APEC Activities on Digital Economy: Implications for Science, Technology and Innovation Cooperation

Purpose: Information
Submitted by: Korea
APEC Activities on Digital Economy: Implications for STI Cooperation

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Background and Current APEC Focus

- Current APEC Focus
  - “An Open, Dynamic, Resilient and Peaceful Asia-Pacific Community by 2040, for the Prosperity of All Our People and Future Generations” (APEC Putrajaya Vision 2040, November 2020)
  - “Innovation and Digitalization” is suggested as one of three specific means / economic drivers including “Strong, Balanced, Secure, Sustainable and Inclusive Growth,” and “Trade and Investment”
  - “A Digitally-Enabled Recovery” by accelerating APEC’s work in support of the digital economy (the 3rd priority of APEC 2021 New Zealand)

- UN 2030 Agenda for SDGs is a comprehensive reference for global and regional cooperation, with Goal 9 Industry, Innovation and infrastructure

- This presentation is to overview APEC activities/projects related with digital economy through key word search from APEC project database
Brief on Digital Economy

- No generally agreed definition on the digital economy due to its ongoing development with rapid deployment as well as emerging digital technologies and innovation (e.g., definition by Bukht and Heeks (2017))
**Brief on Digital Economy**

- On average 5.41% of total value added in OECD members in 2015
  - For APEC member economies, Korea 10.35%, US 6.04%, Japan 5.96%, Canada 4.04%, and Mexico 2.75% (ICT sector and sub-sectors, *OECD Digital Economy Outlook 2017*)
Brief on Digital Economy

  - For APEC member economies, US 42%, Japan 66%, China 17%, Korea 84%, Australia 24% of their GDP in 2018, respectively

<table>
<thead>
<tr>
<th>Rank</th>
<th>Economy</th>
<th>Total e-commerce sales ($ billion)</th>
<th>Share of total e-commerce sales in GDP (%)</th>
<th>B2B e-commerce sales ($ billion)</th>
<th>Share of B2B e-commerce sales in total e-commerce (%)</th>
<th>B2C e-commerce sales ($ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>8,640</td>
<td>42</td>
<td>7,542</td>
<td>87</td>
<td>1,098</td>
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<tr>
<td>2</td>
<td>Japan</td>
<td>3,280</td>
<td>66</td>
<td>3,117</td>
<td>95</td>
<td>163</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>2,304</td>
<td>17</td>
<td>943</td>
<td>41</td>
<td>1,361</td>
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<tr>
<td>4</td>
<td>Korea (Rep.)</td>
<td>1,364</td>
<td>84</td>
<td>1,263</td>
<td>93</td>
<td>102</td>
</tr>
<tr>
<td>5</td>
<td>United Kingdom</td>
<td>918</td>
<td>32</td>
<td>652</td>
<td>71</td>
<td>266</td>
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<tr>
<td>6</td>
<td>France</td>
<td>807</td>
<td>29</td>
<td>687</td>
<td>85</td>
<td>121</td>
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<tr>
<td>7</td>
<td>Germany</td>
<td>722</td>
<td>18</td>
<td>620</td>
<td>86</td>
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<tr>
<td>8</td>
<td>Italy</td>
<td>394</td>
<td>19</td>
<td>362</td>
<td>92</td>
<td>32</td>
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<tr>
<td>9</td>
<td>Australia</td>
<td>348</td>
<td>24</td>
<td>326</td>
<td>94</td>
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<td>10</td>
<td>Spain</td>
<td>333</td>
<td>23</td>
<td>261</td>
<td>78</td>
<td>72</td>
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<tr>
<td>10 above</td>
<td>19,110</td>
<td>35</td>
<td>15,772</td>
<td>83</td>
<td>3,338</td>
<td></td>
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<tr>
<td>World</td>
<td></td>
<td>25,648</td>
<td>30</td>
<td>21,258</td>
<td></td>
<td>4,390</td>
</tr>
</tbody>
</table>

Source: UNCTAD, based on national sources.
Note: Figures in italics are UNCTAD estimates.
**APEC Fora Activities on Digital Economy**

- Key word analysis on APEC fora projects during 2006 - 2020. 10 based on APEC Project Database (APD) (*Nam (2021)* forthcoming)

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-Category</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means of Digital Economy</td>
<td>comprehensive means</td>
<td>Internet, digital, electronic</td>
</tr>
<tr>
<td></td>
<td>specific means</td>
<td>information, data</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>technical infrastructure</td>
<td>telecommunication, ICT/IT, technology</td>
</tr>
<tr>
<td></td>
<td>physical infrastructure</td>
<td>broadband, network, infrastructure</td>
</tr>
<tr>
<td>Inclusiveness</td>
<td>activities for inclusiveness</td>
<td>inclusion/inclusive, access/accessibility, engagement/participation, capacity</td>
</tr>
<tr>
<td></td>
<td>targets for inclusiveness</td>
<td>remote/rural, SMEs, women</td>
</tr>
</tbody>
</table>
APEC Fora Activities on Digital Economy

- APEC projects with digital economy key words during 2006 – October 2020, on average 32.6% of total projects (Nam (2021) forthcoming)
By category of key words, number of projects with DE key words in all of the three categories have been increasing in general, especially, since 2015. More specifically, projects with *inclusiveness* key words increase first and then *means of DE* key words (*Nam (2021)* forthcoming).
APEC Fora Activities on Digital Economy

- By APEC forum, CTI, SMEWG, HRDWG, TELWG, EWG, PPWE, PPSTI
- of top 7 explain about 71.8% of total number of projects with DE key words (Nam (2021) forthcoming)
By member economy, US, China, Korea, Australia, Viet Nam, Chinese Taipei, Japan of top 7 explain about 64.2% of total number of projects with DE key words (Nam (2021) forthcoming)
**APEC Digital Innovation Sub-Fund**

- Established in 2019, the Digital Innovation Sub-Fund supports new and ongoing initiatives related to the digital economy.
  - Voluntary contributions to this Sub-Fund since 2019 are as follows: Korea: US$1.4 million, Australia: US$387,200, Chinese Taipei: US$400,000.

- 18 projects were supported by this Sub-Fund till Project Session 2 of 2020, 7 for 2019 PS2, 5 for 2020 PS1, and 6 for 2020 PS2, respectively.

- By proposing economy, 5 by Chinese Taipei (1 co-proposed by Philippines), 4 by Korea, 3 by US, 2 by China, 2 by Philippines (1 co-sponsored by Chinese Taipei), 1 by Indonesia, New Zealand, and Peru, respectively.

- By forum, 3 by ECSG/DESG, 3 by TELWG, 2 by HWG, 2 by PPSTI, 2 by SMEWG, 1 by CTI, EC, HRDWG, PPFS, SCSC, and TPTWG, respectively. *(Nam (2021) forthcoming)*
APEC Digital Innovation Sub-Fund

- By theme, 5 for digital inclusion, 2 for capacity building, 4 for cybersecurity, 2 for emerging digital technologies, 5 for healthcare and telemedicine

- Digital inclusion: women startups, women e-commerce, minority e-commerce, inclusive growth of SMEs, app-based transportation mobility technologies for inclusive smart cities
- Capacity building: using block-chain technology, on data science tools
- Cybersecurity: personal data protection and utilization, IoT security, personal data breach notification system, consumer protection in digital trade / e-commerce
- Emerging digital technologies: 5G network ecosystem, learn on AI experiences
Implication to Facilitate Innovation and Digitalization in APEC

- Facilitate Innovation and Digitalization
  - Global challenges, both current and beyond, require holistic and streamlined approaches with evidence from information analytics as well as quick responses proportional to the speed and scope of their diffusion

- Enhance utilization of ICTs and emerging digital technologies in addressing global challenges
  - Universal services for inclusiveness, affordability as well as accessibility
  - Ensure interoperability, standardization, and harmonization of broadband network infrastructure and services,
  - Establish secure, trust and resilient digital ecosystem
  - Build human capacity and skills for bridging digital divide in utilization / participation
  - Develop measures and information analytics capacity for evidence-based policy making
Implication to Facilitate Innovation and Digital Transformation

- Multistakeholder participation and cooperation and outreach
  - industry, civil society, governments, academia, international organizations, etc.

- Cross-fora collaboration, with reference to
  - APEC Internet and Digital Economy Roadmap (2017)
  - APEC TEL Initiative on Global Challenges and Cooperation Utilizing ICT: COVID-19 Pandemic and Beyond (2020)
  - and utilizing fund sources including Digital Innovation Sub-Fund of ASF

- High-level guide and support
  - in consideration of cross-cutting nature of the digital economy and innovation
  - for example, by regularizing current TELMIN, STMM process or establishing ST-TEL Joint MM
References


- Jang, Yungshin et al. (2020), Digitalization in Asia-Pacific Region and Policy Implications for Korea, Research Report 20-24, Korea Institute for International Economic Policy, Korea, December. (in Korean)

“Crisis requires Innovation and Innovative Means”

Thank you for your attention.

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