
Socially Responsible Innovation: Dilemmas and Challenges for Supply Chains

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Agenda

- Introduction
- History and Evolution of Responsible Innovation
- Definitions
- Problems & RI approach
- Responsible Innovation and the NPD Process
- Summary and Future Research Agenda

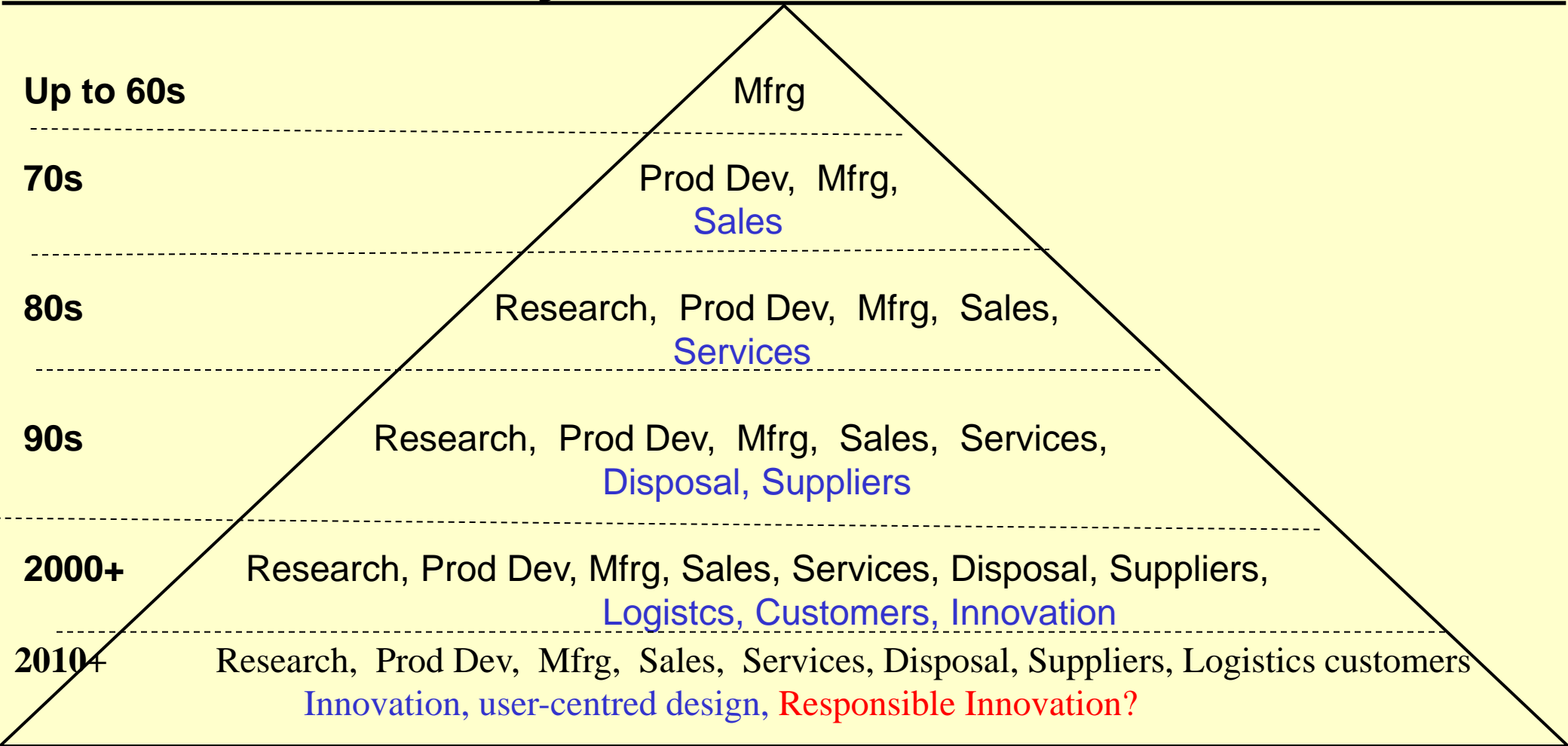


Introduction

- Big challenges – need for sustainability and socially responsible business practices
- Climate Change and legislation on product takeback
- Growth of organic and Fairtrade markets
- Corporate Social Responsibility agenda – reduce environmental impact, sell ethical products, invest in community projects and natural environment
- People, Planet, Profit



History & Evolution of RI



Challenge: How do we become **Responsible Innovators
within a highly dynamic & changing context?**



Examples – Problem & RI Approach

- **P:** How do we raise awareness about Cancer Research?
- **RI:** development of a new product line for Marks & Spencer

- **P:** Pharma sector – how to source ethically?
- **RI:** development of an independent centre

- **P:** How do we reward workers in Africa?
- **RI:** Fair Trade - shared value (Michael Porter)

- **P:** How do we prevent potential nuclear power supply disaster?
- **RI:** Close existing plants and develop new solutions (Germany & Japan)



What is Responsible Innovation?

- ...can be characterized as the balancing of efforts to maximize the technology's **positive contributions** and minimize its negative consequences. (..)
- ... implies a commitment to develop and use technology to help meet the most pressing human and societal needs, while making every reasonable effort to **anticipate and mitigate adverse implications** or unintended consequences.
- ...is often **not only about innovation**, but about development of Science and Technology for the **well being of Society**

*National Research Council (2006), A Matter of Size. Triennial Review of the National Nanotechnology Initiative, p. 73
Contribution to the Franco-British workshop on responsible innovation, From concepts to practice, London, 23-24 May 2011*



What Is Responsible Innovation?

- EC view: “from science *in* society to science *for* society, *with* society” (Laroche, 2011)
- “The best science *for* the world rather than the best science *in* the world” (Owen et al, 2012)
- “Responsible Research and Innovation is a **transparent, interactive process** by which societal actors and innovators become **mutually responsive** to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a **proper embedding** of scientific and technological advances in our society”

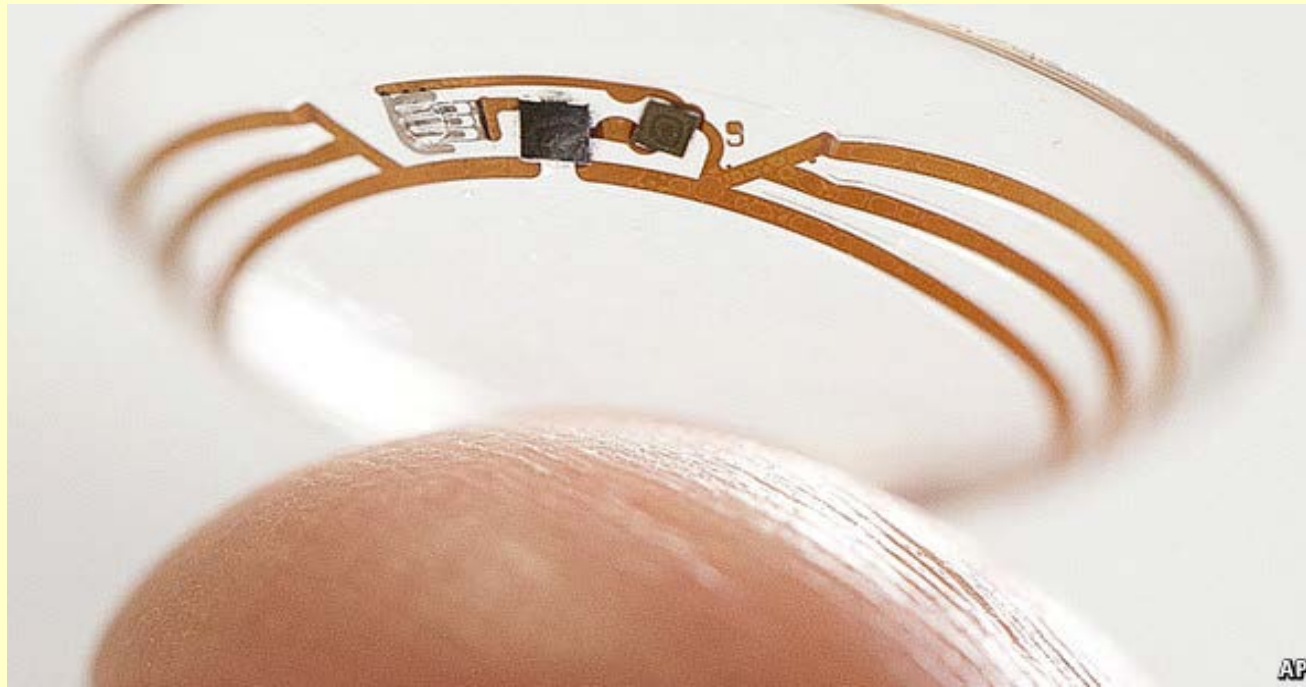


RI - encomasses

- policy and societal discourse;
- institutions and arrangements;
- ongoing/evolving practices (of scientists, industrialists, also civil society actors)
- changing the lens
- Shared Values
- financial instruments, ICT, public policy or community innovations, Logistics, distribution, service or system innovations
-?????
- **Future:** develop **principles & 'triggers'** & approaches for implementation



Google - Contact Lens Development



In January 2014 Google said it was working on a [contact lens](#) containing a tiny wireless chip and sensors that would measure and transmit the [glucose levels in a diabetic patient's tears](#). In December Apple was granted an American patent on a means to incorporate a heartbeat sensor into its devices.



Agony of Rabbits in Chinese Farm- **is this RI?**



Harvesting fur to make angora sweaters can involve plucking rabbit's hair



Working gun made with 3D printer



How can RI address this issue?

Drones used in war: is this RI?



**DHL makes first commercial deliveries with
'paketkopter' drone**

(CILT Newsletter, 1st Oct 2014)

Amazon tests Drones (Dec 2013)

Amazon testing drones for package delivery, Jeff Bezos says | Toronto Star - Windows Internet Explorer

http://www.thestar.com/business/2013/12/02/amazon_testing_drones_for_package_delivery_jeff_bezos_says.html

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Business

Amazon testing drones for package delivery, Jeff Bezos says

Unmanned gadgets already used for commercial mapping, photography in Canada.

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Amazon Prime Air

30-MINUTE AIR DELIVERIES!?

By: Gemma Karstens-Smith Staff Reporter, Published on Mon Dec 02 2013

Amazon.com Inc. is testing drones to deliver products and, while the revelation has many buzzing, some people who are already using the technology for commercial purposes say the idea of using unmanned aircraft to send goods just won't fly.

EXPLORE THIS STORY

- 2 PHOTOS
- 1 VIDEO
- ? COMMENTS

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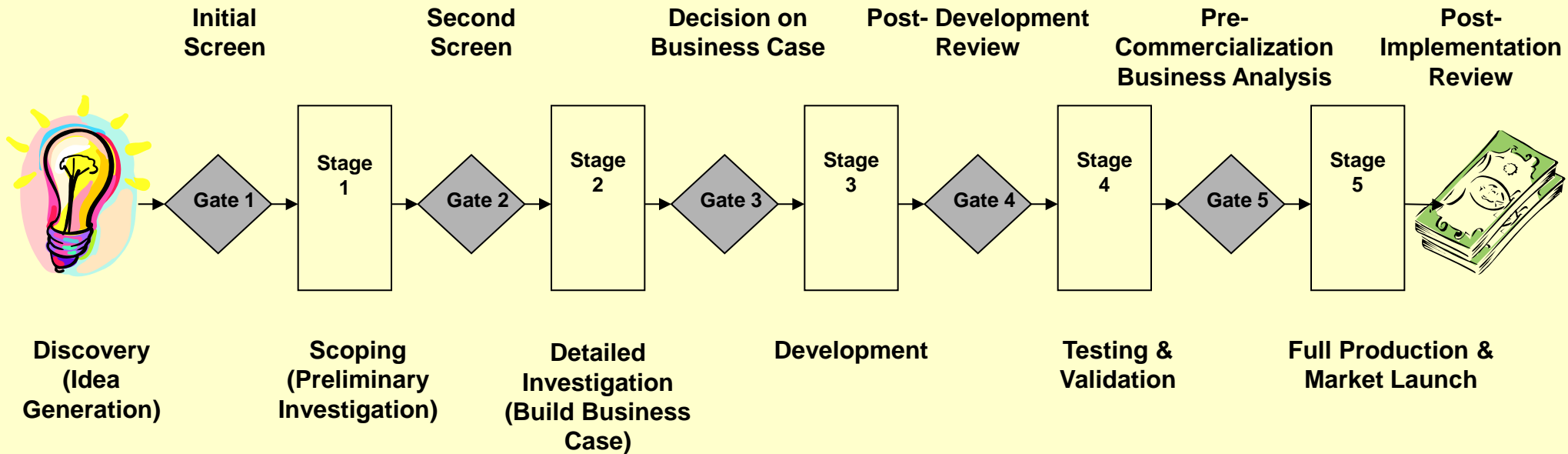
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Is it possible to engineer RI in the NPD Process?

- Using typical Stage Gate Process



Discovery Stage

- Identifying and generating new product ideas
- Engage wide range of stakeholders
- Surveys, focus groups, crowdsourcing, Web 2.0, social media
- P&G – connect and develop programme (sourcing more than 50% of innovations from outside P&G), Innocentive and NineSigma websites
- Frame good problems focused on social responsibility to gather ideas
- Users generate better (although sometimes less feasible) solutions (Poetz and Shreier, 2012)



Scoping Stage

- Assessment of technical merits of product and potential market
- Include an ethical, societal and environmental assessment of **product for RI**
- **Identify** risks and potential **unintended consequences** and mitigate



Build the Business Case Stage

- Feasibility – ensure product has a good product definition, a strong justification and plan for delivery – focus typically on technical, marketing and financial feasibility
- Extend to **include ethical and environmental feasibility** of product and manufacturing and consumption processes
- In desire to increase profits, **socially irresponsible behaviours** – child labour, exploiting employees, putting consumers at risk, poisoning environment, violating regulatory laws etc
- Product Service System approaches (Baines et al, 2007) – DuPont – selling floor coverings to total servicing – installation, maintenance, takeback, recycling
- Collaborative consumption – new technology enables peer communities to share, barter, lend, trade, rent and swap products to **enable sustainable and responsible consumption** patterns



Development Stage

- Actual design and development of the product
- **Source raw materials appropriately** – created in safe facilities by well-treated workers, paid suitable wages and working legal hours (pharma sector concerned)
- IKEA in Eastern Europe – prison workers, Apple in China – child labour. Primark production workers in an **unsafe factory building in Bangladesh**
- **Suppliers need to respect environment**, use materials from sustainable sources and implement effective pollution and emissions measures and controls
- Whole supply chain important – not straightforward though!



Testing and Validation Stage

- Entire project is examined – product, manufacture, customer acceptance, economics of project
- Does product live up to claims being made? Is it reliable? Maintainable? Safe? Not violating patent etc laws? No animal testing?
- Have **environmental and ethical standards** been met? Monitor and improve waste reduction, recycling and reuse options – life cycle analyses (LCA)
- Mattel – lead paint in toys

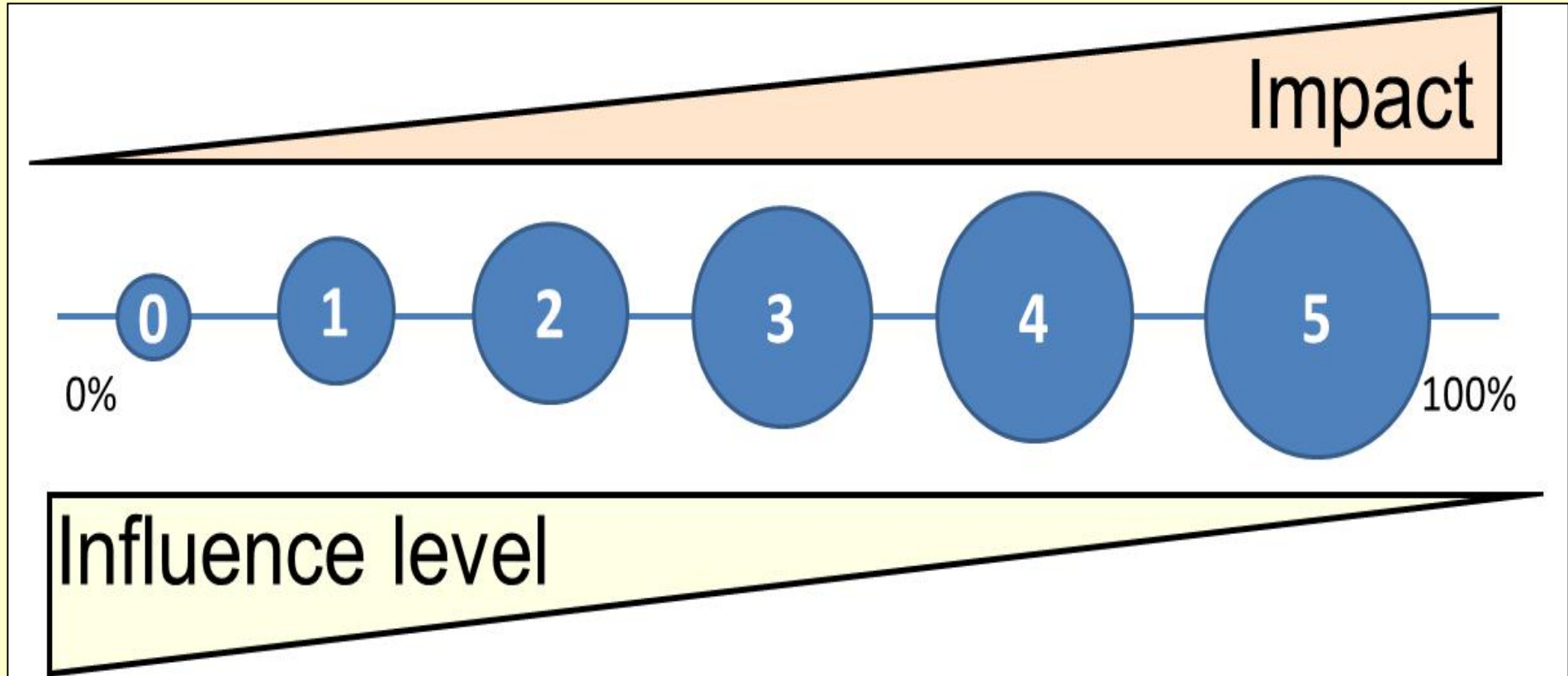


Launch Stage

- Full commercialisation of product – production and commercial launch of product
- Demand for brands to do well whilst doing good – buy from organisations supporting good causes
- Fashion – Marks and Spencer, Uniqlo, H&M – customers can recycle and donate clothes to charity – environmental and poverty agenda
- Inform customer – eco-labelling e.g. Fairtrade label, Forest Stewardship Council, Marine Stewardship Council, EU Eco Label
- But biggest opportunities lie in earlier stages of process!



Impact and Influence by Stage of NPD Process



Future Research Agenda

- Literature Review and reflect on lessons from Corporate Social Responsibility (CSR)
- Empirical work – RI readiness
- Develop a Framework – NPD RI maturity assessment
- Develop performance metrics for RI
- Implementation – of Framework and develop new tools



Summary

- Extend RI beyond universities and high technology R&D to all industries
- Opportunities for improvement at all stages of NPD process
- Extend CSR into NPD process
- Techniques not new – but use in integrated and systematic way in NPD process will be!
- Develop Responsible Innovation Special Interest Group to consider People-Planet-Profit perspectives
- Lot of more work to do yet!

