

# Classifying Innovation in Companies – Sustainability, R&D & Business Value | ReaDI-Watch

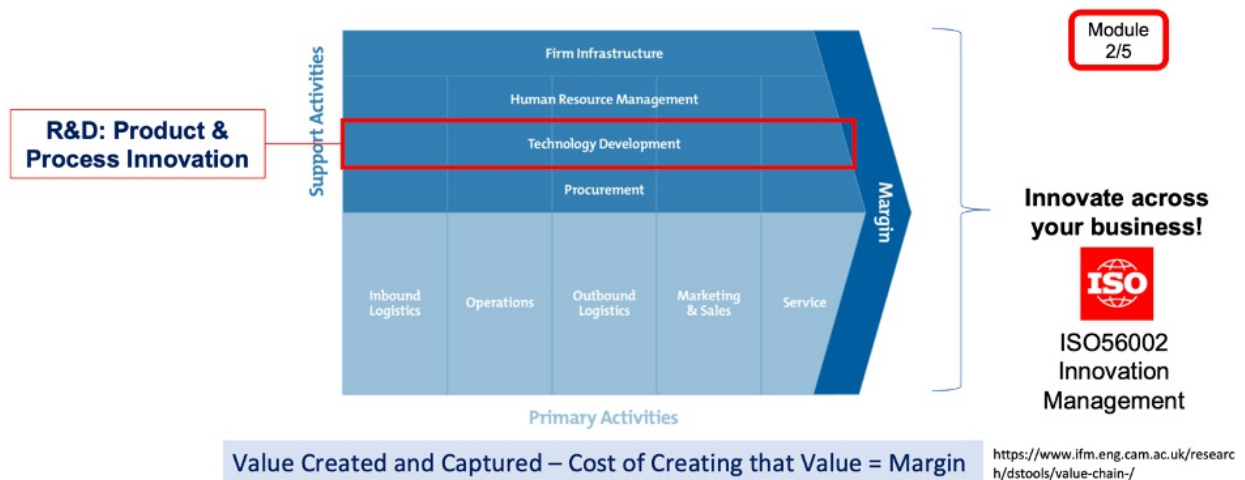
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Innovation within modern organisations extends far beyond traditional product development and formal R&D projects. Companies increasingly innovate through sustainability initiatives, process optimisation, automation, digital transformation, operational improvement, and new business models.

Structured innovation classification frameworks help organisations improve visibility, governance, and decision-making by connecting innovation activity across technical, operational, financial, and strategic functions.

A useful framework to draw on to understand and position Innovation (and R&D) in your company, is Michael Porter's "Value Chain" (outlined below). Michael Porter's "Value Chain" comprises a company's "primary" activities and "supporting" activities. All of these activities are created to deliver value to an organization. Michael Porter posits that the profit margin achieved by a company represents the value created by all of these activities less the cost of creating them.

As can be seen in the diagram below, when you think about Innovation in your company, consider it across the business, from supporting activities such as HR and procurement, through to operations, marketing, sales and service.

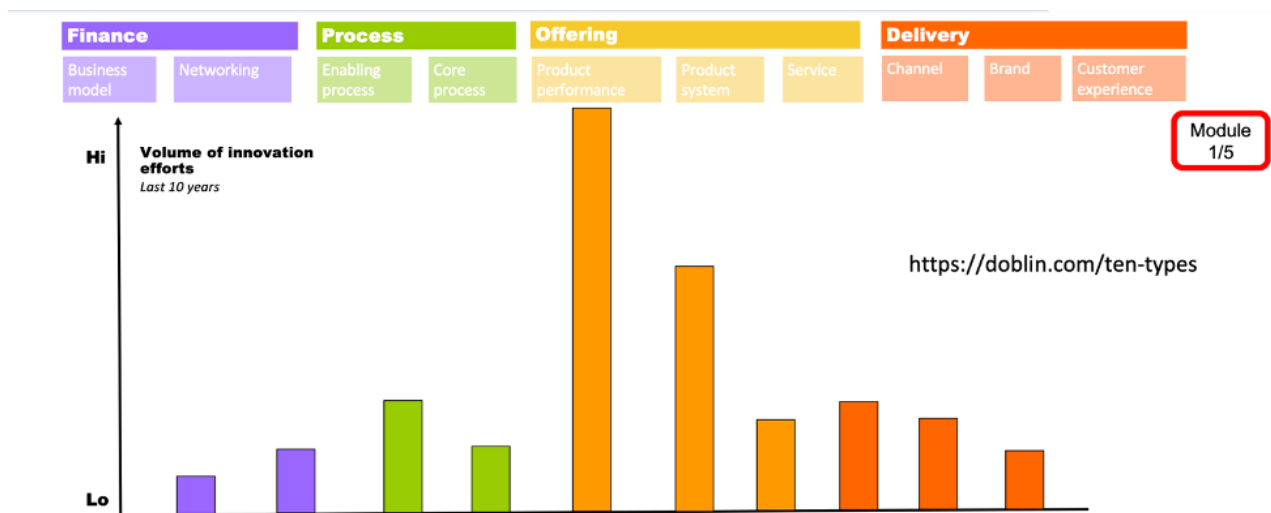


Technology development is classified under "Support Activities", and ReaDI-Watch proposes that this technology development can be classified as both "product" and "process" development. A strong innovation management process and framework will recognise and embrace the different types of Innovation and R&D taking place, every day.

Another way to represent the different types of innovation, is to draw on the "Doblin 10 Pillars of Innovation" or "Doblin's 10 Types". Along the Dublin 10 pillars one can find the different types of innovation that companies have invested, in such as customer experience innovation, business model innovation through to product performance and product system innovation.

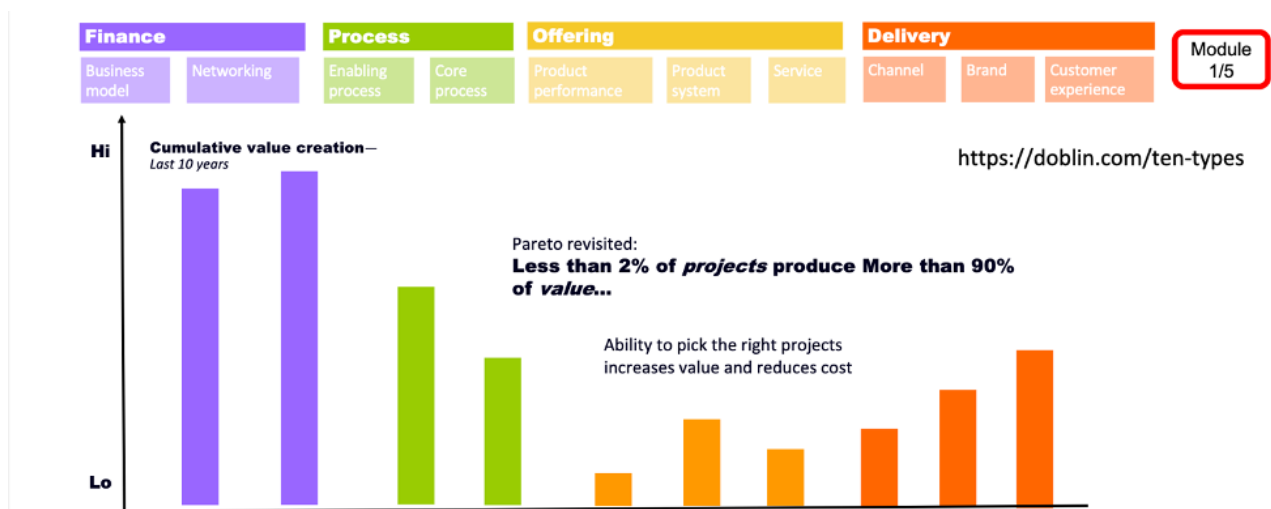
One interesting take-away from this study that Doblin undertook was that the volume of innovation effort I.E. the

investment in innovation in companies that were assessed over the last 10-year period was highly skewed toward product performance (see below).



Despite the major investment was made under product performance, the majority of the “value created” for the businesses that were assessed in this study was created through business model innovation and the networking innovation.

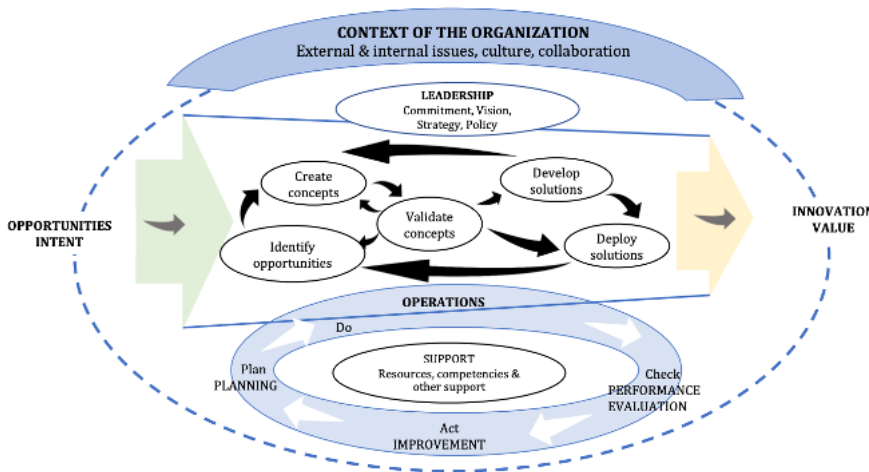
Another interesting take-away from the study was that less than 2% of the projects invested in (under product performance and system), produced more than 90 percent of the value!



When fostering a culture of innovation, taking an inclusive look and thinking about shareholder value creation is of utmost importance.

### International Standards for Innovation Management

The new ISO: 56002 series for Innovation Management sets best practice guidance as to how to go about managing innovation in an organization, including how to establish, how to implement, and how to maintain / continually improve an innovation management system.



Guidance for the establishment, implementation, maintenance, and continual improvement of an **innovation management system** for use in all established organizations.

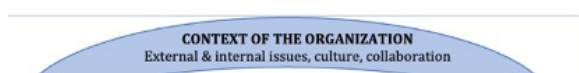
The first place to look in this ISO diagram for the innovation management, is the “Context of the Organization”, as can be seen on the top left hand side of this slide.

### Context of the Organisation – External Factors impacting a Company’s Innovation

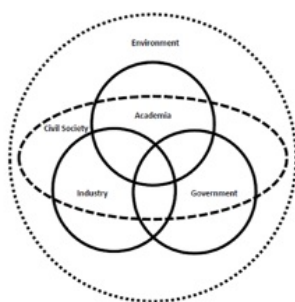
In the last number of decades, it has emerged that innovation is not something that can be modelled in a linear fashion, nor can the impacts on innovation. A theory well recognised among innovation professionals and academics, is the “**Quintuple Helix**” model, demonstrating some of the key drivers and impacts on innovation, including:

- Environment
- Academia
- Industry
- Government
- Society

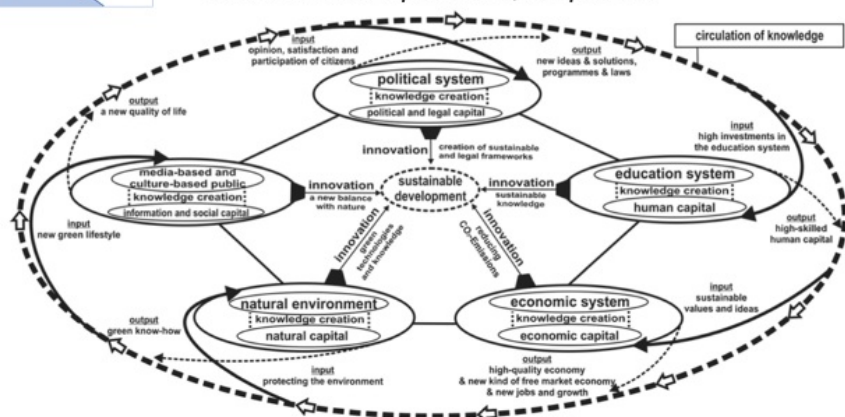
The diagram below (left hand side) is an example graphical illustration of the “Quintuple Helix” model.



### Effects of Investment in Education on Sustainable Development in Quintuple Helix



Quintuple Helix Model



Source: Carayannis, Elias G.; Barth, Thorsten D.; Campbell, David F. J. (2012-08-08). "The Quintuple Helix innovation model: global warming as a challenge and driver for innovation". *Journal of Innovation and Entrepreneurship*. 1 (1): 2. doi:10.1186/2192-5372-1-2. ISSN 2192-5372

An example of how the “Quintuple Helix” model has been applied in the application of the effects of investments in education on sustainable development can be found on the right hand side of the above diagram.

## Sustainability – Environment and Society

We all know that more needs to be done, faster, to achieve a sustainable and equitable planet. As we move forward, Sustainability for the environment and society will be a bigger focus of the innovations taking place in companies.

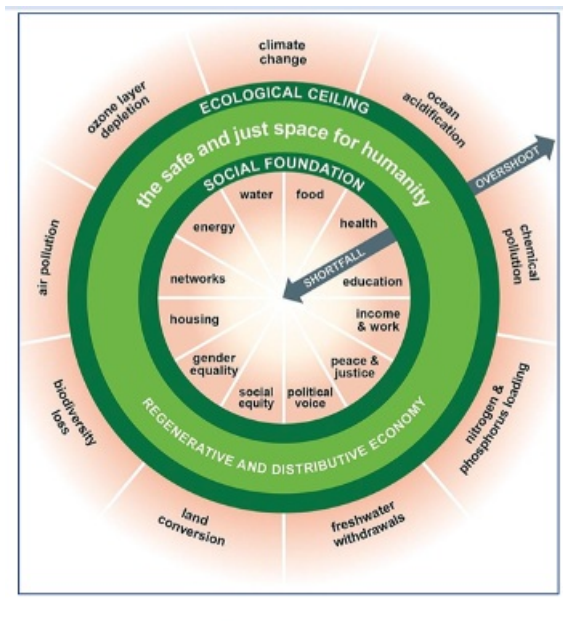
The UN's **Sustainable Development Goals** are an internationally recognised set of goals, designed to align humanity towards a more sustainable and equitable planet. Very often, innovation incentive and funding programmes are classified under one or more of the UN's SDGs and often company's demonstrate which SDGs align most with their mission.



Another emerging framework to showcase and highlight the need for a move towards sustainability, is Kate Raworth's "**Doughnut Economic Framework**".

While economies are typically organised around GDP growth, incorporating job growth and exports, Kate Raworth's **Doughnut** framework has been used as a basis for certain countries and cities pursuing a "**De-growth**" policy, switching the focus from economic growth to a more sustainability focused set of policies and initiatives.

Under Raworth's framework, the safe space for humanity and the environment is the green "doughnut" in the middle, and the purpose of innovations, policies and actions should drive towards mitigating the "overshoot" of environmental / ecological ceiling, and the "shortfall" of a social foundation.






Innovation in companies has historically been focused on revenue, profitability, export and job growth. In the future, incentives will be designed to move companies towards targets such as those set by the UN and Raworth.

### Technology – Driver of Change

Another external set of factors that impact innovation taking place in companies, are the technological changes taking place. Examples of these changes are everywhere, and some are listed on the diagram below.

**CONTEXT OF THE ORGANIZATION**  
External & internal issues, culture, collaboration

**Fraunhofer Strategic Research Fields**

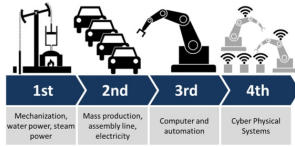
- Bioeconomy
- Digital Healthcare
- Artificial Intelligence (AI)
- Next Generation Computing
- Quantum Technologies
- Resource Efficiency and Climate
- Hydrogen Technologies

Source:

**The Rise of the Platform Economy** Module 1/5

The application of big data, new algorithms, and cloud computing will change the nature of work and the structure of the economy. But the exact nature of that change will be determined by the social, political, and business choices we make.

Source: IST Final The Rise of the Platform Economy - Kenney & Zysman - (Spring 2016)



| 1st                                     | 2nd   | 3rd                     | 4th                    |
|---|---|-------------------------|------------------------|
| Mechanization, water power, steam power | Mass production, assembly line, electricity | Computer and automation | Cyber Physical Systems |