A FRAMEWORK FOR DIGITAL SUPPLY – USE TABLES

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Developed in Conjunction with the OECD Informal Advisory Group on Measuring GDP in a Digitalised Economy.

Digital Supply – Use Tables (SUTs)

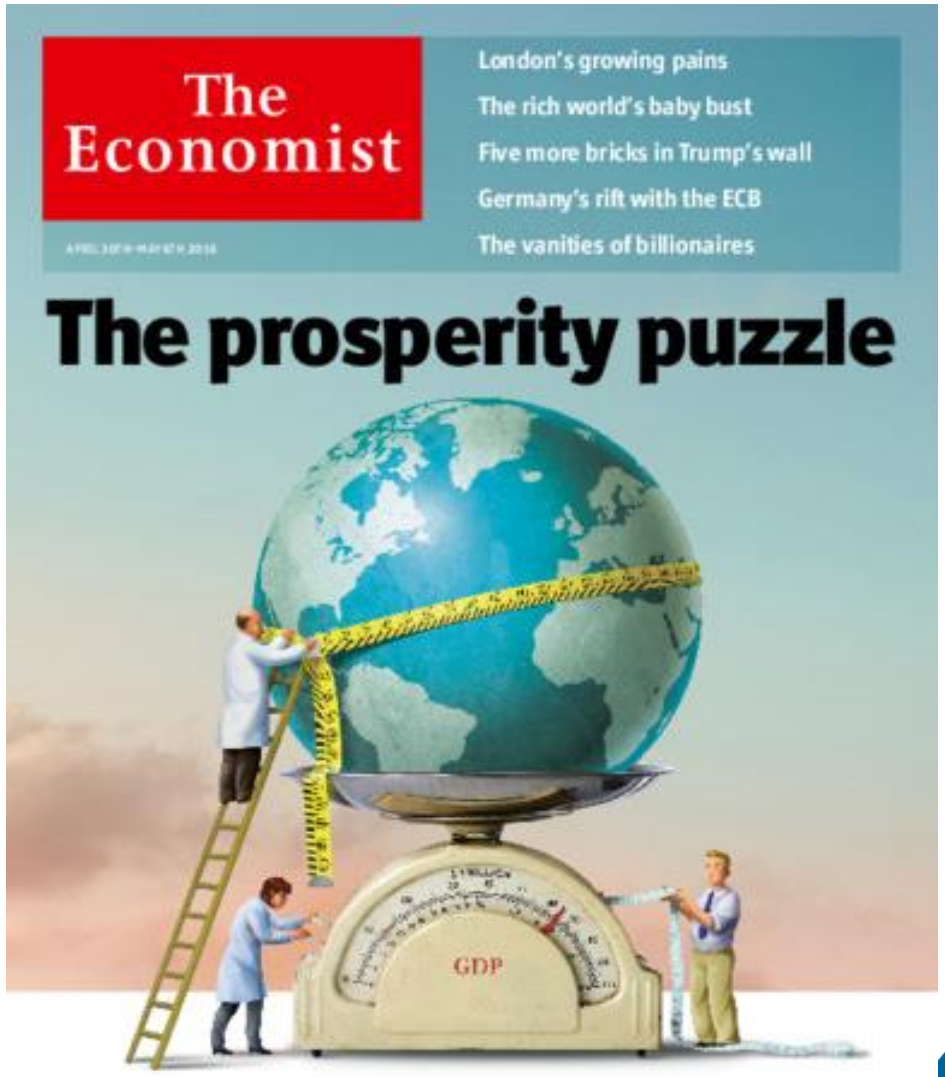
- Why we need Digital SUTs.
- Outline the difference between the Digital SUTs and the standard SUTs that are provided to the OECD.
- What are the outputs that can be produced by countries both currently and in the future.

WHY DO WE NEED THE DIGITAL SUPPLY-USE TABLES

Is this what everyone thinks?

"These days it seems that a growing fraction of innovation is not measured at all. In a world where houses are Airbnb hotels and private cars are Uber taxis, where a free software upgrade renews old computers, and Facebook and YouTube bring hours of daily entertainment to hundreds of millions at no price at all, ***many suspect GDP is becoming an ever more misleading measure.***"

The Economist Apr 30th 2016



Where is the digital economy in macroeconomic statistics?

Digital transformation is **largely hidden in the core economic accounts** and challenges our conceptual frameworks and measurement approaches.

- **Production chains** between producer and consumer **are changing**, while the overall value add may remain the same, the current frameworks struggle to show the "winners" and "losers".
- Digitalisation can **remove players** (direct online booking) or **add additional players** (intermediary platforms).
- Statistical recording of the production and use of data, including **the 'participative' production of consumers**, digitalisation blurs the boundaries between produced and non produced.
- The "free / zero cost" services provided by private companies, **how and what to measure?**
- Confusion over what is **Production vs. Consumer Surplus.**

Digital activity in the economy…simplified

The “largely hidden” Digital activity in the economy is split into one of two occurrences.

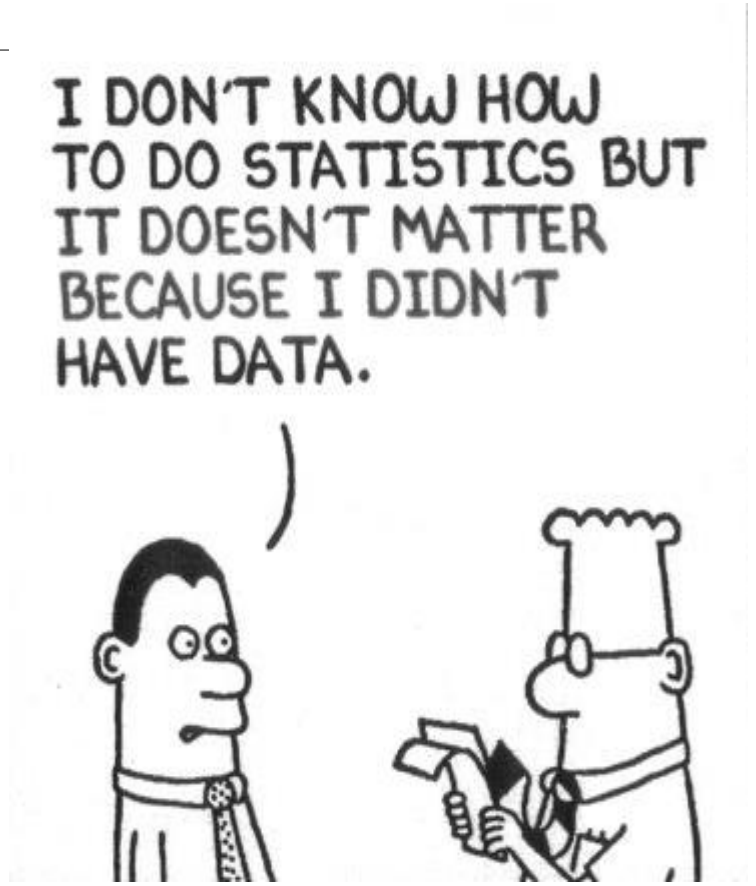
1. Activity that is **included** but combined within other aggregates so **not currently identifiable**.
2. Activity **not included** as it is currently **outside of the production boundary**. (“other” digital issues)

The digital Supply-Use tables attempts to address both these issues.

A side note regarding my presentation!

- Three roles of statistics

1. To provide comprehensive, objective numerical data on important economic, demographic, and other quantitative relationships in society.
2. To offer formal procedures that enable analysis of such data grounded in the mathematics of probability.
3. As a medium of popular political and social discourse on society and its problems.

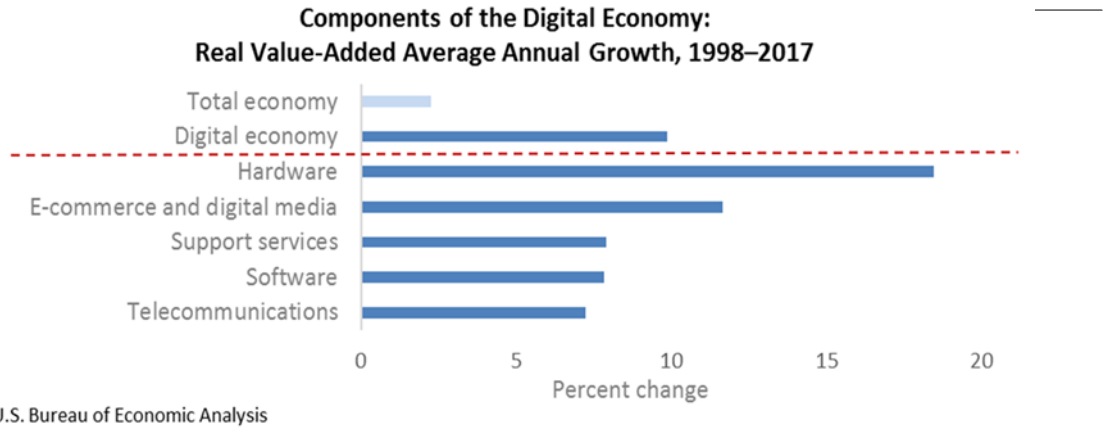


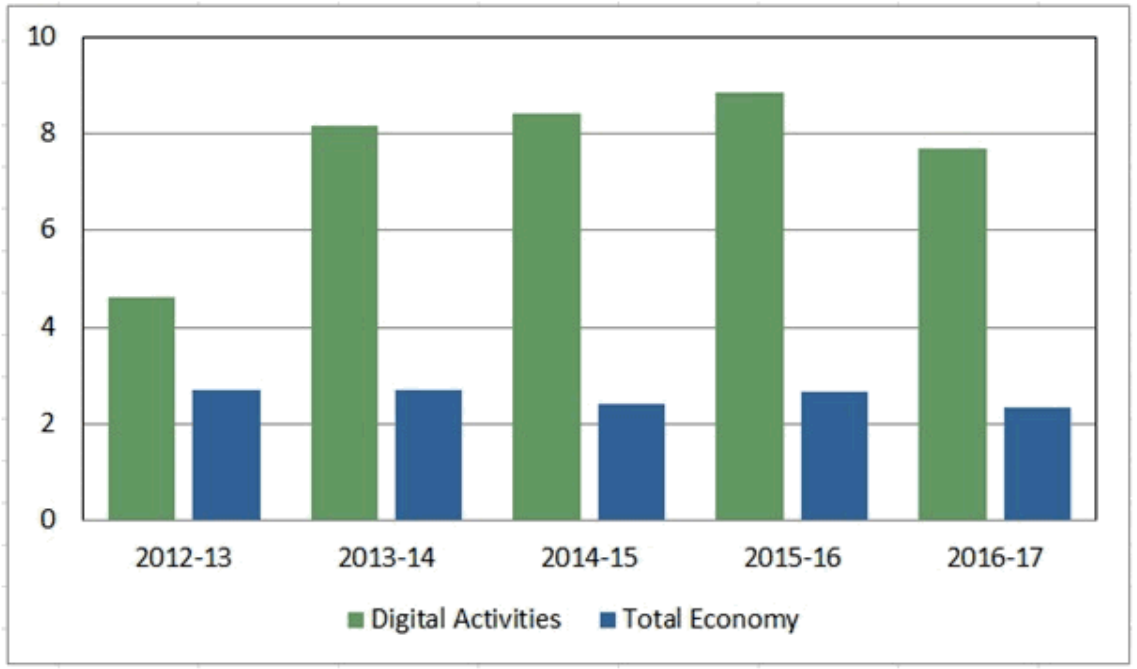
Walter Radermacher

Presentation on "Official statistics in the risk society" IAOS 2018

Work by Statistical offices on the digital economy

- **United States**, Average annual growth 1998–2017.
- **"Digital economy" growth at 9.0%**
- Total economy at 2.3%





Australia, average annual growth 2012-13 to 2016-17.

- **"Digital Economy" growth at 7.5%**
- Total economy at 2.5%

This work aligns with the international Standard, The 2008 SNA

Work by Statistical offices on the digital economy

- This work has taken the SUT tables… (Simplified below)

Supply Tables		Industries								TOTALS
		Industry A	Industry B	Industry C	Industry D	Industry E	Industry F	Industry G	Industry H	
Product	Product 1									
	Product 2									
	Product 3									
	Product 4									
	Product 5									
	Product 6									
	Product 7									
	Product 8									
	Product 9									
	Product 10									
Totals										

Work by Statistical offices on the digital economy

- And labelled certain products (and therefore parts of industries) in the SUT tables as digital.

Supply Tables		Industries								TOTALS
		Industry A	Industry B	Industry C	Industry D	Industry E	Industry F	Industry G	Industry H	
Product	Product 1									
	Product 2									
	Product 3		DIGITAL							
	Product 4		DIGITAL							
	Product 5									
	Product 6									
	Product 7									
	Product 8		DIGITAL							
	Product 9									
	Product 10									
Totals										

Sum of totals = "Digital Economy"

Work by Statistical offices on the digital economy

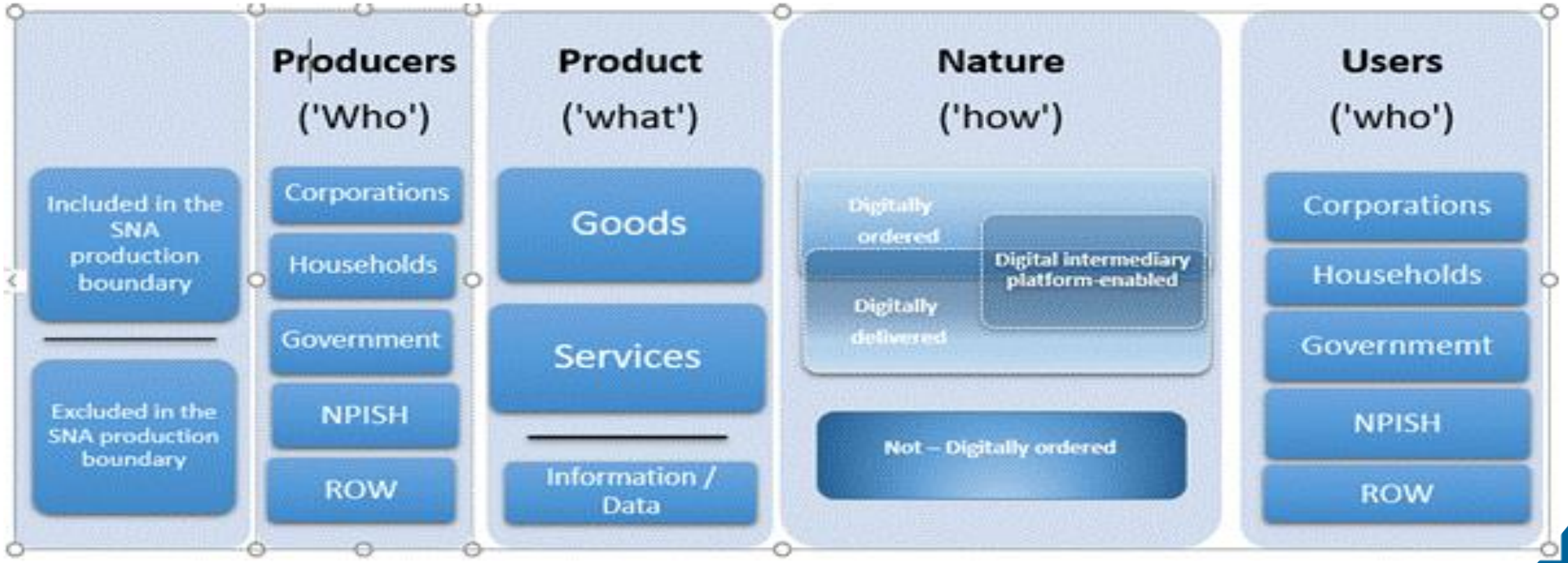
This work is an excellent start and will feed into the proposed supply-use tables, however considerations on the work include:

- "Digitalisation" is **limited to only (but all of) the total product row.**
  - Goods and services delivered by platform or other products only partly affected by digitalisation are not included- as they were not included.
- The **lack of agreed definitions and terminology** impacts the ability to compare outputs internationally.
  - only high level aggregates have been produced (i.e. total digital economy, type of digital activity.)
- Compiled using the **production approach only**.
  - limited information on consumption, import/export, etc.
- They **do not refer to any of the "other" digital issues**.
  - Zero cost consumer products, the use of data in production etc.

HOW DO THE DIGITAL SUPPLY-USE TABLES EXTEND ON THE STANDARD SUPPLY-USE TABLES THAT ARE PROVIDED TO THE OECD.

Conceptual Framework

- In response the OECD has created a framework focused on the transaction, the “how” rather than the use of ICT products.



How does the Digital Supply-Use tables extend on conventional Supply-Use tables.

- The Digital SUTs delineate digital activity **based on the nature of the transaction** rather than by the product, the producer or the consumer.
- Therefore the supply-use tables have been extended by:
  1. Additional rows, under each product, separating the different transactions types.
  2. **Additional product aggregations** and lower level products to assist in answering specific user questions. Including **products currently outside of the core SNA.**
  3. Additional columns to represent the **new digital industries**, units move from existing ISIC industry classifications based on their shared characteristics.

Transactions

- The split in transactions is a significant change to the template (Example below), **allows for all products to be considered as digital.**

Accommodation services		
A	Digitally ordered	
a_i	Direct from a counterparty	
a_ii	Via a resident digital intermediary platform	
a_iii	Via a non-resident digital intermediary platform	
B	Not Digitally ordered	

- Currently this kind of split would be requested only for **aggregates, digital products,** and **products that have been heavily impacted by digitalisation** (Accommodation, food service, education)

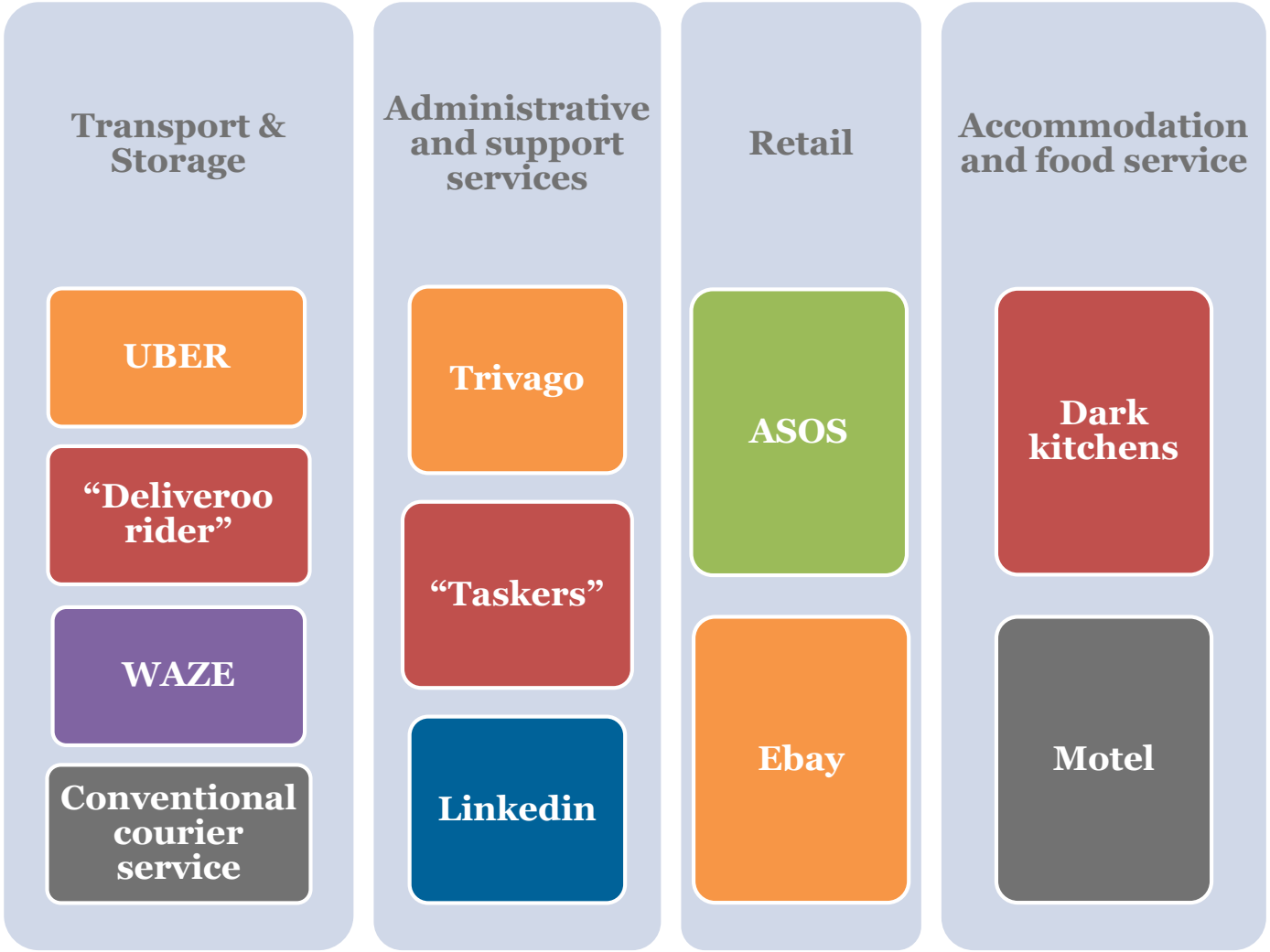
Products

- Digital SUTs have **additional product aggregations** and lower level products to assist in answering specific user questions
  1. ICT goods
  2. Digital services
  3. Cloud computing services
  4. Digital intermediary services
- They also **include product rows to incorporate products currently outside of the core SNA production boundary.**
  1. Data (beyond 2008 SNA)
  2. Digital services (beyond 2008 SNA), provided by enterprises
  3. Digital services (beyond 2008 SNA), provided by communities

Industries

- Additional columns to represent the new digital industries
  1. Digitally enabling industries
  2. Digital only firms providing finance & Insurance services
  3. Digital intermediary platforms
  4. Firms dependent on platforms
  5. Data and advertising driven digital businesses
  6. E-Tailers
  7. Other producers operating digitally
- Units reclassified from existing ISIC industry classifications based on shared characteristics.
- Theoretically possible now for NSO's.

Digital Industries



From ISIC to "digital industries"

- Digital intermediary platforms
- Firms dependent on platforms
- Data and advertising driven digital businesses
- E-Tailers
- Other producers operating digitally
- Remain in current industry classification

WHAT ARE THE OUTPUTS THAT CAN BE PRODUCED BY COUNTRIES, BOTH CURRENTLY, AND IN THE FUTURE.

What can it do

- This allows for the production of a variety of digital activity indicators, such as:
  - Total E-commerce in the economy.
  - Total expenditure on products via third party (platform enabled).
  - Total value add of new “digital industries”. E.g. Digital intermediary platforms, Digital enabling industries, Firms dependent on platforms.
  - Total expenditure on ICT goods and digital services by conventional industry.
  - Total imports and Exports of Digital services

What can't it do?

- Provide one number as a countries "digital economy" estimate.
- Measure the ICT usage/penetration by industry - i.e. digitalisation makes up Y% of an industry or has increased value-add by X%. (e.g. Digitalisations impact on the production of Orange juice.)

  - It does not tell compliers how to measure "other" digital issues…YET
  - Provide volume estimates…YET.

The **digital SUTs are not the Panacea** of the digital activity measurement. However they will provide information on various aspects of the digital activity occurring in the economy.

What's next?

- Proposal has been presented at various fora and **is now being finalised based on recently received feedback** from members of the informal advisory group.
- **Some countries have already published experimental estimates** for components of the table, may require only slight altering to fit within the frameworks definitions.
- Countries are **not expected to be able to populate all cells** immediately.
- **Workshop on July 1-3** will discuss compilation of the tables as well as how best to proceed with compilation of "other" digital issues.
- Additional workshops and discussions in 2019 to **develop ideas around measurement of data, zero priced assets and services.**

Thanks for listening.

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