



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

APEC Workshop on Promoting Business Opportunities in Remote Areas through Information and Communication Technology

APEC Energy Working Group

February 2023



**Asia-Pacific
Economic Cooperation**

**APEC Workshop on Promoting Business
Opportunities in Remote Areas through
Information and Communication Technology**

SUMMARY REPORT

29-30 November 2022 | Ha Noi, Viet Nam

APEC Digital Economy Steering Group

February 2023

APEC Project: DESG 04 2021A

Produced by

Ms. Pham Quynh Mai

Ministry of Industry and Trade

Viet Nam

For

Asia-Pacific Economic Cooperation Secretariat

35 Heng Mui Keng Terrace

Singapore 119616

Tel: (65) 68919 600

Fax: (65) 68919 690

Email: info@apcc.org

Website: www.apcc.org

© 2023 APEC Secretariat

APEC#223-CT-04.4

Table of contents

Contents

I.	Introduction	3
II.	Background	4
III.	Key Issues	6
	1. Overview of MSMEs' growth and development in remote areas in APEC member economies.....	6
	2. Identifying opportunities and addressing challenges.....	9
	3. Addressing challenges in the application of ICT to support MSMEs in remote areas 18	
	4. Factors that influence the adoption of ICT in some key industries	22
IV.	Recommendations and Conclusions.....	26

APEC WORKSHOP ON PROMOTING BUSINESS OPPORTUNITIES IN REMOTE AREAS THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

**Ha Noi, Viet Nam
29 -30 November 2022**

Summary Report

I. Introduction

On 29-30 November 2022, the APEC Workshop on Promoting Business Opportunities in Remote Areas through ICT was organized by Viet Nam and co-sponsored by Indonesia, Peru, Papua New Guinea, and Chinese Taipei. It was held in the hybrid format to meet with the post COVID-19 recovery. Speakers and participants came from the private sector, business associations, international organizations, research institutions, and APEC member economies' relevant Ministries and government agencies.

The APEC Workshop on Promoting Social Enterprises for Inclusive Growth aims at the following objectives:

- i. Provide capacity building for APEC member economies especially developing ones to enhance ICT application in remotes areas to harness business opportunities, contributing the APEC inclusive growth priorities;
- ii. Share experiences in how to harness ICT to help remote areas maximize their business opportunities and realization;
- iii. Explore cooperation opportunities and networks among APEC economies; and

- iv. Develop recommendations for the economies and APEC to promote concrete efforts in inclusive growth and development in general, initiatives in remote area development in particular.
- v.

II. Background

Remote area development has been an increasingly emerging topic of interest in APEC ¹ recently given its importance and contribution to APEC's efforts and priorities in realizing sustainable and inclusive growth. It is acknowledged that APEC's remote areas feature "a lack of connectivity due to geographic distance, terrain or travel time". Under this approach, remote areas are not only rural areas but also cities that are "disconnected from economic networks" and unable to take advantage of economic opportunities².

Providing assistance and subsidies might be a way to address the challenges of remote areas but a more sustainable approach that improves the connectedness and self-reliance to harness economic potential would work better in the APEC context ³. From this perspective, the project would shed light on how information and communications technology (ICT) can promote entrepreneurial activities through reducing barriers to participating into the digital economy ⁴. The project would focus on outlining and addressing the challenges that governments, people and involved stakeholders face while trying to harness ICT as well as sharing experiences in how remote areas can take advantages of ICT to improve connectedness among regions, seize and realize business opportunities, resulting to inclusive growth and development.

¹ https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Trade/2018_trade

² <https://www.apec.org/remote-areas-development>

³ <https://www.apec.org/remote-areas-development>

⁴ <https://www.apec.org/remote-areas-development>

In the context of the COVID 19 pandemic, harnessing business community in remote areas will be of more significance since the “new normal” has changed and reshaped how business operate. Moreover, ICT experts in this context will be also able to help promote business in a more sustainable manner.

This project is contributive to APEC’s efforts and priorities in pursuing inclusivity, sustainability, and connectivity in general, digital connectivity in particular. The 2018 Ministerial Chair Statement stressed that APEC is committed to implementing the APEC Internet and Digital Economy Roadmap (AIDER) with a focus on “bridging the digital divide, building up digital capacity and competencies for all, and creating an environment to foster the digital economy”. The project, with a focus on harnessing ICT for businesses in remote areas will ensure the APEC’s commitments and priority to narrow the digital divide and take advantage of the possible opportunities as well.

Among the APEC priorities, this project will also explore the possibility of promoting women economic empowerment in business in remote communities, especially those in MSMEs play an important roles in the economy not only from the perspective of leadership but also in labour forces. In this way, the project also supports PPWE goals and the La Serena Roadmap for Women and Inclusive Growth – specifically, the Roadmap’s focus on digital skills building and closing the gender digital divide.

The project directly responds to the Internet and Digital Economy Roadmap and Cross-Border E-Commerce Facilitation Framework. In particular, this project addresses one of the Roadmap’s key areas of focus – “enhancing inclusiveness of Internet and Digital Economy” through focusing on ICT development in remote areas with views of narrowing the gaps and disparities among regions to attain inclusive and sustainable growth. In addition, it also helps respond to the

Framework's objective in "promoting development of ICT infrastructure for facilitating cross-border e-commerce and digital trade". With the efforts to address ICT infrastructure development in remote areas, improved connectivity will help them to take advantages of economic opportunities.

III. Key Issues

1. Overview of MSMEs' growth and development in remote areas in APEC member economies

A Senior Public Management Specialist (Digital Transformation), Asia Development Bank (ADB): Digital connectivity is believed to play an important role in promoting MSMEs' growth and development in rural and remote areas. Demands for data for individuals or entrepreneurs has significantly increased more than 1 GB per day during the COVID-19 pandemic given to increasing requirements of remote work, e-learning telehealth or many other common activities. It is expected to climb up higher even after the pandemic with many online collaboration platforms can use up to 1 GB per hour. It was estimated that global average mobile data consumption exceeded 10 GB per month in 2021 and by 2026, it is expected that users in Asia alone can consume an average of 40 gigabytes of mobile data per month.

There have remained some features in the world digital trends in the past years. Firstly, there has been an increase in data flow with the tendency of growing data volumes and high speed, and low latency. The emergence of high technologies such as Non-geostationary satellites (NGSO) including the low-earth orbit satellite (LEO) has contributed to tackling the demands, offering universal coverage at high speed. The rollout of 5G networks being launched (by Telcos, a telecommunication service provider) despite heavy investment has also promoted the data flow increase, contributing to covering gaps even in remote areas. Powerful private sector gatekeepers through vertical and horizontal integration have dominated the market significantly and affordability is not always top of

mind. However, despite the growth of these powerful players, platform companies still face challenges of not being trusted by the public (and the government) due to concerns over privacy and security being unaddressed.

Secondly, the growth in AI applications and advanced analytics has impacts on MSMEs in remote and rural areas. Unlocking value from data (automated cleansing, learning from small data, synthetic data/plugging gaps), automated machine learning (no need for selection of architecture and Neural Net Design), no code/low code to counter talent gaps have both created opportunities and challenges for MSMEs in remote areas given the fact that regulators might not keep up with assessing and managing risks due to rapid changes.

More particularly, the world has witnessed so much rapid development of emerging technologies and disruption that have more impacts than ever before that. For example, those could include the FinTech Revolution (wallets, digital banks and low-value payment systems); automation and robotics (enabled by ubiquitous computing, cloud technology, and artificial intelligence); space technology (drop in launch costs, rapid built-up of low earth orbit satellite constellations, low latency); rapid advancement in renewable energy and climate tech (circular economic principles, increased efficiency of energy storage, intelligent crop advisory, etc.); and data privacy concerns and cyber security risks (increased digitalization exposing to risks).

It is undeniable that digitalization opens up opportunities for MSMEs especially those in remote where geographic distance, terrain, or travel time might be an issue, thanks to its improvement in productivity and efficiency, lowering the cost of economic transactions, opening avenues for new business, promoting product innovation, optimizing and improving customer experiences. These opportunities could be realized through accessing to digital connectivity (mobile coverage, handset, data, power supply); digital literacy and skills; web and/or social media

presence (web, mobile, and social media marketing); internal communication, team collaboration, information sharing with business stakeholders; conducting financial transactions, managing projects, and client relationships digitally; digital market platforms for buying and selling goods and services; participation in digitalized supply chain logistics (traceability); and deployment of advanced technology (e.g. cloud solutions, process automation, etc.). Digitalization can be harnessed in a diverse range of areas and sectors such as agriculture, fisheries and forestry (precision farming such as drones, IOT; value chain, food traceability, etc.,); manufacturing; trade, commerce, retail; tourism and hospitality; creative industries; contracting with public sector (e.g. digital solutions for health, education, transport, water, etc.).

On the other hand, barriers might remain, impeding the process of affordable connectivity in remote areas subject to factors such as geography and population density; access to radio spectrum; access to energy; access to land, towers, and buildings; safety and security of people and property; operator licensing; and/or access to finance. In that sense, promoting enablers/drivers would help MSMEs' adoption of digital connectivity, including promoting basic infrastructure (power supply, road, rail, waterways, ...); digital infrastructure (infrastructure co-deployment such as water, transport, energy and sharing such as towers, fiber, data centers); new technologies (e.g. LEO constellations, OpenRAN, 5G private networks) and business models (e.g. Reliance Jio, IoT); availability to cloud services; decent connectivity a pre-condition to fully transition to cloud computing; regulation, policies and incentives; data privacy and security, trade policies, subsidies for digital adoption and skill development,...; and enhancing awareness and skills (those of business owners/managers; availability of skilled manpower to deploy digital technologies; ability to attract and retain talent).

ADB has made great work related to promoting access to digital connectivity for MSMEs in general, those in remote and rural areas in particular in such sectors as innovation and inclusion (with a focus on affordability and commercial viability); digital infrastructure investment (smart and strategic connectivity investment); and knowledge and partnership (capacity building and policy reforms).

2. Identifying opportunities and addressing challenges

In this session, speakers focus on identifying opportunities and challenges, sharing experiences on how to take advantage of opportunities, tools, trends, and/or policies, and programs to address the challenges that MSMEs in remote areas might encounter to develop their businesses.

Ms Zhuofan Yang, A Senior Engineer, Electronic Technology Information Research Institute of China shares the opportunities in promoting digital infrastructure and digital economy based on the analysis of environment, policy, technology and platform. From a macroeconomic perspective, going digital has become a global consensus and a new engine of economic growth. The digital economy accounts for 40% of GDP on average globally, with the growth rate of digital economy 2 times bigger than the GDP. The COVID-19 pandemic also contributed to accelerating the digital process when more and more businesses have started to go digital as a source of resiliency and innovation. In this context, economies across the globe and China have introduced various policy measures to assist SMEs. China has created favourable policies and strategies to support SMEs both in term of short-term survival and long-term demand sustainability such as from job retention schemes, deferral of payments, and financial support by debt channels, to promoting innovation, upskilling and reskilling, start-ups, new markets, etc. Through setting up MSMEs' digital transformation demonstration, building public service platform and fostering MSMEs' characteristic industrial

clusters, more than 9,000 SMEs with specialized, refinement, differential and innovational features have been established, 89.9% of which are concentrated in the manufacturing sector. China also highlights the importance of investment in technology and ICT in recognition of the correspondence between ICT investment and GDP growth. Digital technology application is believed to foster SMEs' penetration into the digital economy in general and e-commerce in particular. Digital platforms enable MSMEs to "informationize" at a lower cost and higher efficiency, enhance capacity for smart manufacturing as well as significantly contribute to building flexible supply chains in rural areas, improve agricultural product standardization processes, and build Logistics Industrial Innovation Centre. For example, ChinaUnicom, a famous telecom operator in China, builds the digital rural service cloud platform to improve rural SMEs' digital service and marketing ability.

On the other hand, there are still many challenges for MSMEs' digitization in rural areas. From a perspective of external factors, the outbreak of the COVID-19 pandemic has placed every individual economy under challenges due to sudden lockdowns and disruption of the supply chain. MSMEs in remote areas are even more affected by insufficient local digitization ecology due to the fact that they are small and scattered, lack standardization in production and operation, lack market resources and brand effects as well as remain gaps in logistics infrastructure between villages. Solutions and digital solutions are usually general, not diversified, and not well customized. In reality, it is estimated that about over 60% of MSMEs in China lack targeted digital solutions, and customized services. Regarding the internal challenges, MSMEs face three difficulties: Don't know how to digitization, Don't dare to digitization and Unwilling to digitization. For example, MSMEs themselves often lack digital strategic ideas such as those about cost-effectiveness, how to deploy new equipment and systems, how to adapt to organizational structure and operation management, etc. They might also have

insufficient digital abilities in dealing with risks of information leak, lack of digital access, skills and human resources, and so on. Another obstacle might be high cost in term of both time and capital cost.

A senior official from Indonesian Agency for Telecommunication and Information Accessibility (BAKTI), Ministry of Communications and Informatics focuses on sharing Indonesia' efforts and action in promoting digital infrastructure for business' growth and development through a "Digital Roadmap Implementation". Indonesia has some advantages in promoting digital infrastructure and digital economy since so far, BAKTI's digital ecosystem initiatives is able to cover multiple sectors, providing rural community with solutions that can improve their livelihood. Government agencies between the central and local are synergized and collaborative, contributing to promoting digital ecosystem initiatives efficiently and effectively. Besides, in the context of the pandemic, locals have stronger motivation and enthusiasm to move forward to digital platforms and e-commerce. MSMEs in villages also hold the potential to drive the local economy through online transactions with promotion on online stores.

On the other hand, Indonesia has encountered a number of challenges that impede its growth and development. It is estimated that the total of the population in Indonesia has now reached 272 million (2022) and around 210 million can access to the internet, accounting for 77.02% of the population, ranked 111th out of 176 economies in terms of ICT development index. The COVID-19 pandemic has forced the economy, government, businesses and individuals to adapt from offline to online operation, which would be an obstacle, especially for those who lack access to the internet and digital infrastructure like those in villages in remote areas. Besides, increased logistics cost, lacked of logistics infrastructure and key

players, and low technology adoption have also challenged rural MSMEs to compete efficiently.

Indonesia has developed four (04) strategic sectors, namely: (i) digital infrastructure; (ii) digital government; (iii) digital economy; and (iv) digital citizen. Indonesia concentrates on building an inclusive, secure, reliable digital infrastructure and connectivity with high-quality services; promoting directions to build an open and integrated digital government institution to improve public services; transforming Indonesia from a consumer to a technology producer through investment in various platforms that have strategic interest values; improving digital capability in priority sectors to strengthen geostrategic competitiveness and drive quality growth; building a digital culture and taking advantage of demographic bonuses and empowering Indonesian people in developing a digital world. Among those, Indonesia also highlights the importance of harmonizing regulations as well as raising funds to advance innovation. Indonesia has developed 100 primary initiatives, including but not limited to improving services from the government to the community and business; digitizing legislative and judicial processes; digitizing business operations; developing a digital innovation ecosystem; improving digital literacy and instilling Indonesian culture, and so on.

Indonesia launched the Indonesian Agency for Telecommunication and Information Accessibility (BAKTI) within the Ministry of Communication and Informatics in 2006 with the main task to provide ICT infrastructures and empower the ecosystems by managing the USO fund collected from the telecommunications network operator and/or telecommunications service operator. By the year of 2021, BAKTI Kominfo is entrusted to utilize the State Budget (APBN). It is missioned to bridge the digital divide in Indonesia and manage the USO Fund to provide equal access to telecommunication services. BAKTI has outlined its priorities to accelerate its digital transformation, including

(i) completing the development of digital infrastructure to cover all villages and sub-districts with high-speed internet access; (ii) formulating a digital transformation roadmap in strategic sectors; (iii) establishing Indonesia's Data Centre to achieve Indonesia One Data Policy; (iv) preparing human resources especially digital talents; and (v) consolidating digital economy ecosystem to strengthen online MSMEs.

In Indonesia, so far, it is reported that 12,548 out of 83,218 villages or approximately 15% of villages have not been yet covered by 4G. Of those 12,548 villages, 9,113 ones are in remote areas, accounting for approximately 73%. BAKTI takes responsibility for promoting accessibility for those in remote areas. From 2020 to 2022, BAKTI completed the building of 4,431 4G BTS towers. They have also developed programs to build up digital skills (on-the-job training, upskilling, direct socialization, and training for trainers); and digital assets (access to training and platforms, digital content creation, and digital platform development). With relations to e-commerce and promotion for business and village economic empowerment in particular, BAKTI in collaboration with the Ministry of Villages, Disadvantaged Regions, and Transmigration has launched the BUMDesMart in 2022, an online store platform to encourage BUMDes and MSMEs in villages to digitize their businesses, expand their markets, and harness the infrastructure in a productive manner as well as provide training on managing online stores for BUMDes and village MSMEs. The trainings range from digital literacy, the operation of online stores, and product marketing, to the facilitation of ready-to-use ISP service websites for BUMDes that are already operating.

A manager from Korea SMEs & Start-ups Agency (KOSME) shares Korean experiences in taking advantage of e-commerce to promote SMEs and start-ups. KOSME was founded in 1979 with the mission to “fostering SMEs as main players of the economy by strengthening their competitiveness and expanding their management foundation” through: (i) strengthening corporate

competitiveness through innovative growth; (ii) realizing social values through strengthening publicness; (iii) improving customer satisfaction through field-oriented services; and (iv) securing public trust through trust management. With the recognition of the importance and contribution of e-commerce, KOSME focuses on accelerating e-commerce and gains significant achievements. Korea's e-commerce export hit a record at USD 858 million, over 4 times bigger than that in 2019 and SMEs take a large portion with 78.2%. So as to achieve those, KOSME makes efforts in providing support to both B2C and B2B Korean SMEs.

With relations to SMEs in B2C markets, KOSME supports businesses from A to Z in e-commerce process, from creating account in online malls to sales through e-commerce specialized marketing agency. They have concrete tactics from assigning specific agencies for market segments, selecting SMEs that in need of support with different export tracks such as SMEs in state of early, potential, growing and hidden champion (based on the number of employees and revenue of the previous year) to provide the necessary and right support that they need. Such support includes media content (including supporting to develop branded content, live-broadcasting, shopping events, and sales push, ...) and logistics through reducing shipments, fulfillment costs, and offering logistics solutions to SMEs thanks to achievements in Economy of Scale.

With relations to B2B, GobizKorea was launched by KOSME in 1996 and since then remains a leading B2B platform for export where oversea buyers can easily search and trade Korea-made products. KOSME also conducts targeted market research and analysis reports to support Korean exporters as well as enhance the platform with 4D views to attract more global buyers. Besides, KOSME also promotes the production of tools such as App-books, review videos, overseas influencer marketing campaigns, SNS marketing (YouTube, Instagram, Facebook,...) to attract more traffic and efficiency for both exporters and buyers. To sum up, KOSME was launched and invested to focus support on SMEs and

start-ups that enable them to harness all necessary resources including finance, human resources, expertise, technology and innovation, etc., to promote the long-term and sustainable growth and development of Korean SMEs and start-ups including those in remote areas.

A specialist from World Bank shares experiences in choosing appropriate policy instruments to promote digital transformation, contributing to green, resilience, and inclusive development in which business in remote areas could benefit from. Policies chosen and adopted should be considered based on economies' capabilities of invention, technology adoption, and production. Firstly, invention capabilities should be built up from long-term R&D programs, with direct and indirect support to realize R&D. Collaborative projects and pre-commercial procurement could also be harnessed to enhance efficiency. However, finance risk should be taken into account since it plays important roles in realizing the invention capabilities. Secondly, technology adoption capabilities could be promoted with and through technology extension, technology centres, R&D grants, grants to industry-university collaboration, digital accelerators, and other infrastructure. Upgrading and supporting quality export would also contribute to enhancing business capacities in technology adoption to improve efficiency and competitiveness. Thirdly, production capabilities could be promoted with management extension, skills development, quality infrastructure, and incubation. During the digital transformation, a number of sectors have been more transformed and could contribute to being widespread into other sectors such as financial services, health, education, social protection, agriculture, urban, trade, GovTech, InfraTech, ClimateTech. The digital transformation could be accelerated with accelerators such as data safeguards (data protection, privacy and cybersecurity); digital platforms; and digital capabilities (digital literacy and skills). Digital transformation could also be promoted based on a firm foundation from ICT industry development (digital jobs); digital data infrastructure (data storage,

computing, and exchange systems); broadband connectivity, access and use (affordable and high-quality).

On the level of firms' technology adoption in developing economies, businesses could be affected by market factors such as competition, demand, and regulations; access to finance; and supply of knowledge and human capital. On the other hand, firms' capabilities are affected by internal factors such as information and behavioural biases; management and organization; and know-how and skills capabilities.

The speaker also shares the experiences of Eastern Caribbean Digital Transformation Program. Under this program, World Bank aims to target MSMEs in agriculture, tourism, financial services, and creative industries with aims to motivate them to use digital technologies more efficiently and adopt new digital technologies for growth. Among those, they aim to target 30% of women-owned businesses in various phases including criteria-based selection. In practice, the first phase is one (01) week focusing on rapid skills training including providing managerial capacity training from digital technologies in general business function, human resource (HR), marketing, sales, production planning/supply chain, quality control, payments, ... to technology adoption issues such as cost/benefit analysis, risks, etc. The next phase would focus on planning – advanced training and customized advisory. In this step, businesses will be consulted based on adoption in specific sectors (agriculture, tourism,...) with sector-specific digital technologies and platforms, which will help businesses to identify needs and prepare an appropriate digital technology adoption plan. In the 3rd phase of implementation, businesses could receive advanced business advisory including those related to project management and implementation such as links with established digital platforms and technology service providers, procurements, and preparation of financing applications. Especially, WB has financial incentives to promote Eastern Caribbean business such as matching grants to competitively

selected SMEs to promote investments, and grants to participants for a six-month internship to improve individuals' capacity.

An expert from ACCESSTRADE, a member of the Viet Nam E-commerce Association (VECOM), focuses on how to effectively leverage social commerce to address the challenges and harness business opportunities given the inevitable prominence of digital transformation toward business and customer behavior changes. Although digital transformation remains not only a trend but also an increasingly compulsory requirement of businesses, not all can gain success. According to a report by market research firm Forrester (USA), only 11% of businesses succeed in the digital transformation process, the remaining 89% are lost in the digital transformation process.

In the case of Viet Nam, according to a recent research by the Ministry of Planning and Investment of Viet Nam (MPI), high-cost technology and a low-skilled labor force seem to be among the major obstacles to the process of digital transformation.

On the other hand, social marketing remains increasingly prominent and plays important roles in promoting business. 97% of GenZ are reported to be using social media as their primary source of shopping inspiration, 76% of consumers have made a purchase based on someone's recommendation, and 62% of users are more likely to click on a post that contains a user-generated image and an image created by a brand. As a result, global sales via social media platforms are estimated to reach USD 992 billion in 2022, and social commerce sales are forecasted to reach around USD 2.9 billion by 2026.

In that trend, it is wise that MSMEs should learn how to take advantage of market trends of digital transformation in general, and harness the influencer market in particular to foster business growth and development through promoting

connection with influencer/ Key Opinion Consumer (KOC) at a reasonable cost; enhancing performance (with a more focus on branding, improving customer loyalty – data and analytics; and fostering growth (through promoting sale channels and strategic plans and harnessing technology system). This approach of performance branding – a cross-departmental strategy that blends driving conversion with building brand awareness would contribute to instilling the brand identity, hence foster engagement while promoting sales and leads. In this strategy, KOC plays an important role since they are regular consumers who love to share their true product reviews on popular social media, which in turn helps brands to connect to audiences and implement their performance branding strategy. Therefore, it is important that MSMEs and especially those in remote areas could take advantage of this performance branding strategy and User Generated Content (UGC) in particular to reach closer to more audiences and potential customers at a more reasonable cost. To start with this strategy, the business could investigate and take advantage of the AAARR Model, which means:

A: Acquisition (building programs to attract KOC)

A: Activation (Discussion, guidance & orientation KOC for trust)

A: Action (Producing & Publishing prepared Content to KOC owner channels)

R: Revenue (KOC creates effective Brand & Sales)

R: Retention (Reinvesting, producing content, and referral to expand publisher and KOC)

3. Addressing challenges in the application of ICT to support MSMEs in remote areas

Prior to the workshop, a pre-workshop survey were sent to APEC DESG focal points and 100 MSMEs in remote areas in Son La, a province in the North of Viet Nam through emails and phones to explore the status of MSMEs in adopting ICT and digitalization. 6 feedbacks from DESG focal points (Indonesia,

Malaysia, Mexico, the Philippines, Russia, and Viet Nam) and 62 ones from MSMEs in Son La were returned.

Of the 62 MSMEs in Son La that return feedbacks, about 76% are in trade and services (tourism, hospitality, transport), 22% are in agriculture, and the other 2% are in manufacturing.

According to the surveys, 100% (a total of 68) agree that they encounter challenges in adopting ICT, e-commerce, and digitalization in their business in general. In particular, approximately 67% strongly agree the lack of awareness of ICT applications in business data security and the lack of suitable telecommunication infrastructure are among the biggest challenges that businesses in remote areas encounter. Lack of skilled labours in adoption of ICT and high cost of internet use (compared to incomes) are strongly agreed as big challenges (65% and 30% respectively). About 4.5% do not agree that lack of awareness of ICT application in business and data security is a challenge with note that it is not a big concern for them.

Regarding “Opportunities of SMEs in remote areas with relations to ICT”, 100% agree that ICT adoption brings about opportunities to businesses in general. Of those feedbacks, approximately 40% - 50% strongly agree the following factors can help businesses in remote areas: (i) Improving the effectiveness and reducing the costs of business operation and management; (ii) Promoting opportunities to reach potential customers and business partners; (iii) Increasing the brand awareness and competitiveness; (iv) Supporting information management and storage; and (v) Increasing the brand awareness and competitiveness.

Regarding ‘Available policies, regulations, mechanism in place to support application of ICT for MSMEs in remote areas’, 60% find that “improving digital transformation capacity and skills for SMEs through training courses,

seminars etc.” very efficient. 30% consider “Selected to support with digital transformation as a typical model that can be replicated” as very efficient. About 50 - 55% agree that “Establishing a network of digital transformation experts/consultants for SMEs in remote areas” and “Provided with online public services on the provincial public service portal” as efficient.

The survey’s participants also recommend further efforts should be made to support MSMEs in remote areas to grasp opportunities with the leverage of ICT, e-commerce, digitalization such as more fiscal incentives and support, training in fiscal obligations, finance inclusion, further investment in infrastructure, subsidies for more efficient connection to telecommunications infrastructure, training for employees in computer literacy. Besides, it would be helpful if businesses are trained and equipped with knowledge and experience in how to promote their authentic and unique products, and so on.

Based on the sharing of the survey outcomes, the participants also discuss and share ideas on how to address the challenges to harness MSMEs growth and development. In Mexico, they have conducted the initiatives “Autonomy of Women in Digital Transformation” and “Strategy for Training in Digital Tools”. The former is to virtually train women micro entrepreneurs and entrepreneurs to promote their participation in the digital market, in topics related to: digital skills, basic accounting (strengthening business administration), financial education, marketing, migration to e-commerce platforms, e-mail, empowerment, leadership and autonomy of women. The latter aims to promoting digital literacy of young girls, women and older adults, providing them with tools for the use and exploitation of ICT as well as how to socialize with ICT to digitizing their businesses.

In the Philippines, the Government believes that improving ICT will help in addressing many challenges of doing business in the economy. Even before the onset of the COVID-19 pandemic, the Philippine government has identified ICT as one of the drivers of innovation which plays an imperative role in stimulating the economic growth of the economy. The following roadmaps and legislation outline the guiding principles for the use of ICT in the government's strategies and programs: (i) ICT Roadmap – This Strategic Roadmap lays down the Philippine government's strategies and programs, which signals the economy's commitments to developing a vibrant, accessible and world-class ICT sector; (ii) Philippine Innovation Act (Republic Act No. 11293) – This law mandates the Government to promote local innovation through relevant provisions, which will push the economy towards greater progress and enabling MSMEs with skills and technology to sustain their business; (iii) MSME Development Plan 2017-2022 – With the vision that MSMEs are regionally integrated, resilient, sustainable, and innovative thereby performing as key drivers of inclusive Philippine economic growth”, three focus areas were identified to Improve Business Environment, Business Capacity, and Business Opportunities. The Philippine government is also in collaboration with the private sectors (telcos and Internet service providers) to upgrade ICT infrastructures, such as cell towers, not just to improve the quality of Internet connectivity, particularly in remote areas, but also to address the increasing demand for data generated by millions of online users in the new normal. The Philippine government has also been orienting MSMEs about the importance of having an online presence of their businesses. Various onsite and online capacity building programs are provided to MSMEs to support their digitalization.

In Indonesia, a thriving and inclusive digital ecosystem for rural communities across Indonesia has been formalized as part of the vision of “Indonesia Digital

Nation” digital transformation roadmap outlined in Ministry of Communication and Informatics Regulation No. 2/2021.

4. Factors that influence the adoption of ICT in some key industries

A Professor from the Chung Hsing University (NCHU), Chinese Taipei; cum Chairman of International Association for Agricultural Sustainability (IAAS) focuses on sharing the factors that might have influence on ICT adoption in agriculture from various views: government, business and farmers. It is important to identify factors that influence the adoption of ICT in general, in specific industries, e.g.: agriculture since it would enable to underline and address challenges and promote concrete steps for a successful adoption of ICT.

Based on literature, there are 20 factors that influence the adoption of ICT, which are facilitating conditions, self-efficacy, compatibility, result demonstrability, social influence, cost, risk, image, voluntariness, trust, impersonal information, formal information, interpersonal communication, social participation, environmental responsibility, individual innovativeness, trialability, maintenance ability, next-generation ability, and generalized framework. From the viewpoints of governments, it is important to take into consideration factors such as financial resources, appropriate timing (when new technologies are needed and most efficient), technology mass production, digitalization, and after-sales services. Governments should promote regulations and policies as efficient and effective tools to support ICT adoption, promoting economic competitiveness, growth and development.

From business point of views, ICT adoption could be considered from 4 dimensions, subject to organization characteristics, organization action, mobile technology, and support system. Apart from the characteristics related to organization such as size, degree of structure and information, innovation, resources, data integration, etc., mobile technology and support system are of

business concern since it is related to cost, benefits, ease of use, risks, speed, stability, degree of integration, and the efficiency of updates.

In the agricultural revolution in Chinese Taipei, it happens in four periods, in parallel with comparable evolutions in the industrial sectors. In particular, the agricultural technology revolution started with Agriculture 1.0 with animal power; then the combustion engine in parallel with Agriculture 2.0; Agriculture 3.0 in recent years with guidance systems and precision farming; and nowadays, Agriculture 4.0 connected to the clouds. It is believed that the next Agriculture 5.0 would include digitally integrated enterprises, which rely on their production processes by using robotics and artificial intelligence (AI). According to the research “Determining the key factors on transitioning in the agricultural revolution for farmers in Chinese Taipei” by Tzong-Ru Lee, Stephanie G Sebastian, factors that might have great impacts include environmental responsibility, costs, compatibility, trust and result demonstrability.

An advisor from the Ministry of Economy, Development and Tourism, Chile shares the experiences in promoting digital transformation in Chile. It is estimated that 25.5% of Chileans live in rural communes which comprise of 83% of the territory, with main production activities such as agriculture, fishery, tourism, crafts, energy and mining. 3.5 million Chileans have poor-quality internet access. With the emergence of COVID-19 pandemic, Chile was one of the economies that have been able to promote SMEs’ digital technology, according to the OECD. Chile has undertaken the “Digitize Your SMEs Program (DTP) and 18,000 to 228,000 benefited from 2019 to 20220. Until now, over 400,000 have benefited from the Program. Chile highlights the importance of understanding in-depth technology adoption in SMEs in which statistics and available literature are not enough since there remain gaps in information and realities between economies. To address this information gap, Chile did fieldwork, covering 16 regions through workshops and interviews, interviewing 346 SMEs in more than 42 communes,

then compiling good practices and lessons based on the experiences of digitization of SMEs including those of public sector institutions in charge of designing and executing public policies related to digital transformation throughout the economy. It is drawn from the analysis lessons to promote digitization, encourage coordinated work, avoid duplication and achieve short, medium, and long-term results in the task of accompanying and promoting the digital transformation of SMEs.

Chile has also various approaches and programs to support SMEs. On one hand, Chile has designed programs to encourage digitization for SMEs based on sharing of SMEs peers' own experiences given the fact that many SMEs trust the experiences of their peers rather than "academia". On the other hand, Chile has taken advantage of digital leaders to develop the "Digital Leaders" initiative given their important roles within their communities or families in supporting the digitization of small businesses such as support with digital marketing, and use of social networks. The project would seek to expand the impacts of these activities, empowering young people with more technical and leadership tools. Currently, three (03) pilot programs are being implemented in different regions in Chile with different stages: (i) call and selection of young people; (ii) leadership and digitization training; (iii) call and selection of SMEs from communities; and (iv) SMEs' digitization.

An expert from Viet Nam Blockchain Association shares views and experiences in whether SMEs in rural and remote areas should and how to harness blockchain to unleash their potentials. Blockchain is defined as a distributed ledger technology, a type of ledger technology managed by a community of users, ensures cryptographically secure transmission and access, allows consistent data storage, and prevents any attempts to change data. Blockchain features decentralized, transparency, anti-counterfeit, flexible code, and self-maintenance,

which makes them trusted and applied in different sector such as banking, securities and funds, crowdfunding, insurance, exchanges, heritage, accounting, charity, state management, travel & tourism, infrastructure & energy, health care, retails & CPG, agriculture and natural resources, information and communications, entertainment, enterprise technology, and so on. Especially, blockchain is helpful in promoting P2P transactions, and is increasingly popular in remote areas in sub-Saharan Africa. The sub-Saharan Africa is recorded to reach \$100 billion in cryptocurrency transactions between July 2021 and June 2022, of which retailers accounted for 80% of transactions, according to statistics from Chainalysis. Although blockchain might have some limitations (such as low scalability, high energy consumption, shortage of talent pipeline, private key issues, problematic integration with legacy systems, implementation issues, etc.), it is essential that organizations take into consideration and figure out reasonable approaches. It could be to explore coordinating with non-industrial personnel and international organizations to accelerate the steps from research to practice, update the latest technology trends and master the technology. In terms of human resource development, there is a need for excellent personnel in the blockchain industry as well as data security and information security, hence preparation and development for human resources will be in great demand. Besides, applications for logistics networks should be trialed to have cost optimization. Research on the application of IoT devices such as automated on blockchain structures, and information security-related blockchain should also be taken into account when considering applying blockchain.

An expert from the Ministry of Information and Communications, Viet Nam shares their experiences in enhancing life quality and economic competitiveness for people in rural and remote areas in Viet Nam. Recognizing the difficulties in access to services, and transportation, Viet Nam has highlighted on developments in rural and remote areas with more investments in these areas. The Government

of Viet Nam has promulgated Resolution 52-NQ/TW dated on 27 September 2019 on orientations and policies for participation in the 4th industrial revolution, and some others to guideline and promote the investment and development of infrastructure and digital transformation. So far, rural and remote areas have started to unleash their potential with achievements since many ethnic and minority people have been able to introduce their specialties to markets thanks to access to the internet and e-commerce. It is recorded that by 2019, 100% of communes had cemented roads to centres, 99% of communes 80% of town units had access to electricity, 100% of ethnic and poor people had complimentary insurance, and 100% covered in 3G and 4G throughout Viet Nam. It is targeted that every individual in the labour age has a smartphone in 2025. In the coming time, the Government continues to develop and promote links between production and consumption, and further invest in infrastructure including digital infrastructure. Viet Nam would also make efforts to preserve cultural identity and build up smart rural commune models since together with the investment in infrastructure and digital infrastructure, it would contribute to turning disadvantages into advantages, unleashing potential for these areas.

IV. Recommendations and Conclusions

Through the sharing of information and experiences among APEC member economies at the Workshop, speakers and participants exchanged views on how to facilitate business opportunities in remote areas with the support of ICT. Recommendations are as follows:

1. Recommendations for business

Given the importance of digital platforms, it is important that MSMEs should be fully aware of its importance and potential to promote access to global markets at a optimized cost. Training should be acquired with the support from local

governments, relevant institutes or proactively by enterprises to be most efficient and effective.

Inter-business cooperation would also be helpful for MSMEs given the limitations in knowledge, experiences, expertise, human resources, finance, and so on. The cooperation would help MSMEs to optimize their choices and allocation of resources for efficiency and effectiveness.

2. Recommendations for APEC member economies

Governments should improve and strengthen policy support to MSMEs in remote areas such as expanding digital infrastructure access, strengthening digital skills and digital literacy training, building a multi-level capital market system and increasing financial support, strengthening the strategic guidance of digital transformation, providing policy subsidies for SMEs to adopt cloud platforms, and simplifying procedures for MSMEs to access immediate support. Governments should consider cultivating industrial clusters to address the right targets and provide support. Based on a leading industry, it is necessary to build up multi-level cluster innovation platforms to establish a stable innovation cooperation mechanism with large enterprises, universities, and research institutes. With government guidance, it should help improve the level of cluster digital management.

Besides, given the importance of digital platforms to improve access for rural and remote areas, it is important and necessary to build up a platform strategy, which would help encourage third-party service platforms to provide more targeted solutions for enterprises in different industries, scales and processes as well as develop solutions through standard formulation, data collection, data opening, data sharing, and other measures. It also helps to target to improve

MSMEs capability in marketing, especially digital marketing by e-commerce and industry internet platform.

In addition, cooperation between governments – academia – businesses should be accelerated to enhance efficiency in facilitating ICT and digitalization for the sake of business in remote areas, such as hosting competition events (think tank), or developing integrated App (digitalization), and so on.

3. Recommendations for APEC

Rural and remote areas have to face with many challenges due to lack of connectivity in terms of geographic distance, terrain or travel time. These areas, on the other hand, would also significantly contribute to creating jobs, alleviating poverty, inclusive growth and development. APEC should take a leading role in promoting sustainability and inclusivity with a focus on rural and remote areas through long-term projects and initiatives to empower businesses in those areas with more knowledge, skills, and opportunities.

Here are some recommendations for further thoughts and discussion at the upcoming DESG Meetings.