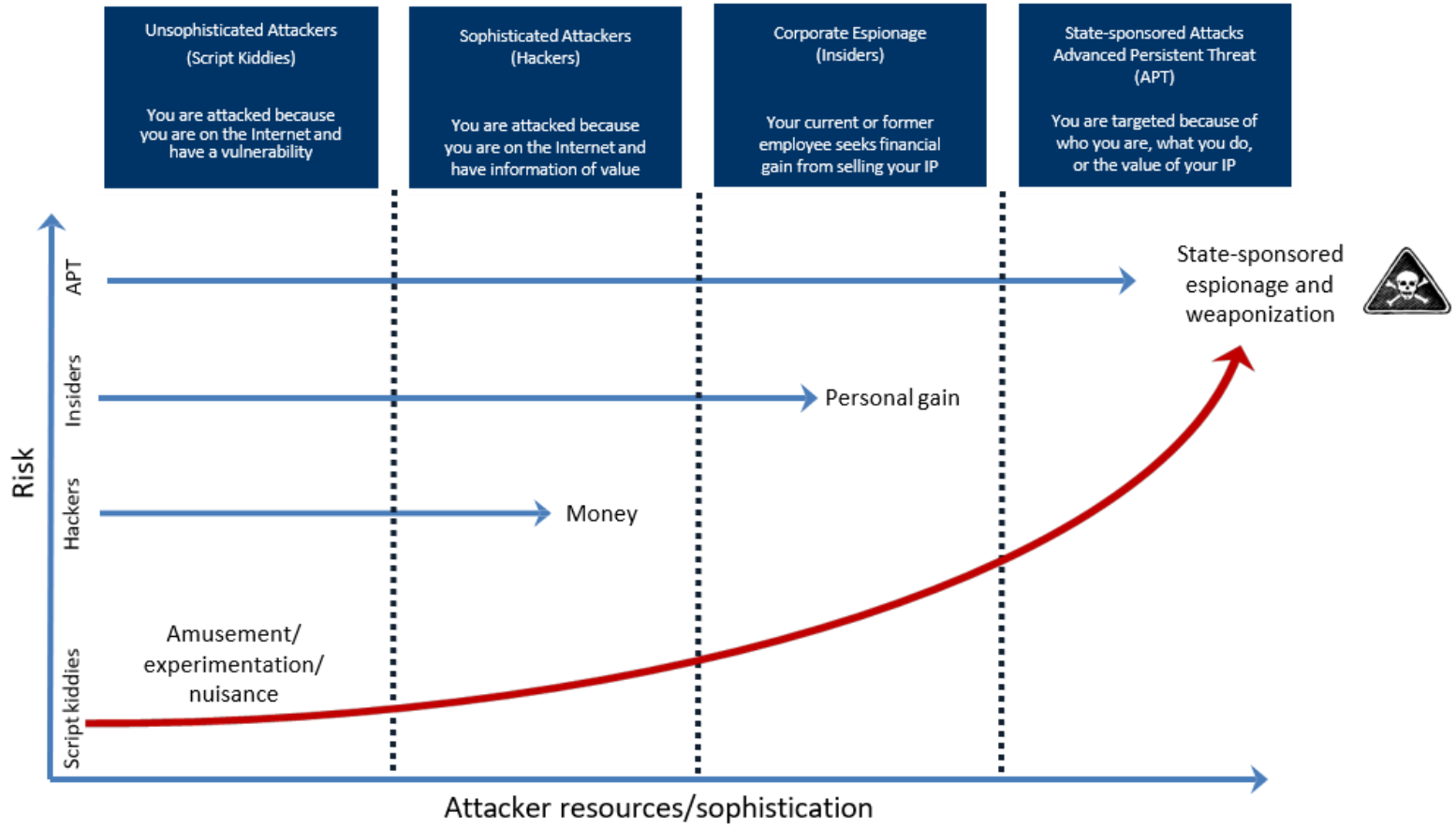
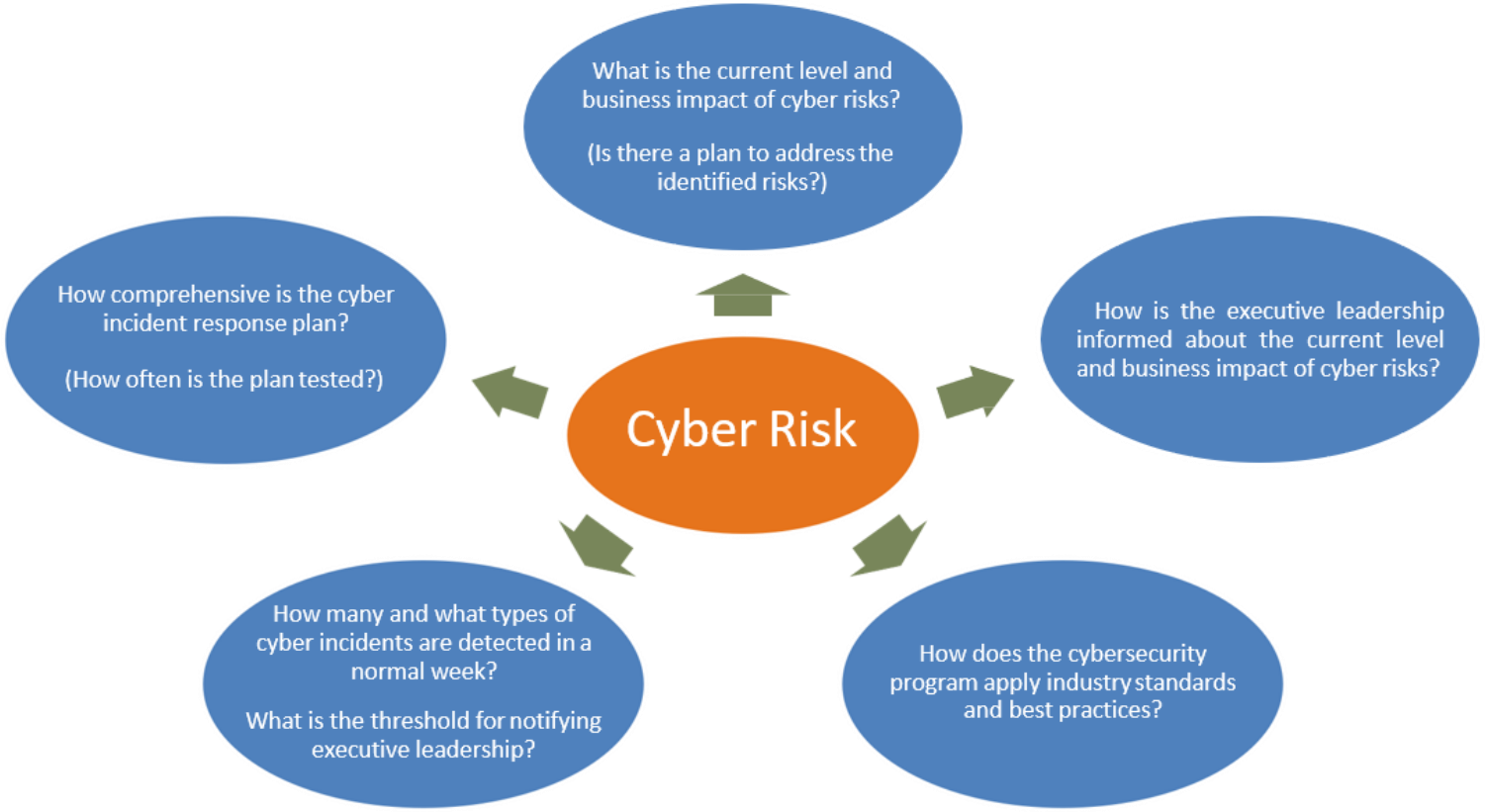
Evolution of the Threat Landscape

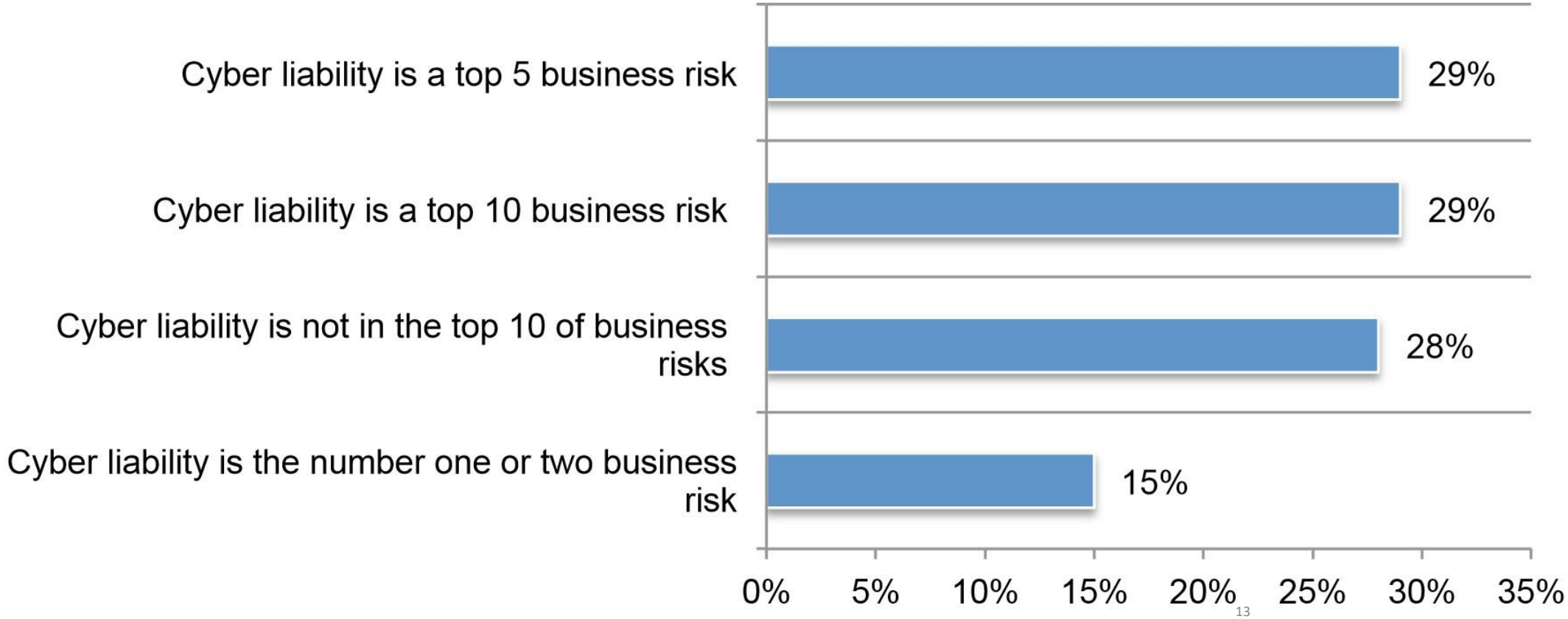


Transforming Cybersecurity: Using COBIT® 5, ISACA (2013)

Raising awareness of Cyber Risk

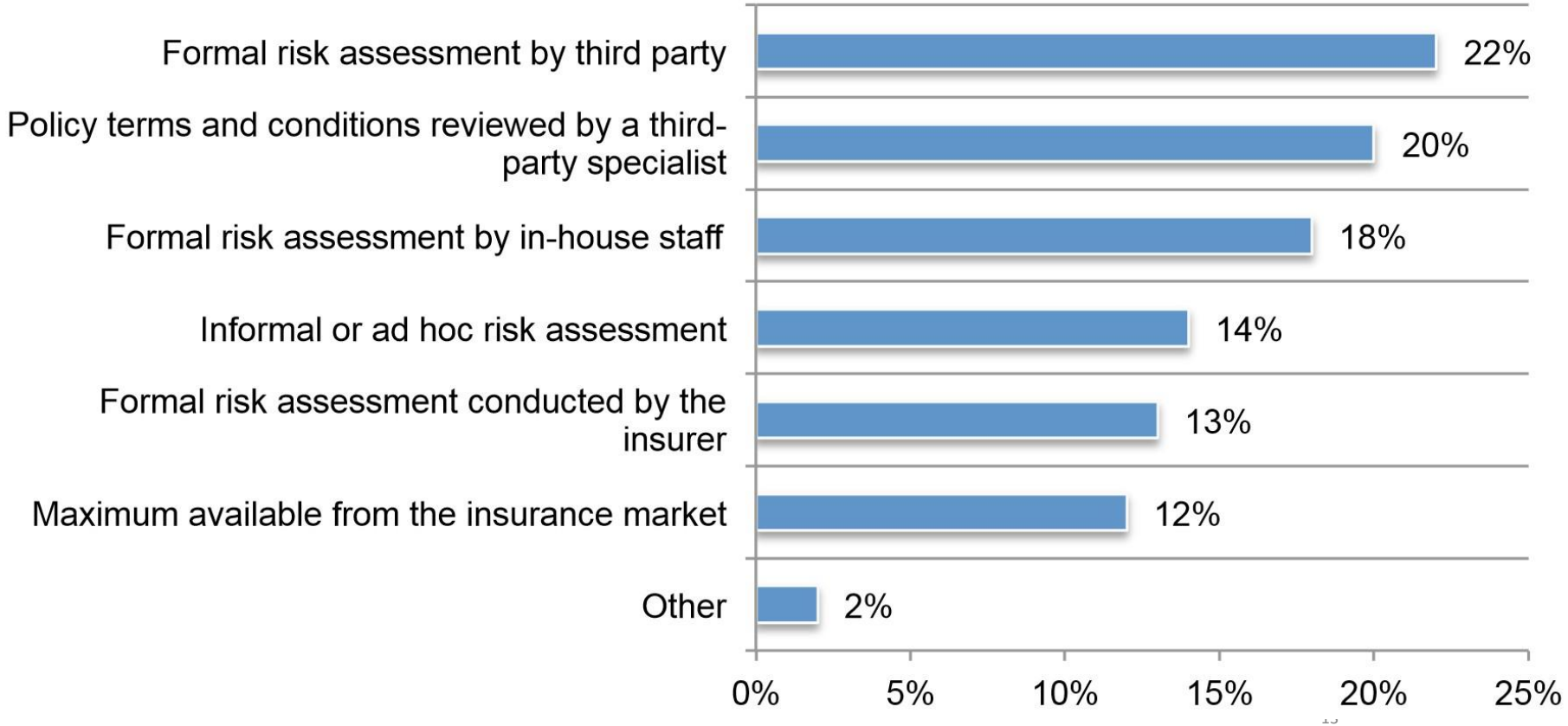


Cyber risk vs. business risk



2015 Global Cyber Impact Report, Ponemon Institute LLC, (2015)

Determining the level of cyber risk



2015 Global Cyber Impact Report, Ponemon Institute LLC, (2015)

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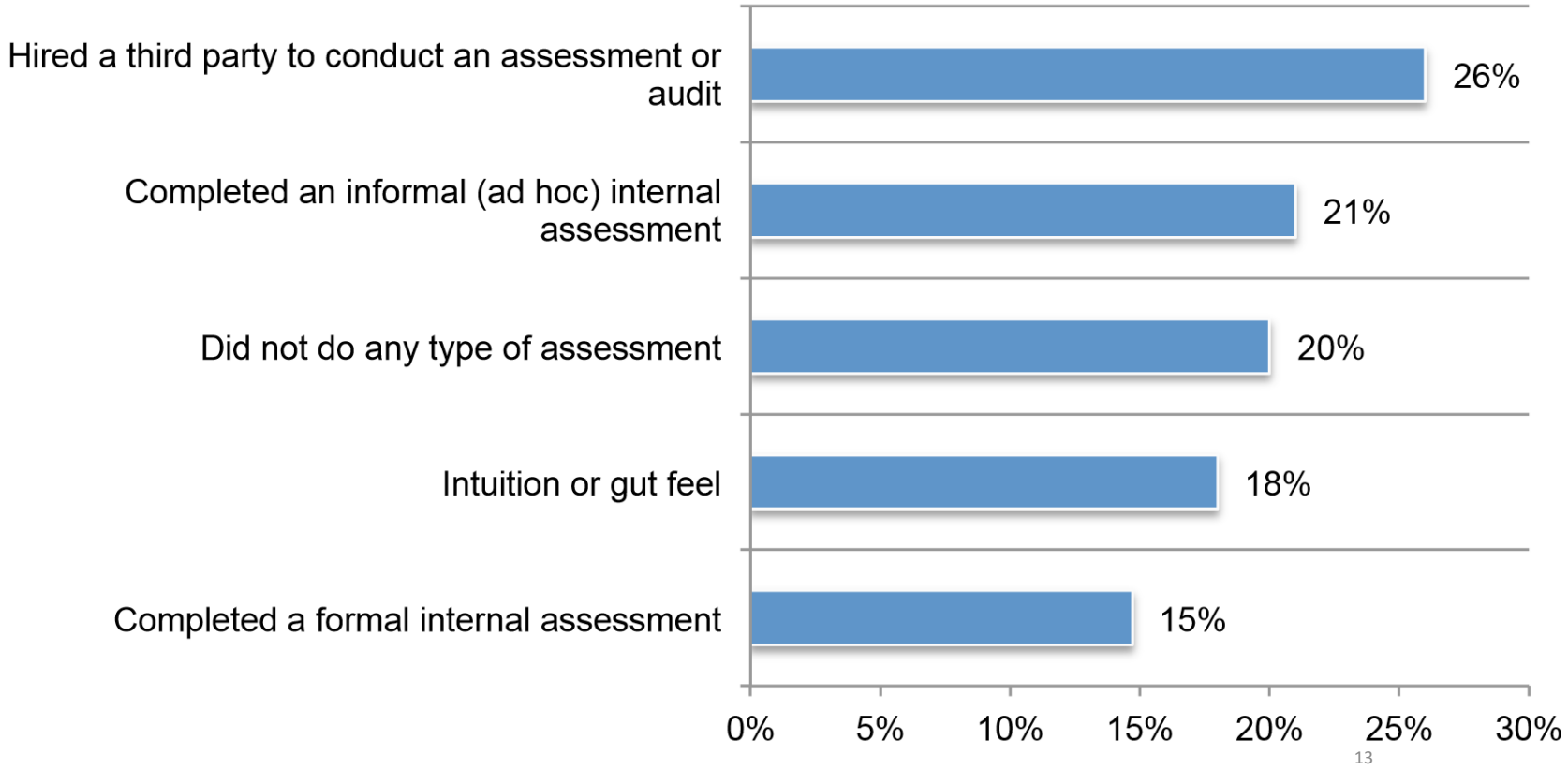
Adequacy of coverage



2015 Global Cyber Impact Report, Ponemon Institute LLC, (2015)

Cyber Risk

So what about cyber security governance?

Can it help?

Governance 101…

Management

This is about *running* your business and in IT terms it includes *plan*, *build*, *run* and *maintain*

Governance

Is about ensuring the business is run properly and this involves the activities of *evaluate*, *direct* and *monitor*

Cyber Risk Management

- Includes the utilization of organizational strategies
  - to preserve the integrity of information and corporate intangible assets
- As businesses continue to turn to virtual organizations, connected information systems, and outsourcing (offsite hosting/storage, contract employees, etc.) to drive business strategy, these new ways of doing business increase the vulnerabilities to corporate assets
- When a corporate network, connected to the outside world, becomes compromised, the resulting damage can be tremendous, damages and security breaches to one computer can potentially lead to meaningful financial losses throughout an entire networking community
- What will happen if your computer network goes down or is compromised?
  - What will be the consequences?
  - Have you considered the additional effects of losses to your network that could be incurred down the line?
  - The overall risk management efforts of a company must address these vulnerabilities and scenarios
    - proactively

Cyber Liability Coverage, InsureTrust (2015)

Assessment of Cyber Risk (i)

- Initial assessment
  - Of the organization's risk profile, and whether it is vulnerable to attack, is crucial
  - Consider external advice as part of the assessment
  - Reports received from external advisors should be clearly written and easily understood by all.
- Risk assessment
  - Carried out across the whole organisation, to assess the overall risk and identify specific areas at greatest risk
  - Internal functions such as HR, finance, legal and marketing may not appreciate the extent to which critical information is at risk (possibly not aware of the potential impact of a cyber attack)
- Risk assessments need to concentrate on
  - Threat to the protection of information, including customer data, and focus on the potential consequences which include losses from a substantial interruption to online transactions
  - Potential for the destruction of corporate value should not be underestimated

Assessment of Cyber Risk (ii)

- Assessment should include
  - the risks of using third party providers and the company's supply chain
  - Outsourcing can sometimes be a more secure option, but it requires thorough due diligence in advance
  - Service providers may hold a great deal of valuable company information, so adversaries can obtain information without the need to attack a company directly
  - It should be remembered that, whilst companies can outsource activities, the risks, and the consequences, remain with the company
- Risk reports and risk registers
  - provided to the board and audit committee should include full and comprehensive information
  - Reports should reflect a fuller understanding of the impact of a cyber attack, including the wider impact on future strategy
  - As with all information received by the board and board committees, the company secretary has a role in ensuring the quality and quantity of information provided on cyber risk
  - It is essential that the risk function ensures the risks identified are communicated and understood by all areas of the organisation that could be affected by the risks, and that the board's priorities for mitigating cyber risks are communicated to all business areas

Organisational Risk

Risk	Description	Potential Consequences
Design and structure—silos and knowledge distribution	Cybersecurity is structured in silos, preventing knowledge exchange.	Exposure to attacks because the majority of associates are unable to recognize attacks, cybercrime and cyberwarfare
Design and structure—overconfidence	Management misperception of factual state of cybersecurity	Underfunding, limited management attention, resulting exposure to attacks
Design and structure—interfaces	Deficiencies in cooperating to recognize and respond to attacks and breaches	Managing cybersecurity is fragmented, leaving gaps that may be exploited.
Governance, compliance and control—control deficiencies	Lack of governance and compliance provisions, insufficient cybersecurity controls	Insufficient preparation, recognition, investigation and response to attacks and breaches; increased rate of human error
Governance, compliance and control—overcontrol	Overly complex governance and compliance system, controls addressing even minute details	Rigid control structure creates opportunities for attacks and breaches.
Culture—trust	The culture of trust partially or completely negates cybercrime and cyberwarfare.	Implicit or explicit trust may be exploited in social and technical attacks.
Culture—vigilance	Individual vigilance is reduced in the context of governance, compliance and control.	Attacks and breaches may not be recognized in a timely manner.
Culture—denial	Attractiveness in terms of attacks is denied *a priori*.	Factual attacks may not be recognized or misinterpreted.

Social Risk

Risk	Description	Potential Consequences
People—skills	People have insufficient skills to understand and enact cybersecurity.	Cybersecurity concepts and actions cannot be fully implemented, leading to an increased risk of attacks and breaches.
People—rules	People are reluctant to accept and internalize cybersecurity rules.	Deficiencies, growing number of vulnerabilities and threats, more attack opportunities
People—compliance	People inadvertently or deliberately commit or allow security breaches.	Attacks induced by people-based weaknesses, collusion or internal attacks; corrupt practices; infiltration
Culture—leadership and responsibility	Personal responsibility may be diminished (or exaggerated) as a function of the prevailing style of leadership, e.g., quasi-military vs. *laissez-faire*	The under- or overemphasis on personal responsibility may lead to dysfunctional behavior and a corresponding increase in the risk of attacks or breaches.
Culture—societal context	Societal context adverse to, or largely ignorant of, cybercrime and cyberwarfare	Society at large, or general culture is not conducive to individual adoption of cybersecurity thinking.
Culture—human error	High error potential or frequency due to various factors	Attacks or breaches are more frequent due to human error.
Human factors—complexity	Cybersecurity is too complex and therefore dysfunctional.	Failures or flaws and increased attack/breach potential
Human factors—convenience	People disregard or abandon cybersecurity in favor of convenience.	Convenience-based misuse or inadequate use of IT and systems, with resulting vulnerabilities and threats
Human factors—discontinuities	Individual (management) disposition toward negating aspects of cybersecurity	Ignorance, prejudice, short-termism, storming, bounded rationality and other factors increase the risk of attacks/breaches

Risk	Description	Potential Consequences
Human factors—discontinuities	Individual (management) disposition toward negating aspects of cybersecurity	Ignorance, prejudice, short-termism, storming, bounded rationality and other factors increase the risk of attacks/breaches
Emergence—habitual behavior	Strong habits in people prevent improvements/implementation of cybersecurity.	Behavior patterns do not match the desired behavior patterns, thus increasing the security risk.
Emergence—paradigm shifts	Societal/cultural paradigms of IT use shift	Fundamental changes to the way in which IT is used increase the security risk.
Emergence—interpretive bias	Processes in cybersecurity are misinterpreted or not fully understood	Erroneous interpretation increases the number of vulnerabilities and threats.

Technical Risk

Risk	Description	Potential Consequences
Architecture—de-perimeterization	Significant parts of the IT architecture are de-perimeterized.	Decentralized, mobile and home environments are more vulnerable and less amenable to organizational control.
Architecture—third party	Parts of the IT architecture are operated by third parties (Platform as a Service [PaaS], Infrastructure as a Service [IaaS])	Cybersecurity shifts to a contractual basis (indirect control only), potentially increasing the risk of attacks and breaches.
Architecture—exposed areas	Parts of the overall architecture have a high risk/exposure to attacks and breaches.	Attacks focus on exposed areas (e.g., legacy, unpatched, dual persona use)
Application layer—cloud/Software as a Service (SaaS)	Critical applications are operated in the cloud and/or contracted as SaaS.	High risk of vendor side vulnerabilities and related attacks (see also Infrastructure—networks)
Application layer—zero-day	Zero-day exploits exist for critical applications	High risk of targeted attacks using zero-day points of entry
Application layer—malware	Applications are altered or corrupted by various types of malware.	High risk of temporary or permanent open attack vectors and related impacts (see previous)
Operating system layer—legacy	Legacy versions of operating systems are needed for certain applications.	High risk of vulnerabilities arising from expired support/lack of patches for legacy operating systems, often favored as attack vector
Operating system layer—zero-day	Zero-day exploits exist for operating systems.	High risk of attacks using zero-day points of entry
Operating system layer—security model	Operating system security model inadequate for cybersecurity	Gaps or weaknesses in the security model prevent secure configuration, high risk of known weaknesses being exploited

Risk	Description	Potential Consequences
Infrastructure—networks	Topology (wide area network [WAN]/LAN/metropolitan area network [MAN]) weaknesses and structural vulnerabilities	Parts of the combined network topology are susceptible to attacks and breaches; see also components and firmware.
Infrastructure—components and firmware	Network components and firmware contain vulnerabilities, patching may be infrequent, legacy component use	High risk of attacks based on known weaknesses in component firmware, often indirectly
Infrastructure—hardware	Hardware modification (including vendor-side)	Risk of attacks based on replaced or modified hardware, including cyberwarfare
Technical infrastructure—embedded systems	Vulnerabilities in embedded systems, hardware or software modification	High risk of attacks based on known weaknesses in embedded systems; modified embedded components may be used in cyberwarfare
Technical infrastructure—management systems	Vulnerabilities in control and management systems (e.g., SCADA)	High risk of attacks based on known weaknesses in control and management systems; APTs may be used in cyberwarfare

Cyber Risk Management Concepts (i)

- Incorporate cyber risks into existing risk management and governance processes
  - Cybersecurity is about more than implementing a checklist of requirements - Cybersecurity is managing cyber risks to an ongoing and acceptable level
- Begin cyber risk management discussions with your leadership team
  - Communicate regularly with those accountable for managing cyber risks
  - Enhance your awareness of current risks affecting your organization and associated business impact
- Implement industry standards and best practices
  - Don't rely on compliance
  - A comprehensive cybersecurity program leverages industry standards and best practices to protect systems and detect potential problems
  - It informs processes of new threats and enables timely response and recovery

Cyber Risk Management Concepts (ii)

- Evaluate and manage specific cyber risks
  - Identifying critical assets and associated impacts from cyber threats is essential to understanding an organization's risk exposure – e.g. financial, competitive, reputational or regulatory
  - Risk assessment results are essential for identifying and prioritizing specific protective measures, allocating resources, informing long-term investments, and developing policies and strategies to manage cyber risks
- Provide oversight and review
  - Executives are responsible for managing and overseeing enterprise risk management
  - Cyber oversight activities include the regular evaluation of cybersecurity budgets, IT acquisition plans, IT outsourcing, cloud services, incident reports, risk assessment results, entity-level policies etc.

Cyber Risk Management Concepts (iii)

- Develop and test incident response plans and procedures
  - Even a well-defended organization will experience a incident at some point
  - When you have a breach, a CEO should be prepared to answer 'What is our Plan B?‘
  - Cyber incident response plans should be exercised regularly
- Coordinate cyber incident response planning across the enterprise
  - Early response actions can limit or even prevent possible damage and require coordination
    - with your organization’s leaders and stakeholders
  - This includes your Chief Information Officer, Chief Information Security Officer, Chief Security Officer, business leaders, continuity planners, system operators, general counsel, public affairs, and human resources
  - Integrate cyber incident response policies and procedures with existing disaster recovery and business continuity plans
- Maintain awareness of cyber threats
  - Situational awareness of an organization’s cyber risk environment involves timely detection of cyber incidents, along with the awareness of current threats and vulnerabilities specific to that organization and associated business impacts
  - Analyzing, aggregating, and integrating risk data from various sources and participating in threat information sharing with partners helps organizations identify and respond to incidents quickly and helps organizations to ensure that protective efforts are commensurate with the risks

- *Cyber Risk Management Primer for CEOs*, US Department of Homeland Security (2015)

Questions for Boards and CEOs

Protection of key digital assets is critical

Explore who might compromise your digital assets and why is critical

- Do you receive regular intelligence from the CIO/CISO on attackers, methods and motivations?
- Do you encourage technical staff to exchange information with other companies in the same sector in order to benchmark/learn and identify?

Proactive management of cyber risk at board level is critical

- Are key information assets assessed for vulnerability?
- Is cyber risk responsibility allocated appropriately?

Cyber Risk Management – A Board Level Responsibility, Department for Business Innovation and Skills (2012)

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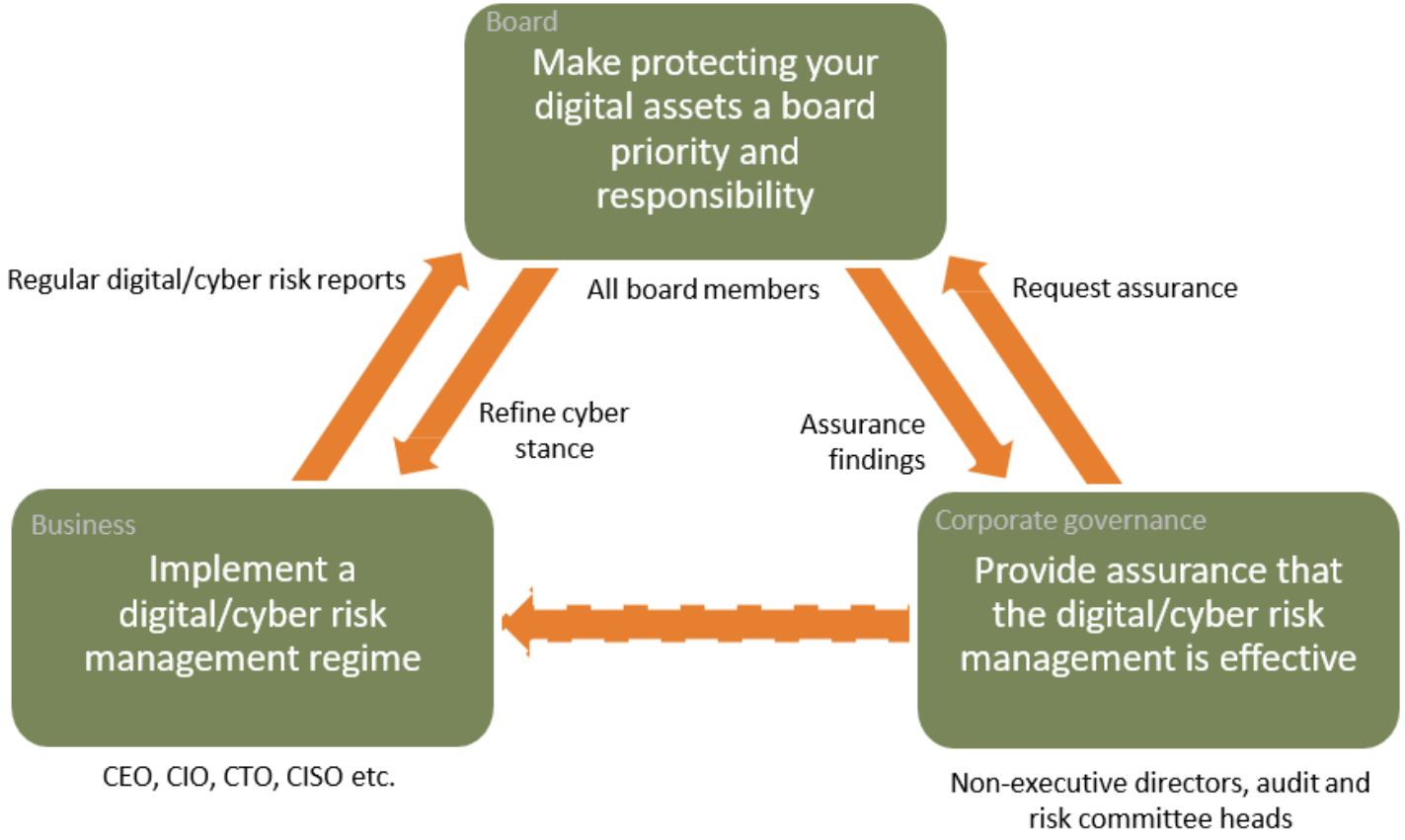
Corporate Governance of Cyber Risk



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Cyber Governance …

- Is both preventive and corrective
- Determines the processes, procedures and structures needed to deal with actual incidents
- Cyber governance principles and provisions must be reasonably flexible
  - Allow for the fact that attacks are often unconventional
  - Generally against the rules, and most often designed to circumvent exactly those procedures and common understandings within the enterprise that keep the business

Cyber Governance …

- ✓ Internal controls testing
- ✓ Cybersecurity compliance
- ✓ Formal risk acceptances
- ✓ Investigation/forensics

- ✓ Threats, vulnerabilities, risk
- ✓ Formal risk evaluation
- ✓ Business impact analysis (BIA)
- ✓ Emerging risk

- ✓ Control self-assessments (CSAs)
- ✓ Attack/breach penetration testing
- ✓ Functional/technical testing
- ✓ Social/behavioural testing
- ✓ Regular management review

Cyber Risk Governance Framework

- The foundation of a cyber resilient organization is a cyber risk governance framework that is
  - Built into the larger enterprise-wide risk management framework
  - Covers the organization's day-to-day activities
- Cyber resilient organizations are those that have
  - Cyber risk expertise within their senior management ranks and their boards
  - A detailed action plan to respond to cyber events (e.g., attacks, system breaches, etc.)

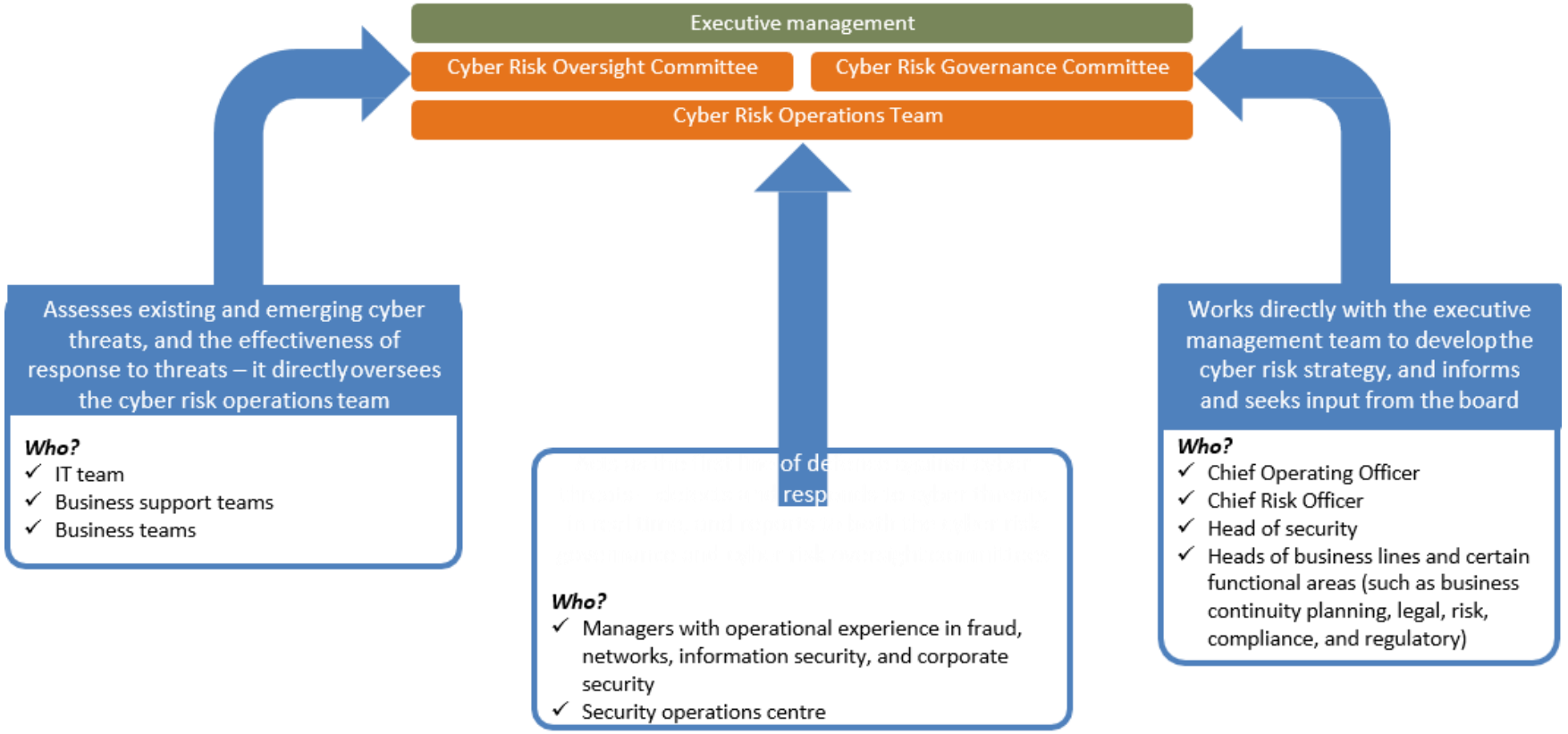
Cyber Risk Governance

An effective risk governance framework should include:

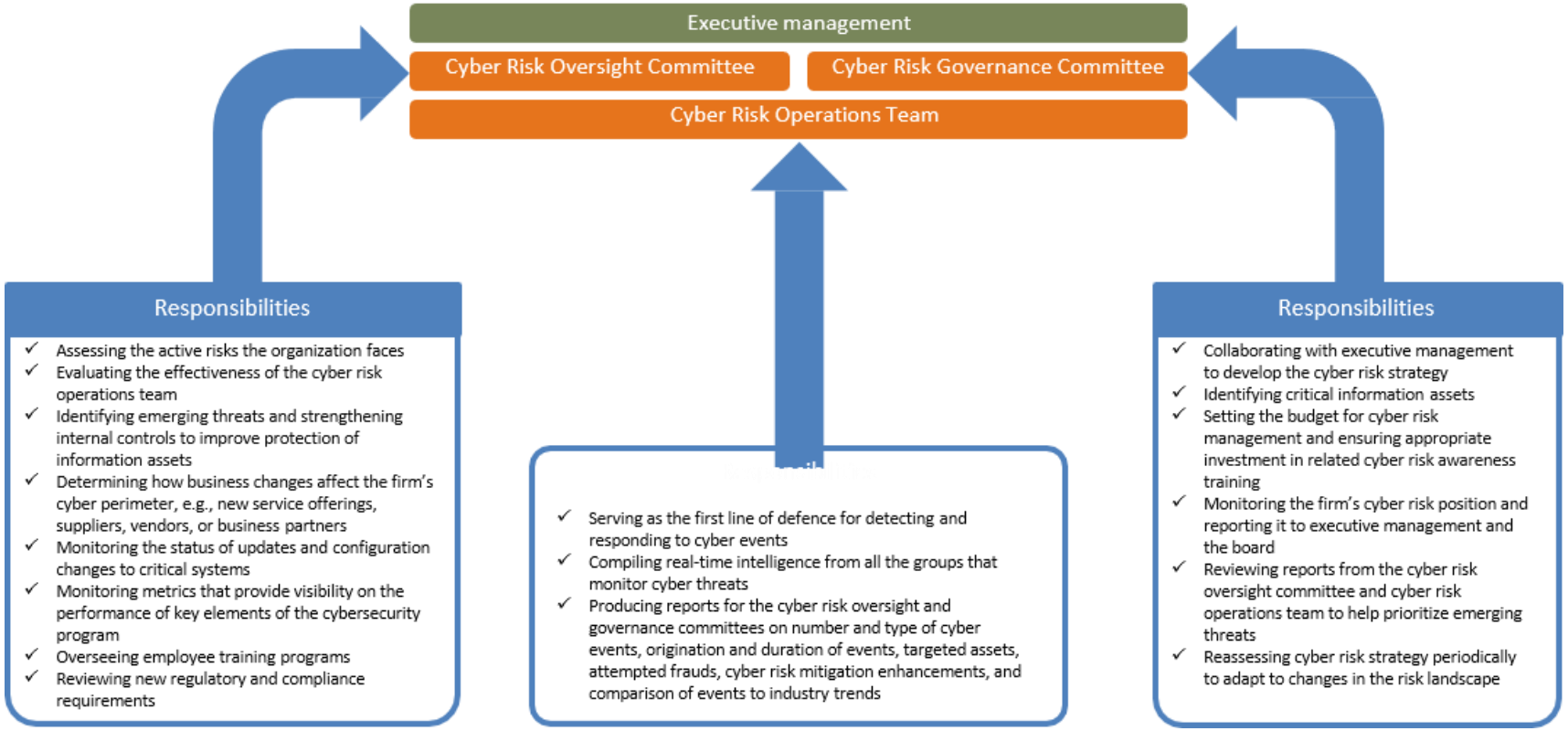
- ✓ a cyber risk governance committee
- ✓ a cyber risk oversight committee, and
- ✓ a cyber risk operations team

Each of these should have clear accountabilities, responsibilities, operating processes, and reporting lines

Cyber Risk Governance Roles



Cyber Risk Governance Responsibilities



Cyber Risk Oversight Principles

Principle 1: Directors need to understand and approach cybersecurity as an enterprise-wide risk management issue, not just an IT issue

Principle 2: Directors should understand the legal implications of cyber risks as they relate to their company's specific circumstances

Principle 3: Boards should have adequate access to cybersecurity expertise, and discussions about cyber-risk management should be given regular and adequate time on the board meeting agenda

Principle 4: Directors should set an expectation that management establish an enterprise-wide cyber-risk management framework with adequate staffing and budget

Principle 5: Board-management discussions about cyber risk should include identification of which risks to avoid, accept, mitigate, or transfer through insurance, as well as specific plans associated with each approach

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Director's Handbook on Cyber-Risk Oversight, NACD (2014)

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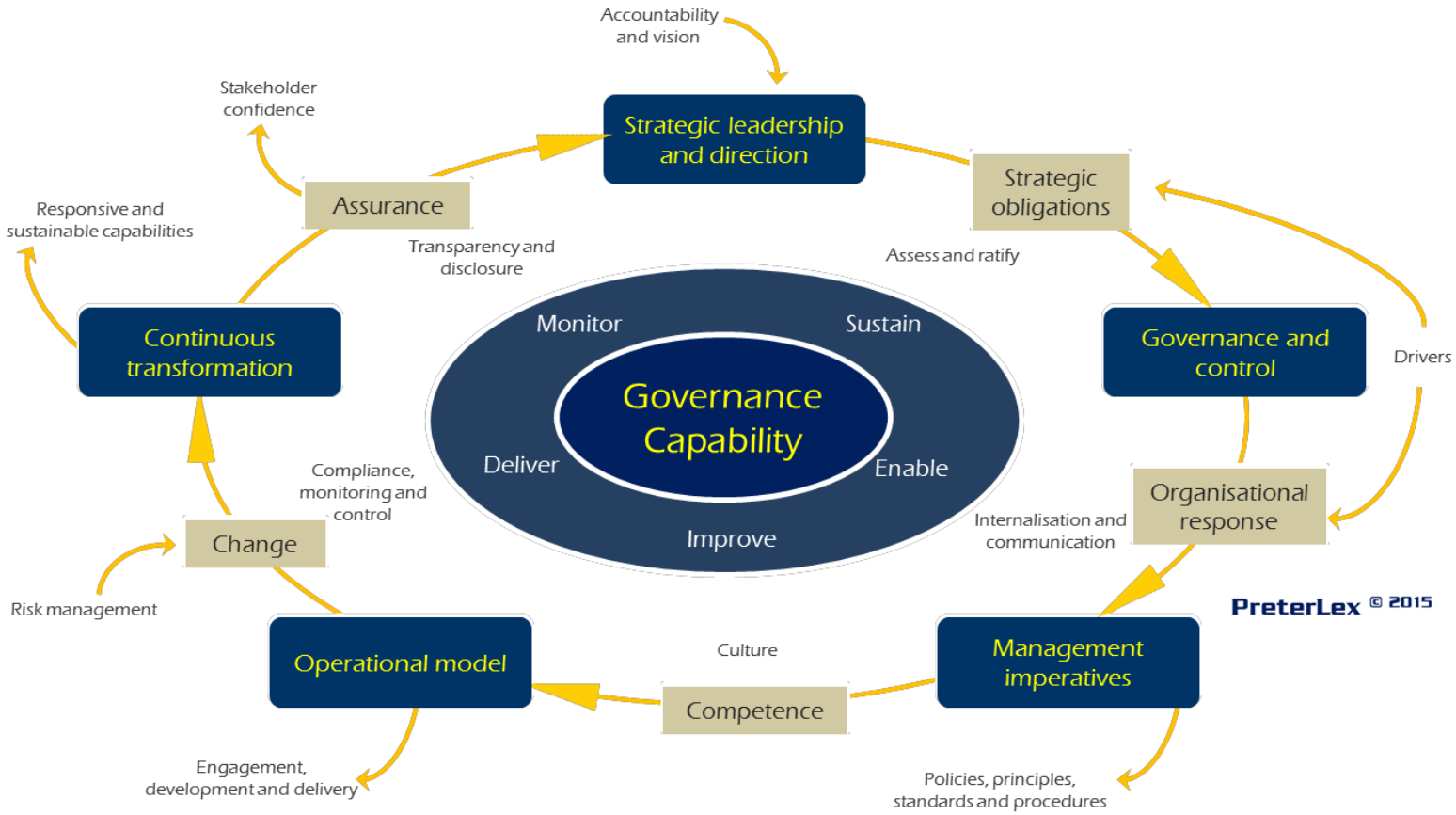
Enterprise Risk Management Academy

Cyber Governance Lifecycle Considerations



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The PRECIOUS Way To Cyber Security

- Priorities and Strategies Setting
- Risk Evaluation
- Cyber Risk Management Program
- Implementation and Organization
- Upgrading and Strengthening

The Social Media GAME

- **G**oals
- **A**udience
- **M**essage
- **E**nablers

In dealing with people, let us ENLIGHTEN

- **E**ngage
- **N**onpartisan
- **L**isten
- **I**nvestigate
- **G**ratitude
- **H**umility
- **T**ruth
- **E**mpathy
- **N**ationhood

Salamat Kaayo!

Thank you!

Salamat!

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