BUSINESS IN THE COMMUNITY

The Prince's Responsible Business Network

HRH THE PRINCE OF WALES ROYAL FOUNDING PATRON

RESPONSIBLE INNOVATION FRAMEWORK

September 2020

#BUILD BACK RESPONSIBLY

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RESPONSIBLE INNOVATION FRAMEWORK

This document aims to give innovators a framework to identify and mitigate potential unintended consequences, while capitalising on "innovation for good" opportunities.

Introduction

Digital transformation and shifting market forces are driving a rapid and ever increasing pace of change in industry, which will only be further accelerated by the pandemic. Businesses of every sector and geography are continuously innovating to stay ahead or even stay afloat.

Agility and "lean" governance are central themes of this innovation, but risk exposing companies to unintended consequences that damage their communities, workforce, environment and reputation. In recent months, for example, we have seen AI perpetuate and accelerate society's biases, people excluded by a lack of access or skill, technology damaging people's wellbeing and a harmful backlash against high environmental impact services. These unintended consequences of innovation expose financial, reputational and legislative risk. Responsible innovation can bring cost reductions, improved brand value, increased resilience, enhanced employee, customer and supplier relationships, and ultimately more innovation.

No business wants to deliberately innovate irresponsibly, but our research shows that most companies rely on a "best endeavours" approach to responsibility. Rarely do innovation teams have the knowledge, processes or training in place to ensure that they identify and mitigate these unintended consequences. Business in the Community's recent Responsible Business Tracker showed that less than a third (32%) of businesses considered social or environmenal factors during any product development.

Additionally, as our Brave New World report showed, digital technologies can help to measure, accelerate and scale interventions to improve people's lives and protect our planet. Leveraging these technologies to address the UN Sustainable Development Goals would yield an estimated $12 trillion a year in revenue and cost savings by 2030, for example.

The business case for responsible innovation is clear. Business in the Community has developed and piloted a responsible innovation methodology with input from a range of leading businesses. Our framework is built around six principles of responsible innovation:

- **Purpose-led**
- **Stakeholder centricity**
- **Inclusive collaboration**
- **Risk mitigation & opportunity spotting**
- **Through-life impact**
- **Transparency**

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RESPONSIBLE INNOVATION

Business Case

The pace of change of markets, society and technology is driving nearly all companies to continuously innovate, just to stay afloat. Led by methodologies such as Lean, Agile and Design Thinking, this innovation necessarily focuses on pace and minimal viable governance.

This approach increases speed and value of delivery, but can expose the business to more risk to their reputation, profit, ethics and regulatory compliance.

Responsible innovation reduces this risk, and acts to protect our communities and the environment.

In this report, we consider innovation to include any product, service or process development, regardless of scale, source or technology.

As BSI shows, responsible business can yield a wealth of benefits[1]:

- long-term cost and risk reductions
- more resilient new product/service offerings to potential customers
- improvement of societal trust in the company and maintenance of social license to operate
- improved relations with investors and greater investor confidence in the company
- greater attractiveness as an employer
- better supply chain relationships
- improved reputation and brand value
- increased innovation capabilities
- improved ability to communicate the value of products and services to investors, companies, customers and citizens
- better relationships with governments, regulators and local communities
- improved capacity for long-term planning and sustainability

Equally, responsible innovation yields opportunities by working together and innovating to address key societal and environmental issues. For example, it is estimated that achieving the Global Goals would yield an estimated $12 trillion a year in revenue and cost savings by 2030.[2]

This framework enables users to reduce risk and capitalise on these opportunities.

$12 trillion per year

Global revenue and cost savings opportunity from innovating to address the Global Goals

[1] BSI PAS 440:2020 Responsible Innovation - Guide

[2] 2030 Vision Full Report 2017

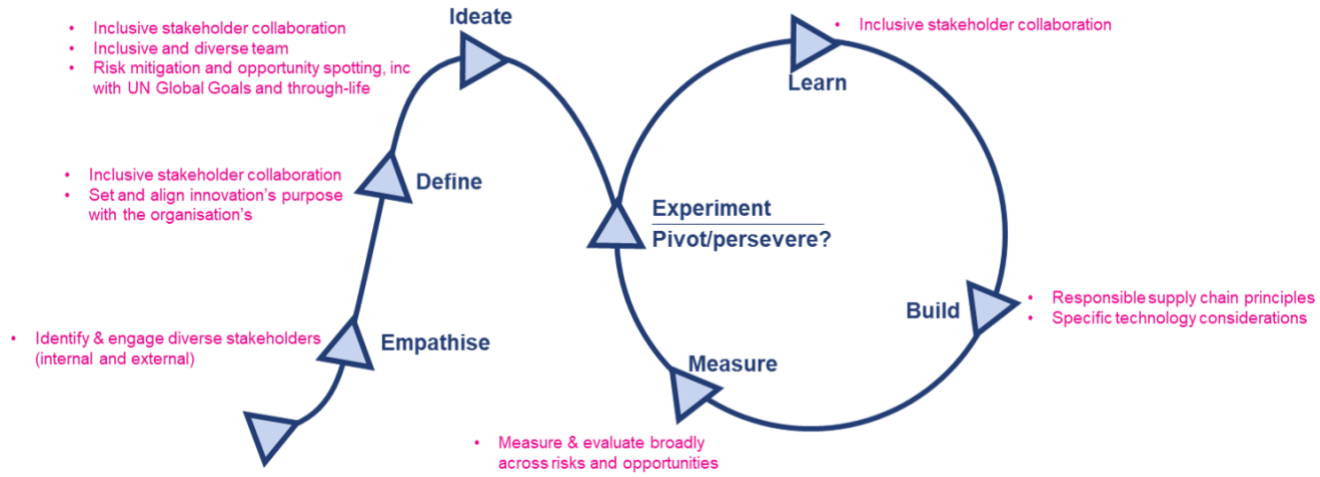
PRINCIPLES OF RESPONSIBLE INNOVATION

Responsible innovation, regardless of scale, source and technology, balances responsibility and purpose, with pace and agility, with the need for sustainability explicit.

This is driven by the six principles of responsible innovation:

- **Purpose-led:** responsible innovation may well be profitable, but above all it requires purpose and a positive contribution to society
- **Stakeholder centricity**: a diverse and inclusive set of stakeholders, including users, must be consulted throughout the process to ensure innovation that serves better with fewer issues and risks
- **Inclusive collaboration:** diversity of thought and experience leads to better innovation, and the principle of inclusion must apply to all stakeholders and customers
- **Risk mitigation & opportunity spotting:** responsible innovation is innovation that identifies and mitigates negative consequences whilst capitalising on opportunities to improve society and the environment
- **Through-life impact**: consider a long timeframe, from resource sourcing through to decommissioning and resource disposal
- **Transparency:** seek opportunities to continually increase the visibility and explainability of the innovation, including by tending to open source where possible

These principles can be applied in a variety of ways, regardless of the underlying innovation approach or methodology used. As an example, this responsible innovation process, based on Design Thinking and Lean Start-up, demonstrates how the principles can be practiced either in totality or as discrete modules:



PURPOSE-LED

Responsible innovation may well be profitable, but above all it requires purpose and a positive contribution to society

Putting this into practice

***Action**: agree a purpose for this innovation that goes beyond profit, guide decisions and aligns with your organisation's purpose.*

A purpose is a reason for your innovation to exist beyond profit and guiding principle against which strategic decisions can be made. It articulates why the world is better off with your innovation than without it, and it should align to your organisation's purpose.

For inspiration, examples of business purposes include these, with more information in Business in the Community's Purpose toolkit:

- Danone: To bring health through food to as many people as possible
- Unilever: To make sustainable living commonplace
- Google: To organise the world's information and make it universally accessible and useful

Each innovation should have an articulated purpose that aligns with the overall organisation's one. As the Arm case study below shows, innovating with purpose doesn't have to mean starting from scratch. For them, there were no commercially-available devices that met all the users' needs, but the technology already existed. They just needed a different perspective to repurpose it.

In setting the innovation's purpose and aligning it with your organisation's, have you considered the following questions?

- Have you set the purpose of your innovation?
- Would solving this problem / developing this idea further your purpose as an organisation?
- How could this innovation be adjusted to improve the alignment with your organisation's purpose?
- Are you able to quantifiably measure aspects of your purpose to evaluate your innovation?

Case study: Arm

Healthcare technology for low resource settings – enabling a digital solution to benefit millions of people

In much of the developing world, Community Health Workers (CHW) rely on paper records for healthcare delivery and reporting. This method is outdated, heavy to transport, time-consuming and risks compromising data, ultimately challenging the quick and efficient provision of patient care and reporting health trends. Yet digital devices that meet these CHWs' needs do not exist.

Arm, in partnership with the UN agencies WHO and ITU (via the Be He@lthy Be Mobile initiative), innovated to address this problem.

With their purpose at the fore of their innovation process, the team undertook research to understand the problem, before building and testing in the field with CHWs their prototype: a tablet with good functionality, designed to withstand heat, water and dust, and able to last 3-4 days between charges.

Feedback from field testing includes:

100% of respondents using paper-based manual methods in Tanzania felt that using the prototype was better than their existing way of delivering healthcare

89% felt the tablet would help them better deliver treatment for certain health conditions including TB, malaria and HIV

94% felt that using the tablet would increase the number of patients seen in a day

The prototype has been proved technically feasible and has the potential to be commercially viable, with the right commercial partner.

This project is just one example of the moral and commercial opportunities of innovating in support of the Global Goals.

STAKEHOLDER CENTRICITY

A diverse and inclusive set of stakeholders, including users, must be consulted throughout the process to ensure the innovation serves people better with fewer issues and risks

Putting this into practice

Action: *populate a stakeholder log with those likely to be impacted by this innovation, and ensure your plan includes opportunities to engage a diverse set of them or their representatives on a frequency that is proportional to how impacted they are likely to be by the innovation.*

In completing this stakeholder log, the following questions may be useful:

- Have you considered the following in creating your list of stakeholders?
    - Dependency: Who is dependent on your activities, products or services? Who is your business dependent on in order to operate?
    - Responsibility: Who do you have (or will in the future have) a legal, commercial, ethical or moral responsibility towards?
    - Tension: Who needs immediate attention with regard to financial, wider economic, social or environmental issues?
    - Influence: Who can have an influence on the organisation's or a stakeholder's strategic or operational decision making?
    - Diverse Perspectives: Who could offer you different views that could lead to a new understanding of the situation and opportunities? In particular, are you seeking a diverse enough range of perspectives, particularly if you are just starting to develop your strategy around an issue?
    - Voiceless: Stakeholders that don't have a voice include future generations, and the environment. They can be represented by organisations.
- Have you considered the relevance of each stakeholder group? Stakeholders are often impacted by differing extents so need to be engaged proportionally. This can be done by ranking each stakeholder on a scale or using a framework (e.g. inform, consult, involve or partner)

Sky Case Study

By engaging across its value chain, Sky is working to eliminate single-use plastics from its operations and supply chain by the end of 2020 and inspire others in its #PassOnPlastic campaign.

The flagship Sky Ocean Rescue campaign was instigated by a Sky News investigation, informed by advice from ocean health and plastics experts and both developed and integrated by teams across the business.

To date the campaign has reached more than 45.8 million people, an estimated 300 tonnes of plastic has been avoided and since 2019 all their new products are single use plastic free.

Sky has identified the challenges by bringing together key people in the business and every level of its supply chain, working together to trial creative solutions.

It has brought this convening approach to its work with partners such as WWF and the Premier League, inspiring change through collaboration.

Through its Sky Ocean Ventures impact fund it is investing in research and start-ups, enabling entrepreneurs to discover long-term solutions to plastic pollution challenges.

INCLUSIVE COLLABORATION

Diversity of thought and experience leads to better innovation, and the principle of inclusion must apply to all stakeholders and customers

Putting this into practice

***Action**: ensure that at each stage, a diverse and representative group of stakeholders are involved in design and development, proportional to their relevance.*

As you engage the stakeholders identified under the previous principles, it is only by creating an inclusive environment with diverse input that the team will get most benefit from these stakeholder insights. The following questions can guide this stage:

- Do you have a plan in place to engage relevant stakeholders throughout this and every appropriate stage?
- Have you considered the following of the stakeholders you are collaborating with?
    - Do your stakeholders include a range of backgrounds, experiences and skills?
    - Do your stakeholders involved represent, where possible, the broader stakeholders most impacted by this innovation? Consider the nine protected characteristics: age, disability, gender, marriage & civil partnership, pregnancy & maternity, race, religion, sex and sexual orientation
    - Where stakeholders cannot be involved directly (e.g. they are not represented in the workforce or they are 'silent stakeholders' like the environment), are suitable representatives included in the innovation?
    - Have you taken steps to create an inclusive and productive culture, including where people can voice concerns and challenge?

These conversations may be challenging for some teams and organisations, depending on their make-up and the stakeholders impacted. Consider engaging a colleague in HR or a Diversity Adviser from Business in the Community to facilitate this session. For more information on the topics in this principle, please see BITC's Inclusion Campaigns.

Case Study: Northumbrian Water Group

Collaborating globally to solve their communities' pressing problems – "Innovation isn't all about individual genius, it's about collaboration"

Each year, Northumbrian Water Group hosts one of the world's largest innovation festivals, aiming to collaboratively innovate solutions to some of the biggest and hard-hitting challenges faced by society and the environment within five action-packed days.

In 2019, more than 3,000 people from over 700 leading organisations from around the world met to address a range of problems, from climate change mitigation and adaptation to the impact of 5G on communities.

Northumbrian Water Group recognise that no single organisation can have all the answers, or even perspectives, on problems or ideas. Their innovation festival exists to create that inclusive and diverse collaboration, with industry professionals being joined by engineers, local businesses, students, designers and members of the public.

To create an environment where ideas and different views were respected, the team started by scoping and unpacking the nature of each problem through a number of different 'sprints', working each day to develop key ideas and create working prototypes before presenting them back at the end of the week. By the end, their festival guests had created more than 7000 ideas, including:

- 'Dragonfly', a device that could be powered by water and would monitor the quality of water in rivers, helping Northumbrian Water Group further strengthen its industry-leading environmental performance

- An app that interacts with sensors in the soil that help farmers and allotment holders understand how to care for their plants in a sustainable way

In the words of festival founder and Northumbrian Water Group Information Services Director, Nigel Watson, "some of them may not come to fruition, but some of them will absolutely work. We'll take them away, test them, modify them, and we'll reach a point where they will make a real difference to our industry, our customers, our communities and our environment."

RISK MITIGATION & OPPORTUNITY SPOTTING

Responsible innovation is innovation that identifies and mitigates negative consequences whilst capitalising on opportunities to improve society and the environment

Putting this into practice

***Action**: identify potential unintended consequences and opportunities to increase the positive impact of your innovation, then develop a log and plan to mitigate and capitalise on them respectively.*

For each of the following areas, have you recorded potential negative consequences or opportunities for positive impact? It is best practice to also record where and why areas are "not relevant" so those assumptions can be later tested.

- Communities:
    - Future generations
    - Workforce diversity, inclusion and equality (consider the 9 protected characteristics)
    - Workplace wellbeing (mental, physical, social and financial)
    - Skills and employability of current and future staff
    - Community diversity, inclusion and equality (consider 9 protected characteristics)
    - Community wellbeing (mental, physical, social and financial)
    - Employability and livelihoods of communities
- Environment:
    - Environmental footprint of resources used (e.g. availability, impact on local communities and biodiversity)
    - Environmental pollution and waste through manufacturing and use
    - Environmental impact of disposal / at end of life
- Innovation / technological specific:
    - Dependence and unreliability, support needed and mitigations when unavailable
    - Policy and legal implications
    - Unintended and maleficent use
    - Impact on other areas by displacement of incumbents
    - Digital tech specific considerations, e.g.:
        - Explainability
        - Data ethics – simplicity, protection and use
        - Algorithmic bias
        - User skills required
        - Impact on those without access / skill

Case Study: Rolls-Royce

Using technology to make a difference – tech' offering hope for people silenced by disability

Motor Neurone Disease affects around 400,000 of the world's population and kills more than 100,000 people every year. One of the greatest challenges of living with this disease is the loss of speech and ability to communicate.

Rolls-Royce has partnered with the Motor Neurone Disease Association and some of the world's leading technology companies, including Accenture, Computacenter, Dell Technologies, Intel and Microsoft, to pool technology and expertise to improve the lives of those living with extreme disabilities.

Rolls-Royce and their partners innovated AI capabilities to allow people with motor neurone disease to have a conversation in their own voice, even after they have lost the ability to speak. For the first time, those living with the disease will be able to have a conversation through a computer using their own voice, words, colloquialisms and accent, without pausing to type answers or being restricted to a prescribed set of words. The new technology uses voice-banking and AI to learn a person's unique language style and use it in conversation and is likely to be embedded within existing augmented and alternative communication packages.

The team quickly identified that there were a number of smaller businesses working on similar challenges, and so there was a risk that this pro bono project could jeopardise their business and livelihoods. Rolls-Royce mitigated this risk by involving these other businesses in development, and ensuring that the outputs would be open sourced and freely available.

This work also shows the opportunities available by adapting existing technology and skills, especially when combined with a clear purpose to benefit our communities and when organisations work collaboratively for the greater good.

THROUGH-LIFE IMPACT

Consider a long timeframe, from resource sourcing through to decommissioning and resource disposal

Putting this into practice

Actions: Consider the reliability of the innovation, what happens to users if it breaks, how can it be designed to be repaired sustainably, and what happens at end of life.

Work with your stakeholders to understand the impact of this innovation and the extent to which it changes behaviours and is relied upon, as well as testing what happens when the product breaks or ceases to work as intended. This will allow you to answer the following questions:

- What are the consequences to the stakeholders in terms of their behaviours, wellbeing and the alternatives used?
- How can the innovation be repaired? Develop a plan to ensure that it can be repaired in a timely manner, and consider the impact of this repair work on the stakeholders (especially the environment) by using the list in *Consequence identification* above
- How long is the innovation expected to last? What happens at the end of its life and how can the environmental impact of this be reduced, considering principles of circularity.
- Take action to minimise the disruption of a break in the innovation and of the consequences of repair

Case Study: Gilbert Ash

Building for through-life impact – "the greenest building is the one which already exists"

In the £20 million refurbishment of its world-renowned Bartlett School of Architecture, University College London wanted to double the amount of research and teaching space within the existing 1970s concrete frame.

The project is part of UCL's wider programme to modernise its Bloomsbury Campus and therefore saw this project an important opportunity to demonstrate how the retrofit of 1970's building stock is possible, whilst retaining the embodied energy and CO2 emissions held in the concrete frame.

The usual approach to such a project would be to demolish the original building, and construct a new building in its place. However, the team instead innovated with circular economy thinking to use the existing building structure as a central design principle for the project.

The refurbishment included demolishing one floor of the building and adding another two, to give eight storeys in total. The floor-plate of the existing building was increased to almost double the size and the building facade was stripped back with a full new facade created using hand-cut bricks. Gilbert-Ash also developed bespoke clamped steel and ash furniture, which can be taken down and rebuilt in different sequences to free up the space in the building in the future and avoid the need to procure further materials.

By considering the entire life of the existing building and the refurbishment, there was nothing frivolous or wasteful in the final building, balancing architectural elegance with optimising value. The team kept the original concrete frame to reduce waste, virgin material and time, while retaining the embodied carbon and reduced building time. It also reduced transport, noise, dust and vibration levels that are often associated with a demolition and negatively impact important stakeholders: the local community.

The building achieved BREEAM Excellent, exceeding UCL's campus-wide energy efficiency targets and transforming the life-cycle cost and comfort of using the building. Retaining the original concrete frame not only saved money and build time, it saved 400 tonnes of carbon.

TRANSPARENCY

Seek opportunities to continually increase the visibility and explainability of the innovation, including by tending to open source where possible.

Transparency drives better decisions through accountability and increased collaboration, while also enabling future responsible innovation by allowing future teams to learn from your projects. There is also a moral need to ensure customers understand the implications of interacting with your innovation, from ingredients in food to how their data is used, stored and shared. While this principle has received most attention when discussing the fairness of algortithms, it is generally applicable to all innovations.

Putting this into practice

Action: *at each stage, take action to ensure that decisions and lessons are available for colleagues to learn from, that users have sufficient information to make an informed decision before, during and after engaging with the innovation, and that lessons and new developments are considered for sharing openly and widely.*

- Are assumptions, consequences and mitigations identified during development logged, and available for colleagues to view?
- If the project is transitioning to BAU, have you briefed the product/service/process owner on the assumptions, consequences and mitigations?
- Have you captured relevant lessons to improve this process and enable future innovations to more effectively identify and mitigate positive and negative consequences?
- Do you have a plan in place for the organisation to learn from those lessons?
- Have you stored those lessons and the logs so that they can be accessed readily by future innovation teams or for ‘lessons learned’ projects?
- By considering the potential consequences identified previously, are users given the information needed to make an informed decision before, during and after engaging with the innovation?
- Have your team considered sharing new developments, research and lessons beyond your team and organisaiton to enable future responsible innovations?

Case Study: Aviva

Customer Data Charter – innovating responsibly through the transparent use of customers' data

The world is changing fast, and as we go about our lives in this digital world, we create a wealth of personal data.

This data is incredibly insightful and the driver of much innovation at Aviva. When used in the right way, it can change our lives for the better, including by providing better products and services. But there are risks, and increasingly customers are demanding more information on what data is captured and how it's used.

To respond to this, Aviva have made three transparent commitments to protect their customers as they continue to innovate at pace:

1. They protect personal data.
   Aviva keep their customers' personal data safe and secure, by using technology such as firewalls, encryption and continuous monitoring.

2. They do not sell personal data
   Aviva do not sell their customers' personal data to anyone. Sometimes it may be shared with trusted partners if it means customers benefit in some way, but that is done with clear agreement from their partners about how this data can or can't be used.

3. They use personal data to continually improve their products and services
   Aviva use their customers' personal data to understand their needs, and then to offer the right things at the right time.

As more and more businesses innovate daily by analysing, using and learning from their customers' and open data, unsurprisingly there are more headlines than ever before about data breaches, algorithmic bias, and data misuse to name a few. By being transparent in the data they use and what happens to it, Aviva are allowing themselves to be held accountable for their innovation, leading to more responsible and sustainable outcomes.

More information can be found by searching "Aviva customer data charter".

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