Digital Trade’s Vital Importance to Pacific Economies

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About ITIF

▪ The world’s leading science and technology policy think tank.
▪ Supports policies driving global, innovation-based economic growth.
▪ Focuses on a host of issues at the intersection of technology innovation and public policy across several sectors:
  – Innovation and competitiveness
  – IT and data
  – Telecommunications
  – Trade and globalization
  – Manufacturing, life sciences, agricultural biotech, and energy
Today’s Presentation

1  Digitalization Transforming Global and Pacific Economies

2  Digitalization Transforming A Variety of Industries

3  Recommendations for Policymakers
Increasingly Digitalized Global Economy

- Digital economy now accounts for 25% of global GDP.
- By 2022, over 50 percent of Latin American GDP will be digitalized.
- “Half of all value created in the global economy over the next decade likely to be created digitally.” - Tekes

The Digital Economy in Asia-Pacific

- The digital economy accounted for 30% of Chinese GDP in 2018, 18% of Malaysian GDP, 7% of Indonesian GDP, and 6% ASEAN GDP.

- Among the world’s top 10 economies with the largest ICT to GDP ratio, seven are Asian.

- Each 1 percentage point increase in the digitalization of China’s economy is associated with 0.3 percentage point of GDP growth.

ICT Sector’s Contribution to APEC GDP

ICT Sector Value Added as a Share of GDP, 2017

Source: UNCTAD, “2019 Digital Economy Report” Note: All APEC economies shown for which data is available.
Increased Cross-Border Data Flows Driving Global GDP Growth

- From 2005-2015, cross-border data flows grew 45x; 9x through 2021.
- Asia accounts for 16% of global data flows; in 2017, Asia’s cross-border data flows were 97 times their value a decade earlier.

Increased Cross-Border Data Flows Driving Global GDP Growth

- The value of international data flows surpassed the value of international merchandise trade for the first time in 2015.

APEC Region Digital Tech Startups
Pacific Startups Driving the Global Digital Economy

HQ of World’s 100 Largest Digital Unicorns

HQ of World’s 430 Unicorns – All Industries

Source: CB Insights, "Global Unicorn Club: Startups Valued At Least $1 Billion"
ICT Services Exports a Key Driver of Pacific Trade

ICT Services Exports as Share of Total Services Exports

Source: World Bank, “ICT Services Exports as a Share of Total Services Exports”
ICT Goods Exports a Key Driver of Pacific Trade

ICT Goods Exports as Share of Total Goods Exports

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Data/Digitalization Transforming Agriculture

Agricultural production must rise 70% to meet global demand by 2050.

- Precision agriculture uses ICT to optimize crop-planting choices, monitor crops, and guide irrigation/harvesting.

- Microsoft’s IoT-enabled ConnectedCow tracks cows’ health, monitors milk production, and soothes the calving process.

- Thai-based Ricult’s digital platform increases efficiency of agricultural value chains and helps farmers raise sales.
Data/Digitalization Transforming Medicine

- Drug discovery: IBM’s Watson helped identify as many biomarkers for ALS in 1 year as researchers had in last 10.

- Disease detection: In NHS study, AI accurately identified melanoma cells 95% of the time; dermatologists 87%.

- Health delivery: Indonesia’s Halodoc and TeleCTG provide doctor consultations and electrocardiograms remotely.

https://medium.com/innovate4health
Data/Digitalization Transforming Financial Services

- Mexico City-based Pondera Lab uses AI/ML to help firms and government agencies better organize, analyze, and visualize data.

- Ottawa, Canada-based Mindbridge AI uses AI/ML to audit financial transactions and detect fraudulent activity.

- Santiago, Chile-based GoSocket uses cloud-based services to process million electronic invoices daily for 20,000 firms.

Source: APEC/Nigel Cory, “Fostering an Enabling Policy and Regulatory Environment in APEC for Data-Utilizing Businesses,” January 2019
Data/Digitalization Transforming Manufacturing

- Manufacturing is the world’s most data-intense industry.
- Digital services account for 25% mfg. inputs.
- Digital platforms will account for 30% of manufacturing sector revenues by 2020.
- AI applications to contribute one-third of German manufacturing output growth.

“Digitally Enabled” at Each Step of Manufacturing

1. Product Design
2. Fabrication and Assembly
3. Factory Operation
4. Supply Chain Integration
5. Product Use and Consumption

Manufacturing: Generative Design & 3-D Printing

- Software designs products based upon specified input constraints.
- Synthesizing successive layers of material into a three-dimensional solid object composed from a digital file.
Manufacturing: Roboticization

- Asia leading roboticization.
- Fanuc robots build, test, and even inspect themselves.

Industrial Robots per 10,000 Workers, 2017

- South Korea: 631
- Singapore: 488
- Germany: 309
- Japan: 303
- Sweden: 223
- Denmark: 211
- United States: 189
- Italy: 185
- Taiwan: 177
- Canada: 145
- Australia: 83
- China: 68

Source: International Federation of Robotics, “Executive Summary World Robotics 2018 Industrial Robots”
Manufacturing: Digitalization Transforming Supply Chains

- Manufacturing competition increasingly depends upon the ability to leverage data flows to synchronize global supply chains.
Digitally Enabled Product Use and Consumption

- Digitalization enables new business models such as product servitization, mass customization, low-cost variability, and evergreen design.
  - E.g., Rolls Royce’s “Power by the Hour” model.
  - John Deere tractors with variable engine horsepower.

Today’s Presentation

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2 Digitalization Transforming A Variety of Industries

3 Recommendations for Policymakers
Develop a Manufacturing Digitalization Strategy
Develop a National Artificial Intelligence Strategy
Join the Information Technology Agreement (ITA)

Membership and Participation in ICT GVCs

Eschew Data Localization Requirements

✓ Eschew digitalization barriers to trade, including local data storage and local ICT facilities provisioning requirements.

Additional Recommendations for Policymakers

✓ Maintain the WTO moratorium on e-commerce transactions duties.

✓ Adopt APEC CBPR, ensuring that data protections flow with data.

✓ Recognize that data provides an essential innovation platform.
  ▪ Adopt open government data policies.
  ▪ Refrain from taxing the use of data.
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Thank You!

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