Enabling Strategies and Business Models:
Public Policy Responses and 4IR Technologies

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RIS
Research and Information System
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विकासशील देशों की अनुसंधान एवं सूचना प्रणाली

Outline

- Blurring Distinctions between Sectors – Emerging Business Models
- ABCD i.e. AI, Block chain, Cloud computing and Data Analytics to attain public policy goals
- 4IR powering ecom, FinTech and Start-Ups
- Need for New Financing Instruments and Preserving Competition
- Role of Governments

Blurring Distinctions between Sectors – Emerging Business Models

- **"servitization" of manufacturing** (manufacturing products coupled with services), the convergence of once separate sectors, and the **"industrialization of services"** (service providers entering manufacturing).

- The **role of services as upstream enablers to producing manufactured goods** is particularly noteworthy;

- **About one-third of the value of gross manufactures' exports from developing economies is attributable to the value-added of "embodied" services inputs**—with distribution (wholesale and retail) and business services making the largest contributions.

- **Global value chains (GVCs) –** 4IR enabling horizontal and vertical networking in the value chain

- **Shift from mass production to mass customization** using intelligent production systems

- ESG and promotion of **circular economy**

- Smart technologies for **greater energy savings and energy efficiency**.

Firm level Adoption of ABCD to attain ABCD

- **ABCD technologies** i.e. **AI, Block chain, Cloud computing and Data Analytics** to **attain ABCD goals**

- **A: Agility and Advantage**
  - ***Agility (Operational):*** Real-time monitoring and quality control help reduce waste. Automation saves labour costs, increases production, and ensures quality.
  - ***Advantage (Competitive):*** Industry 4.0 technologies provide businesses with a competitive advantage over companies that have not adopted them.

- **B: Better Integration and Better Decisions**
  - A connected and integrated operations led by 4IR technologies such as IoT and Big Data Analytics, provides accessibility to huge disparate data sources and analyze that data for better timely and effective decision-making.

- **C: Cost Effectiveness and Convergence**
  - One of the major components of Industry 4.0 are industrial robots. They can perform high-precision and hazardous tasks without a glitch and also work 24/7 without a break.
  - There is a huge potential of 3D printing in advancing smart manufacturing.
  - Additionally, 4IR technologies enable convergence of different technologies that are seamlessly and smartly merging the physical, digital and biological spheres, thus enhancing the universe of smart manufacturing.

- **D: Documentation and Digital Traceability**
  - With digitized information, a nearly limitless amount of business data can be stored via the cloud.
  - 4IR technologies like Blockchain have huge potential application in strengthening the value chains by enabling digital traceability.
  - Digital traceability along the global or regional chain has the potential to improve the quality and efficiency in managing goods along the supply chains by tracking a product from production to consumption.

4IR powering E-Commerce and Start-Ups

- Countries in the Asia-Pacific region are fast embracing the 4IR technologies and the COVID-19 pandemic has fast-tracked the adoption of such technologies.

- **E-commerce is growing rapidly**, with e-commerce market in Asia-Pacific predicted to grow at a CAGR of 18.5 per cent from 2019 to 2025.

- The region also has some of the vibrant start-up ecosystems with emergence of many new start-up hubs in countries such as India, Philippines, Indonesia, and Vietnam.

- **India has become the third-largest startup ecosystem in the world after the US and China.**

FinTech for Inclusive Business

- AI and ML enables faster KYC, credit score and detection of fraud and improving risk management
- Create efficiency in lending decisions, under-writing decision making and portfolio management
- Major areas of applications – asset management, algorithm training, blockchain based financial services
- Enables designing quality financial products – new product offerings
- FinTech Start-Ups enhance credit flow to small borrowers and MSME sectors in Tier I and Tier II cities

Need for New Financing Instruments and Preserving Competition

- Inadequate finances with the firms esp. MSMEs for technological up-gradation
- Poor digital literacy among human resources and firms
- Fragmented informal value chains
- Lack of regulation and technology governance framework related to interoperability, data protection, data governance (iClouds), privacy, cyber security
- Issues related to Gig economy (informality and gender bias)

Government's huge Facilitating Role in scaling Innovations and Adoption of 4IR

- Digital India, Bharat Net, AADHAR Stack, Health Stack, Start-Up India, Drone-as-a-Service, Software-as-a-Service

- Jal Jeevan Mission – IoT Applications to supply, install, configure, test, commission and maintain IoT assets in all villages; data to be uploaded on centralised Cloud

- PM-KUSUM – Smart Grid Technologies based on IoT, Cloud Computing, AI and Big Data

Areas for Regional Cooperation

- Capacity building, education and training for MSMEs on 4IR
- Joint Research and Innovation For SDGs
- Support in creating adequate Digital Infrastructure
- Enabling strategies for Public-Private Partnership; Start-Ups, Joint Ventures
- Enabling governance norms that facilitate Adoption of 4IR
- Cooperation in Regulations, Standards, Norms and conventions.

Cont.

- Specific areas of norm-setting

  - Data Governance related to 4IR technologies: Safeguarding data ownership and security as increasing amounts of data are created, by reinforcing cyber-security and regulations on Data Management.

  - Intellectual property rights regime that balances incentives for innovation with the greater need for technology diffusion in the 4IR

  - Mitigating potential negative regional spillovers of new technologies and ensuring that the opportunities made possible by the 4IR can be leveraged to realize inclusive and sustainable economic development.

Thank You!