FIT1049: IT professional practice

Week 11: IT security

Things to cover today…

At the end of this lecture, you will broadly understand:

1. Types of IT security breaches and vulnerability (including reliability issues) and their impacts on societies and organisations;
2. How the risks for the above IT security issues could be managed organisationally; and
3. The basic process of crisis management in case of a security breach in an organisation.

IT/data security breach: A matter of ‘when’ not ‘if’

Home > Security

OPINION

Top cybersecurity facts, figures and statistics for 2018

Some hard numbers from studies and surveys give you a sense of the state of cybersecurity.

By Josh Fruhlinger

CSO | OCTOBER 10, 2018 09:52 AM PT

11 top cybersecurity statistics at-a-glance

- 90% of remote code execution attacks are associated with cryptomining.
- 92% of malware is delivered by email.
- 56% of IT decision makers say targeted phishing attacks are their top security threat.
- 77% of compromised attacks in 2017 were fileless.
- The average ransomware attack costs a company $5 million.
- It takes organizations an average of 191 days to identify data breaches.
- 69% of companies see compliance mandates driving spending.
- 88% companies spent more than $1 million on preparing for the GDPR.
- 25% of organizations have a standalone security department.
- 54% of companies experienced an industrial control system security incident
- 61% of organizations have experienced an IoT security incident

(Fruhllinger, 2018)

(Sobers, 2019; also see the rest of the infographic too…)

Common causes of IT/data security breach

- Natural and other large-scale disasters
- Human errors (including loss of assets)
- Technical vulnerabilities
- Physical theft and human espionage
- 'Cyberattacks'

(Patterson, 2018)

(OAIC, 2018; reported causes of data breach, based on NDBS data)

Motivations behind deliberate IT/data security breach

Personal satisfaction

Politically or ethically motivated (including whistleblowers)

Financial gains

Competitive advantage

Social engineering for political and social influences

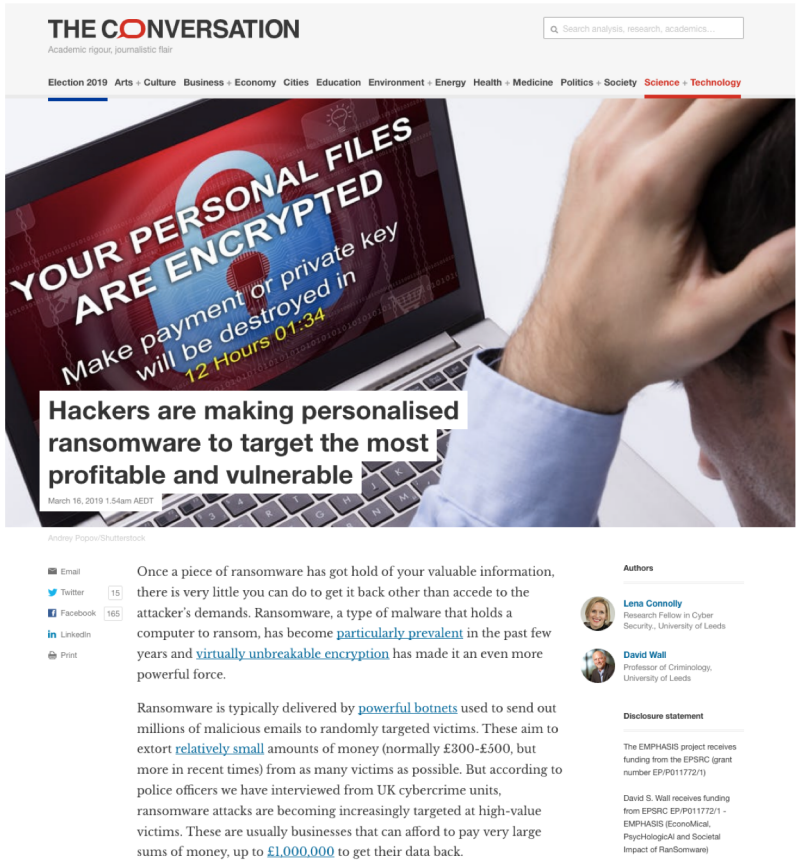
Potential consequences and impacts

Financial loss

Destruction of/disruption to the critical infrastructure

Loss of trust, reputation and public confidence

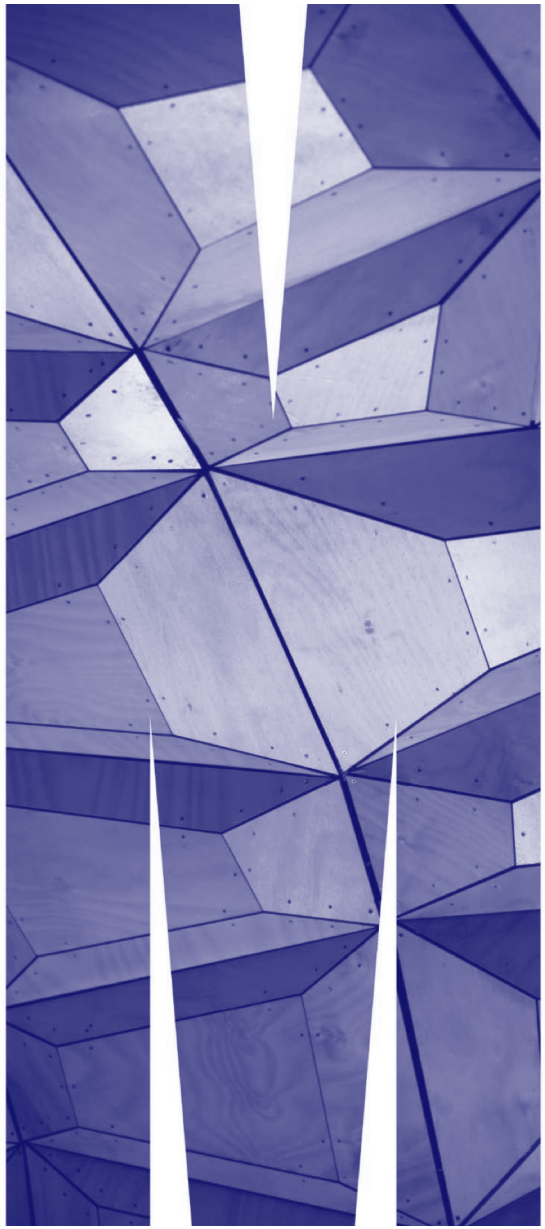
Compromise of social orders



(Connolly & Wall, 2019)

FIT1049: IT professional practice

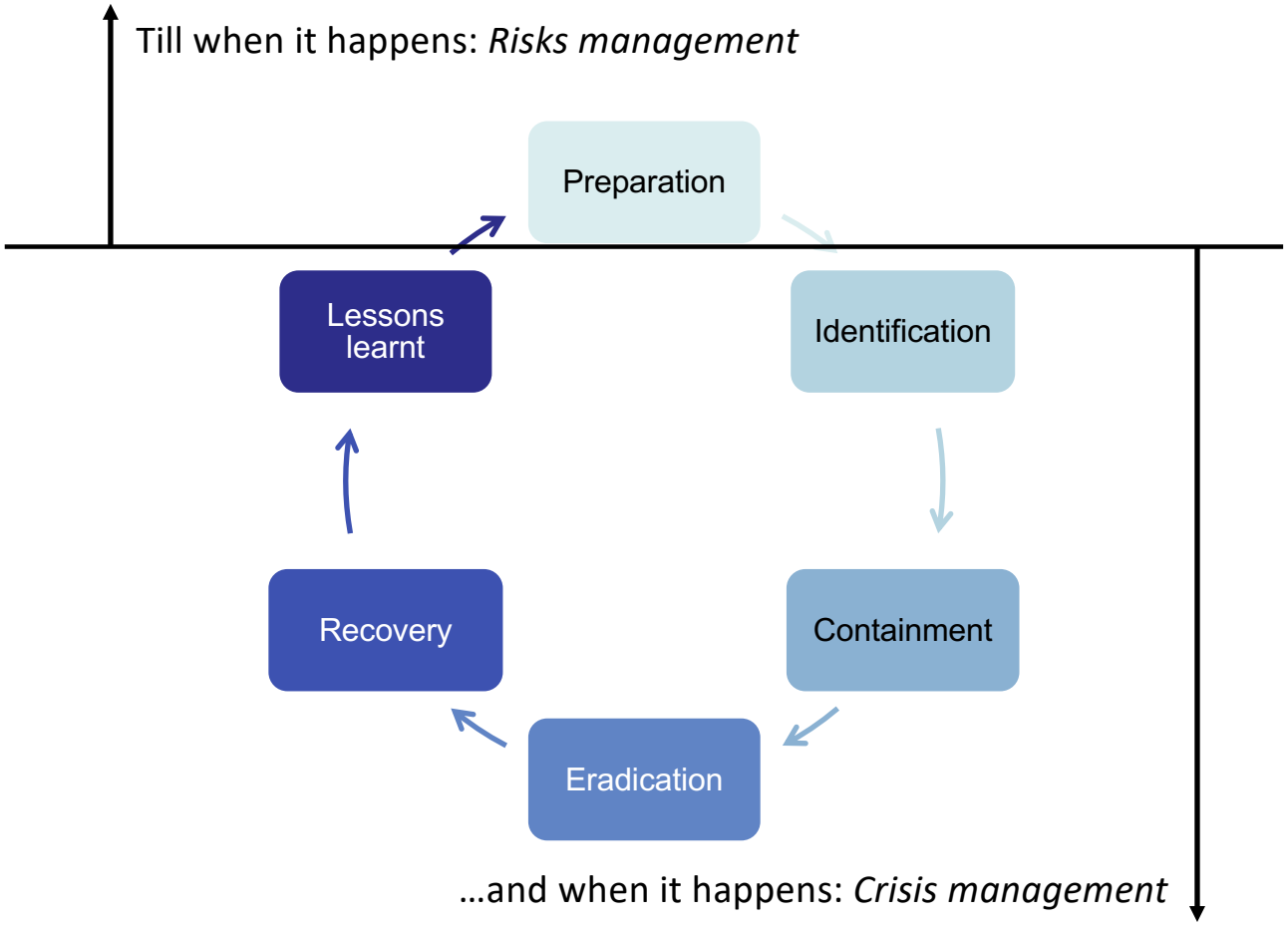
Week 11 (alt.): How to protect your organisation (and you cannot do it alone)



MONASH University

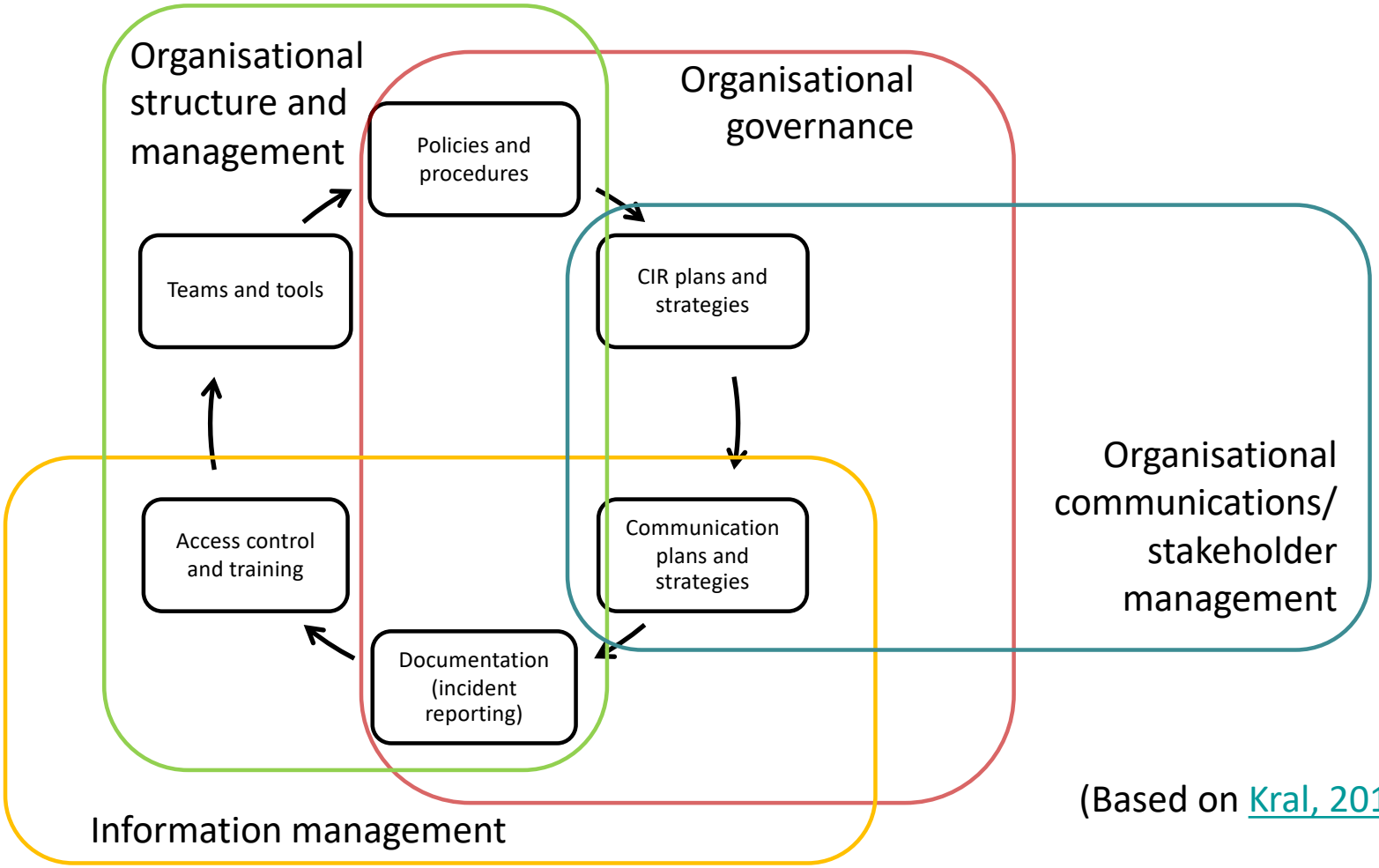
GROUP OF EIGHT AUSTRALIA

Risks and crisis management



(Based on Kral, 2012)

‘Preparation’ as risks management



(Based on Kral, 2012)

Organisational governance and IT security

What are the risks?
What is considered as an incident?

Who is accountable?
Who to involve?
Who to inform?
How to respond?

Guess who?

78,000+ clients

18,000+ staff

$2.5bn+ revenue

International presence across five countries spread over three continents

You probably heard about this organisation…

Monash University Policy

Policy Title	ICT Security and Risk Policy
Date Effective	01-August-2014
Review Date	01-August-2017
Policy Owner	Chief Information Officer
Category	Operational
Version Number	1.1
Content Enquiries	IT Service Desk - http://monash.edu/esolutions/contact/
Scope	• All Australian campuses • All staff, students and other Authorised Users
Purpose	To apply proportionate and effective management of ICT security risks throughout Monash University to enable the conduct of the University's business and necessary protection of the University's people, information and assets. To authorise the establishment of an IT Security and Risk Steering Committee and the Information Security Management System (ISMS).

POLICY STATEMENT

The Chief Information Officer is authorised to develop and implement ICT Security related Procedures, and the University Information Security Management System (ISMS).

The University's Information Security Management System (ISMS) will ensure sufficient and proportionate security controls are implemented to adequately protect information assets. The ISMS is part of an overall management system, based on a business risk approach which includes organisational structure, policies, planning activities, responsibilities, practices, procedures, processes and resources.

The Chief Information Officer is responsible for assessing and monitoring the university's IT risk profile, ensuring active management of the IT risk register and related controls.
The IT Security and Risk Steering Committee will maintain oversight of the university's IT risk profile, and ICT Security related procedures and systems.

This policy applies to all Authorised Users of Monash University in their use of ICT Facilities and Services.

The University reserves the right to access, review and monitor Monash ICT Facilities and Services, and the University reserves the right to remove access or disconnect systems and services where risk is identified to the University.

Associated Framework: ICT Security and Risk Framework

Supporting Procedures	ICT Security Procedures
Responsibility for implementation	Chief Information Officer
Status	Revised

Approval Body	**Name**: Chief Operating Officer and Senior Vice-President (Administration) **Meeting**: n/a **Date**: 01-August-2014 **Agenda item**: n/a
Endorsement Body	**Name**: Chief Information Officer **Meeting**: n/a **Date**: 01-August-2014 **Agenda item**: n/a
Definitions	**Authorised Users**: All people authorised to use the ICT Facilities and Services for any purpose, including but not limited to students, staff, visitors to the University, members of partner organisations, staff of any entity/company in which Monash has an interest, honorary and adjunct appointees, contractors, alumni and users accessing via a federated access pathway. **Authorised Staff**: All people authorised by the CIO to monitor accounts, files, stored data and network data, and to disconnect IT equipment in the event of an IT security breach. Normally eSolutions Division staff. **CIO**: Chief Information Officer **ICT**: Information and Communications Technology **ICT Facilities and Services**: Shall include but not be limited to: all University-owned computers and associated ICT networks, internet access, email, hardware, data storage, computer accounts, software (both proprietary and those developed by the University) and telephony services; any computer or device owned or operated by someone other than the University when connecting to the University information network or being used for University Business; any computer account, software or information provided or created for University Business; all physical spaces using ICT and designated for teaching, study, research and administration across the University; ICT services provided by third parties that have been engaged by the University, including any hosted or similar service through which University information is stored or services are provided to enable Users to undertake University Business; and ICT services made accessible to Monash users through federated access arrangements. **ISMS**: Information Security Management System – set of standards-based documents that govern operation of the key information security management functions. The ISMS is that part of the overall management system, based on a business risk approach, to establish, implement, operate, monitor, review, maintain and improve information security. **Monitoring**; To Monitor: Tasks (including testing and scanning) undertaken by Authorised Staff to ensure maintenance of security of ICT services and systems **University**: Monash University **University Business**: Any activity conducted either in the course of employment or as part of or related to a University course or other University activity that is not purely personal.
Legislation Mandating Compliance	Information Privacy Act 2000 (Vic) - note Information Privacy Principles within the Act (Section 14 and Schedule 1) Privacy Act 1988 (Commonwealth) Privacy Amendment (Enhancing Privacy Protection) Act 2012 (Commonwealth) Health Records Act 2001 (Vic) - note Health Privacy Principles within Act (Section 19 and Schedule 1) Higher Education Support Act 2003 (Commonwealth) - note Part 5-4 Management of Information, and specifically section 179-10 Use of Personal Information

	Education Services for Overseas Students Act 2000 (Commonwealth) - specifically The National Code 2007, Standard 3.1(d) Epidemiological Studies (Confidentiality) Act 1981 (Commonwealth) - where relevant to a research project (needed) Monash University (Council) Regulations Part 7 Monash University (Vice-Chancellor) Regulations Part 5 Monash University Statute
Related Policies	ICT Security and Risk Framework Electronic Information Security Policy Social Media Policy Acceptable Use of Information Technology Facilities by Students Policy Information Technology Use Policy - Staff & Other Authorised Users
Related Documents	Conduct and Compliance Procedure - Staff Use of Social Media Conduct and Compliance Procedure - Provision of University IT Equipment and Communication Facilities to Staff Conduct and Compliance Procedure - Privacy

(Monash University, 2017a)

ICT Security and Risk Framework

Parent Policy
ICT Security and Risk Policy

Definitions

Scope
All Australian campuses

Version Number
1.0

Effective Date
10/08/2015

Table of Contents

(Monash University, 2019a)

10. Information Security Incident Management

Operational Responsibilities:

Responsibility	Scope
IT Security and Risk Manager	Security related aspects of incident management
Service Management Office Manager	IT incident management

Objective: To ensure a consistent and effective approach to the management of information security incidents, including communication on security events, threats and vulnerabilities, as part of an overall incident management process. #ISO27002.2013:16.1

10.1 Information Security Incident Management

10.1.1 Responsibilities and Procedures

C110 Incident management responsibilities and procedures shall be developed, maintained and implemented, and include effective, risk-based response to information security incidents, in consideration of the University's electronic information security classification. #ISO27002.2013:16.1.1, #LSA:14.6

10.1.2 Reporting Events and Weaknesses

C111 Any suspected or actual information security event, weakness, and technology risk related event shall be reported through approved procedures as quickly as possible. #ISO27002.2013:16.1.2, #ISO27002.2013:16.1.3, #LSA:3.7, #LSA:14.6

10.1.3 Assessment and Response

C112 Information security events, weaknesses, and ICT risk related events shall be risk assessed. Information security incidents shall be classified based on approved, risk-based criteria and the incident management priority matrix. #ISO27002.2013:16.1.4, #LSA:14.6

C133 Information security incidents shall be responded to in accordance with the approved incident response procedures. #ISO27002.2013:16.1.5, #LSA:14.6

10.1.4 Learning From Incidents

C114 Incident management procedures shall include the use of a post-incident review process, and the knowledge gained from analysing and resolving information security incidents shall be used to reduce the likelihood or impact of future incidents. #ISO27002.2013:16.1.6

10.1.5 Collection of Evidence

C115 Evidence shall be identified, collected, acquired, and preserved according to established, documented, and maintained procedures, in consideration of The University's electronic information security classification. #ISO27002.2013:16.1.7

Federal Agency Incident Categories

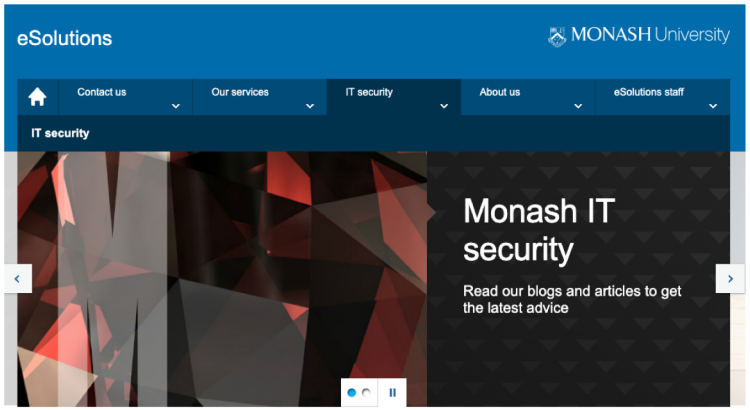
Category	Name	Description	Reporting Timeframe
CAT 0	Exercise/Network Defense Testing	This category is used during state, federal, national, international exercises and approved activity testing of internal/external network defenses or responses.	Not Applicable; this category is for each agency's internal use during exercises.
CAT 1	*Unauthorized Access	In this category an individual gains logical or physical access without permission to a federal agency network, system, application, data, or other resource	Within one (1) hour of discovery/detection.
CAT 2	*Denial of Service (DoS)	An attack that *successfully* prevents or impairs the normal authorized functionality of networks, systems or applications by exhausting resources. This activity includes being the victim or participating in the DoS.	Within two (2) hours of discovery/detection if the successful attack is still ongoing and the agency is unable to successfully mitigate activity.
CAT 3	*Malicious Code	*Successful* installation of malicious software (e.g., virus, worm, Trojan horse, or other code-based malicious entity) that infects an operating system or application. Agencies are NOT required to report malicious logic that has been *successfully quarantined* by antivirus (AV) software.	Daily
CAT 4	*Improper Usage	A person violates acceptable computing use policies.	
CAT 5	Scans/Probes /Attempted Access	This category includes any activity that seeks t access or identify a federal agency computer, open ports, protocols, service, or any combination for later exploit. This activity does not directly result in a compromise or denial of service.	
CAT 6	Investigation	*Unconfirmed* incidents that are potentially malicious or anomalous activity deemed by the reporting entity to warrant further review.	

**Defined by NIST Special Publication 800-6*

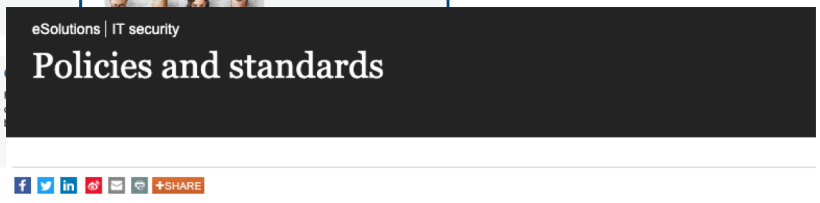
(InfoSecNirvana, 2015)

(InfoSecNirvana, 2015)

Incident Category	Description
Denial of service	DOS or DDOS attack.
Forensics	Any forensic work to be done by CSIRT
Compromised Information	Attempted or successful destruction, corruption, or disclosure of sensitive corporate information or Intellectual Property.
Compromised Asset	Compromised host (root account, Trojan, rootkit), network device, application, user account. This includes malware-infected hosts where an attacker is actively controlling the host.
Unlawful activity	Theft / Fraud / Human Safety / Child Porn. Computer-related incidents of a criminal nature, likely involving law enforcement, Global Investigations, or Loss Prevention.
Internal Hacking	Reconnaissance or Suspicious activity originating from inside the Company corporate network, excluding malware.
External Hacking	Reconnaissance or Suspicious Activity originating from outside the Company corporate network (partner network, Internet), excluding malware.
Malware	A virus or worm typically affecting multiple corporate devices. This does not include compromised hosts that are being actively controlled by an attacker via a backdoor or Trojan. (See Compromised Asset)
Email	Spoofed email, SPAM, and other email security-related events.
Consulting	Security consulting unrelated to any confirmed incident.
Policy Violations	Sharing offensive material, sharing/possession of copyright material. Deliberate violation of InfoSec policy. Inappropriate use of corporate asset such as computer, network, or application. Unauthorized escalation of privileges or deliberate attempt to subvert access controls



(Monash University, 2019b)



Information security guidelines

- Application Security Guideline
- Change Management Guideline
- Cryptography Guideline
- Digital Backup Guideline
- Information Handling Guideline
- IT Disaster Recovery Guideline
- IT Third-Party Management Guideline
- Minimum Security Standards
- Platform Security Guideline
- Security Incident Management Guideline
- User Access Control Guideline
- Vulnerability Management Guideline

(Monash University, 2019c)

Monash University Standard

Standard Title	Information Handling Standard
Parent Procedure	Electronic Information Security Minimum Security Controls Procedure
Date Effective	01 Sep 2017
Review Date	01 Mar 2022
Version Number	1.0
Purpose	The purpose of this standard is to provide the minimum guidelines for the labeling, handling, retention and destruction of Monash University owned or managed information.
STANDARD STATEMENT	

1. General Requirements

All Staff:

1.1. Must access, use, store and disseminate information based on its classification (See Monash Electronic Information Security- Minimum Security Controls Procedure)

1.2. Must lock all devices when not in use.

1.3. Must remain at the printer while Critical or Protected documents are printed.

1.4. Must not email Critical, Protected or Restricted information to personal email addresses.

1.5. Must only use authorized file sharing services (Google Drive, CloudStor).

1.6. Must prevent unauthorised access to Critical and Protected information when stored outside of Monash University's networks or systems.

1.7. Must use an approved encryption method when protecting all information.

1.8. Must securely destroy information when it is no longer required for organizational, legal or regulatory use.

1.9. Must use acceptable information destruction methods (incinerating, shredding, physical destruction, disk wipes etc…)

1.10. Must ensure contracts are in place prior to providing Critical, Protected or Restricted information to any third parties.

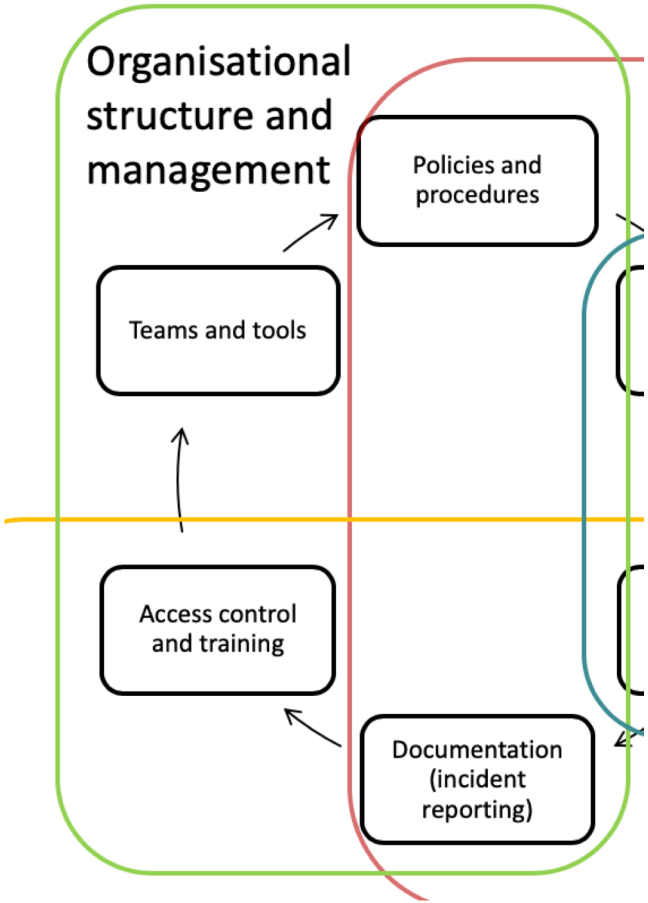
(Monash University, 2017b)

Management structure and IT security

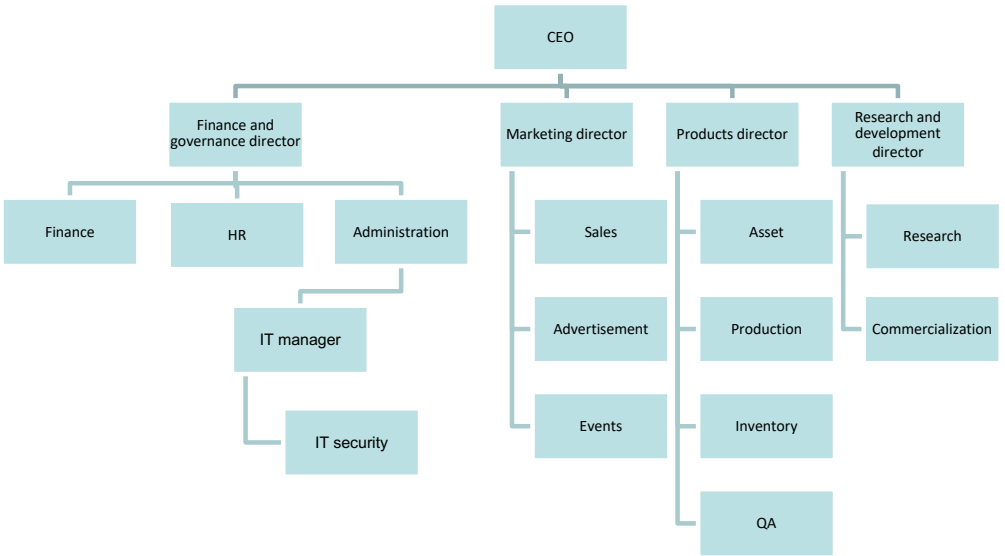
How is IT security positioned in the organisaiton?
Do they have sufficient authority?

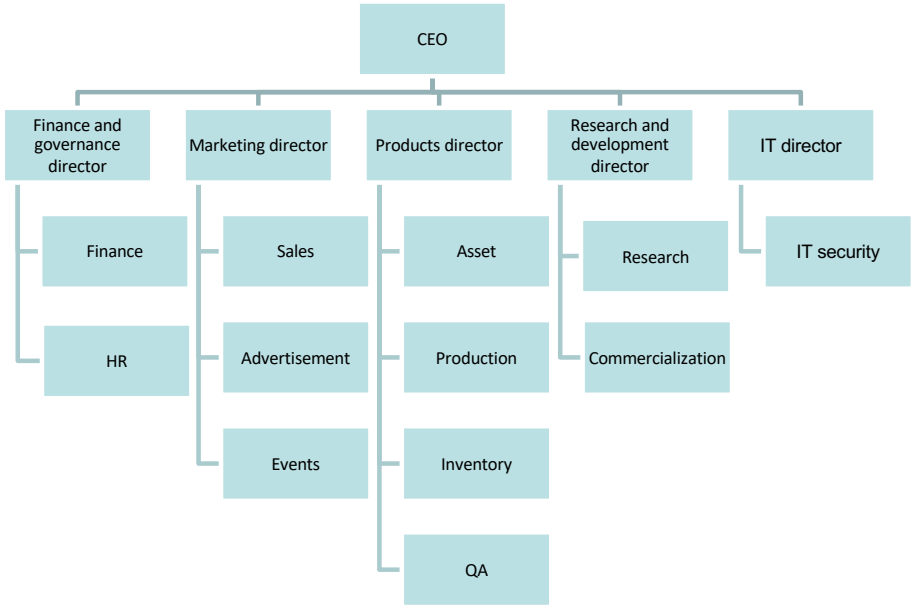
Is IT (security) resourced adequately?

Is the governance functioning?



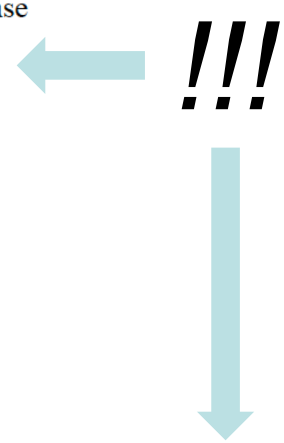
Spot the difference?





Jump Bag Recommendations:

- Incident Handlers Journal to be used for documenting the who, what, where, why, and how during an incident.
- Contact list of all CIRT members.
- USB Drives.
- A bootable USB drive or Live CD with up-to-date anti-malware and other software tools that can read and/or write to file systems of the computing environment that the incident response is to be performed in. One example is that of the Bart's PE disk for Windows XP (or later) environments.
- A laptop with forensic software (e.g. FTK or EnCase), anti-malware utilities, and internet access (if necessary for researching solutions or downloading tools).
- Computer and network tool kits to add/remove components, wire network cables, etc.
- Hard duplicators with write-block capabilities to create forensically sound copies of hard drive images.
- A bag that properly store all of the aforementioned tools in an organized and protective fashion.



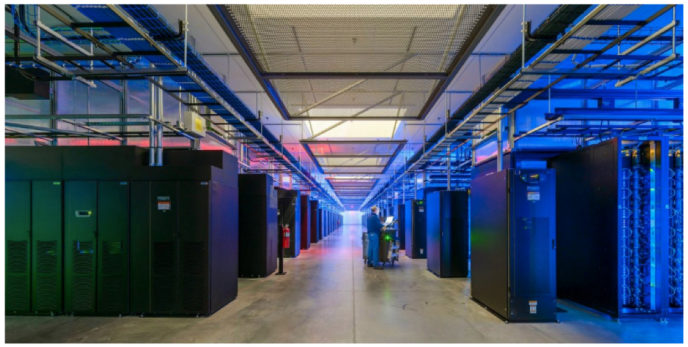
(Kral, 2012)

TECH INSIDER

Peek inside Facebook's massive data centres that store all your photos, 'likes,' and chats

JILLIAN D'ONFRO
SEP 19, 2015, 6:45 AM

FACEBOOK TWITTER REDDIT LINKEDIN EMAIL



Alan Brandt

If you open Facebook on your phone for 30 seconds, you're activity likely touches over 1,000 servers.

Much of that "magic" happens in the social network's own massive data centres.

Since 2011, Facebook has built four centres in Oregon, Iowa, North Carolina, and Sweden with innovative, environmentally-conscious designs that it has made available to the public through its Open Compute Project.

(D'onfro, 2015)

COMPUTERWORLD
FROM IDG

NEWS TECHNOLOGY TOOLS WHITEPAPERS

How Microsoft's secret-level DC bolsters open source

Microsoft Azure's new Canberra region is about much more than public sector workloads with secret-level protection: it also adds strength to Australia's open source hosting capability.

Red Hat and Microsoft
21 September, 2018 09:00

Microsoft recently cut the ribbon on its two new Azure data centres in the Canberra suburbs of Fyshwick and Hume, bringing its global region count to 54.

The operation, opened in April, has the strongest physical security anywhere in Australia – so hardened, in fact, that it can house government 'secret' level information within the walls.

That is the physical walls and biometrics side of it; on the services side, the Australian Signals Directorate put Microsoft through the wringer and assessed 35 Azure services across the Australian region as fit to be qualified to meet the coveted "PROTECTED" classification.

(ComputerWorld, 2018)

Extreme resilience, even within Australia

Microsoft and Red Hat are proud of the two Canberra data centres' extreme resilience characteristic. They are designed to meet the Australian Government's needs and work alongside the Sydney and Melbourne data centres.

"However, what's really unique about Azure, which our competitors can't match," Carter says, "is that we're not dependent on Sydney.

"For customers that have extraordinarily sensitive workloads that they want to move to the cloud and have the ability to deploy it in a high availability, disaster tolerant way, they can deploy it into Canberra DC1 and 2 ([Australia Central Region 1 and 2] and then replicate it to Sydney and Melbourne. They then have four geographically dispersed regions that their application can be run from. There are 35 Azure services they can consume within the overall Australian region which are certified for Protected Status.

"With our competitors, if you had a natural or man-made disaster in Sydney, it would be difficult for them to replicate their clients' data out. With Azure, we have the ability to serve customers from geographically dispersed regions within the same country."

THE AGE

BUSINESS THE ECONOMY ENERGY

Data centre power use greater than Woolworths, Coles combined

By Cole Latimer
23 September 2018 — 4:07pm

A A A

21 View all comments

Australia's obsessions with social media and search engines, alongside a cloud computing drive from corporations, is powering the growth in energy intensive data centres, which now use as much energy as regional cities.

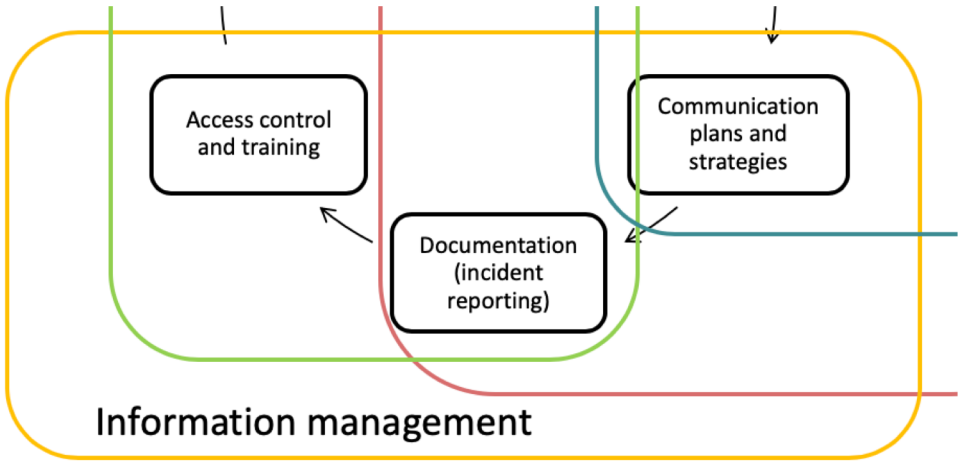
Deon Newman, vice-president of strategy for IBM Asia Pacific, explained that the world is creating more information every day than humanity did over the course of a century.

(Latimer, 2018)

Information management and IT security

Are staff aware of IT security risks and threats?
Do they report the incidents?

Do they know what to do when they noticed any threats?
Do they know only what they should know?
Can they keep secrets?



Question 1: Recognising the risks 1

You are engaged as a programmer in a project that is highly confidential within your organisation. Which one of the following is NOT an effective strategy to maintain the secrecy of this project? (No need to go to FLUX today…)

1. Implement a set of strict protocols that define who could access which information.
2. Have the anti-eavesdropping physical facilities specifically for the project in a secret location.
3. Give a codename for the project so that others won't know what you are talking about.

Question 2: Recognising the risks 2

Bianca is a security analyst in an IT consulting firm, and over last two weeks she went through hundreds of emails employees of the client's company sent using the company's email system. This work was conducted in order to identify inappropriate use of the company's emails, and she naturally had to read some emails that included the employees' personal information and/or some personal photos of the employees, some of which were rather compromising for these individual employees. Bianca found some of the things people write in their emails rather funny, and posted on her personal blog called 'The secret life of an IT security analyst' an article about these 'embarrassing' emails however de-identified. What kind of risks can you see?

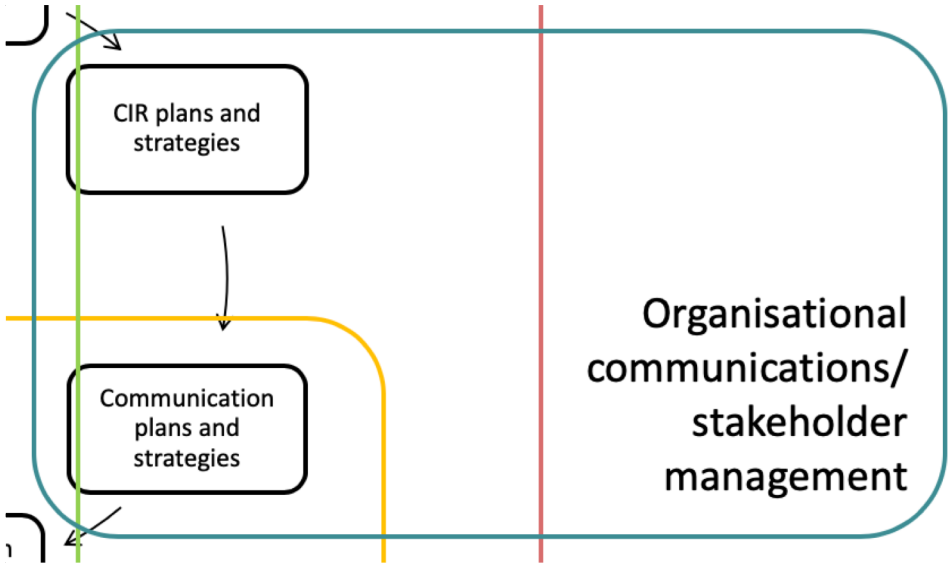
Organisational communications and IT security

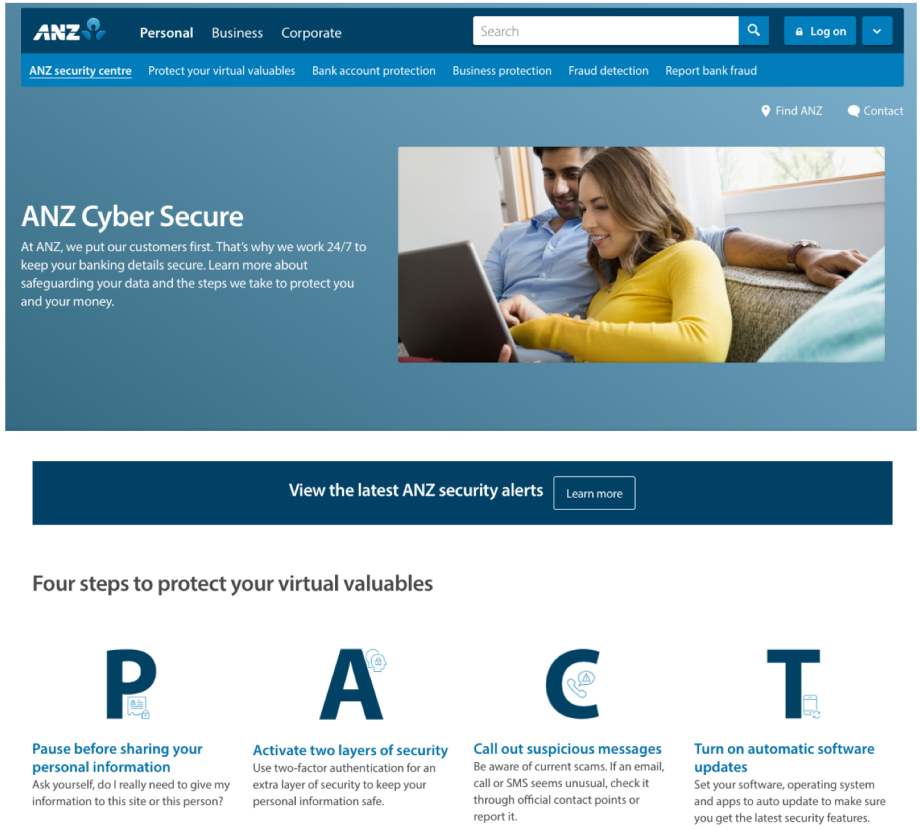
What do we tell?

How and when do we tell?

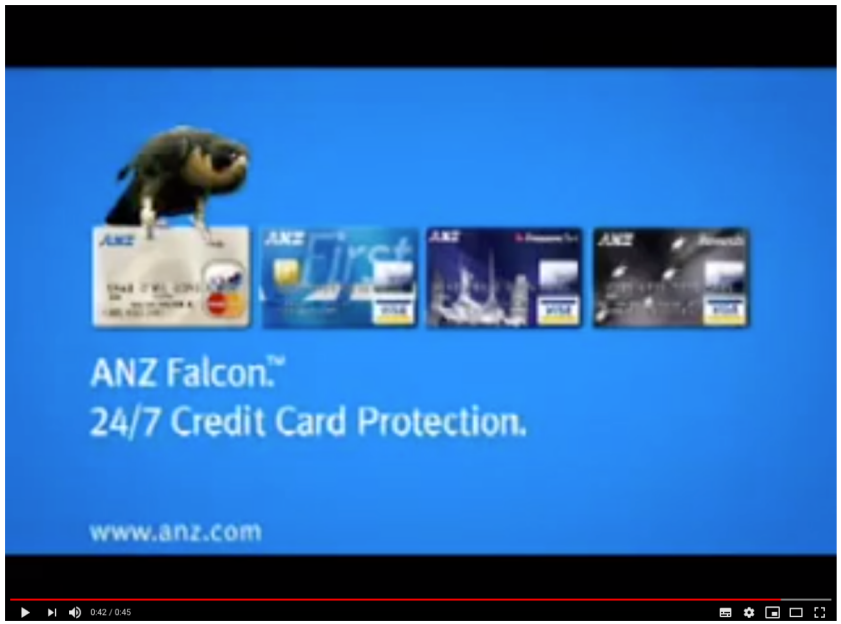
How do we know that they heard?

How do we know that they actioned?





(ANZ, 2019)



(ANZ, 2015; on YouTube)

We protect you online with industry-leading security.

Everything that we make is protected with powerful built-in security technologies that help detect and block threats such as spam, malware and viruses from ever reaching you. And we share these security technologies with partners and competitors alike, raising industry standards that help keep everyone safer online.

BUILT-IN PROTECTION

Building protection into everything that we make

Google services are continuously protected by one of the world's most advanced security infrastructures. This built-in security detects and prevents online threats, so you can be confident that your personal information is secure.

Learn more

SECURITY LEADERSHIP

Collaborating to strengthen security across the Internet

Google has a long history of openly sharing our security learning, experiences and technologies with partners, competitors and organisations around the world. And as security threats evolve, this continuous industry-wide collaboration is critical to protecting users and helping to create a more secure Internet together.

Learn more

SECURITY TIPS

Tips to help you stay more secure online

We've put together some quick tips and best practices for you to create stronger passwords, protect your devices, avoid phishing attempts and browse the Internet securely.

Learn more

(Google, 2019a)

(Google, 2019b)

Help Center | Community

'Suspicious sign in prevented' email

If you've received a 'suspicious sign in prevented' email from Google, it means we recently blocked an attempt to access your account because we weren't sure it was really you. To help protect your account, we send you an email when we notice unusual sign-in activity, like an attempt to sign in from a different location or device than normal.

How do I know this email is really coming from Google?

Unfortunately, sometimes hackers try to copy the "suspicious sign in prevented" email to steal other people's account information. Always be wary of messages that ask for personal information like usernames, passwords, or other identification information, or send you to unfamiliar websites asking for this information.

To be safe, if you get an email from Google notifying you about suspicious activity, follow the directions below to check for suspicious account activity and change your password if you notice anything unfamiliar.

Check for suspicious account activity

If you've received this email, we recommend you review your recent activity:

1. Go to your Google Account .
2. On the left navigation panel, click **Security**.
3. On the *Recent security events* panel, click **Review security events**.
4. Review your recent activity and look for unfamiliar locations or devices. You can also click on any event in the list to see more details about it on the right.
5. If you see activity you don't recognize, on the top of the page click **Secure your account**.
6. Follow the steps to change your password.

Report a suspicious message

Related Articles:

- Learn how we help protect your account when we notice unusual sign-ins
- Learn how to read your Recent Activity reports

Was this article helpful? Yes No

Making it easy to understand what data we collect and why

When you use Google services, you trust us with your data. It's our responsibility to be transparent about the data that we collect and how we use it in making our services work better for you.

Being transparent about the data that we use

Information that we collect as you use our services

When you use our services – for example, do a search on Google, get directions on Maps or watch a video on YouTube – we collect data to make these services work better for you. This can include:

- Things that you search for
- Videos that you watch
- Ads that you view or click
- Your location
- Websites that you visit
- Apps, browsers and devices that you use to access Google services

Information that you create or provide to us

When you sign up for a Google account, you provide us with personal information. If you are signed in, we collect and protect information that you create when using our services. This can include:

- Your name, birthday and gender
- Your password and phone number
- Emails that you write and receive on Gmail
- Photos and videos that you save
- Docs, Sheets and Slides that you create on Drive
- Comments that you make on YouTube
- Contacts that you add
- Calendar events

(Google, 2019c)

MONASH University

eSolutions

Type your search term

Home > Accounts and passwords

Multi-factor authentication (MFA)

Multi-factor authentication (MFA) provides you with increased protection, keeping your personal information private and secure. It requires using another factor to verify your identity, as well as your password, when logging in.

Why is MFA important

MFA makes it difficult for an attacker who has your password from being able to access your account or breach University systems. Even if you don't think you have sensitive information in your account, some University systems maintain information about you that may include:

- address and contact details
- banking details
- medical information
- emergency contact information
- academic results.

(Monash University, 2019d)

2016 IEEE Symposium on Security and Privacy

Users Really Do Plug in USB Drives They Find

Matthew Tischer† Zakir Durumeric†‡ Sam Foster† Sunny Duan†
Alec Mori† Elie Bursztein◇ Michael Bailey†
† University of Illinois, Urbana-Champaign ‡ University of Michigan ◇ Google, Inc.
{tischer1, sfoster3, syduan2, ajmori2, mdbailey}@illinois.edu
zakir@umich.edu elieb@google.com

***Abstract*— We investigate the anecdotal belief that end users will pick up and plug in USB flash drives they find by completing a controlled experiment in which we drop 297 flash drives on a large university campus. We find that the attack is effective with an estimated success rate of 45–98% and expeditious with the first drive connected in less than six minutes. We analyze the types of drives users connected and survey those users to understand their motivation and security profile. We find that a drive's appearance does not increase attack success. Instead, users connect the drive with the altruistic intention of finding the owner. These individuals are not technically incompetent, but are rather typical community members who appear to take more recreational risks then their peers. We conclude with lessons learned and discussion on how social engineering attacks — while less technical — continue to be an effective attack vector that our community has yet to successfully address.**

I. Introduction

The security community has long held the belief that users can be socially engineered into picking up and plugging in seemingly lost USB flash drives they find. Unfortunately, whether driven by altruistic motives or human curiosity, the user unknowingly opens their organization to an internal attack when they connect the drive—a physical Trojan horse. Our community is filled with anecdotes of these attacks and pentesters have even boasted that they can *hack humans* by crafting labels that will pique an individual's curiosity [1]: "While in the bathroom, I place an envelope in one stall. On the cover of the envelope I put a sticker that says PRIVATE. Inside the 'private' envelope is a USB key with a malicious payload on it. I do this in one stall and also in the hallway by a break room to increase my chances and hope that the person that finds one of them is curious enough to insert it into their computer. Sure enough, this method seems to always work."

However, despite
of malicious peripher
efficacy, there has bee
attack is effective nor
work, we investigate th
scale experiment in wh
different types, in diffe
the University of Illinc

We measure the effic
expected files on the
embedded `img` tag that
on each drive without
find that users pick up
the drives we dropped.

median time to connection of 6.9 hours and the first connection occurring within six minutes from when the drive was dropped. Contrary to popular belief, the appearance of a drive does not increase the likelihood that someone will connect it to their computer. Instead, users connect all types of drives unless there are other means of locating the owner—suggesting that participants are altruistically motivated. However, while users initially connect the drive with altruistic intentions, nearly half are overcome with curiosity and open intriguing files—such as vacation photos—before trying to find the drive's owner.

To better understand users' motivations and rationale, we offered participants the opportunity to complete a short survey when they opened any of the files and read about the study. In this survey, we ask users why they connected the drive, the precautions they took, demographic information, as well as standard questions to measure their risk profile and computer expertise. We find that attack was effective against all sub-populations at Illinois. The majority of respondents connected a drive to locate its owner (68%) or out of curiosity (18%), although a handful also admitted they planned on keeping the drive for themselves.

The students and staff that connected the drives were not computer nor security illiterate and were not significantly different than their peers at the University of Illinois on Egelman and Peer's Security Behavior Intentions Scale (SeBIS) [4]. While the users that connected the drive engaged in riskier behavior than their peers on the DOSPERT scale [5], they were more risk averse than the general population in every domain except for recreational risk.

When prompted, 68% of users stated that they took no precautions when connecting the drive. For those respondents who considered protective measures, 10 (16%) scanned the

DOI 10.1109/SP.2016.26

Abstract:
We investigate the anecdotal belief that end users will pick up and plug in USB flash drives they find by completing a controlled experiment in which we drop 297 flash drives on a large university campus. We find that the attack is effective with an estimated success rate of 45 -- 98% and expeditious with the first drive connected in less than six minutes. We analyze the types of drives users connected and survey those users to understand their motivation and security profile. We find that a drive's appearance does not increase attack success. Instead, users connect the drive with the altruistic intention of finding the owner. These individuals are not technically incompetent, but are rather typical community members who appear to take more recreational risks then their peers. We conclude with lessons learned and discussion on how social engineering attacks -- while less technical -- continue to be an effective attack vector that our community has yet to successfully address.

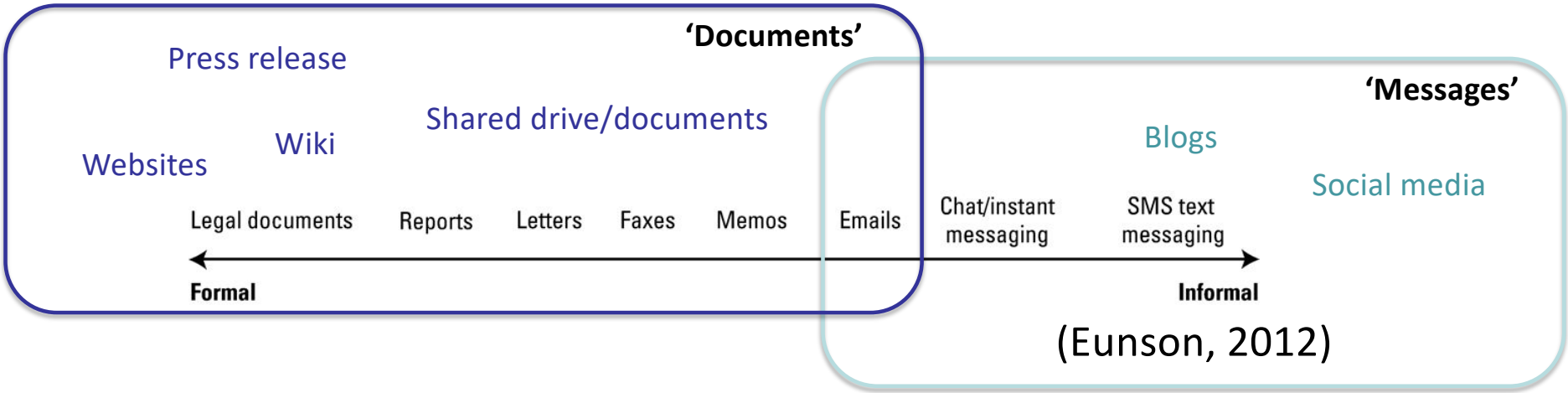
(Tischer et al., 2016)

Question 3: Recognising the risks 3

Matthew is working as a Business Analyst in a major bank that is known to be a very conservative organisation. In his private life, Matthew is also an enthusiastic gamer who writes for his own private blog in which he reviews a range of games, and this blog has been extremely popular and read by many. His online persona on this blog, however, is known to be rather controversial and combative against others who post anything negative against what he wrote.

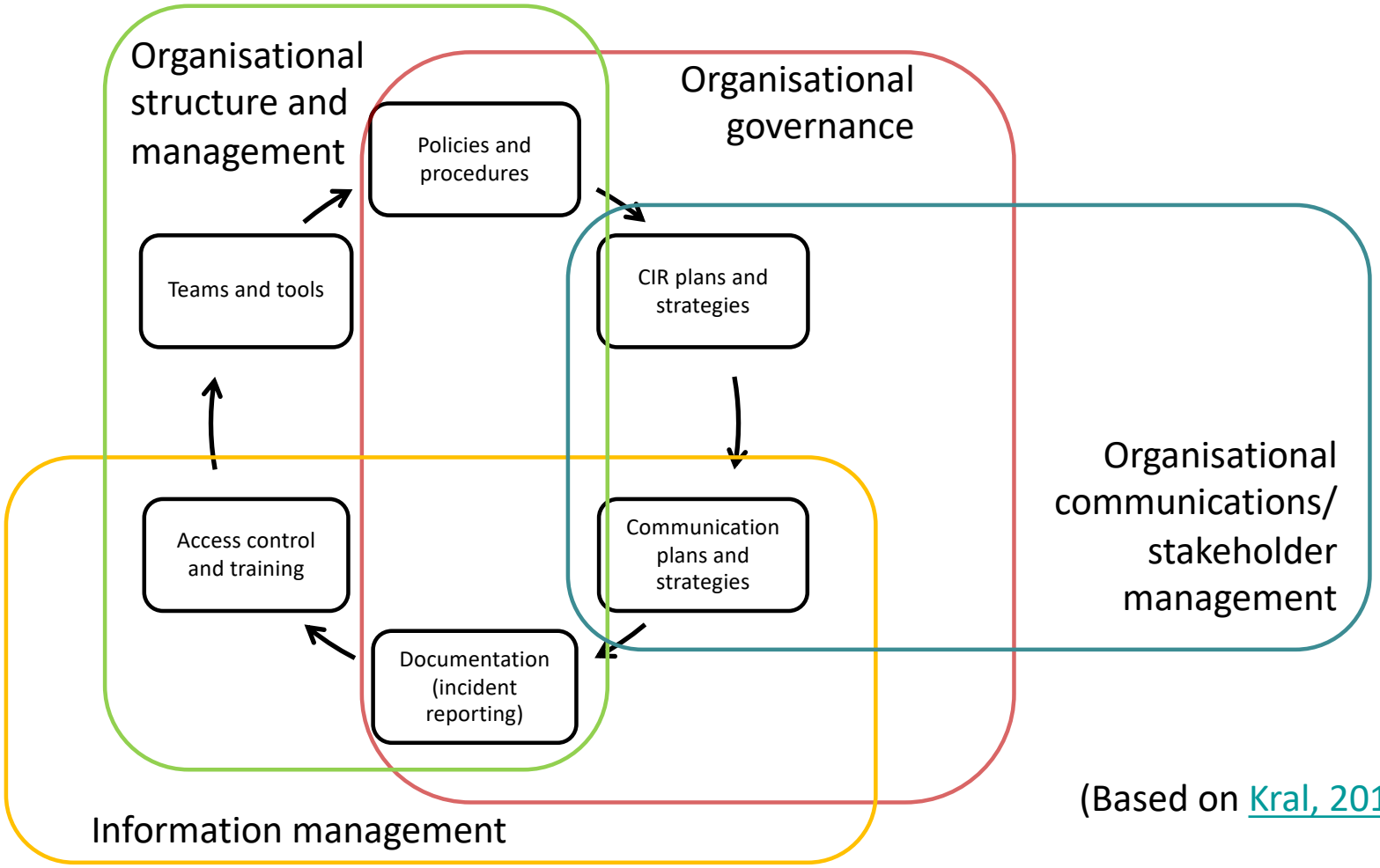
One evening he was in a fierce exchange of words with one of this readers, and wrote something as a joke that could be read derogatory to a certain cohort of the society. His post got quickly re-posted out of the original context, and it was spread as a 'horrific' comment, even attracting some media attention with his identity as an employee of the bank already identified. What kind of risks can you see?

‘Personal accounts’ are no longer *that* private…



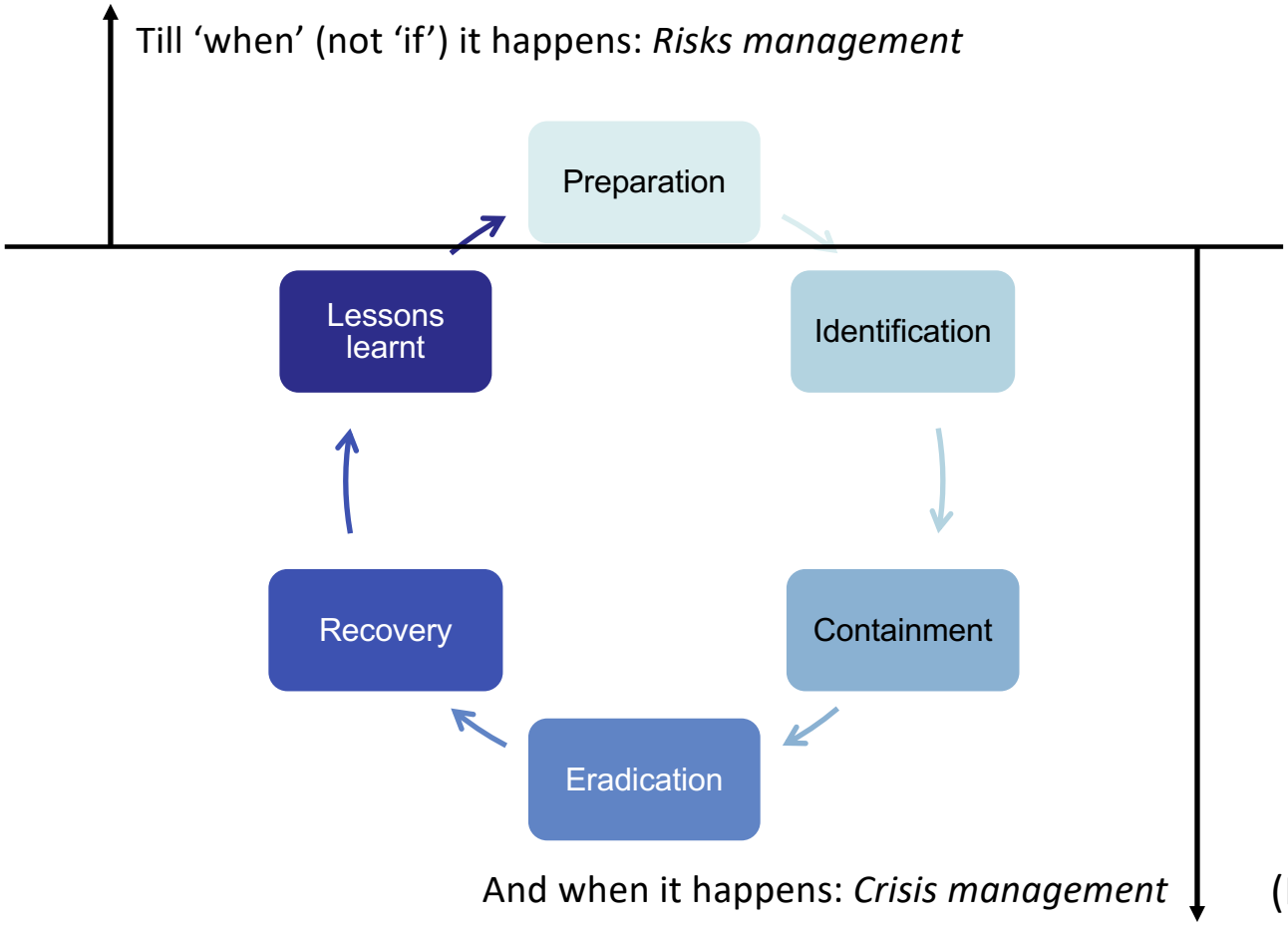
(Eunson, 2012)

~~‘Professional/organisational’~~		~~‘Personal’~~
‘Linear (communications)’		‘Transactional (communications)’
(Quasi) ‘Paper-based’	⟷	‘Online’
‘Linear (narrative)’		‘Non-linear (narrative)’
‘Static/stable’		‘Dynamic/unstable’



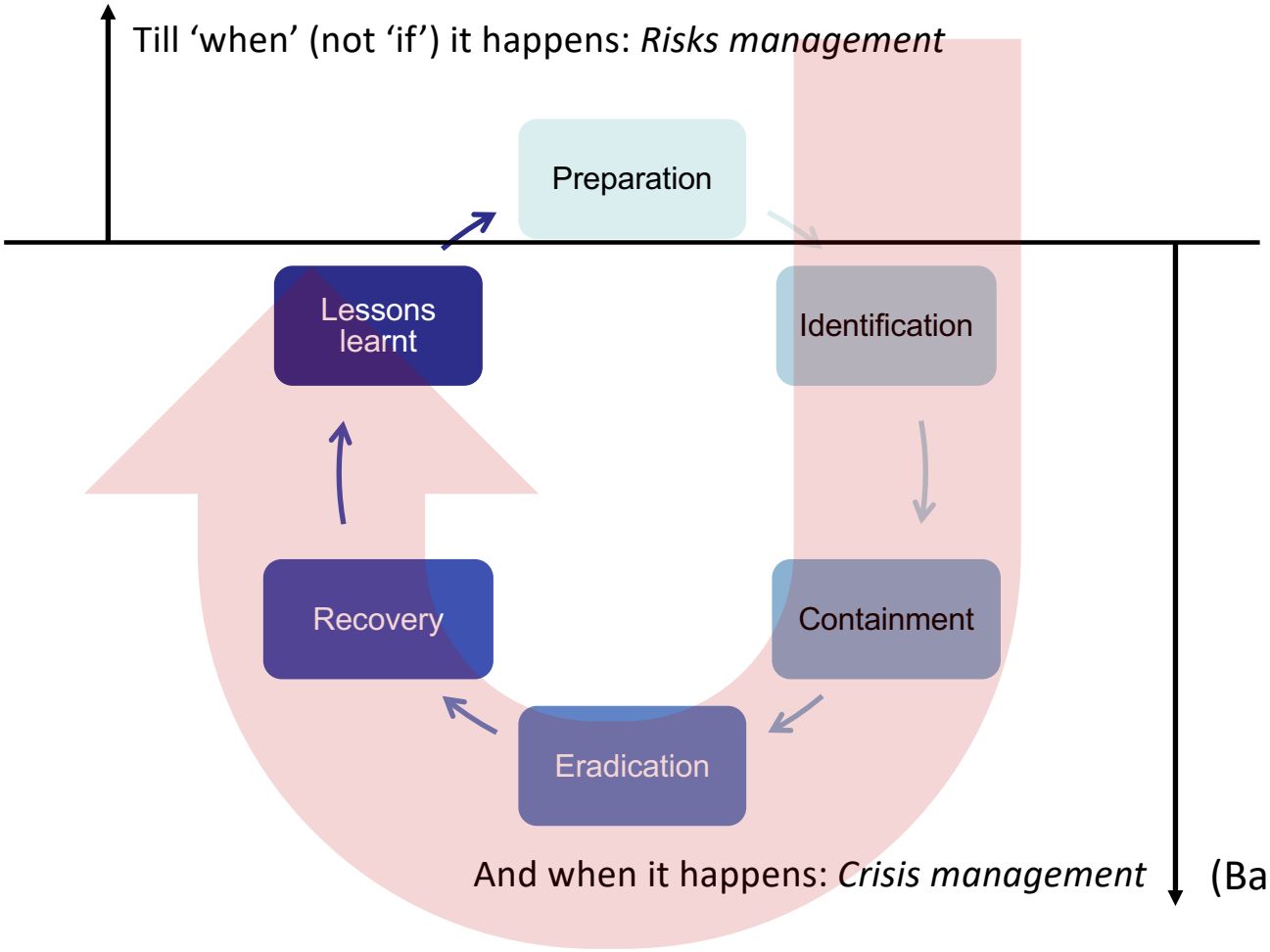
(Based on Kral, 2012)

Crisis management: A view from the incident handler



(Based on Kral, 2012)

Crisis management: An organisational view



(Based on Kral, 2012)

Question 4: Identification

So, let's say that you are working as a security analyst for a private company that conducts a range of confidential and sensitive research projects outsourced by high-profile clients, such as government agencies and political parties. Your company is indeed reputed for the integrity that is well trusted by those high-profile clientele, and quite naturally your company stores a large amount of sensitive data as well as confidential clients information.

It's Monday in the morning, and as you arrive in your office, you noticed an unusual number of emails from the company's staff outside IT, reporting strange behaviors of the company's client management system. You and another colleague of yours in the IT security quickly check the system log, and you found a sign of suspicious traffic from unspecified hosts. You and your colleague then decided, as per the company's CIR plan, that you will coordinate communications and liaison, while your colleague will pursue more technical solution to the issue. What's your next step?

Question 5: Containment 1

Back in the IT security team, your manager has now declared that this is a critical incident, and set up a ‘war room’ to control the CIR operations. Your team gradually gathered further intelligence from other sources, and based on all the evidence, it is becoming clear that there is an unknown extent of data breach where some part of the confidential client information stored in the company’s server has been compromised.

Your manager instructs the team to further contain the situation, while she asked you to keep acting as a liaison between the IT security team and the rest of the organisation. Meanwhile the IT security team’s role account has been flooded by emails from the company’s staff reporting all sorts of strange system behaviors… So what’s your next step?

Major Incident

Dear Colleagues,

Update: Email is in a degraded state.

Incident: [redacted]

Start: [redacted]

ETA: TBC

We are currently experiencing a Major Incident with the [redacted] mail service and large server file attachments.

A manual work around is in place fo[redacted] reports that have not been received. [redacted] have been communicated with the work around. There have only been 5 reports reported as failed.

Large email printer scans will be affected.

Gmail web users are unaffected.

Representatives from eSolutions and Vendor Google are trying to identify what has gone wrong.

Representatives from e[redacted] have been engaged.

Next update due: 17:00

For further information please contact the Service Desk on ext:51777

Kind Regards,

Service Desk

MONASH University

GROUP OF EIGHT AUSTRALIA

Australian Government
Office of the Australian Information Commissioner

Home | About us | Privacy | Freedom of information | Information policy

Home ▸ Privacy law ▸ The Privacy Act ▸ Listen to this page

Notifiable Data Breaches scheme

Overview

The NDB scheme applies from 22 February 2018 to all agencies and organisations with existing personal information security obligations under the Privacy Act. It was established by the passage of the *Privacy Amendment (Notifiable Data Breaches) Act 2017.*

The scheme includes an obligation to notify individuals whose personal information is involved in a data breach that is likely to result in serious harm. The notification must include recommendations about the steps individuals should take in response to the breach. The Australian Information Commissioner (Commissioner) must also be notified of eligible data breaches.

Agencies and organisations must be prepared to conduct a quick assessment of a suspected data breach to determine whether it is likely to result in serious harm, and as a result require notification.

Notifications to the Commissioner should be lodged through the **Notifiable Data Breach form**.

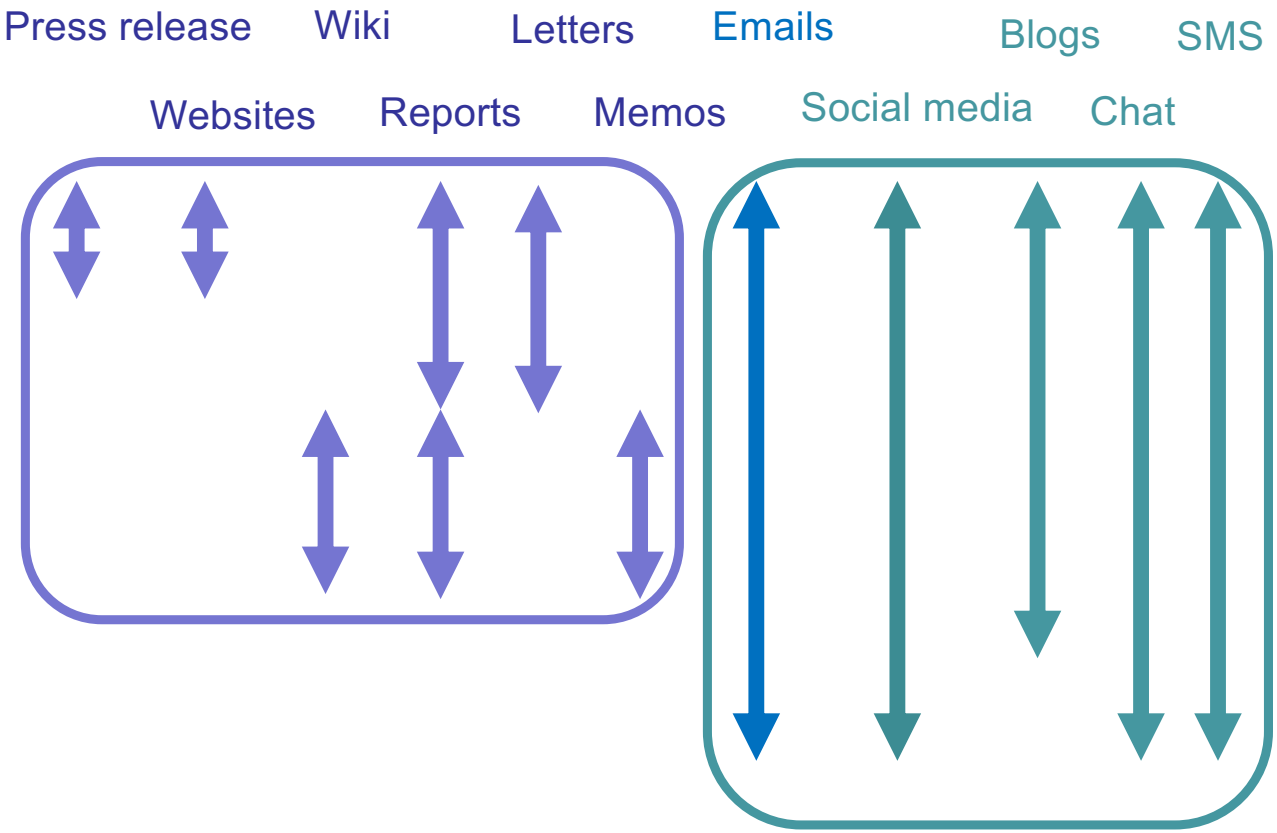
(OAIC, 2019d)

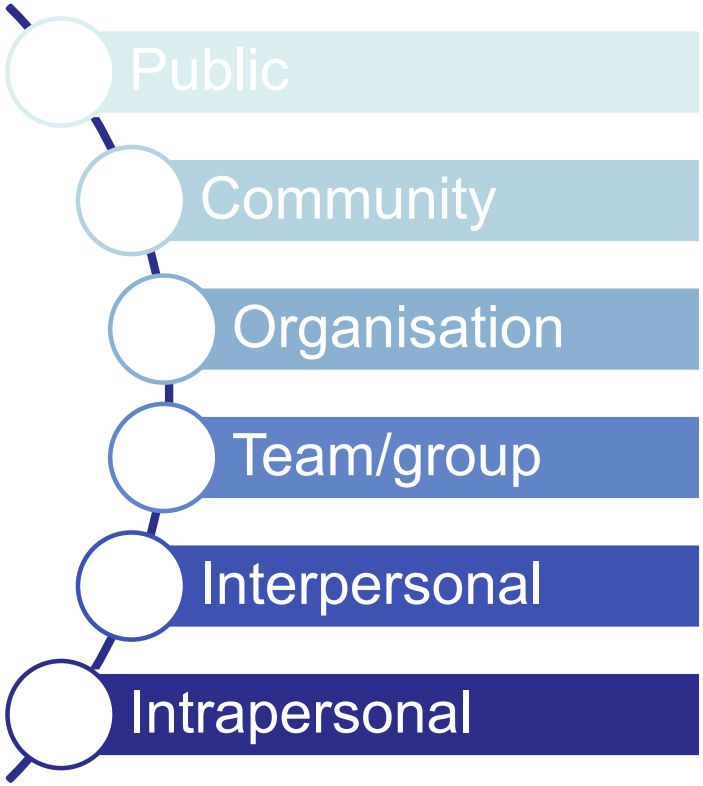
Question 6: Containment 2

So you now sent out an internal communique to inform the company's staff of the situation, and you have also made sure that the company has engaged with the relevant authorities. You then noticed that your phone started to ring. Apparently some of the company's staff posted something about the incident without knowing its seriousness, and the local media had picked it up as a potential story. It is a well-known fact that your company has an impressive list of powerful clients, so you can see why they'd be interested.

And of course, your company's clients now started contact your company using a range of channels to clarify what's going on. Now what would you do?

Size of the audience and spontaneity of communications





Question 7: Eradication

It's Day 2, and just when all the communications have gone out to stakeholders, you got your team's latest update that they have now identified and isolated the affected part of the system. They are not yet sure how long it would take to actually restore the system fully, but they seem to be optimistic, while also making the unaffected part of the system available so that the company can still operate however in a limited capacity. *Oh*, by the way, they also told you that the data has been compromised at least for last two years, the extent of which is rather hard to know…

What would you do with all this information?

Question 8: Recovery

The team has now set up a timeframe for recovery, and they are now confident that the system would be restored in the next four days or so, unless they find any other vulnerabilities in the process of recovery. The system is still not operating in its full capacity, but the company's operations seem to be coping 'okay'.

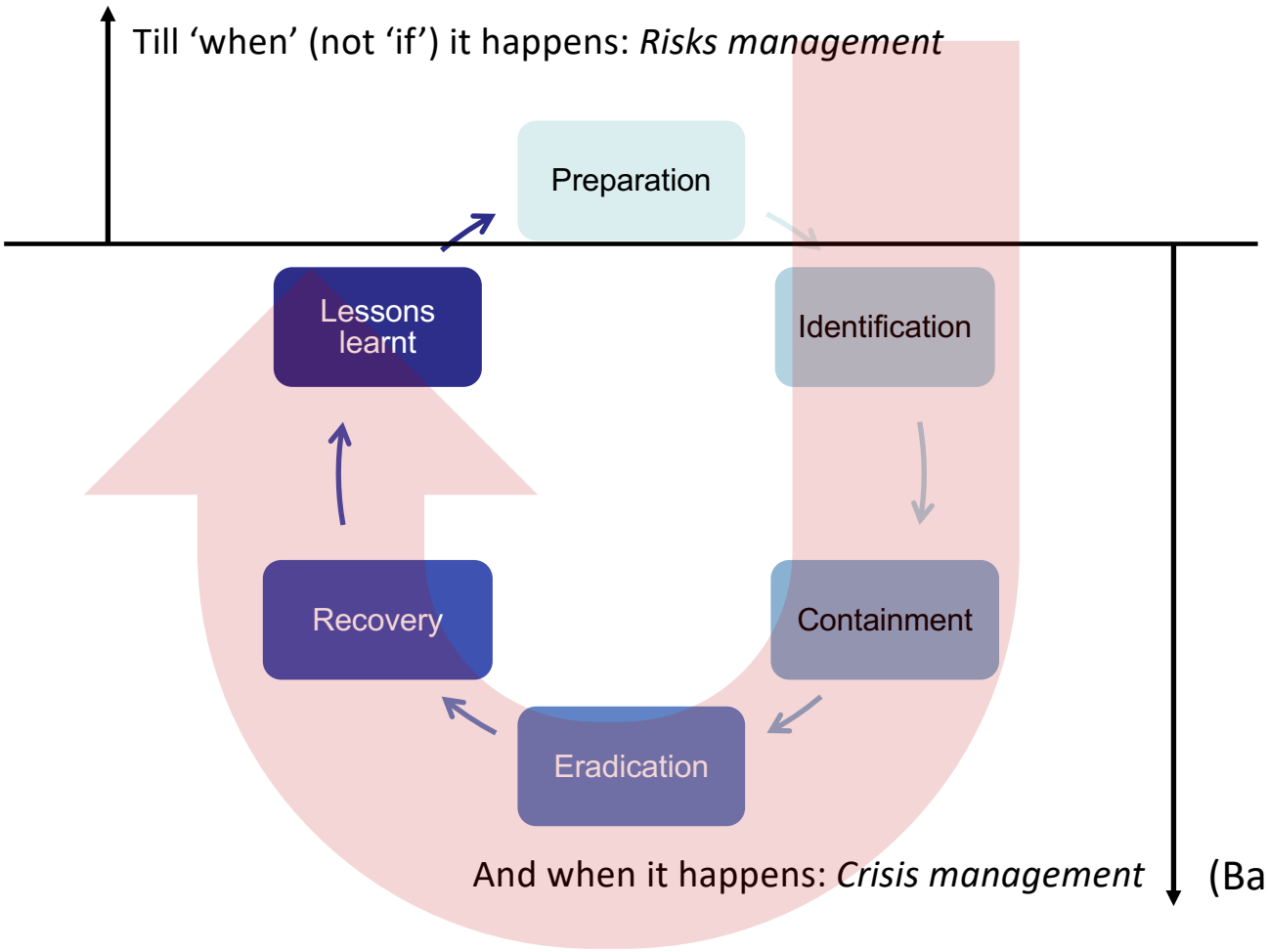
Meanwhile there are still lots of social media posts, emails and phone calls coming in to your company. You were also told by some sources that some powerful clients are demanding detailed public explanations on how the company is responding to the issue, while others are making speculative comments on the incident, fueling the anxiety of others. What's your next step?

Question 9: Lessons learnt…

So four days past, the chaos of dealing with all sorts of stakeholder engagement finally started to settle. The management, the CIR team as well as a third-party security consultant all agreed that the system could be restored however with a period of strict monitoring. The ‘war room’ has been dissolved, and things are starting to return to normal.

So what else do you have to do now?

Crisis management: An organisational view



(Based on Kral, 2012)

Things to do this week…

1. Make sure you shared your eFolio and all the submission items for the new deadline tonight.

2. Have a look and try the mock exam; we will discuss this next week.

3. Attend the Week 12 tutorial; we will discuss the Assignment 2B…