



Engaging Content
Engaging People

TEU0031: What's the Internet Doing to Me?

Ethics Canvas: Ethics in Technology Innovation

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Thanks to: Wessel Reijers, Arturo Calvo, Killian Levacher

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Ireland's European Structural
and Investment Funds Programmes
2014-2020
Co-funded by the Irish Government
and the European Union



European Union
European Regional
Development Fund

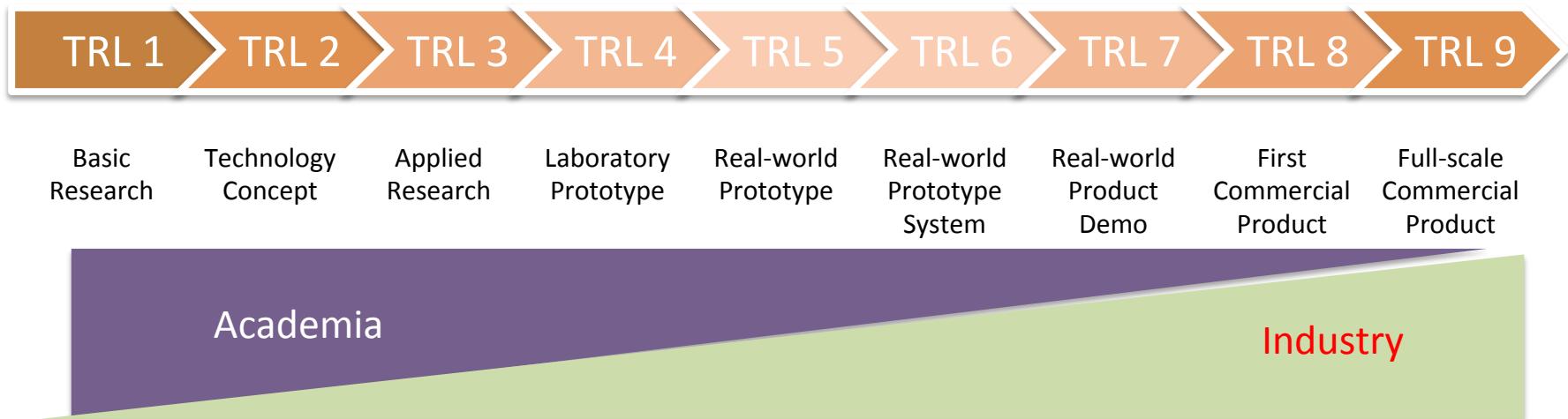


Introduction

- **Integration of Ethics in Research & Innovation (R&I) settings is underdeveloped** and often restricted to:
 - Academia: ethics clearance
 - Industry: meet legal requirements
- Growing impacts that technological innovations have on our society so increasing importance to reflect on **ethical implications**
- **Reputational concerns** are rising at an organisational level
- Research and innovation teams need to articulate and reflect their ethical values during the **design of applications**



Orientation: Ethics in Technology Research and Innovation



(Still the case on the Internet?)

Research
Ethics

Technology Ethics

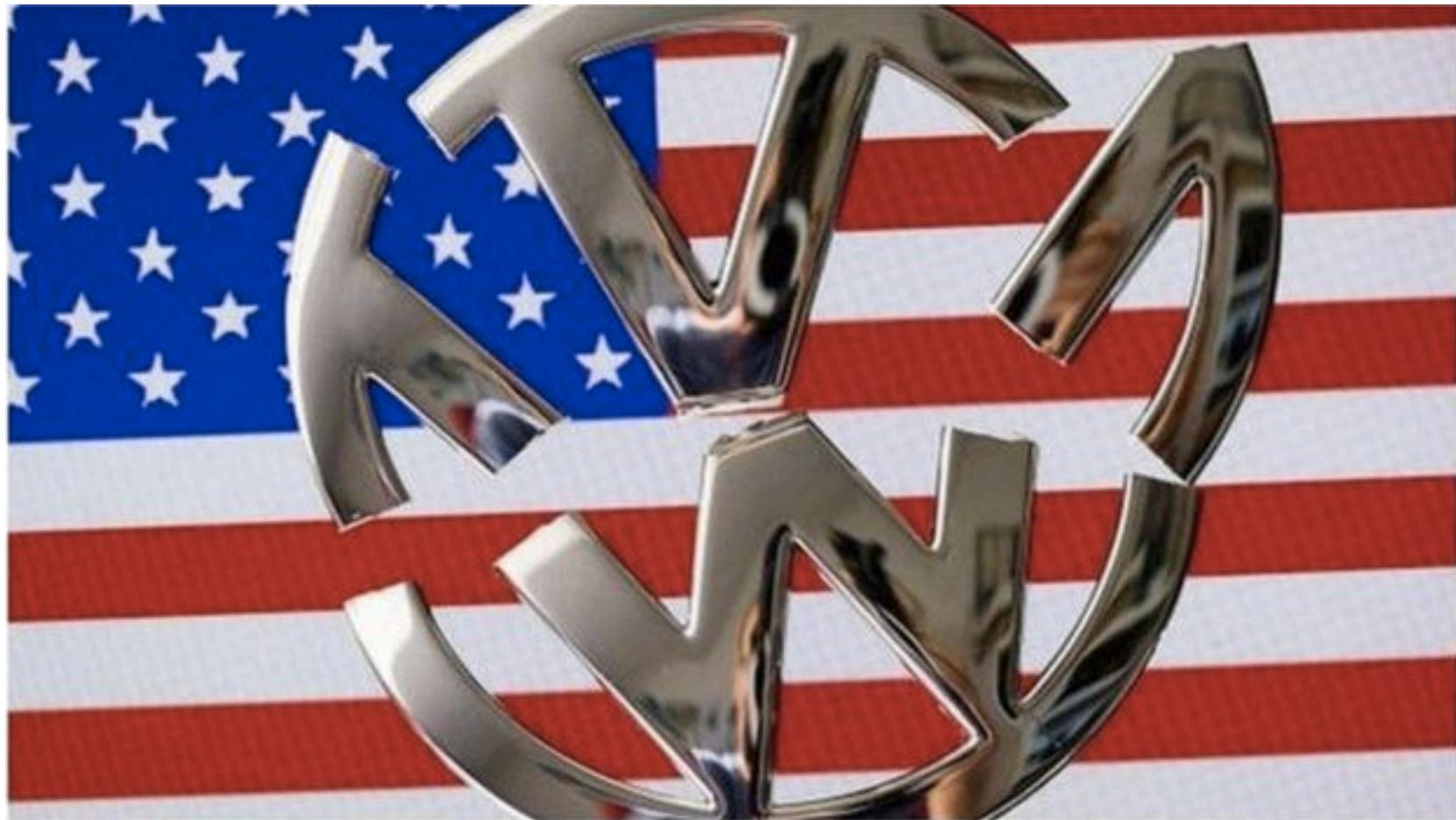
- The neutrality thesis: technologies are *instruments* that we can use to attain our own goals.
 - “People kill people”
- The determinism thesis: technologies *dictate* everything we do, they determine who we are.
 - “Guns kill people”
- The co-shaping thesis: technologies and humans together “construct” our social world.
 - “Gun-men kill people”



Technology Impact: Example



Software Impact: Example



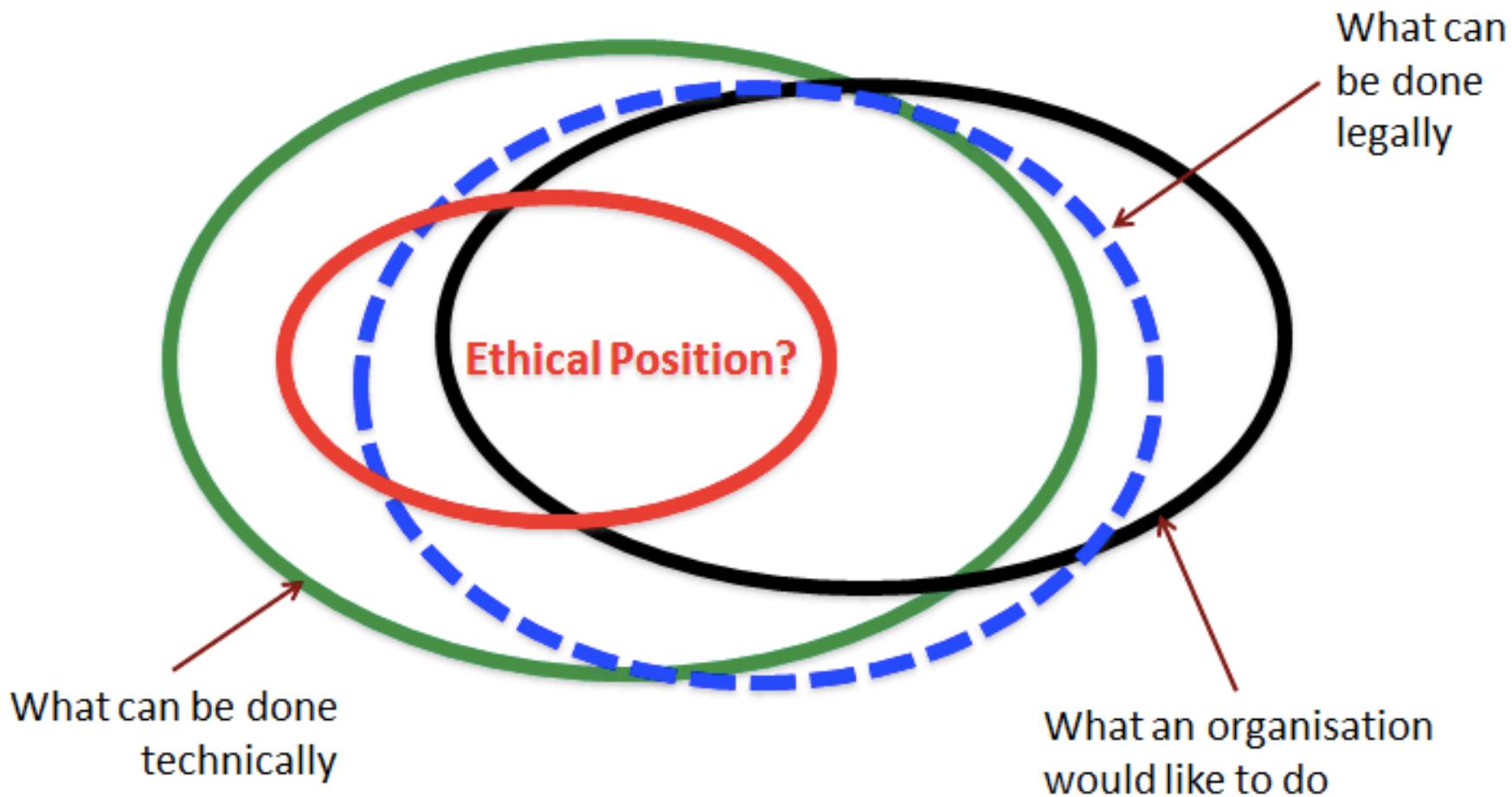
Internet Impact: Example



Ethics in Tech Research and Innovation

Organisations [IBM]

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Practising Ethics in Responsible R&I

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- Levels of practising ethics on responsible R&I (Brey, 2000):
 - **Disclosure:** exploration and identification of ethical impacts
 - **Theoretical:** frameworks to evaluate the impacts
 - **Application:** moral deliberation to overcome negative impacts
- **Disclosure level** neglected in current methodologies
- Need to:
 - Keep pace with **volume and speed** of innovation
 - **Accessible** to non-ethicist
 - R&I teams have an important perspective
 - R&I teams position to implement pivot to mitigate negative impact
 - Enabling a **collaborative** process

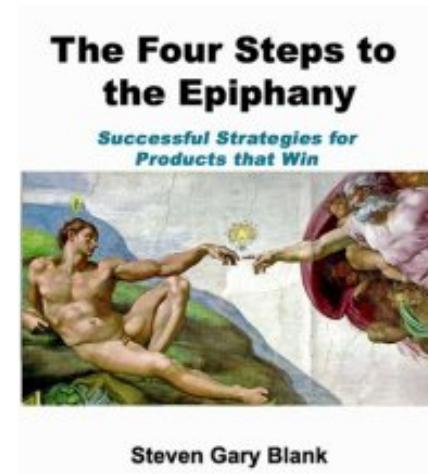
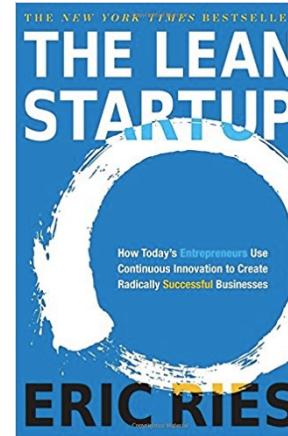
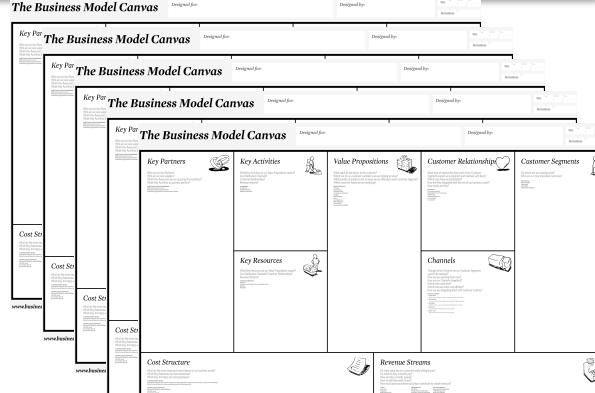
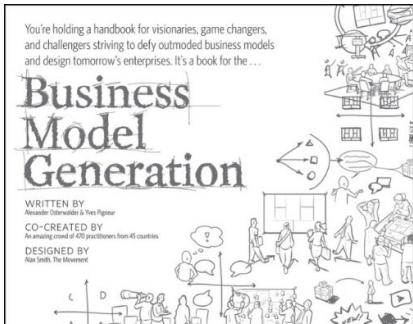
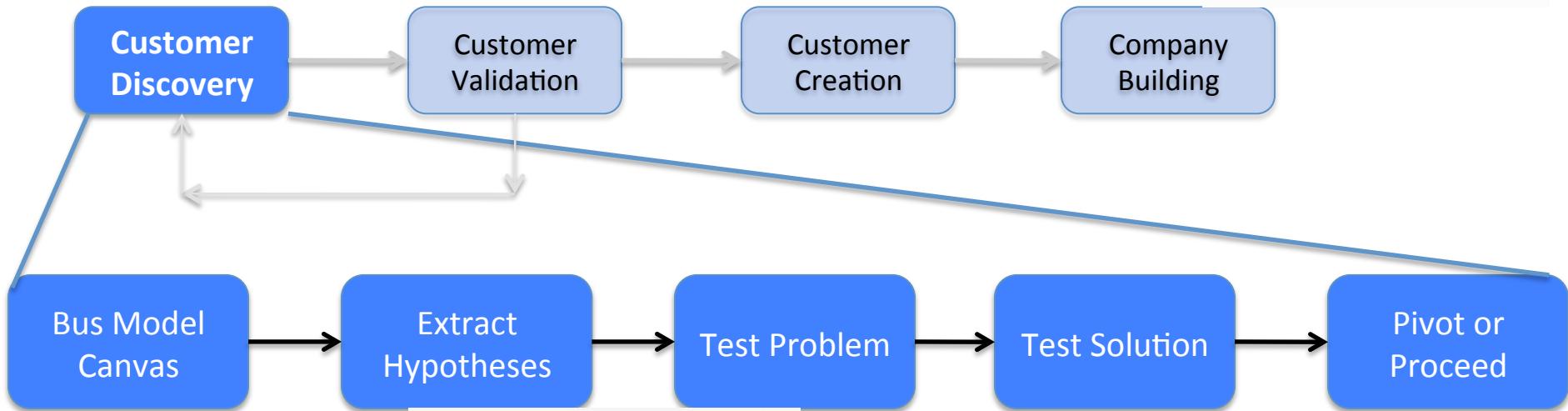


Brey, P. (2000). Disclosive Computer Ethics: The Exposure and Evaluation of Embedded Normativity in Computer Technology. *Computers and Society*, 30(4), 10-16



Data Hungry Innovation - “Silicon Valley” Methods

The Customer Development Process



How to make ethics part of the process?

Turning towards business modelling approaches

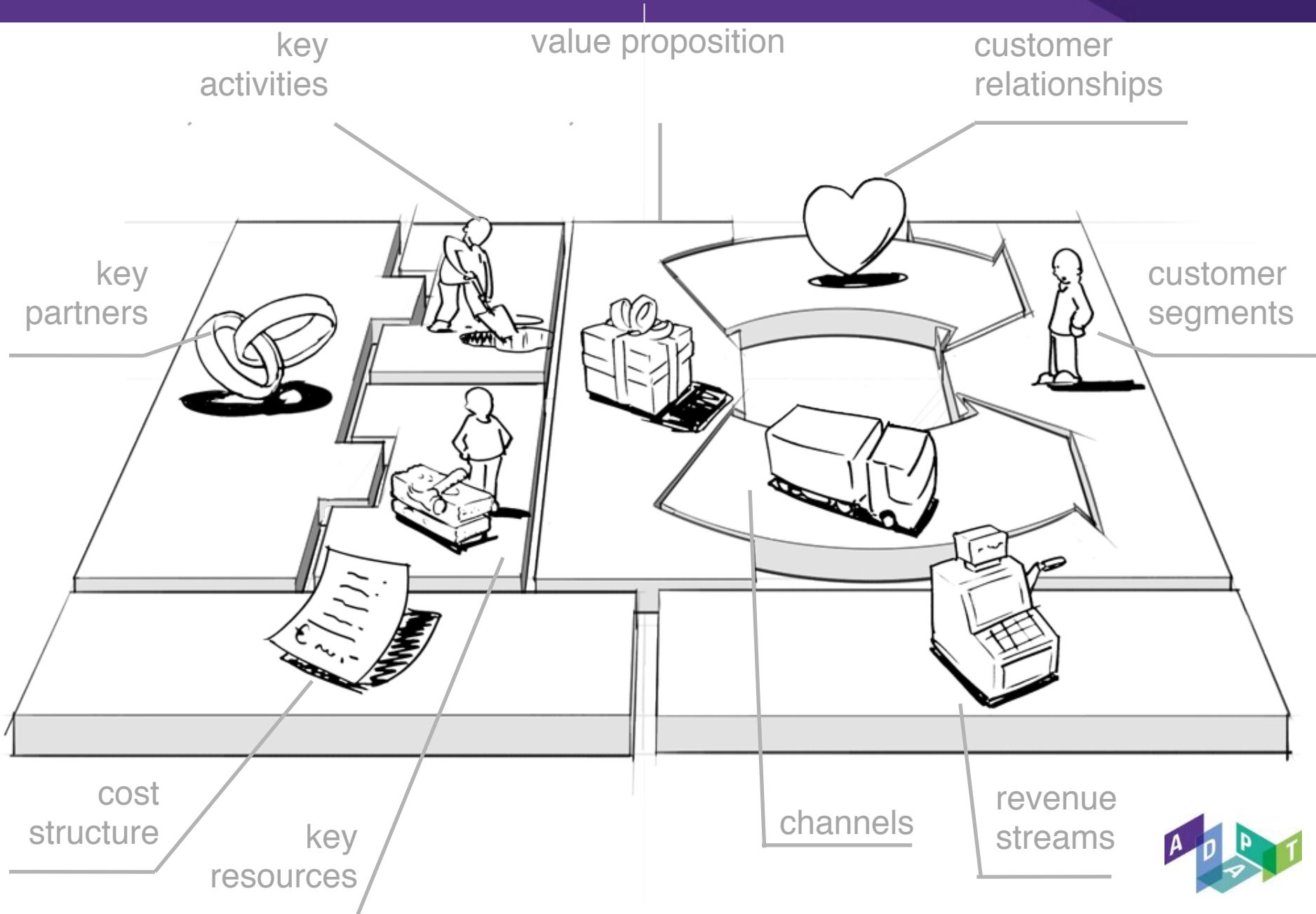
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- ***Business Model Canvas*** (BMC) is a brainstorming tool that analyses how business value is created, delivered and captured
- Developed by Osterwalder & Pigneur, 2010.
- Open Source (Creative Commons) – strategyzer.com
- Nine building blocks describing business in a holistic manner
- Printed canvas and online versions available
- Fulfils our two aims:
 - Highly **accessible** to people without specialised knowledge
 - Allows participants to engage in **collaborative** reflection



Business Model Canvas

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Innovation Tool Affordances: Business Model Canvas

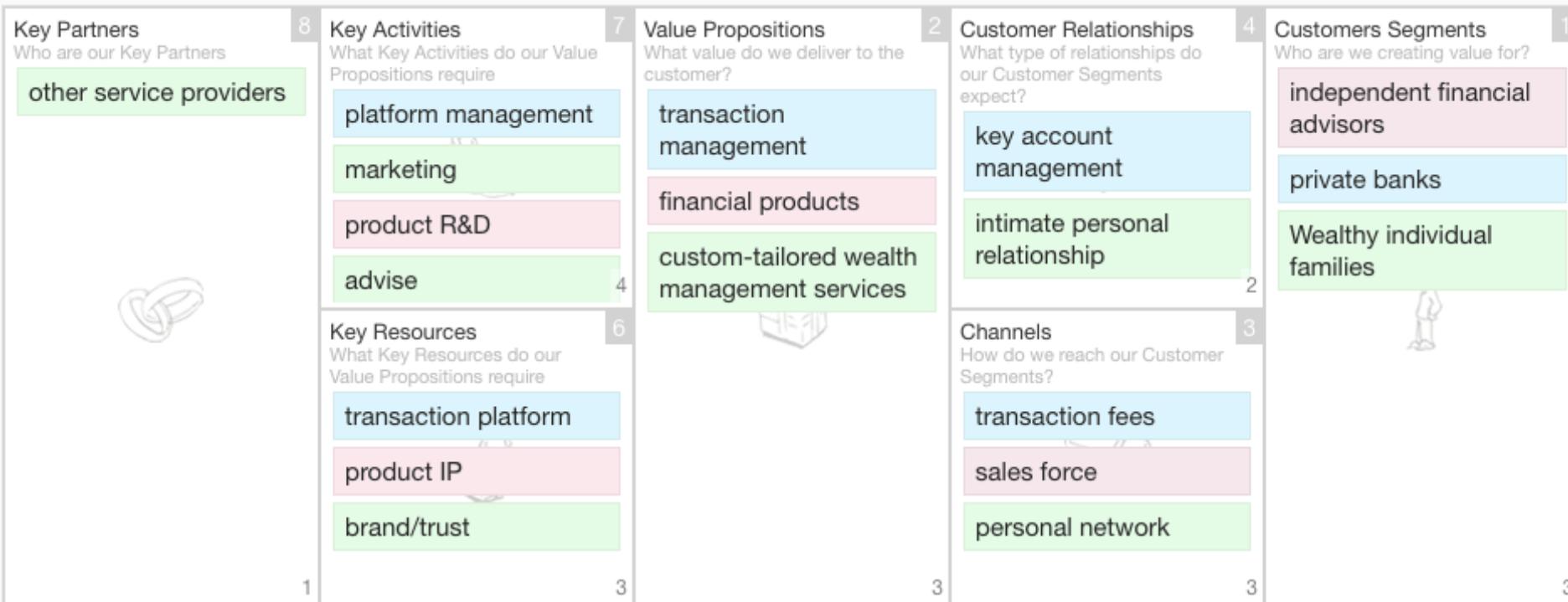
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<https://bmfiddle.com>

Private Banking Model

a quick sample

PDCv3



Cost Structure
What are the important costs inherent in our business model?

HR: private bankers

HR: R&D

platform management


9

Revenue Streams
What value are our customers willing to pay for?

transaction fees

product and performance fees

management & advisory fees




Ethics Canvas: Light weight approach

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- **Ethic Canvas** is a **methodology** for identifying, evaluating and resolving **ethical impacts** during **R&I** stages:
 - Formation of knowledge and concepts
 - Design of the technology
 - Prototyping and testing
 - Integration of R&I outcomes into society
- **Foster ethically informed technology design** by engaging R&I teams with the ethical impacts
- Transform affordances of *Business Model Canvas* into an ***Ethics Canvas***
- **Collaborative brainstorming tool** with two aims:
 - Help teams identify, discuss and articulate possible ethical impacts
 - Bring about *pivots* in the design



- We can use the Ethics Canvas as tool for **capture and reflection of ethical implications** on R&I settings
- We promote a **reflective, unmediated, easy-to-use** and **self-service** approach to the analysis of ethical issues by researches / developers
- Reflective tool for “Value sensitive design”:
 - What kind of values do we want to inscribe in our application? (our vision of the Good Life)
 - How can we operationalise these values?
 - How can we “design” technologies and their applications accordingly?



- Changes in individual **behaviour**
- Relationships between **individuals**
- Relationships between **collective actors**
- **Relationships** *between* individuals and collectives
- Impact in the **public sphere**
- Impact of technology **failure**
- Impacts on the **environment** and production processes



Ethics Canvas

Project Title:

Date:

Ethics Canvas v1.8 - ethicscanvas.org © ADAPT Centre & Trinity College Dublin & Dublin City University, 2017.

Individuals affected Who use your product or service? Who are affected by its use? Are they men/women, of different ages, etc.?	Behaviour How might people's behaviour change because of your product or service? Their habits, time-schedules, choice of activities, etc.?  3	What can we do? What are the most important ethical impacts you found? How can you address these by changing your design, organisation, or by proposing broader changes?	Worldviews How might people's worldviews be affected by your product or service? Their ideas about consumption, religion, work, etc.?  5	Groups affected Which groups are involved in the design, production, distribution and use of your product or service? Which groups might be affected by it? Are these work-related organisation, interest groups, etc.?  2
Relations How might relations between people and groups change because of your product or service? Between friends, family-members, co-workers, etc.?	 1  4 	 9	Group Conflicts How might group conflict arise or be affected by your product or service? Could it discriminate between people, put them out of work, etc.?	
Product or Service Failure What are potential negative impact of your product or service failing to operate or to be used as intended? What happens with technical errors, security failures, etc.?		Problematic Use of Resources What are potential negative impacts of the consumption of resources relating to your project? What happens with its use of energy, personal data, etc.?		
 7		 8		



The Ethics Canvas

www.adaptcentre.ie

- Canvas current version: 1.8
- Web version:
<https://ethicscanvas.org>
- License: **Creative Commons Attribution Non-Commercial 3.0 Unported**

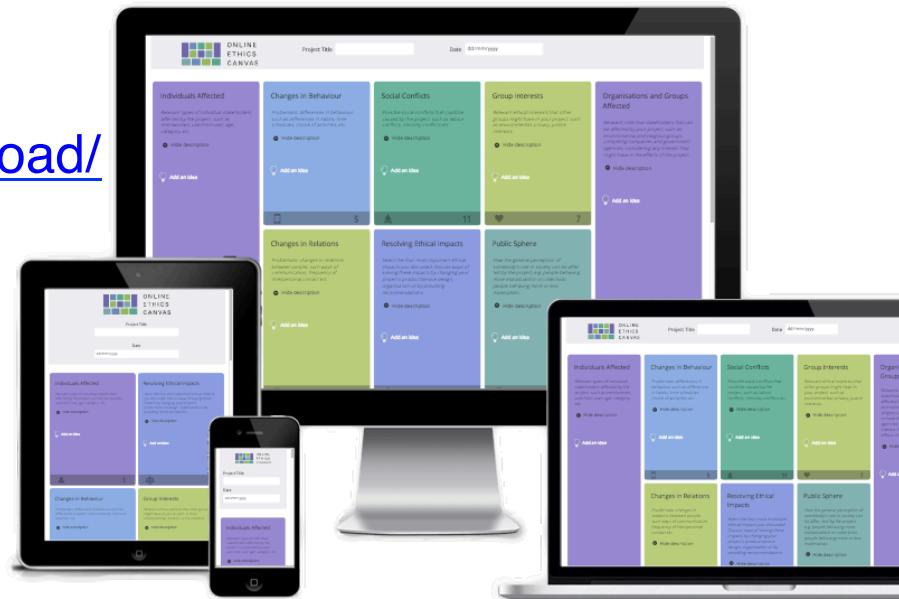


- User Manual available at:
- <https://www.ethicscanvas.org/download/handbook.pdf>

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- Canvas current version: 1.8
- License: **Creative Commons Attribution Non-Commercial 3.0 Unported**
- User Manual available at:
 - <https://www.ethicscanvas.org/download/handbook.pdf>
- **Online Features:**
 - Create a personal account and collaborate with other users
 - Save canvasses and export them in .pdf format
 - Tag terms, create a shared knowledge-base



WhatsApp Example

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Online Ethics Canvas

Canvas Title: Whatsapp example2

Date: 2017-10-04

Individuals Affected	Groups Affected	Behaviour	Relations	Worldviews
<ul style="list-style-type: none">non usercompany employeesChildren	<ul style="list-style-type: none">Organisations with mobile/distributed workforcesTelecom firms facing loss of SMS incomeAdvertisers seeking access to users personal phone contact list	<ul style="list-style-type: none">More reliant on smart phone and data servicesMessaging morePerceive others as being more available 24/7	<ul style="list-style-type: none">users seek less face to face contactNon users excluded	<ul style="list-style-type: none">personal phone contacts no longer regarded as privateconcerns with loss of location privacy
1	2	3	4	5
Group Conflicts	Product or Service Failure	Problematic Use of Resources	What can we do?	Uncategorised Ideas
<ul style="list-style-type: none">New channel for cyberbullyingconflict between employees and employers messages outside work hours	<ul style="list-style-type: none">loss of critical communication channel if service failsbreach of phone contact list data privacy	<ul style="list-style-type: none">loss of control over phone contact listindividual attention diverted from social surrounding to smartphone	<ul style="list-style-type: none">transparency and control over sharing and use of phone contact list	
6	7	8	9	?

Conclusions

- We can use the Ethics Canvas as tool for **capture and reflection of ethical implications** on R&I settings
- We promote a **reflective, unmediated, easy-to-use** and **self-service** approach to the analysis of ethical issues by researches / developers
- We applied an **iterative, usability-driven** approach to the design of the ethics canvas
- We tested it in classroom settings with **promising results**
- We made it **available to the community: ethicscanvas.org**





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Thanks for your attention!

Any questions or feedback?

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