

**DIGITALIZATION AND SERVICES TRADE: A WAY FORWARD
FOR INCLUSIVE GROWTH IN ASIA -PACIFIC COUNTRIES**

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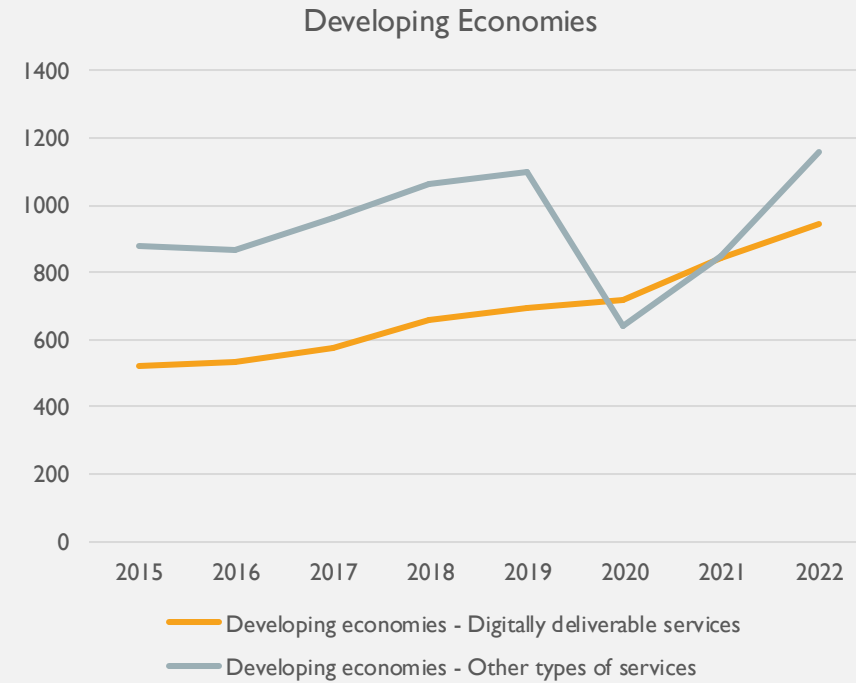
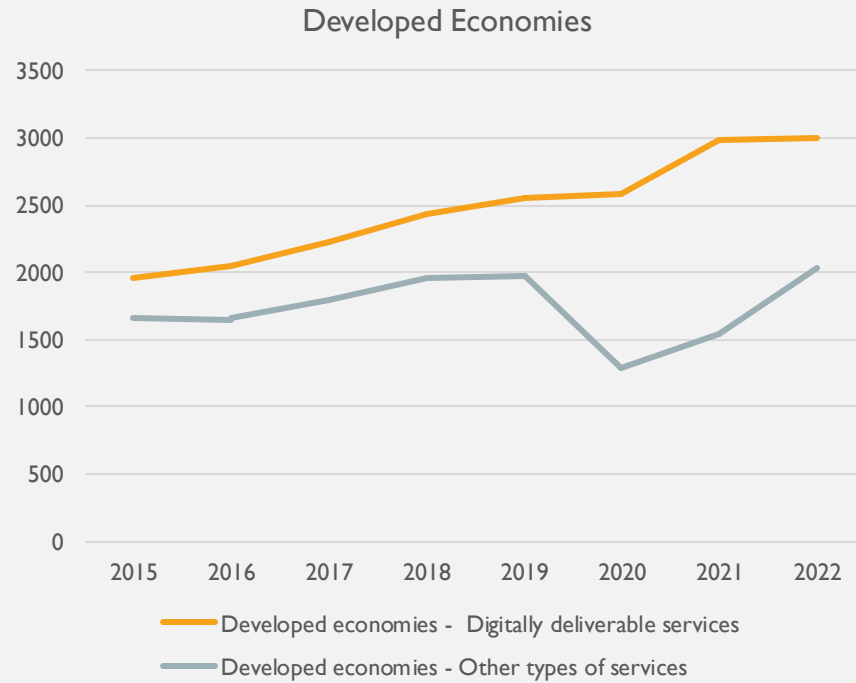
INTRODUCTION

- Technological innovations and digitalization has accelerated the transformation of global trade in the recent era. The digital revolution is changing the way people, enterprises or government interact.
- There is an increasing effort to understand how digital transformation and trade are connected.
- The high entry costs in trade enables only the most productive firms to engage in trade (Melitz, 2003). However, the use of Information and Communication Technologies (ICT) and digitalization helps in reducing the transaction costs and enables more efficient logistics. This has been discussed mostly in the context of manufacturing exports.
- However, services exports and the role of digitalization in services sector exports are not empirically explored.
- There is no consensus on the definition of Digital trade.
- However, the empirical evidence suggests that digital trade enable digital transactions in trade in goods and services.
- *Digitally delivered trade transactions include all trade transactions involving products (predominantly services) that are delivered remotely over ICT networks (IMF, 2018)*

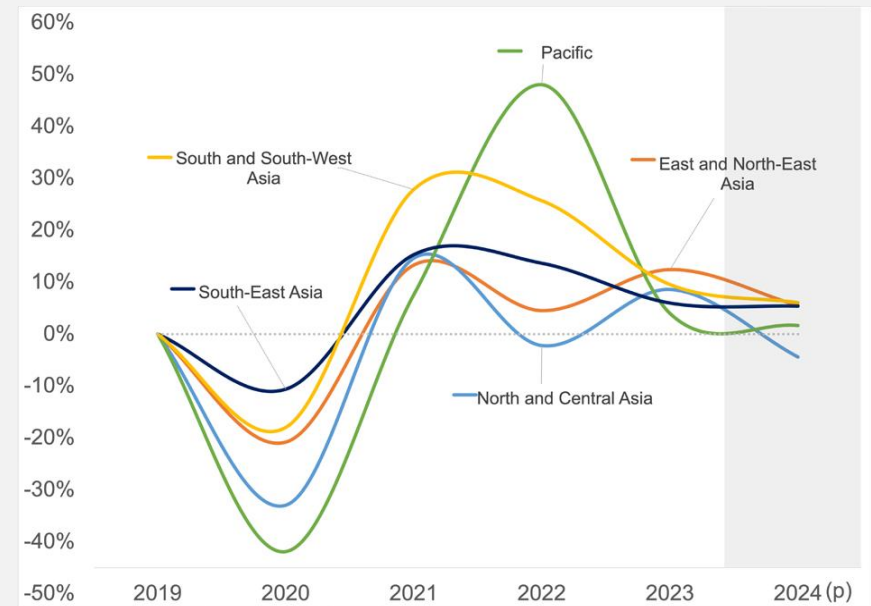
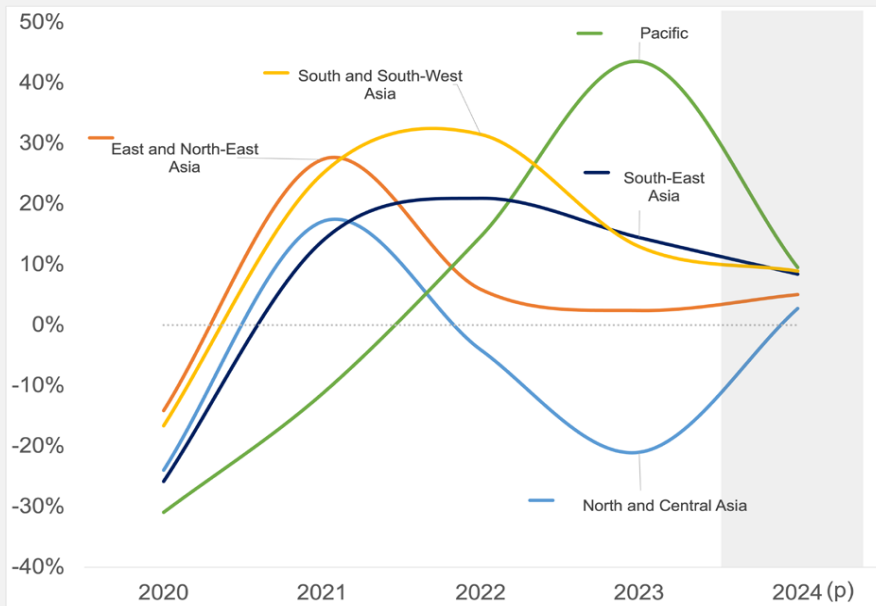
INTRODUCTION

- Over the past 20 years, services has developed has one of the most important contributor to employment, trade and GDP. Service sector contributes more than 50% of global trade in value added terms (WTO report, 2023). Out of the total global services trade, 54% of services exports were delivered digitally in the year 2023.
- The contribution of services in globally has increased overtime with service sector share in global GDP increased from 53 percent to 67 percent between 1970 to 2021.
- Services play an important role in economic growth across the Asia pacific region by contributing more than half of Asia pacific economies GDP on average.
- The share of services exports from each of the Asia pacific countries has marked an increase over the merchandise trade. At the country level, the region's trade in services is more concentrated in few large economies.
- As on November 2023, the top 10 contributors are China (24%), India (15%), Singapore (15%), Japan (10%), Republic of Korea (7%), Hong Kong, China (4%), Turkiye (4%), the Russian Federation (3%), Australia (3%) and Thailand (3%). These countries together accounts for 89% and 87% of the services exports and imports in the region.

FIGURE I. TRENDS IN SERVICES EXPORTS: DEVELOPING AND DEVELOPED ECONOMIES



SUBREGIONAL NOMINAL SERVICES TRADE PERFORMANCE IN ASIA-PACIFIC, 2020/2024



Source: Asia-Pacific Trade and Investment Trends, 2023/2024 (ESCAP 2023)

SERVICES EXPORTS (BY COUNTRY): ASIA PACIFIC



DIGITALISATION EFFORTS- ASIA-PACIFIC REGION

- Globally, digitalisation policy efforts are evident in regions such as Europe, North America, and Africa. In Europe, the Digital Europe Programme aims to boost digital capabilities and infrastructure across member states, focusing on areas such as artificial intelligence (AI), cybersecurity, and advanced digital skills.
- The United States has prioritised digital innovation through initiatives such as the National AI Initiative and the American Broadband Initiative, aiming to enhance digital infrastructure, promote AI research, and expand broadband access
- In the Asia-Pacific region, several countries have implemented extensive digital strategies that significantly influence their service exports. China has expanded its 5G networks and developed smart cities, investing heavily in AI and big data technologies (Priharsari et al., 2023). This has diversified China's service exports to include e-commerce, fintech, and cloud computing services, making it a global leader in online retail and mobile payments (ESCAP, 2023).
- India's Digital India programme aims to transform the country into a digitally empowered society, focusing on digital infrastructure, digital literacy, and e-governance (Priharsari et al., 2023).
- South Korea's Digital New Deal, launched in 2020, aims to accelerate digital transformation across various sectors, including healthcare, education, and manufacturing, focusing on building digital infrastructure, fostering digital innovation, and enhancing cybersecurity (Priharsari et al., 2023).
- Japan's Society 5.0 initiative aims to create a super-smart society by integrating physical and digital spaces, investing in AI, IoT, and robotics to drive innovation (Priharsari et al., 2023).
- Japan's service exports include advanced technologies in robotics, digital manufacturing solutions, and digital content such as anime and gaming, and the country is also a key player in the export of digital health technologies (ESCAP, 2022).

MOTIVATION AND OBJECTIVE OF THE STUDY

Motivation for the study

- Existing research focus on aspects such as role of digitalization in total exports (Vadana et al., 2019; Luu 2023) digitalization and services exports (Wen et al., 2023; Gnanon 2021); Digitalization, ICT, and Exports/Service Exports (Yushkova 2014 ; Xing 2018); other aspects of digitalization.
- The reviewed literature underscores the transformative potential of digitalization on both goods and services exports.
- The integration of digital technologies not only enhances firm-level capabilities and competitiveness but also contributes to broader economic growth and stability.
- As digitalization continues to reshape global trade dynamics, ongoing research and policy focus will be crucial to fully harness its benefits and address associated challenges

Objective of the study

- To examine the link between digitalization and services exports in the context of Asia-Pacific region.

DATA AND METHODOLOGY

Data Description

- Data Source: World Development Indicators (WDI, World Bank)
- Sample period: 2000-2022
- Economic Region: Asia-Pacific Economies - 17 Economies
- Variables : Digitalization Indicators: Internet usage and Mobile subscription (percentage of total population), GDP Per capita, Inflation and Governance indicators

Methodology

- Steps: Cross Sectional Dependence Test (CSD) (Pesaran, 2015)
- Test of Stationarity – Cross-Sectional Augmented IPS (CIPS) and Covariate Augmented Dickey-Fuller (CADF)
- Panel Cointegration (Westurland , 2007)
- Cross Sectional–ARDL (CS-ARDL) (Chudik and Pesaran, 2015) and Pooled Mean Regression (PMG) Estimation

$$\Delta Y_{it} = \varphi_i + \sum_{t=1}^p \varphi_i \Delta Y_{i,t-1} + \sum_{t=0}^p \varphi_i EXV_{s,i,t} + \sum_{t=0}^1 \phi_i \overline{CSA}_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

CROSS SECTIONAL INDEPENDENCE TEST AND TEST OF STATIONARITY

Pesaran (2004) CD Test		
Variable	CD-Test	p-value
SEREXP	45.23	0.000
INTUS	50.59	0.000
MOBSUB	31.22	0.000
GDPPC	55.90	0.000
INFL	38.76	0.000
VA	-1.85	0.064
VPS	-1.15	0.072

Variable	CADF		CIPS	
	I (0)	I(1)	I(0)	I(1)
SEREXP	-1.89	-4.469***	-1.89	-4.469***
INTUS	-2.29	-2.085**	-1.379	-4.026***
MOBSUB	-2.14	-2.83**	-2.29	-2.035**
GDPPC	-1.974	-2.064***	-2.20	-3.42***
INFL	-1.77	-2.847***	-2.95	-4.897***
VA	-2.12	-2.655**	-3.58***	-5.174***
VPS	-2.81***	-3.017***	-3.74***	-5.884***

CROSS SECTIONAL-ARDL (CS-ARDL) AND POOLED MEAN REGRESSION (PMG) RESULTS

	PMG		CS-ARDL	
Variable	(1)	(2)	(3)	(4)
Panel A: Long run Coefficient				
SEREXP	0.219** (2.331)	0.141** (2.162)	0.293** (2.118)	0.513** (2.037)
INTUS	0.152** (2.309)		0.148** (1.562)	
MOBSUB		0.421* (0.382)		0.211** (1.319)
GDPPC	1.757*** (0.430)	0.064** (1.334)	0.430** (1.120)	0.263** (0.324)
INFL	-0.041** (0.020)	-0.065 (0.041)	-0.042* (0.039)	-0.265 (0.033)
VA	3.78*** (1.752)	4.530* (0.525)	3.214* (1.633)	0.126* (1.242)
PS	3.58 (5.761)	2.931** (2.610)		0.025* (1.142)
Panel B: Short-run coefficient				
ΔSEREXP	0.173* (0.654)	0.136** (0.340)	0.322** (2.152)	0.361** (2.132)
ΔINTUS	0.043* (0.276)		0.143** (1.09)	
ΔMOBSUB		0.012** (0.534)		0.125** (3.190)
ΔGDPPC	0.237*** (0.109)	0.631** (0.644)	0.962** (0.061)	0.375** (1.333)
ΔINFL	-0.038* (0.232)	-0.465 (0.233)	-0.094** (0.026)	0.037*** (0.121)
ΔVA	0.460 (2.750)	0.146* (1.462)	-0.481 (4.208)	-0.024* (0.243)
ΔPS	-0.172 (1.589)	0.125* (2.100)	3.06* (0.31)	0.226 (1.420)
ECT (-1)	-0.045*** (-0.106)	-0.124*** (-0.073)	-0.213*** (-3.014)	-0.172*** (-1.589)

FINDINGS AND CONCLUSION

- The study is an attempt to examine the role of digitalization using internet usage and mobile subscription as the indicators on the services exports in Asia-Pacific countries.
- The analysis shows that digitalisation has a significant positive impact on services exports.
- This implies that the level of digitalization of countries is a factor that accelerates the access of countries to new information and thus contributes to the increase of services exports.
- The positive effect of digitalization on export can be explained by the advantages in the foreign markets due to the technological advancement, cost reduction or due to high industrial efficiency (Azar and Ciabuschi, 2017; Porter and Heppelmann, 2014; Dalenogare et al., 2018).
- The digitalization effects promotes services exports through channels such as enhancing accessibility, efficiency and reach.
- These channels not only expand market reach but also create opportunities for innovation and improved customer experiences in service exports.
- Digital payments, E-commerce platforms, use of big data, cloud computing are few among the channels through which digitalization transform the services trade.
- On the policy front, by identifying the opportunities of digitalization in exports, the government can support for the promotion of exports through acceleration of digital transformation.

POLICY IMPLICATIONS AND RECOMMENDATIONS

- 1) Infrastructure development: Infrastructure is the heart of digitalisation of services. So the policy efforts has to emphasis upon the infrastructure development in terms of investing in enhancing the connectivity and promoting e-commerce platforms etc.
- 2) Adapt trade regulations: The policies also should target reassessing of tariffs and other trade barriers especially for digital services to facilitate smoother cross-border transactions. Further, working towards harmonizing international standards for digital products and services can reduce compliance costs and can enhance easy transactions.
- 3) Enhance Digital Trade Agreements: The digital trade agreements can be included by including clauses on data flows, cyber security, digital taxation in trade agreements etc. Further, policy measures to enhance secure transfer of data across borders while respecting the privacy and security concerns has to be adopted.
- 4) Capacity Building: The digitalization efforts can be promoted and by supporting more number of training programmes in order to enhance the digital skills of the workforce especially for small scale sectors to improve global competitiveness.
- 5) Foster Inclusivity: Enhancing inclusivity can help the countries ensure digitalization initiatives enable the marginalised groups to access digital trade opportunities.
- 6) Innovation and R&D : The significant role of digitalization also calls for enhancement and encouragement of innovation and R&D in digital technologies that can enhance the trade capabilities. More of public-private partnerships with governments collaborating with tech companies can also drive the efforts in introducing digital solutions for trade.

THANK YOU