



Engaging Content
Engaging People

Discussing Ethical Impacts in Research and Innovation: The Ethics Canvas

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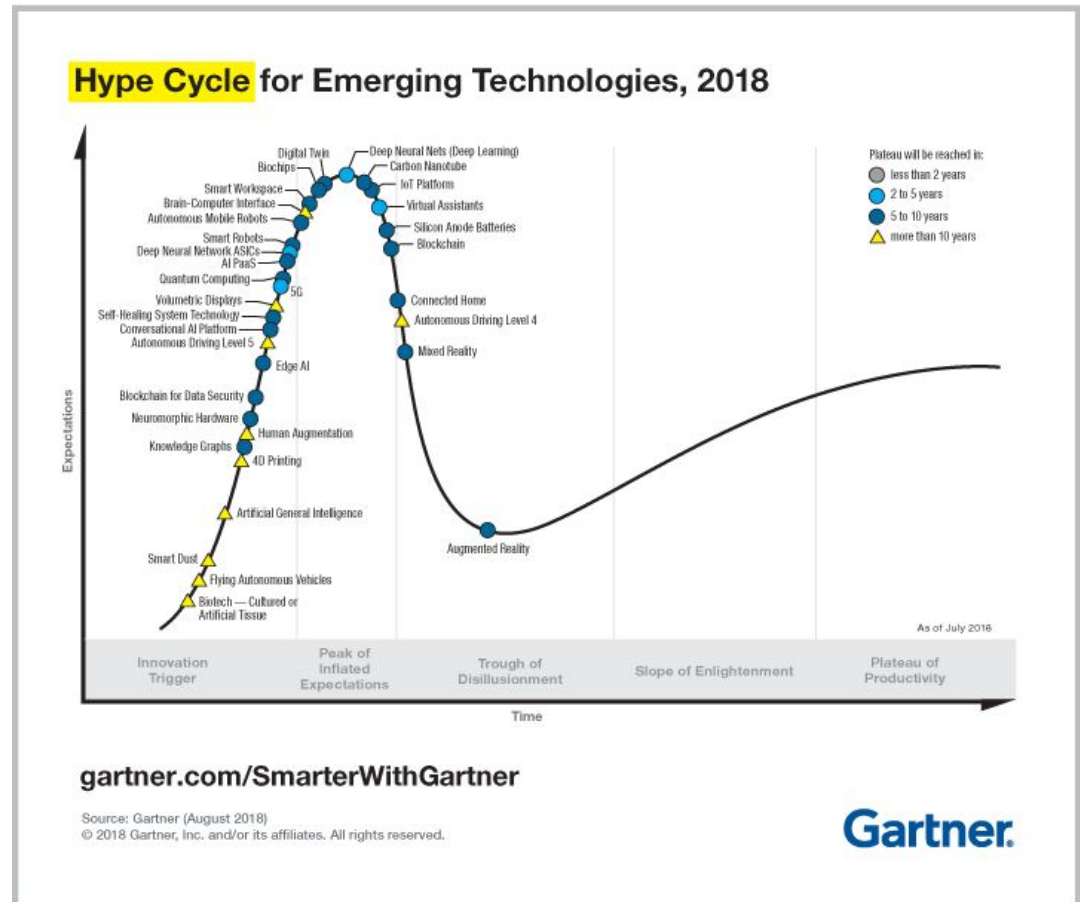


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European Regional
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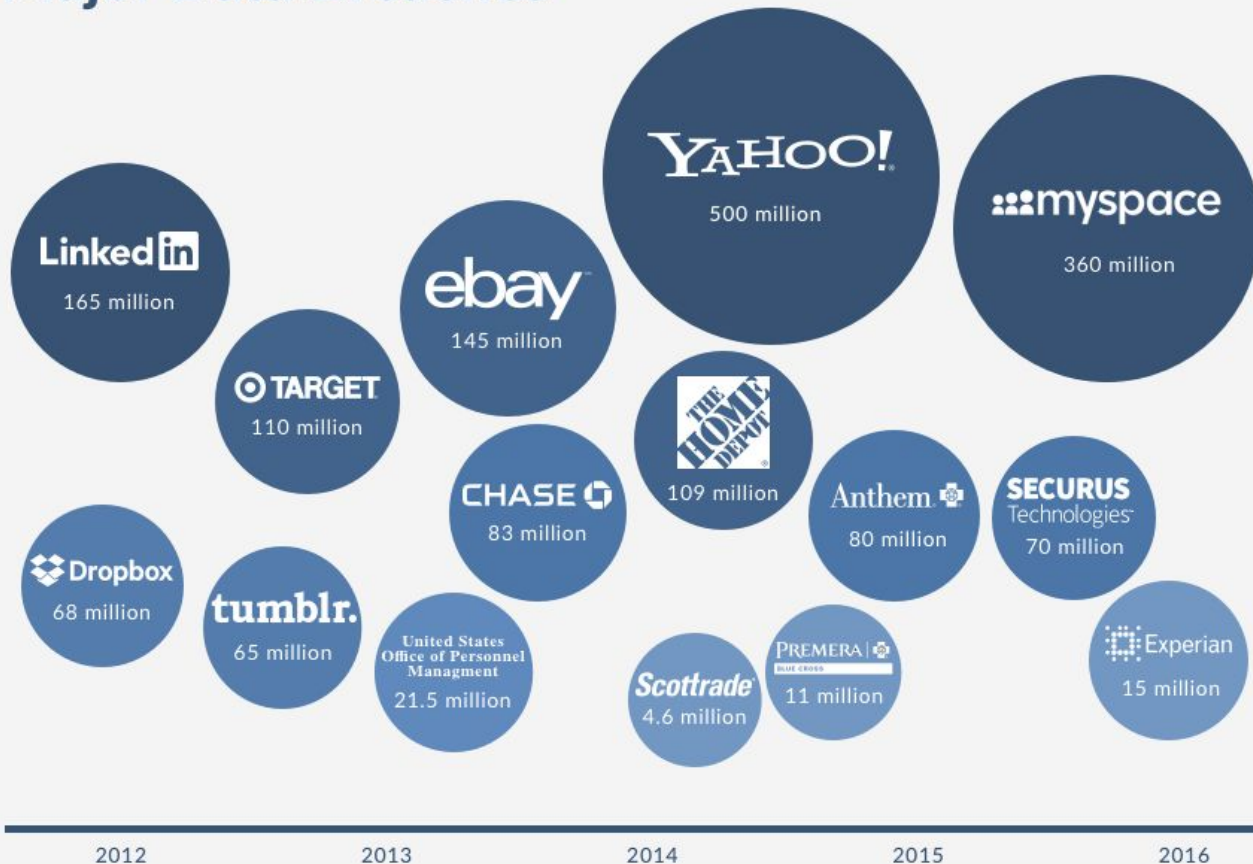


1. Ethics in Research & Innovation (R&I)
 - a. R&I in Academia and Industry
 - b. Involvement of Non-Experts
2. Tools for Practising Ethics
 - a. Requirements of tool
 - b. Business Model Canvas
3. Ethics Canvas
 - a. Design & Philosophy
 - b. Evaluation

1. Rapid technological developments give new pervasive technologies
2. Adoption is faster than practising concern
3. Someone misuses the technology



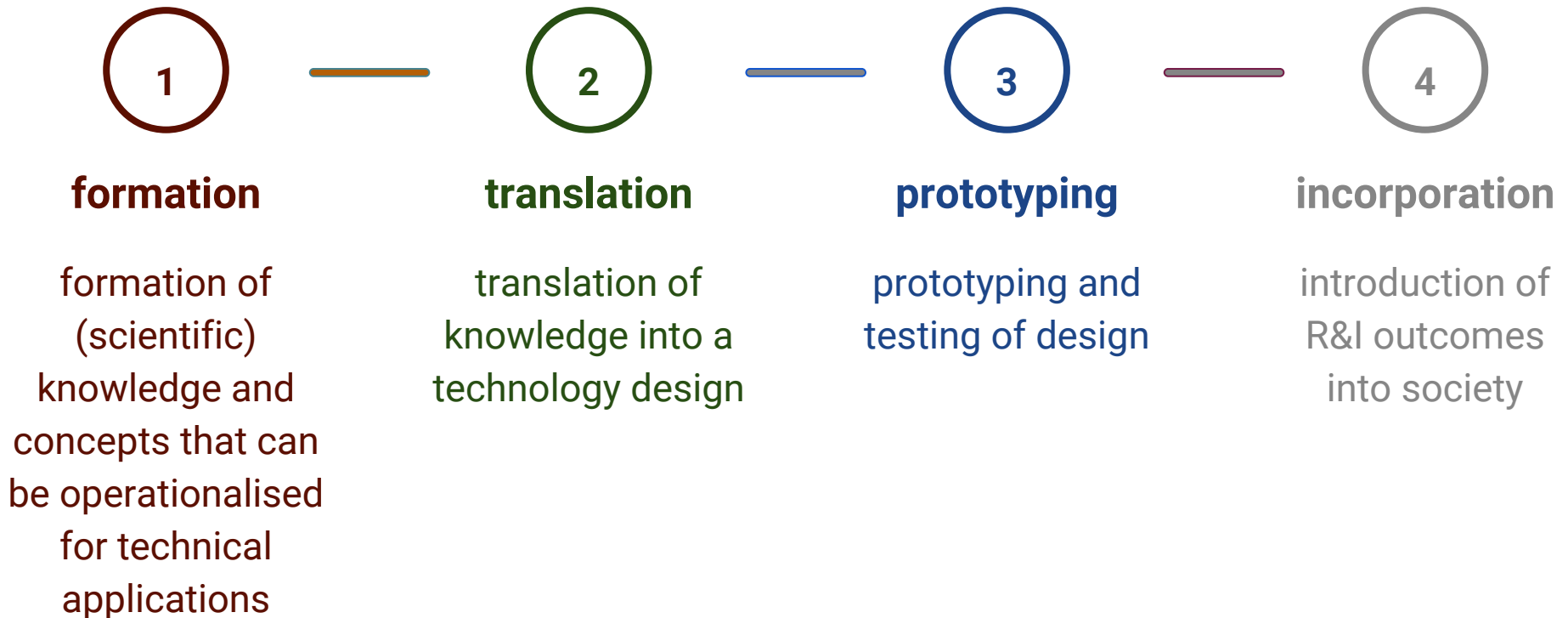
Customers Affected by Major Data Breaches



- Academia
 - professional codes of conduct
 - ‘ethical’ clearance procedures
- Industry / Commercial ← **Reactive; Not Proactive or Reflexive**
 - lumped together with legal concerns often
 - not ‘systemised’ or ‘formalised’

So what is
**“ethical
clearance”**
all about?





1. Integrate ethics in day-to-day work
2. Tools/Methods are targeted at Ethicists
3. Require special expertise

Requirements to satisfy:

1. accessible to non-ethicists
 - a. or people without a background in ethics
 - b. argument supported by Council for Big Data, Ethics and Society [14]
2. enable collaboration in identifying ethical impacts
 - a. people can be from different backgrounds, roles
 - b. multiple people can contribute using 'narratives'
 - c. fits theories in Science and Technology Studies (STS) [15]

The Business Model Canvas

Designed for:
Trans Sweden MTB Stage Race

Designed by:
Jörgen Dahlberg

On: 20 10 2010
Iteration: 2



www.businessmodelgeneration.com

BMC

- * Enable users to discuss how technology might bring about ethical impacts for different stakeholders.
- * Building blocks for holistic analysis of technological applications being discussed

Literature

- * Impacts of technology on individuals, groups, and society as a whole
- * Gathering different vantage points to consider ethical impacts of technology
- * Use writing in Philosophy and Technology

Trial & Error








- * Ensure design is user-friendly and intuitive
- * Iterate through series analysis exercises
- * Trial in teaching and training settings with >260 students

10

Table 1. Overview of (1) the central questions of the Ethics Canvas, (2) authors consulted to address these, (3) the approaches used by these authors, (4) the changes in wordings applied during the trial-and-error sessions and (5) the final boxes for the Ethics Canvas.


Central question	Literature consulted	Approach	Change in wording	Boxes
Who are affected?	Pinch and Bijker [15], Akrich [26]	Actor Network Theory	Relevant social group/actor/actant => individual/group	(1) Individuals affected (2) Groups affected
How are stakeholders affected?	Ihde [27], Verbeek [28]	Postphenomenology	“Human-technology-world” relation => behaviour/relations	(3) Behaviour (4) Relations
	Feenberg [29]	Critical Theory of Technology	Ideology => worldviews Struggles => social conflicts	(5) Worldviews (6) Social Conflicts
	Schot and Rip [30]	Constructive Technology Assessment	Risks of products and processes => product or service failure Environmental aspects => Problematic use of resources	(7) Product or service failure (8) Problematic use of resources
What can be done?	Friedman, Kahn, and Borning [10]	Value Sensitive Design	Technical choices driven by value-considerations => What can we do?	(9) What can we do?

The ADAPT Centre for Digital Content Technology is funded under the SFI Research Centres Programme (Grant 13/RC/2106) and is co-funded under the European Regional Development Fund..


Ethics Canvas		Project Title:	Date:	Ethics Canvas v1.8 - ethicscanvas.org © ADAPT Centre & Trinity College Dublin & Dublin City University, 2017.	
Individuals affected Identify the types or categories of individuals affected by the product or service, such as men/women, user/non-user, age-category, etc.	Behaviour Discuss problematic changes to individual behaviour that may be prompted by the application e.g. differences in habits, time-schedules, choice of activities, people behaving more individualistic or collectivist, people behaving more or less materialistic.	What can we do? Select the four most important Ethical impacts you discussed. Identify ways of solving these impacts by changing your project's product/service design, organisation. Or by providing recommendations for its use or spelling out more clearly to users the values driving the design.	Worldviews Discuss how the general perception of somebody's role in society can be affected by the project.	Groups affected Identify the collectives or communities, e.g. groups or organisations, that can be affected by your product or service, such as environmental and religious groups, unions, professional bodies, competing companies and government agencies, considering any interest they might have in the effects of the product or service.	
 1	 3	 4	 5	 2	
Relations Discuss problematic differences in individual behaviour such as differences in habits, time-schedules, choice of activities, etc.		Group Conflicts Discuss the impact on the relationships between the groups identified, e.g. employers and unions.			
Product or Service Failure Discuss the potential negative impact of your product or service failing to operate as intended, e.g. technical or human error, financial failure/ receivership/acquisition, security breach, data loss, etc.		Problematic Use of Resources Discuss possible negative impacts of the consumption of resources of your project, e.g. climate impacts, privacy impacts, employment impacts etc.			
 7		 8			



The Ethics Canvas is adapted from Alex Osterwalder's Business Model Canvas. The Business Model Canvas is designed by: Business Model Foundry AG. This work is licensed under the Creative Commons Attribution-Share Alike 3.0 unported license. To view a copy of this license, visit <https://creativecommons.org/licenses/by-sa/3.0/>. To view the original Business Model Canvas, visit <https://strategyzer.com/canvas>.

 ONLINE ETHICS CANVAS

Canvas Title Ethics Canvas Adoption

 Harshvardhan Pandit

Saved Tags for This Canvas

Ethics UX diversity

Individuals Affected

UX Designers

Business leaders

Legal professionals

1

Behaviour

Heightened awareness / concern about possible ethical issues

Delay the launch of product / service until all potential risks are mitigated

Increased complaints, civil suits

3

What can we do?

Increased education / awareness of the use / application of Ethics Canvas

Include all stakeholders in the use of the Ethics Canvas

Agile approach - frequent & fast prototyping, testing and fine-tuning iterations

9

Worldviews

Heightened awareness of biases; more appreciation of / openness to diversity

Overly sensitized / paranoia / suspicion about differences; increased need for transparency

5

Groups Affected

Activists, religious, gender, ethnic groups, parents

Suppliers, manufacturers, service providers, consumers

2

Relations

Product service developers with legal dept

Digital agencies with clients

Service providers and consumers

4

Group Conflicts

6

- Evaluate perceived usefulness amongst users
- Pilot: students creating an ICT application as part of coursework
- Students attend a 1-hour lecture presenting the Ethics Canvas
- Use (online) Ethics Canvas in groups for ~1-hour
- Free to collaborate physically or virtually
- Questionnaire (voluntary) after completing Ethics Canvas

- 109 students participated in the exercise
- Organised into groups of 3 to 4 students (on average)
- Feedback given by 31 students (28% to total students)
- Questionnaire followed 5-point Likert scale to ask:
 - perceived usefulness of the Ethics Canvas
 - anticipated effect of the Ethics Canvas

56%+28%

(strongly agreed / agreed)
Exercise improved their understanding of potential ethical impacts

44%+29%

(strongly agreed / agreed)
Ethics Canvas widened their understanding of groups and individuals affected

42%+35%

(strongly agreed / agreed)
Helped to create a broad overview of potential ethical impacts of their projects

40%+21%

(strongly agreed / agreed)
Ethical impacts discussed fitted the structure of the Ethics Canvas

21%

(disagreed/disagreed strongly)
Ethical impacts discussed fitted the structure of the Ethics Canvas

52%+5%

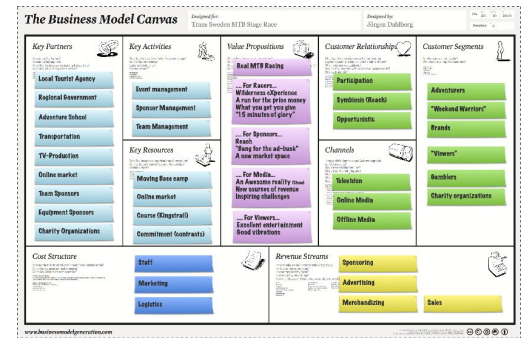
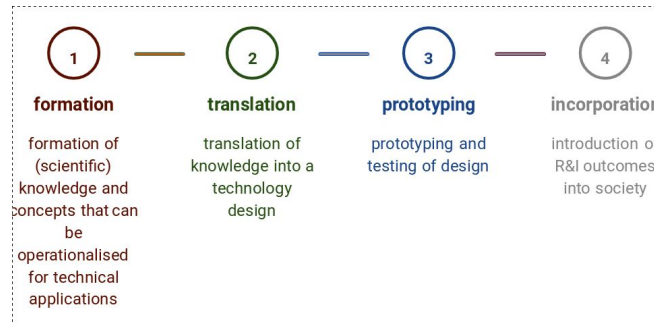
(strongly agreed / agreed)
Ethics Canvas led them to reconsider their business models for the project

01	Ethics Canvas is perceived as an useful tool to guide participants in discussing a broad range of ethical impacts as well as identification of relevant stakeholders
02	Ethics Canvas can lead to intention of participants to reconsider their business model or technology designs
03	Structure of Ethics Canvas needs to be improved to be more inclusive of potential ethical impacts

1. Evaluation of impacts
 - a. whether the impact is positive or negative
 - b. whether it is severe or non-severe
2. Translate engagement with Canvas in practice
 - a. back to conceptual roots in literature
 - b. transition outcomes into changes in conceptual frameworks

To Summarise...

- Academia
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02

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03

Structure of Ethics Canvas needs to be improved to be more inclusive of potential ethical impacts

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<https://ethicscanvas.org/> | Presented at HCC13, IFIP WCC, Poznan



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End of Presentation

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