The use of non-survey sources of data to supplement the traditional measurement of e-commerce and the digital economy

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Non-traditional sources

- Administrative Data (still non-traditional?)
- **Big Data**
- Citizen Generated Data/Citizen Science Data
- Private Sector Data
- Other (academia, NGOs, CSOs…)
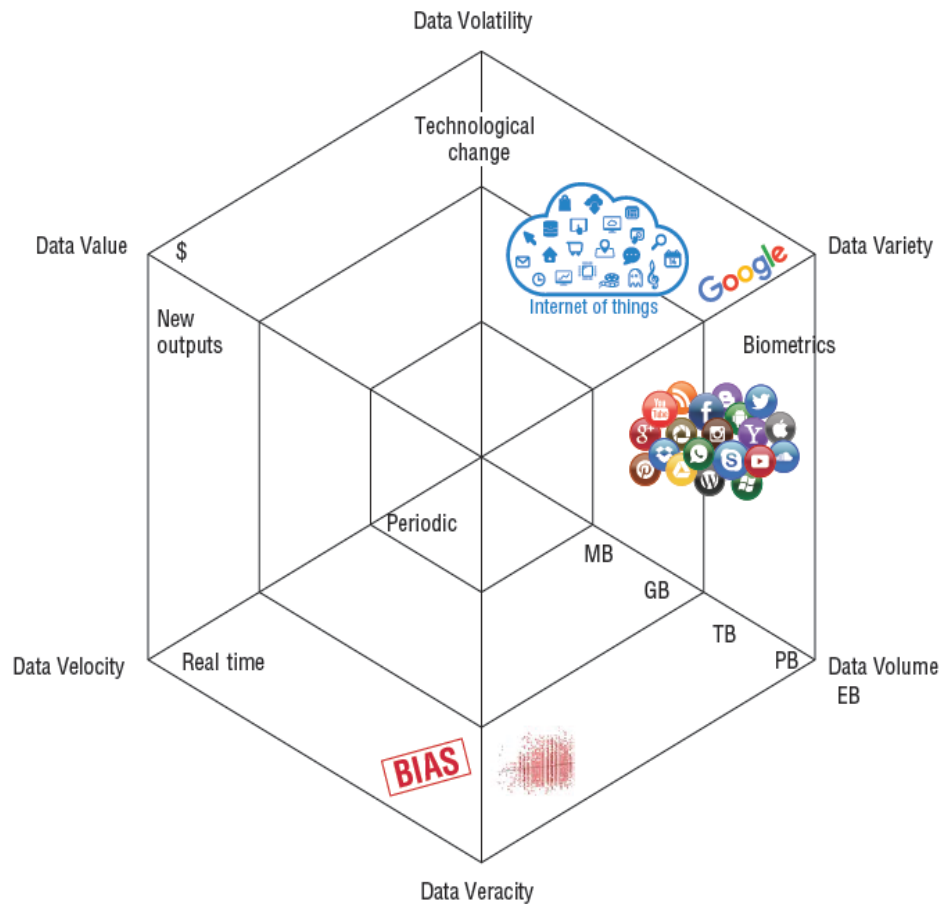
Key Message:

Many potential / alternative data exist

Key Questions:

Will we have access?

Are those data impartial, trustworthy…?

The 6Vs of Big Data for Official Statistics

Source: MacFeely (2018)

Key Message:

Large data ≠ Big data

Administrative data ≠ Big data

Sources of Big Data

- 227.1 billion credit/debit card transactions
- 7.7 billion mobile telephone subscribers
- Every day mobile phones generate 600 billion unique data events
- 500 million tweets daily
- 8 billion snapchats daily
- 3.5 billion google searches daily
- 1.25 million trades on the London Stock Exchange
- Every day upload 1.8 billion images
- 1.7 million TripAdvisor reviews
- Every minute 400 hours of video uploaded to YouTube
- Every day upload 1.8 billion images

Key Messages:

2.5 quintillion bytes (10^{18} bytes or 1 exabyte) of data created every day
Much of the data is duplication, (bots) fake clicks….
Digital divide = data divide

Big Data sources and projects

Data Source	National	International	Project topic	National	International
Web scraping	22	4	Prices	22	4
Scanner	20	1	Population/migration	10	4
Mobile phone/CDR	14	18	Transport/mobility	9	11
Social media	8	23	Geographical/spatial	8	7
Satellite imagery	6	7	Labour market	7	2
Smart meter	5	1	Agriculture/Land use	6	4
Credit card	3	1	Tourism	5	1
Road sensor	5	-	Health/disease	4	7
Health records	5	2	Energy/Enviroment	4	6
Ship identification	2	-	Crime/Corruption	2	4
Criminal records	1	2	Poverty/inequality	1	9
			Disaster risk reduction	-	8
Other	20	31	Other	31	24
Total	111	90	Total	109	91

Source: MacFeely (2019) derived from UN Big Data Inventory

Key Messages:

NSOs – focus on Prices and Tourism

IOs – focus on tourism/spatial and poverty/disaster reduction

Opportunities for better statistics

- Link data?

- Improve timeliness?

- Better data?

- More granular indicators?

- Can developing countries jump ahead?

Key Message:

Opportunities to produce new / faster statistics

Key Question:

Can developing countries skip a generation of statistical development?

Opportunities for new Governance models

- Global production?
- Data broker?
- Accreditation?

Key Message:

Opportunities to rethink several aspects of traditional production

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Challenges

- Access
- Rapid change and instability
- Data ownership
- Data quality
- Measuring the digital economy itself
- Privacy and confidentiality

Key Message:

Many challenges – legal, IT, governance, ethical

Key Question:

Access a huge issue – why is Open Data focused on Govt data only?

Actions to consider

- Ethics
- Legal
- Oversight and confidentiality
- IT and cyber security
- Quality assurance
- Continuous CPD
- Strategic partnerships
- Communications and dissemination
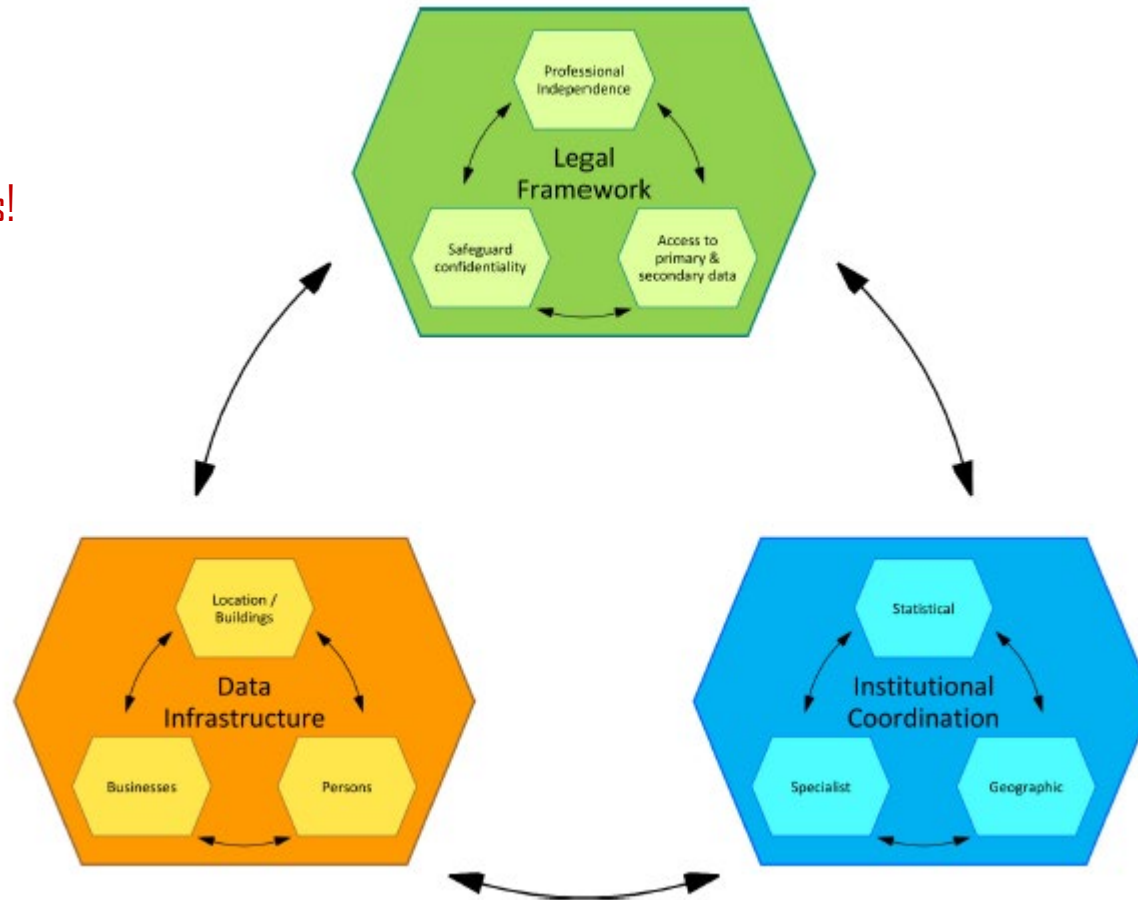- Clear lines of responsibility

Key Message:

There are steps that NSOs can / should take

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Fundamental Pillars of a NSS

Key Message:

Don't forget the basics!

Source: MacFeely & Barnat (2017)

Some references

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Thank you

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