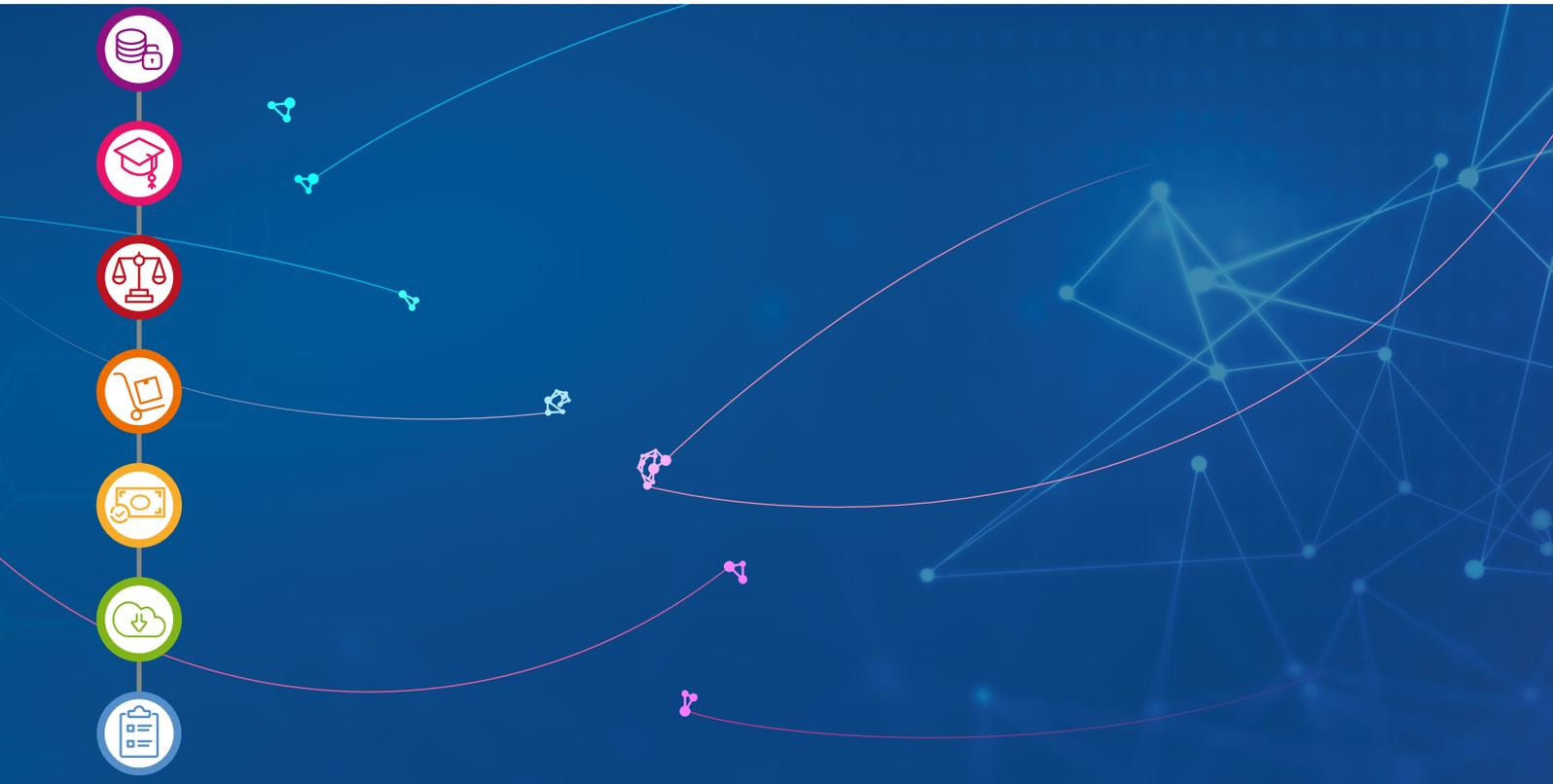




Tuvalu

Rapid eTrade Readiness Assessment



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NOTE

Within the UNCTAD Division on Technology and Logistics, the ICT Policy Section carries out policy-oriented analytical work on the development implications of information and communication technologies (ICTs) and e-commerce. It is responsible for the preparation of the Digital Economy Report (DER) as well as thematic studies on ICT for Development.

The ICT Policy Section promotes international dialogue on issues related to ICTs for development and contributes to building developing countries' capacities to measure the information economy and to design and implement relevant policies and legal frameworks. It also monitors the global state of e-commerce legislation (unctad.org/cyberlawtracker). Since 2016, the section has coordinated a multi-stakeholders' initiative entitled eTrade for all (etradeforall.org), which aims to improve the ability of developing countries, particularly least developed countries (LDCs), to use and benefit from e-commerce.

Reference to companies and their activities should not be construed as an endorsement by UNCTAD of those companies or their activities.

The following symbols have been used in the tables:

Two dots (..) indicate that data are not available or are not separately reported. Rows in tables have been omitted in those cases where no data are available for any of the elements in the row;

A dash (-) indicates that the item is equal to zero or its value is negligible;

Reference to "dollars" (US\$) means United States of America dollars, unless otherwise indicated;

Details and percentages in tables do not necessarily add up to the totals because of rounding.

Tuvalu national currency is the Australian Dollar (AUD\$). For the purpose of this report: US\$1 = AU\$ 1.428 and AU\$ 1 = US\$ 0.70 (September 23, 2019).



PREFACE

The eTrade for all Initiative, launched at the fourteenth Ministerial Conference of UNCTAD in July 2016, is a practical example of how to harness the digital economy in support of the 2030 Agenda for Sustainable Development, notably Sustainable Development Goals (SDGs) 5, 8, 9, and 17. The initiative seeks to raise awareness, enhance synergies, and increase the scale of existing and new efforts by the development community to strengthen the ability of developing countries to engage in and benefit from e-commerce by addressing seven relevant policy areas:

- E-commerce readiness assessment and strategy formulation
- ICT infrastructure and services
- Trade logistics and trade facilitation
- Payment solutions
- Legal and regulatory frameworks
- E-commerce skills development
- Access to financing

As part of the initiative, demand-driven assessments are envisaged to provide a basic analysis of the current e-commerce situation in the countries concerned, and to identify opportunities and barriers. The resulting reports will serve as a valuable input to these countries' involvement in various discussions related to e-commerce and digital trade, such as in the context of the UNCTAD Intergovernmental Group of Experts on E-commerce and the Digital Economy.

It may furthermore help LDCs to identify areas in which they could benefit from assistance by partners of eTrade for all.

The Tuvalu Rapid eTrade Readiness Assessment is the nineteenth such assessment conducted by UNCTAD and the fourth for a Pacific Islands Nation, after Samoa in July 2017, Solomon Islands and Vanuatu in 2018. As part of UNCTAD's efforts to support the development of digital trade in the Pacific Islands, another eTrade Readiness Assessment is underway in Kiribati. With this report, UNCTAD contributes to the recommendations of the joint WTO/UNCTAD/PIFS June 2017 Workshop on e-Commerce for the Pacific to have all Pacific Islands Forum Secretariat members benefit from an eTrade Readiness Assessment as a first step towards developing a coherent regional e-commerce policy. The Tuvalu Rapid eTrade Readiness Assessment and action matrix contributes as well to the Pacific Aid-for-Trade strategy and Trade Policy Framework of Tuvalu.

With the eTrade for all partners, UNCTAD is committed to supporting Tuvalu and other Pacific Islands Nations in their resolve to harness the potential of e-commerce for development.

Shamika N. Sirimanne

Director, Division on Technology and Logistics, UNCTAD



The EIF has continued on the path of assisting the Least Developed Countries (LDC) to better integrate into a global digital economy. The Rapid eTrade Readiness Assessments remain a crucial part of the EIF's efforts in supporting beneficiaries' use of trade for development.

Tuvalu's eTrade Readiness Assessment is one of nine EIF supported assessments. These assessments have provided concrete diagnoses of the digital landscape in the LDCs, as well as policy recommendations for targeted interventions by governments, the private sector and development partners.

The Government of Tuvalu has recognized e-commerce as a priority. This has been made evident in the "Te Kakeega III: National Strategy for Sustainable Development 2016-2020". This is a positive sign for the emergence of a national digital landscape that encourages reforms, innovation and investment.

E-commerce activity in Tuvalu remains nascent, with the bulk of internet-based transactions concentrated in the hospitality industry. This report highlights that the potential for e-commerce uptake equally exists in other sectors, such as retail, services and handicrafts. In addition, Tuvalu stands to benefit from digital technologies in managing the risks of climate change and other environmental threats.

Fixed broadband penetration is currently at 10% – a high percentage, compared to most other South Pacific nations. Improving the information and communications technology (ICT) infrastructure is among the top priorities. Tuvalu's landscape of nine inhabited coral atolls has, however, affected mobile subscriber penetration, which currently stands at about 31%. Internet user penetration is at 46%. Investments in the telecommunications sector to complement the services of the Tuvalu Telecommunications Corporation remain essential. Access to affordable and reliable ICT can play a key role in Tuvalu's development in the coming years. Investments to improve internet connectivity by development partners are one of the positive developments highlighted by the report.

Like other Pacific islands LDCs, Tuvalu's assessment has revealed bottlenecks in trade logistics related to inter-island connectivity. This remains a major constraint for investments in e-commerce. Trade facilitation reforms have been recognized as an important area and are now included in Tuvalu's National Strategy for Sustainable Development.

The EIF's support has proven to be fundamental in addressing some of the recommendations identified in eTrade Readiness Assessments conducted in the past. These include support to e-commerce strategy formulation, capacity development and coordination in Bhutan, Cambodia, Myanmar, Nepal, Rwanda and Senegal, and a targeted project for women-led small- and medium sized enterprises in the South Asian region.

I would like to express my appreciation to the authors of the report and our colleagues at UNCTAD for bringing forth the state of play of e-trade readiness in Tuvalu, taking stock of recent progress and identifying the necessary actions that will further support digital development. I would also like to express my gratitude to Mr Temate Melitiana, Permanent Secretary, Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour; Ms Pulaalofa Saulo Haulagi, Coordinator of the EIF National Implementation Unit in Tuvalu; and the Government of Tuvalu for their commitment in realizing the country's potential in the digital economy.

The EIF stands ready to support Tuvalu's trade-led development efforts, including leveraging technology for better trade, in any way it can.

Ratnakar Adhikari
Executive Director
Executive Secretariat for the EIF



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This Rapid eTrade Readiness Assessment for Tuvalu was prepared by Sven Callebaut, UNCTAD Consultant, in close collaboration with a team comprising Cécile Barayre, Mohamad Fakhreddin, Iris Macculi, Htet Myat Min and Marian Pletosu, under the overall guidance of Torbjörn Fredriksson.

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The assessment benefited from inputs from more than 75 Tuvaluan institutions in both public and private sectors, through the online eT-Ready surveys and subsequent interviews in Funafuti. Special thanks go to representatives of the Ministry of Communications and Transport (MCT), the Ministry of Finance and Economic Development (MFED), the Ministry of Education, Youth and Sports (MEYS), the Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour (MFATTEL), the National Development Bank (NDB), Tuvalu Telecom, and Tuvalu Post for participating in the focus group discussions and sharing their first-hand experience in bilateral meetings.

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ABBREVIATIONS

ABS	Asia Broadcast Satellite
ADB	Asian Development Bank
AfT	Aid-for-Trade
AML/CTF	Anti-Money Laundering and Counter-Terrorism Financing Act
APPU	Asian-Pacific Postal Union
ASYCUDA	UNCTAD Automated System for Customs Data
ATM	Automated Teller Machine
ATR	Avions de Transport Régional
AU\$	Australian Dollar
B2C	Business-to-Consumer
CEIT	Centre for Excellence in Information Technology
COD	Cash on Delivery
DBT	Development Bank of Tuvalu
DFS	Digital Financial Services
DOs	Designated postal operators
DP	Development Partner
DtF	Distance to Frontier
DTIS	Diagnostic Trade Integration Study 2016
EFTPOS	Electronic Funds Transfer at Point of Sale
EIF	Enhanced Integrated Framework
FGD	Focus Group Discussion
FSP	Financial Service Provider
GDP	Gross Domestic Product
GOT	Government of Tuvalu
IANA	Internet Assigned Numbers Authority
ICT	Information and Communication Technology
IDA	International Development Association
IFC	International Finance Corporation
IP	Internet Protocol
ISP	Internet Service Provider
IT	Information Technology
ITU	International Telecommunication Union
KYC	Know-Your-Customer
LDC	Least Developed Country
MCT	Ministry of Communications and Transport
MFED	Ministry of Finance and Economic Development
MDGs	Millennium Development Goals
MEYS	Ministry of Education, Youth and Sports
MFATTEL	Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour
MFED	Ministry of Finance and Economic Development
MIRAB	Migration-Remittances-Aid-Bureaucracy
MSMEs	Micro Small and Medium-sized Enterprises
NBT	National Bank of Tuvalu



NDP	National Development Plan
NPL	Non-performing loans
NSSD	National Strategy for Sustainable Development
NTDS	National Tourism Development Strategy
NTO	National Tourism Office
NTSC	National Trade Steering Committee
ORE	Operational Readiness for E-commerce
PACER	Pacific Agreement on Closer Economic Relations
PACER+	Pacific Agreement on Closer Economic Relations Plus
PERMU	Public Enterprise Reform Monitoring Unit
PFIP	Pacific Financial Inclusion Programme
PICs	Pacific Island Countries
PIFS	Pacific Islands Forum Secretariat
PIPSO	Pacific Islands Private Sector Organisation
POS	Point of Sale
PPP	Public-Private Partnership
PSP	Payment Service Provider
PTI	Pacific Trade and Invest
SOE	State-owned enterprise
SPS	Sanitary and phytosanitary
SPTO	South Pacific Tourism Organisation
TA	Technical Assistance
TANGO	Tuvalu Association of Non-Governmental Organisations
TCRBP	Tuvalu Customs Revenue and Border Protection Department
TFA	Trade Facilitation Agreement
THAT	Tourism and Hospitality Association of Tuvalu
TKIII	Te Kakeega III (National Strategy for Sustainable Development 2016-2020)
TNPF	Tuvalu National Provident Fund
TNPSO	Tuvalu National Private Sector Organization
TP	Tuvalu Post
TPF	Trade Policy Framework
TPSDP	Tuvalu Private Sector Development Plan
TTC	Tuvalu Telecommunications Corporation
TvICT	Tuvalu Telecommunications and ICT Development Project
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNCDF	United Nations Capital Development Fund
UPU	Universal Postal Union
US\$	United States Dollar
USP	University of the South Pacific
USPNe	USP Satellite Communication Network
WB	World Bank
WEF	World Economic Forum
WTO	World Trade Organization





EXECUTIVE SUMMARY

With an estimated population of just over 11,000 and a total land area of 26 square kilometers, Tuvalu faces a number of unique development challenges. Its economic potential is constrained by the lack of natural resources; a small domestic market and an underdeveloped private sector. Its geographic location and fragmentation across nine islands and atolls make for difficult and expensive access to major international markets and high inter-island transport costs. Tuvalu is highly dependent on imports, the bulk of which consists of food, fuel, building materials, medicine and medical equipment, as well as most consumer products including motor vehicles, appliances, and clothing. Tuvalu has been characterized as a classic migration-remittances-aid-bureaucracy (MIRAB) economy, predominated by government activities. With limited opportunities for private business, the country relies on its public sector as the main driver of growth. Tuvalu is one of the least connected countries in the world, with high-cost and limited Internet services. Poor connectivity constrains business and tourism opportunities as well as the ability to respond quickly to natural disasters.

E-commerce readiness assessment and strategy formulation

The Te Kakeega III (TKIII), i.e., National Strategy for Sustainable Development 2016-2020, asserts that “modern economies and societies are now built on Wi-Fi, mobile telecommunications and the Internet. Tuvalu cannot be left behind any longer.” Despite this, the TKIII does not capture e-commerce and the digital economy as a critical area to sustain Tuvalu’s economy and neither has the country adopted a focused stand-alone e-commerce policy and strategy. Nonetheless, a number of policies and strategies, including DTIS and TPF, have addressed issues related to e-commerce, especially in the areas of ICT development, e-government strategy and support to business development. Diversification of sources of growth and increased private sector-led employment and income-generation are important medium-term development goals.

The overall e-commerce enabling environment in Tuvalu is in a nascent stage. The Government of Tuvalu (GOT) capacities to strategize and implement a digital economy development agenda are still lacking, and the private sector consists roughly of 200 registered

businesses scattered around the nine islands the country comprises. Policy coordination and dialogue among different stakeholders in the e-commerce ecosystem needs to be organized, possibly building on the initial steps taken during the eTrade Readiness assessment.

ICT infrastructure and services

Information and Communication Technologies (ICT) services are costly in Tuvalu, of limited variety and variable quality. Mobile penetration is at 31 per cent while Internet use is at 46 per cent (including mobile, fixed broadband and Wi-Fi). Given the capacity limitation, access to Internet is very costly compared with other Pacific economies; services are limited particularly outside the main island of Funafuti. This situation affects communications between households, the cost of doing business, and delivery of services. The lack of ICT services constrains business development, tourism, and management of natural disasters. In this context, e-commerce service providers are not in place yet.

In order to improve access to ICT, the Government has launched a number of initiatives aimed at improving access to affordable and reliable telecommunications services, with a particular emphasis on strengthening ICT infrastructure on the outer islands. The largest infrastructure development project for the country is the Tuvalu Telecommunications and ICT Development Project, sponsored by the World Bank through a US\$ 29 million grant. The project is aimed at improving the overall telecommunications infrastructure and related access for Tuvalu. The three key areas of interventions include development of an ICT policy, reforming the Tuvalu Telecom Corporation through a PPP involving an international telecommunications operator via a competitive process, and supporting investments in a submarine cable for provision of faster, reliable and economical Internet bandwidth. The project was launched in January 2019 and is envisaged to run until 2023.

Trade logistics and trade facilitation

The limited number of both domestic and international trade opportunities in Tuvalu and the lack of basic physical infrastructure remain major barriers to the economic development of and service delivery to



the eight Outer Islands. The main island of Funafuti is the economic hub, and transport on the island is constrained by its size. Given the small population, there are presently no major issues with delivery of mails and parcels. Tuvalu Post is limited in the development of its operational readiness for e-commerce, since its access to technical assistance from UPU has been limited because of unpaid membership and dues. Tuvalu is not a member of the WTO but the government department in charge of Customs is open to supporting reforms stemming from the WTO Trade Facilitation Agreement, in adherence to the Customs Revenue and Border Protection Act 2014. The UNCTAD ASYCUDA Programme implementation should start soon, thanks to funding available under PACER+. The WB-funded Tuvalu Telecommunications and ICT Development Project also engaged in Tonga, Samoa, Fiji, the Federated States of Micronesia (with Palau), and Kiribati. When it is completed, the enhanced capacity from the submarine cable could increase the potential for local businesses to engage in e-commerce activities and possibly increase inter-island exchanges.

Payment solutions

Cash is the main means of payment used by businesses in Tuvalu. Private sector development is hampered by the weakness of the financial sector, as well as the absence of ATMs and credit card facilities. The few cross-border e-commerce transactions made by Tuvalu consumers and businesses are carried out using foreign banking systems. A pilot project was supposed to have taken place in August 2019 during the PIFS Leaders' Summit held in Tuvalu, with the introduction of POS and ATM on a trial basis but was postponed until 2020 for technical reasons. It is expected to be launched in near future. Tuvalu Telecom Corporation introduced a mobile phone-based money transfer, initially SMS-based until a mobile app was launched in 2018, but its use is still sporadic due to lack of ICT literacy and frequent Internet downtime.

Legal and regulatory framework

No legal framework currently exists for electronic transactions, data protection and online consumer protection. The development of an enabling legal framework for e-commerce laws is considered as crucial by public and private stakeholders but was not part of the reform agenda. In 2019, only the law addressing cybercrime was formulated, with plans

to develop a Consumer Act soon. Efforts need to be taken to develop the necessary skills in-country, while using best practices on international trade law, as promoted by UNCITRAL and UNCTAD to ensure that consumers and businesses gain confidence in online tools.

Skills development for e-commerce

Limited connectivity and lack of trust in e-commerce in Tuvalu also translates into low use of the Internet for business purposes, signaling a general need to support digital adoption and literacy. Higher education and training programs have not yet embraced curricula suitable to develop e-commerce skills, but mostly target traditional ICT engineering and basic office software skills. Despite this, as seen in all Pacific Islands Nations, the University of the South Pacific offers online courses for a variety of business and engineering courses, with stable access to the Internet made possible through investment in satellite connections. The business and trade development support system has to rethink its business development services and integrate support for digital transformation. The TKIII proposes the establishment of incubators for original ideas contextualized in the development and market requirements of Tuvalu.

Access to financing

The last major area of challenges identified in this rapid assessment relates to the difficulty of accessing funding options by companies, particularly MSMEs, since there are limited options from the commercial system and loans are usually provided for consumption or real estate development. Public funding support is unavailable, as there are no public guarantee schemes, grants or subsidized loans available for venturing e-commerce businesses. Paradoxically, the Government of Tuvalu (GOT) derived revenue from the Internet when in 1999 it leased its Internet domain ".TV" to a Californian company, DotTV, which paid Tuvalu US\$ 50 million – more than half Tuvalu's annual GDP at the time. The lease has returned around US\$ five million per year, which makes up about 10 per cent of its annual gross domestic product (GDP) for the past 10 years. It would appear logical to use part of this revenue source for ICT and business development back in Tuvalu.

In conclusion, there are signs that Tuvalu has started to consider some of the potential benefits that e-commerce can bring to its population and in

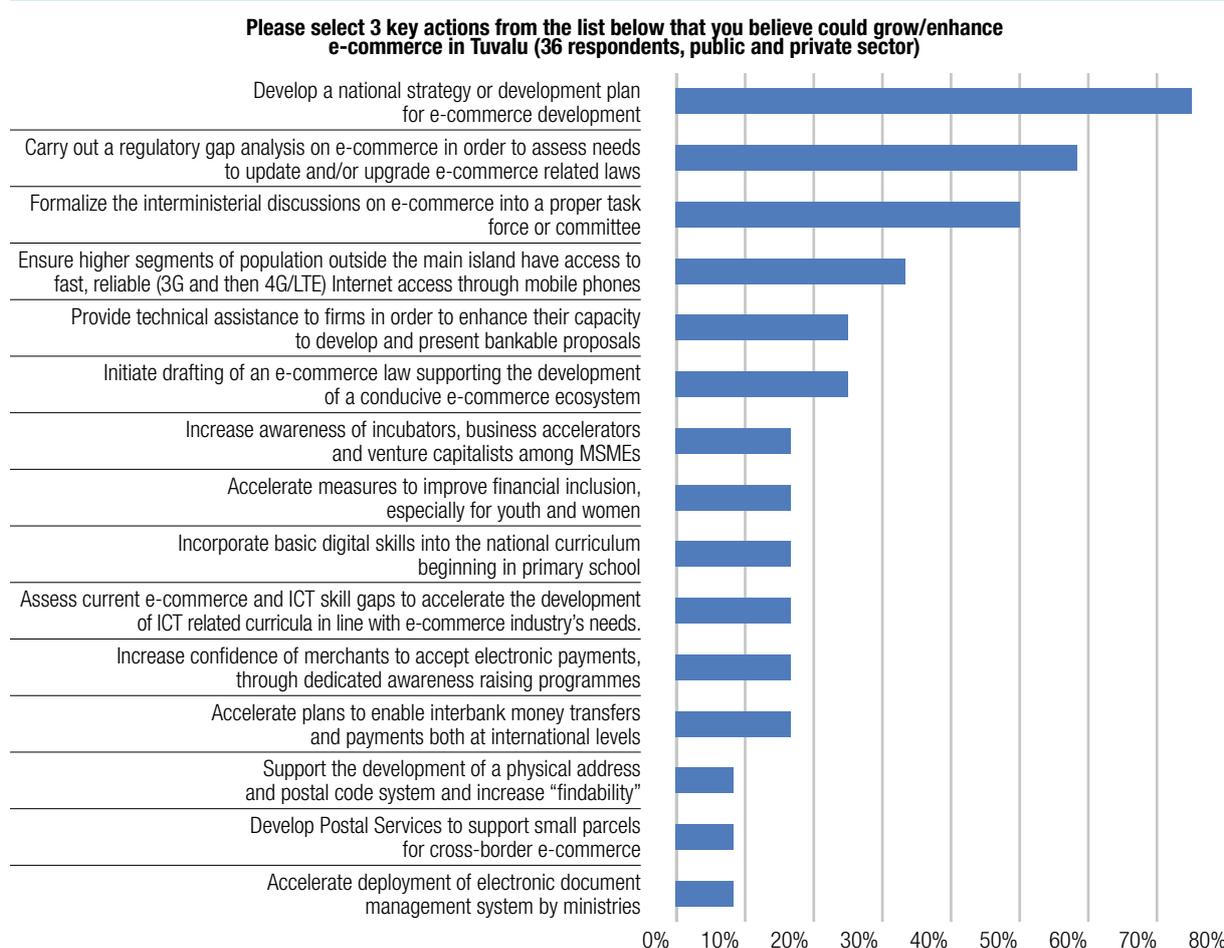


particular in reducing some of the negative effects of its geographic location and small size. For this to happen, existing policies such as TKIII and TPF must be implemented, while higher visibility of the digital economy in the national development agenda constitutes a necessary pre-condition to tackle all the aforementioned challenges.

This Rapid eTrade Readiness Assessment helps identify opportunities and barriers for Tuvalu to engage in and benefit from e-commerce and the digital economy. It also helps operationalize relevant strategies included in the Tuvalu's Trade Policy Statement and the Tuvalu Private Sector Development Plan. Both documents highlight agriculture, fisheries, tourism and labor mobility as key areas of export growth, all of which could be supported by e-commerce. They also note other important cross-cutting areas that are relevant to e-commerce, including competition policy and consumer protection, public procurement, intellectual property rights, and gender issues.

This assessment seeks to support Tuvalu's effort to leverage additional resources from development partners to address these barriers. Figure 1 below gives an indication of the most relevant solutions highlighted by UNCTAD survey respondents. Tuvalu should continue to seek assistance from multilateral agencies such as the ADB and the World Bank and bilateral donors like Australia and New Zealand, to carry out further studies on the best modalities to facilitate better ICT services, including digitization of Government processes, digitization of MSMEs (moving from offline to online to e-commerce) and to boost business opportunities through the use of the submarine cable. The strong relations between Tuvalu, Fiji and NZ, due to the presence of a relatively large Tuvaluan diaspora, could bring potential for e-commerce and mobile banking services development in Tuvalu.

Figure 1: Priority actions to accelerate e-commerce adoption in Tuvalu



Source: UNCTAD



METHODOLOGY

A four-step approach was used for the Rapid eTrade Readiness Assessment of Tuvalu, to ensure a high level of participation and engagement of key stakeholders in the consultative process:

Figure 2: Assessment methodology



- ✓ **Phase 1 | Stakeholder engagement and literature review, 2 January – 10 February 2019.** It included official communications between UNCTAD, the MFATTEL and the Permanent Representative of the Pacific Islands Forum to the WTO in Geneva. Literature review and data analysis were made possible through access of up-to-date statistics provided by the International Telecommunication Union (ITU), the Universal Postal Union (UPU), and the World Bank, in addition to data compiled by UNCTAD on behalf of the eTrade for all initiative.
 - ✓ **Phase 2 | Online survey customization and dissemination, 15 January to 5 March 2019.** Two (2) surveys customized for the public and private sectors were distributed to 80 stakeholders in Tuvalu by the Trade Development Officer from the MFATTEL. A total of 51 completed surveys were used for this report (36 received online and 15 completed during the Focus group discussions (FGD)).
 - ✓ **Phase 3 | Focus group discussions, semi-structured interviews and bilateral meetings during the Consultant's mission to Funafuti on 6-9 March 2018.** Two (2) one-day focus group meetings were held at the MFATTEL facilities. Six (6) bilateral meetings with interested parties were organized on 8 March 2019.
 - ✓ **Phase 4 | Report writing and finalization with UNCTAD, March to September 2019.** As with all other Rapid eTrade Readiness Assessments, the seven policy areas in the eTrade for all initiative were used as entry points for this assessment. These are:
 - ✓ E-commerce readiness assessment and strategy formulation
 - ✓ ICT infrastructure and services
 - ✓ Trade logistics and trade facilitation
 - ✓ Payment solutions
 - ✓ Legal and regulatory frameworks
 - ✓ Skills development for e-commerce
 - ✓ Access to financing
- The information provided in this report is based on data collected from respondents to the survey for both the public and private sectors and the stakeholders' meetings during the in-country mission. It also benefited from inputs from several eTrade for all partners.



SUMMARY OF MAIN FINDINGS AND MAIN RECOMMENDATIONS

MAIN FINDINGS	MAIN RECOMMENDATIONS
 e-Commerce Readiness Assessment and Strategy Formulation	
<p>The 2016-2020 National Sustainable Development Policy (TKIII), the Trade Policy Statement, and the Tuvalu Private Sector Development Plan 2018-2022 call for an acceleration of investment in ICT to create new business and development opportunities, including using ICT for e-commerce. A shared vision and a dialogue on ICT and e-commerce for development are missing, although needs are fully perceived.</p>	<p>Develop a strategy for digitization of Government processes, including online portals and Micro, Small and Medium Enterprises (MSMEs) through access to online platforms including an assessment of revenue generation for the Government. The Government takes the lead in developing Government-to-Business (G2B) and Government to Citizens (G2C) services, making good use of the investment in fibre-optic cables. As e-commerce is still nonexistent in Tuvalu, operationalization and implementation of the national development plan that has mainstreamed ICT deployment and use for both Government and businesses will only increase the opportunities to use the Internet for business development.</p>
 ICT Infrastructure and Services	
<p>The landing of a submarine cable in the coming years will increase access to Internet, making it more reliable and affordable in the foreseeable future. There is marked improvement in the outer islands' connectivity due to satellite connections. 4G is now available in Funafuti while 2G and 3G are accessible in the outer islands through the two satellite connections contracted by the Government. Current mobile connectivity stands at 31 per cent and Internet penetration is at 46 per cent (January 2019). Affordability remains limited due to the high costs of connectivity. Tuvalu Telecom Corporation (TTC) has a monopoly on voice and data communications.</p>	<p>An economic study on possible usage by businesses of the extra bandwidth made available by the investment in a submarine cable is needed to ensure productive use, generating business opportunities while providing enough revenue for the GOT. A robust PPP mechanism, with private sector management, should be in place to set up the cable and ensure benefits for both people and businesses. Satellite connections should be maintained until the cable is fully functional.</p>
 Trade Logistics and Trade Facilitation	
<p>Tuvalu Post (TP) and courier services are used for deliveries, with What3Words added recently. There are no physical addresses for homes or businesses, no postal code on any of the nine (9) islands. TP is participating in the Operational Readiness for E-commerce (ORE) UPU project but is meeting challenges in the implementation due to a lack of human resources capacity. Tuvalu is not a member of the World Trade Organization (WTO) and is not using UNCTAD Automated Systems for Customs Data (ASYCUDA) but adheres to some of the Trade Facilitation Agreement (TFA) and cross-border paperless trade reform agenda.</p>	<p>Accelerate Customs reforms, possibly by adopting ASYCUDA. Seek acceleration of ORE implementation once the current sanctions for unpaid dues to UPU have been cleared. The TP could approach the UPU for capacity-building of HR and to adopt solutions to promote e-commerce such as the Easy Export programme. Enhance cooperation with regional designated offices in the framework of Asian-Pacific Postal Union (APPU). Prioritize cross-border paperless trade in the context of broader digitization of trade processes. Start with digitalization of business registration (MFATTEL) and operations for a demonstration effect.</p>



MAIN FINDINGS	MAIN RECOMMENDATIONS
<div style="display: flex; justify-content: space-between; align-items: center;">  Payment Solutions </div>	
<p>Tuvalu, as most Pacific Islands Countries, is a cash-based economy. There is only one commercial bank (Government-owned) and no Automated Teller Machine (ATM), credit card or electronic payment solutions. There are plans to improve M-PESA-like functions provided by Tuvalu Telecom as a means to send mobile money. The National Bank of Tuvalu provides little incentive to improve financial services due to the small market size and low volumes of trade and business.</p>	<p>Expedite the work on ATM and EFTPOS Leaders' Summit to obtain feedback on the ATM/credit card pilot. The National Bank of Tuvalu (NBT) to study best practices in Fintech and TTC for mobile payment applications. Assess capacity and needs of the private sector to use electronic payment solutions. Help tourism businesses integrate payment solutions in websites for booking rooms and other tourism services. Increase business awareness of payment solutions. Develop advocacy campaign on costs and risks associated with using cash transactions.</p>
<div style="display: flex; justify-content: space-between; align-items: center;">  Legal and Regulatory Framework </div>	
<p>E-commerce legal and regulatory framework has not yet been upgraded to be ready for online activities. Law on cybercrime is being drafted while discussions of a consumer act are on-going. Issues of understanding, trust, awareness, and cultural barriers need to be addressed first.</p>	<p>Obtain support of UNCITRAL and UNCTAD to help develop laws based on model laws for e-commerce, ensuring best practices from similar economies are considered. Raise awareness of pitfalls and dangers of e-commerce plus measures to prevent them and mitigate risks.</p>
<div style="display: flex; justify-content: space-between; align-items: center;">  e-Commerce Skills Development </div>	
<p>No provider of professional training on e-commerce related subject currently exists. Current training programmes are short-term and limited to ICT hardware/server management and low-level computer skills. Demands from the Tuvalu women's association and tourism providers remain addressed by the private sector. The University of the South Pacific (USP) has offered online training and access to its regional programmes, but none on e-commerce or ICT for business development. The GOT invests in building capacity of government officials to use and manage ICT installations, focusing on outer islands development.</p>	<p>Assess current ICT capacity gaps and needs of registered businesses. Seek support from Pacific-wide initiatives for the development of the proposed business incubator in Funafuti. Develop advocacy campaign for the use of ICT for businesses. Seek donor assistance to increase ICT skillset and knowledge in businesses and government.</p>
<div style="display: flex; justify-content: space-between; align-items: center;">  Access to Financing </div>	
<p>Access to affordable finance, particularly for outer island rural communities remains a considerable challenge. The Tuvalu banking system is not well positioned to fully cater to the needs of the private sector through business lending. The banking institutions are limiting access to finance due to the high number of non-performing loans. Access to alternative types of finance (venture capital, Fintech, business incubators) are not yet available in Tuvalu. Access to finance has been prioritized in the Tuvalu Private Sector Development Plan 2018-2022.</p>	<p>Accelerate formalization of businesses, financial literacy, and digital financial inclusion. Seek assistance from regional or international organizations for alternative types of finances, such as from Pacific Trade Invest (PTI) and the Pacific Financial Inclusion Programme (PFIP). Incentivize banks to invest in new services sectors, by providing up-to-date training to bank staff. The Government of Tuvalu (GOT) should be encouraged to make a political commitment to support the operations of the Development Bank of Tuvalu (DBT) through provision of consistent grant funding to enable it to become self-sufficient in the medium- to long-term. Introduce reduced business registration fees for micro and small businesses.</p>



FINDINGS UNDER THE SEVEN ETRADE FOR ALL POLICY AREAS

1. E-COMMERCE READINESS ASSESSMENT AND STRATEGY FORMULATION

Over the past few years, the Government of Tuvalu (GOT) has increasingly valued the potential role of ICT and Internet-based activities for its medium-term development. While e-commerce per se does not feature in the key national development and sector development policies, there is undoubtedly a growing interest from Government and private sector alike on how Tuvalu could better harness the potential of Internet-based activities for long-term development. However, the focus so far has been mostly on e-government and understandably, on how ICT can address some of the unique bottlenecks the country is facing, i.e., geographic isolation, lack of infrastructure for development, and help mitigate climate change-related impacts.

Data for Tuvalu are not available in the UNCTAD E-Commerce B2C Index nor in the World Economic Forum (WEF) Networked Readiness Index nor the International Telecommunication Union (ITU) ICT Development Index, making it difficult to compare its ICT performance with that of its Pacific neighbors. This is partly due to a lack of reliable ICT and ICT services data and statistics, as well as the absence of sizeable Internet-based activity in Tuvalu.

The GOT is likely to develop an e-commerce vision in the coming year, owing mainly to its investment in a submarine cable (see Box 3, Chapter 2) and as part of the Pacific Agreement on Closer Economic Relations Plus (PACER+)¹. Indeed, once PACER+ is formally ratified, the Government of Tuvalu will be eligible to benefit from:

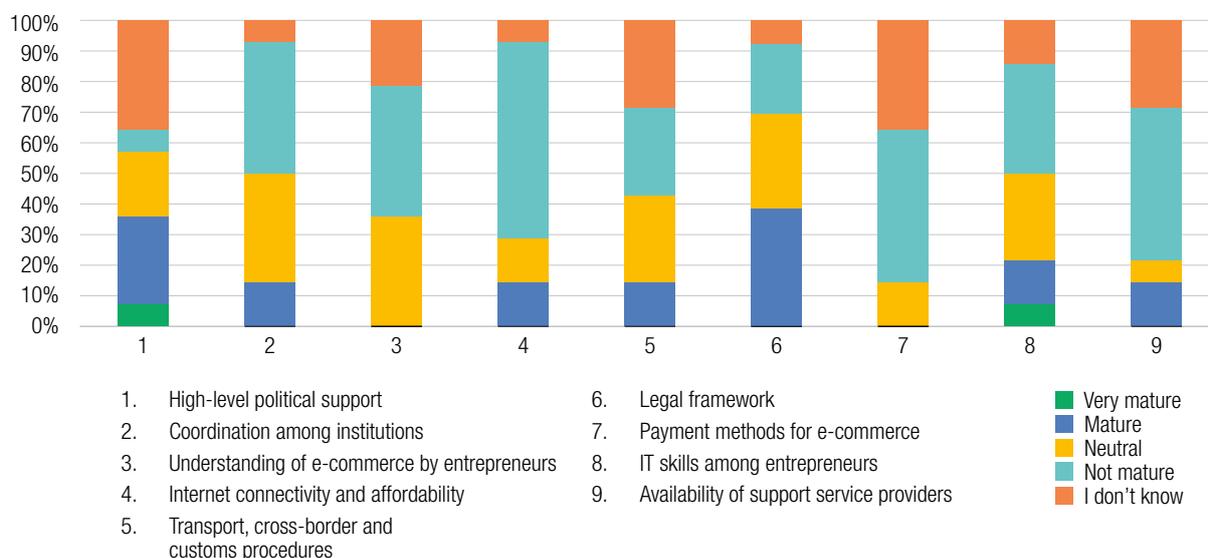
1. Technical assistance to implement an ICT regime, which devotes attention to e-trade (e-commerce) to minimize transaction costs;
2. Drafting and implementing legislation to support e-filing and e-commerce; and
3. Assistance to the private sector to maximize utilization of e-commerce.

The interviews with public and private stakeholders in Funafuti confirmed that the level of maturity and understanding of what e-commerce could bring in terms of development remains unclear (Figure 3). There is currently no strategy nor vision on e-commerce. E-commerce per se is not included in the national development plan and the theme has not been part of the Government-Private Sector or the Government-Development Partners dialogue mechanisms.

¹ Pacific Agreement on Closer Economic Relations Plus (PACER+) is a regional development-centered trade agreement. It is a comprehensive Free Trade Agreement (FTA) covering goods, services, and investment. Negotiations on PACER Plus commenced in 2009 and concluded in Brisbane on 20 April 2017. Dedicated development assistance is being provided as part of PACER Plus.



Figure 3: Level of maturity for e-commerce in Tuvalu under different policy areas



Source: UNCTAD

1.1 National policies related to ICT, e-government, e-commerce

In past years, national development policies launched by the Government have identified ICT infrastructure enhancement and moves towards a digital economy as core development objectives.

The GOT recognizes the need for ICT services extension in the National Strategy for Sustainable Development (2016-2020). This plan – “Te Kakeega III: National Strategy for Sustainable Development 2016-2020,” also referred to as TKIII – notes the key role of ICT services as an enabler for development in other areas of GOT priority such as education, health, and disaster management. Without the widespread availability of ICT services at affordable prices, development of such priority areas will be stalled.

With its very limited capacity, the Ministry of Communications and Transport (MCT) is responsible for developing national policies that govern the use of ICT, including e-government. A draft ICT policy document has been prepared, which will be finalized in the last quarter of 2019. Within the MCT, as per the ICT Policy, a unit will be established within the next three years focusing on ICT sector oversight. The existing Public Enterprise Reform and Management Unit (PERMU) under the Ministry of Finance and Economic Development (MFED) has the mandate to

oversee public enterprise financial performance. The new unit in MCT, on the other hand, is envisaged to address ICT sector operational performance.

Implementation of reforms and improvements listed in TKIII are essentially tied to and dependent on the availability of high capability telecommunications across the country at prices affordable to the population. The telecom sector reforms are aimed at: (a) making available the widest possible range of efficient, reliable, and affordable telecommunications and information services to all of the islands of Tuvalu; and (b) to create a modern enabling environment that encourages innovation and investment, creates jobs, retains skills, and reduces transaction costs. It is hoped that these reforms will make Tuvalu more efficient and attract more investment.

This may be achieved by increasing opportunities for private participation and investment in the ICT sector, leading to a competitive telecom industry that provides services effectively and at lower cost where feasible and ensuring credible, effective, and transparent regulatory oversight of a sustainable ICT sector. This is recognized as a necessary precursor to any sustainable and effective national development process and prospective international interest to invest in the Tuvalu economy.



GOT budget resources dedicated to ICT, largely coming from the Tuvalu Trust Fund², have increased and are projected to increase over the years (Table 1). As a testimony to this increased interest, the GOT has set aside US\$ 80,000 in its 2018 budget for the implementation of e-government initiatives. This involves the creation of a government website with fully functional back office features that provide important information to the public. The bulk of investments in ICT infrastructure for the implementation of TKIII is expected to be supported by development partners. The Government has also earmarked US\$ 10,000 for the Centre of Excellence in Information Technology (CEIT), a newly constructed building to promote digital learning for the public.

In recent months, the very small private sector has begun to express their need for more reliable ICT infrastructure and e-business related strategies. The overall sentiment is that Tuvalu needs to keep up with the pace of technological development. A general perception among business operators is that Tuvalu is well behind in terms of connectivity and access to e-commerce marketplaces. Frequent calls are made for e-commerce to be better integrated in development policies and strategies since most commercial activities around the world are now mostly done through electronic means, although the business community main priority seems to be making Tuvalu more visible online (for marketing and tourism advertisement purposes) rather than as a place for investment. The hopes of faster and cheaper Internet access through the submarine cable has prompted a surge in Internet-based business development.

Table 1: Budget allocations under Program 4 on ICT, GOT, 2016

Activity	Objectives	2016 Actual	2017 Budget	2017 Forecast	2018 Budget	2019 Proj	2020 Proj
1. Administration, Policy Formulation and Project monitoring	1. To effectively manage department 2. To formulate ICT Policies 3. To provide advisory role on all ICT4D activities and projects	70,892	72,058	65,572	91,846	93,936	95,988
2. Information and Communication Technology	1. To provide effective information and communication services to Government 2. To train and promote ICT to all Government departments	51,771	10,518	65,779	116,201	118,904	121,541
3. Government Internet Services	1. To provide effective and reliable internet services to Government 2. To provide effective and efficient Government websites	285,280	370,611	395,125	474,021	486,378	498,023
Special Development Expenditure		46,576	5,000	417	169,640	–	–
Infrastructure Budget		–	–	–	10,000	–	–
Transactions on Behalf of Government		–	–	–	–	–	–
Total Resources Available for Program		454,520	549,187	526,893	861,708	699,218	715,552

Source: GOT (2017)

² In 1987, the Tuvalu Government established a publicly owned investment fund - the Tuvalu Trust Fund - to provide a safety net against fluctuations in Government income. The earnings of the Tuvalu Trust Fund are used to help the government finance the gap between its annual budgeted revenue and expenditure. The Governments of Australia, New Zealand, and the United Kingdom have made major contributions to the Tuvalu Trust Fund, with smaller grants coming from Japan and the Republic of Korea. Revenue from the Trust Fund has enabled the government to undertake a number of development programs (<https://tuvalutrustfund.tv/>)



Box 1: Tuvalu “Internet success story”: the .tv domain name

A major source of Government revenue stems from the leasing of Tuvalu's .tv, the country code top-level domain. The country's code domain name has attracted interest from many individuals, entities, and television companies around the world. The Internet Assigned Numbers Authority (or IANA) was established with the purpose of assigning top-level domains for countries. Tuvalu, because of its name, was assigned the top-level domain '.tv'.

Shortly after, the GOT decided to lease their top-level country domain for commercial use. Based on the interest shown in the suffix by many big companies on the Internet, the domain quickly became popular with all sorts of television broadcasters, streaming services, and any other enterprise even remotely related to television. In 1998, the Tuvaluan Government accepted a bid for US\$ 50 million from the company of the Canadian website information.ca, totaling five (5) times the nation's 1997 Gross Domestic Product, for the right to sell .tv³ to other companies⁴.

However, delays in the initial payment and other unforeseen issues resulted in an altered and downgraded payment through multiple other companies and entities. In 2002, Verisign, Inc., a large manager of web addresses, acquired information.ca. Verisign, Inc. manages the .tv domain with the agreement running until 2021. The deal with Verisign was renewed by the GOT in 2012. The Company has an agreement with the Government to be the sole registry operator of the .tv domain names through December 31, 2021. The domain is currently operated by dotTV, a Verisign company; the Tuvalu government owns twenty per cent of the company. Registry fees were US\$ 5.5 million in 2017, US\$ 5.0 million in 2016 and 2015, and US\$ 4.5 million in 2014.⁵ In Funafuti, the management of .tv revenue is administered by the Ministry of Communication and Transport. While the domain name is marketed commercially for use in television or video-related sites; it can actually be registered and used for any purpose. The domain name is hardly used by the GOT, Tuvalu's State-Owned Enterprises (SOE) or commercial businesses.

The lead up to the renewal marked a period of contentious negotiations with the Tuvaluan Government claiming a higher share than the US\$ 4-5 million in fees that was agreed under the previous detail. As of May 2019, there are an estimated 430,000 domains existing with the suffix TV. The receipts from this rent fuel significant percentage (10-12 per cent) of the country's GDP.⁶

Source: UNCTAD based on interviews

1.2 National policies related to trade and private sector development

Tuvalu is virtually a non-trading nation, except for a few services related to temporary offshore employment as seafarers⁷, in fisheries, as Australia and New Zealand-bound migrants or seasonal workers. In 2017, the total of merchandise exports was valued at US\$ 4.02 million and comprised of philatelic sales, handicrafts and small volume re-exports of imported petroleum products (Figure 5). Even with subsidies, copra exports ceased in the early-mid 2000s and any potential revival is problematic and not possible, even with larger-scale government subsidies. Trade is one-way (i.e. imports) and accounts for 50 to 100 percent of its GDP (A\$ 24-40m), depending on the reporting source and method of estimation (i.e., formal vs informal trade). Food, fuel, consumer goods, and capital goods are all mainly imported from regional partners including Australia, China, Fiji, New Zealand and Singapore. Total merchandise imports in 2017

was valued at US\$ 35.6 million (Figure 4). Such trade deficits have been a normal and permanent feature of Tuvalu's trade balance for decades, partially offset by inflows of offshore income and official transfers.

Tuvalu tourism is promoted on locally-sponsored and independent websites by regional organizations such as the South Pacific Tourism Organisation (SPTO), with GOT consent, although tourism has not appeared to be a government priority until very recently, during the launch of DTIS (2016), TPF (2015) and National Tourism Development Strategy (2015-19). While tourism could be a viable growth sector, evidence suggests that it will not be anytime soon. To attain real growth, the sector will need a prominent, sustained, and enduring government vision. This includes large infusions of capital and labour, government incentives, enforceable legal frameworks, proactive measures to attract foreign direct investment, a climate more friendly to business, better transport and ICT connectivity.

³ The domain name .TV is the Internet country code top-level domain (ccTLD) for Tuvalu.

⁴ See <https://www.news.com.au/technology/the-island-nation-of-tuvalu-is-being-kept-afloat-by-its-domain-name/news-story/9af6c78e14c071013ddd7fa9ac64aa7f>

⁵ <https://www.sec.gov/Archives/edgar/data/1014473/000101447317000004/R19.htm>

⁶ A thorough and accurate description of the .tv history since 1998 was produced by James Conway in "Entrepreneurship, Tuvalu, development and .tv: a response", James M. Conway, 2015, *Island Studies Journal*, Vol. 10, No. 2, 2015, pp. 229-252.

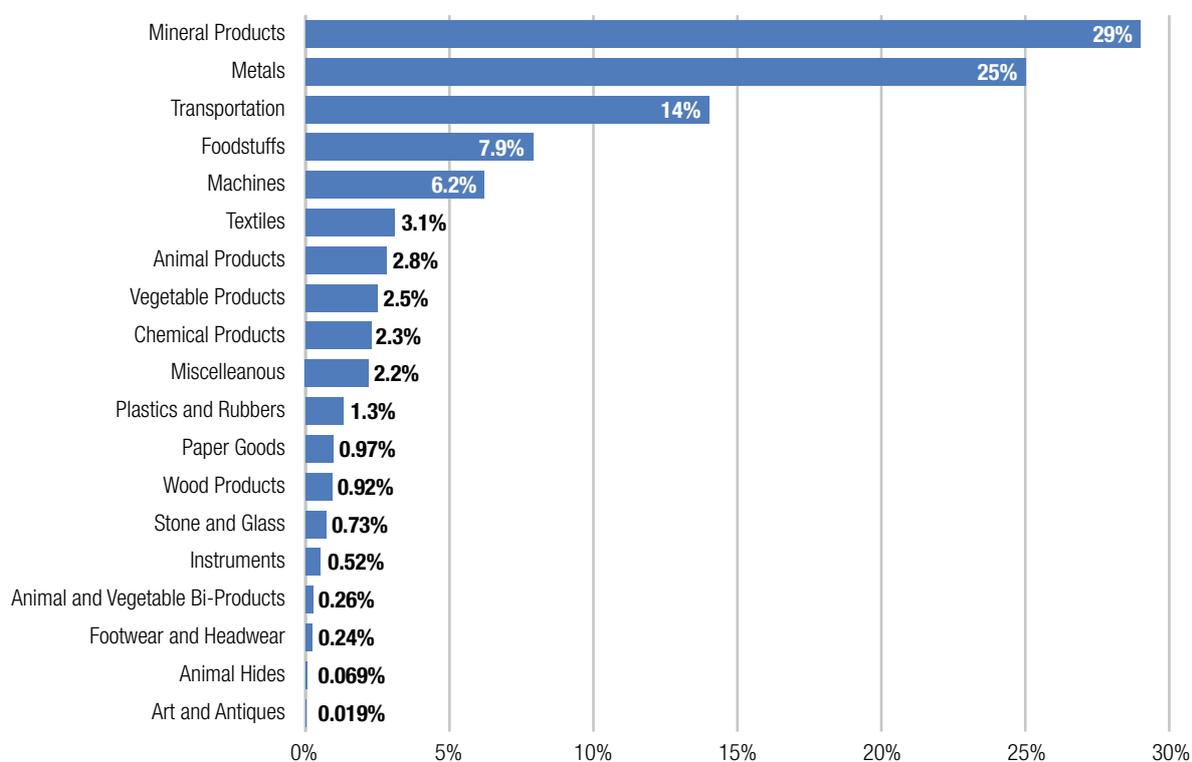
⁷ According to James Conway (2015) in "Entrepreneurship, Tuvalu, Development and .tv: a Response," the labour export market for Tuvalu's merchant seamen has collapsed in recent years, no longer employing "15% of adult males." The number of seamen on active overseas contracts is now well below 100, down from highs of 400-500 in the late 1990s. Seafarer remittance income at its peak was A\$ 2-4m annually.



The main challenges facing Tuvalu's development today are insufficient employment opportunities as two-thirds of the population are non-income earners, including 81 per cent of the population in the outer islands and a very limited private sector⁸. The public sector plays a major role in the economy, accounting for the majority of formal employment while the private sector (consisting mainly of small firms in the wholesale and retail sectors) remains small and undeveloped.

Tuvalu's economy is highly vulnerable to challenges stemming from its very small size and geographic isolation, structural economic conditions, and reliance on grants and buffer assets to absorb shocks. With no monetary independence, a high level of import dependence and a minimal financial infrastructure, fiscal policy is the main tool available for the GOT to manage the economy.

Figure 4: Tuvalu Import Product Visualization (Harmonized System level 2, 2017 data)

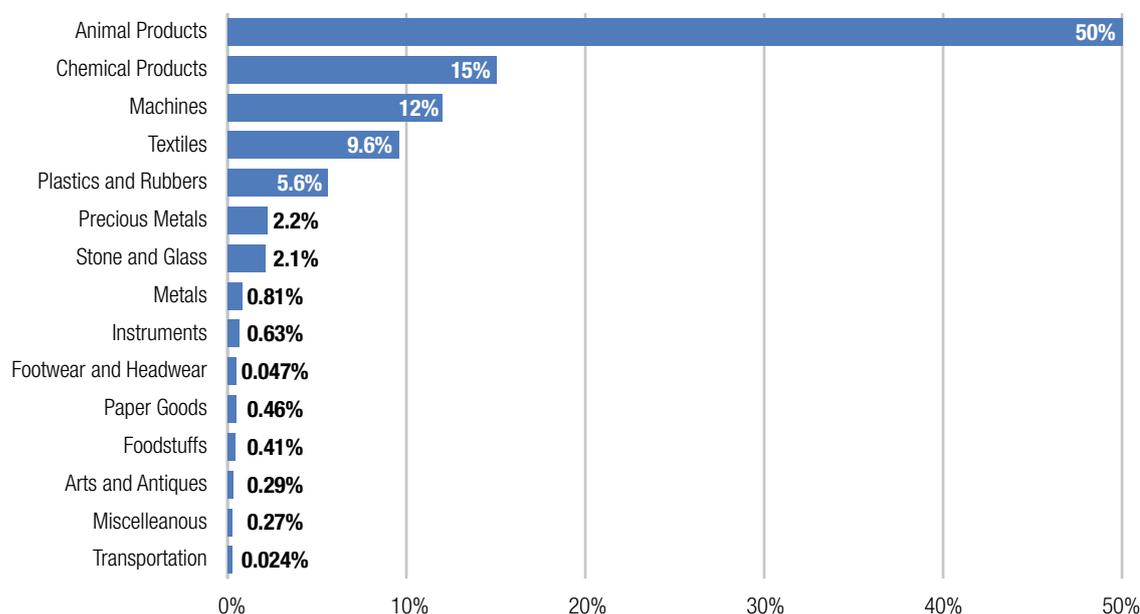


Source: UN COMTRADE

⁸ Trade Policy Statement, p. 19.



Figure 5: Tuvalu Export Product Visualization (Harmonized System level 2, 2017 data)



Source: UN COMTRADE

The very small private sector in Tuvalu consists of a handful of merchandise wholesalers and retailers, a few small lodgings, restaurants, construction companies, mechanical repair shops, fishing operations, and a private secretarial school. No major consumer or capital goods are manufactured in the country. At present, nearly 200 businesses are registered with the Government, an increase from 160 in 2013. Owing to its small size and its insignificant level of economic activities, there are no advantages from economies of scale. Purchasing power is limited, and the cost of doing business is relatively high. Sole proprietorships are the most common form of business ownership, with 98 per cent Tuvaluans ownership and 2 per cent foreign investment. More than 80 per cent of the businesses earn less than US\$ 5,000 a month and 65 per cent of all owners are women. Due to the size of the economy, it is difficult for local commercial investment to be sustainable without government support in the services sectors. The lack of domestic production accompanied by high costs of delivering products to markets in population centres has inhibited the development of domestic supply chains.

It is worth noting though that Tuvaluan products have a very good reputation and are well appreciated by the other Pacific Islands and Tuvaluans travelling

abroad have their luggage full of local products such as coconut toddy, copra, breadfruit or noni juice (from taro). A trade fair held in Funafuti two years ago attracted traders from all over the region.

Tuvalu's most recent trade and private sector development strategies all highlight the potential role of ICT for economic development:

- **The Diagnostic Trade Integration Study 2016 (DTIS)**, prepared in 2015 with funding from the Enhanced Integrated Framework (EIF), stresses that while "change is gradually taking hold in Tuvalu, further consideration should be given by government to introduce competition in the telecommunication sector, especially in mobile services, Internet services provision, and international gateway services, to the extent possible to encourage private sector investment. Tuvalu residents and businesses face significant challenges in accessing affordable and quality Internet and telephony services. It is essential that substantial investments are made to improve the ICT infrastructure in Funafuti and the outer islands as a key step towards improving connectivity and creating a conducive environment for



business and trade. As an immediate measure, the government should be urged to carry out reforms of the telecommunications sector in Tuvalu to improve the quality of Internet services and reduce costs to make it more accessible.”

- **The Trade Policy Statement for Tuvalu**, produced by the Ministry of Foreign Affairs, Trade, Tourism, Environment, and Labour in April 2016, notes that “efficient, reliable and inexpensive telecommunications is important for economic development and the growth of trade. An agreement was reached between the Government and Kacific Singapore to bring high-speed Internet service to Tuvalu starting in 2016. The Government of Tuvalu is committed to continued development of the sector and is seeking advice and assistance in this area, including establishing a regulatory framework and the possible privatization of at least some telecommunications activities, perhaps through PPP.”
- The more recent **Tuvalu Private Sector Development Plan 2018-2022** prepared by the Ministry of Foreign Affairs, Trade, Tourism, Environment, and Labour in 2018 indicates that the Government has finalized a decision on connectivity through marine cable and satellite for improvement of telecommunications. Outer island Internet bandwidths will be upgraded and GOT will fund low-cost broadband, Wi-Fi, and other services. Further, it is emphasized that the use and adoption of IT and ICT by local businesses is most timely, especially since moves are already afoot to include the upgrading of the national telecommunication system to the marine fibre-optics cable. Several sectors of the economy have already started to use IT and ICT in their operations. Therefore, it is important that the trade makes a definite move towards IT and ICT. However, the plan fails to provide courses of action or a resource mobilization strategy to operationalize the above. Such information could be found however in the Tuvalu Government budget, that indicates the financial allocations made to several of the IT and ICT-related actions.

1.3 National coordination and public-private dialogue

The Tuvalu National Private Sector Organization (TNPSO), the Tuvalu National Chamber of Commerce, and Tuvalu Business Centre are active in supporting private sector enterprises. Those para-public institutions have a key role in bringing issues to the attention of the Government, using several Government-Private sector fora. Only the TNPSO has the capacity to be involved in developing public policies and strategies to support and regulate e-commerce, in collaboration with the Department of Trade. The collaboration between GOT and the TNPSO is stated in a formal Partnership Agreement that defines each party’s responsibilities and obligations in building the private sector into the ‘engine of growth’ for Tuvalu.⁹ These responsibilities include the implementation of the Tuvalu Private Sector Development Plan, alongside the twenty (20) milestones listed in TKIII under the business and trade umbrella. A National Trade Steering Committee has been established by the GOT in order to: (a) advise Government on both national and international trade matters and how trade-related initiatives may most effectively contribute to Tuvalu’s sustainable development objectives as set out in TKII; and (b) carry out the instructions of Government with a view to mainstreaming trade in the country’s overall sustainable development programme (Trade Policy Statement, p. 14). The NTSC, chaired by the CEO of MFATTEL and Co-chaired by the Chairman of the TNPSO, is also functioning as an apex body for public-private dialogue on trade, investment and private sector development issues.

The interviews conducted for this assessment show that ICT and e-commerce are not yet in the Government-private sector dialogue purview. However, this is likely to change with the arrival of the submarine cable, which will spur interest among public and private stakeholders to ensure effective use and economic viability of the investment in the long run. Among the key challenges identified by the private sector is the inefficiency with which government support (training, access to market information, incentives) is delivered to the private sector. Access to finance is another challenge stated by many within, or wishing to enter, the private sector. Skills relevant to establishing and running a business are also inadequate and private sector organizations do not have the capacity to

⁹ An annual grant of US\$ 30,000 is provided by GOT to TNPSO. This covers staff salaries and office expenses of the organization.



obtain the skills they require. Support from business associations is extremely limited, although prioritized (Figure 6).

However, women-owned businesses have been able to attract some support from the Government - provided by the GOT Gender Department through aGender Program and awareness raising on Radio Tuvalu and through collaboration of the Tuvalu National Council of Women with the GOT Gender Affairs Department. Recently, the ICT Department received requests from the Gender Affairs Department to create trading websites that could be used by women to market their products online. This could generate interests among overseas Tuvaluans and tourists preparing their stays in Tuvalu. At the time of production of this report, this was still under negotiation.

1.4 Current e-commerce marketplace activity

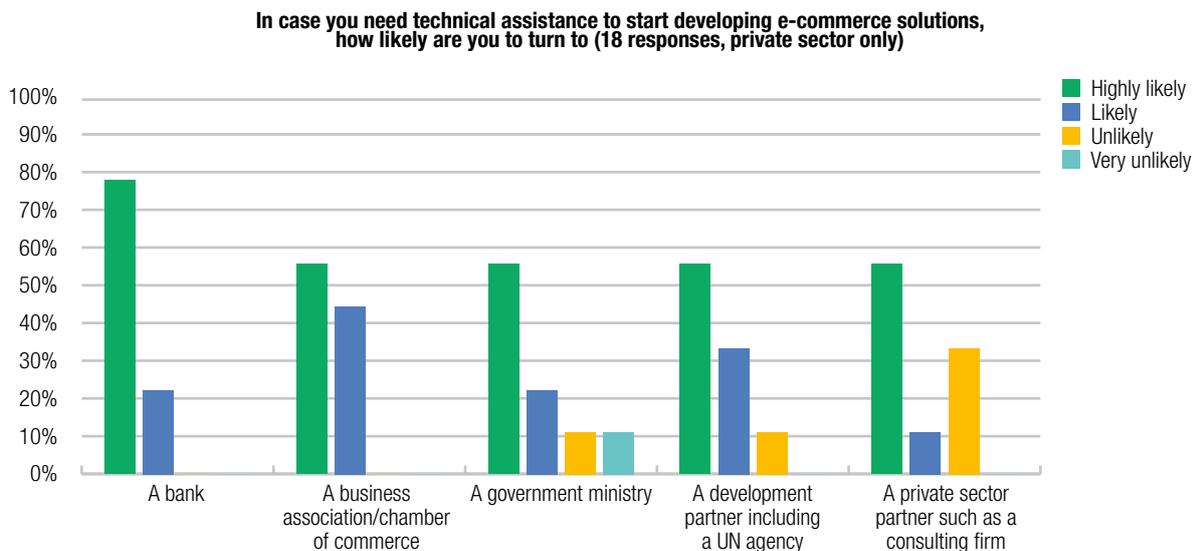
With the exception of the lease of the .TV domain name and the listing of lodges and guesthouses on travel booking platforms, there is virtually no other e-commerce activity in Tuvalu. At present, according to TNPSO, the lodging industry is the only one currently benefiting from Internet-based transactions. It is widely accepted that all business sectors, in particular retail, services, hospitality industry, and women’s handicrafts, could benefit from an e-commerce uptake in the future.

The TKIII notes four (4) priority sectors for both trade and domestic markets - agriculture, fisheries, tourism, and labour mobility. Tourism and labour are expected to offer the largest potential. Tourism, in particular, is an important sector due to high backward and forward linkages with other sectors such as food, reinforcing the potential and the role of digitization for tourism growth. A comprehensive review of the tourism value chain to identify specific opportunities, starting with destination marketing and management, should be considered by relevant authorities, tourism being usually an early adopter sector for e-commerce solutions.

Overall, the three areas of opportunity vis-à-vis the digital economy for the short- to medium-term are:

- E-commerce development anchored in the tourism sector;
- Digital technologies for managing risks of climate change and other environmental threats; and
- E-government and digitization of necessary services such as e-education and e-health.

Figure 6: Priority partners for e-commerce related technical assistance



Source: UNCTAD



Table 2: Tuvalu websites and marketplaces with integrated payment options¹⁰ (March 2019)

Business name	Website/Marketplace	Sector
Timeless Tuvalu	https://www.timelesstuvalu.com/	Tourism platform
Filamona Hotel	http://filamona.com/	Lodging
Tuvalu Post	http://www.tuvalu.post.tv/	Post office
Tuvalu Stamps	https://stampsoftuvalu.com/	Online stamps sales

Source: research by the author in Tuvalu

Box 2: The South Pacific Tourism Organisation (SPTO) support to e-commerce adoption in tourism

The South Pacific Tourism Organisation has called on Pacific countries to prioritize ICT, Internet services, and infrastructure to better support e-commerce in the tourism sector, as the industry moves rapidly from offline to online services.

Speaking at the WTO/UNCTAD/PIFS Regional workshop in Nadi, Fiji in June 2017, the SPTO Chief Executive Officer, Chris Cocker stated that, in many aspects, the Pacific tourism industry has failed to keep up with the level and pace of technological change. While the Internet offers tremendous global opportunities for smaller operators, especially in Small Island States, many suffer from a lack of expertise, poor and expensive Internet connections, and limited resources available to capitalise on.

SPTO has recommended that the smaller islands receive special consideration in this regard and connectivity should remain the highest priority for Pacific Island Countries (PICs). This could be achieved through solutions identified as appropriate to the country's needs to bridge the digital divide, thereby ensuring access for all. SPTO has recommended options for reduction of duties on ICT equipment, sharing of infrastructure and utilizing Universal Access funds as well as the development of accessibility to high speed broadband, mobile phone, and social media.

E-marketing and e-commerce functionalities and capacity-building should remain the highest priority for the private sector. Solutions should be relevant to the country's needs with consideration of ongoing and long-term support for private sector-led- and/or -managed tourism in terms of financial and technical assistance. Another key area that needs to be addressed is the transition of private sector mindset from offline to online marketing, with tourism and ICT industries coordinating to address ongoing ICT issues and challenges that need a collaborative approach to lobbying Governments.

Established in 1983 as the Tourism Council of the South Pacific, the South Pacific Tourism Organisation (SPTO) is the mandated organisation representing tourism in the region. Its 18 Government members are American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Papua New Guinea, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu, and the People's Republic of China. In addition to government members, the South Pacific Tourism Organisation enlists a private sector membership base.

Source: SPTO

¹⁰ Payments must be made by credit card. As credit card payments cannot be processed locally in Tuvalu, such payments are processed by agents usually based in Australia.



2. ICT INFRASTRUCTURE AND SERVICES

The Tuvalu Telecommunications and ICT Development Project is the key infrastructure development initiative ongoing in the country, which will hopefully result in a strong regulatory and infrastructure backbone. Mobile voice and broadband coverage and adoption will only increase after this is achieved. Since the introduction of 3G services in 2014, cellular adoption (and mobile broadband) has been ramping up at a high rate, albeit from a low base. Domestic e-commerce marketplaces are non-existent and only a handful of businesses, in the hospitality industry, have an online presence.

The very small population and low GDP of Tuvalu have so far limited the potential for private sector development. The ICT market is also highly fragmented with approximately 40 per cent of the population living on the Outer Islands outside of Funafuti. The Outer Islands represent only about 25 per cent of the total revenue from the national market due to the lower disposable income of the population relative to those in Funafuti. The vast distances and lack of economical transportation services also contribute to the high operational costs in Tuvalu – e.g., the price of a small mobile tower ex-factory is about US\$ 4,000, with another US\$ 65,000 required for shipping and installation on an Outer Island. All these factors have contributed to a perpetuating cycle of limited services, high prices, low revenues, and ongoing Government subsidies and financial support.

The introduction of Internet broadband services through satellite connections in 2015 has signaled the entry of Tuvalu into ICT connectivity. Over the years since 2015, the connections, reliability, and latency have improved, especially on the main island of Funafuti. However, the coverage is highly dependent on the weather, with only one tower available for the entire islands (see Table 3).

On a global scale, Tuvalu has a very small population, with fewer than 11,000 inhabitants on the remote and scattered group of nine inhabited coral atolls. Mobile subscriber penetration in the country sits at around 31 per cent, compared to fixed broadband at only 10 per cent penetration. Internet users' penetration stands at 46 per cent. Surprisingly, this fixed broadband penetration is comparatively high relative to most other South Pacific nations.

2.1 Sectoral and institutional context

Tuvalu's ICT sector is characterized by a single Government-owned provider, Tuvalu Telecommunications Corporation (TTC), established by the Tuvalu Telecommunications Corporation Act of 1993. There has been no recent interest from providers present in other Pacific markets (Digicel, Vodafone) to invest in the telecom sectors in Tuvalu due to the very small market size and the lack of connectivity. While it holds the monopoly in Tuvalu, in 2012, an amendment to the Telecommunications Act paved the way for the government to license a second operator in the future. A state-owned enterprise, TTC, provides fixed-line telephone communications to subscribers on each of the islands of Tuvalu. It is

Table 3: Summary of ICT connectivity in Tuvalu by Island and Technology

Island	Population (est. 2017)	Connectivity	Fixed Lines	ADSL	Mob.data	Comment
Funafuti	6,194	98 Mbps			2,800 (3G)	4G Mobile network recently activated
Vaitupu	1,565	4 Mbps	72	Nil	Nil	Satellite upgraded and Wi-Fi installed
Nanumea	556	3 Mbps Shared	<10	Nil	Nil	Upgrade pending funds
Nanumaga	481	3 Mbps Shared	<10	Nil	Nil	Upgrade pending funds
Niutao	606	3 Mbps Shared	<10	Nil	Nil	Upgrade pending funds
Nui	541	3 Mbps Shared	<10	Nil	Nil	Upgrade pending funds
Nukufetau	540	3 Mbps	<10	Nil	Nil	Satellite upgraded and Wi-Fi installed
Nukulaelae	324	3 Mbps	<10	Nil	Nil	Satellite upgraded and Wi-Fi installed
Ninulakita	30	3 Mbps Shared	<10	Nil	Nil	Upgrade subject to GOT funding

Source: World Bank, 2018



the sole provider of telecommunications in Tuvalu. Each island in Tuvalu relies on TTC for the use of a satellite dish for inter-island telephone communication and Internet access. TTC also provides mobile phone services on Funafuti, Vaitupu, and Nukulaelae. TTC is also the sole distributor of Fiji Television service (Sky Pacific satellite television service).

TTC is a very small entity with limited business, marketing, and services delivery competencies as well as low international and national access capacity. At the retail end, TTC has affordability and quality of service issues. Fixed voice services to individual premises (residential and Government offices) are limited to two of the country's nine islands - Funafuti and Vaitupu. The other Outer Islands have fixed phone services in the Island Council premises while the general population is served with bureau-based services, i.e., the customer must go to a specific location to use a phone or computer.

Although TTC made a modest profit in 2017, it operated at a loss for the past eleven years, requiring periodic government subsidies. Its limited size also means that suppliers are reluctant to deal with the company (market volume, cost of support, possibility of default), which constrains its access to competitively supplied and priced products and services, including international termination services. TTC's small workforce (total staff of 37 as of 2018) means that the skills required are largely not available. As a monopoly, and with limited connectivity, TTC has had little incentive to market its services and stimulate demand for new services. This might change with the connection to the submarine fiber optic cable.

Access to affordable and reliable ICT can play a key role in the development of Tuvalu in coming years. Because the Internet can be used to lower costs and increase the productivity of MSMEs, it is essential to improve services for the most populated island (Funafuti) and to fund a sustainable solution for Outer Islands connectivity (faster, cheaper international bandwidth). Introduction of broadband Internet services in areas with currently limited to no services will lead to a range of significant benefits for all communities in Tuvalu, including remote communities. Benefits include business development opportunities and the expansion of health, education, government services, and other information services. The delivery of these services is fundamental to securing the

economic and social viability of the Outer Islands and, accordingly, reduce pressure on Funafuti caused by inter-island migration.

2.2 Broadband/Mobile/Smartphone penetration

Satellite remains the main form of Internet access in Tuvalu, with state-owned TTC owning and operating the majority of telecommunications and ICT infrastructure in the country. Mobile broadband technologies, 3G and 4G, were introduced in 2014 and 2017, respectively. TTC provides fixed-line telephone communications to subscribers on each of the main islands and mobile phone services on Funafuti, Vaitupu, and Nukulaelae, and through a five-year agreement with Kacific Broadband Satellites to supply high-speed bandwidth, operates satellite Internet services. Tuvalu.tv, operated by the ICT Department of the Government of Tuvalu, is the only Internet service provider (ISP).

Mobile broadband technology (3G and 4G) and voice services are limited to Funafuti although TTC is progressively installing new satellite facilities and plans on installing 3G services in some Outer Islands subject to Government finance and completion of the satellite facilities. Mobile broadband (3G and 4G) networks were established by two separate partnerships with individual equipment vendors. The 3G mobile facilities are provided and established in Funafuti as a wholesale service, on-sold by TTC. In 2018, the first 4G/LTE services, owned by TTC, were introduced to Tuvalu through a partnership with US-based provider, Blue Arcus Technologies, initially deployed in the country's capital. When uplinks become available, broader 4G/LTE coverage will make economic sense in the country.

Wi-Fi Internet access is available at four locations in Funafuti and in one location at each of the Outer Islands. TTC provides broadband access through Wi-Fi hotspots in Funafuti. Their Wi-Fi network deploys five hotspots and seven repeaters distributed along the island. It dedicates 3 Mbps for Wi-Fi access (with 2 Mbps in download and 1 Mbps upload). Wi-Fi service is currently being extended on some of the outer islands; however, this requires users to go to the Wi-Fi hub with their own device. The available bandwidth has been increased but remains very limited, resulting in limited service more suitable for email and web browsing than for more ICT-intensive online work.



TTC has contracted Asia Broadcast Satellite (ABS) for new low-cost satellite connectivity for all the islands. Existing high-cost satellite services contracts that expired at the end of 2016 have been extended pending completion of the ABS satellite service to Outer Islands. This ABS capacity is used to support the 3G service managed through a core switch in Pohnpei (Federated States of Micronesia) to provide the data gateway for 3G Internet services. These investments in new ICT services are generally on the margins and overall service quality and access remain very limited.

Total international connectivity (by satellite) in early 2018 was 101 Mbps (unidirectional, equivalent to about 70 Mbps via cable, which is bi-directional). This corresponds to 6.3 kbps/per capita. For comparison, Fiji, a near neighbor albeit with a larger economy, has international connectivity of about 32 kbps/per capita.

However, Tuvalu's need for bandwidth is expected to grow, in line with regional and global trends, driven by individual and institutional demand. The experience of other World Bank regional connectivity projects in the Pacific (e.g., Tonga and Samoa) has shown that data uptake has increased very rapidly after deployment of cables, usually surpassing expectations.

Cellular penetration (unique subscribers) stands at 27.3 per cent, primarily consisting of prepaid connections, with all connections estimated to be broadband-connected. The subscription rate for cellular connections is growing at a rapid rate of 10.6 per cent year-on-year growth. Costs remain relatively high due to the dependency on satellite Internet. The overall situation in terms of speed, reliability, and costs is not expected to improve until the ICT development project gets underway as noted below (see Table 4).

Table 4: Access to ICT services

Indicator	Unit of measure	Tuvalu performance
Mobile connections penetration - non unique - 2017	% penetration	71.5
Cellular subscriptions	Total number ('000) of cellular connections	4
...of which Prepaid	Percentage of total cellular subscriptions	83
Unique subscribers (multiple SIM)	Number ('000) of unique subscribers who may possess more than one sim card	3.7
Cellular subscriber penetration (unique)- 2019	Unique subscribers/population	27.3
SIM penetration	Percentage of cellular connections in overall population	31
Percentage of individuals using the Internet	Per 100 inhabitants	46
Active mobile-broadband subscriptions as percentage of total cellular subscriptions	As percentage of total cellular subscriptions	100
Fixed Broadband subscriptions	Per 100 inhabitants	10
Internet access (household)	Household Internet access	8.3
Secure servers	Per million people	90.3
Mobile operators	Number of operators	1
Facebook members	'000	1.7
Rate of growth:		
1. Cellular connections	% change	1. 10.6
2. Population		2. 0.9
3. SIM penetration		3. 9.6

Source: TTC, World Bank, 2018



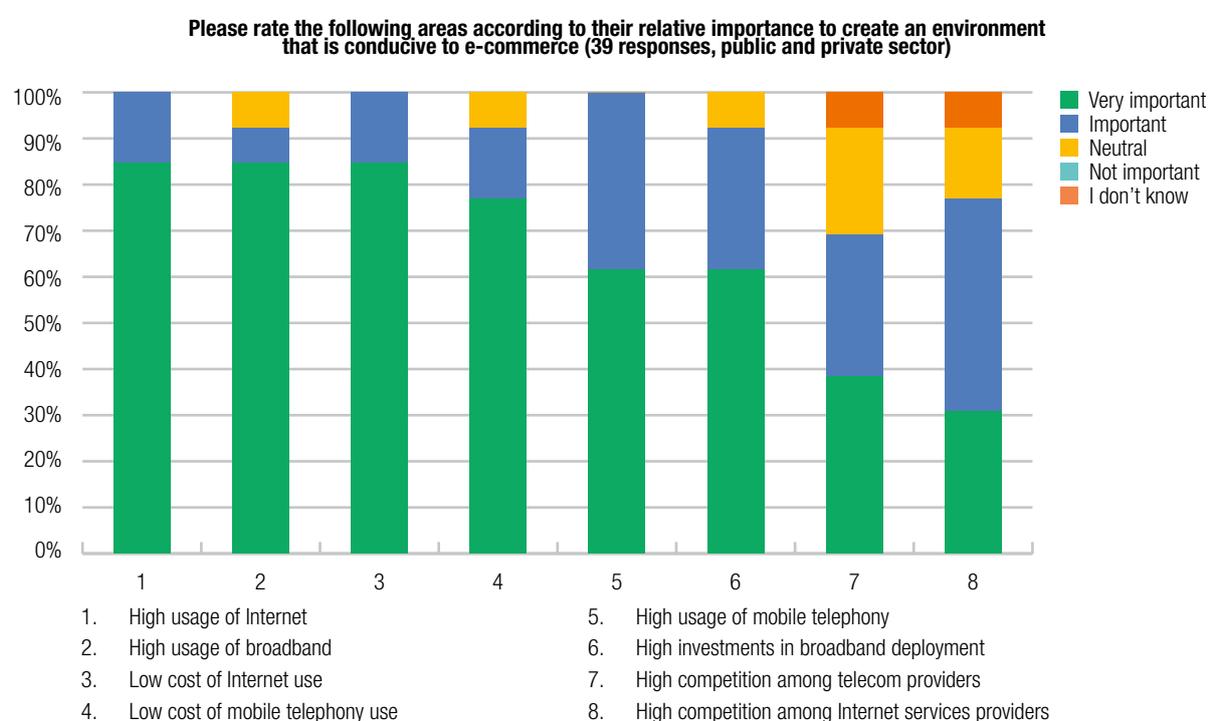
2.3 Reliability, affordability, speed of Internet connections (broadband)

Despite the price reduction observed since the introduction of 3G and 4G, access to broadband Internet remains costly. The technical specificities of the 3G connection currently limit access to Internet to some smartphones only, making it difficult for visitors, for instance, to access the Internet. For stakeholders consulted for this assessment, the possibility of high

usage of broadband Internet, combined with low cost of Internet use are among the most important areas to create an environment conducive to e-commerce (Figure 7).

The cost of access to Internet hardware and connection remain high. TTC is selling compatible devices and data packages, detailed in Table 5 below.

Figure 7: More important ICT Infrastructure factors for a conducive e-commerce ecosystem



Source: UNCTAD

Table 5: Pricelist of ICT device and Internet access (2019)

Device / Card	Unit Price (AU\$)
Mobile Handset CHY003 Android	\$220
Wi-Fi Device Airtel 4G	\$110
Wi-Fi Router B310LTE Entel	\$140
Huawei 4G Router B525	\$345
4G New SIM Card	\$10
4G Data Only SIM Card	\$5



Table V: Pricelist of ICT device and Internet access (2019)

Card			
Package Name	Rate	Quota	
Residential Speed 128kbps	AU\$ 50	1.4Gb	
Residential Speed 256kbps	AU\$ 100	3Gb	
Corporate Speed 256kbps	AU\$ 100	3Gb	
Corporate Speed 256kbps	AU\$ 200	7Gb	
Corporate Speed 384kbps	AU\$ 300	12Gb	
Corporate Speed 512kbps	AU\$ 500	21Gb	
Corporate Speed 1,024kbps	AU\$ 750	45Gb	
Installation Fee	AU\$ 53.50	n/a	
Reconnection Fee	AU\$ 53.50	n/a	
Internal Shifting	AU\$ 525	n/a	
Mobile Data Plans (AU\$) - ??			
Package Name	Rate	Quota	Validity
Lagoon 5	\$5	250Mb	15 days
Lagoon 10	\$10	700Mb	15 days
Lagoon 20	\$20	1,000Mb	30 days
Ocean 50	\$50	2,500Mb	30 days
Ocean 100	\$100	5,000Mb	30 days
Ocean 200	\$200	12,000Mb	30 days
Ocean 300	\$300	18,000Mb	30 days
Ocean 500	\$500	32,000Mb	30 days
Ocean 750	\$750	60,000Mb	30 days
Other Plans (Mobile + Wi-Fi) (AU\$) - ??			
Package Name	Rate	Quota	Validity
Sunshine 20	\$20	750Mb	30days
Sunshine 30	\$30	1,300Mb	30days
Sunshine 40	\$40	2,000Mb	30days
Starlight 2	\$2	250Mb	7PM – 7AM
Starlight 3	\$3	750Mb	7AM – 7PM
Moonlight 5	\$5	1,200Mb	7PM (Fri) – 7AM (Mon)
Moonlight 10	\$10	3,000Mb	7PM (Fri) – 7AM (Mon)

Source: TTC, 2019



2.4 Major infrastructure projects (submarine cable, fibre optic, and others)

Since 2015, TTC has relied solely on broadband satellite connections for its ICT services.

In 2015, TTC signed a five-year contract with Asia Broadcast Satellite (ABS) to improve capacity and offer higher speed Internet for schools, hospitals, and banks as well as to increase Internet protocol (IP) backhaul capacity for the mobile network. In the same year, a network sharing deal was signed with FSM Telecom from Micronesia. In parallel, TTC has signed deals with Kacific Broadband Satellite and ABS, which provide increased satellite capacity and coverage for Tuvalu. Existing high cost satellite services contracts will expire at the end of 2021. Despite these particular prospective gains, ICT services for Tuvalu through TTC remain constrained.

In order to guarantee cheaper access to Internet while simultaneously increasing coverage and affordability, the World Bank approved a US\$ 29 million grant for the Tuvalu Telecommunications and ICT Development Project in January 2019. The project is intended to boost Internet connectivity in Tuvalu, including the country's outer islands (See Box 3 below). According to development partners consulted as part of this assessment, it is important that the GOT does not take on the financial or operational risks of building and maintaining infrastructure that cannot be operated on commercially viable terms.

Box 3: The Tuvalu Telecommunications and ICT Development Project

The World Bank project will support the development of a new ICT policy, which will guide reforms to boost connectivity in Tuvalu, including the country's outer islands. The project will include reforms of the TTC to redevelop the government-run entity as a PPP in cooperation with an experienced international telecommunications operator, selected competitively. The project will address the physical connectivity infrastructure and the enabling environment needed to support the implementation of a PPP governing the ownership, management, and operation of the connectivity infrastructure. The Project will also support investments in an international optical fibre submarine cable to provide faster, lower-cost Internet bandwidth.

The project is part of the Pacific Regional Connectivity Program, a broader regional program supporting improved Pacific connectivity in Tonga, Samoa, Fiji, the Federated States of Micronesia (with Palau), and Kiribati. The US\$ 29 million grant comes from the International Development Association (IDA), the World Bank's fund for the most in-need countries and will be implemented by the Tuvalu Ministry of Communications and Transport. In this context, the Project proposes to support Tuvalu in developing the enabling environment for improved telecommunications/ICT services provision, restructuring the market, and implementing a sustainable solution for international/regional connectivity.

The Project, however, faces in Tuvalu the challenge of very limited institutional, technical, and financial capacities. It is significantly more vulnerable and constrained than any other activity undertaken under the World Bank's engagement on connectivity and regulatory reform in the Pacific. The Tuvalu ICT sector is too small to attract private sector participation and investment without substantial public sector contributions. A Public and Private Partnership (PPP) structure with investments from mobile operators from the Pacific region will be used to ensure that the technical solution is financially viable and that the operational risk is passed to a private sector partner. Global technical and operational standards will be established under the PPP transaction to ensure that the technical solution and performance standards meet the country's needs and expectations.

The proposed cable will link Tuvalu to the regional communications networks and strengthen relations with its regional neighbours. Improved connectivity will contribute to regional infrastructure development, institutional cooperation for economic integration, and coordinated interventions to provide regional public goods. These include fostering greater collaboration with regional institutions (PIFS, PTI, USP) and private sector service providers. Other potential benefits may be derived from cooperation with regional neighbors on trade facilitation, natural disaster management and monitoring, and provision of online education and health services.

Source: *The World Bank, 2018*



3. TRADE LOGISTICS AND TRADE FACILITATION

In the absence of any domestic or cross-border e-commerce flows, this chapter considers broader postal and trade facilitation readiness criteria. Given that the nine islands atolls are stretched over 900,000 square kilometres of the southwest Pacific and the small number of inhabitants and businesses, delivery of mail, parcels, and cargo is done by the Tuvalu Post or express courier services. Currently, there are no house numbers, mailboxes, or postal codes in Tuvalu.

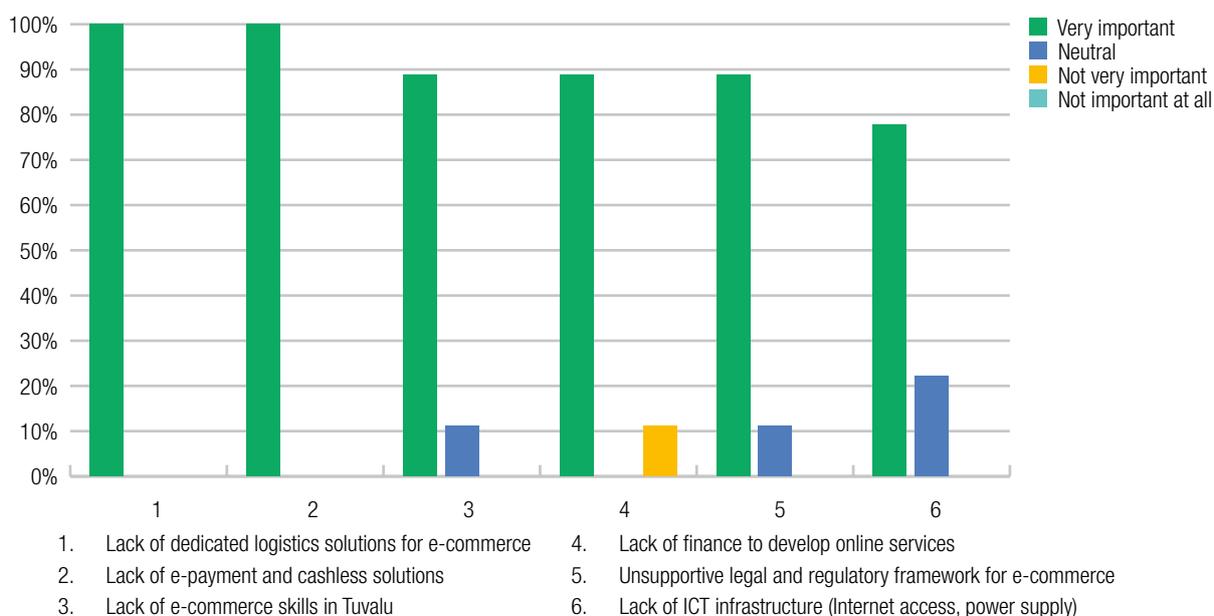
While the physical addressing system is in the early stages of development, a majority of the population need to travel far to access postal services. Capability enhancement of the postal services operator, and increased awareness and adoption of e-commerce by consumers will be key requirements for its development. The recent adoption by Tuvalu Post of the What3Words addressing system as the national address standard brings strong potential in bridging the accessibility gap for postal service consumers (both citizens and businesses).

Inter-island connectivity via shipping, especially between the eight outer islands is another important priority, both from a developmental and economic perspective. Improving logistics and transport between Funafuti and the eight outer islands faces important

challenges, however. There are no low-cost bulk air cargo services available yet. This is one of the factors that inhibit the domestic private sector's growth vis-à-vis imports. Because many islands are too small for airfields, marine transport is the only option for transporting essential goods such as food and fuel or people seeking medical care or attending schools. As inadequate docks preclude access by larger vessels, small vessels must be used to ferry goods and people. This is safe only in daylight and with smooth seas, making transport costly and inefficient.

The private sector has listed the lack of dedicated logistics solutions for e-commerce as one of the two topmost constraints preventing them from investing in e-commerce (Figure 8).

Figure 8: Factors that constrain private sector investments in e-commerce



Source: UNCTAD



From an institutional angle, the TKIII and Trade Policy Statement confirm that trade facilitation has become an important and emerging area of reform. TKIII includes strategies to provide efficient, high-quality infrastructure and support services. However, further project support may be needed to expedite the creation of transport infrastructure. The GOT's current focus is on strengthening the Tuvalu Customs Revenue and Border Protection Department (TCRBP) for both regulation and training of its Customs Officers, with plans to adopt the UNCTAD Automated System for Customs Data (ASYCUDA) in the medium term. Legislation has recently been enacted to strengthen the TCRBP and to enable it to carry out the functions of a modern Customs Department, including trade facilitation. The government is also examining the tenets of the TFA to identify best practice areas that can be incorporated in the national customs framework.

Trade Facilitation aims at enhancing transparency and reducing complexity and delays at the border. Making administrative procedures transparent, swift and efficient is an essential part of an enabling environment for private sector development, good governance and the rule of law.

UNCTAD is currently supporting Tuvalu Trade Facilitation through its e-regulation programme. The e-regulations portal helps governments make rules and procedures fully transparent to facilitate business, trade and investment. Ultimately, it will contribute to greater transparency and efficiency in the public service and improved governance. It has been installed in various countries and cities worldwide, since 2005. Tuvalu benefits from the Tuvalu Trade Portal¹¹, a trade facilitation platform powered by the UNCTAD Business Facilitation Programme and implemented by the Government of Tuvalu, in the context of the PACER Plus agreement, with funding from Australia and New Zealand. In the context of this project, UNCTAD is in charge of providing training and assistance to nine Pacific island countries – Cook Islands, Kiribati, Nauru, Niue, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu – to increase their regulatory

transparency in trade and investment-related capacity to reach the standards set out in the PACER plus. The project aims at strengthening regional integration and competitiveness to create economic opportunities, particularly for small- and medium-sized enterprises.

The UNCTAD ASYCUDA programme implementation should take place soon through a project funded by the PACER+ programme as well. The need to digitalize cross-border trade documents or to automate international trade procedures has been raised in a number of fora by Tuvalu Customs in order for them to modernize and to come up with more reliable and accurate statistics through automation; up until now, the main issue preventing the implementation of ASYCUDA was the unavailability of funding. It goes without saying that the improvement in connectivity described in chapter 2 will certainly benefit the deployment of ASYCUDA and regional data sharing

The World Bank and ADB are both involved in transport and logistics technical assistance projects that are aimed at improving transport connections among the islands and the handling capacity of Tuvaluan ports. In addition, a bigger and new international airport capable of taking planes bigger than the current ATR aircraft is proposed in TKIII. Studies have been commissioned also to assess the viability of building airfields in the Outer Islands for domestic air service.

3.1 Mode of delivery and last mile delivery

Tuvalu Post (TP) capacity to fulfil its mandate are limited. Given the size of the main island, getting mail and parcels delivered to people and businesses means retrieving them physically from the TP Head Office. As a member of the Universal Postal Union (UPU), TP has benefited from an Operational Readiness for E-commerce (ORE) conducted in 2016. However, the combination of lack of funding¹² and limited capacity and know-how resulted in delayed implementation and review mechanisms of ORE. TP management confirmed that TP is not receiving any funding from other sources at the present time.

¹¹ <https://tuvalu.tradeportal.org/> and <https://businessfacilitation.org/>

¹² Tuvalu is currently under sanction from the UPU because the country has not paid its contributions to the UPU for several years. This in essence means Tuvalu as a member country is not eligible to receive any funding from UPU regular budget such as technical development assistance programs. It can still benefit from some regional technical assistance activities.



Box 4: The Universal Postal Union Operational Readiness for e-Commerce (ORE)

A seamless and efficient e-commerce environment requires effective postal services to meet the needs of e-shoppers and e-retailers adequately. With a growing volume of e-commerce transactions and parcels crossing the borders worldwide, the question of operational efficiency of delivery services has become a priority action for UPU. In 2017, the UPU started to implement regional cooperation projects to coordinate and improve the quality of service through an integrated postal supply chain approach. The purpose of these projects is to help the designated postal operators (DOs) meet operational readiness targets for e-commerce within five focus areas:

- Minimum operational requirements
- Visibility
- Data quality
- Supply chain integration
- End-to-end reliability

At the heart of the programme lies a standard on-site assessment methodology known as Operational Readiness for E-commerce (ORE) coupled with an efficient use of IT standardized tools and end-to-end systems. By enhancing the end-to-end reliable delivery performance and providing consumers with more visibility, postal operators can contribute to the expansion of cross border e-commerce and achieve the main UPU 2020 goals: «Ensuring the operational readiness of Posts for seamless cross-border e-commerce».

Source: UPU

As a complement to postal distribution services, the Tuvalu Post adopted the What3Words¹³ in 2018. Though What3Words has its own consumer-facing mobile and web apps, it has increasingly licensed its technology to businesses and national postal delivery services, among others in Kiribati, Tonga, and Tuvalu in the Pacific and Mongolia in Asia (in 2018, Tuvalu was the ninth country in the world to adopt What3Words).

The adoption by Tuvalu Post of the What3Words addressing system as the national address standard brings strong potential in bridging the accessibility gap for postal service consumers (both citizens and businesses).

To benefit from the new addressing system and enable home deliveries for the first time, home and business owners in Tuvalu will be encouraged to discover their 3-word addresses via the What3Words website or free app and to add their 3-word address to their existing contact information. The availability of a physical addressing system was ranked as second most urgent priority measures to improve trade facilitation and increase e-commerce flows in the UNCTAD survey on e-commerce readiness (Figure 9).

3.2 Trade Facilitation Performance

The low volume of international trade in goods of Tuvalu has prevented the country from experiencing the bottlenecks at cross-border points of other Pacific Island nations. The private sector's main complaint regarding international trade pointed to unclear risk management procedures, leading to numerous parcels and cargo packages being opened by Customs authorities.

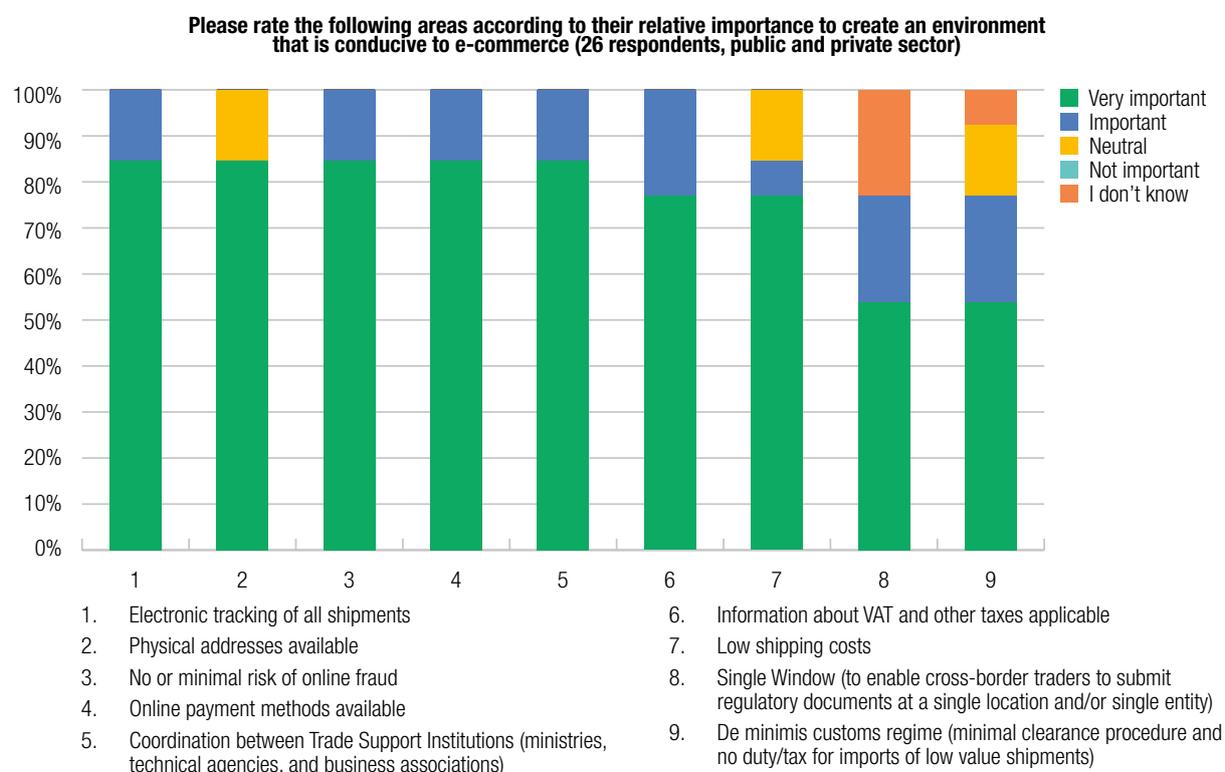
According to the Joint United Nations Regional Commissions Trade Facilitation and Paperless Trade Implementation Survey 2019¹⁴ prepared by UN/ESCAP, Tuvalu increased its overall implementation of trade facilitation measures from 10.98 per cent in 2017 to 40.86 per cent in 2019 (Figure 10). Its level of implementation is lower than the level of Asia Pacific but higher than the level of Pacific Islands Developing Economies (Figure 11). Among the five (5) core trade facilitation measures, the most implemented in Tuvalu are "Formalities" measures (54.1 per cent) and the least implemented are "Cross-border paperless trade" measures (22.2 per cent) (Figure 13). For "Paperless trade" (Figure 12) Tuvalu's implementation is lower than the regional average, but higher than the sub-regional average. Applications such as e-Single window, e-Application, and issuance of import and export permits, e- Certificates of Origin, and e-Application for Customs refunds have not been implemented.

¹³ What3words is a geocoding system that uses a grid of the world made up of 57 trillion squares of 3 meters by 3 meters for the communication of locations. What3words encodes geographic coordinates into three dictionary words; the encoding is permanently fixed. The addresses are available in 36 languages according to the what3words online map (as of April 2019). Postal operators in Mongolia, Kiribati, Tonga and Tuvalu have signed partnership agreements with What3Words (a private company registered in the UK).

¹⁴ See <https://unfcsurvey.org/economy?id=TUV>



Figure 9: Trade facilitation areas for e-commerce development in order of importance



Source: UNCTAD

Figure 10: Tuvalu's 2019 overall score on Trade Facilitation and Paperless Trade categories, compared to the same categories in 2017

2019 Trade facilitation score of 40.86%

Cross-Border Paperless Trader: 22.22%; Paperless Trader: 14.81%; Institutional Arrangement and Cooperation: 55.56%; Formalities: 54.17%; Transparency: 80%



2017 Trade facilitation score of 13.98%

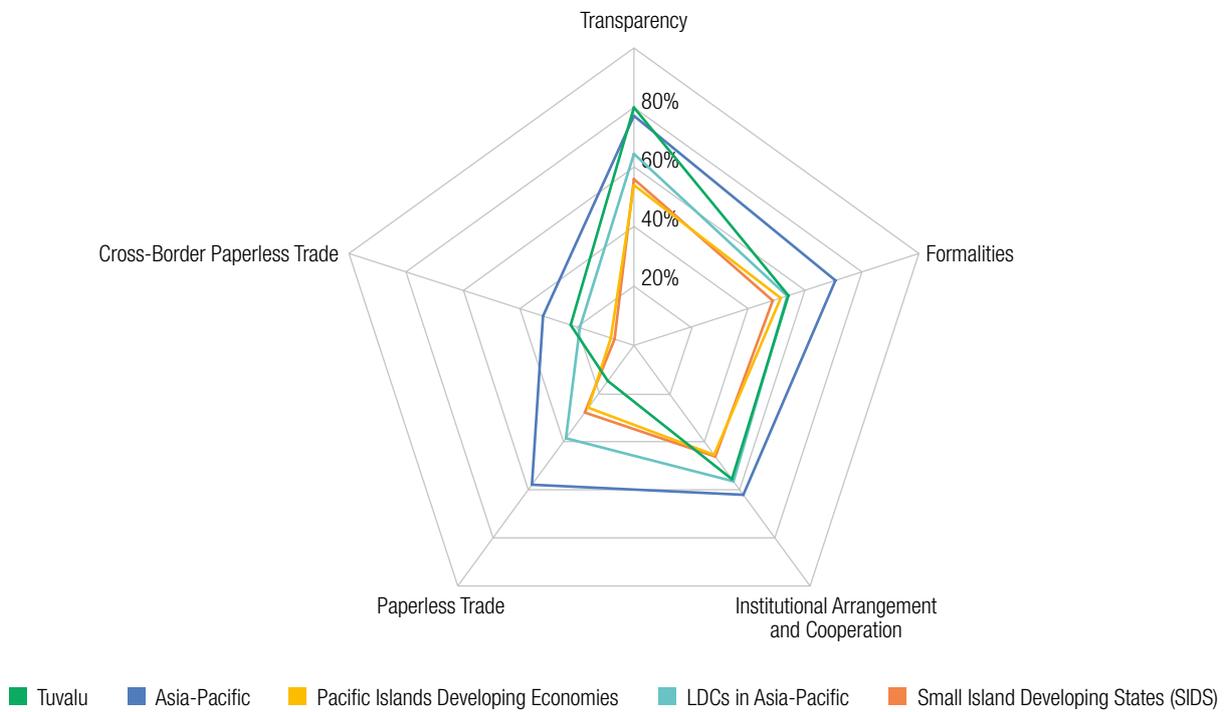
Cross-Border Paperless Trader: 0%; Paperless Trader: 0%; Institutional Arrangement and Cooperation: 55.56%; Formalities: 12.50%; Transparency: 33.33%



Source: UN Global Survey on Digital Trade and Sustainable Trade Facilitation, 2019

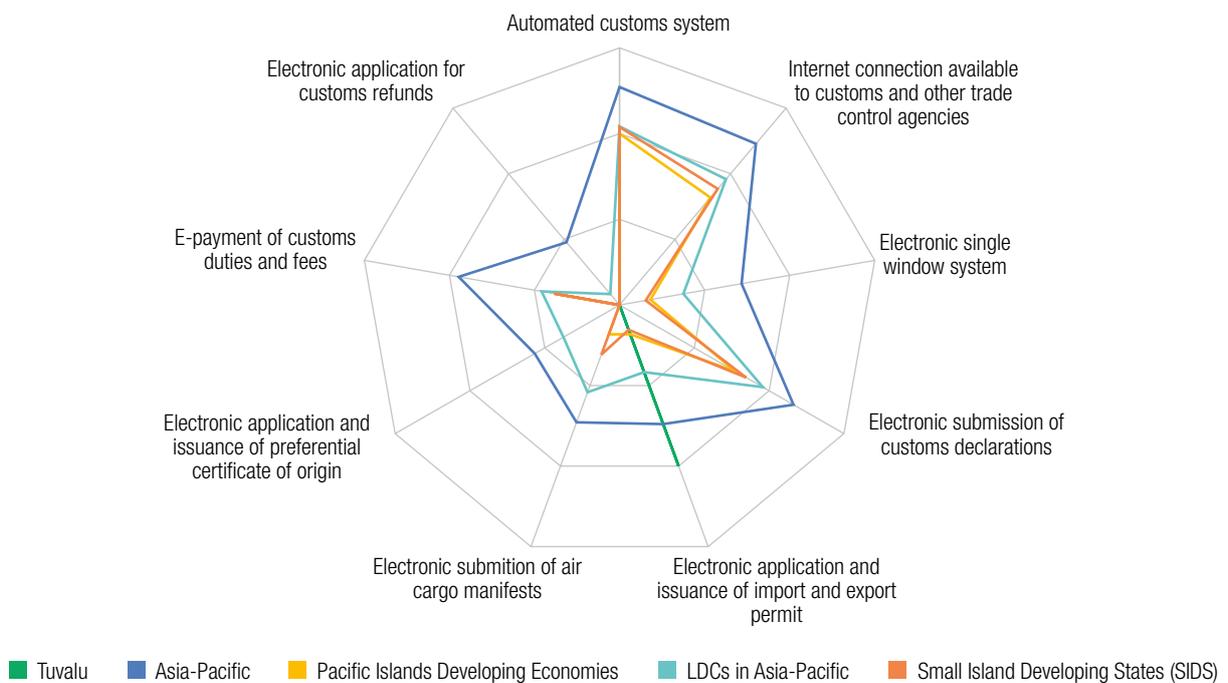


Figure 11: Tuvalu's overall score on Trade Facilitation and Paperless Trade categories, compared to other economies



Source: UN Global Survey on Digital Trade and Sustainable Trade Facilitation, 2019

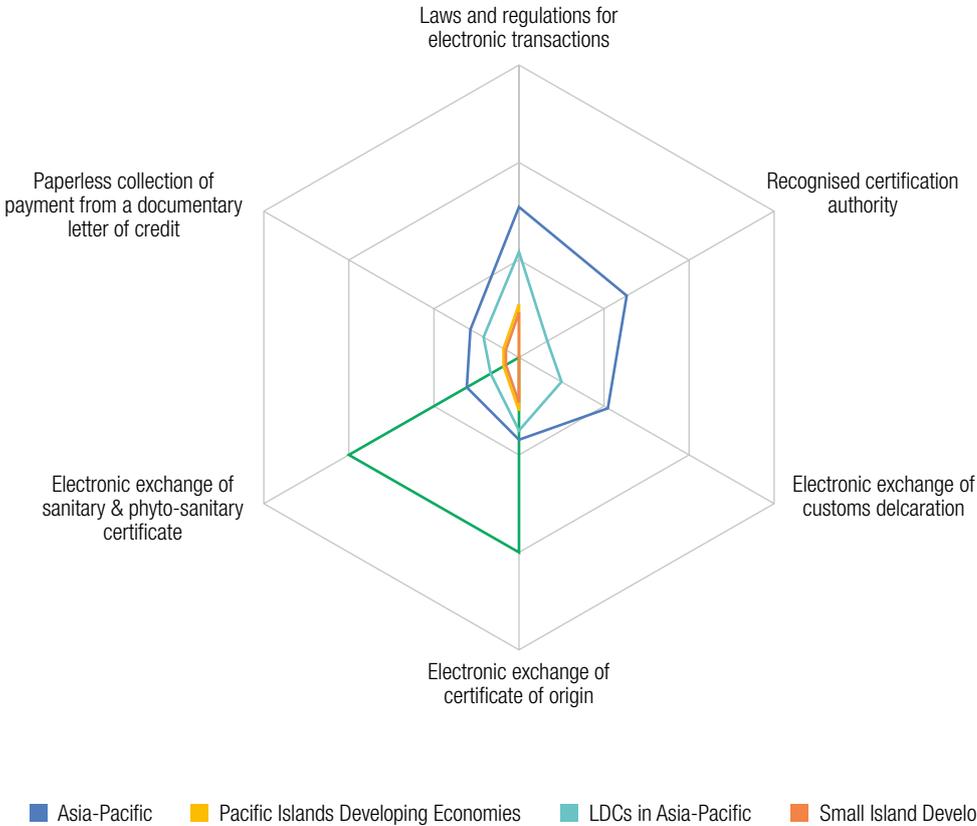
Figure 12: Tuvalu's score on paperless trade (2019)



Source: UN Global Survey on Digital Trade and Sustainable Trade Facilitation, 2019



Figure 13: Tuvalu's score on cross-border paperless trade (2019)



Source: UN Global Survey on Digital Trade and Sustainable Trade Facilitation, 2019



4. PAYMENT SOLUTIONS

Cash is the main means of payment used by businesses in Tuvalu. Private sector development is hampered by the weakness of the financial sector as well as by the absence of ATMs and credit card facilities. The few cross-border e-commerce transactions made by Tuvalu consumers and businesses are carried out using foreign banking systems.

During the consultations carried out for this assessment, private sector respondents cited four main reasons for the lack of payment solutions and, consequently, the slow development of e-commerce in Tuvalu. These are: (i) Cultural habits and customs; (ii) Legal and Regulatory factors; (iii) Trust and awareness; and (iv) Lack of interest and incentive by the National Bank of Tuvalu (NBT). Additionally, the number of depositors is limited, compared to that of peers in the region. The private sector has very limited information on international payment mechanisms, electronic and mobile payments, and thus, requires proper training and information on those.

Tuvalu residents and businesses maintaining bank accounts in Australia and New Zealand use foreign-issued credit cards to pay for purchases made online.

The GOT is committed to ensuring that the essential financial operations, including access to banking services, are improved in order to attract investment, create employment, and generate economic and social opportunities. Currently lacking, but of critical importance for the development of private sector, tourism and trade, are electronic banking capabilities, especially the use of credit cards and automated teller machines (ATM). The GOT embarked on an ambitious project introducing the ATM and EFTPOS in time for the 2019 Pacific Islands Forum Leaders Meeting, that took place in Funafuti, Tuvalu on August 12-16, 2019.

In the TKIII, the GOT has made the introduction of modern payment facilities in national banking and telecommunications systems a key priority. At the same time, the GOT continues to work on strengthening the operations of the Development Bank of Tuvalu (DBT) so that it will be in a position to provide trade finance and other services for private sector initiatives (see Chapter 7 on access to finance). In doing so, the GOT can then address the priorities, based on the interviews conducted as part of the eTrade readiness assessment and listed in Figure 14.

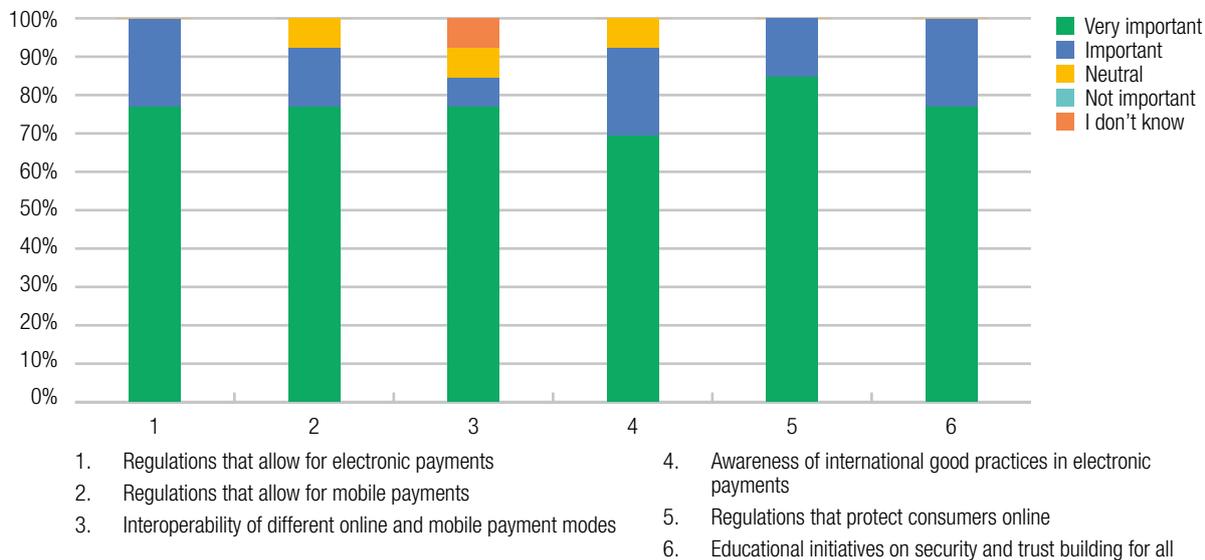
4.1 Banking penetration

At present, the National Bank of Tuvalu (NBT) is the sole provider of banking services related to taking deposits, making loans, and engaging in foreign exchange transactions. There is no central monetary institution or central bank in Tuvalu. The NBT performs some monetary functions for the government, including holding government accounts and foreign assets. The Tuvaluan dollar used in the country is not an independent currency, but a variation of the Australian dollar. In 1976, Tuvalu began issuing its own coins for circulation, although these are circulated alongside Australian coins and citizens continue to use Australian banknotes.



Figure 14: Most important payment regulations for e-commerce

Please rate the following areas according to their relative importance to create an environment that is conducive to e-commerce (22 respondents, public and private sector)



Source: UNCTAD



5. LEGAL AND REGULATORY FRAMEWORKS

No legal framework currently exists for electronic transactions, data protection and online consumer protection. The development of an enabling legal framework for e-commerce laws is considered as crucial by stakeholders interviewed for this assessment. Efforts will need to be made for developing the necessary skills in-country while using best practices on international trade law, as promoted by UNCITRAL and UNCTAD.

In 2019, only the law addressing cybercrime has been drafted, with plans to develop a Consumer Act soon. However, the main legislation supporting the nascent digital economy are the Tuvalu Telecommunications Act (1993) and the National ICT Policy (being drafted). The Ministry of Communications and Transport (MCT) is responsible for the development of the National ICT policy but has very limited capacity. A preliminary ICT policy document has been prepared and will hopefully be finalized in 2019. A small unit within MCT will be established specifically to focus on ICT sector oversight. The Foreign Investment Act (2008) will be revised soon and includes provisions for intellectual property and consumer protection. The enforcement of all these laws remains weak due to limited institutional capacity.

Both public and private sector concurred on the importance of preventing cybercrimes and increasing protection of online consumers (Figure 15). A consensus exists on the importance of data privacy protection, as a means to boost confidence of consumers in an online environment.

A certain level of harmonization of e-commerce laws exists in the Pacific. For instance, all Pacific States that have adopted laws on electronic transactions have done so on the basis of UNCITRAL texts (though at different times and therefore with slightly different models). Moreover, large trading partners have adopted the Comprehensive and Progressive Trans-Pacific Partnership, whose Chapter 14 on e-commerce contains several legal and regulatory principles. It

seems wise to recommend the adoption based on uniform texts and best international standards that would facilitate the integration of Tuvalu in the regional digital economy.

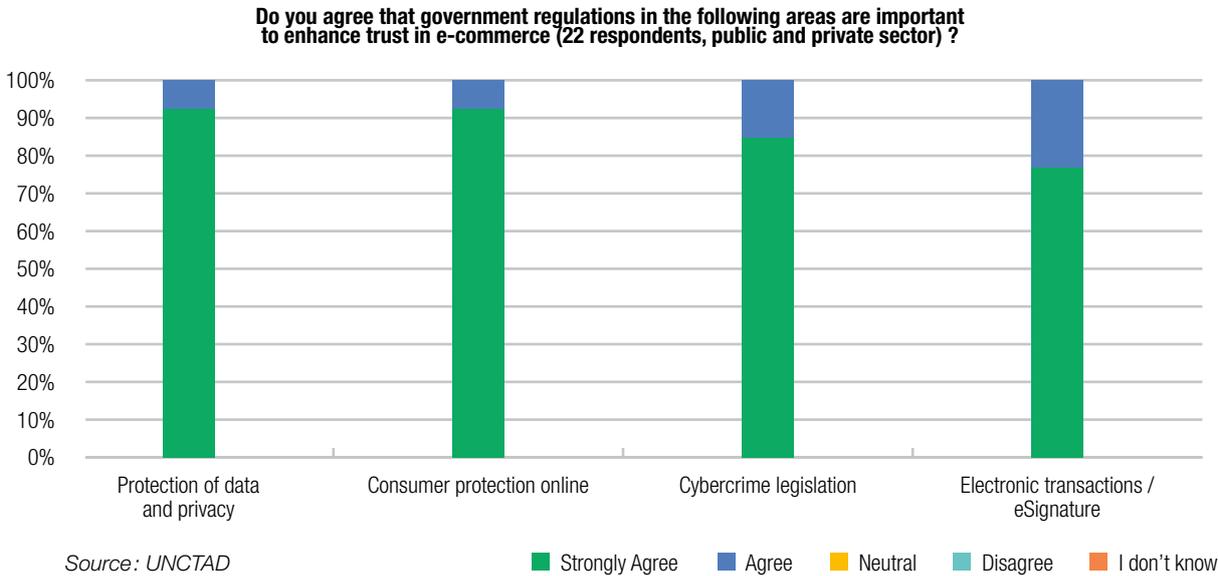
Thanks to UNCTAD's technical assistance, and in compliance with its transparency commitment under the PACER+ Agreement, the GOT is putting all Tuvalu laws in a digital format, in addition to the detailed description of few import and export procedures.

In terms of creating an enabling legal environment to support the proposed reforms and investments in the ICT sector, the Public Enterprises Act (2009) could provide the basis for converting Tuvalu Telecommunications Corporation (TTC) into a PPP while the Protected Industries Act (2008) authorizes the Government to provide TTC with exclusivity for a specified period of time. The Foreign Direct Investment Act (2008) requires ministerial approval for qualifying foreign investments, including the type of PPP envisaged between the Government and a private sector partner for TTC to manage the submarine cable investment.

The World Bank-funded Tuvalu Telecommunications and ICT Development Project (TvICT) will support ICT policy and legislation reform focusing on the enabling environment for service providers and institutional development of the Ministry of Communications and Transport (MCT) to enable them to develop the necessary policy skills they may need in the future.



Figure 15: Most important laws and regulations for e-commerce



6. E-COMMERCE SKILLS DEVELOPMENT

Tuvalu's ICT sector is characterized by limited business, marketing, and service delivery competencies, low international and national ICT capacity, very small size and at the retail end affordability and quality of services issues. The GOT has made Information Technology (IT) and ICT skills a priority in the TKIII, and so has the ministry in charge of trade in the Tuvalu Private Sector Development Plan (TPSDP). ICT skills development, particularly for government officials, has also been prioritized in TvICT.

Relevant ICT knowledge and skills gaps constitute one of the main barriers to the adoption of e-commerce and broader use of ICT for business. For most private sector stakeholders, the eTrade readiness assessment was the first time they had heard about e-commerce or had even been able to have a constructive dialogue on e-commerce with Government officials, as the level of understanding is very low and still in its early stages.

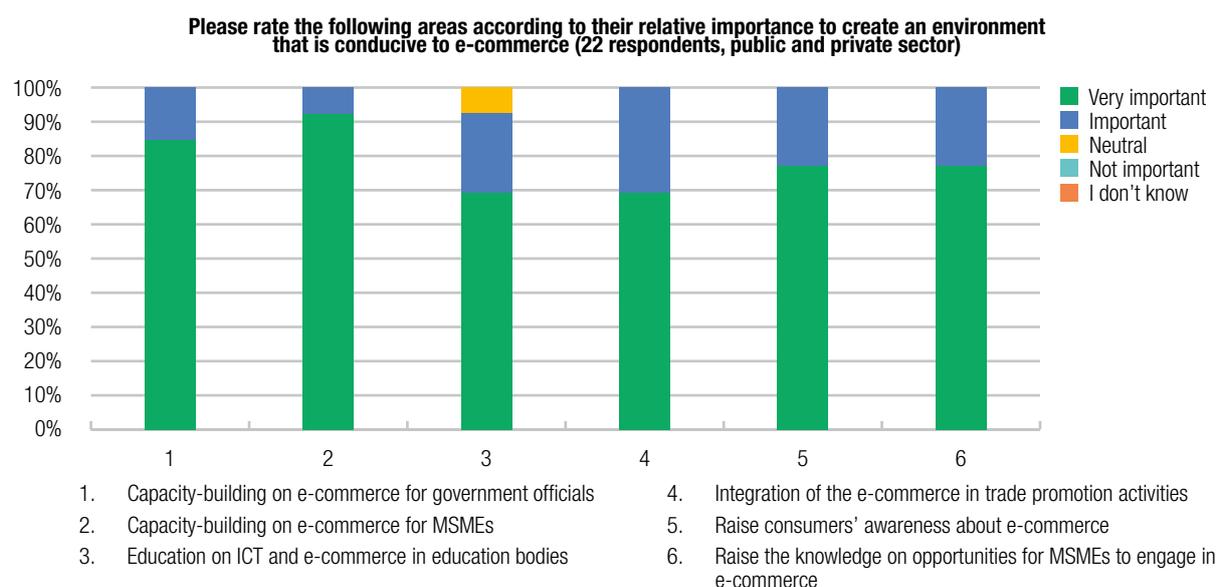
6.1 Identification of skills' gaps

The GOT has prioritized education in the TKIII, with ICT education featuring prominently in Strategic Areas 6 on "Private Sector, Employment, and Trade" and 7 on "Education and Human Resources." The former aims to increase business skills and awareness and includes entrepreneur training program, with a priority given to youth and women to equip them with knowledge and skills to become more self-reliant. The Programme includes activities that encourage the development and implementation of the ICT in Education Strategy and Policy and an eLearning pilot system finalized and ready to be rolled out.

In the TPSDP, the move to increase use and adoption of IT and ICT by local businesses is most timely considering the upgrading of the national telecommunication system to include marine fiber optics cable. For the TPSDP, "connectivity and computerization have a lot of advantages including the speedy transmission of information and the automation of business procedures and operations making for greater efficiency and reduces considerably the risk of human error." Intensive training in IT and ICT will be needed to enable business personnel to gain literacy in technology and to be able to operate ICT equipment on a daily basis.

The general lack of skills and knowledge of ICT, and of e-commerce in particular, is confirmed by both public and private stakeholders interviewed in the framework of this assessment. Both business and government officials believe they are not adequately equipped to handle today's ICT technologies and are therefore less prone to invest in the use of ICT technology (Figure 16).

Figure 16: Most important capacity-building needs for e-commerce adoption



Source: UNCTAD



6.2 Women in ICT

Given the structure of the Tuvalu economy, with a majority of the male workforce employed on-board OR aboard merchant ships or as seasonal workers in Australia and New Zealand, sensitivity to gender equality is very present in all aspects of life. This has translated into the establishment within the Prime Minister's Office of a Gender Affairs and Culture Department and the creation of the Tuvalu National Council of Women. The latter, through the action of the department, has led TTC to establish a 'Women's Champion' to foster women's access to and benefits from telecommunications and ICT services. Moreover, the new department asked that the ICT Department create a trading website that could be used by women to trade their products online. Gender development and awareness raising programmes are regular features on Radio Tuvalu.

To give substance to the gender-friendly approach of the GOT, the World Bank, through its work with the Gender Affairs Department, will establish programs in this next programming cycle to encourage equality of opportunity for skills development in and access to careers in ICT for all members of the Tuvalu society. Such activities could be modelled after similar advocacy programs in Vanuatu linked to the ITU's "International Girls in ICT Day" (See Vanuatu Rapid eTrade Readiness Assessment Report, prepared by UNCTAD in 2018).

6.3 Availability of ICT tertiary education and professional training

Tuvalu relies upon universities and institutes in Fiji, Australia, and New Zealand to facilitate higher education studies for its students. These include the Fiji Institute of Technology, Fiji National University and the University of South Pacific, among others. There are no technology institutes in Tuvalu. The strategic priority of labour mobility by the Government of Tuvalu has led to a high dependency on international markets for employment, raising considerations for skills-development geared towards the local market. However, given the paucity of opportunities nationally, both within the government and the private sector, this will continue to be an issue in the long-term that will have to be addressed.

At the local level, some basic ICT certificates and online courses are available through the local antenna of the University of the South Pacific (see Box 5). In the long run, it is hoped that business associations and support organizations such as TNPSO, and the MFATTEL Business Centre can help facilitate ICT and e-commerce training for businesses. Most likely, the training will initially rely on foreign expertise, until a local knowledge base becomes available.

6.4 Business incubators and business accelerators

The limited number and competencies of the workforce places limitations on the breadth and depth of ICT related work. The TKIII proposes the establishment of incubators for original ideas contextualized in the development and market requirements of Tuvalu (see Box 6). The Ministry of Finance is designated to be the nodal public sector agency for any incubation model, assisted by the Chamber of Commerce and TNPSO.

At the regional level, Pacific Trade and Invest (PTI) is a primary source of information and support. PTI is an agency of the Pacific Islands Forum Secretariat (PIFS). It works directly with the private sector to develop, grow, and promote business in the region. Its main mission is to introduce exporters to buyers, investees to investors, focusing on trade facilitation, investment facilitation, and tourism promotion.

Additionally, the GOT could look at best practices from Samoa and Vanuatu in attracting the type of ICT-related support from private sector-led ventures, such as Pacific Trade Invest or Real Impact. Positive experiences in other islands with enhancing ICT skills were made possible thanks to the extra bandwidth provided by investments in submarine cables. In Samoa and Vanuatu, the USP was able to increase the number of e-learning options, including to students in outer islands.

A first step could be to map the existing ICT capacity available to the population, identify a few priority capacity development areas – website development, content development, content management, integration of APIs – and ensure that investments in enhanced skills and knowledge would lead to greater capacity being retained in Tuvalu or to convince overseas Tuvaluans to return (Box 6).



Box 5: University of the South Pacific Satellite Communication Network

Barriers to broader access to ICT networks include: (i) high capital and recurrent costs associated with developing and maintaining university networks, particularly given the small size of post-secondary institutions in the Pacific; and (ii) lack of institutional arrangements to support shared access. The current distribution of access, paired with public financing for selected education institutions, has also raised questions surrounding the equity of financing and distribution of resources.

The University of the South Pacific (USP) was the first higher education institution in the region to establish its own satellite communication network (USPNet). The network connects USP's campuses across its twelve member countries (including Tuvalu), and benefits from exclusive access to Australia's Academic and Research Network. USPNet started as a regional network to support the university in delivering education services to its member countries and campuses. In its first iteration, it supported USP's governance, administration, human resource management, financial services, teaching and learning, and research. In recent years, USPNet has expanded to serve more than its original educational services mandate. It now provides network services to support regional agencies in addressing issues pertaining to cybersecurity, climate change, and disaster management. Although USPNet provides access for regional organizations to support these functions, currently, it only shares access with a select few educational institutions.

USP is seeking to create and host a knowledge hub for the Pacific. One possible method for accelerating this process is to review the structure of USPNet to open access for other post-secondary education providers. Doing so may prevent costly and unsustainable duplication of efforts to establish parallel ICT networks and increase the number and quality of learning opportunities for students in the region. Stakeholders in the region may explore the option of establishing USPNet as an independent entity, with an autonomous business and governance model. As a separate entity, USPNet could also consider options for expanding services to all post-secondary education institutions in the region. This arrangement may help USPNet access additional financing to support expanded functionality. Implementing these changes would require increasingly transparent governance and management structures to support better planning, expansion, and accountability of the network.

Note: The University of the South Pacific is the premier institution of higher learning for the Pacific region. Established in 1968, USP is one of only two universities of its type in the world. It is jointly owned by the governments of its twelve (12) member countries: Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Samoa. The University has campuses in all member countries.

Source: USP website, ADB website accessed in March 2019

Box 6: GOT investment in business incubators

The TKIII, the country's National Sustainable Development Plan 2016-2020, proposes to invest in incubators for business development. It further notes that "such incubators will approximate business startup incubators commonly found in developed countries but lacking the vast array of technical expertise from a nearly unlimited stock of business knowledge at their immediate disposal."

A Tuvalu specific business incubator model would mimic classic start-up incubators but would focus only on original business proposals that show some practical application (and promise) of future returns on start-up investment. Start-up capital could be provided directly by the Ministry of Finance (but not through DBT), aid donors, or both. To receive start-up capital, proposed business ventures would have to meet strict requirements – much stricter than the DBT loan criteria – and require only paying investment returns if the business startup is successful over time. GOT would absorb the investment risk, as would aid donors, performing the same function as venture capitalists, with no guarantee of start-up success, only the promise of it based on the business model proposed." The Ministry of Finance will be the responsible government agency, assisted by the Chamber of Commerce and the TNPSO.

Source: TKIII, page 31



7. ACCESS TO FINANCING

Access to affordable finance, particularly for outer island rural communities, remains a considerable challenge. The Tuvalu banking system is not well positioned to fully cater to the needs of the private sector through business lending. The government recognizes that the agenda of financial inclusion must form an important component of an inclusive and sustainable development in Tuvalu.

On the demand-side, entrepreneurs lack the necessary skills to run business operations in the private sector. Cash management, budgeting, marketing, or sales skills are largely missing in Tuvalu. Entrepreneurial intuition is also scarce. Arguably, entrepreneurial skills, such as accountancy and loan management, are often nurtured from how people manage their lives. It could be therefore a cultural phenomenon more than a business one. Consequently, the business community lacks the entrepreneurial and managerial skills to run businesses profitably and meet their liabilities. The communal lifestyle sees social obligations take precedent over the settlement of business loans, hence business life is often short-lived for many. The few businesses currently running do so because they are able to manage their social obligations and keep their financiers satisfied by regularly servicing their loans.

7.1 Financing by banks and Micro Finance Institutions (MFIs)

There are three (3) financial institutions in Tuvalu - the National Bank of Tuvalu (NBT), the Development Bank of Tuvalu (DBT), and the Tuvalu National Provident Fund (TNPF). The NBT and DBT are fully owned by the government and operate as State-Owned Enterprises (SOEs).

The National Bank of Tuvalu (NBT) was established to provide commercial banking services in Tuvalu and is the country's only commercial bank. It currently has a portfolio of 5,000 clients, A\$ 30 million in deposits, A\$ 14 million in loans, and A\$ 4 million in overdue loan repayments. The NBT provides mainly personal loans. In recent times however, the bank has decided to strengthen its capacity in business lending, noting the additional services offered by DBT. It charges 9.5 per cent interest rate for business and personal loans and, like DBT, it uses clients' funds at the TNPF as its primary source of collateral. The bank is also closely linked to the government and the SOEs as their banker and source of borrowing. The bank is required to hold a significant amount of liquid assets to mitigate the

potential withdrawal of government deposits, which has further constrained its lending capacity to the business sector.

The NBT posted a profit in 2017 and appears to have adequate capital but faces elevated credit risk. NBT lending is constrained by high level of non-performing loans (NPLs) and insufficient risk management due to an inadequate supervisory framework. NPLs constitute 41 per cent of its total loans. The absence of bankruptcy laws undermines NPL write-off, while a weak credit culture further dampens the bank's willingness to lend. Due to high NPLs, the bank has steadily slowed its lending since 2011 and increased deposits in overseas banks.

The NBT has however continued to strengthen its compliance with the Anti-Money Laundering and Counter-Terrorism Financing Act (AML/CTF) by issuing identification cards to customers to comply with Know-Your-Customer (KYC) requirements in foreign transactions.

The Development Bank of Tuvalu (DBT) was established in the early 1990s and provides business loans for the following activities: agriculture and livestock, fishing and marine based activities, transportation, housing, tourism, and commerce (e.g., retail operations). The average interest rates charged by DBT range between 9-15 per cent over the past few years, which is relatively high relative to other Pacific Island countries. DBT currently charges nine per cent interest rate for business loans and aims to reduce this further to between five and six percent to attract more businesses. The DBT has not received a government grant since 2013, which used to amount to A\$ 750,000 annually.

The current portfolio of business loans held by DBT amounts to A\$ 800,000, deposits of A\$ 1 million, and bad loans equivalent to A\$ 5 million. The significant portfolio of bad loans, compounded by the lack of the government grant that was previously provided to DBT, has led to significant financial hardships for the



institution to the extent that DBT has been compelled to encroach on the areas previously serviced by NBT. Ideally, the DBT should be playing a lead role in facilitating lending to prospective entrepreneurs. However, it has not effectively fulfilled this role as it is currently struggling to sustain its operations.

The Tuvalu National Provident Fund (TNPF) is the third financial institution, whose capital is more than five times the combined capital of NBT and DBT. It lends to its members for home construction and loans from members' collateral of their TNPF account. The TNPF expanded member loans to 18 per cent of GDP, amid the banking sector's constrained lending. The pension fund appears sound, given low NPLs and a strong capital position. This is partly due to the recourse nature of its lending, with the fund holding seniority over the other two banks in collecting the collateral—the borrower's pension contribution.

Indeed, the main form of collateral taken by the two major banks in Tuvalu (DBT and NBT) is a guarantee against members' funds held at the TNPF. A borrower can borrow up to 40 per cent of the value of funds they have at the TNPF. Other traditional forms of collateral such as land and houses are not used by the banks due to the complex land tenure system whereby land cannot be bought or sold in Tuvalu.

In terms of building capacities, there is also an urgent need to put in place proper business training courses for interested entrepreneurs as a precondition for securing loans from banks. While (USP) offers formal qualifications, there is scope for the two banks to partner with civil society organizations such as the National Council of Women and the Tuvalu Association of NGOs, who already provide some training in this area and have been successful in training women to start businesses on a small scale.

In the long run, attention should also be paid to specific capacity-building needs identified as priorities by the private sector (Figure 17).

7.2 Support by incubators, venture capitalists, and donors

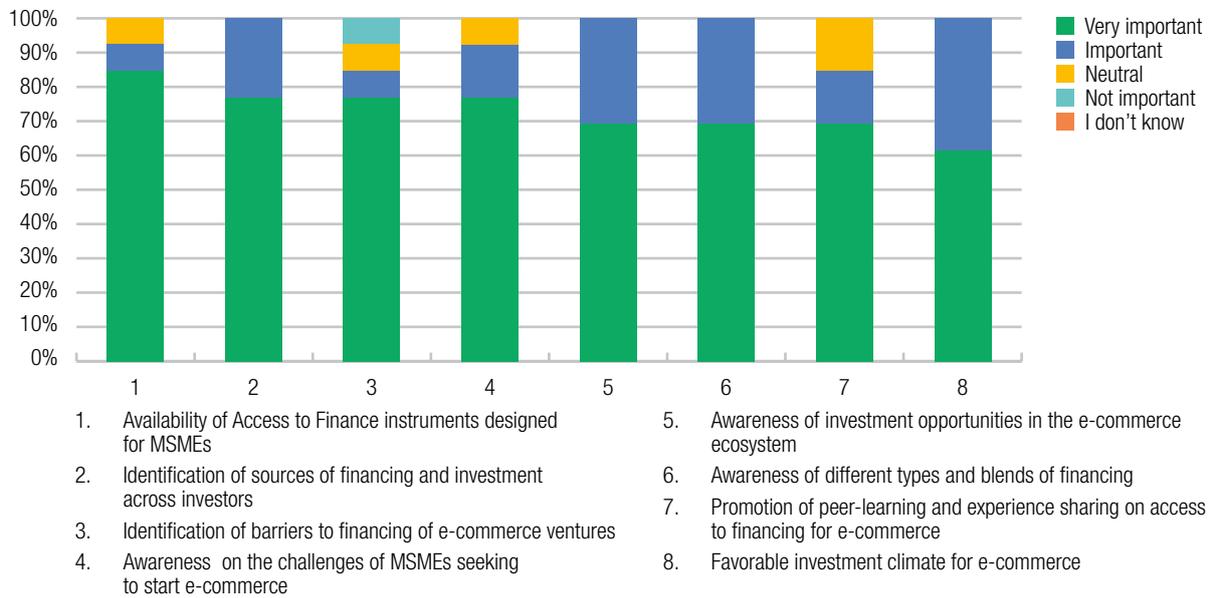
Presently, there are no venture capitalists or angel investors targeting Tuvalu. However, to promote private sector development, the GOT, in the TKIII, proposed some innovative measures such as the “introduction of modern, accessible, and lower-cost financial services (on loans, exchange rates), a realistic national export strategy, and more support for private sector initiatives such as the development of ‘incubators’ using aid-funded external and, importantly, sustained technical assistance (3-5 years) for business development, and on management and financial expertise.”

Another opportunity worth pursuing is the participation of Tuvalu entrepreneurs in initiatives such as those developed by the Pacific Financial Inclusion Programme (PFIP). An example is the Pacific -ASEAN Financial Innovation Challenge, a partnership with the United Nations Capital Development Fund (UNCDF) Financial Innovation Lab. The PFIP is working with financial service providers to create better, cheaper, and safer financial services. The Pacific-ASEAN Financial Innovation Challenge provides a platform for innovators from the Pacific as well as those from Malaysia and Singapore, to develop their ideas into practical solutions for UNCDF, PFIP, and their implementing partners. The Challenge also provides an opportunity to connect innovators from ASEAN and Pacific countries, thereby creating a network of digital innovators in both regions. The participating innovators will work closely with UNCDF, PFIP, and implementing partners in the Pacific to design, modify, and test their solutions to address the specific use-cases put forward by the Challenge.



Figure 17: Most important awareness-raising needs for e-commerce adoption

Please score the following areas according to their relative importance to create an environment that is conducive to e-commerce (26 respondents, public and private sector).



Source: UNCTAD



CONCLUSION

Tuvalu faces relatively higher barriers for the growth of its digital economy relative to other Pacific Island countries (see eTReady of Solomon Islands, Samoa and Vanuatu)¹⁵. Apart from geographical challenges of being remote and isolated from global markets, the small population reduces the potential to develop a market-driven ICT infrastructure, hindering the development of a mature e-commerce ecosystem via private sector investments. Moreover, low levels of human capital and productive capacities, high levels of economic vulnerability, and lack of economies of scale act as additional barriers to business and e-business development. On the other hand, the country can count on its popular domain name, which generates revenues equivalent to around one-third of the country's exports.

Tuvalu residents and businesses face significant challenges in accessing affordable and quality Internet and mobile services. Substantial investments are to be made to improve the ICT infrastructure in Funafuti and the outer islands as a key step towards improving connectivity and creating a conducive environment for businesses and trade. This is a sine qua non condition for e-commerce to start.

Because of the ongoing upgrade of fibre-optic cable connectivity, the general public and businesses in Tuvalu will have access to faster and potentially cheaper Internet services. The country is progressing towards more reliable connectivity in the outer islands through the installation of solar-powered facilities to secure better power supply. The outer islands may also benefit from increased speed of their existing connections due to the transfer of Funafuti onto the fibre-optic cable network. Yet, it remains uncertain how the private sector will benefit from the extra bandwidth, and whether cheaper Internet will enable the development of other applications such as e-health and e-education. Nonetheless, e-commerce offers great economic potential since it would allow businesses and producers to export and access foreign markets by connecting businesses to customers directly, eliminating the cost of intermediaries, such as importers and retailers. Tuvaluan products have a very good reputation and are well appreciated by the other

Pacific Islands, and overseas Tuvaluans Products made in Tuvalu could be easily sold online.

Tuvalu's e-commerce ecosystem is nascent, yet the combination of government efforts, public investments in ICT infrastructure, and donors' willingness to invest in much needed hard and soft capacities should constitute an adequate foundation. The Government of Tuvalu needs to enhance and accelerate the reforms and upgrade its regulatory regimes to be able to, one day, harness the potential derived from the digital revolution that other economies in the region have started to enjoy.

E-commerce adoption by the small business community in Tuvalu will require confidence and trust in electronic payment solutions, increase understanding of the transformation the Internet has brought in everyday life, and break away from certain customs and habits. Similarly, in order to invest in ICT solutions towards moving to online solutions later, the three financial institutions and the Government of Tuvalu must work hand in hand to ensure that financing gaps are bridged. This also means that business associations must obtain the necessary skills, knowledge, and the right attitude towards business and e-commerce development.

Massive awareness-raising and training efforts will be needed in the coming months and years to (1) promote the use of IT and ICT in businesses and (2) increase knowledge and confidence in doing transactions online. This should not only target businesses through representative associations, but also make use of communities so that culturally ingrained beliefs can be overcome to facilitate economic inclusivity, especially for the youth and women-owned businesses.

Last but not the least, investment in a submarine cable, setting up a PPP, and accelerating legal and regulatory reforms in the ICT sector will be a game changer for Tuvalu. However, the level of readiness and preparedness to ensure productive use of the extra capacity remains to be seen. The GOT should carefully study the experience of other PICs, such as Solomon Islands, Marshall Islands, and Samoa in the time remaining until the PPP has been formed.

¹⁵ See : <https://unctad.org/en/Pages/Publications/E-Trade-Readiness-Assessment.aspx>



THE WAY FORWARD: ACTION MATRIX

E-COMMERCE READINESS ASSESSMENT AND STRATEGY FORMULATION			
Indicative action	Expected outputs	Priority Level	Potential support by
Facilitate a sustained multi-stakeholder dialogue regarding national ICT and e-commerce issues by developing a single sector coordination mechanism preceded by a capacity assessment exercise aimed at defining individual agencies' and SOE's mandates on ICT and e-commerce.	Individual agencies contribute to the formulation and, later, implementation of the country's e-commerce strategy by ensuring that their contributions/mandate on e-commerce do not overlap with other agencies' efforts.	High	MFED, MFATTEL, MCT, TTC, World Bank
Develop a national strategy and policy for e-commerce development as part of the current efforts to take advantage of the ICT sector growth and needs. Identify sectors that could benefit from e-commerce development. Ensure the formulation is inclusive and paired with awareness raising and education on e-commerce.	A vision for a Digital Tuvalu is adhered to by all segments of population in favour of an uptake of domestic and cross-border e-commerce, in line with the GOT TKIII and TPSDP.	Medium	MFED, MFATTEL, MCT, TTC, TNPSO, Business Centre, UNCTAD Australia, World Bank
Identify a "champion" agency in the GOT to lead the Government's e-commerce agenda, in partnership with business associations.	The development of e-commerce and efforts to diversify the economy and foreign trade are done in concert and reinforce each other, avoiding unnecessary overlaps.	Medium	MFED, MFATTEL, MCT, TNPSO, Business Centre
Increase the capacity of the Business Centre, the TNPSO and the Chamber of Commerce to play an advisory role in the business community to promote e-commerce adoption and use of ICT services.	The business community has a single easily accessible reference point for every question and needs related to digitization and e-commerce.	Medium	MFATTEL, MFED, TTC, TNPSO, Business Centre, Australia
Tuvalu to participate in the World Bank's Doing Business assessment and to consider membership in the IFC to broaden private sector growth.	The business environment is improved and access to pertinent data on doing business becomes available. Private sector development bottlenecks become visible for informed policymaking.	Medium	MFATTEL, MFED, TNPSO, Business Centre, World Bank
Update of the national tourism strategy 2015-19 to include an ambitious e-tourism campaign, to develop new sources of revenue (e.g., cruise ships for eco-tourism, tour guides, etc.). The PACER Plus that is to be ratified by the government can support export product development and make funding available for this purpose.	Boost ICT and data-hungry tourism, increase employment in services sectors, increase visibility and differentiation of Tuvalu as a tourism destination.	Low	MFATTEL, MFED, TNPSO, Business Centre, ITC, UN-WTO

ICT INFRASTRUCTURE AND SERVICES			
Indicative action	Expected outputs	Priority Level	Potential support by
Finalize the development of a national ICT strategy that should include the broader digital economy and linked cross-functional themes including entrepreneurship and skills-development.	Help to galvanize national focus on ICT and allocation of precious resources where they are needed.	High	MCT, TTC, World Bank



ICT INFRASTRUCTURE AND SERVICES			
Indicative action	Expected outputs	Priority Level	Potential support by
Broaden and accelerate discussions on the setup of the PPP. Benefits from the submarine cable investments for GOT, businesses, and citizens.	Population is aware of the investment being made by the Government and the proposed PPP. Businesses are able to influence the business case for the cable and pricing structure of the access to broadband in order for the private sector to use the extra bandwidth when available.	Medium	MFED, MCT, TTC, World Bank, ADB
Ensure that larger segments of population outside Funafuti have access to fast, reliable mobile broadband (3G and then 4G).	Stable mobile broadband connection is available for all populated areas in Tuvalu, business use of ICT applications increases.	Medium	MFED, MCT, TTC, World Bank
Initiate e-government / digital Government applications as pilots.	Government is taking the lead in adoption of ICT tools by providing G2B or G2C applications, to be enhanced and scaled up with the capacity provided by the submarine cable.	Medium	MFED, MCT, World Bank

TRADE LOGISTICS AND TRADE FACILITATION			
Indicative action	Expected outputs	Priority Level	Potential support by:
Address membership issues with UPU to reinstate bilateral assistance to Tuvalu Post and progress in the review of ORE implementation.	The operational capability of Tuvalu Post to support e-commerce and ensure operational efficiency of the postal network to facilitate e-commerce inclusion is strengthened.	High	TP, MFED, UPU
Accelerate readiness of Tuvalu officials on cross-border paperless trade through the country's participation in the UNESCAP Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific.	Relevant agencies obtain support to accelerate implementation of cross-border paperless trade measures.	Medium	Customs Department, MFATTEL, MFED, TNPSO, Business Centre, TP, UNESCAP
Review cost structure, laws and practices of doing business in Tuvalu. Submit findings of costs of doing business to the Government.	Government is able to assign much needed resources to reform areas on the basis of evidence-based research.	Medium	TMPSO, PIPSO, TNPSO, Business Centre, World Bank
Develop an open national physical address system to homes, institutions and businesses to facilitate trade and logistical support for a modern postal system. This could also take the form of better communication on the What3Word mapping service Tuvalu Post is benefiting from.	The increased and improved "findability" of addresses in Tuvalu lead to more suitable delivery services being developed, including for e-commerce parcels drop-off and pick-up.	Low	TP, TNPSO, UPU



PAYMENT SOLUTIONS			
Indicative action	Expected outputs	Priority Level	Potential support by:
Detailed study/ies to be undertaken on possible introduction of credit card/ATM facilities as well as e-commerce arrangements based on the experience gathered during the PIFS Leader Summit in August 2019.	Potential for further investment in ICT capacity, training and awareness and risk management is detailed and lead to better decision-making by GOT and NBT.	High	MFED/PERMU, NBT, TTC, MFATTEL, UNCDF, PFIP, ADB
Promote enabling regulatory environments by encouraging cross-regulatory cooperation on payment, Payment Systems Act, interoperability between NBT and TTC for users.	Interoperability of electronic payment platforms between providers is possible and generates savings for NBT, TTC and users.	Medium	MFED, NBT, TTC, ADB
In collaboration with banks, launch a countrywide awareness building campaign to make citizens and businesses aware of the risks, benefits of using ATM, debit cards, mobile money, as well as online banking options.	Increased awareness of population about the benefits and dangers of using mobile money leads to increased trust and confidence in products provided by NBT and TTC in the future.	Medium	MFED, NBT, TTC, TNPSO, Business Centre, UNCDF
Dedicated awareness raising programmes, moving from a cost approach to an investment approach, with a special focus on the tourism and retail sector.	Increased confidence of merchants to accept electronic payments beyond the PIFS Leader Summit pilot.	Medium	MFATTEL, TNPSO, Business Centre, ADB, UNCDF
Support integration of payment system for hotel, lodges and guesthouses to accept bookings from overseas.	Increased revenue streams for local accommodation providers and increased visibility of lodging options for visitors.	Low	MFATTEL, MFED, NBT, TNPSO, Business Centre, ITC, PIPSO

LEGAL AND REGULATORY FRAMEWORK			
Indicative action	Expected outputs	Priority Level	Potential support by:
Carry out a regulatory gap analysis on e-commerce in order to assess needs to update and/or upgrade key laws (e-transactions, consumer protection as priorities, cybercrime and privacy).	Prioritize acts and regulations (formulation or update) needed for creating a robust e-commerce ecosystem (possibly focusing on consumer protection).	Medium	MFATTEL, MCT, UNCITRAL, UNCTAD
Ensure international best practices are used to develop e-commerce friendly laws and/or regulations, by participating in regional initiatives and seeking assistance from relevant UN agencies.	Tuvalu businesses and Government entities are able to transact and trade with foreign companies and Government through electronic means.	Low	UNCTAD, UNCITRAL, MFATTEL



E-COMMERCE SKILLS DEVELOPMENT			
Indicative action	Expected outputs	Priority Level	Potential support by:
Incorporate basic digital skills into the national curriculum beginning in secondary school.	Better preparation of future citizens, consumers and users about the benefits and pitfalls of the digital economy, better inclusion in professional life.	High	MEYS, TANGO, UNICEF
Disseminate information on the Tuvalu trade portal, prepare next phase of the portal to include options for online registration and listing of main businesses in Tuvalu.	Business and potential investors have easy access to information on doing business in Tuvalu, especially for foreign trade and FDI.	Medium	MFATTEL, MFED, TNPSO, Business Centre, UNCTAD, New Zealand
Organize series of training and coaching sessions on Internet for businesses, e.g. hands-on training for small businesses on how to move online, step-by-step guide to setting up your own e-commerce business, building connections with online marketplaces, with a focus on tourism in Tuvalu.	Training of employees and government officials to be computer literate.	Medium	MFATTEL, MFED, TANGO, TNPSO, Business Centre, ITC
Assess current e-commerce and ICT skill gaps to accelerate the development of ICT-related curricula in line with private sector needs.	Government- and donor-supported programmes are targeted to those individuals needing to enhance their skills, making them more employable by ICT-enabled firms and organizations.	Medium	MFATTEL, MCT, MEYS, TANGO, TNPSO, Business Centre, ITC

ACCESS TO FINANCING			
Indicative action	Expected outputs	Priority Level	Potential support by:
Install a financial supervisory framework improving enforcement of existing financial regulations and developing bankruptcy legislation.	Access to loans by businesses, especially for domestic investment in services increases.	High	MFED, NBT, DBT, TNPF, ADB
Improve DBT credit risk management by providing adequate financial supervision.	NBT to be able to gradually expand its lending capacity. improved financial intermediation and risk management.	Medium	MFED, NBT, DBT, ADB
Develop a central business registry with the MFATTEL (registration + operationalization). The registry should be updated on a regular basis and made compatible with town council registries.	The assessment and the monitoring of MSME-related development initiatives is improved and actions to support their development are better targeted.	Medium	MFATTEL, UNCTAD, World Bank
Encourage a suite of simple financial services, including digital financial services, that suit the needs of the excluded population.	Reduced share of the population and MSMEs currently excluded from banking system, with a view to move them eventually to the formal sector.	Medium	MFED, NBT, TNPF, ADB, UNCDF
Explore the feasibility of establishing a credit loan guarantee scheme that could address some of the issues concerning collateral and access to finance for small businesses.	Increase the capacity of businesses to contract loans.	Medium	NBT, DBT, TNPF, ADB
Put in place proper business training courses and mentoring schemes for interested entrepreneurs as a precondition for securing loans from the banks.	Increase the capacity of businesses to contract loans, with quality applications. Reduce the rate of NPLs.	Medium	NBT, DBT, USP, National Council of Women and the TANGO, TNPSO, Business Centre, ADB, UNCDF



Annex I: Tuvalu country profile on etradeforall.org



COUNTRY PROFILE: TUVALU

Contact: info@etradeforall.org

GENERAL INFORMATION - 2017

Population 0.0 Millions	GDP 44 Millions current US\$	Merchandise trade 40 Millions current US\$
Internet users 0.0 Millions	GDP growth 5.9 %	Land area 30 km ²

Source: UNCTAD and ITU (complete URL addresses in the General Notes)

E-COMMERCE ASSESSMENT - 2016-18

Rank in UNCTAD B2C E-commerce Index -/151	Rank in ITU ICT Development Index -/176	Rank in WEF Networked Readiness Index -/139
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Source: UNCTAD, ITU and WEF (complete URL address in the General Notes) Note: 1 = Best

ICT INFRASTRUCTURE AND SERVICES - 2017

Per 100 inhabitants

Internet users, 49.3	Fixed broadband subscriptions, 4.0	Active mobile broadband subscriptions, 0.0
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Fixed broadband Internet tariffs, PPP \$/month

Highest tariff	277.8	TUVALU, #N/A
Tariffs in 50% of eco. are below this value	34.2	
Lowest tariff	6.8	

Source: ITU (complete URL address in the General Notes)

PAYMENTS - 2014-17

Debit card used in the past year	TUVALU, #N/A	SOUTHERN, EASTERN AND SOUTH-EASTERN ASIA & OCEANIA, 24.9	WORLD, 30.6
Credit card used in the past year	TUVALU, #N/A	SOUTHERN, EASTERN AND SOUTH-EASTERN ASIA & OCEANIA, 19.3	WORLD, 27.7
Mobile phone or the internet used to access a financial institution account in the past year	TUVALU, #N/A	SOUTHERN, EASTERN AND SOUTH-EASTERN ASIA & OCEANIA, 19.4	WORLD, 21.6

Per 100 inhabitants

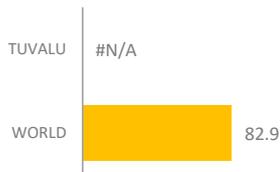
Source: World Bank (complete URL address in the General Notes)



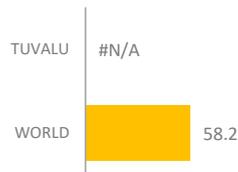
COUNTRY PROFILE: TUVALU

TRADE LOGISTICS - 2013-18

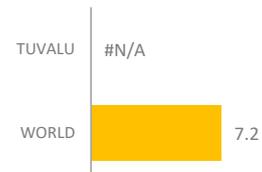
Percent of population having mail delivered at home



Postal reliability index (0 to 100, 100 = Best)

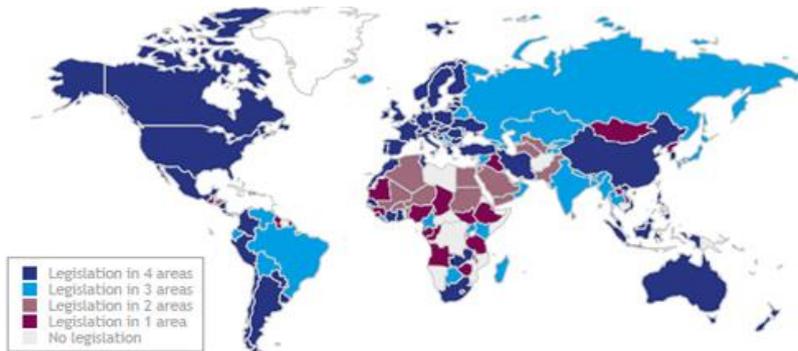


Days to clear direct exports through customs



Source: UPU and World Bank (complete URL addresses in the General Notes)

LEGAL AND REGULATORY FRAMEWORKS - 2019

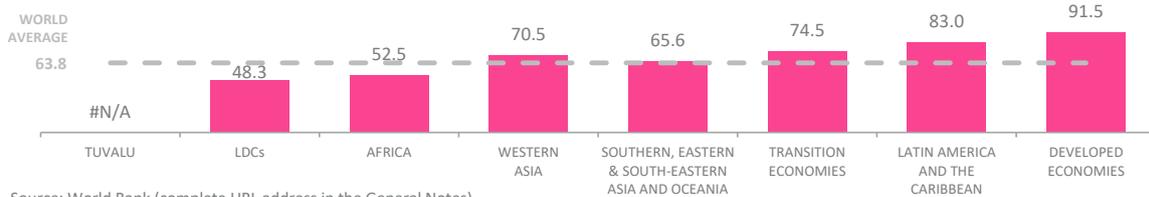


TUVALU
 Electronic Transactions: No legislation
 Consumer Protection: #N/A
 Privacy and data protection: No legislation
 Cybercrime: No legislation
 Source: UNCTAD

For more information see: http://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx

SKILLS DEVELOPMENT - 2013-17

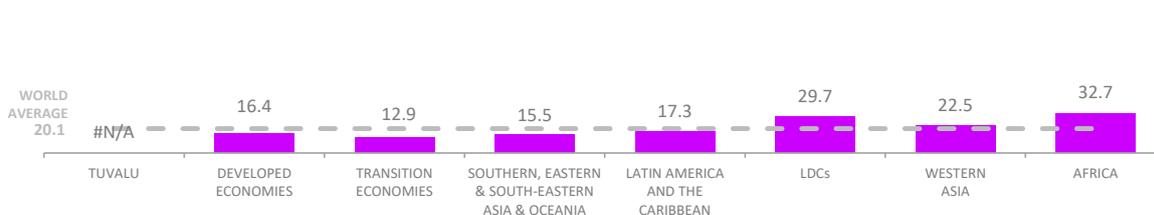
Percentage of firms using e-mail to interact with clients/suppliers



Source: World Bank (complete URL address in the General Notes)

FINANCING FOR eCOMMERCE - 2013-17

Percentage of firms identifying access to finance as a major constraint



Source: World Bank (complete URL address in the General Notes)



Annex II: Bibliography and websites used

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- Kacific Satellite connection: <http://www.voxy.co.nz/business/tuvalu-telecommunications-signs-broadband-deal-kacific/5/192783>
- Pacific Trade and Investment: <http://www.forumsec.org/pacific-trade-invest-network/>
- South Pacific Tourism Organisation: <https://corporate.southpacificislands.travel/>
- Tuvalu Telecom Corporation: <http://telecomtuvalu.blogspot.com/>
- UNCTAD Cyberlaw Tracker: http://unctad.org/en/Pages/DTL/STL_and ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx
- UNCTAD Stats, Tuvalu General Profile: <https://unctadstat.unctad.org/CountryProfile/GeneralProfile/en-GB/798/index.html>
- UNESCAP Paperless Trade in Asia Pacific: <http://www.unescap.org/resources/trade-facilitation-and-paperless-trade-implementation-asia-and-pacific-regional-report>
- Universal Postal Union, <http://www.upu.int>
- Verisign Dot TV: https://www.verisign.com/en_US/domain-names/tv-domain-names/index.xhtml
- What3Words: <https://what3words.com/about/>



Annex III: List of UNCTAD Rapid eTrade Readiness Assessments of LDCs

- Lesotho: Rapid eTrade Readiness Assessment (June 2019).
- Bangladesh: Rapid eTrade Readiness Assessment (March 2019).
- Islamic Republic of Afghanistan: Rapid eTrade Readiness Assessment (March 2019).
- Madagascar: Évaluation rapide de l'état de préparation au commerce électronique (January 2019).
- Uganda: Rapid eTrade Readiness Assessment (December 2018).
- Zambia: Rapid eTrade Readiness Assessment (December 2018).
- Burkina Faso: Évaluation rapide de l'état de préparation au commerce électronique (September 2018).
- République du Togo: Évaluation rapide de l'état de préparation au commerce électronique (September 2018).
- Republic of Vanuatu: Rapid eTrade Readiness Assessment (July 2018).
- République du Sénégal: Évaluation rapide de l'état de préparation au commerce électronique (July 2018).
- Solomon Islands: Rapid eTrade Readiness Assessment (July 2018).
- Lao People's Democratic Republic: Rapid eTrade Readiness Assessment (April 2018).
- Liberia: Rapid eTrade Readiness Assessment (April 2018).
- Myanmar: Rapid eTrade Readiness Assessment (April 2018).
- Nepal: Rapid eTrade Readiness Assessment (December 2017).
- Samoa: Rapid eTrade Readiness Assessment (October 2017).
- Bhutan: Rapid eTrade Readiness Assessment (April 2017).
- Cambodia: Rapid eTrade Readiness Assessment (April 2017).

And: <http://unctad.org/en/Pages/Publications/E-Trade-Readiness-Assessment.aspx>

