Policy Direction for Sustainable Development and Strengthening Resilience

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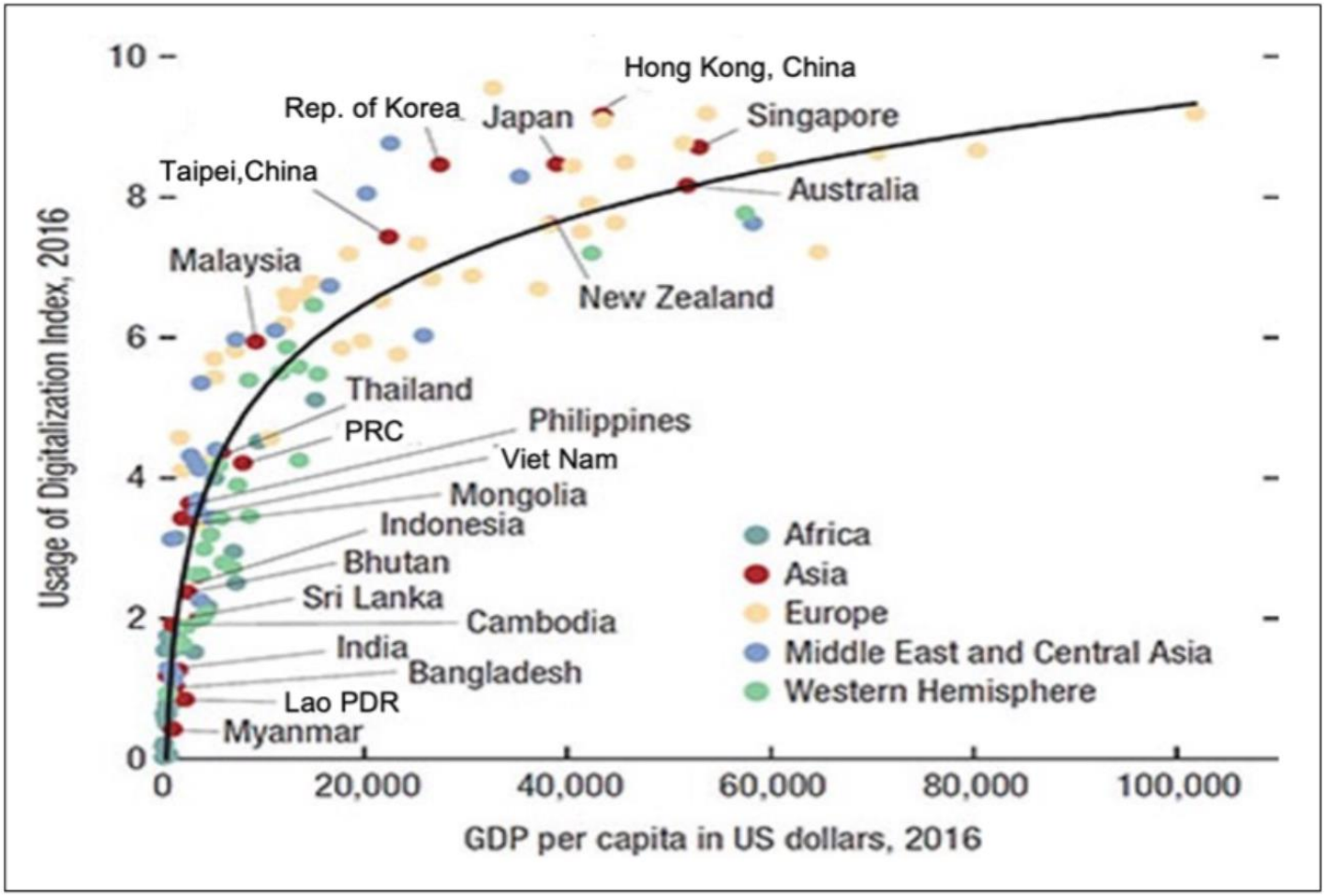
Measuring the size of the digital economy is fraught with difficulty (Capturing the Digital Economy: A Proposed Measurement Framework and Its Applications—A Special Supplement to Key Indicators for Asia and the Pacific 2021 | Asian Development Bank (adb.org))

Recent work by the Asian Development Bank (ADB) estimates that the core digital economy represents somewhere in the range of 2% to 9% of GDP

The broader digitally dependent economy's share of GDP is estimated to range between 17% and 35%

Digitalization and Economic Development



Note: The Usage of Digitalization Index ranks digitalization usage on a scale of 0–10, where 10 denotes the highest rate of digital adoption.
Source: Adapted from International Monetary Fund (2018)

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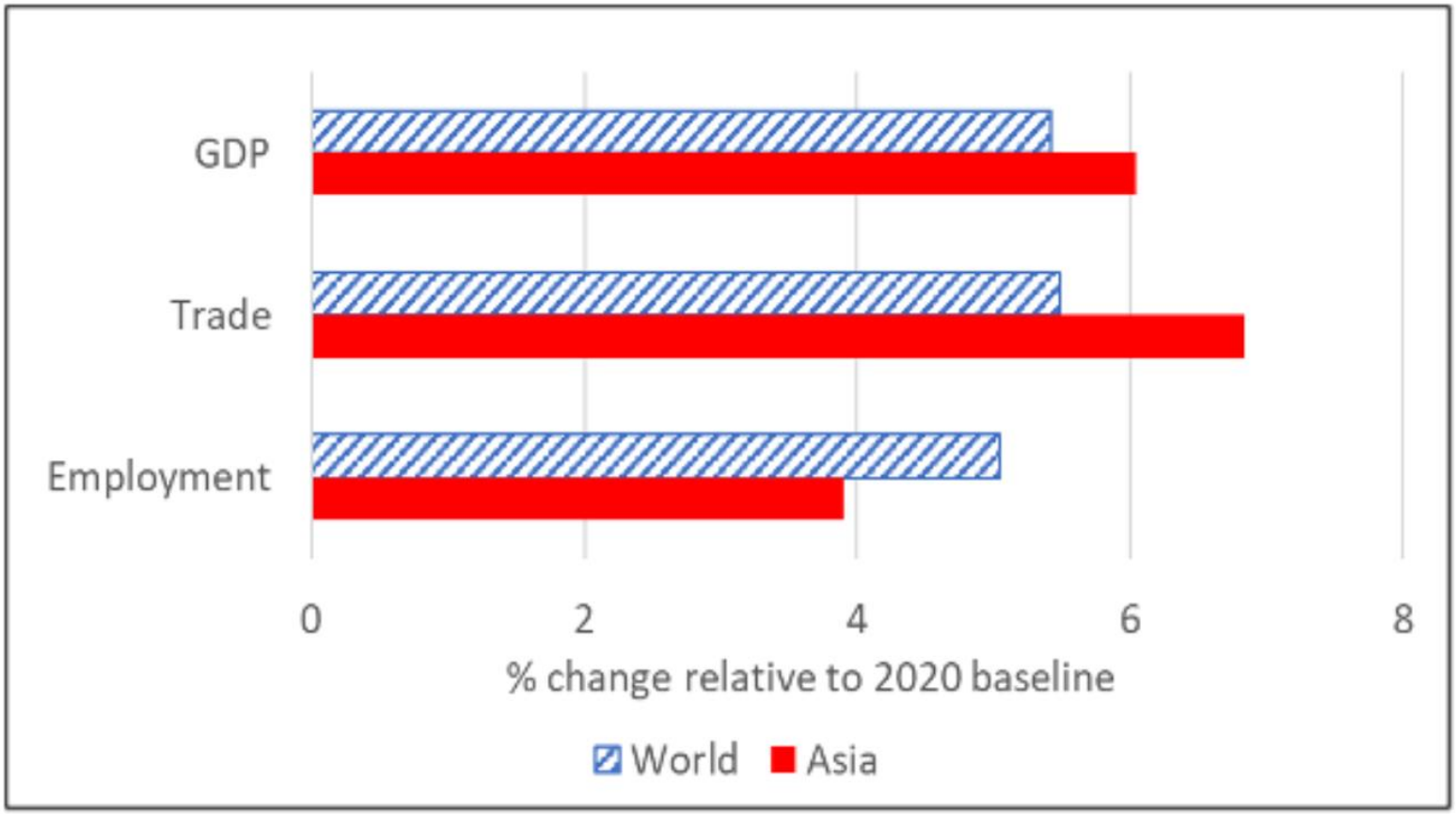
Projected Economic Impact of Digitalization, 2021–2025 (annual average)



Note: Projections are based on an assumed 20% expansion of the digital sector by 2025 globally relative to the 2020 baseline, with total factor productivity increasing by 1% per year. Source: ADB (2021).

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Projected impacts of a simulated 20% expansion of the digital sector by 2050 relative to the 2020 baseline

Impact on GDP in Asia: Around 6% per annum over 2021-2025, or 8.6 trillion in total over the period

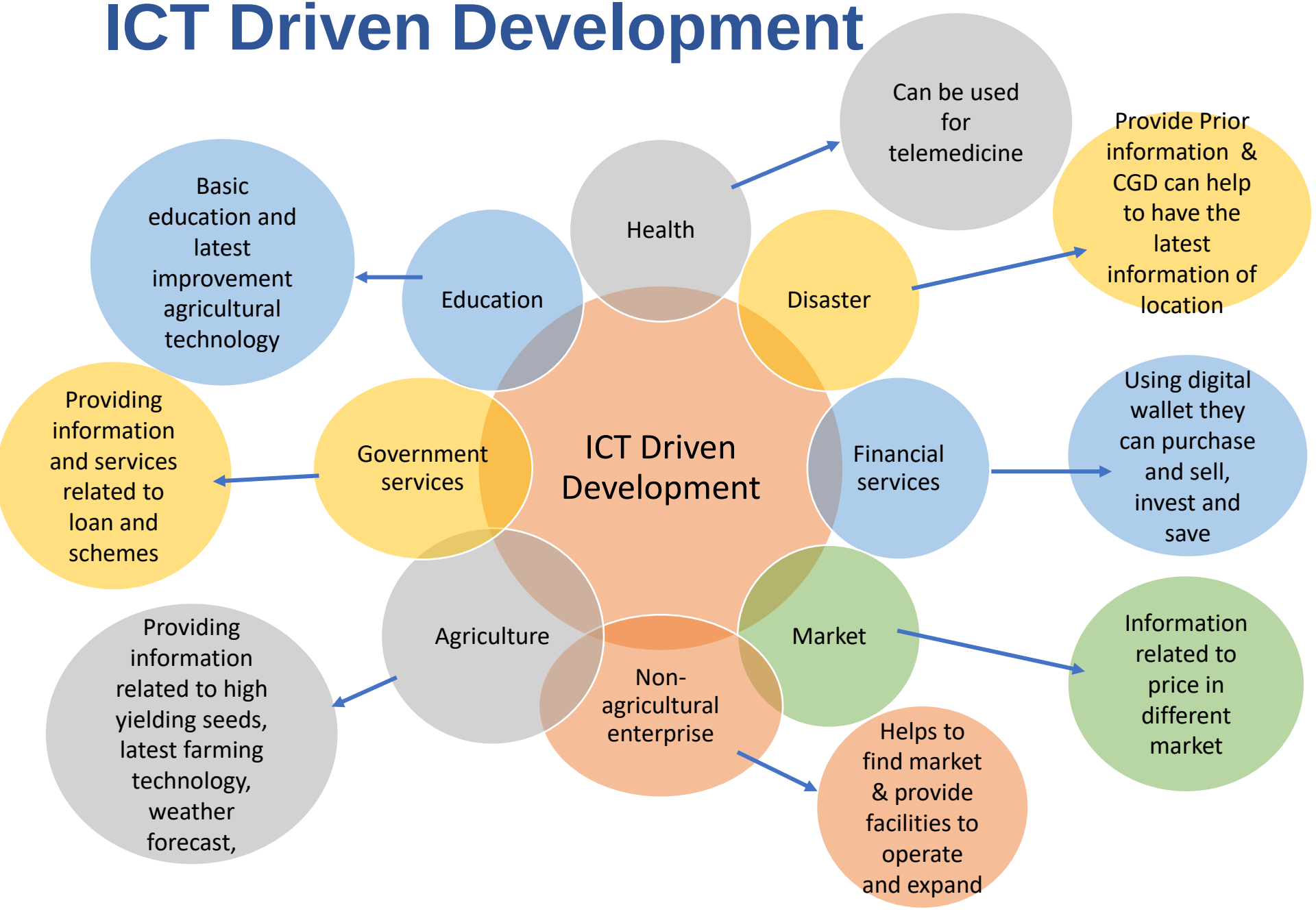
About one-third of the estimated GDP gains is due to productivity enhancement and the remainder from a rise in the size of the digital sector

On trade in Asia: around 7% per annum over 2021-2025, or around $5 trillion in total

On employment in Asia: around 4% per annum over the projection periods, or around 328 million jobs overall

Conditional on these projections is an investment requirement for Asia of around $910 billion over the 5-year period from 2021 to 2025. This investment would be primarily aimed at infrastructure to improve broadband access and internet coverage in the region.

ICT Driven Development



Green digital finance

Benefits from Green Peer-to-peer (P2P) Lending:

- Increased access and decentralization of the financial system;
- Lower costs through improved efficiency, speed and automation;
- Increased competition.

Examples of policy support of green P2P:

- Australia's Government investment through P2P: AU$ 20 million of public funds were lent through P2P lending platform to fund environmentally friendly projects in Australia
- UK P2P allowed lenders to automatically invest in renewable energy projects eligible for government support - Feed-in Tariffs , at 7% annual interest rate as little as GBP20 for a period from 1 month to 5 years.

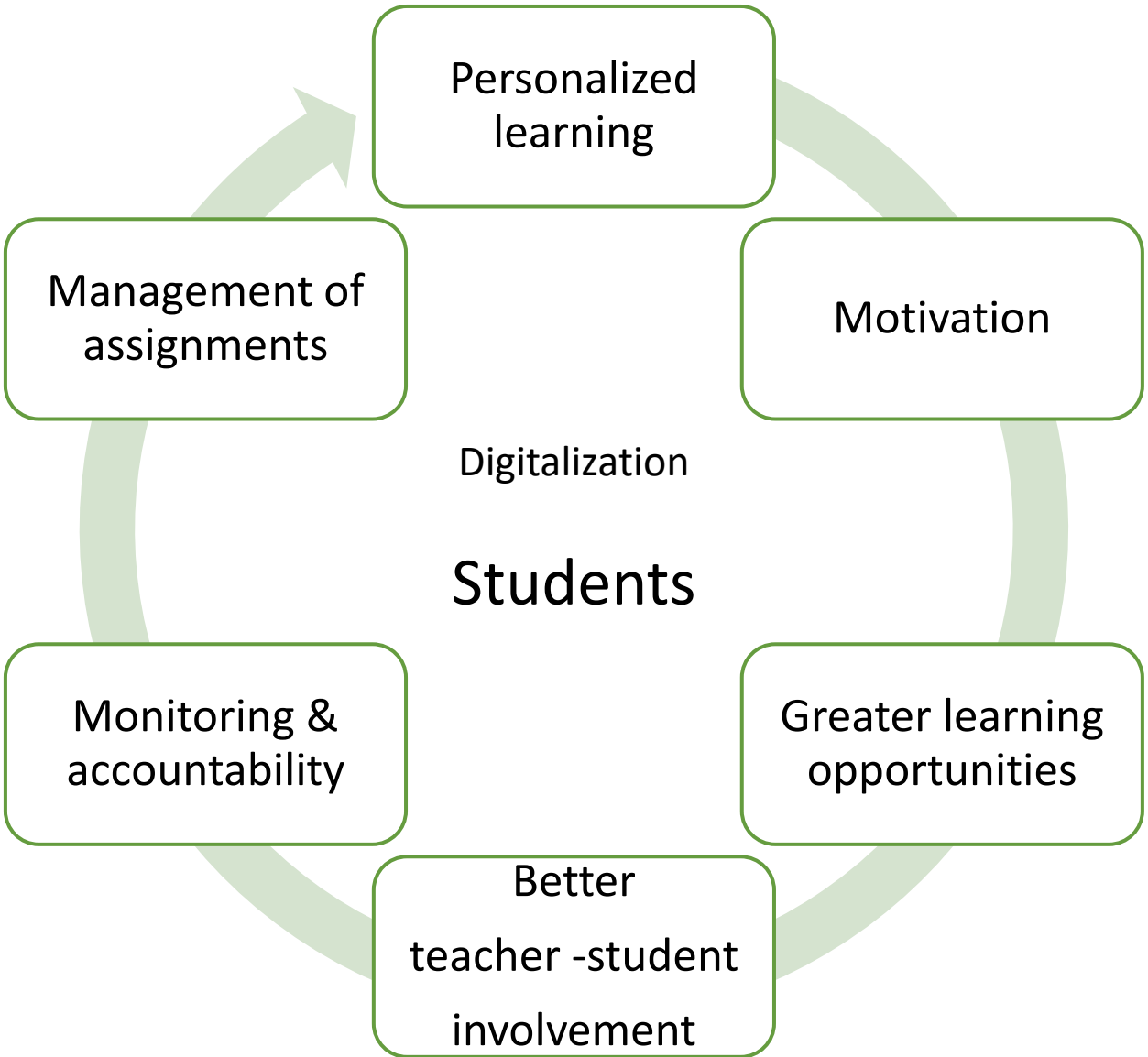
Digitalization and Education (1)

- Digital technology holds much promise to improve the quality of education
  - Improve teacher deployment, school management, professional development, directly increase teaching effectiveness, or interact with students directly
  - Reduce the costs of doing things
  - Some teaching and learning can still take place during school disruptions
- There is a significant market failure in edtech: the products are not designed based on the needs of those who may benefit the most from technology
  - For-profit companies cater to their clients: high quality (mostly private) schools, motivated teachers, students with high socioeconomic status
  - Need government / international organizations to intervene; provide private sector with incentives to create products for different parts of the population

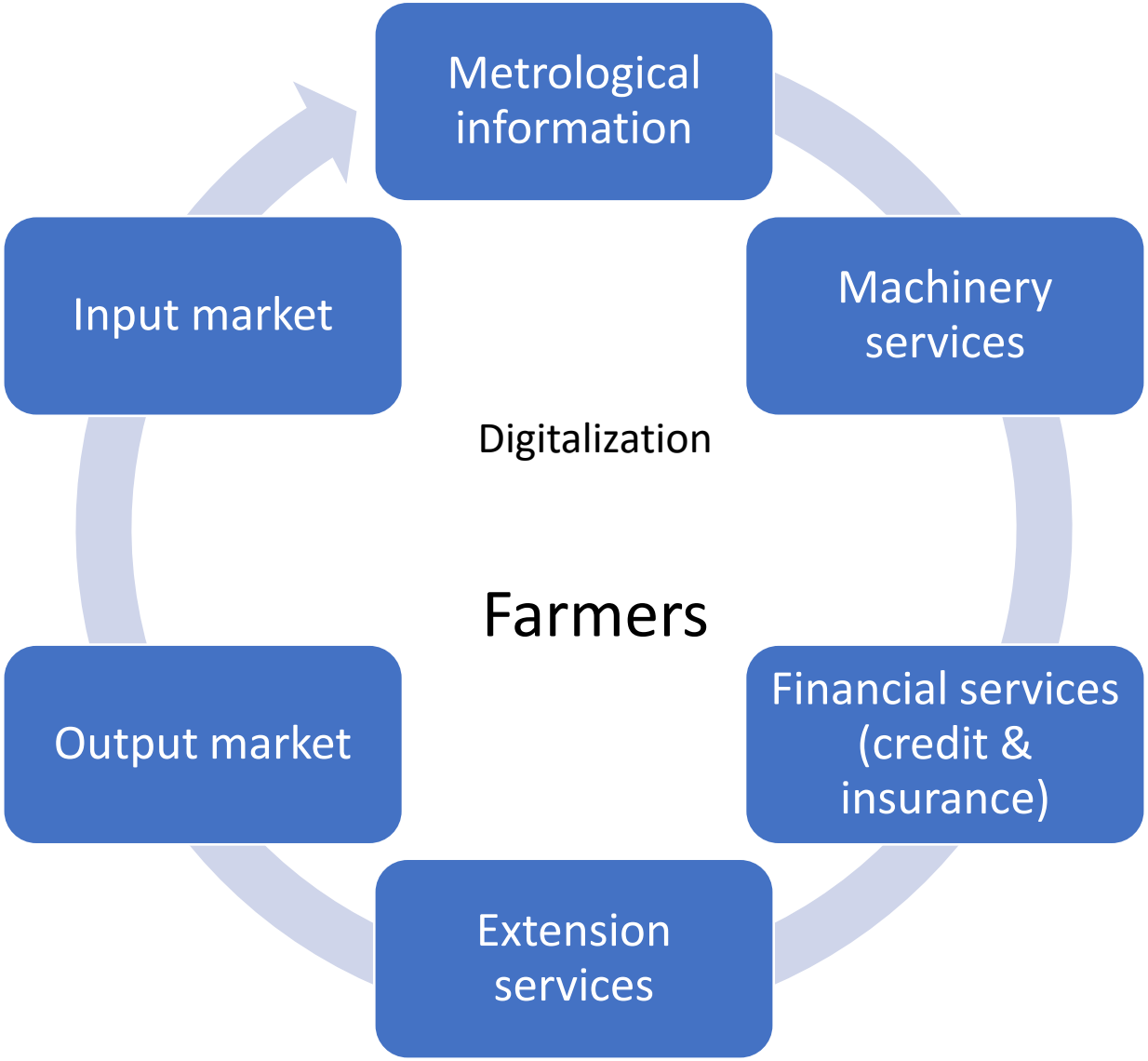
Digitalization and Education (2)

- Some also tend to see technology as the solution to every problem. In the extreme, EdTech is a solution looking for a problem
- Many problems in education systems do not need a technology solution. In these cases, using technology will result in small impact and waste resources
- Important for think tanks to work with governments to analyze whether technology is indeed the most suitable solution to particular problems they face
  - After that, they need to consider how to attain buy-in from teachers, principals, and parents so the technology can be used consistently. This is often the most difficult part of introducing technology
  - Design and rigorously evaluate the impact of any technology that is introduced

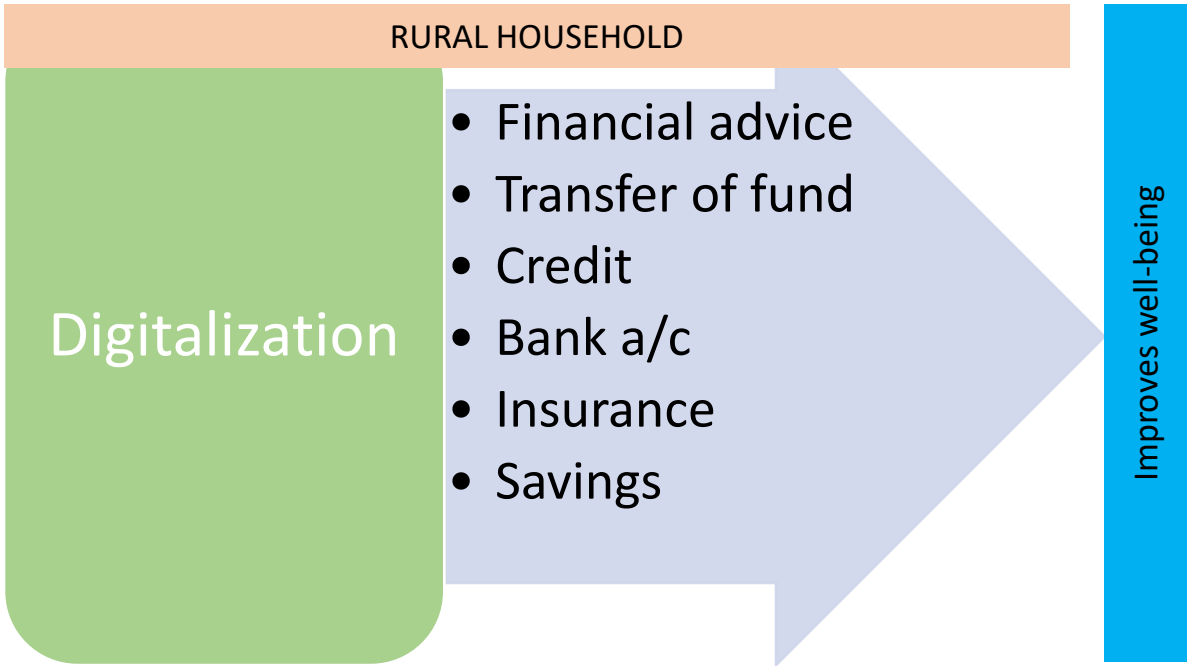
Digital education



Digital Agriculture

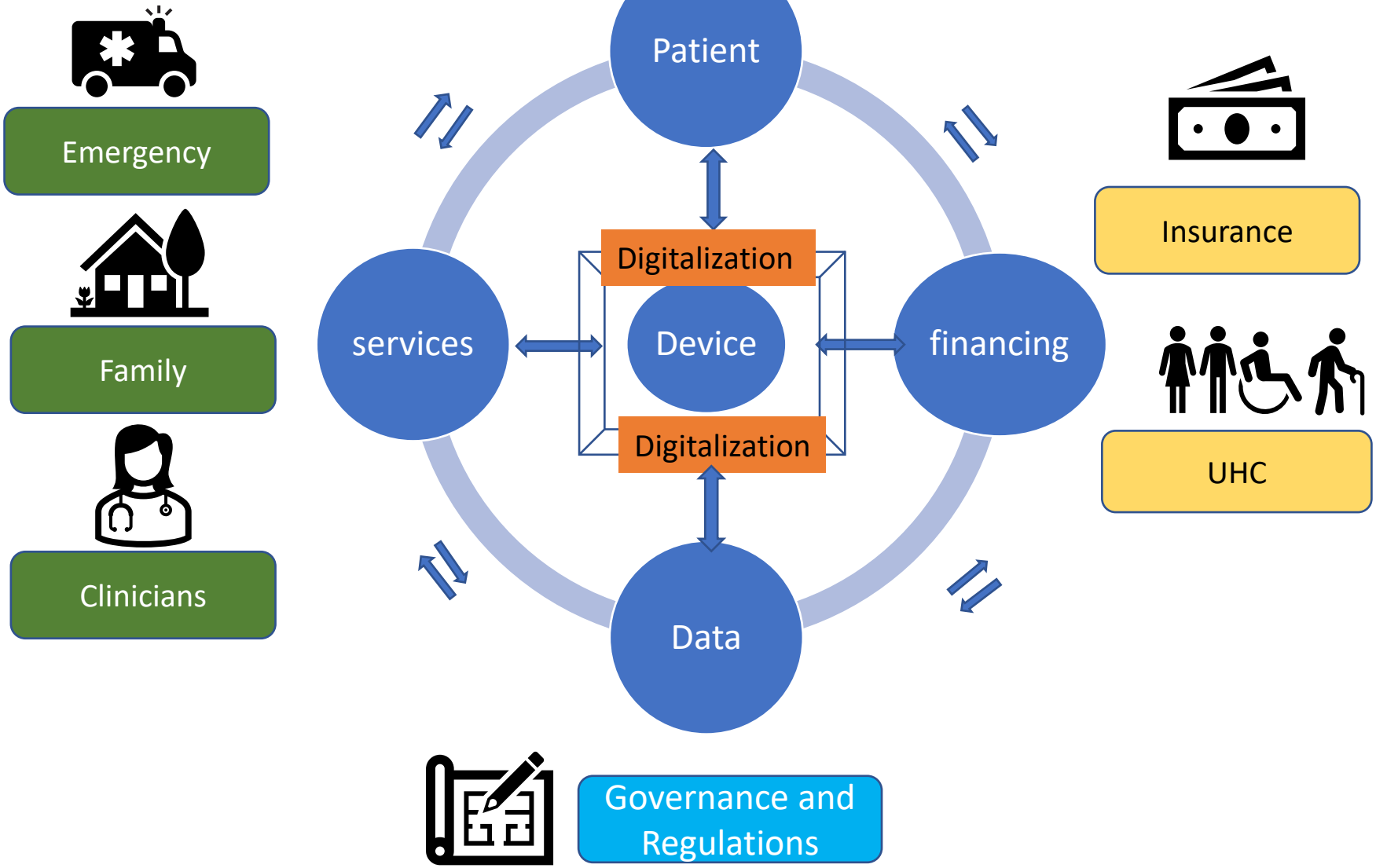


Digital Financial Services

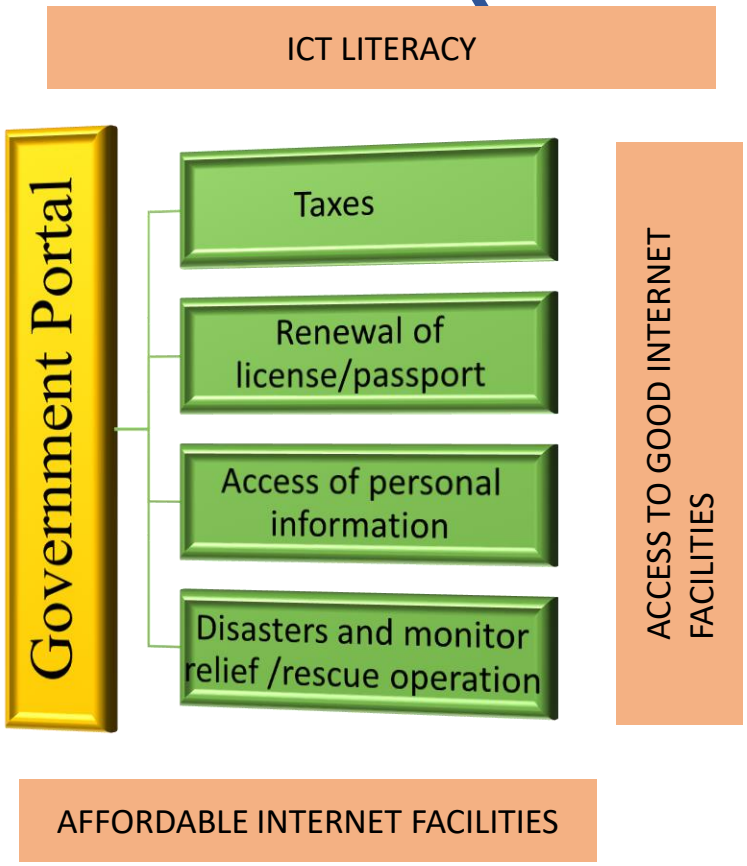


Mobile wallet can be used for making payments for transaction of agricultural inputs and output

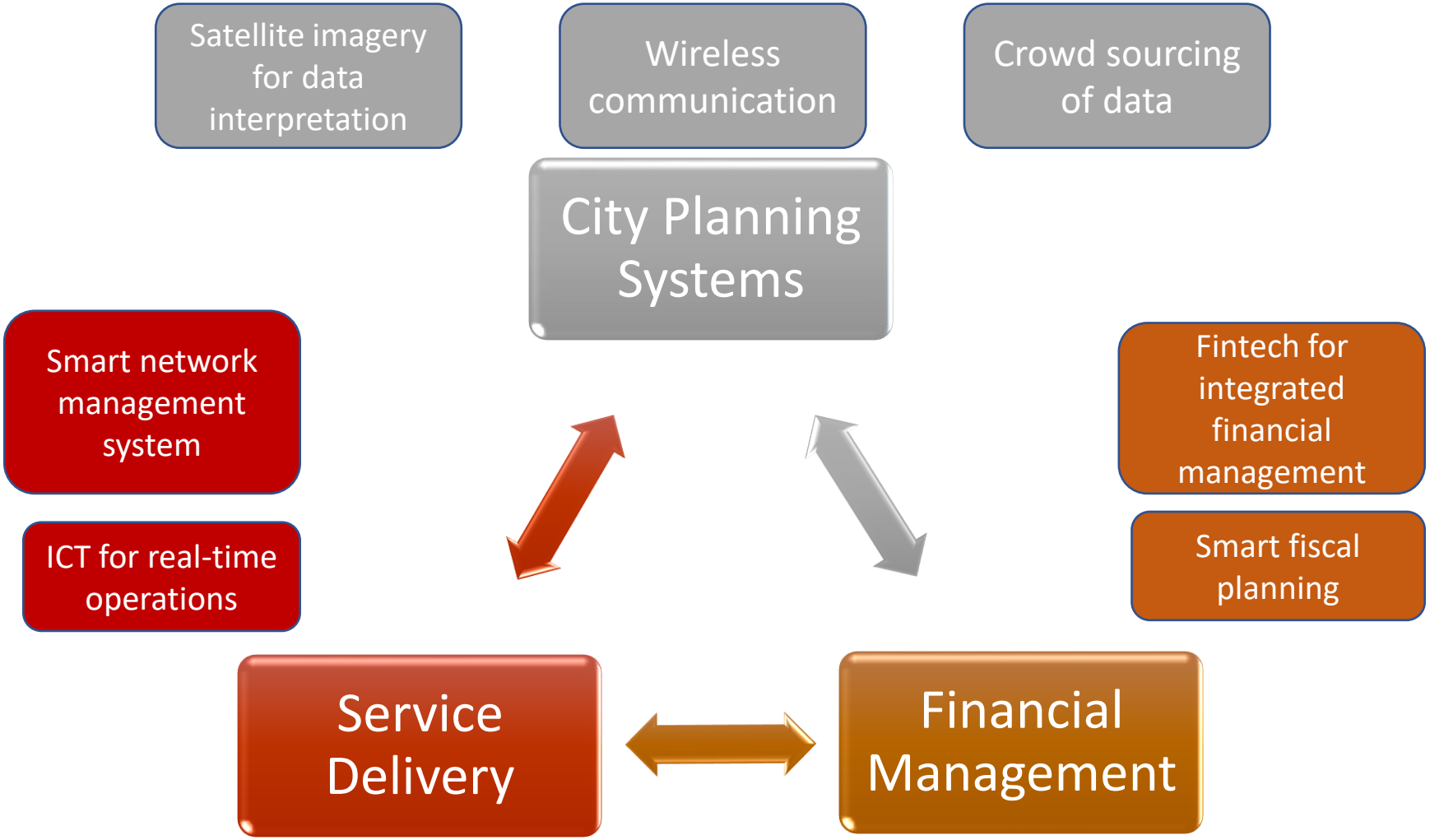
Digital Health



Government services (ePortal)



Digital Solutions for Smart-City Development



Circular Economy and Digitalization

- **Transitioning from a linear to circular economy** will help to significantly reduce GHG emissions and address many of the SDGs
- Digitalization can help businesses gain a better view of their supply chains to reduce environmental impacts, while improving profits and competitiveness
- Role of **governments** and **developed economies**:
  - Governments can drive circular transition by **providing incentives to spur new business models, technology transfer and design innovation**, and penalties to curb the worst practices in waste generation and environmental impact
  - **Leapfrogging** – It is critical for developed economies to share knowledge and advanced technologies to developing economies to leap over the resource intensive-path to development

Positive Impacts of digitalization 1

- Enhancing efficiency gains
  - reducing travel/commuting time
  - reducing the barriers to market entry for firms
  - regional and global economic integration
    - including via international capital flows and trade dynamics
  - enhancing innovations through cross-fertilization of ideas (cf. f2f)
- Contributing to inclusive economic development
  - Enhancing financial inclusion
  - Improving access to market information, technological information, expert skills, and finance
- Strengthening resilience
  - Enhancing disaster prevention
- Contributing to environmental sustainability
  - reducing GHG emission from the transport sector
  - facilitating circularity
- Ensuring a continued shift toward a more digital economy

Positive Impacts of digitalization 2

- Strengthening resilience
  - Enhancing disaster prevention
  - Facilitating infection prevention
  - Speeding up natural disaster/pandemic recovery
- Contributing to environmental sustainability
  - reducing GHG emission from the transport sector
  - facilitating circularity
- Ensuring a continued shift toward a more digital economy

Challenges arising from digitalization

- Cyber risks
- Data privacy
- Post truth, demagogue
- Digital divide
- Monopolization of market
  - Anticompetitive conducts
  - Monopoly or Democracy
- BEPS

International cooperation

- Addressing global digital divide
- Leveraging regional and global economic integration
- International tax cooperation
- Trade war
- WTO reform

Innovation Systems, Science Policies, Space Policies

- **Fundamental shift is needed from national to international systems**

Thank you for your attention!