

# Facilitation 2.0

## Trade and Investment in the Digital Age

INSIGHT REPORT  
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# Preface

This report aims to capture the substantive outcomes from several years of collaboration between Papua New Guinea and the World Economic Forum in forging a new development path based on digital trade and investment.



**Børge Brende**  
President, World Economic  
Forum

We kicked off this journey when Prime Minister Peter O'Neill, who held office from 2012 to 2019, joined the World Economic Forum Annual Meeting 2018 in Davos-Klosters. From there, the Forum supported Papua New Guinea during its 2018 Asia-Pacific Economic Cooperation (APEC) year, convening discussions on how to leverage trade and investment to drive growth in the country. There was clear commitment from both the public and private sectors to undertake reforms and leap into the digital age. As a result, with the support of the Government of Australia, we launched Facilitation 2.0, a first-of-its-kind project aimed at blending e-commerce, trade and investment facilitation actions for economic advancement.

The Forum community had been working separately on each of these three areas: e-commerce, trade facilitation and investment facilitation, including supporting international discussions at the World Trade Organization on each. The collaboration with Papua New Guinea on Facilitation 2.0 provided an opportunity to test the interplay of these reform areas, understand how to put real priorities into practice and feed findings back into the international arena.

We launched Facilitation 2.0 in Papua New Guinea for two reasons: first, the strong partnership with the government and its commitment to reform as well as a clear signal of support from the business community; second, the realization that digitalization is a game changer for how economies like Papua New Guinea can seize trade for development. A coffee producer in the Western Highlands Province can export to a coffee shop on the West Coast of the United States only if it can advertise and sell online, sign an e-contract, receive payment and ship the coffee, supported by investors who see the potential in this business.

This report captures what has been learned and progress that has been made, and outlines a way for the Government of Papua New Guinea, its businesses and partners in the development community to continue this journey.

We look forward to continuing to support these efforts through our Platform for Shaping the Future of Trade and Global Economic Interdependence. We also trust this report will be useful as a resource for other economies that seek to leverage trade and investment for growth in the new digital age.

A handwritten signature in blue ink that reads "Børge Brende".



# Foreword

When Papua New Guinea hosted APEC in 2018, our country chose the theme “Harnessing Inclusive Opportunities, Embracing the Digital Future”. The same year, we ratified the World Trade Organization Trade Facilitation Agreement. These two agendas had to come together for the country to embark on a path of long-term sustainable development.

Trade is an important tool for Papua New Guinea to accelerate economic growth. Under the current Medium-Term Development Plan III (MTDPIII), relevant deliverables are enumerated under the National Trade Policy 2017-2032. We are committed to easing trade for Papua New Guinean exporters and importers by implementing the Trade Facilitation Agreement. With rugged terrain and over 80% of our rural population in remote and isolated villages, Papua New Guinea’s ability to benefit from trade and deliver inclusive opportunities depends on embracing a digital future.

The facilitation of trade in goods therefore needs to be accompanied by the facilitation of trade in services – in particular, digital payments, investment and e-commerce – to realize the full benefits trade can bring to economic development. The COVID-19 pandemic has additionally shown how critical it is for Papua New Guinea’s citizens, businesses and government to operate digitally.

My government has been pleased to work with the World Economic Forum as a first-in-the-world Facilitation 2.0 lab to explore the joined-up facilitation of trade in goods, services and investment.

Working with our business community, we are taking steps to further enable domestic and cross-border e-commerce and digital payments. I want to thank the Bank of Papua New Guinea, the National

Trade Office, the Investment Promotion Authority, the Department of Information and Communications Technology and the Department of National Planning and Monitoring as some of the key actors who have helped to drive this agenda on behalf of the government.

We have made progress in moving this agenda forward. Earlier this year, we launched the Coral Sea Cable System and are in the process of completing the Kumul submarine cable network to extend cheaper internet services across Papua New Guinea. The Department of Lands and Physical Planning and the Immigration and Citizenship Authority recently introduced online payment collection systems. A new Digital Transformation Policy is encouraging the public sector to embrace new digital opportunities to serve the country. In addition, an Electronic Transactions Act is scheduled to be introduced to Parliament in November of this year. Once passed, Papua New Guinea will join the vast majority of economies worldwide that have adopted laws on e-transactions and e-signatures to provide a legal basis for online transactions.

We appreciate the support of the World Economic Forum and the Government of Australia. We are looking forward to continuing to drive this agenda, and hope that what we have learned in our Facilitation 2.0 journey will help countries in similar situations along the path to inclusive prosperity in a digital age.



**James Marape**  
Prime Minister of Papua  
New Guinea

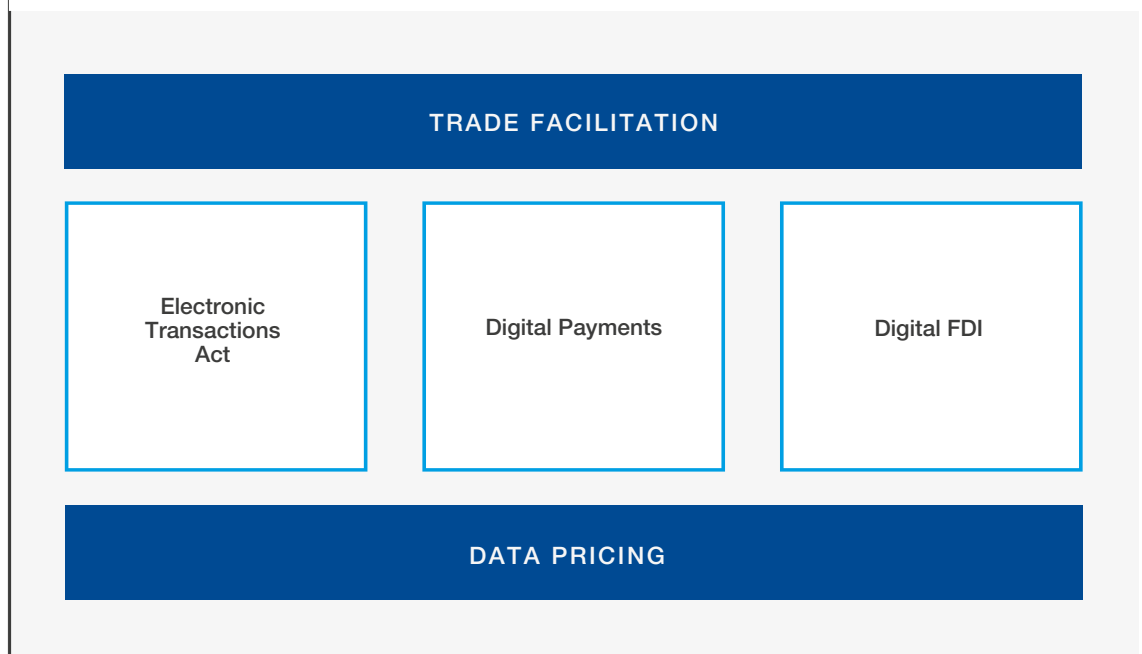
# Executive summary

Papua New Guinea has embraced growth in the digital economy and targeted e-commerce, as part of its development strategy. The theme of APEC 2018 in Papua New Guinea was “Harnessing Inclusive Opportunities, Embracing the Digital Future”, as the country sought to leap into the digital age and open new growth opportunities. In support of this agenda, the World Economic Forum launched Facilitation 2.0, a novel initiative piloted in Papua New Guinea. Facilitation 2.0 was possible thanks to the support of the Government of Australia.

The initiative aims to advance practical, business-driven reforms at the intersection of trade facilitation,

investment and e-commerce. The goals of the pilot programme were to advance local progress and to share experiences through international discussions on the topic, thereby helping others. Since the launch of the initiative, digitalization has become more relevant than ever amid a global pandemic requiring limited physical contact.

The project was a true co-creation; significant effort was expended to interview, convene and survey a diverse array of local and international stakeholders. These stakeholders first identified priority reform areas and then assessed each for feasibility and potential impact. This resulted in a set of “3+2” focus areas:



**First**, the stakeholders considered it important to support the passage of an Electronic Transactions Act (ETA) in Papua New Guinea to provide a legal framework for e-transactions, including the conclusion of contracts online, filing paperwork electronically and providing for electronic signatures, among other benefits.

Through Facilitation 2.0, the Forum worked with experts from the United Nations Commission on International Trade Law (UNCITRAL) to provide an awareness raising workshop and briefings for Papua New Guinea’s Central Agencies Coordinating Committee and Department of Justice and Attorney-General, and provided talking points for business stakeholders to build momentum around the ETA’s passage.

The ETA’s passage is important to boost paperless trade and business efficiency by removing paper storage, and to help artisans selling online to use digital trust services, such as purchasing certificates to display a secure browser session (https), to expand e-commerce sales abroad.

**Second**, the stakeholders stressed that limited access to digital payments and the absence of major international payment service providers and payment gateways are key obstacles to the development of e-commerce in Papua New Guinea. A combination of inadequate infrastructure, high data costs, low penetration of the national identification system and limited cash-in/cash-out outlets has posed general challenges to encouraging the use of digital payments in the country.

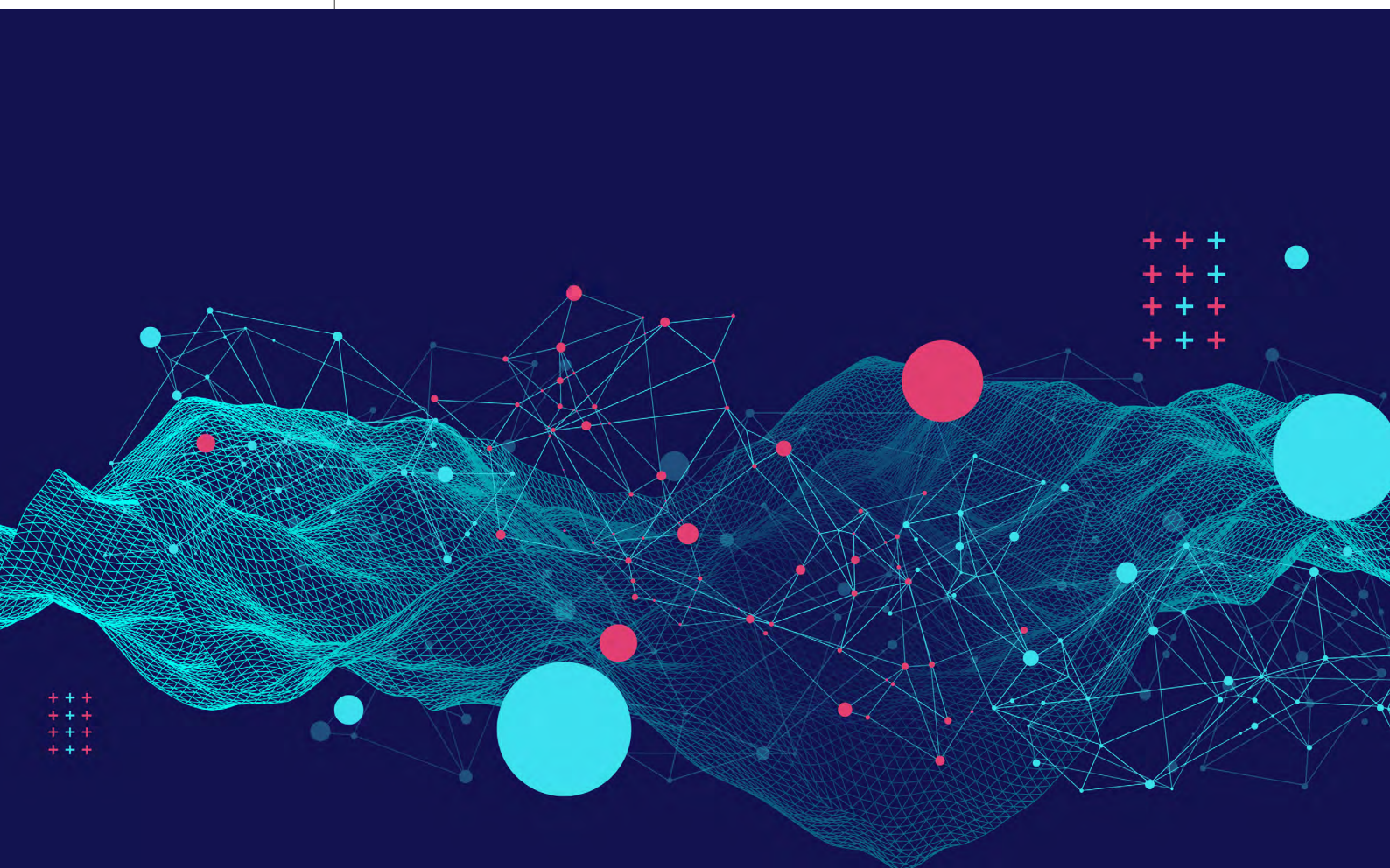
Actionable recommendations were submitted to the Bank of Papua New Guinea and the local payments community. Key recommendations included calling for government adoption of digital payments, adopting a risk-based approach with respect to capital requirements and know-your-customer (KYC) compliance, building a robust identification system, building interoperability within and beyond Papua New Guinea, and strengthening public and private communications. Fintechs outside the country joined in public-private dialogues with the Bank of Papua New Guinea to share insights on supportive policies, particularly for economies with low levels of formal banking penetration, based on interactions with regulators elsewhere.

**Third**, the stakeholders supported exploring specific policies and regulations to attract foreign direct investment (FDI) in the digital economy. The Forum conducted a global survey with investment decision-makers in firms from different jurisdictions and engaged digital industry groups. High-level findings highlighted the importance for Papua New Guinea to provide regulatory stability and predictability as well as to boost digital skills training to drive investment into the digital economy. Other top enablers to attract investment into the digital economy included data security regulations, the availability of e-payment services (ease of receiving licences for digital infrastructure) and international connectivity between Papua New Guinea and other economies.

At one of the labs organized to bring key actors together for this Facilitation 2.0 initiative and advance work on the project, in June 2020 participants in a lab on digital FDI agreed to create a public-private, multi-agency digital FDI working group. The Forum has outlined possible actions for various government agencies, ranging from the Investment Promotion Authority to the National Information and Communications Technology Authority.

Beyond these three focus areas, internet access pricing and physical trade facilitation are crucial for Papua New Guinea's ability to harness trade for development. Where relevant, the project team has sought to support, or lay the groundwork, for advances in these areas.

Facilitation 2.0 ends at a challenging time. Papua New Guinea's economy has been profoundly negatively affected by COVID-19 due to lower commodity prices, weakened global demand and less favourable terms of trade. Nevertheless, the government reacted swiftly to the shock, and future growth prospects are promising with the right actions. According to the World Bank Group, real GDP could rebound to expand by more than 3% in 2021, up from a contraction of 1.3% this year.<sup>1</sup> Building upon the steps described in this report should ensure the benefits of recovery and future growth are broadly distributed.



# Background and context

The premise of Facilitation 2.0 is that for e-commerce to gain momentum, complementary trade and investment reforms are necessary. Papua New Guinea has taken steps to facilitate trade in goods, ratifying the Trade Facilitation Agreement (TFA) on 7 March 2018. However, e-commerce requires complementary facilitation actions: selling a bilum bag online requires transportation services, payment services, telecommunications services, advertising services, and so on. This initiative is named Facilitation 2.0 because it aims to facilitate trade in goods using an additional, second-generation agenda of reforms. The question then becomes, “What are the necessary complementary trade and investment reforms?”

The Forum carried out a comprehensive scoping analysis to identify the most important reforms in the Papua New Guinean context. The team interviewed numerous policy-makers, firms, researchers, and representatives of international organizations and civil society organizations in March 2019. This led to a list of 80 possible reforms. A series of analytical steps, involving an internal review committee, an external review committee comprising Papua New Guinean officers in Geneva, as well as a survey of key actors, cut the list down to a dozen top options. A multistakeholder Facilitation 2.0 lab was held in June 2019 in Port Moresby during Papua New Guinea Investment Week to discuss the top options, and further consultations took place with the private sector through an event organized by the Port Moresby Chamber of Commerce and Industry.

This resulted in three reform activities and two further issues that would be supported by the initiative in a “3+2” strategy. The three reform activities were to: (1) support the passage of the Electronic Transactions Act (ETA); (2) support an e-payments ecosystem; and (3) help attract FDI in the digital economy. Importantly, these three reform activities were designed to be connected and mutually reinforcing, helping to advance digital trade through the three legs of a tripod: a legal leg, a technology/payments leg and an investment leg.

The two further issues were to: (4) encourage the pricing of data at a level that increases participation in e-commerce when the Coral Sea Cable is landed in Papua New Guinea; and (5) explore whether a

separate project could support the implementation of the TFA through the Global Alliance for Trade Facilitation. While these two further issues were not directly addressed through Facilitation 2.0, wherever possible the initiative supported progress in these areas as well.

The approach piloted through Facilitation 2.0 was to bring together key actors in a series of labs, supported by analytical work and the Forum’s communities, to identify and help address challenges to leveraging electronic transactions, e-payments and investment to develop the digital economy.

In November 2019, the lab focused on electronic transactions and e-payments, bringing key experts to Port Moresby to fine-tune the draft ETA bill and address any remaining concerns. It also focused on building a coalition of public and private actors – both domestic and international – in support of a well-functioning e-payments ecosystem in the country.

The labs scheduled for March 2020 were delayed as a result of the evolving COVID-19 pandemic and cancelled international travel. However, the project pivoted to a hybrid virtual–physical model: international participants connected virtually, while in Port Moresby participants could either connect virtually or attend in person in a dedicated conference space, designed with COVID-19 precautions in mind. Two back-to-back labs were thus held in June 2020, on e-payments and attracting FDI to boost the digital economy. These exchanges, supported by policy notes, aimed to contribute also to Papua New Guinea’s new Digital Transformation Policy.

Although the COVID-19 pandemic delayed the labs, it provided an opportunity to strengthen the actions identified through the Facilitation 2.0 initiative. Indeed, the pandemic deepened and accelerated the trend towards digitalization across all economies. Increasing digital competitiveness is therefore key for Papua New Guinea’s COVID-19 response and recovery, and for its long-term resilience and growth. The following three sections outline the lessons learned to support Papua New Guinea’s digital transformation in the area of digital transactions, digital payments and digital FDI.



# Electronic Transactions Act

## 1.1 Context

Papua New Guinea is on the brink of passing an ETA. The country does not have a legal framework governing the use of electronic communications, including the conclusion of contracts online – a significant gap in the age of the digital economy. The new law would reduce uncertainties over signature requirements for online exchanges; facilitate the electronic filing of documents with public agencies pending modalities determined by additional regulation as needed; minimize the incidence of forged electronic records; establish rules on the authentication of electronic records; and promote public confidence in the reliability of electronic commerce. At least 81% of countries worldwide have enacted e-transaction and e-signature legislation, 6% have draft laws on their books, 4% have no rules and data is missing for 9%.<sup>2</sup>

The draft ETA covers any kind of data message and electronic document used in commercial and non-commercial activities, whether national or international, although a few topics are not covered. The latter include, *inter alia*, transactions on a regulated exchange; foreign exchange transactions; interbank payment systems; and issues related to personal law such as marriages and power of attorney. The legislation is composed of several parts covering, *inter alia*, definitions, jurisdictions, principles and legal effects of e-transactions, electronic contracts, electronic signatures, electronic transferable records,<sup>3</sup> details on penalties and entry into force.<sup>4</sup> The ETA would not compel any individual, business or government agency to use digital tools; rather, it aims to remove legal impediments from doing so.

The Constitutional and Law Reform Commission of Papua New Guinea started exploring the merits of a domestic e-transaction law in 2009. A technical report was produced in 2012 and the ETA bill was drafted in 2018 with the assistance of the European Union funded Trade Related Assistance Phase II Programme. United Nations Commission on International Trade Law (UNCITRAL) model legislation was used as a basis for the legislation.<sup>5</sup>

During its scoping work for Facilitation 2.0, the Forum met with government officials involved in

drafting the ETA. Many were keen to advance this issue, which would clearly signal Papua New Guinea's commitment to advancing a digital economy. During a feedback lab in June 2019 on Facilitation 2.0 interventions, public and private stakeholders agreed that a renewed push for ETA passage was important. The Forum agreed to raise awareness of the ETA in the country, with a view to supporting its passage.

The Forum subsequently drafted a briefing note for Papua New Guinea's Central Agencies Coordinating Committee, which reviews new legislation, in partnership with the then-Department of Trade, Commerce and Industry. It convened an awareness workshop in November 2019 with over 60 participants from the public and private sectors. The workshop addressed the ETA's contents, its relevance for trade facilitation, business processes and e-commerce, and examined a case study on the implementation of Rwanda's electronic transactions law and the associated development of an electronic single window (single entry point) for filing trade documentation.

While recognizing fundamental differences between Rwanda and Papua New Guinea, workshop participants were nonetheless encouraged to consider how business-to-government filing processes could be made fully electronic in Papua New Guinea, after ETA passage. Many participants said the case study was helpful because it demonstrated the power of digitalization in another developing economy that has faced significant socio-economic and stability challenges.

The Forum worked closely with UNCITRAL and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) to deliver the awareness raising workshop. It also facilitated a day-long briefing by the UNCITRAL expert participating in the mission with the Department of Justice and Attorney-General (DJAG) and the National Trade Office. The briefing helped to answer technical questions on legal drafting and to ensure the ETA fits within Papua New Guinea's legal architecture.

Most recently, the Forum shared talking points with business stakeholders, including the Manufacturers Council of Papua New Guinea, on the relevance and merits of the ETA for the country, including in the context of COVID-19. These insights are captured

below in more detail. The business sector will be an important champion to build momentum for the ETA's passage. The ETA has been approved by the Cabinet with the expectation that it will go before the next Parliament in November 2020 for passage.

## 1.2 Insights

### ETA relevance

The ETA's passage is important for Papua New Guinea now more than ever. When two parties agree to a transaction in daily physical exchange, proof of mutual consent regarding its terms may be necessary or desirable. Some transactions may require a signature to be valid by law. Paper-based contracts have been used to support these transactions for centuries, whether in a national or a cross-border context. Countries may have different rules governing various aspects of contracts but, generally, businesses have successfully learned to manage these requirements. In a digital age, as more and more transactions move online, the picture becomes complex.

Potential risks underlying contract executions are magnified when the process moves from paper to online. First, parties need to ensure that the people signing the documents are who they say they are, without being present in person; they may even be spread across multiple locations. Second, parties must guarantee the transaction document in question has not been tampered with. Parties must also have confidence that their details will not be misappropriated or copied. Third, the technologies for exchanging e-contracts and authentication are numerous. Unlike a physical signature or stamp, which have changed little over the years, digital options can evolve rapidly.<sup>6</sup>

Countries across the globe have used e-transaction and e-signature laws to solve these challenges, setting requirements for the legal recognition of data messages, e-contracts and various authentication processes for e-signatures. A domestic e-transaction and e-signature law would lay a solid foundation for all types of electronic transactions, regardless of their public, private or professional nature. It will also advance commercial developments in three areas: 1) trade facilitation and "paperless trade"; 2) e-commerce and digital transactions responsive to COVID-19; and 3) business efficiency. In the non-commercial context, the law would introduce certain fundamental principles upon which e-government services may be built, which would also support physical distancing health recommendations amid the ongoing pandemic. Other developments can also be imagined.

In the first area, when goods and services cross borders in international trade, information needs to pass between parties, whether private companies or public bodies. Sending this information digitally can speed up trade, since goods are less likely to wait at borders or at other bottlenecks for accompanying documentation to arrive. The World Trade Organization (WTO) Trade Facilitation Agreement (TFA) contains provisions encouraging this shift, several of which Papua New Guinea has requested technical support to implement (see Table 1). Having an e-transaction and e-signature law would help make this work possible.

So too, Papua New Guinea has been exploring accession to the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (the Framework Agreement), a United Nations treaty.<sup>7</sup> The Framework Agreement is an arrangement to help governments exchange trade-related data, should they wish to do so, complementary to and building on the WTO TFA. Papua New Guinean government officials have previously said that implementing an e-transaction act would be a helpful step towards acceding to the Framework Agreement. Papua New Guinea has also recently acceded to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, commonly known as the New York Convention, acceding on 17 June 2019 as a complementary move.

UNESCAP estimates that the region-wide implementation of cross-border paperless trade would increase Papua New Guinean exports by 12%, equivalent to economics gains of \$400 million per year. If Papua New Guinea fully implements the WTO TFA and cross-border paperless trade measures, it could reduce its own trade costs by 28%, leading to savings of more than \$85 million per year.<sup>8</sup> These figures suggest it is important for Papua New Guinean businesses to participate in supply chains that are increasingly digitally managed.

Of immediate interest, several countries have introduced digital border clearance measures to expedite cargo movement during the COVID-19 crisis as well as to reduce face-to-face interactions.

For example, Bangladesh has moved to accept electronic copies for assessing goods imported from select countries; India has begun assessing declarations online irrespective of the port of arrival;<sup>9</sup> while Kiribati has begun processing online documents for incoming vessels and flights to enhance physical distancing among border security staff.<sup>10</sup> In April 2020, Kiribati joined other countries, including Fiji, in acceding to the United Nations Convention on the Use of Electronic Communications in International Contracts, which facilitates the use of electronic communications in international trade (see below).<sup>11</sup>

In the second area, more broadly, e-transactions have exploded over the past few decades. The United Nations Conference on Trade and Development (UNCTAD) estimated the global value of e-commerce at \$25.6 trillion in 2018, a figure that has since most likely risen.<sup>12</sup> The enforcement of lockdowns and other measures to tackle COVID-19 has seen consumers flock online to buy goods, increase social media use and teleconferencing, and purchase a host of other services.

By contrast, tourism has cratered, with a recent survey by Papua New Guinea's Tourism Promotion Authority finding that 90% of respondents' bookings for 2020 have been cancelled and over 1,200 workers were laid off.<sup>13</sup> Encouraging e-commerce and online artisan sales could be one way to mitigate at least some of this damage. Yet these

## International benchmarks

Given the inherent transnational nature of digital activity, UNCITRAL has taken steps to increase the uniformity of countries' laws by preparing model laws, as well as a treaty. The models can be adapted but provide a basis from which to work. Key principles and provisions in UNCITRAL model laws<sup>14</sup> are included in Papua New Guinea's proposed ETA.

For example, the section on electronic transactions incorporates the principle of "non-discrimination"; in other words, an e-transaction has the same legal validity as a paper document ("information shall not be denied legal effect, validity or enforceability on the grounds that it is in the form of an electronic record"). Similarly, a section on electronic contracting incorporates the non-discrimination principle, noting that using electronic means to form a contract cannot be a reason to deny validity or enforceability.

The text on electronic signatures uses the principle of "functional equivalence", meaning that all forms of e-signatures may be considered valid so long as reliable and appropriate for the purpose at hand. Equally, it reinforces the principle of "technology

exchanges depend on legislative frameworks recognizing that contracts and other important documents can be completed online and affirming the legal value of e-signatures.

In the third area, e-transaction laws can bring significant business efficiencies, such as reducing the need to keep a physical paper trail for auditing purposes when digital documents can be used instead. That could help with COVID-19 safety measures. Several businesses in Papua New Guinea have noted the volumes of paperwork that must be filed and stored in case of future need. The ETA would allow formal documents – related to business operations – to be stored in electronic form. Documents requiring signatures from company directors could be signed electronically. The ETA could also improve contacts with international investors since firms will be able to send important documents such as annual returns via email. Small businesses in remote areas may also find it easier to conduct business electronically, even via a mobile phone, rather than having to travel to meet parties face to face.

Implementing regulations stemming from the ETA may establish specific requirements to further guide business compliance when interacting with the public administration, such as retention periods for electronic document storage, oversight of digital signature service providers, and so on. For now, however, these requirements are not detailed in the draft.

neutrality" by not prescribing a signature authentication method, but rather indicating parties are free to determine one as suits best. That will be particularly helpful for limiting cross-border commercial friction.

The draft ETA is also geographically neutral, clarifying that, for instance, an e-signature created outside Papua New Guinea has the same legal effect as one created within the country. Technology neutrality is important to remain open to future commercial developments and needs, for instance to enable the use of distributed ledger technologies (blockchain). Geographic neutrality opens the door to the legal recognition of electronic messages originating abroad, which is reassuring for international business partners.

The proposed legislation is forward-looking in recognizing that a contract can be formed by automated messaging systems. That provides a foundation for new developments to come to Papua New Guinea in due course, such as smart contracts where suppliers are automatically paid once certain requirements have been met on a digital ledger.

As currently drafted, the ETA would also be considered compliant with e-transaction provisions in major regional initiatives, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), ASEAN integration and ongoing talks for a Regional Comprehensive Economic Partnership (RCEP). Papua New Guinea is not a member of these but has deep trading ties with many parties. For

example, the country's top export destinations in 2018 were Australia (20.1% of total merchandise exports), Singapore (18.2%), China (17.4%) and Japan (13.4%).<sup>15</sup> Generally speaking, the ETA would also comply with draft provisions on paperless trading, e-transactions, e-contracts and e-signatures tabled in WTO plurilateral e-commerce negotiations, should Papua New Guinea wish to join these.

## ETA benefits

The benefits of implementing the ETA can be summarized as follows:

- **A non-partisan, national agenda:** The ETA is a piece of legislation beneficial to all that does not require any controversial policy decision. It is a timely piece of legislation to pass amid the COVID-19 pandemic that requires limiting physical contact. It would ensure Papua New Guinea is recognized as taking steps to do business in the 21st century.
- **Digital economy confidence:** The ETA could raise consumer and business trust by removing any uncertainty on the legal status of digital transactions. Further, certain service providers offer businesses the option to display a secure session (https) for consumers browsing online, as reassurance that a genuine entity exists behind the website. The tool is particularly important when payment details are exchanged. E-signature laws are the legal backbone for these certificates. Papua New Guinea's ETA outlines measures against which the systems used by a service provider of e-signatures may be considered trustworthy.
- **Business interest:** Efficiency gains can be realized from limiting the use and storage of paper-based documents. Global trust service provider Adobe reported that office technology supplier Ricoh trimmed five days from its process for sales contracts by switching to using electronic and digital signatures.<sup>16</sup> Trade costs could also be reduced if the ETA facilitates a switch to a more digitized, paperless trade documentation system in Papua New Guinea.
- **International commitments:** The ETA would help stakeholders advance Papua New Guinea's requests on TFA implementation. It would also put Papua New Guinea in a position to discuss acceding to the regional Framework Agreement on Paperless Trade Facilitation. It would align Papua New Guinea's regulatory environment with that of trading partners that have made commitments in preferential trade agreements to have e-transaction laws based on common international standards.

## 1.3 Next steps

Papua New Guinea can move rapidly to adopt the ETA. Once passed, further capacity building could help to maximize its benefits. The law requires implementing regulations to interact with the public administration (business to government and citizen to government). Advancing these will be important for trade facilitation.

Papua New Guinea may wish to request additional technical assistance to draft these implementing regulations. Stakeholders may also want to debate the merits and demerits of additional regulation to oversee certification service providers that enable the use of digital signatures. Digital signatures are a type of electronic signature where the identity of the signer is verified by a digital certificate issued by a certificate authority or trust service provider (TSP). Although additional oversight could add a trust factor, additional compliance regulation for TSPs

already regulated elsewhere, such as in the EU, will likely result in the TSPs not entering the market or not offering digital (certificate-based) signatures.

Papua New Guinea should ensure capacity building helps all types of businesses benefit from new digital economy and trade opportunities. For example, a 2017 UN report on trade facilitation and paperless trade implementation notes that, of the TFA provisions, developing small island nations have generally put less emphasis on measures to make single windows more easily accessible to small businesses.<sup>17</sup> The latter may require training to use these or even help with digitizing business processes in the first place. A regional approach to training may be worth considering given the cross-border implications of trade. A push should be made for online portals to be mobile-friendly.<sup>18</sup>



ETA implementation could raise policy-maker confidence to implement the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC). The ECC builds on UNCITRAL's model laws and is the first legally binding treaty to directly address the use of technologies in cross-border, online transactions. It specifically applies to international transactions, namely, when data messages are exchanged between parties whose places of business are in different countries. As such, the ECC enhances legal certainty around these exchanges, and is an important complement to countries' domestic law. Papua New Guinea's draft

ETA aligns with all the substantive parts of the ECC. Since very few foreign commercial operators know Papua New Guinea's laws, adopting the Convention would immediately clarify the country's approach, helping to raise confidence.

Once passed, the ETA can support the implementation of the TFA to which Papua New Guinea is a party, but this will require commitment from the government and international resources. Table 1 maps the cross-over between WTO TFA articles relevant to paperless trade and Papua New Guinea's requests for TFA implementation support.

TABLE 1 | WTO Trade Facilitation Agreement provisions related to e-transactions

TFA article	Provision	Papua New Guinea notification of category commitments
<b>Article 7.1 – Release and Clearance of Goods</b>	WTO members to have procedures in place that allow relevant import documents to be submitted ahead of the arrival of goods in order to expedite release on arrival.	Category B, implemented by 22 February 2021 (indicative)
<b>Article 7.2 – Electronic Payment</b>	WTO members to allow the option of electronic payment for duties, taxes, fees and charges collected by customs. This provision is useful to accelerate paperless trade.	Category B, implemented by 22 February 2020 (indicative)
<b>Article 10.2 – Acceptance of Copies</b>	WTO members to endeavour to accept paper or electronic copies for import, export or transit documents.	Category C, implemented by 22 February 2023 (indicative). Technical assistance required to: 1) amend legislations (incl. Biosecurity Bill) and/or regulations for both Papua New Guinea Customs Services and NAQIA allowing acceptance of copies; 2) examine whether subordinate legislative changes are needed; 3) implement the Automated System for Customs Data (ASYCUDA World) by Papua New Guinea Customs Services to take electronic lodgement of supporting documents; 4) review and align processes and requirements around documentation and the acceptance of copies
<b>Article 10.4 – Single Window</b>	WTO members to endeavour to establish or maintain a single window, in other words, a single entry point for traders to submit required import, export or transit documents.	Category C, implemented by 22 February 2023 (indicative). Technical assistance required to: 1) conduct a single window feasibility study; 2) replace document manual processing systems with automated systems (all agencies except Papua New Guinea Customs Services); 3) expedite the effective implementation of ASYCUDA World that integrates all border clearance agencies; 4) facilitate all agencies involved in border clearance and the regulation of trade to jointly establish a common strategy for the phased implementation of a single window; 5) assist the National Trade Facilitation Committee to decide on which single window model is to be implemented; 6) implement the single window; 7) support the process for enactment of e-commerce legislation

# Digital payments

## 2.1 Context

Digital payments are critical for making e-commerce practical and possible. The adoption of digital payments has become increasingly important as business activities move online due to lockdown measures to prevent the spread of COVID-19. However, complicating factors can arise when using e-payments to sell abroad. While the digital world is theoretically borderless, national and regional regulations have not disappeared, with restrictions on international supply, use and availability of e-payment services among the challenges to engaging in global e-commerce.

Papua New Guinea faces additional challenges in this area due to low levels of financial inclusion. Only 20% of adults in the country have an account in a commercial bank.<sup>19</sup> Factors affecting this figure include poverty, a dispersed rural population in a varied topography and an underdeveloped national identification system with only around 20% of the population having some form of identification.<sup>20</sup> Access to cheap, stable and high-speed internet and electricity are other major obstacles.<sup>21</sup>

The addressable market for digital payments is, as such, relatively small. Without a sizeable addressable market to bring down the per unit cost, payment services may not be profitable given the high upfront costs involved in building up the basic infrastructure,<sup>22</sup> particularly from the perspective of an international payment service provider (PSP).<sup>23</sup> Difficulties in achieving economies of scale may prevent local banks and mobile operators from offering cheaper payment services to consumers.<sup>24</sup> That means that boosting the domestic digital payments market is a key step in widening the availability of international payment services and payment gateway options for cross-border e-commerce.

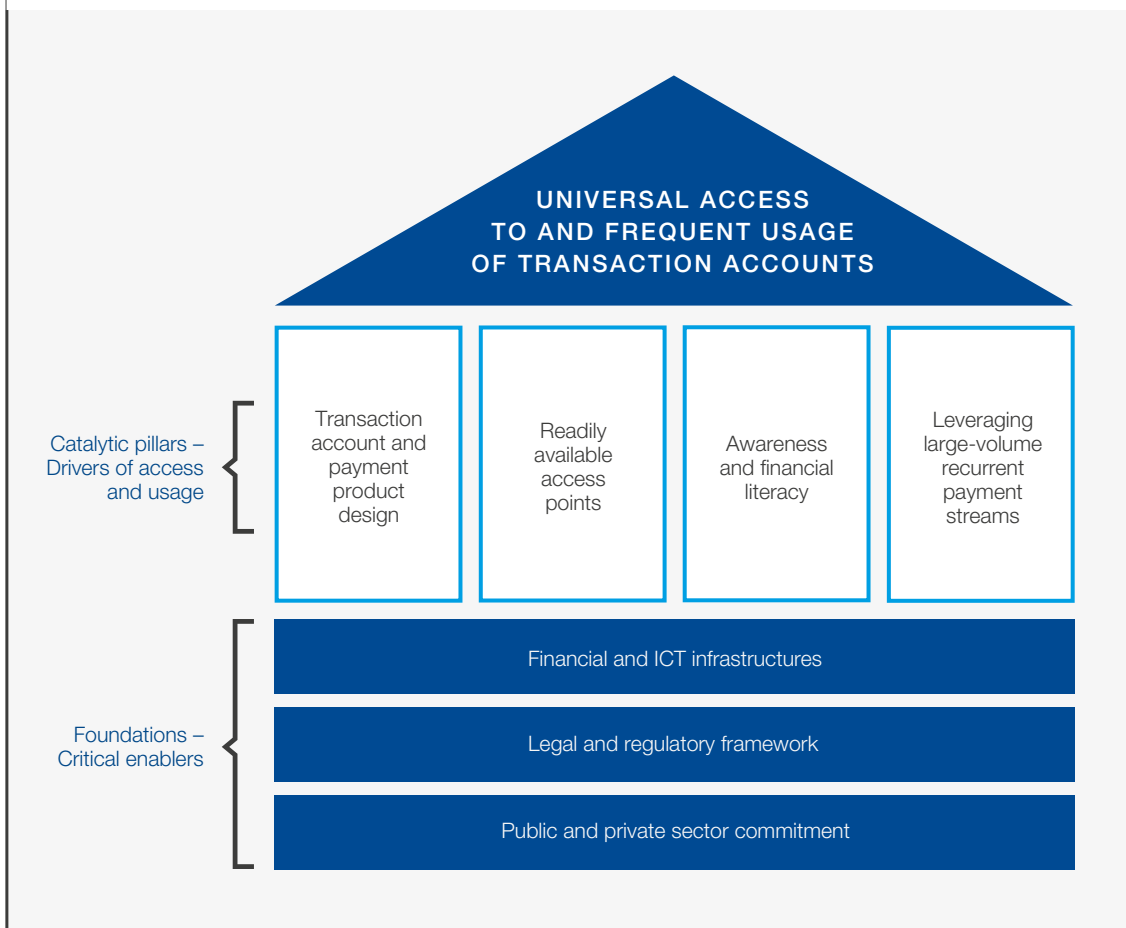
To consider these issues in relation to e-commerce, the Forum held two labs comprising public- and private-sector representatives in Papua New Guinea in November 2019 and subsequently in a hybrid in-person and virtual format in June 2020. The key insights and next steps on the topics ripe for further multistakeholder engagement and implementation are summarized below.

## 2.2 Insights

*Payment aspects of financial inclusion (PAFI)*, a joint report by the Bank for International Settlements and the World Bank Group, has been used by many countries as a guide in formulating and evaluating their payment system. PAFI outlines three foundational enablers for universal access to payments: “commitment from stakeholders, the legal and regulatory framework, and financial and ICT infrastructures”.<sup>25</sup> Payment product designs,

readily available access points, awareness and financial literacy and the leveraging of large-volume recurrent payment streams are considered as catalytic enablers beyond the foundations. Facilitation 2.0 findings in Papua New Guinea echo those of PAFI. Given that Papua New Guinea is at the early stage of digital payment development, this focus is on insights into the status of the three foundational enablers identified in PAFI.

FIGURE 1 Interrelation of foundations, catalytic pillars and effective usage



Source: Bank for International Settlements and World Bank Group, *Payment aspects of financial inclusion* (PAFI), Committee on Payments and Market Infrastructures, World Bank Group, 2016

## Public- and private-sector commitment

The adoption of digital payments is a complex process that requires strong commitment from all stakeholders. Conversations with local stakeholders reveal solid commitment from both the public and private sectors to improve the status of digital payment adoption for e-commerce.

### Private initiatives

The presence of international PSPs is very limited in Papua New Guinea due to the high costs associated with basic infrastructure, the small percentage of people with formal identification documents and the lack of liquidity for local currency in international markets. Some providers only offer services to pay from Papua New Guinea but do not allow the receipt of funds into the country. Despite these challenges, regional players have stepped up in recent years to expand access to digital payments and build payment gateways for e-commerce.

The telecommunications company Digicel is the dominant provider of telecom services in Papua New Guinea with a 92% market share. It provides mobile money service CellMoni, using Unstructured

Supplementary Service Data (USSD). The key benefit of USSD is that it allows people with no internet access to conduct money transfers over text messages using feature phones. Without charge, users can top up their CellMoni account, make domestic peer-to-peer transfers and purchase electricity. At present, CellMoni has over 100,000 users with a few hundred agents. Customer outreach is difficult since the vast majority of the population is scattered over 600 islands.

M-Pesa, a company owned by Vodafone that provides payment services using USSD in Africa, has demonstrated that USSD could be used for cross-border payments. M-Pesa has partnered with Western Union and PayPal to allow its customers to have broader access beyond Africa, which could be a good model for Papua New Guinea.

Bank of South Pacific (BSP), the largest bank in the country, also provides mobile banking services via USSD. Even though an internet payment gateway (IPG) has existed since 2007, the limited number of scheme cards (approximately 150,000 scheme cards issued and in circulation), the limited total

transaction volume and fraud coupled with high set-up costs have prevented the growth of IPGs. BSP launched a new IPG with reduced set-up costs for merchants in 2017 and had its first micro, small and medium enterprise (MSME) customer in April 2020. IPG allows the online acceptance of cards issued by Visa or Mastercard and plans to expand acceptance at the end of 2020 to 1.8 million BSP bank account holders by offering a solution that does not require cards. IPG has the capacity to process currencies from Papua New Guinea's major trading partners, such as Australia, New Zealand, the United States, Japan and Singapore. At present, MSMEs constitute the overwhelming majority of BSP's IPG potential and current clientele.

Traditional banks also partner with new players in the market to provide better services in Papua New Guinea. For example, Kina Bank, the fourth largest bank in Papua New Guinea, recently partnered with NiuPay, a local fintech. The partnership aims to provide a cheaper and more convenient method for MSMEs to be connected to Kina's payments portal.<sup>26</sup>

Women in Papua New Guinea are 29% less likely to have access to formal financial services.<sup>27</sup> Several local financial service providers, including BSP, design and provide financial services products targeted at women.<sup>28</sup> Digicel also offers agency training programmes to women in rural areas to improve financial literacy.

#### **Government adoption of online payments**

A recent World Bank report found that one of the best ways to accelerate the use of digital payments is for governments to accept digital payments for everyday transactions (e.g. invoices, salaries, procurements, tax payments, etc.).<sup>29</sup> Papua New Guinea has moved from being a low

#### **YuTru**

YuTru, a private-sector-led digital trust framework run by Digital Identification Bureau Ltd, was established in March 2019. YuTru has received technical assistance from the BPNG and the Government of Australia's Department of Foreign Affairs and Trade. The objective of YuTru is to promote financial inclusion through technical innovation by providing digital identification to people who have previously been excluded.

During its early stage, YuTru relies only on licensed financial institutions to collect identification information (including biometric imprints) of consumers and vet claims consumers make about

UN e-government development index (EGDI) country in 2018 to being a middle EGDI country in 2020.<sup>30</sup> E-government is considered a high priority by the Government of Papua New Guinea and has received support from the Government of Australia<sup>31</sup> and the International Finance Corporation (IFC).<sup>32</sup> A "State in a Phone" project was announced early in 2020 to give citizens access to an online government information portal before the end of the year.<sup>33</sup> In 2019, the Immigration & Citizenship Authority hired NiuPay to develop an e-visa payment system.<sup>34</sup> Tourism is an important source of income for Papua New Guinea and many foreigners are living and working in the country's major cities.<sup>35</sup> The e-visa online payment system has reduced the workload for overseas missions and the visa processing time and costs significantly<sup>36</sup> and has allowed government to collect revenue on an onshore account.<sup>37</sup> In August 2020, as part of the e-government initiative and response to COVID-19, the Department of Lands and Physical Planning also launched an online payment platform through NiuPay to accept payments of government land rents through debit and credit cards. As more and more government services move online, the government's adoption of online payments is expected to continue to increase.

#### **Public-private collaboration**

Establishing a broad-based National Payments Council (NPC) has been in the strategic plan of the Bank of Papua New Guinea (BPNG) since 2009 and is written into the National Payments System Act 2013 as one of the bank's duties.<sup>38</sup> The NPC is comprised of senior executives in the financial services industry and serves as an advisory and consultative body to the BPNG. Other than through the NPC, the BPNG is also working closely with the private sector to establish the digital identification system, YuTru.

their identity and attributes. The participating licensed financial institutions then issue credentials to consumers and make these credentials available to other participating members of YuTru. Non-financial institutions, such as government agencies, utility service providers and mobile network operators,<sup>39</sup> are also invited to provide additional attributes of a person's identity on their network. While YuTru plans to be free to consumers, an institution needs to pay membership fees and abide by the rules YuTru sets forth.

**Source:** YuTru, "Welcome to YuTru" [website], <https://yutru.org>



## Legal and regulatory framework

Drawing upon its experience in 10 countries, the Consultative Group to Assist the Poor (CGAP) has considered four regulatory elements as basic enablers to support inclusive digital financial services: 1) creating specialized licensing for non-bank digital financial service providers without the same stringent rules applicable to banks; 2) allowing non-bank digital financial service providers to use third-party agents; 3) adopting risk-based know-your-customer due diligence; and 4) subjecting non-bank digital financial services to clear guidelines of consumer protection rules.<sup>40</sup> Since its 2008 review of the Papua New Guinea National Payments System, the BPNG has taken several steps to update its regulatory framework to include the four basic enablers. The National Payments System Act 2013 establishes the legal framework for the system, officially recognizing electronic records, cheque imaging, real-time gross settlement (RTGS) payments, and the use of electronic money (e.g. credit and debit products and mobile money services, such as CellMoni).<sup>41</sup> In 2019, the BPNG drafted a series of directives to update the terms and requirements related to the National Payments System Act, including the:

- **Directive on oversight**, which sets out the licensing requirements for the provision of payment services (including electronic money)

and operations of systems for payment processing, clearing and settlement

- **Directive on electronic fund transfers (EFT)**, which provides a wide scope for EFT and rules and standards with respect to EFT
- **Directive on agents**, which sets out rules with regard to running an agency programme by PSPs and the licensing procedure
- **Directive on payments instruments**, which sets forth the roles and responsibilities of an issuer of non-paper retail payments instruments, including reporting requirements and principles for risk management, consumer privacy, consumer protection, the management of customer funds and anti-money laundering/countering the financing of terrorism (AML/CFT).

In December 2019, the BPNG officially launched a regulatory sandbox (BPNG Sandbox) with the goal of promoting innovation in the area of financial inclusion.<sup>42</sup> Both existing financial institutions and institutions that do not typically fall under the oversight of the BPNG are encouraged to participate in the sandbox if their innovation requires regulatory approval from the BPNG. As of June 2020, the BPNG has received five applications.

## Financial and ICT infrastructure

### **Coral Sea Cable System and Kumul submarine cable network**

Jointly funded by the Governments of Australia, Papua New Guinea and the Solomon Islands, the Coral Sea Cable System is a 4,700 km-long fibre optic submarine cable system connecting the three countries. The cable was completed in September 2019 and is expected to deliver faster, cheaper and more reliable internet service to Papua New Guinea.<sup>43</sup>

The Kumul submarine cable network is a 5,457 km domestic internet platform to link 14 provinces and two national data centres in Port Moresby and Madang, Papua New Guinea. It is expected to connect to Jakarta through Indonesia's national backbone submarine cable network and further connect to Asia to form a new international internet gateway.<sup>44</sup> The entire project will be completed by mid-2021.

The cost per megabyte for the largest data bundles offered by Digicel and Telikom/BMobile, two major internet providers, has dropped since August 2018.<sup>45</sup> Since the completion of the Coral Sea Cable System and the partial completion of the Kumul submarine cable network, the overall retail price of the internet has not dropped significantly and a

big difference exists between the prices charged by Digicel and Telikom/BMobile.<sup>46</sup> Cable systems do not seem to reduce the overall operation costs associated with connecting cables beyond their landing points and the maintenance of signal towers. The lack of domestic competition in the mobile and internet service provider markets casts doubts on further price reductions at this stage.

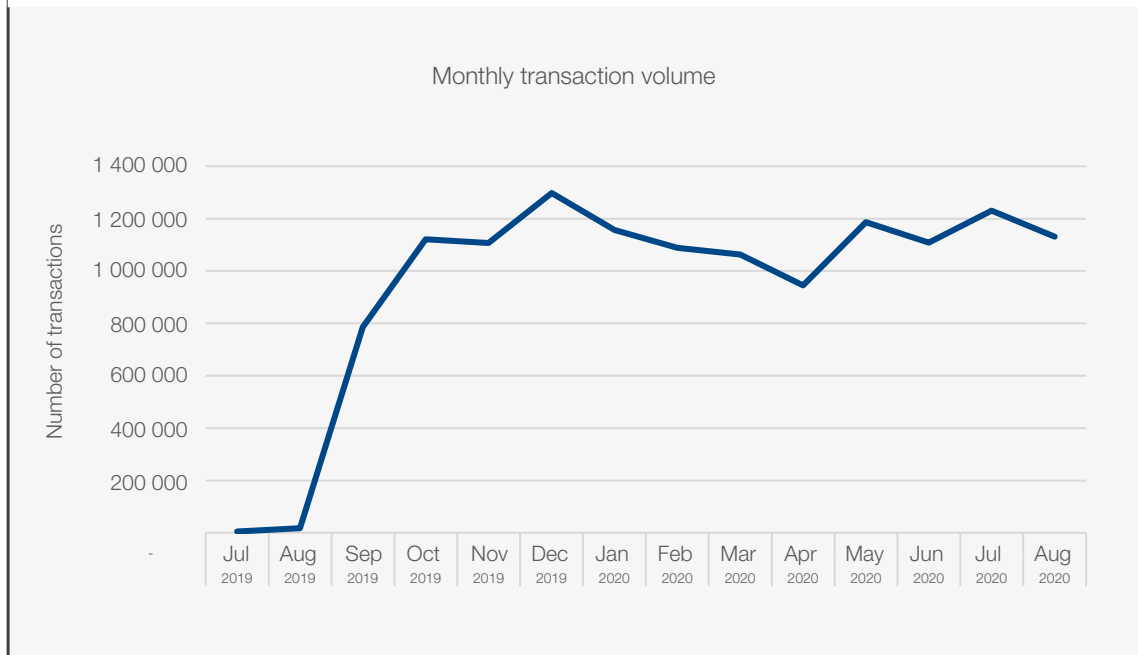
### **Kina Automated Transfer System and Retail Electronic Payments System (REPS) National Switch**

The BPNG is the owner, regulator and operator of critical payment systems, including the Kina Automated Transfer System and the Retail Electronic Payments System (REPS). The Kina Automated Transfer System facilitates money transfers, including retail payments, among commercial banks and between commercial banks and the BPNG. It provides instant settlements for high-value and high-priority payments through the RTGS system and acts as an automated clearing house for cheques and direct credit payments. Direct credit payments are settled on a net basis at a fixed schedule and are ideal for low-value and non-urgent payments, given its lower price compared to the RTGS system.<sup>47</sup>

In July 2019, the BPNG launched a “National Switch” in the first phase of the REPS to process domestic debit card transactions undertaken at electronic funds transfer at point of sale (EFTPOS) terminals and automated teller machines (ATMs) across various financial institutions beyond commercial banks. The National Switch is the core of Papua New Guinea’s REPS, whose purpose is to support retail payments at the national level. The National Switch has been connected to major

financial institutions in Papua New Guinea.<sup>48</sup> While the National Switch does not support transactions that take place online at present, the BPNG plans to launch instant payment transfers through it at the end of November 2020 and to connect it with non-bank and mobile PSPs in 2021. Once non-bank and mobile PSPs are connected to the National Switch, interoperability between non-bank and mobile PSPs and traditional bank accounts will be achieved.

FIGURE 2 **Monthly transaction volume of the Retail Electronic Payments System, July 2019-August 2020**



Source: Provided by the Bank of Papua New Guinea

**Initiative to broaden access to identification and unify the identification system**

Many stakeholders in Papua New Guinea have indicated that the lack of individual identification – together with multiple methods of identification – is a major obstacle to enabling digital payments. The national government initiated a programme called National Identity Card, which currently faces outreach and scaling challenges. In response to these issues, several initiatives are under way. The BPNG has advocated IDBoxes powered by blockchain technology and biometric authentication

to generate digital identification for people in rural areas.<sup>49</sup> Digizen, a similar initiative by a private company with support from the Asian Development Bank, is in progress and going through the sandbox process with the BPNG. Digizen provides near-field-communication-enabled physical identification cards. Digizen identification cards can operate in environments without electricity or internet connectivity and are issued based on biometric authentication and community vouching. YuTru’s latest initiative is to create a more unified approach to identification.

## 2.3 Next steps

A few policy considerations are offered below to help guide the development of new programmes and regulations to deepen the adoption of digital

payments and to consider how these can improve cross-border e-commerce.

### Champion digital payment adoption

As digital payment adoption grows within a market, international PSPs have more incentives to invest in the sector. The government's move to develop an online payment system for revenue collection is a significant step in the right direction. Given the government is the single largest employer and payor, it may also consider opting to distribute social benefits and public-sector salaries through e-money accounts (e.g. prepaid cards, digital wallets and direct account deposits) to drive

the adoption of digital payments.<sup>50</sup> It could also consider merchant incentives around digital payment use through tax breaks on the total volume of digital payments. For example, since 1994, South Korea has given small businesses value-added tax credits for digital payments volume, typically around 1-2%.<sup>51</sup> Since then, the rate of digital payment usage in South Korea has grown substantially and is now one of the highest in the world at 90%.<sup>52</sup>

### Adopt a risk-based approach

Balanced supervision of the payment system is critical for maintaining integrity, stability and inclusion. A lack of oversight introduces serious systemic risks, while too much oversight can have unintended consequences for low-risk transactions.<sup>53</sup> The BPNG has taken a critical step in ensuring the adequate supervision of the national payment system by building a regulatory framework around payments. Future requirements will be designed to ensure they are commensurate with the risk introduced into the system and not overly burdensome.

#### Minimum capital requirement

One area of concern identified in the BPNG directives are the proposed minimum capital requirements (roughly \$150,000 for PSPs and \$1.5 million for system operators). While the purpose of a minimum capital requirement is to ensure adequate financing in case of financial risks, the proposed requirements may be significant enough to discourage new participants from entering the market, especially proportionate to Papua New Guinea's small market size and the high costs involved with infrastructure. The BPNG could consider a minimum capital requirement to be

commensurate with the risk posed to the overall financial system.

#### Tiered know-your-customer scheme

Know-your-customer (KYC) and AML standards are critical to maintaining the integrity of the financial system, but low-risk transactions are often subjected to overly burdensome requirements. An alternative approach is to adopt a tiered KYC scheme, which reduces barriers for low-value, low-risk accounts. By lowering barriers, tiered KYC schemes encourage formal financial inclusion and, therefore, broader expansion of digital payments.

In line with the international Financial Action Task Force (FATF) recommendations, the BPNG has adopted risk-based tiered KYC under the Anti-Money Laundering and Counter Terrorist Financing Act 2015 (AML/CTF Act 2015),<sup>54</sup> Prudential Standard MBPS 1/2011: Mobile Banking and Mobile Payments Services (MBPS 1/2011),<sup>55</sup> and Prudential Standard BPS253: Customer Due Diligence Standards (BPS253).<sup>56</sup> Table 2 compares various KYC requirements of a natural person under each regulation.

TABLE 2 | Comparison of know-your-customer requirements

Regulation	AML/CTF Act 2015	MBPS 1/2011	BPS253
<b>Scope</b>	“Financial institution” broadly defined to include banks and companies providing services including “transfer of currency”, foreign exchange, card issuance and investments	Banks, financial institutions and non-bank providers of mobile banking and mobile payment services	“Authorised Institutions (AIs)” defined as bank and licensed financial institutions authorized under the Banks and Financial Institutions Act 2000
<b>Simplified KYC eligibility</b>	When other types of KYC procedure do not apply	Transaction limit per day: 500 Papua New Guinean kina maximum	A natural person belonging to a “low-income group” (which is not defined)  AND  A total transaction amount not exceeding 1,000 kina and an annual transaction threshold of 10,000 kina
<b>Information required under the simplified KYC</b>	Full name and address (which may be difficult to verify if a person has no official identification documents)	Self-registration or registration at agencies; no form of identification required (without indication of what “self-registration” or “registration” requires)	Introduction by a person or entity who has maintained a good relationship with the AI with no transaction concerns for a period of at least 1 year (a requirement difficult to satisfy for people in a community where most people are unbanked)  AND  A photograph and address details certified by the introducer or any other evidence as to the identity and address of the customer
<b>Standard KYC eligibility</b>	At the start of the client relationship  OR  If a customer wants to conduct an occasional transaction of over 20,000 kina in one or several batches	Transaction limit per day: 501-2,000 kina	At the start of the client relationship
<b>Information required under the standard KYC</b>	Full name, address, date of birth, place of birth and occupation (which may be difficult for a person without formal identification)	Valid forms of identification  AND  An open bank account with a bank or licensed financial institution	Full name, unique identification number and photograph, e.g. an identity card number, birth certificate number or passport number; existing residential address; date of birth  AND  nationality
<b>Other types of KYC<sup>57</sup></b>	For electronic fund transfers of over 2,500 kina or more: full name, account name, and an address or customer identification number or place and date of birth (which assumes the customer already has an account with a financial institution and, hence, has already satisfied the standard customer due diligence)	N/A	N/A



It is not clear which tiered KYC requirements would apply to PSPs and remittance companies, which are the typical payment methods used by low-income populations and people in remote areas. PSPs, including mobile wallets, are governed by the Directive on Oversight 01/2019.<sup>58</sup> This directive specifies that PSPs need to comply with Papua New Guinea's AML/CTF laws and regulations. While the scope of BPS253 only applies to banks and licensed financial institutions under the Banks and Financial Institutions Act 2000, PSPs and remittance companies do fall within the definition of

a "financial institution" under the AML/CTF Act 2015 and, hence, could be subject to more stringent KYC requirements under that Act.

From a risk-based perspective, the BPNG could consider applying less stringent KYC requirements to small and infrequent payments conducted regardless of whether they are processed through traditional financial institutions or PSPs. Some clarification of the existing laws and regulations on tiered KYC for PSPs could help PSPs reach out to the unbanked.

## Build a robust identification system for payments

### Digital identity and eKYC

The lack of identification documents is a common issue across developing countries. KYC is the first step needed to establish an account with any financial service provider. Without proof of identity, KYC cannot be carried out and anti-money laundering and sanctions checks cannot be conducted effectively. Cross-border payments also cannot be conducted.

While a tiered KYC system can help drive financial inclusion, a long-term solution to financial inclusion is to establish a robust identity system. When developing policies related to identity systems, countries should make sure the system can be used for digital payments and should provide a legal basis for the electronic know-your-customer (eKYC) process.

Neither the AML/CTF Act 2015 nor MBPS 1/2011 prescribes what type of document (physical or digital) is required to verify a customer's identity. Appendix 1 under the BPS253 requires that the acceptable evidence for the purposes of customer identification and verification "must be recent and original documents – no photocopies".<sup>59</sup> BPS253 does not appear to allow for eKYC. Neither the AML/CTF Act 2015 nor BPS253 specifies that biometric authentication can be a method to prove one's identity. However, under the Directive on Agents 03/2019 (Agency Directive), agents of PSPs

are permitted to use "biometric" information to confirm transactions requiring identification.<sup>60</sup>

Explicitly allowing digital records to be used to verify a person's identity under laws and regulations would provide legal support to establish eKYC protocols leveraging data from initiatives such as YuTru or Digizen.

While Papua New Guinea has embarked on a journey to build a robust digital identification system, digital identity is not a silver bullet for financial inclusion. For a population that lacks digital access and digital literacy, digital identity may create a bigger digital divide if alternatives and universally available technology are not adopted.<sup>61</sup> Data connectivity can also pose challenges to the adoption of digital identity. Further, the deployment of digital identity requires a robust regulatory framework and technology infrastructure to guard against data breaches and cyberattacks and to protect privacy.<sup>62</sup> Even though its Constitution, Cybercrime Code Act 2016 and National Information and Communications Technology Act 2009 provide some level of legal protection over data privacy, Papua New Guinea does not have a dedicated data privacy law.<sup>63</sup> As more and more activities move online, Papua New Guinea could consider starting private and public dialogues to develop a strategy on data privacy.

## Promote Interoperability within and beyond Papua New Guinea

The issue of interoperability has three dimensions: 1) interoperability between a cash-based system and a digitized system; 2) interoperability between banks and digital PSPs within the national system; and 3) interoperability with the banking system of

major trading partners. Improving interoperability helps increase access to digital payments, enables economies of scale for international PSPs and reduces the overall costs associated with digital payments and cross-border payments.<sup>64</sup>

### **Domestic banking network leveraging**

Cash remains king in many parts of the world, especially in developing and less-developed countries and within the most vulnerable populations. Allowing an easy and cost-efficient conversion between cash and its digitized format is key. Banks often have a wide cash-in/cash-out network with an existing customer base. Allowing digital PSPs to have access to the banking network has proven a successful way to promote digital payments in China.<sup>65</sup>

Providing incentives for banks to allow people to use their ATMs to deposit money into and withdraw money from PSPs, especially mobile wallets, can also help promote access to digital payments, as it lowers digital PSPs' costs in setting up a cash-in/cash-out network. The National Switch can play a role in allowing ATMs to be connected to mobile wallets.

Open banking is another way to promote interoperability with existing banking networks. Open banking takes a consumer-centric data ownership approach: it allows customers to share their banking data, such as personal identification data and transaction data, with PSPs and other service providers. In some countries, open banking initiatives are driven by governments as an effort to level the playing field for innovative PSPs to gain easy access to consumer data held by incumbents.<sup>66</sup>

### **International standards adoption**

Diverging standards have made it difficult to connect payment systems across different markets.<sup>67</sup> The adoption of international standards improves interoperability and reduces friction for cross-border transactions and the costs of entry into a market; international companies thus have greater incentive to invest in local markets that have adopted international standards.

The standards chapter of the Directive on electronic fund transfers calls for "industry best practices" to be used in customer authentication, but does not explicitly promote the use of international standards, which is likely something that could be covered by future regulations sanctioned by this act.

## **Strengthen public and private communications**

The Facilitation 2.0 initiative has received overwhelming responses from the private sector in Papua New Guinea on the need for regulatory clarification. Some of the confusion is around regulation with respect to mobile payments, including the licensing requirements and process, or related to access to REPS. The NPC may have served as a channel for the BPNG to communicate with some members of the private sector, but it

While the adoption of international standards will improve Papua New Guinea's connection to global markets, the country's authorities should be careful to avoid prescribing approaches in areas where uniform standards have not yet emerged and to allow time for local players to catch up.

### **Trade commitment and regional collaboration**

Trade commitments promote interoperability by lowering market entry barriers for international PSPs. As part of the General Agreement on Trade in Services (GATS), Papua New Guinea adopts commitments in financial services both in terms of market access and national treatment and covering all modes of supply. With respect to payment services, foreign PSPs are subject to the same rules and requirements as domestic providers, thus promoting competition.

Strengthening regional collaborations or cooperation with trading partners on payments rules and regulations can also help reduce frictions on cross-border digital payments.<sup>68</sup> Australia is Papua New Guinea's top trading partner.<sup>69</sup> Many major financial service providers in Papua New Guinea are also from Australia. Bilateral agreements to share information and coordinate regulatory oversight on cross-border PSPs with Australia and other trading partners may drive the growth of cross-border digital payments and, eventually, digital trade.

Papua New Guinea's latest sandbox initiative is heading in the right direction by driving more innovative collaboration with other countries: it provides fast-track application to companies that have successfully tested its product in a sandbox of another jurisdiction. The BPNG Sandbox envisions the possibility of a company that successfully exits its sandbox qualifying for the same fast-track treatment in another jurisdiction in the Pacific Islands. The BPNG could consider granting a fast-track licensing application process or sandbox application process to PSPs and other financial services companies that have already obtained licences from other jurisdictions and have a proven track record. This approach could encourage more international PSPs to enter Papua New Guinea.

perhaps is limited. Setting up a broad channel of communications to address questions from the private sector, either in the form of an innovation office<sup>70</sup> or in the form of no-action letters,<sup>71</sup> will help provide more regulatory certainty to international PSPs interested in Papua New Guinea. Clarity in regulations would also encourage existing unlicensed players to obtain necessary licences and, hence, provide more protections to their consumers.

3

# Digital FDI

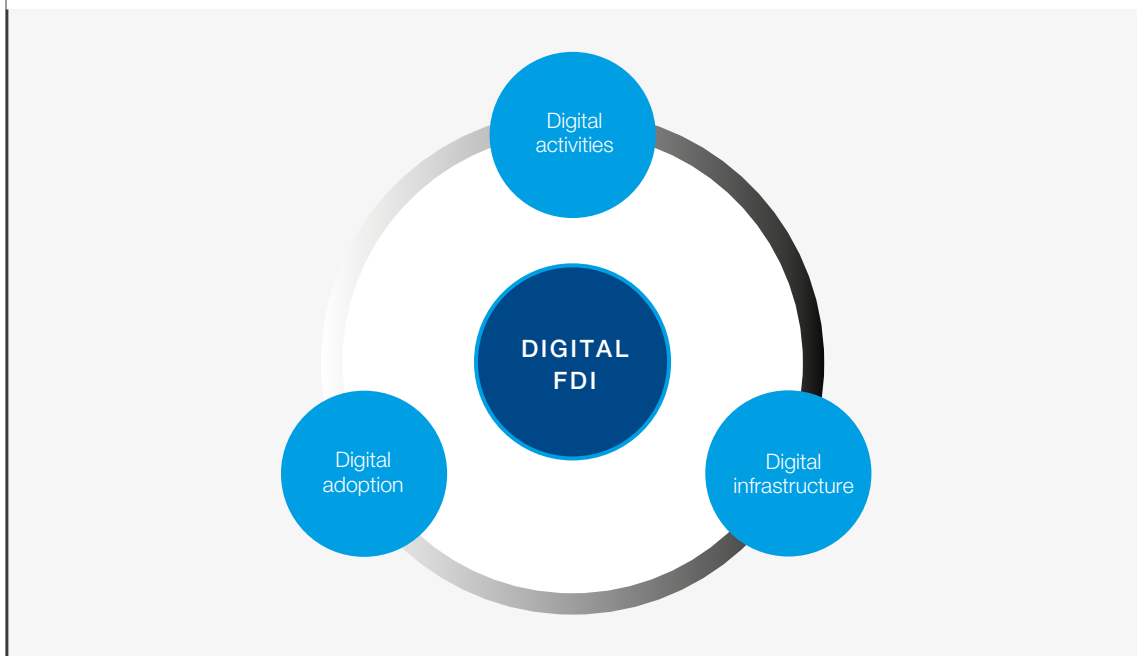
## 3.1 Context

The importance of attracting investment in the digital economy as one way to boost its development came out clearly in the consultations and lab discussion on digital FDI in June 2020. On the one hand, FDI is one of the main sources of capital for developing countries and it brings additional benefits, such as knowledge, technology, innovation and training, which are essential in the digital context. On the other hand, domestic conditions in Papua New Guinea mean the timing is right to better understand how to attract such investment. The country's authorities have been debating a new investment law and developing a new investment policy and strategy. The Investment Promotion Authority (IPA) is working with the IFC and Asian Development Bank on investment policy and strategy. As a result, information and options on attracting digital FDI could be usefully included in these discussions and efforts.

Attracting digital FDI may require specific policies and regulations vis-à-vis traditional FDI because digital firms operate with different business models. Just like traditional firms, digital firms invest abroad to be close to customers, access local knowledge, open new markets and more. Yet digital firms have business models that vary from traditional bricks-and-mortar businesses. Digital firms, or firms using digital tools, rely on data and technology, often involve platform economies and leverage non-traditional assets.

Policies and regulations to attract digital FDI can be viewed in three pillars: (1) digital activities; (2) digital adoption; and (3) digital infrastructure. Within each of these pillars, specific policies and regulations impact a potential investor's decision to commit capital and other resources. This approach builds on and operationalizes a theoretical framework set out by UNCTAD in its *World Investment Report 2017*.<sup>72</sup>

FIGURE 3 Digital FDI framework



Source: Elaborated from UNCTAD, *World Investment Report 2017*, United Nations, 2017

Digital activities entail firms providing entirely new digital services. The digital economy has generated a host of new business models. From social media and the platform economy to cloud computing and data centres, without the internet, such businesses would not have come into existence. Governments that embrace these new business models and

actively promote them are more likely to succeed in attracting investments. To illustrate, large sums have been invested in ridesharing and delivery firms in different regions.<sup>73</sup>

Digital adoption entails incumbent firms providing their existing services in new digital ways. Beyond

new business models, the digital revolution has the potential to change traditional ways of conducting business. Local enterprises may adopt various digital services to reduce obstacles caused by physical barriers, simplify supply and value chains, and provide the speedy delivery of goods and services. A precursor to achieving such investment are certain policies and regulations – for instance in telemedicine, mobile banking and online sales – that encourage the adoption of digital approaches to conduct business. For example, Polish telemedicine firm MedApp invested in the Baltic states, allowing cardiovascular diagnostics to be provided remotely.<sup>74</sup>

Digital infrastructure includes both a physical dimension and a legal or regulatory dimension. Robust and reliable physical infrastructure is key for the development and growth of the digital economy. Attracting investment in digital infrastructure requires a conducive legal and regulatory framework, including policies and regulations that encourage investment in payment processors. Success in attracting foreign investment in digital infrastructure can significantly benefit local companies, especially small and medium-sized enterprises. To illustrate, Abu Dhabi's state investment company Mubadala invested in Hyperoptic, a UK-based company helping to create the United Kingdom's gigabit broadband network.<sup>75</sup>

So what possible policies and regulations need to be considered in each of the three pillars, which are most important to investors' decision-making, and how can this be applied in Papua New Guinea? To answer these questions, an advisory committee was created and a global survey was conducted. The advisory committee helped ensure the right policies, regulations and measures were considered, and the questions were asked in the right way. The global survey asked investment decision-makers in firms from different jurisdictions what policies, regulations and measures are most important in their decisions to invest in a market. The survey was peer reviewed both in-house and by the advisory committee.

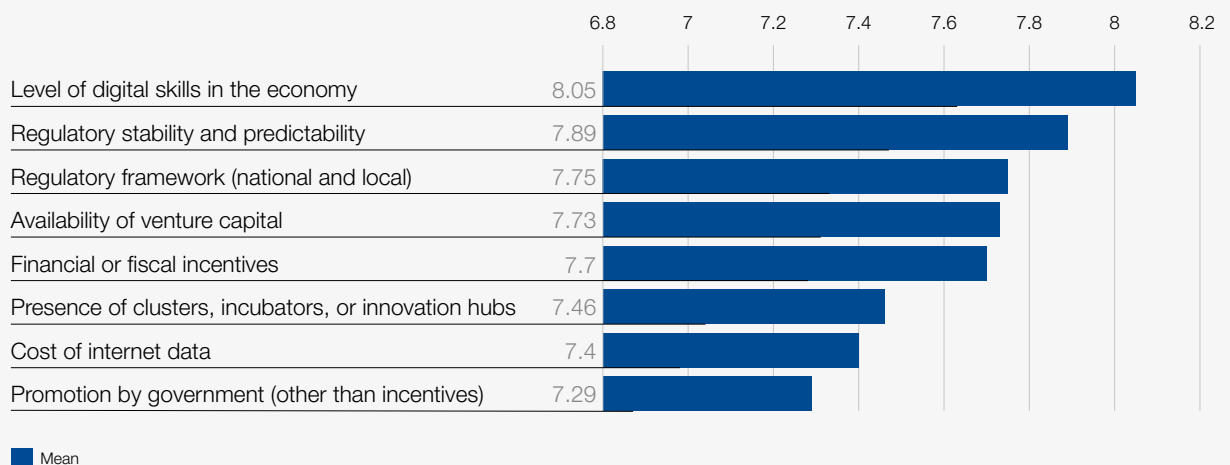
Firms were then surveyed in the United States (170), United Kingdom (50), India (30), Japan (20), Canada (20) and China (20), for a total of 310 responses. A larger number of firms were surveyed in the United States because most digital FDI comes from firms based in the United States; they are thus a key group to understand. To complement the survey, input from digital industry groups was sought and in-depth consultations with key firms were carried out. These consultations allowed to dig deeper and understand the strategic thinking behind the survey answers. The insights were then applied to the Papua New Guinean context, identifying potential actions to increase its attractiveness for digital investment.

## 3.2 Insights

Five principal questions were asked. This section relays the findings related to these questions and provides an initial analysis applied to the context in Papua New Guinea. The questions related to: (1) the "big picture", to understand the relative importance of certain elements at the highest level for investing abroad in the digital economy; (2) digital activities; (3) digital adoption; (4) the

physical dimension of digital infrastructure; and (5) the regulatory dimension of digital infrastructure. For each question, the respondents were asked to rank the importance of the different elements: from 0, the lowest score, denoting no importance in an investor's decision-making, to 10, the highest score, denoting the greatest importance.

FIGURE 4 How important are the following for investing abroad in the digital economy?



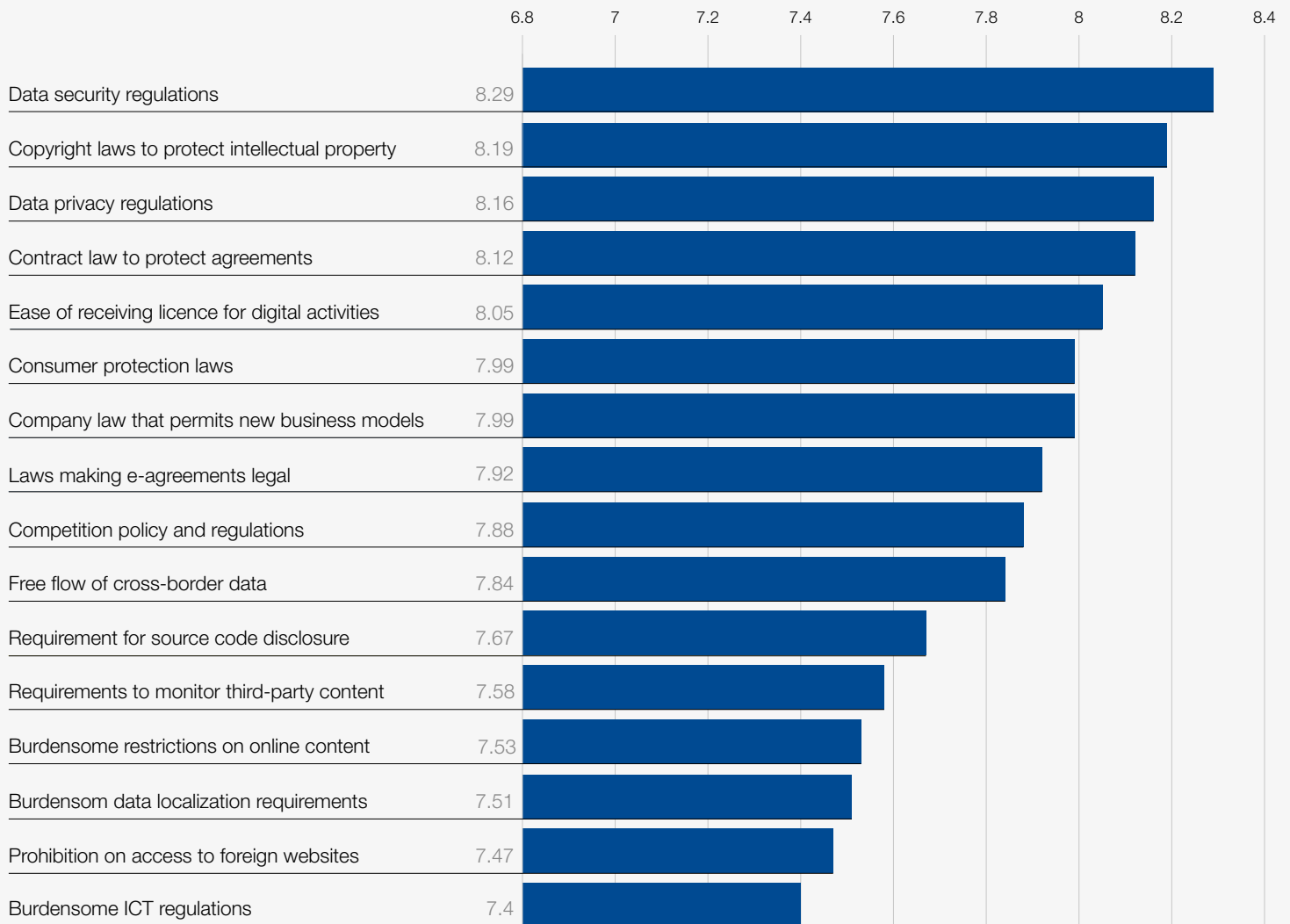
Source: World Economic Forum survey



In terms of the big picture, the top three elements that investors care about when making decisions to invest in the digital economy are: (1) the level of digital skills in the economy; (2) regulatory stability and predictability; and (3) the regulatory framework. This is good news for two reasons. First, it provides evidence of the importance of this effort: getting the regulatory framework right will affect an investor's decision-making. Second, regulatory stability and predictability can to a certain extent be shaped by a government, so this is something

that the Government of Papua New Guinea may be able to control. The importance of the regulatory environment as well as stability and predictability as determinants for investors' decision-making are findings that are confirmed in other work, which further support this point.<sup>76</sup> In addition, the finding that the level of digital skills is the most important big-picture consideration is a clarion call for including digital skills throughout Papua New Guinea's curricula and training programmes, both in the public and private sectors.

FIGURE 5 How important are the following for investing abroad in digital activities?



■ Mean

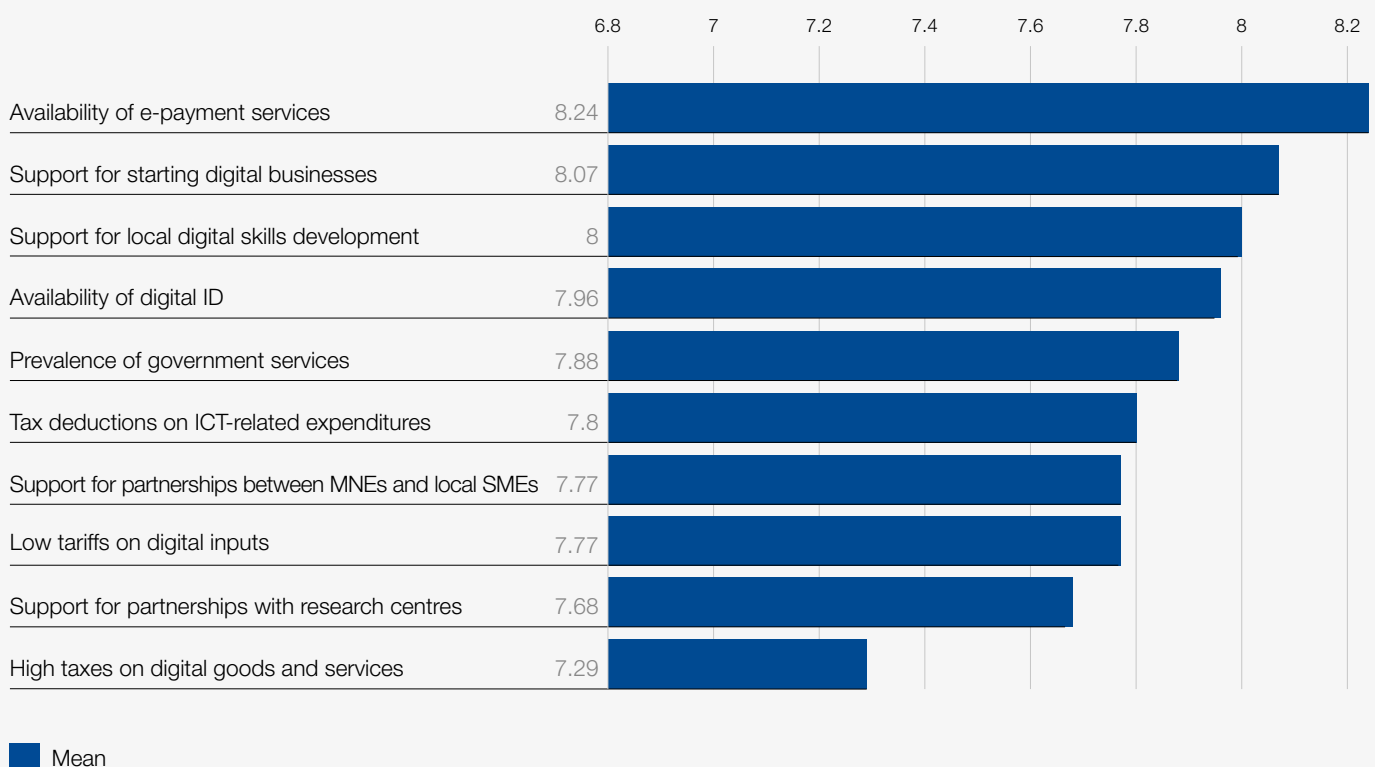
Source: World Economic Forum survey

The top three elements that investors care about when investing in new digital activities are: (1) data security regulations; (2) copyright laws to protect intellectual property; and (3) data privacy regulations. This shows how important it is to get data policy right. The finding is intuitive: a firm that has invented and owns a new digital service will want to make sure its idea can flourish and is protected by the legal system from being copied or stolen.

How to get data policy right is a controversial and complicated area, with various regulatory approaches adopted in different jurisdictions. It may warrant a separate, specialized policy dialogue in Papua New Guinea. The World Economic Forum recently published two white papers in this area that could serve as resources to launch such a dialogue.<sup>77</sup> Some elements, however, may be less controversial and complicated, and can be acted upon more readily. For instance, having in place legal and physical systems for data security is more straightforward than privacy issues, and is the most important element identified by investors. Papua New Guinea may therefore wish to ensure that such a framework is in place and, once it is, advertise it in FDI promotion campaigns.

In addition, new legislation is planned in 2020 to broaden the scope of Papua New Guinea's Independent Consumer and Competition Commission (ICCC) mandate and may wish to consider including data privacy as an integral part of consumer protection, while ensuring companies transferring data abroad can continue to demonstrate compliance. That can be done through provisions on data transfers in relevant laws outlining clear requirements. For example, the EU uses contractual clauses, a standardized and binding instrument pre-authorized by governments to enable data flows, although experience with these in developing countries is still emerging. Contractual clauses allow data to flow abroad based on a certain standard of treatment with the data exporter held accountable in the case of any misuse. Detailed contractual clauses tend to cover areas such as applicable data protection principles, warranties, rights and obligations of the parties, complaints and compliance mechanisms, liability and enforceability by third parties, the recourse of individuals, applicable law and dispute resolution.

FIGURE 6 How important are the following for adopting digital technology?



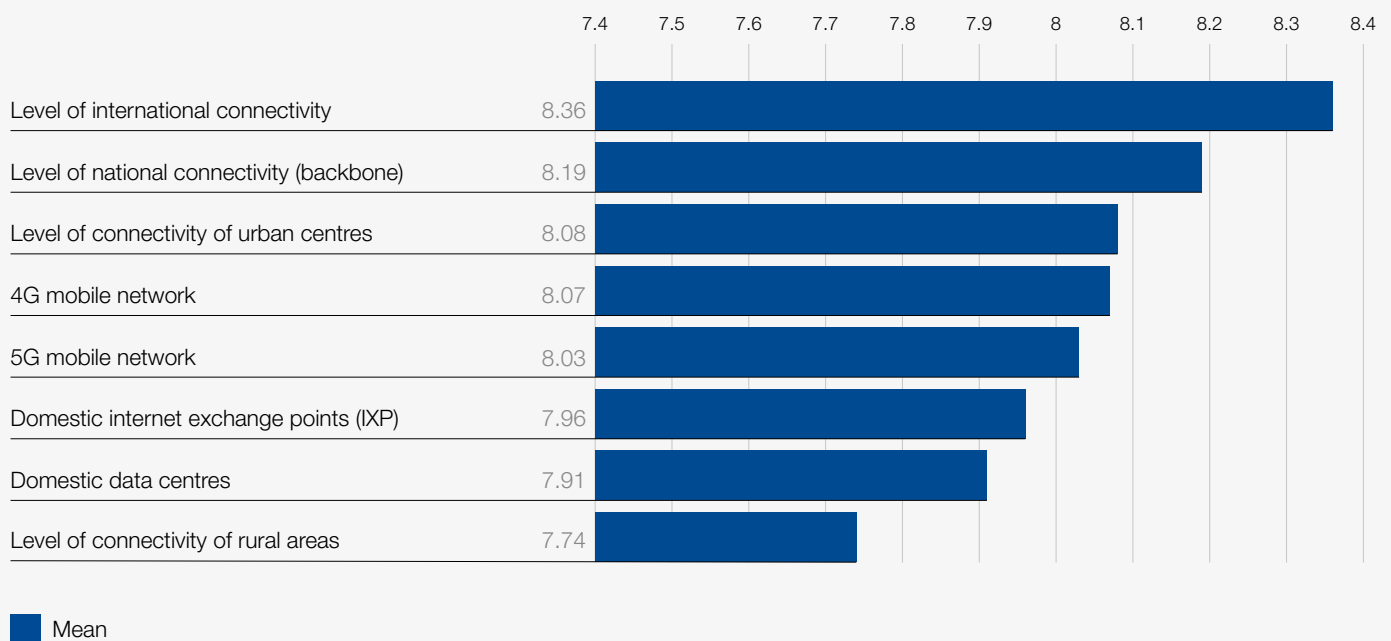
Source: World Economic Forum survey

The issue of digital adoption by existing firms is one that warrants close attention, as it allows them to increase competitiveness and therefore succeed in the digital age, with commensurate implications for domestic jobs, tax revenue, economic growth, etc.

The most important element that firms care about in deciding to adopt new digital technologies is the availability of e-payment services. This is a vindication of the selection of e-payments as one of the three reform activities in Facilitation 2.0 through the earlier multistakeholder, multistep process. Since creating an ecosystem for e-payments is covered in the earlier section, it is not discussed here, except to underscore its importance. And this finding is intuitive: if a firm cannot readily get paid, it is not likely to start providing a service.

In second place is support for starting digital businesses, which may be relevant to orienting the work of the IPA and other branches of the government towards attracting digital FDI. Concretely, this could entail expedited approvals, red-carpet treatment or higher levels of incentives for digital investments. It is worth noting, however, that the evidence shows incentives generally do not compensate for the lack of a welcoming investment climate, including through the regulatory framework and its implementation.<sup>78</sup> The optimal tactic would then be a friendly regulatory approach coupled with targeted promotion and facilitation measures, including incentives.

**FIGURE 7** How important are the following physical elements for investing abroad in digital infrastructure?

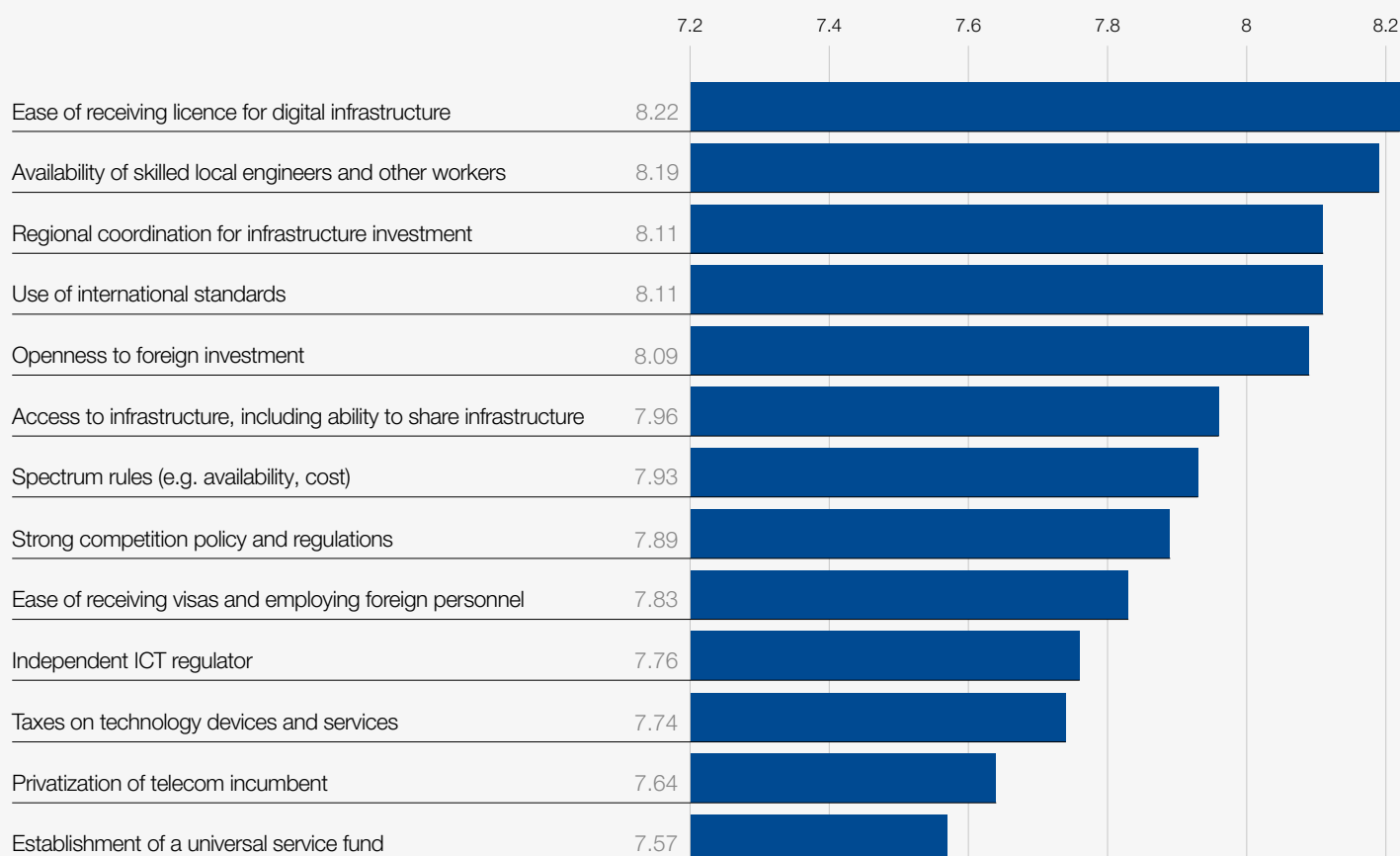


Source: World Economic Forum survey

The top three physical infrastructure elements for attracting digital FDI have to do with connectivity: international connectivity, national connectivity (also known as the national “backbone”) and urban connectivity. Connectivity in rural areas, in contrast, placed last, perhaps because rural areas are not seen as the locus of economic activity that investors seek. The finding that investors care most about international connectivity vindicates the Government of Australia’s effort to lay the Coral Sea Cable. Similarly, it justifies the effort to develop backbone infrastructure through the National Transmission Network provided by Huawei. These big-ticket items are important to catalyse greater investor interest.

Papua New Guinea has also been successful in providing mobile network connectivity by attracting Digicel’s investment and, more recently, providing a third licence to Vodafone Fiji and Digitech. All in all, significant effort was made to create the physical infrastructure needed to welcome further digital FDI; this effort should be recognized and continued for it to pay digital FDI dividends. This is especially the case as the cost of internet services remains high, demonstrating significant room for improvement. In a recent report, the World Bank Group outlines specific needs for ICT investment.<sup>79</sup>

FIGURE 8 | How important are the following regulatory elements for investing abroad in digital infrastructure?



■ Mean

Source: World Economic Forum survey

The final question pertains to the most important regulatory elements for FDI to flow into digital infrastructure. The top responses are: (1) ease of receiving a licence for digital infrastructure; (2) availability of skilled local engineers and other workers; and two elements tied for third place: (3) regional coordination for infrastructure investment, and (3) use of international standards.

Once again, the results may suggest an agenda to attract digital FDI. These elements seem in the purview of the National Information and Communications Technology Authority (NICTA). The NICTA may therefore wish to ensure digital infrastructure licences are easy to receive, in terms of cost, complexity and time. The NICTA may also

wish to ensure that international standards are adopted as much as possible, such as regarding telecommunications, numbering, signalling, etc.<sup>60</sup> The Ministry of Foreign Affairs and Trade, Department of National Planning and Monitoring (DNPM) and the IPA may also wish to ensure Papua New Guinea's infrastructure investment is coordinated with its neighbours, to ensure connectivity of a larger area and thus increase investor interest. This is already the case, of course, with the Coral Sea Cable, which is regional in nature. It is worth noting that skills are a priority, such that a public-private approach towards supporting digital skills development would seem very welcome to help attract FDI in digital activities, digital adoption and digital infrastructure.

### 3.3 Next steps

Creating a digital-friendly investment climate may require specific policies, regulations and measures. Given limited time and resources, Papua New Guinea may wish to start with those that firms have identified as most important to their investment decision-making as discussed above. During the June 2020 lab on digital FDI, the participants agreed to create a public-private, multi-agency digital FDI working group. It would bring together various branches of government, along with firms, to consider how to start operationalizing some of the priority policies, regulations and measures most important in the Papua New Guinean context.

The working group could, as a starting point, comprise the IPA, NICTA, DJAG, ICCC, DNPM, National Trade Office, Department of Treasury, Department of Information and Communications Technology, Internal Revenue Commission and the BPNG, given the issues that cut across various portfolios. Involving firms in the working group will

help ensure the most impactful policies, regulations and measures are addressed, and will increase the likelihood that these efforts achieve their intended effect of increasing digital investment flows.

The first meeting of the Digital FDI working group could ask private-sector representatives to identify the top reform actions they would like to see to increase the likelihood of investment in the digital economy. It could also start to develop an action plan and strategy to include digital skills throughout Papua New Guinea's curricula and training programmes, both in the public and private sectors, such as through a public-private mechanism to identify and develop digital skills.

In addition, certain government agencies may wish to consider driving reforms (Table 3) that are in their purview, seeking input from the private sector in meetings of the working group and providing updates on progress in these areas.

TABLE 3 Potential reform actions by government agencies for discussion

Investment Promotion Authority	<ul style="list-style-type: none"> <li>– Integrate a digital FDI approach in the new investment policy and strategy being developed</li> <li>– Publicize Papua New Guinea's digital FDI approach and measures: inform investors through marketing campaigns</li> </ul>
Treasury and Internal Revenue Commission	<ul style="list-style-type: none"> <li>– Provide oversight of the budget to support digital FDI activities</li> <li>– Support a fiscal framework that helps achieve digital FDI goals</li> <li>– Collaborate on appropriate investment incentives to develop the digital economy</li> </ul>
Department of National Planning and Monitoring	<ul style="list-style-type: none"> <li>– Collaborate on appropriate investment incentives to develop the digital economy in terms of policy and alignment</li> <li>– Through the Public Investment Program, coordinate and fund a more focused national investment plan in digital infrastructure</li> <li>– Carry out regional coordination and monitoring for infrastructure investment</li> </ul>
Bank of Papua New Guinea	<ul style="list-style-type: none"> <li>– Support the availability of e-payment services in the country</li> <li>– Commit to creating a digital-friendly regulatory framework and strive to maintain regulatory stability and predictability</li> </ul>



<p>Department of Information and Communications Technology</p>	<ul style="list-style-type: none"> <li>- Develop digital transformation projects, especially in digital infrastructure, to be submitted to the Public Investment Program</li> <li>- Coordinate the alignment of digital transformation projects as part of the Digital Transformation Policy</li> <li>- Set guidelines, standards, specifications and metrics for implementors of digital transformation projects, especially in digital infrastructure</li> </ul>
<p>National Information and Communications Technology Authority</p>	<ul style="list-style-type: none"> <li>- Ensure licences for digital infrastructure are easy to receive, in terms of time, cost and complexity</li> <li>- Adopt international standards in the development of physical infrastructure</li> <li>- Continue efforts to increase physical connectivity, internationally, nationally and within urban areas</li> </ul>
<p>Independent Consumer and Competition Commission</p>	<ul style="list-style-type: none"> <li>- Include data privacy as an integral part of consumer protection in the remit of the ICCC</li> <li>- Regulate fair pricing and competition by operators in the digital space</li> </ul>
<p>National Trade Office</p>	<ul style="list-style-type: none"> <li>- Coordinate the implementation of National Trade Policy measures that can support digital FDI</li> <li>- Coordinate the implementation of WTO TFA measures that can support digital FDI</li> </ul>
<p>Department of Justice and Attorney-General</p>	<ul style="list-style-type: none"> <li>- Assist with legal frameworks and measures for electronic transactions</li> <li>- Assist with legal frameworks and measures to protect data security and maintain responsible business conduct</li> </ul>

In short, while Papua New Guinea may be at a relative competitive disadvantage in some areas compared to other economies (for instance in the level of infrastructure or education), most middle- and low-income countries are starting on an equal footing in terms of digital policies and regulations

since it is a relatively new area. This provides a window of opportunity for Papua New Guinea to set itself apart, get a head start and even leapfrog some more advanced economies that may have outdated digital policies, regulations and measures.

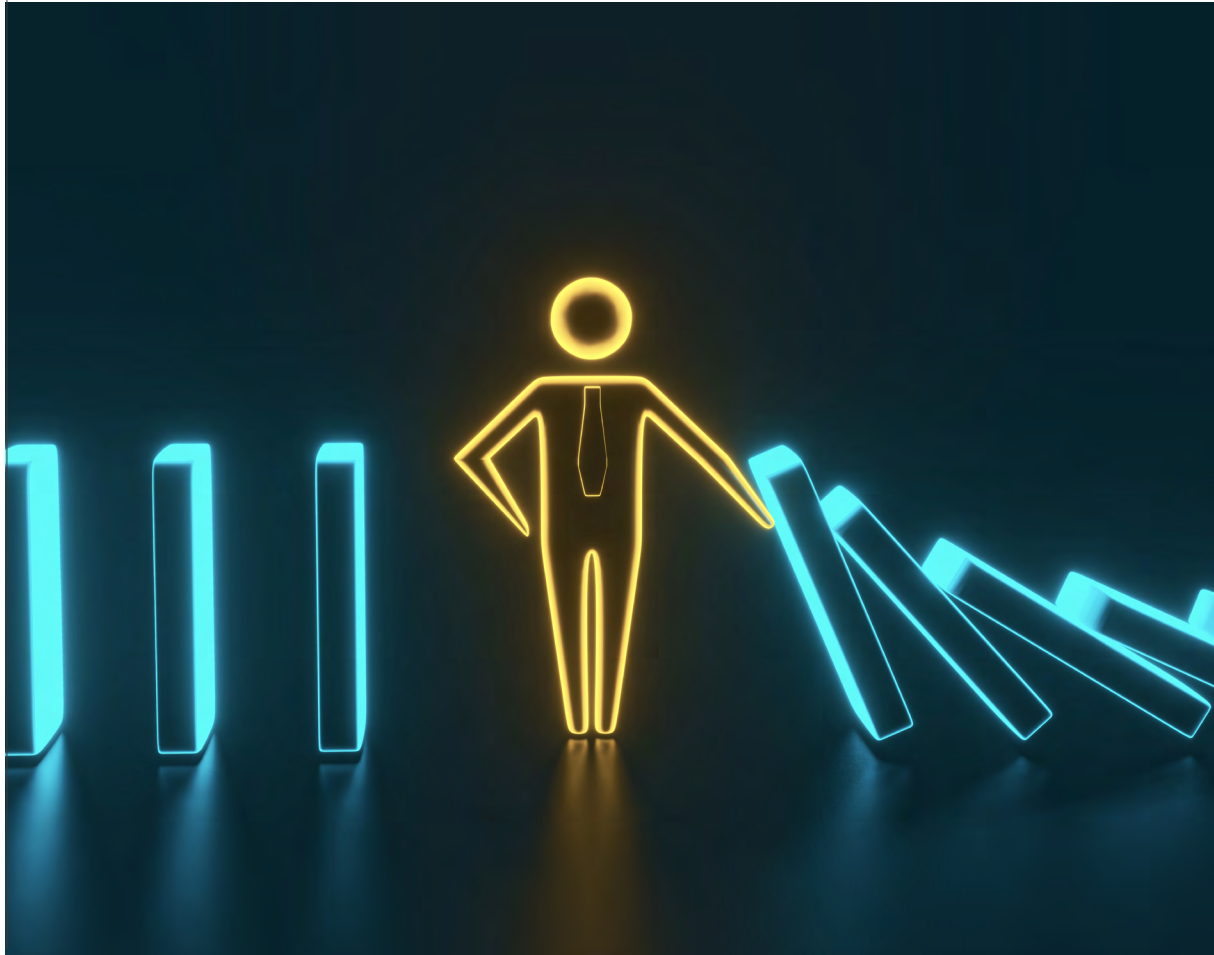
# Conclusion

The World Economic Forum is grateful for the opportunity to partner with Papua New Guinea on piloting Facilitation 2.0 with the support of the Government of Australia. While a great deal remains to be done, much has already been accomplished.

The three reform activities outlined in this report are at different stages of ripeness, if likened to the famous tropical fruits that grow in Papua New Guinea. The ETA bill is fully ripe and ready to be picked or, in other words, passed by the Parliament and enacted into law. The digital payments agenda has grown considerably over the past couple of years, with new actors involved, new actions taken and greater clarity on the next steps to ripen the digital payments ecosystem further. Finally, the idea of attracting FDI to accelerate the development of the digital economy is new, and still requires input

for it to grow and develop fully. While the survey has helped with these inputs, much knowledge and coordination are still required for the issue to mature.

The Forum looks forward to continuing to support these efforts through the Platform for Shaping the Future of Trade and Global Economic Interdependence, which brings public- and private-sector representatives together to tackle many of the issues that have been part of Facilitation 2.0. Papua New Guinea will find allies in the community of policy-makers, firms and experts who work to create coalitions in support of these goals. Continued efforts and cooperation to support trade and investment will drive digital development and, as a result, sustainable and inclusive development, an objective shared by all.



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