Digital technologies: interlinkages with megatrends and regional perspectives

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Now in the tertiary phase of the ‘Information Age’ – much has been learned/much to know

• In the last 25 years, nearly ubiquitous Internet use and smartphone ownership; with transactional effects on individuals, families and the wider structures they live in
• Information and communications technology (ICT) has reduced space and time barriers, offered efficiencies and additional tools for communication, productivity and learning
• Research to date supports the value of ICT to family life and human development
• Yet it also identifies threats through exposure, security and privacy breaches, heightening challenges especially to those living in high risk conditions
• Further research avenues will identify processes and actual (not correlational) impacts and strategies to best support families.
Key aspects influencing ICT effectiveness for all families

- Context influences create user divides:
  - Access
  - Comfort & skill
Internet access and use varies around the world. Although approximately 77% have internet access, this ranges from developed economies (e.g., US, EU) 98% to less developed economies (e.g., Africa, India), 13%.

European children (6-16) in households that cannot afford a computer (left); that cannot afford an internet connection.

Key aspects influencing ICT effectiveness for all families

• Context influences create user divides:
  - Access
  - Comfort & skill

• Time influences on the user experience:
  - Generational differences
  - Speed of technological change
RAPID CHANGES IN ICT: devices, software, applications, capabilities ➔ user preferences

Cell phones: 1992–2004

The first iPhone features in 2007 [15 years ago]

Features of the iPhone 13Pro in 2022

<table>
<thead>
<tr>
<th>Size</th>
<th>5.78” x 2.82” x 0.30”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>7.19oz (204g)</td>
</tr>
<tr>
<td>Display</td>
<td>6.1” Super Retina OLED, HDR ProMotion 120Hz, 1000X1200 pixels</td>
</tr>
<tr>
<td>Cameras</td>
<td>12MP Wide f/1.5, 12MP Ultrawide f/1.8, 12MP 3x Telephoto f/2.8</td>
</tr>
<tr>
<td>LIDAR</td>
<td>Yes</td>
</tr>
<tr>
<td>Front Camera</td>
<td>12MP f/2.2 TrueDepth camera</td>
</tr>
<tr>
<td>Processor</td>
<td>A15 Bionic</td>
</tr>
<tr>
<td>Battery</td>
<td>3095 mAh</td>
</tr>
<tr>
<td>Storage</td>
<td>128GB / 256GB / 512GB / 1TB</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Bluetooth 5, Wi-Fi 6 with MIMO, 5G (sub-6GHz and mmWave)</td>
</tr>
<tr>
<td>Other features</td>
<td>MagSafe, Dolby Vision, Dolby Atmos, Ceramic Shield, IP68 (6 meters up to 30 min)</td>
</tr>
</tbody>
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Urbanization and Technology

• 'Smart: cities improve quality of life for families:
  Emergency services and safety
  Transportation efficiencies
  Health services
  Environmental health
  E-commerce
  Enhanced engagement in city planning

• ICT comfort may contribute to a reversal of urban migration:
  COVID work from home has encouraged more workers and employers to reduce the need, desire and cost of place-based operations
  Workers opting for less costly work from home situations outside of city areas
Families and Migration in the Information Age:

‘the successful integration of migrants requires that their technological integration is as important as the social, political, and economic integration traditionally reported in scientific literature’ (Collin, 2012, p. 66)
Benefits of ICT for families during migration

Social connections

Integration into new society

Skills development

Representation in data sources and social media
Technology-Related Issues Facing Families During Urbanization and Migration

Access
Digital Literacy
Privacy, and Safety

Especially vulnerable women and children
• Attend to equity issues to ensure level access and digital skills for immigrant and transnational families across the trajectory from preparation for migration to settlement and potential re-entry.
  • This includes attention to access and skill of professionals who work with immigrant families.

• Provide digital literacy infrastructure that supports social connectivity and integration into new communities.

• Empower immigrants, particularly women, with skills to deploy technology in work, and as members of the tech sector.

• Attend to regulation and policy involving how immigrants are represented in data sources, viewing data as a public good. Attend to public discourse and safeguard immigrant women, children and families from surveillance, privacy invasions and threats from traffickers.