The Data Economy – characteristics, dynamics and regulatory challenges

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The Data Economy

"Data is an infrastructural resource which in theory can be used by an unlimited number of users and for an unlimited number of purposes as an input to produce goods and services" (OECD)

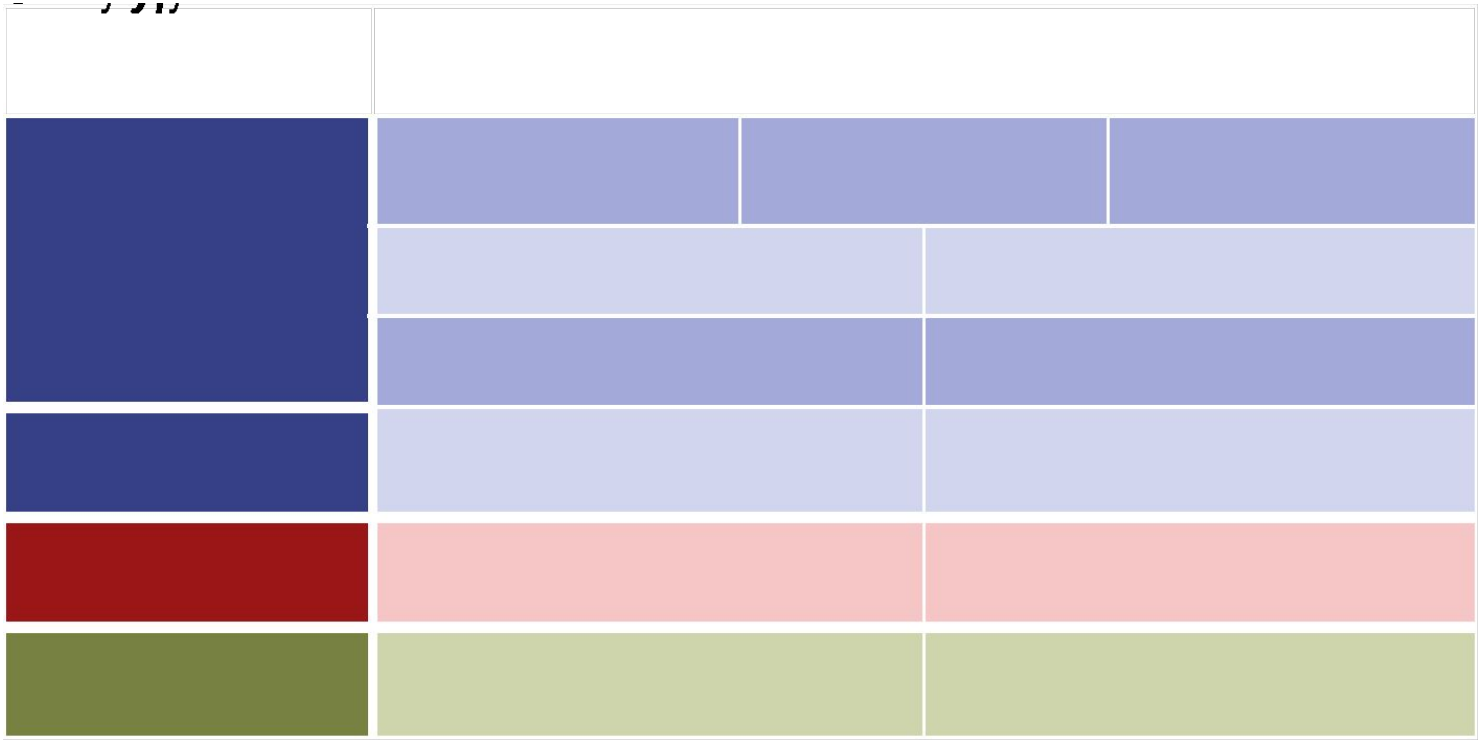
"*The world's most valuable resource is no longer oil, but data*" (The Economist)

The data value chain - characteristics & key dynamics

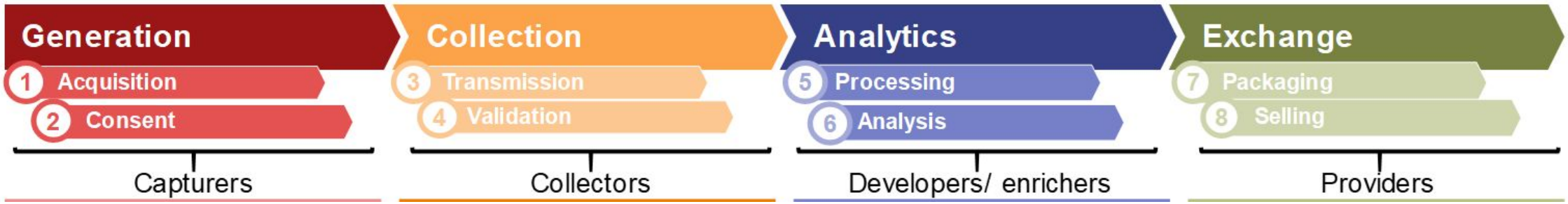
Data as an economic good

- **Data is a unique economic good**
  - Many associate data with abundance but this is misleading. Instead, the matter is one of variety – in fact that are enormous numbers of scarce or even unique pieces of data
  - It shares characteristics with several other kinds of capital goods, but combines them into a distinctive mix unlike any other asset
- **It is generally not fungible –** a piece of data carries often a unique piece of information that cannot be easily or economically replicated
- **It is non-rivalrous –** it does not perish or extinguish with one use and can be re-used
- **It is an experience good –** only after putting it to use the true value can be discovered.

Characteristics of data



Data Value Chain



Types of business models

- **Vertical integration** - The nature of data results in a tightly integrated value chain where the organisation that collects the data is very likely to keep control and ownership of it through the steps to develop the output themselves

- **Platforms** - A common feature of many internet and data driven businesses is that they are platforms. They therefore act as intermediaries that bring together different players in the data value chain.

- **Multiple services and conglomerates** - Companies expand and operate in adjacent or even unrelated areas, either launching new services themselves or acquiring other companies.

Key Dynamics of the data value chain

- **Most value in the value chain is with analytics** – and trading on services based on analytics underpinned by own intellectual property
- Most value in generating and aggregating data accrues to: those that can **access high-volume, timely data**; those that are able to **combine different databases**; and those that can establish strong **trust** with their community of users

- In most cases it is hard to put a value on data as it is generated (**missing prices**)
- Many data driven businesses benefit from significant scale and network effects that create 'winner takes all' conditions (**market tipping**)
- Integrated businesses and platforms are often the most practical and commercially efficient way of providing such services and that consumers clearly benefit from it (**platform integrity**).

The data value chain - challenges

Policy implications and challenges

The characteristics of data, the structure of the value chain and the new business models arising should influence the way markets are regulated and competition law is enforced

- **Market power, direct and indirect network effects** – how to balance scale, scope and platform advantages with market power (i.e. less competition) and innovation;
- **Conglomerate effects** – how to balance data-driven efficiencies and restriction of competition/innovation;
- **Privacy and trust** – how to ensure there is the right balance between consumer protection and market forces;
- **Sector-specific rules and geographic restrictions** - many operators consider themselves to be constrained in how they can analyse and trade this potentially valuable data outside (higher privacy standards, sector-specific regulation, data localisation restrictions)

Regulatory issues to consider

- What are the main challenges in the transition towards a data-driven economy?

- What is the potential impact of the data economy in the telecommunication sector and the NRAs?
  - Incidence of sector-specific regulation and level playing field in the digital sector

- Governance:
  - Who should lead enforcement? In which areas?
    - Privacy
    - Demand and supply issues
    - Competition policy
    - Enforcement coordination
  - What should be the future role of NRAs in encouraging the transition to a data-driven economy?