OPPORTUNITIES AND RISKS ARISING FROM DIGITAL AND EMERGING TECHNOLOGIES – THREE RECOMMENDATIONS

United Nations Fourth Expert Group Meeting on Science, Technology and Innovation (STI) Roadmaps for the SDGs Agenda

United Nations Office
Nairobi, Kenya, April 1-3, 2019

Yola Georgiadou
National Statistics versus Big Data Analytics

National Statistics
• Nation-state scale
• All residents in households
• Pre-cooked categories for people
• Often public, open, revealed
• Create a shared truth, upon which consensus-forming claims can be made in decision making

Big Data Analytics
• Any spatial scale
• Anybody, anywhere
• Emergent categories for people
• Often private, closed, secret
• Detect trends, sense moods, spot things as they bubble up → create various truths
<table>
<thead>
<tr>
<th>National Statistics</th>
<th>Big Data Analytics</th>
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<tbody>
<tr>
<td>• Simplify society</td>
<td>• Complexify society</td>
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<tr>
<td>• Ostensibly public interest</td>
<td>• Often not clear to whose interest</td>
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<tr>
<td>• Diffuse controversy</td>
<td>• Often amplify controversy</td>
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<td>• First ask a question, then collect related data</td>
<td>• First hoover any data, then ask as</td>
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<td>many questions as you want</td>
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<td>• NS officers are public servants, accountable to</td>
<td>• Data analytics experts often</td>
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<tr>
<td>government</td>
<td>accountable only to CEOs</td>
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<td>• Slow, high cost</td>
<td>• Fast, low cost</td>
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### National Statistics
- slow, high cost

### Worst case scenario
- Disasters and humanitarian crises in weak states

### Big Data Analytics
- Fast, low cost

### Consequence
- Hollowing out of the state
- Privacy violations
FEMA publicly acknowledged that it shared personal data from 2.3 million disaster survivors with a contractor.


FEMA exposed survivors to identity theft.
FEMA shared with the contractor

**Necessary data:**
First, Middle Last Name
Date of Birth
Last 4 digits of Applicant’s Social Security Number
Disaster Number
Authorization for TSA
Number of Occupants in Applicants Household
Eligibility Start and End Date
Global Name
Export Sequence Number
FEMA Registration Number

**20 unnecessary data, including six with sensitive information:**
Applicant Street Address
Applicant City Name
Applicant Zip Code
Applicant’s Financial Institution Name
Applicant’s Electronic Funds Transfer Number
Applicant’s Bank Transit Number
Global Responsible data actors

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<tr>
<th>National Statistics</th>
<th>Recommendation 1</th>
<th>Big Data Analytics</th>
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<td>slow, high cost</td>
<td>Strengthen scientific method in national mapping &amp; statistics organisations</td>
<td>Fast, low cost</td>
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<td>Recommendation 2</td>
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<td></td>
<td>Harmonise responsible data guidelines with national data protection laws &amp; privacy cultures</td>
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STI and SDGs: An Economics lens

- **Supply of STI Support**
  - Limited
  - Largely UN & public
  - Scarce
  - Private, UN, Others

- **Demand** for STI support to achieve the SDGs

- **Examine country circumstance?**

- **Awareness of STI impact?**

- **Clarify division of labor**

- **Mobilize and catalyze**

- **Fill the critical gaps**

Source: Klaus Tilmes & Naoto Kanehira, World Bank Group 2017
STI and SDGs: A Politics lens

STI and SDGs: A Politics lens

Social groups

Included

Excluded

Power of social groups

Marginal

Disruptive

Medium probability of inclusive benefits via SDGs (and STI)

Lowest probability of inclusive benefits via SDGs (and STI)

High probability of inclusive benefits via SDGs (and STI)

Low probability of inclusive benefits via SDGs (and STI)

STI and SDGs: A Politics lens – Which priorities?

Social groups:
- Included
- Excluded

Power of social groups:
- Marginal
- Disruptive

High probability of inclusive benefits via SDGs (and STI)
Low probability of inclusive benefits via SDGs (and STI)
Medium probability of inclusive benefits via SDGs (and STI)
Lowest probability of inclusive benefits via SDGs (and STI)

Recommendations for the STI for SDGs Road Map for Africa

Recommendations

- Strengthen **scientific method** in national mapping & statistics organisations
- **Harmonise** global responsible data guidelines with national data protection laws & privacy cultures
- Use **both** an **economics** and a **politics lens** to prioritize (and distribute labor for providing) assistance to nation-states aspiring to STI for SDGs