DIGITAL BUT STILL UNEQUAL

The Challenges of Digitalisation for Emerging Powers - Mexico

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Digitalisation, ETC, and Inequalities

(The Original Premise of My PRODIGEES Research)

Digitalisation and other exponential technological changes (ETC) can bring important opportunities to tackle development challenges within the Agenda 2030 framework. However, without adequate policy interventions, the access to these technologies might be limited to a small number of people in ways that may actually increase existing inequalities.
Computing capacity doubles every 18 months to 2 years (also implying that costs are cut by half)\(^v\)

**Moore’s Law**

Different technologies combine, multiplying # of innovations by 2 (or more) in short periods of time

- General AI
- Robotics
- Hyperconnectivity
- Genomics and Synthetic Life
- Renewable Energy
- Green nanotechnology
- Radical resource productivity
- Whole system design and closed loop manufacturing
- Green chemistry
- Industrial ecology
- Neurotechnology
- Advanced medicine
- Virtual and augmented technology

- Digital Networks
- Software
- Information
- Biotechnology
- Artificial Intelligence
- Internet of things

- Plastics
- Petrochemicals
- Electronics
- Aviation
- Space
- Nuclear

- Electricity
- Chemicals
- Internal Combustion Engine

- Steam power
- Railroad
- Steel
- Cotton

1785 1845 1950 2000

SOURCE: López-Portillo (Q-Element)
Current Research Stage: Mapping Digitalisation and Inequality
The Digital Divide

• The original concept refers to the gap between those who have access to the internet and those who don’t. **THE FOCUS WAS ON “HAVE AND HAVE NOTS”**

• One of the first times this concept was mentioned was during the administration of Bill Clinton and Al Gore, in the late 1990s

We must also promote global access to the internet. We need to bridge the digital not only within our country, but among countries. Only by giving people access to this technology can they tap into the potential of the information age.

April 28th, 1998
OECD Countries – Broadband subscriptions per 100 inhabitants (2019)

**MOBILE**

**FIXED**

SOURCE: OECD,
http://www.oecd.org/sti/broadband/broadband-statistics/
Research: Different Levels of the Digital Divide

1st LEVEL: “HAVE vs HAVE NOTs”

2nd LEVEL: SKILLS

LATE 1990s

3rd LEVEL: IMPACTS “OFF-LINE”

2000-2010 APROX

COMPREHENSIVE EXPLANATIONS

2010-2020

WANT VS WANT NOTs

2015-2020
Examples of Research: 3rd Level / More Comprehensive Approaches

- Not Informed By Social Theories
  (Example: Rachnoda, 2021)
- Informed By Social Theory
- Other Approaches
Using Pierre Bourdieu’s Social Theory...

(Calderón Gómez, 2020; Ragnedda and Ruiu, 2018; Zillien and Hargittai, 2009 + many, many others before...)

Types of Capital

- Cultural Capital
  - (Formally Legitimised / Not Legitimised)
- Economic Capital
- Social Capital
- Symbolic Capital

Social Field / Strategic Interactions / Habitus / Pre-dispositions and Horizon of Possibilities

Intensity and Purposes of Internet Use

Are different types of capital “off-line” increased or not?

Cultural Capital and Economic Capital are Determinant (Virtuous/Vicious Cycle – i.e. Exclusion is Reinforced)
Three other Examples...

Cultural Production Divide
(Schradie, 2011 / Case study: US)

- Democratic Public Sphere???
- Production: content creation for the general public
- Are there any class-based divides among those producing content in the internet?
- CONCLUSIONS: There are class-based divides. Educational Capital is key. Although not as stark as the general digital divide

Psychoanalytical Perspective
(Hirata, 2018 / Theoretical, no case study)

- Psychological data is a kind of big data set
- Positive feedback mechanisms
- The real divide is who controls the data and who does not (link to Schneider’s research in PRODIGIEES)

Social Construction of Technology (SCOT) (Kretchmer, 2018, based on Bijker, 1984)

- Interpretative flexibility
- Consumers and producers of technology
- Stability and disruption
“...people of lower socioeconomic levels might use internet more, but for different purposes; for example, gaming or social-interaction and not for work-purposes”
(Van Deursen and Van Dijk, 2015; Case study: The Netherlands)

“...unequal treatment is the primary legal dimension of digital exclusion and inequality...(even if digital technologies do not attempt this)...”
(Rachnoda, 2021; Case study: The Netherlands)

“...inequalities might increase if higher-status individuals digest information faster and better...”
(Zillien and Hargittai, 2021; Case study: Germany)

“...the issue is not just about access but inequalities in use...”
(Yates et al., 2013; Case study: UK)

“...economic capital is the most basic form of digital divide...”
(Calderón-Gómez, 2020; Case study: Spain)
Some Preliminary Lessons
(Regarding the Digital Divide)

• Most authors and research that have been reviewed so far, conclude that existing off-line inequalities are mirrored and sometimes worsened by different aspects of the digital divide.

• The “digital divide” will never disappear completely.

• Digital technologies are not neutral; they are socially embedded and they must be analysed in those terms.

• CONTROVERTIAL STATEMENT (?): We have actually not seen that much disruption and new inequality impacts (but much more is yet to come).

• KEY: Do not analyse the digital divide on its own, but together with the impact of other technological changes and areas of societal change (if not ETC, at least a more comprehensive approach).
5 Digital Impact Arenas (DIA) to Keep in Mind*

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<thead>
<tr>
<th>Civil Society</th>
<th>Political Society</th>
<th>Economic Society</th>
<th>State Institutions</th>
<th>Legal</th>
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<td>Public Sphere</td>
<td>Political participation</td>
<td>Efficiency /Productivity</td>
<td>E-government</td>
<td>Data Protection</td>
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<td>Social Networking</td>
<td>(parties, campaigning, social</td>
<td>Economic Capital</td>
<td>Taxes</td>
<td>-Labour Regulations (Health and Social</td>
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<td>Social Capital</td>
<td>media, etc.)</td>
<td>Jobs (flexibility vs</td>
<td>Access to Public Serv.</td>
<td>Protection)</td>
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<td>Cultural Capital (Including Education)</td>
<td>Public policy debates</td>
<td>uncertainty)</td>
<td>Transparency</td>
<td>-Market Regulations (Antitrust)</td>
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<td>New Consumer Patterns</td>
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Adapted from Linz and Stepan (1996) model to analyse democratisation processes
One Key Area: The Labour Market

(Impacts of Automation/Digitalisation)

• Increasingly, more and more jobs require digital skills... (Germany: 80 to 90%)

• Work 4.0: refers to the increasing digitalisation and automation of the economy in different sectors and activities. It offers plenty of opportunities but also great challenges and tensions...

• Tensions:
  - Flexibility vs. Job Security and Life-Work Balance
  - Better jobs vs. Net loss of jobs
  - Health and safety concerns (not only home office but also re-taylorisation)

• KEY ISSUE: Self-determination (workers right to decide when to work)

• KEY CONNECTION: Similar inequalities emerge (example: those with education are more able to get more education; those with a good income are able to get an even better income)

• KEY POLICY RESPONSE: Training and skill-upgrading / But tackling broader inequalities remains unsolved
Next Steps...

• Keep mapping

• Analyse technological change, not as a panacea to Achieve Agenda 2030, but as a system that interacts with society as a whole

• Based on a broader view, both of technological changes and societal implications, interesting areas for knowledge sharing between different partner countries (PRODIGEES)
THANKS!!!