

**INFORMATION  
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**Australasian  
Ethics Network**  
Conference 2016



# The perfect storm of Big Data capabilities & privacy frameworks

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# Data as asset

*“Some day, on the corporate balance sheet, there will be an entry that reads, ‘information’; for in most cases, the information is more valuable than the hardware that processes it.”*

Rear Admiral Grace Murray Hopper

(American computer programmer and inventor of COBOL, 1906-1992)



Late News: “[Valuing Personal Data to Foster Privacy: A Thought Experiment and Opportunities for Research](#)”, Journal of Information Systems: Summer 2016, Vol. 30, No. 2, pp. 169-181.

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# How Big Data works

➤ Lifecycle of big data:

1. Collection
2. Compilation and consolidation
3. Analysis
4. Use

Source: Federal Trade Commission,  
['Big Data: A Tool for Inclusion or Exclusion?'](#) (2016)



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# Collection: A taxonomy of data

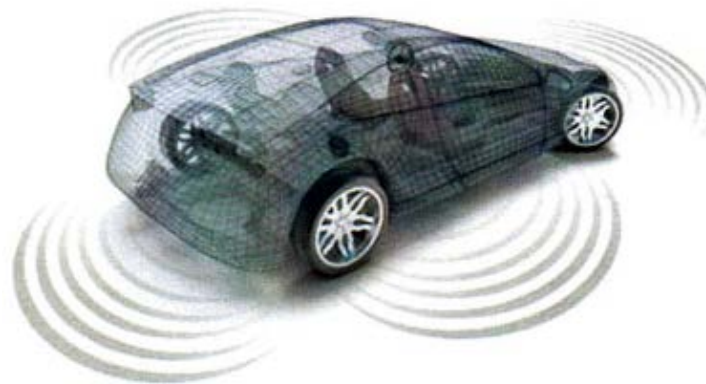
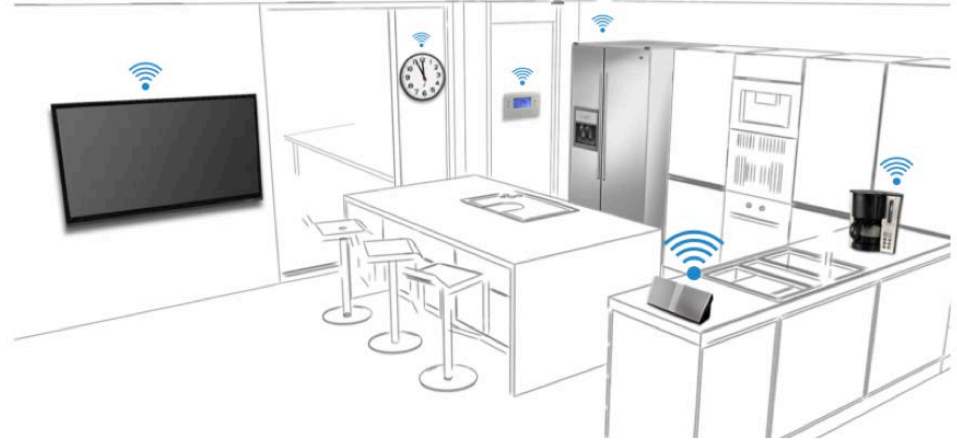


Provided	Observed	Derived	Inferred
<ol style="list-style-type: none"> <li>1. <b>Initiated</b> <ul style="list-style-type: none"> <li>• Online purchase</li> </ul> </li> <li>2. <b>Compelled</b> <ul style="list-style-type: none"> <li>• Applications</li> </ul> </li> <li>3. <b>Transactional</b> <ul style="list-style-type: none"> <li>• Bills paid</li> </ul> </li> <li>4. <b>Posted</b> <ul style="list-style-type: none"> <li>• Instagram, Twitter, etc.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Engaged</b> <ul style="list-style-type: none"> <li>• Cookies</li> <li>• Location-enabled device</li> </ul> </li> <li>2. <b>Not anticipated</b> <ul style="list-style-type: none"> <li>• Sensors in cars</li> </ul> </li> <li>3. <b>Passive</b> <ul style="list-style-type: none"> <li>• CCTV images</li> <li>• Wi-Fi station</li> <li>• Call logs</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Computational</b> <ul style="list-style-type: none"> <li>• Credit ratios</li> <li>• Average purchase per visit</li> </ul> </li> <li>2. <b>Notational</b> <ul style="list-style-type: none"> <li>• Classification of buyer attributes</li> <li>• Medical condition based on diagnostic tests</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Statistical</b> <ul style="list-style-type: none"> <li>• Credit score</li> <li>• Life expectancy</li> <li>• Crime hotspots</li> <li>• Traffic patterns</li> </ul> </li> <li>2. <b>Advanced analytical</b> <ul style="list-style-type: none"> <li>• Risk of developing disease based on multi-factor analysis</li> <li>• ... ??</li> </ul> </li> </ol>

Source: Martin Abrams, [‘The Origins of Personal Data and its Implications for Governance’ \(2014\)](#)

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# Collection: us + IoT



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# Compilation and consolidation

## Quantium shines as retailers seek big data

Eli Greenblat

THE AUSTRALIAN  
NOVEMBER 17, 2014 12:00AM

THE retail sector's hunger for big data is driving a boom in customer analytics companies, including super-

Coles, Woolworths accumulating consumer data as they prepare to compete with banks on home loans

7.30 By Sean Rubinsztein-Dunlop  
Updated 7 Aug 2014, 12:38pm

Supermarkets are gathering amount of information on AI situations and lifestyles as t clash of the titans with the t

## Telstra doubles its drive to data

THE AUSTRALIAN | AUGUST 20, 2013 12:00AM

SAVE

## Dun & Bradstreet: Big data dealer to the Fortune 500

Dun & Bradstreet CEO Bob Carrigan talks big data use cases, cloud strategy and where his company fits



By Larry Dignan for Between the Lines | Marc



RAE JOHNSTON 16 MARCH 2016 8:30 AM

Discuss 29

Book

## ANZ Bank combs customer spend for intelligence

big data's frontier.

is using systems customer spend for intelligence



# Analysis



- Massive data set
- Analytics
  - Producing correlations: Discovery
  - Making predictions: Application
  - NOT objective, NOT value neutral
    - Correlation  $\leftrightarrow$  causation
    - Probability  $\leftrightarrow$  certainty
    - Generality  $\leftrightarrow$  specifics
- Implications
  - “Big Data saves babies”
  - “End of privacy as we know it”

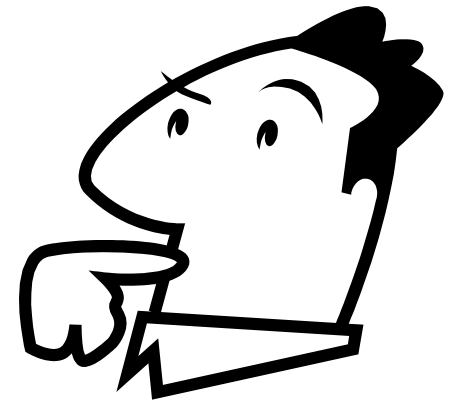


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# Use of Big Data

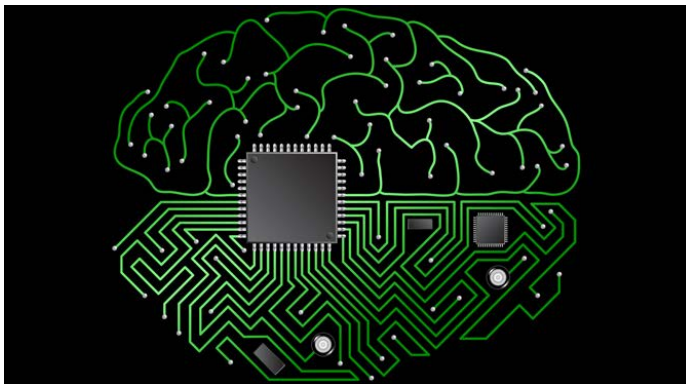
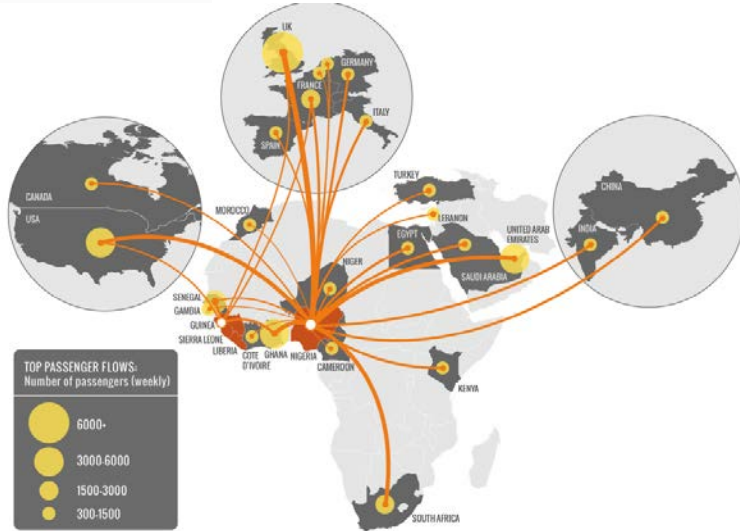
“Big Data is the use of personal information in ways not expected by individuals”

Martin Abrams, Executive Director  
[Information Accountability Foundation](#)



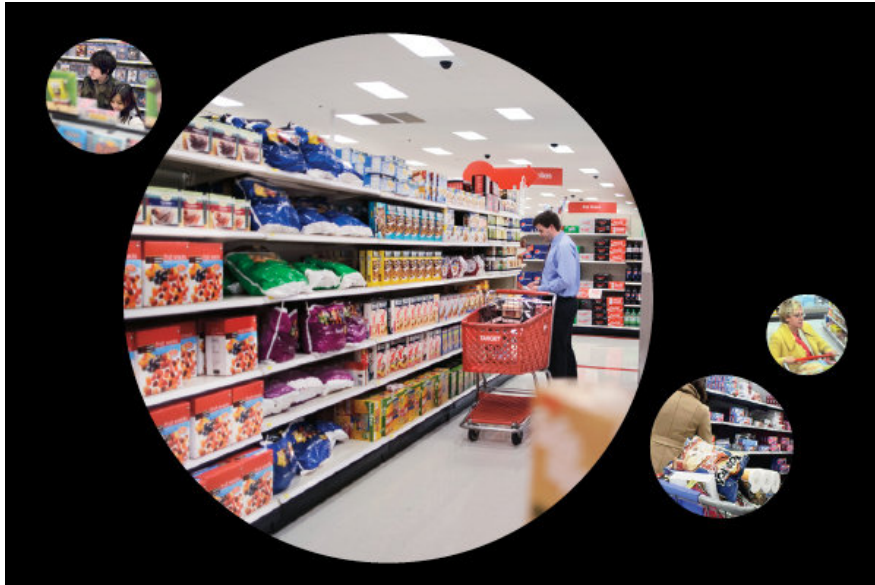


# Use of Big Data



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# Privacy issues with Big Data



## *Giving Out Private Data for Discount in Insurance*

By TARA SIEGEL BERNARD APRIL 8, 2015



➤ **Manipulating** preferences and behaviour

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# Privacy issues with Big Data Perpetuating societal problems

➤ There is no such thing as a “neutral” platform or algorithm

## Uber Is Quietly Terrible For Women And Black People: Study



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Room at the inn

### Airbnb tackles racial discrimination

Sep 9th 2016, 14:01 BY A.W. | WASHINGTON, DC

Timekeeper

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Damon Lavrinc

10/31/16 9:05am · Filed to: UBER



SundayReview | OPINION

## Artificial Intelligence's White Guy Problem

By KATE CRAWFORD | JUNE 25, 2016



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# And there's more

- Young adults take more security measures for their online privacy than their elders

*'As it turns out, though, that "youthful indulgence" might have been a temporary luxury. It's not just getting older that makes us less chatty and less likely to disclose ourselves; better understanding of the current internet environment makes young people wary, too, even when they wish they could say more. In fact, young people might now be rolling their eyes at their elders.'*

# National privacy law framework

## ➤ Privacy Act 1988

- [Australian Privacy Principles](#) – see [Guidelines](#)
  - Additional protection of sensitive information including health information
- Particular [provisions for health and medical research](#) permit “the handling of health information and personal information for health and medical research purposes, where it is impracticable for researchers to obtain individuals’ consent. This recognises:
  - the need to protect health information from unexpected uses beyond individual healthcare
  - the important role of health and medical research in advancing public health”
- [s95 Guidelines](#) “set out procedures that HRECs and researchers must follow when personal information is disclosed from a Commonwealth agency for medical research purposes”
- [s95A Guidelines](#) “provide a framework for HRECs to assess proposals to handle health information held by organisations for health research (without individuals’ consent). They ensure that the public interest in the research activities substantially outweighs the public interest in the protection of privacy”

## ➤ State public sectors have [different health privacy law](#) (or none)

- NSW, Vic, ACT laws also apply to private sector health service providers

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# Legal compliance vs Social licence

- Complying with law ≠ gaining social licence
- Popular resentment caused by infringements on social licence (even if legal compliance are met!)



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# Social licence and permission structures

- In most domains of our lives, decisions are made for us by parties that we trust are acting in our best interests
- What makes these decisions to put our lives in the hands of other people and devices every day so trustworthy?
  - Rules of the game, designed with our interests placed above all others and set by independent authority
  - Flexible response to the rules
  - Testing authority, independent of both rule maker and producer
  - Law with unavoidable consequences that are taken seriously
  - Remedy

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# Retaining your social licence

- Know what you are doing
- Ethical framework
- Practical governance
- Accountability
- Comprehensive risk management for all affected parties





# Know what you are doing



## ➤ PI: more than you think

- US Federal Trade Commission (2012)
- NSW Civil and Administrative Tribunal (2014)
- Current court case on metadata – Ben Grubb v Telstra

## ➤ ‘Health’, ‘wellness’, ‘research’, ‘institution’ also all changing meaning

## ➤ What is anonymisation, de-identification etc

- Importance of context
- The [Anonymisation Decision Making Framework](#) from UK

# Know what you are doing

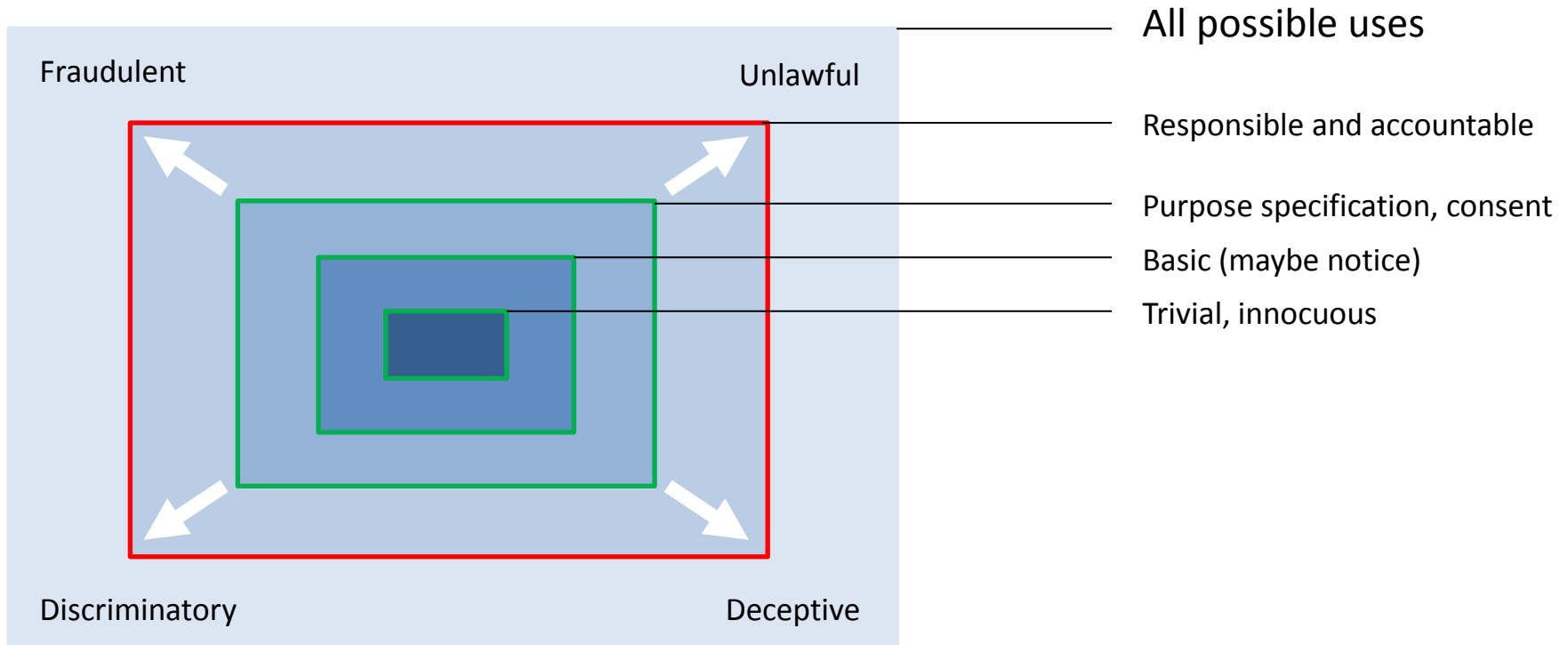


## ➤ Know what the issues are

- [Perspectives on Big Data, Ethics, and Society](#)  
Council for Big Data, Ethics, and Society in the US
- Is data science research?
- When is 'wellness information' health information
- For profit entities that are not 'research institutions'
- What ethical frame applies in these new domains?
  - How to educate
  - How to enforce

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# Social licence and Ethical frameworks



- Credible decision-making processes and safeguards expand the scope of permissible uses
- Governance is key

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# Practical governance

- [NHMRC Statement](#), [AHEC](#) & HRECs a strong framework
  - But will its impact weaken as health research commercialises?
  - How do its concepts translate to the new domains we've discussed?
- [A Guide to Privacy Risk and Opportunity for Directors and Boards](#)

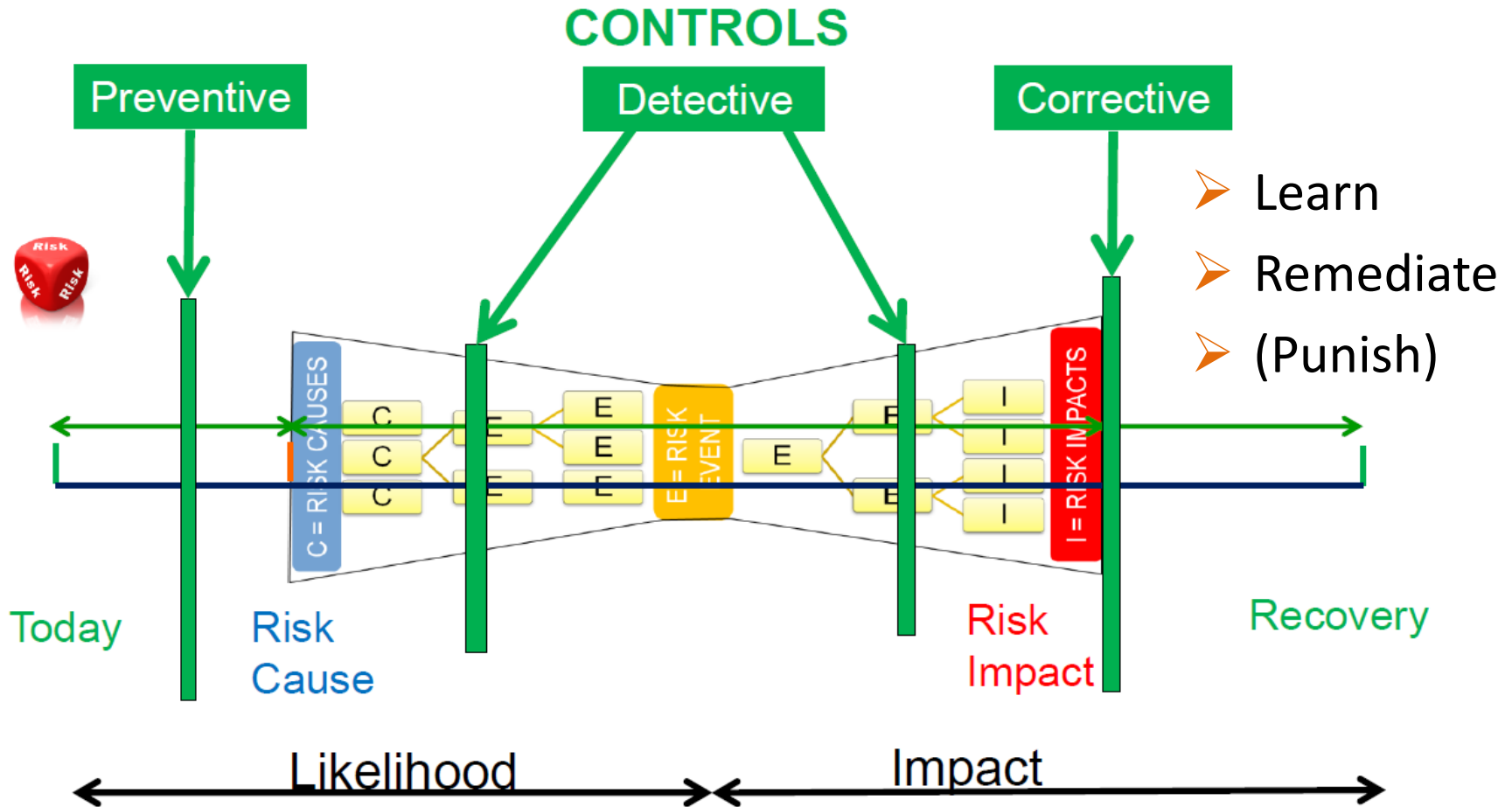
# Accountability

- Information Accountability Foundation (ongoing)
  - [A Unified Ethical Frame for Big Data Analysis](#)
- Revised OECD privacy guidelines (2013)
  - [New Part 3 on implementing accountability](#)
- APEC Cross Border Privacy Rules (ongoing)
  - Participating companies must adopt internal mechanisms for privacy protection
  - Certified by 'Accountability Agents'
- Centre for Information Policy Leadership (ongoing)
  - [Accountability-Based Privacy Governance](#)



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# Framework for risk management



# Conclusion

- Big Data is here to stay
  - **Collected** in a multitude of ways
  - **Compiled and consolidated** by big players
  - **Analysed** to produce correlations and predictions (inherently uncertain and value-laden!)
  - **Used** for good and bad, the potential is enormous in both directions
- A multifaceted approach to maximise benefits while minimising risks of misuse:
  - Ethical framework
  - Practical governance
  - Law
  - Risk management

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# Questions?

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