

## Impact Assessment as a Part of Doing Business

**Roger Clarke**

Xamax Consultancy, Canberra  
Visiting Professor, ANU Computing and UNSW Law

<http://rogerclarke.com/DV/IAA24.html> (Text)

<http://rogerclarke.com/DV/IAA24.pdf> (Slides)

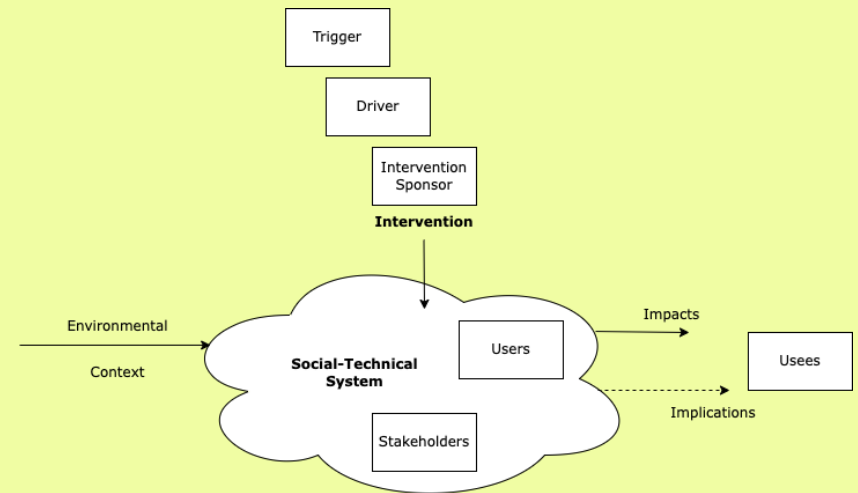
**Roundtable on  
Public Law, Technology and Impact Assessments**  
ANU Law – 27 February 2024

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## Interventions Affect Digital Society



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## Examples of Interventions into Socio-Technical Systems

- New or Amended Legislation
- Other Regulatory Measures
- Adapted institutional or sectoral architecture or infrastructure e.g. due to shifts in market power
- Changes in Business Processes
- New Applications of Technology
- New Applications of Inadequately-Tested Transformative or Disruptive Technologies

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## Impact Assessment

- The process of identifying the consequences of a current or proposed action ...
- The concept evolved from an initial focus on the biophysical components to include the physical-chemical, biological, visual, cultural and socio-economic components of the environment

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After [https://www.iaia.org/uploads/pdf/What\\_is\\_IA\\_web.pdf](https://www.iaia.org/uploads/pdf/What_is_IA_web.pdf)

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## Impact Assessment

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- The concept evolved from an initial focus on the biophysical components to include the physical-chemical, biological, visual, cultural and socio-economic components of the environment
- It includes a legal and institutional procedure linked to a decision-making process about a planned intervention
- The mere issuing of a report is not effective
- The analysis of alternatives is the heart of the process

## Dimensions on which Impacts Occur

**Economic.** incl. Financial, Micro-Economic, Macro-Economic

- Employees, Contractors
- Corporations, public sector enterprises, joint ventures, public-private partnerships, indy sectors, indy value-chains/networks
- Governments of sub-national jurisdictions, nation-states and supra-national regions (such as the EU and ASEAN)

**Social**

- Individual, social-network, community, society, diasporae

**Environmental**

- Spurred mid-20th century by industrial pollution and then anthropomorphic aspects of climate change
- Local ecologies, biomes, life- and ecosystem-types, biosphere

'Triple-bottom-line reporting' / 'Corporate Social Responsibility'

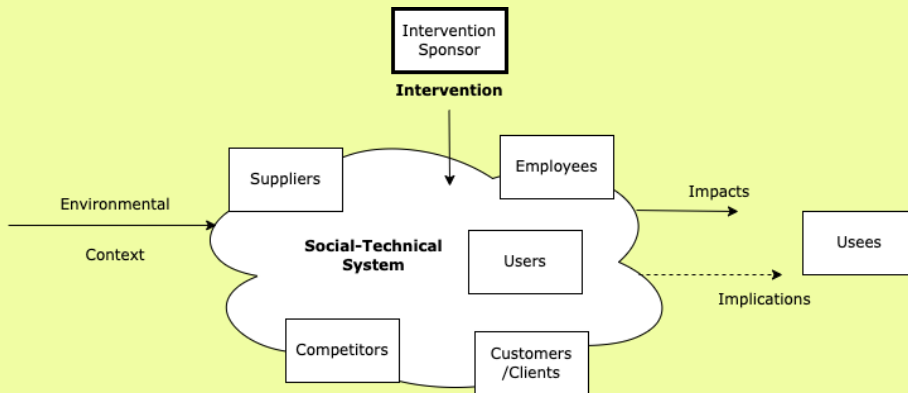
## Triggers, Drivers and the Intervention-Sponsor

- A corporation, a public sector enterprise
- A joint venture, industry sector, or industry value-chain/network
- A government of a sub-national jurisdiction, a nation-state, a supra-national region
- A Public-Private Partnership
- The Corporatised State

## Narrowband Impact Assessment Project Evaluation Techniques

- With a Focus on Quantitative Data:
  - **Business Case Development (BCD)**
  - Discounted Cash Flow Analysis (DCF)  
Net Present Value Analysis (NPV)
  - Financial Sensitivity Analysis
  - Financial Risk Assessment
- Plus 'Non-Quantifiable' / 'Qualitative' Data:
  - Internal Cost-Benefit Analysis (CBA)
  - **Risk Assessment (RA)**

## What about the Other Players?



## Stakeholder Theory

- Created as a counterpoint to 'Shareholders'  
Applied across many management contexts, incl.:
- **Users** of information systems
- **'Usees'** of information systems  
Those impacted by it even though not participants in it
- Attributes of **Power, Legitimacy, Urgency**
- Sponsoring organisations consider only those Stakeholders capable of affecting project success
- With conventional Narrowband Evaluation, **Legitimate-but-not-Powerful Stakeholders are not even seen as constraints let alone objectives**

## Evaluation Techniques within a Broader Frame of Reference

- External Cost-Benefit Analysis (CBA)
- Cost / Benefit / Risk Analysis (CoBRA)
- Technology Assessment (TA)
- Impact Assessment (IA)

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*But board members of Intervention Sponsors  
may have to serve Shareholders or dominant Stakeholders*

## An Evaluation Technique within a Broader Frame of Reference

**Impact Assessment** – the process of identifying the consequences of a current or proposed action

<b>Environmental Impact Assessment (EIA)</b>	Project-Level	1960+
<b>Strategic Environmental Assessment (SEA)</b>	Program-Level	
<b>Technology Assessment (TA)</b>		1970+
<b>Privacy Impact Assessment (PIA)</b>		1990+
<b>Social Impact Assessment (SIA)</b>		2000+
<b>Human Rights Impact Assessment (HIA)</b>		2010+
<b>Policy Impact Analysis (APS Guide)</b>		2023+

<https://oia.pmc.gov.au/sites/default/files/2024-01/australian-government-guide-to-policy-impact-analysis.pdf>

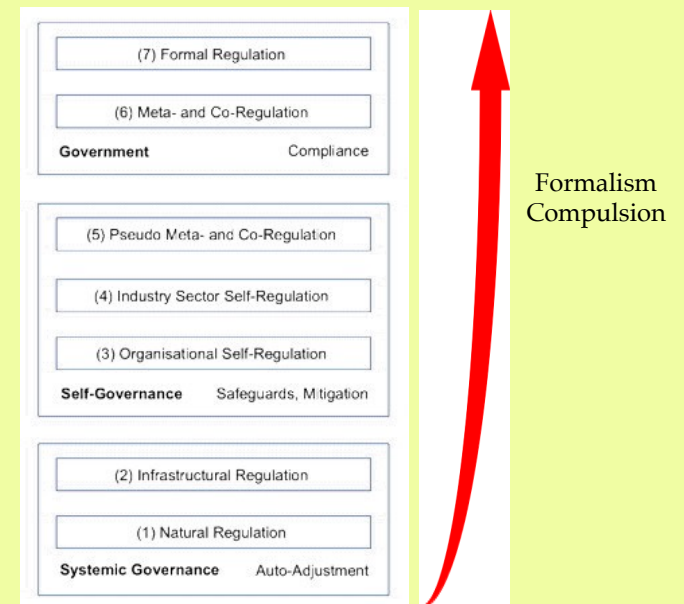
## Key Features of Impact Assessment

- What triggers it
- Who commissions it
- What focus it has (environment, human rights, ...)
- What scope it has
  - Broad / open-ended or circumscribed
  - Conceptual or compliance-oriented (cf. DPIA)
- What standing it has, and with whom
- What degree of imperative it embodies:
  - Just a Report or Statement
  - A means of inculcating values
  - A driver of action
  - A regulatory instrument

## Regulatory Mechanisms

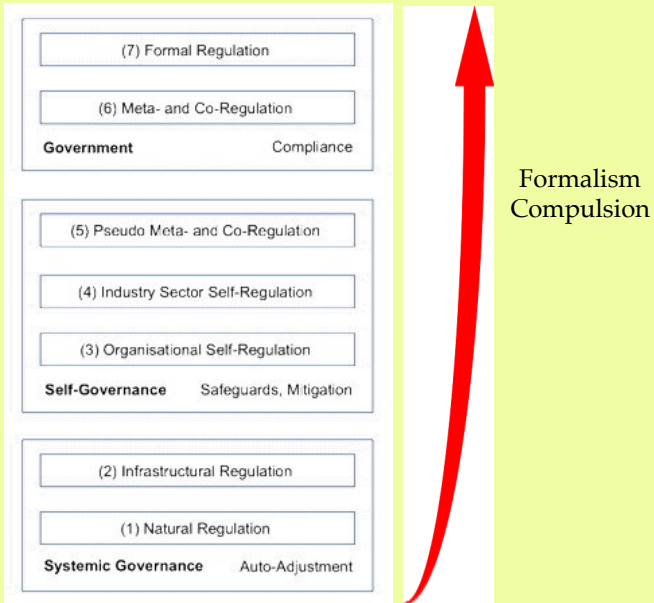
- **Factors that influence the behaviour of entities** towards policy objectives, in particular by:
  - stimulating appropriate behaviours
  - deterring, preventing, sanctioning harmful ones
- **Available mechanisms** range across:
  - Systemic Features that auto-adjust
  - Self-Governance Features
  - Legal obligations requiring compliance
- **Effective regulatory schemes** blend multiple features

## The Hierarchy of Regulatory Mechanisms



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Where does Impact Assessment belong?



## Conflict Resolution

- Tensions between:
  - Intervention-Sponsor and Stakeholders
  - Organisational Control and Participation
- Currently generally dominated by the Sponsor
- How to better balance those tensions?
  - Obligation-Regulation-Compliance Model !
  - Incentivation / (Enlightened?) Self-Interest ?

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### An Evolutionary, Unthreatening Proposal

- Integrate views of the sponsor and stakeholders
- Expand beyond Business Case Development in the direction of Impact Assessment
- Inject into Sponsor-Driven Processes, e.g. through Industry Standards, training-courses

## Beyond Predictable Costs and Benefits to Contingencies

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### Risk Assessment

### An Organisational Evaluation Tool

based on

### The Conventional Security Model

<http://www.rogerclarke.com/EC/SSACS.html#App1>

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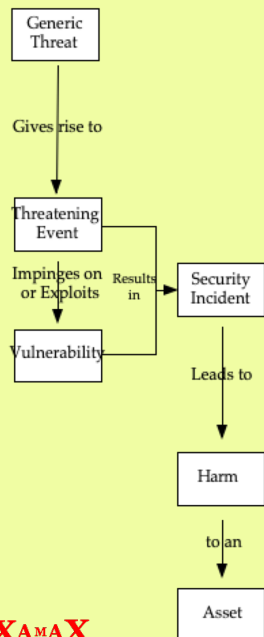
### The Conventional Security Model

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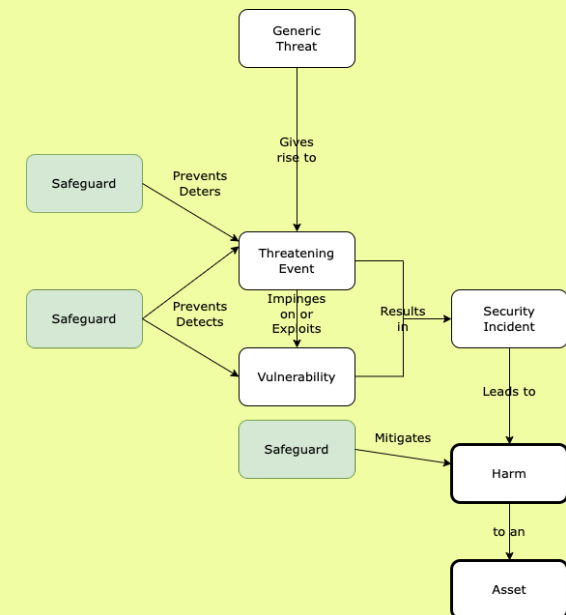
## Generic Threat Categories

- **Environmental Events** (Acts of Gods or Nature)
- **Accidents**, caused by:
  - Humans directly involved
  - Other Humans
  - Artefacts and those Responsible for them
- **Attacks**, by:
  - Humans directly involved
  - Other Humans
  - Artefacts and Designers, Owners, Operators



## The Conventional Security Model + Safeguards

<http://www.rogerclarke.com/EC/SSACS.html#App1>



## Categories of Risk Management Strategy

- **Proactive Strategies**
  - Avoidance
  - Deterrence
  - Prevention
  - Redundacy
- **Reactive Strategies**
  - Detection
  - Reduction /Mitigation
  - Recovery
  - Insurance
- **Non-Reactive Strategies**
  - Tolerance / Self-Insurance
  - Graceful Degradation
  - Graceless Degradation

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## Risk

The perceived likelihood of occurrence of Harm arising to an Asset as a result of a Threatening Event impinging on a Vulnerability

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### The Focus of Risk Assessment: Residual Risk

The Risks that remain despite existing design features and safeguards

# Organisational Risk Assessment & Risk Management

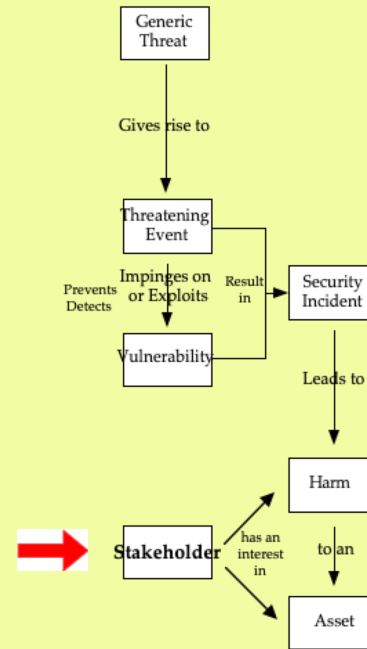
<http://www.rogerclarke.com.../EC/AIP.html#RARM>

NIST 2012, ENISA 2016, ISM 2023, ISO 27001, 31000, ...

<b>1. PERFORM RISK ASSESSMENT (The Analysis Phase)</b>
1.1 Declare Objectives and Constraints
1.2 Identify the Stakeholders
1.3 Describe the Intended Intervention
1.4 Adapt Objectives and Constraints
1.5 Study Assets, Values, Harm
1.6 Study Threats, Vulnerabilities
1.7 Study Existing Safeguards
1.8 Evaluate Residual Risks
1.9 Summarise the Results
<b>2. PREPARE RISK MANAGEMENT (The Design Phase)</b>
2.1 Consider Alternative Designs, Additional Safeguards and Mitigation Measures
2.2 Evaluate against Objectives and Constraints
2.3 Select / Adapt / Refine the Design
<b>3. PERFORM RISK MANAGEMENT (The Implementation Phase)</b>
3.1 Plan the Implementation
3.2 Execute the Implementation
3.3 Review the Implementation

# The Conventional Security Model + Stakeholders

<http://www.rogerclarke.com/EC/SSACS.html#App1>



## Liability Laws

- Falling Masonry
- Software Fault?

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Computer Law & Security Review  
Volume 5, Issue 1, May-June 1989, Pages 28-32

Liability issues

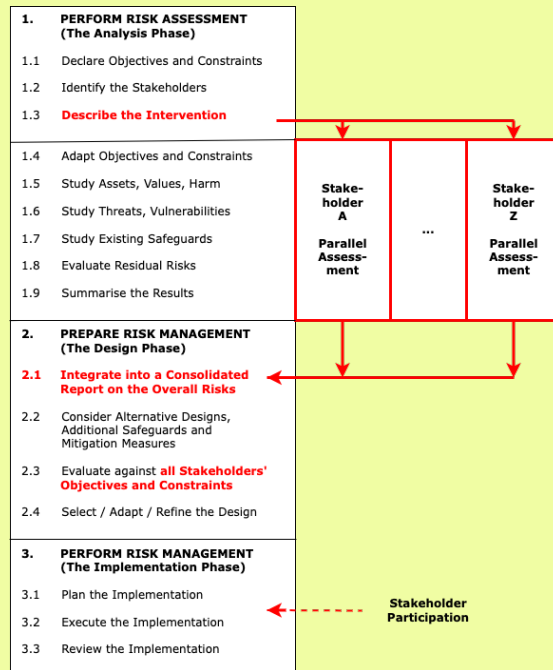
### Who is liable for software errors? Proposed new product liability law in Australia

Roger Clarke\*



# Multi-Stakeholder Risk Assessment & Risk Management

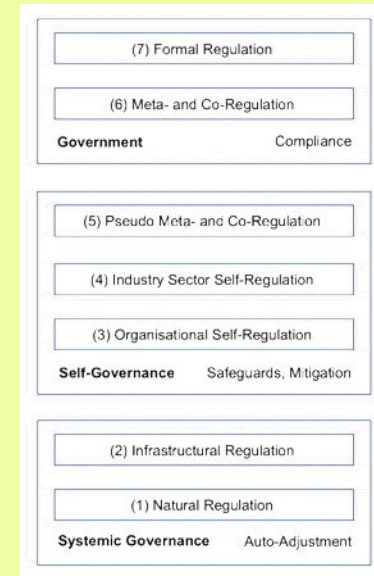
<http://www.rogerclarke.com.../DV/MSRA.html#RAM>



## Meta-Regulation Govt-requirement of industry self-regul'n

### Co-Regulation

- Statutory basis
- Institutionalised negotiation process
- All stakeholders in
- Actual enforcement



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### Beyond Indy Stds and Training-Courses to Co-Regulated MSRA



## Impact Assessment as a Part of Doing Business Conclusions

- Project Evaluation by Intervention-Sponsors ignores Stakeholders
- Broader Evaluation Techniques seldom gain traction
- Impact Assessment is established at least as art-form
- Variable effectiveness as an instrument, but mostly limited
- The technique requires context-specific articulation
- Impact Assessment notions could be smuggled inside
- This might begin with Risk Assessment (RA)
- Multi-Stakeholder features can be grafted onto RA
- It could graduate via Standards and training to co-regulation
- That could provide a beachhead for further progress with IA