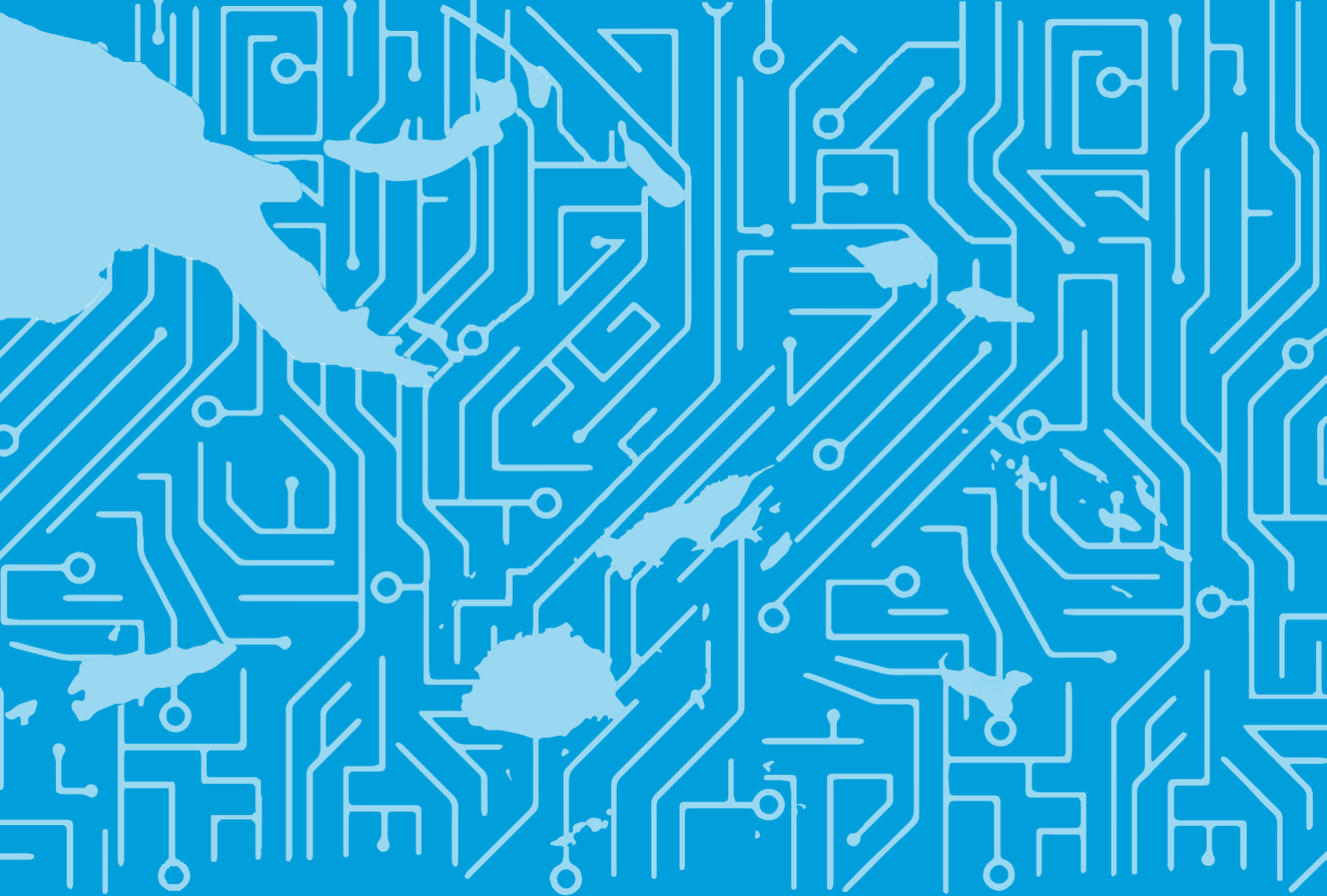




**AN INCLUSIVE DIGITAL
IDENTITY PLATFORM IN THE**

SOLOMON ISLANDS

| Country diagnostic
January 2021



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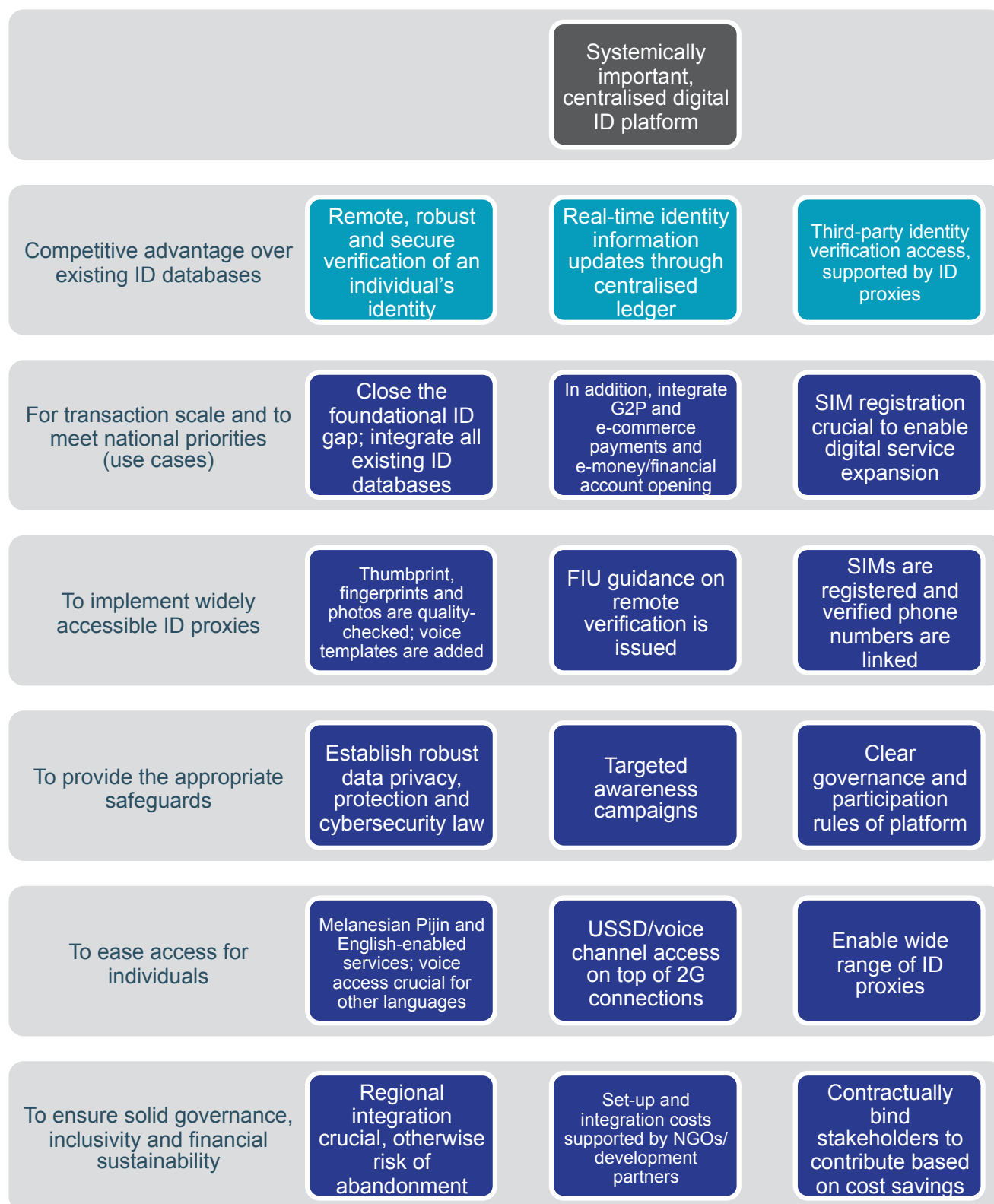
Acronyms

2G	Second generation	ICT	Information and communications technology
3G	Third generation	MCA	Ministry of Communication and Aviation
4G	Fourth generation	ML/TF	Money laundering or terrorist financing
ADB	Asian Development Bank	MLPCAA	Money Laundering and Proceeds of Crime (Amendment) Act 2010
AML-CFT	Anti-money laundering and combatting the financing of terrorism	MNO	Mobile network operator
ASPI	Australian strategic policy institute	MTO	Money transfer operator
BVN	Bank verification number	NFC	Near-field communication
CB	Central bank	NGO	Non-governmental organisation
CBSI	Central Bank of Solomon Islands	NZ	New Zealand
CDD	Customer due diligence	PEP	Politically exposed persons
CDR	Consumer data right	PFIP	Pacific Islands Financial Inclusion Programme
DFS	Digital financial services	PFMI	Principles for Financial Market Infrastructure
EU	European Union	PPP	Public–private partnership
e-commerce	Electronic commerce	QR	Quick response
e-government	Electronic government	SDGs	Sustainable Development Goals
e-money	Electronic money	SIM	Subscriber Identity Module
e-passport	Electronic passport	SINPF	Solomon Islands National Provident Fund
e-transport	Electronic transport	TCSI	Telecommunications Commission Solomon Islands
FATCA	Foreign account tax compliance act	TIN	Tax Identification Number
FATF	Financial action task force	UN	United Nations
FIU	Financial intelligence unit	UNCDF	United Nations Capital Development Fund
GDP	Gross domestic product	UNCTAD	United Nations Conference on Trade and Development
GDPR	General data protection regulation	USSD	Unstructured supplementary service data
GSM	Global system for mobile communication		
GSMA	Global system for mobile communication association		
IT	Information technology		

Executive summary

An inclusive digital identity platform that meets the economic and social needs of the population while adding efficiency and safety to government and the

private sector is a powerful tool to achieve large-scale inclusion. The following considerations would be useful during a design process:



Current identity landscape

- 70% of Solomon Islanders lack a birth certificate. This substantial gap in foundational identity coverage needs to be narrowed to make a digital ID platform feasible. However, it may be too costly to onboard hard-to-reach individuals who could be added over time, if and when they would need (digital) identity related services.
- Birth registry and voter ID card databases have the highest penetration and should be used as a basis for integration of all five existing identity databases via a digital ID platform. Given that the databases are all governed by different entities, substantial stakeholder collaboration will be required.
- A digital ID platform could serve as a central utility that consolidates identity data from different identity sources and thus help address issues of duplication and inconsistencies with information in the different identity databases.
- A digital ID platform would address the challenge of third-party verification of identity information, which currently entails high costs of compliance and the need for face-to-face interactions, especially in the financial sector. If no third-party verification is enabled, it could undermine the value-add of a digital ID platform.
- MNO databases could also serve to create unique, robust identities when overlaid with the existing information, but firstly a rigorous SIM registration process has to be established. A digital ID platform can provide this link, making MNOs key stakeholders to target with and involve in the design of a utility.
- Facial biometrics show great potential as ID proxies as they are widely collected by identity providers in the Solomon Islands. However, the quality of the captured biometric information would need to go through quality control to ensure robustness. The use of mobile numbers as a proxy would require the implementation of a robust SIM registration process and wider collection as they are only captured in the Solomon Islands National Provident Fund database.
- A combination of SIM and voice biometrics, when compared to SIM plus fingerprint and/or facial recognition, would likely be universally accessible on the MNO networks in the Solomon Islands due to the pervasiveness of basic and feature phones in the country when compared to smartphones.

Current digital ecosystem

- Mobile phones comprise 71% of web traffic by device, making this instrument the most widely adopted and useful tool to access a digital ID utility for individuals. However, the utility should accommodate voice and USSD access, given that approximately 80% of the population currently do not access the internet through any device.
- The majority of the country is currently covered by 2G networks and feature and basic phones dominate over smartphones. Until these metrics increase considerably, a digital ID utility and its enabled services would have to be accessible to the individual via voice or USSD channels first and foremost. If only data channels are accommodated, there is a high risk of exclusion.
- Large gaps in electricity coverage, particularly in rural and remote areas could impact quality to run and usage of the platform.
- Use of mobile digital services nascent and fragile with low current uptake, limits the ability to drive considerable uptake of the digital ID platform.
- Pijin (a Melanesian pidgin) and English would ideally be accommodated in a digital ID interface. For those more comfortable in other languages, a voice service should be considered. Given the extremely diverse set of languages across the Solomon Islands, this requires careful consideration to avoid exclusion.
- As mobile internet and social media use is limited, trust still needs to be established for the majority of the population. Fit-for-purpose awareness and usage campaigns around digital services and digital ID use would have to be factored in the set-up costs to drive uptake.
- Legislation governing data privacy is in place in the telecommunications sector which could provide a framework for developing national broad-based consumer data privacy legislation.
- Frameworks outlining data protection controls and standards as well as penalties for unauthorised access, use or alteration to personal data need to be developed and implemented.
- A national cybersecurity framework is under development which bodes well for ensuring security of digital ID platform against data breaches. If this framework is not finalised before launch of a digital ID platform, standards adopted by the platform could set the tone for legislation and regulation around cyber security in the country.
- Technically, the Solomon Islands' AML-CFT framework is accommodative of utilising a digital ID solution for CDD purposes. However, guidance issued by FIU insisting on physical documentation has led to misinterpretations as to what is allowed.

Use cases

- While there is a significant number of use cases that could benefit from a digital ID utility in the Solomon Islands, the low monthly transactions that could be generated make it necessary to integrate regionally.
- Given the size and different owners of the current databases, once-off integration and consolidation of existing information will require considerable effort before revenue can be generated, but is absolutely crucial to bring inclusivity, efficiency and longer-term cost savings to the market.
- G2P payments can by far generate the most monthly reoccurring transactions, followed by voter and tax identification, e-commerce payments and pension payments. Stakeholders across those five use cases will therefore be important to consult regarding integration.
- In terms of national priority, closing the foundational identity gap will be vital in narrowing the digital divide and in developing an inclusive economy. The platform can give the template for onboarding and it will be crucial to bring more people into the formal system to generate scale and improve inclusion.
- Utilising the digital platform for SIM registration would have several benefits, ranging from streamlined e-money account opening to enabling ID proxies. This use case should ideally be integrated to bring value to a range of stakeholders as well as aiding in meeting national objectives. Currently there is no SIM registration system, undermining the use of MNO databases for improved service delivery and ease of access. MNOs are therefore important to include in digital ID consultations.
- Several systems for electronic service delivery already exist, especially across civil use cases such as driving licence renewal and birth, death and marriage registrations, but to a varying degree of efficiency. Hence it will require significant efforts to get stakeholder buy-in in that space. The more use cases are added, however, the more viable the platform becomes.

Governance/finance considerations

- The facility needs to be regionally integrated as the Solomon Islands on their own are unlikely to create enough scale in a digital ID platform. The more Pacific Islands are integrated, the higher the chance of financial viability. But regional integration requires strong harmonised regulatory frameworks and increases the range of stakeholders that have to be accommodated.
- The platform should ideally serve as a cross-cutting utility to drive scale and achieve national policy objectives and hence both private sector and public entities apart from the Central Bank should be involved in design and governance. The aim is to create systemically important infrastructure.
- Private sector entities signal interest in the utility but there are no clear signs that an entirely privately operated utility is preferred by any stakeholder.
- A government-led, private sector-owned and operated approach could be suitable for the region if collaboration and buy-in can be ensured and if the initial funding for the set-up can be secured.
- NGOs and development partners are well placed to assist with the set-up costs if the utility is aimed at inclusivity instead of profit maximisation. For the continuous financing of operational costs, however, stakeholders should be contractually bound to contribute to costs based on their respective efficiency cost savings, in addition to viable transaction fees and system integration costs. The aim of an NGO-led financial model would be to sustainably balance revenue and utility.
- The utility could eventually also enable a real-time retail payment switch that can route transactions with high accuracy, which could contribute to the operational costs and overall systemic utility.

1. Introduction



Diagnostic assesses the readiness of the Solomon Islands for a digital identity platform.

This country diagnostic report was commissioned by the United Nations Capital Development Fund (UNCDF) under the Pacific Financial Inclusion Programme (PFIP) and Central Bank of Solomon Islands (CBSI) to understand and assess the use cases and ecosystem requirements for a digital identity (ID) platform in the Solomon Islands. This platform solution can be understood as a central repository which houses an individual's unique personal data (biographic¹ and biometric²) in digital form (World Bank, 2016; World Bank, 2018). This digital ID platform can thus be used to assert and prove an individual's identity as discussed in Box 1 below (FATF, 2020). The ultimate objective of this diagnostic is to recommend how the implementation of an inclusive and sustainable digital ID platform solution, tailored to the Solomon Islands market, can lead to higher inclusion levels through bringing value to consumers, industry and government.

Digital identity platforms enable a range of services in the digital age and therefore at the centre of a modern, digital economy. A digital ID can serve as a digitalisation catalyst by forming the basis to enable growth in secure online platforms which can be used

to participate in economic activity. The implementation of digital ID solutions in emerging economies is stated to have the potential to help unlock economic value of around 6% of GDP by 2030 (McKinsey Global Institute, 2019). Utilising such a solution can boost inclusion by allowing for the identification of populations reliably and remotely, facilitating access to a variety of digital services across civil society, health, education, employment and finance. Digital ID solutions have, for example, enabled governments across the world to identify vulnerable populations reliably and remotely to provide fiscal support packages during the recent COVID-19 pandemic³, making digital IDs an increasingly essential part of any economy.

Digital identity platforms enable continuous identity proofing and digital identity proxies. A digital ID platform can open the door to enable continuous identity proofing, i.e. it can be utilised to verify a person's identity on an ongoing basis, rather than once off, to create more robust identity profiles especially for individuals without identity documents (Cooper et al, 2020). The platform can also facilitate the creation of ID proxy identifiers (or ID proxies). Different types of ID proxies (such as phone numbers, biometrics or email addresses) can be linked

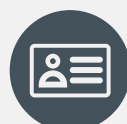
Box 1: Overview of a digital identity platform

A digital identity platform offers a simpler and more secure means to establish and verify an individual's identity. The digital identity platform works by:



1. Capturing data. Identity data tied to an individual is captured, integrated or linked on a centralised database or ledger. Depending on the model of the platform, multiple existing databases that are used

to produce physical identifiers, such as passport, ID cards, driving licences etc. are formatted and integrated via a digital ID using a common data standard or format. Those individuals currently not covered by identity databases or those that need to add additional identifiers such as biometrics (e.g. a photograph, fingerprints, iris scans or voice prints) can be newly onboarded directly onto the platform or onto a subsidiary database depending on how the facility is structured. Their identity data can be captured via different secure channels, including in-person enrolment stations or remote mobile channels (utilising smart phone technology such as fingerprint scanners and via photographs). India's Aadhaar system, for example, has a flexible evidence requirement in which it collects both fingerprints and/or a variety of basic identity documents predominantly through in-person enrolment stations.



2. Verifying data. After collecting data, the identity platform processes the data and verifies the data's authenticity. This happens through a deduplication process that matches, verifies and consolidates

conflicting or duplicated information available for an individual to create one unique and robust identity file per person that contains or links to identifiers by which an individual can be uniquely and exclusively identified digitally. Telefónica Deutschland in Germany, for example, uses a digital identity platform solution offered by Thales which verifies data using facial matching via liveness detection.



3. Digitalisation. The verified data is digitalised and stored or linked digitally either directly on a centralised database or the digital ID platform acts as an integration layer that creates

interoperability between existing secure databases. In case an individual needs to prove their identity or a service provider is required to verify a customer's identity, they can send a digital verification request to the digital ID database via a digital interface and get confirmation (yes, the person is who they say they are) and/or the list of identity details on the individual in real time.

1 Biographic data includes information such as an individual's name, age, gender and residential address.

2 Biometric data includes information such as an individual's fingerprints, scan of their iris and voice prints.

3 For instance, in Chile, digital IDs were used to rapidly pre-enrol new beneficiaries into social programmes, while in Thailand the Government was able to use its digital ID platform to identify eligible beneficiaries of its social assistance programmes and use it to facilitate direct deposit payments into bank accounts (Pangestu, 2020).

and utilised to create a unique identity for individuals without any form of identification, as well as be used to enhance the robustness of identities for those that already have some form of ID. This therefore gives individuals a convenient and verifiable form of identification that can be used in the place of paper-based documents to access services digitally. The concepts of identity proofing and ID proxies are discussed in more detail in Box 2 below.

The ability to access digital services and create or verify an individuals' identity over time make digital ID platforms particularly useful for financial inclusion. In the Solomon Islands, 34% of adults (those aged 15 years and above) lack access to formal financial services (Central Bank of Solomon Islands, 2015). Thirty-one percent (31%) of the unbanked adult population cite a lack of documents as a reason for not having a formal bank account. In addition, the usage of digital financial services (DFS) remains low, with 4% of adults having an active mobile money account (Central Bank of Solomon Islands, 2015). According to the Financial Action Task Force (FATF)⁴, digital ID platforms can help promote financial inclusion by providing individuals without traditional paper-based forms of identification with a unique and legal ID to access formal financial services (FATF, 2020). This digital ID would however need to be legally recognised and accepted by financial regulators for know-your-customer (KYC) purposes in order for it to be used to gain access to formal financial services. A digital ID solution can also have cost saving benefits for providers by reducing their cost of compliance. The removal of requirements for paper-based documents at onboarding and use of digital technologies can help institutions reduce their cost of compliance by as much as 39%. It would also result in frontline staff spending 60% less time on onboarding and ongoing due diligence processes as well as lead to cost savings of 50% with respect to the record-keeping of documents and the storage costs thereof (Thom et al, 2020). This can in turn free up staff capacity and budgets for providers to focus on reaching more financially excluded population segments.

Different types of digital ID platform models that can be employed. The choice of the model for a digital ID platform depends on country specific factors such as its digital infrastructure capabilities as well as how the platform will be governed. Box 3 provides an overview of the different governance models that are prevalent in the digital identity space presently.

The feasibility and sustainability of a digital identity platform depends on the use cases, regulatory environment, country context, stakeholder buy-in and choice of technology. For a digital ID platform to be sustainable and feasible, the following should be taken into consideration:

- The combination of **different use cases** to drive scale as each use case can have different usage patterns which can influence the design and sustainability of the digital ID platform. Scale is important from a financial standpoint as typically higher transaction scale leads to lower transaction costs. Furthermore, use cases aligned with the achievement of national and/or policy objectives, sustainable development goals (SDGs) are particularly powerful for macro developmental impact. Therefore, use cases need to be assessed taking both perspectives into account, especially given the smaller population size in the Solomon Islands.
- The **governance scheme** of the platform affects the future sustainability of the platform. The optimal governance scheme is dependent on the use cases.
- A **comprehensive legal framework** underpinned by policies, laws and regulations that govern how data is managed and to mitigate abuse via sound data privacy and cybersecurity. These factors are important as a digital ID platform entails the collection and storage of large amounts of personal data and it is therefore essential that safeguards are in place to ensure data and its owners are protected. This in turn can help build trust and promote usage of the platform.
- Design of the platform should take into consideration the **digital ecosystem** of the country and local **demand-side factors**. A country's digital infrastructure can impact the system design and operations of a digital ID platform as well as the scale of transactions going through the platform. It is also important to understand the extent to which a population is familiar and ready for digital technologies as this will determine the value they derive for a digital ID platform, its usage and ultimately viability. Overall, the utility should provide value for actors across the public and private sectors by helping them address challenges in the provision of services to individuals. This will be essential in determining the platform's use cases, its usage patterns and financial feasibility.
- The choice of **platform technology** should be tailored to the specific usage cases identified in the country by various stakeholders as well as the ecosystem in which it operates by taking into consideration the state of a country's digital infrastructure and characteristics of its population. This will ensure it is designed in a way that brings sufficient value for both providers and consumers in the most cost-efficient manner. Technology should ideally be chosen only once all needs, specifications and the governance model have been established.

⁴ The Financial Action Task Force is an intergovernmental organisation that sets international standards on anti-money laundering and combatting the financing of terrorism. See more at: <https://www.fatf-gafi.org/>

Box 2: Overview of identity proxies and continuous identity proofing

This box provides an overview of the two main additional benefits of a digital identity platform for a modern, digitised economy: ID proxies and continuous identity proofing.

ID proxies

An ID proxy is a form of agreed-upon identifier which can be used as an alternative to paper-based documents to assert the identity of a person (Cooper et al, 2019). As explained in Box 1, the biographic and biometric data of a person that is stored on a digital ID platform can be used to create different kinds of short-hands for identity information – ID proxies. Today ID proxies globally are mostly used in the financial sector to make retail and person-to-person payments. The use of ID proxies eliminates the need for paper-based documents and opens the door for individuals to use identifiers they are familiar with to conduct transactions and access services digitally and remotely.

This can be especially useful in regions such as the Pacific Islands where populations can be scattered across many islands and where the logistics of travelling to different islands to access services can be burdensome and costly.

Apart from identity document numbers such as passport number, social security number etc., the most common types of ID proxies (Cooper et al, 2019) are:



Biometrics. A biometric information ID proxy links information based on an individual's physical attributes (fingerprints, iris, voice, facial features) to an identity file or proxy number to verify that individual's identity. Typically, an individual will need to go to an in-person enrolment centre for registration and onboarding. Nigeria's Bank Verification Number (BVN) system, for example, captures all fingerprints, signature and facial recognition which allows for customers to open accounts at financial institutions using their biometric identity. The individual simply scans their fingerprints, iris, shares a photo or provides voice samples in addition to an identity reference in order to conduct a transaction online or in person.



Phone number. A mobile number ID proxy uses an individual's phone number as an identifier. In some jurisdictions the mobile number and mobile money account number are the same, creating convenience for customers to transact with each other or businesses. To use one's mobile number to initiate payments or utilise other account instructions, an individual must register their mobile number with the financial institution and link it to their account. The use of a mobile number as an ID proxy is increasingly common, for example MTN's Mobile Money (MoMo).



QR code. A Quick Response (QR) code is a two-dimensional, scannable, tokenised image proxy. An individual will be provided with a unique QR code containing their identity information by their government,

bank, online platform, or mobile wallet provider. The code is usually generated via the platforms' mobile application which can then be used to make payments. This code is readable with an imaging device such as a point of interaction (POI) device, webcam, or smartphone camera. Mexico's Cobro Directo (CoDi) payment platform generates QR codes to send generated request-to-pay (RTP) via a mobile app or through a web browser.



NFC. Near-field communication (NFC) technology is a wireless technology which allows for a device to collect data from a nearby device or tag that contains an NFC chip. For an NFC transaction or payment to be conducted, a physical NFC tag on a card or adhered to a mobile phone or an NFC chip integrated in a phone is used to transfer payment instructions from the individual's account or mobile. MTN's MoMoPay, for example, provides its customers in select countries with an NFC tag which is linked to a mobile money wallet. Once a payment is initiated through close contact of the NFC tag and the MTN point of interaction, the payment is validated via a customer's personal pin before it is processed.



Email. An email ID proxy uses a person's email address as the main identifier instead of using the individual's bank account or electronic wallet number. To use an email address as an ID proxy, an individual links it with a financial institution, government agency and/or an online platform that facilitates payments. For example, to transfer money using Google's GPay, an individual needs to link their email address to their debit or credit card and then enter the email address when initiating a transaction. PayPal is also a widely adopted service, using email addresses as proxies.

Often ID proxies are combined or layered to create what is referred to as a "proxy ID stack", for example the India Stack. This stack can serve to strengthen the proxy registration system (Cooper et al, 2019). When considering which ID proxy or combination of ID proxies to adopt it is important to weigh up their benefits and shortcomings regarding accessibility, verifiability and trustworthiness (uniqueness, privacy and customer experience).

Continuous identity proofing

Digital identity proofing systems can increase the robustness of identity information over time as new information gets added to a user. The digital ID system constantly conducts the identification and verification processes throughout the lifecycle of an account, which in practice means that it continually adds new information to the ID profile. The platform allows for different information to be collected and consolidated over time. A significant benefit of this process is that it enables and strengthens an identity for individuals who do not have foundational identity documentation.

(continued on next page)

For example, if an individual is not able to provide a foundational ID document, they can start building an identity by getting access to limited services to limit the risk to the financial system or government service. As the person uses the service, the institution can collect behaviour patterns and new information to establish a more robust risk profile. The data would be monitored,

updated and verified, which means that the ID file itself gets stronger and more robust (Cooper et al., 2020). Eventually this identity would be strong enough to qualify the individual for accounts or services with less restrictions, as the level of assurance would have increased since the establishment of the original identity, despite the lack of a foundational ID document.

Box 3: Overview of digital identity governance models

Government-led, owned and operated. Here a single or group of public sector entities take responsibility for ownership and implementation of the platform and how it is governed. Under this model, a government-issued digital ID is provided to individuals. Examples of this approach are Estonia's state-issued digital identity and the Aadhaar identity platform.

Private sector-led, owned and operated. Under this model, private sector firms such as banks or mobile network operators (MNOs) take the lead on implementing the digital ID platform and are responsible for its governance. Under this approach, these private sector entities serve as the issuers of a government-recognised digital ID by utilising a foundational ID system as their source of identity (GSMA & World Bank, 2016). Examples of this approach include Singapore's MyInfo and Sweden's Bank ID.

Government-led, private sector-owned and operated.

This approach involves the government taking the lead when it comes to the design requirements and operating parameters of the digital ID platform, while the private sector takes responsibility for the implementation and operation of the desired platform. Examples of this include Nigeria's electronic ID card, BVN and Australia's PayID.

NGO-led and government or private sector-owned and implemented. Under this model, individuals have control of how their personal data is housed or linked through the digital ID platform and how it is shared and used, while government and/or the private sector take responsibility for the issuing of the identity credentials. An NGO or trust would be the holder of the facility and have a privacy mandate distinct from commercial entities that link to the facility or provide value-added services. An example of this approach would be a self-sovereign identity and BunkerID.

This diagnostic is divided into six chapters. Given the above, it is essential to the success of a digital identity platform's roll-out that it be informed by a holistic diagnostic study undertaken prior to implementation. This study is therefore divided into the following sections:

- Section 2 provides an overview of the current state of identity coverage in the Solomon Islands, the quality of existing identity databases in the country and challenges experienced in the use of these databases that a digital ID platform could help solve.

- Section 3 assesses the state of the digital infrastructure in the Solomon Islands, the regulatory environment as well as consumer considerations that can influence the implementation of a digital ID platform.
- Section 4 provides a scope of the use cases for a digital ID in the country.
- Section 5 looks at the potential governance and financial models of a digital ID platform.
- Section 6 concludes and provides recommendations.



2. Current ID systems in the Solomon Islands

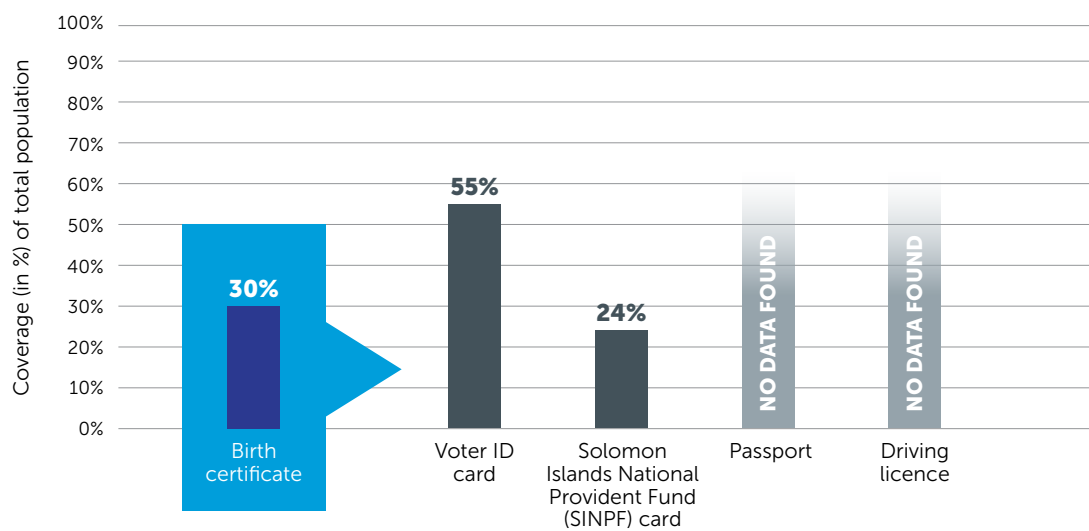
This section provides an overview of the current state of identity coverage in the Solomon Islands, the quality of existing identity databases in the country and challenges in the use of these databases that a digital ID platform could help solve. It is important to understand the identity ecosystem, as the extent of the benefits and the design of a digital ID platform are influenced by the prevalence, format and quality of information housed in identity databases in the economy.

Only 30% of Solomon Islanders have access to a birth certificate, which forms the basis for four additional legal identity documents. The birth registry is the main foundational identity⁵ in the Solomon Islands but only covers 30% of the population (around 200,000 people) as shown in Figure 1 (Vital Strategies, 2016). A birth certificate becomes necessary to access the four additional, legally recognised identities⁶ in the country, namely a voters card, a Solomon Islands National Provident Fund (SINPF) card, a driving licence and a passport. This means that up to 70% of the population could be struggling to access a range of services across the economy that require identification. Stakeholders state that alternative methods such as letters from local authorities are accepted to establish an individual's identity without official credentials. This is good practice to enable inclusion, yet the robustness of these methods cannot be established and hence they carry risks and costs to both providers and consumers. It also presents a barrier in terms of accessing remote, digital channels. In order to prevent a growing digital divide in the access

to services for the excluded population and to create sufficient scale in a digital ID utility, the identity gap needs to be narrowed as much as possible. A legally recognised digital ID platform can offer, for example, a future-proof template for the onboarding of people without an official ID document and/or will be able to create a robust identity over time, as outlined in Box 2.

Narrowing of identity gap crucial for platform viability yet highly disbursed population presents challenge. The population of the Solomon Islands is scattered across six major and more than 900 smaller islands (ASPI, 2020). The distance between islands can be significant, with the distance between the country's westernmost and easternmost islands at around 1,500 kilometres (World Bank, 2018). To close the identity gap and give a significantly higher number of the population access to identifiers, a concerted enrolment programme will be necessary. Given the scattered population distribution, this can be costly. The enrolment of new users on the system can be phased and opportunistic, i.e. combined with census or other data collection initiatives. For the financial viability of a digital ID platform, however, it is desirable to have as many people onboarded as possible to create transaction scale, i.e. in the case of the Solomon Islands it is a prerequisite to increase the share of enrolled individuals before a platform could be run sustainably. The costs of onboarding need to be weighed against the needs of the population: an individual who is leading a remote and self-sufficient life may not have a great need for a digital identity as a priority.

Figure 1. Coverage of ID documents in the Solomon Islands



Sources: Election guide (2019); SINPF (2012); Vital Strategies (2016)

5 A foundational identity is a general-purpose form of identity credentials provided to the population of a country that can be used to access a wide variety of public and private sector transactions, services and platforms. Examples of this include national IDs and civil registries (GSMA 2019; World Bank, 2018)

6 A legally recognised identity is referenced in regulation.

Robustness challenges with voter ID system exist.

As Figure 1 shows, 55% and 24% of the adult population of the Solomon Islands currently have a voter ID card and/or SINPF card, respectively. The share of the population covered by a passport and/or driving licence could not yet be established. While the voter ID system has the highest coverage among Solomon Islanders, stakeholders do not trust this ID fully. The fact that the birth certificate coverage is lower than that of the voter ID card but that the latter is based on the former, suggests there is a significant number of duplicates in the voter ID database, negatively impacting on the robustness of this form of ID.

Substantial overlaps in information across databases, loss of documents and lack of third-party verification are main challenges.

All four databases that draw on the birth registry as foundational ID, collect name, date of birth, address and a photo of the individual, creating substantial overlap in information collected, as shown in Table 1. Each of the databases is held by a different public entity with limited collaboration and consolidation of information between them. Stakeholders raised three main challenges with the current ID infrastructure, each of which could be overcome with a digital ID platform:

- **Loss and damage to physical identity documentation.** Stakeholder interviews revealed that there are regularly issues with lost or damaged physical identity documents, especially after natural disasters. Many people do not carry wallets which exacerbates the wear and tear of the physical documents. A digital ID platform could provide a portable, digital form of identity to reduce the reliance on physical documents.
- **Duplication of identity information.** Stakeholder interviews revealed a lack of linkages between the different identity databases and the duplication of information that is collected by identity providers as shown in Table 1, can place a significant cost burden on providers (i.e. costs related to collecting

information). A digital ID platform could solve this issue by serving as a central trusted utility that consolidates identity data, which once consolidated and verified, can be updated on the central ledger in real time. This can help create one robust identity per individual, which can then be easily verified either in person or remotely.

- **Third-party verification capabilities lacking.** All current identity databases in the Solomon Islands lack third-party electronic verification capabilities when it comes to accessing services. This means providers that rely on these forms of identity, such as financial service providers (FSPs), have no means of electronically verifying the authenticity of an identity document or its information. Providers are hence incentivised to create their own customer databases against which the documents are checked. This in turn requires face-to-face validation of credentials each time, incurring significant operational costs for providers as well as consumers. A digital ID platform could provide individuals with robust and easily verifiable credentials which could be accessed by third-parties with permission to enable remote verification as well as authenticate information in face-to-face interactions.

Birth registry and voter ID card databases as starting point for digital ID platform integration due to highest coverage. The combination of birth registry and voter ID card databases would serve as a good starting point for integration with the digital ID platform, which would require collaboration between the Ministry of Home Affairs and the Solomon Islands Electoral Commission as hosts of the respective databases. The identity information from the SINPF database, driving licence and passport can then also be used to verify the information and/or fill gaps. In addition, both the voter ID card and the SINPF card currently contain thumbprint information that offers an important security layer in terms of biometric identification; the SINPF database also stores mobile phone numbers.

Table 1. The Solomon Islands' identity database details

	Voter ID card	SINPF card	ePassport	Licence
Stored information (overlaps)	<ul style="list-style-type: none">• Full name• Date of birth• Address• Photo			
Additional useful information	<ul style="list-style-type: none">• Thumbprint	<ul style="list-style-type: none">• Thumbprint• Phone number	<ul style="list-style-type: none">• Fingerprints	<ul style="list-style-type: none">• n/a
Database owner	Solomon Islands Electoral Commission	Solomon Islands National Provident Fund	Ministry of Commerce, Industry, Labour and Immigration	Ministry of Finance & Treasury

Sources: World Bank (2020), Inland Revenue division (n.d.), Stakeholder interviews (2020), UNCDF (n.d.), US Department of State (n.d.)

MNO database a potentially powerful addition to existing registries. The rising number of mobile users in the Solomon Islands over the coming years (which will be discussed in further detail in Chapter 3) means that MNO databases could also serve to create unique, robust identities when overlaid with the existing information in identity databases, as outlined in Box 4. This, however, can only be possible if the SIM database is linked to a robust identity to increase reliability and trust among stakeholders as KYC checks are currently not mandatory for SIM card purchases (GSMA, 2020).

Biometric information and phone numbers likely to need initial verification to increase robustness. The country's electronic passport (e-passport) is already built with biometric proxies in mind as shown in Box 4, but details on how many people have it are unconfirmed. In order for biometrics and phone numbers collected in identity databases to be integrated into the digital ID platform and used as potential ID proxies, as outlined in Box 4, they would need to be verified to ensure their robustness. Stakeholder interviews revealed that the photo and thumbprint biometric templates stored in identity databases suffer from quality issues which renders them not machine readable.

Summarised insights from current identity coverage in the Solomon Islands

1. The substantial gap in identity coverage needs to be narrowed to make a digital ID platform feasible. However, it may be too costly to onboard hard-to-reach individuals who could be added over time, if and when they would need (digital) identity related services. This dynamic needs to be well understood to calculate the potential transaction scale and required initial budget to establish a platform.
2. 70% of Solomon Islanders lack a birth certificate and while voter ID card penetration is higher, there are concerns around the robustness of the information included in the voter ID database.
3. The birth registry and voter ID card have the highest penetration and should be used as a basis for integration of all five existing identity databases via a digital ID platform. Given that the databases are all governed by different entities, substantial stakeholder collaboration will be required.
4. MNO databases could also serve to create unique, robust identities when overlaid with the existing information, yet firstly a rigorous SIM registration process has to be established. A digital ID platform can provide this link, making MNOs key stakeholders to target with and involve in the design of a utility.
5. Establishing a digital ID system can provide individuals with a digital, portable form of identity that can solve the issue of loss and damage to physical identity documentation.
6. A digital ID platform could serve as a central utility that consolidates identity data from different identity sources and thus helps address issues of duplication and inconsistencies with information in the different identity databases. This can lead to significant cost savings for providers and consumers.
7. Facial biometrics show great potential as ID proxies as they are widely collected by identity providers in the Solomon Islands. However, the quality of the captured biometric information would need to go through quality control to ensure robustness. The use of mobile numbers as a proxy would require the implementation of a robust SIM registration process. Voice biometrics also have great potential given their accessibility, but a voice template would first have to be created on the digital ID platform for onboarding.

Box 4: The potential of ID proxies in the Solomon Islands

Facial recognition shows most promise for biometric ID proxies; SIM registration process needed for mobile numbers to create scale. Table 2 shows the different ID proxies that could currently be developed based on the existing identity databases. Given the predominance of photographs, facial recognition seems to be the most promising in terms of reaching scale. However, facial recognition software and hardware can be expensive. Furthermore, stakeholders mention that not all photographs are currently stored in high enough definition to be uniquely identifiable. Thumbprints are also collected in the voter ID card and SINPF database but their robustness would need to be verified to ensure uniqueness, while the e-passport database includes full fingerprint templates. Lastly, given the increasing prevalence of mobile phones, linking identities to voice prints can allow a voice proxy to be created and used. This practice is gaining increasing traction globally as onboarding can be done remotely⁷. Other than biometric ID proxies, mobile numbers in the Solomon Islands can be a powerful proxy, but they are currently only captured in the SINPF database. Furthermore, SIM card registrations are not mandated in the country⁸ and therefore a robust SIM registration process would need to be implemented to enable phone numbers as an ID proxy (GSMA, 2020).

Combination of SIM and voice biometrics would have greater reach in the Solomon Islands. A high prevalence of basic and feature phones, as further discussed in Section 3.1, plus use of voice and USSD channels as a baseline can determine the kind of ID proxies that can become universally available in the Solomon Islands. While SIM plus fingerprint and/or facial recognition is more robust, a combination of SIM and voice biometrics would likely be universally accessible on the MNO networks in the Solomon Islands due to high prevalence of basic and feature phones when compared to smartphones.

Continuous identity proofing, an open gateway to economic inclusion. Identity proofing is a risk-aligned digital process where those people that have limited or no foundational identity credentials on file are still able to engage in financial and civil services which are appropriate to their needs and in accordance with any risk posed by such consumers. This would be most appropriate for those within the 70% in the Solomon Islands with limited foundational ID credentials and particularly for those in more remote locales that would have difficulties in utilising their physical credentials on a digital platform. In time and with further database links or consumer interactions, a digital identity becomes more robust. The proofing process involves the accumulation of more identifiers and ID proxies, including SIM cards, phone numbers, email, location data, civil services interactions and biometric identifiers added or linked (e.g. photos, fingerprints and voice identification templates). Voice biometrics have been identified as more important in the Solomon Islands for identity proofing purposes. The process of identity proofing can also guard against potential identity theft or abuse through detection of changes in activity or patterns and links to other identities, hence promoting quality assurance of the digital identity system overall.

Enabling payment channel and instrument interoperability. In addition, the digital ID platform could also eventually be used to route payments to the appropriate channel to enable channel and instrument interoperability, i.e. serve as an electronic payment switch, which could be particularly useful for a smaller economy such as the Solomon Islands and its neighbours.

Table 2. Potential ID proxies

	Voter ID card	SINPF card	Driving licence	ePassport
Potential ID proxies	Voter ID card in combination with: <ul style="list-style-type: none"> • Thumbprint or • Facial recognition 	SINPF number in combination with: <ul style="list-style-type: none"> • Facial recognition or • Phone number or • Email address or • Voice print 	Driving licence in combination with: <ul style="list-style-type: none"> • Facial recognition 	Passport number in combination with: <ul style="list-style-type: none"> • Facial recognition or • Fingerprint

Sources: Doing Business (2020), Inland Revenue division (n.d.), Stakeholder interviews (2020) UNCDF, US Department of State (n.d.)

- ⁷ Biometric considerations: expanding to the collection of 4-4-2 fingerprints (10 fingers) as opposed to a single thumbprint is more robust. Photographs need to clearly show facial features. A lack of good quality camera may limit usability of facial recognition for remote verification of individuals. In the context of voice biometrics, the veracity of the voice identification software is another key factor that needs to be assessed.
- ⁸ Stakeholder interviews revealed that individuals can acquire SIM cards without going through any know-your-customer (KYC) checks. As a result, there is no link between a SIM card, phone number and official customer identity. A digital ID platform provides the opportunity to create a more robust SIM registration system by providing individuals with a unique verifiable form of ID to use during the onboarding process. This can lead to phone numbers being used as a more robust proxy ID than facial recognition and thumbprints, as the quality of these templates tends to be poor.



3. Current ecosystem to establish a digital ID platform

A digital ID system works as well as the ecosystem in which it operates. The platform could be well designed from a technology standpoint, but if the country context is not taken into account, it runs the risk of not adding sufficient value to both providers and consumers, leading to an underutilised facility. This chapter assesses the state of the digital infrastructure in the Solomon Islands, the regulatory environment as well as consumer considerations that can impact the usage patterns of a digital ID platform.

3.1. State of digital infrastructure

The digital infrastructure in a country underpins any digital service in the economy and at a minimum relates to the quality, penetration and affordability of mobile networks, as well as electricity. These elements not only directly impact the operations and set-up of a digital ID platform but also affect the scale of transactions going through the platform, i.e. influence the financial viability of the facility.

About half of the population access mobile phones currently; most widely adopted digital instrument. According to the Global System for Mobile Communication Association (GSMA), the Solomon Islands had 310,000 unique mobile subscribers⁹ (representing 49% of the total population) in 2018 (GSMA, 2019). However, as established in Section 2, there are currently no KYC requirements for the purchases of a SIM card in the country, making it difficult to assess the true coverage across the population. Therefore, the share of individuals who connect to voice or data services could potentially be higher or lower than 49%. Regardless, the mobile phone is the most widely adopted digital instrument in the Solomon Islands through which a digital ID facility and its services could be accessed by individuals. The share of individuals accessing a mobile phone is predicted to increase to 53% by 2025. This still leaves 47% of the population excluded, negatively impacting inclusivity and financial viability of the platform.

High mobile signal coverage creates opportunity to embed voice and USSD channels into digital ID platform. Despite the challenges facing large segments of the population in accessing data services, 94% of people in the Solomon Islands are within reach of a mobile network signal (UNCTAD, 2018). There is therefore a possibility to include those individuals without data access via voice and Unstructured Supplementary Service Data (USSD) channels in a digital ID solution.

Data-only digital ID platform unfeasible, would require voice and USSD options. With limited and largely unaffordable, fixed line connectivity in the Pacific region, mobile technology (complemented by satellite) is the only realistic solution to connect to the internet. In the Solomon Islands, 22% of the population have access to the internet, with a current month on month annual growth rate of 11% (DataReportal, 2020). Mobile phones are the most used device when it comes to accessing the internet, making up 71% of web traffic by device in December 2019 compared to 27% for laptops and desktops and 1.7% for tablet computers (DataReportal, 2020). Of those who access the internet via mobile phone, the majority are covered by 2G (52%), compared to 3G (47%) and 4G (just 1%). If the reported internet connection levels and annual growth rates continue over the next five years, there would be an estimated 30%-36% internet connections compared with the population size, mostly through mobile devices. Access to high-speed mobile internet is expected to grow over the coming years, with 3G and 4G expected to account for 70% and 15% of total connections by 2025, respectively (GSMA, 2019). Despite this growth, a 3G or 4G only digital ID solution would still leave a significant number of people unconnected and therefore a design embedding voice and USSD channels should be prioritised first. In addition, challenges to data service connectivity would need to be addressed as evidenced by the country's score of 7.6 out of 100 for network performance on GSMA's Mobile Connectivity Index¹⁰, coming in last place across Pacific Island countries assessed (GSMA, 2020). A digital ID platform in the Solomon Islands based purely on data services would therefore exclude a vast majority of the population, particularly if individuals are not within reach of an access point such as a bank, which could provide access to internet.

Basic/feature phones dominating over smartphones. Basic and feature phones dominate in the Solomon Islands, with only 31% of the population having a smartphone. While this share is predicted to increase to 61% of connections by 2025 (GSMA, 2019), the relatively low share of smartphones hampers mobile service and product providers in their ability to create viable business cases. This in turn impacts the use cases for a digital ID platform until more mobile services are available and taken up. The current widespread adoption of basic and feature phones further underpins the need for a digital ID solution that can be accessed via voice and USSD as discussed above. This is necessary to build enough transaction scale in the utility while more use cases are established to drive the uptake of smartphones.

⁹ Defined as a single individual who is subscribed to mobile services at the end of the period, with that person being able to hold multiple mobile connections (i.e. SIM cards) (GSMA, 2015).

¹⁰ Indicates the quality of mobile services measured by download speeds, upload speeds and latencies. In the Solomon Islands, slow upload and download speeds of mobile services impact negatively on the score (GSMA, 2020).

Large gaps in electricity coverage. Only 67% of the population currently have access to electricity, well below the Pacific Islands small states average of 86% (World Bank, 2020). In rural areas, 64% of people have access to electricity compared to 77% of people living in urban areas (World Bank, 2020). The majority of households in the country use solar panels and/or diesel fuel to generate electricity as less than 20% of the population is connected to the nation's electricity grid (Power Engineering International, 2019). Gaps in access to reliable electricity connections, particularly in remote areas, could hamper the ability of individuals to charge their digital devices and hence a digital ID platform could be outside their reach. Unreliable electricity supply can also impact mobile network reliability in these areas, which could undermine system functionality and usage of the digital ID facility.

3.2. Demand side considerations: Are Solomon Islanders ready for a digital ID platform?

The Solomon Islands has an estimated population size of 690,000, with a median age of 19.9 and 67% of the population under the age of 30 (UN, 2020). This section seeks to provide an understanding to what extent the Solomon Islands' youthful population is familiar with mobile digital services, their digital readiness in terms of literacy, trust as well as attitude. These factors impact the usage and ultimate viability of the identity utility.

High levels of language diversity ideally to be accommodated in digital ID platform. There are about 70 spoken languages across the greater Solomon Islands archipelago (Shisia, 2017). Eighty-four percent (84%) of the country's adult population (population aged 15 years and older) is literate (DigitalReportal, 2020). While English is the official language, Pijin (a Melanesian pidgin) is the most widely used and understood by the population (Shisia, 2017)¹¹. Fifty-seven percent (57%) of adults in the Solomon Islands are comfortable with reading and writing in Pijin, while 43% are comfortable in English (Central Bank of Solomon Islands, 2015). This highlights the challenge of language fragmentation in the country and in choosing one or two main languages to include in a digital ID platform to ensure it is as inclusive as possible. Only embedding Pijin in the platform could potentially exclude or dissuade 43% of the population from using the platform, while utilising English only could exclude or dissuade 57% of people. These two languages should ideally be incorporated into the platform, while a voice channel will be crucial to ensure those segments of the

population not comfortable in these two languages are able to use it. This channel will also be beneficial for the 16% of people who are illiterate.

Digital platform would need clear value propositions given most of the population is not familiar with digital services. The Solomon Islands' population has a small online footprint, with only 20% of people using the internet. Of those who are active online, only 14% are active social media users (DigitalReportal, 2020). In addition, only 4% of adults use mobile financial services products (Central Bank of Solomon Islands, 2015). The value proposition for mobile financial services is not clear to the vast majority of the population, limiting the value-add of a digital ID platform. On top of the need to further develop mobile DFS use cases, building considerable trust and consumer protection mechanisms will be important to increase usage of digital channels for a population not familiar with sharing their personal information online.

Awareness and education initiatives as well as assistance for onboarding required, given lack of experience with digital channels. Given the large population size that is not familiar with digital channels, awareness and education initiatives would need to be implemented to get them accustomed to utilising these channels. This would likely require face-to-face instruction in order to get them to try accessing remote services that are underpinned by a digital ID solution, which could highlight the value-add this kind of utility could bring to their daily lives. These considerations need to be taken into account when budgeting for the set-up of and enrolment into a digital ID platform.

3.3. Regulatory environment

This section assesses the regulatory environment underpinning a potential digital ID in the Solomon Islands. This will help to identify gaps that would need to be addressed to facilitate the implementation and adoption of an inclusive, transparent and safe digital ID utility in the country.

Concept of identity

Ideally define concept of identity in legislation and regulation. The concept of identity is not well defined in legislation or regulation including norms and standards across the state and those applied within the private sector in respect of regulatory compliance. The advantage of the current approach is that innovation in the fields of identification can be readily adopted, however the lack of harmonised approaches can lead to a proliferation of

11 There are also a number of other languages spoken by less than 10% of the population (Shisia, 2017).

proprietary parallel systems and incompatible approaches. A diversity of approaches reduces the feasibility of integrated and interoperable unique identities that can achieve the required scale and utility to be sustainable in a smaller population. Regulated access to source codes and images could become a critical element to render biometric identifiers compatible and interoperable outside of proprietary systems that are guarded with vendor lock-in contractual clauses. Ideally the cross-cutting concept of identity, including digital identity could be framed in principle in legislation and further specified in regulation to enable innovation but maintain compatibility, utility and sustainability of identity approaches.

Data privacy and security

A digital ID solution entails the collection and storage of large amounts of personal data and it is therefore important that there are frameworks in place to ensure this data is kept private and is protected.

No national framework on data privacy; existing sectoral regulation in telecommunications sector could act as a base for national framework. While the Solomon Islands does not have a national framework in place governing data privacy, the Telecommunications Act 2009 stipulates that consent is required for services providers in the telecommunications sector to collect, use, maintain or disclose customer data, except under specific circumstances¹². Individuals therefore already have a certain degree of control over their data in the telecommunications space. This piece of legislation could serve as a reference point in composing the framework for a national, broad-based consumer data privacy regulation to ensure strict privacy measures around information housed on a digital ID platform. If a digital ID solution is introduced without strong measures on data privacy, it could lead to the misuse of data by requesting parties, which could undermine trust and usage of the platform.

Data protection regulation would need to be developed in light of implementation of digital ID platform. While some legislation exists covering data privacy as mentioned above, there is currently no data protection framework (i.e. measures to guard against unauthorised access to data) (UNCTAD, 2018; Standards Australia, 2019; ASPI, 2020). While the Telecommunications Act 2009 requires service providers in the telecommunications sector to put in place

appropriate safeguards around customer data¹³, it does not outline what measures should be taken to secure this information. Data protection controls and standards that could be introduced and mandated under the country's legal frameworks could include requirements to encrypt and/or anonymise personal data (World Bank, 2019). In addition, penalties for unauthorised access, use or alteration to personal data should also be included in legislation and regulation (World Bank, 2019). The development of these frameworks would need to be accommodative of the specific needs and context of the Solomon Islands and could be guided by international and regional standards on data protection such as the European Union's general data protection regulation (GDPR)¹⁴, the Australian Competition and Consumer Data Right (CDR) Rules 2020¹⁵ or more appropriate developing market examples. Putting in place adequate safeguards can help promote user trust and help facilitate adoption of a digital ID solution.

Cybersecurity frameworks needed to bolster reliability and trust in digital ID platform still under development. At present, the Solomon Islands does not have national or sector-specific cybersecurity frameworks in place (Standards Australia, 2019, ASPI, 2020). The government has a national information and communications technology (ICT) policy which sets out an action plan related to cybercrimes (Ministry of Communication and Aviation, 2017) and stakeholder interviews revealed that the Ministry of Communication and Aviation (MCA) is currently working on developing a cybersecurity framework. In order to ensure the security of the digital ID platform, cybersecurity frameworks that are developed should set legal standards for information technology (IT) security and provide adequate enforcement mechanisms against cybersecurity violations (World Bank, 2019). Alternatively, the standards adopted by the digital ID platform could become the de facto compliance standards and set the tone for a regulatory framework in the country. If no standards are implemented or available at the time of any platform implementation, there is a risk that the platform could not comply with a subsequent standard. Addressing these risks upfront, aligned to appropriate international standards, would ensure a pathway to compliance and prevent the digital ID platform from becoming susceptible to hacks targeted at stealing identity data or destabilising the functionality of the platform.

12 Section 72(1a) stipulates that service providers shall not without a consumer's consent, collect, use, maintain or disclose information about a user for any purpose. Section 72(2) allows for the disclosure of certain user information in a printed or electronic telephone directory. Section 73(1) requires that service providers take all reasonable steps to ensure the confidentiality of consumer communications. Available at: http://www.parliament.gov.sb/files/legislation/Acts/Telecommunications_Act%202009.pdf

13 Section 72(1b) stipulates that service providers shall apply appropriate security safeguards to prevent the collection, use, maintenance or disclosure of such information. Available at: http://www.parliament.gov.sb/files/legislation/Acts/Telecommunications_Act%202009.pdf

14 GDPR is a regulation that requires businesses to protect the personal data of EU citizens from misuse and exploitation for transactions that occur within EU member states. Available at: <https://gdpr.eu/>

15 This legislation was introduced to give consumers greater control over their data, which includes being able to share this data securely with a trusted third party. It was introduced in the banking sector in July 2020 allowing consumers to choose to share their banking data in order to gain access to more personalised financial products and services. Available at: <https://www.legislation.gov.au/Details/F2020L00094>

AML-CFT regulation

Given that access to financial services can be facilitated through the use of a digital ID platform, the section below delves into understanding whether such a solution and its desired functionalities would fit into existing anti-money laundering and combatting the financing of terrorism (AML-CFT) regulation and guidelines on customer identification and verification.

AML-CFT regulation accommodates use of a digital ID for identification purposes. The Solomon Islands' AML-CFT regulatory framework includes the Money Laundering and Proceeds of Crime (Amendment) Act 2010 (MLPCAA), which stipulates that regulated entities can use "any official or identifying document, or reliable and independent source document, data or information" to identify their customers¹⁶. Hence there is no explicit requirement for physical documents to be used for customer due diligence (CDD) in legislation and regulation and a digital ID, recognised by the financial regulator, could meet AML-CFT requirements.

Specification of documents in issued guidance open to misinterpretation: need for clarity that digital identity solutions are appropriate for CDD purposes. In practice, however, financial institutions in the Solomon Islands are only using physical documents to identify and verify consumers¹⁷. This is a result of the specification of different combinations of documents to assert identity outlined in guidance issued by the country's Financial Intelligence Unit (FIU)¹⁸. This therefore leads to

misinterpretations as to what is allowed by the MLPCAA, what is outlined in guidance and what is happening in practice. In order to accommodate a digital ID platform, the FIU would need to issue sufficient guidance to institutions that clarifies the interpretation of AML-CFT regulation (and specifically that regulation does not prohibit the use of electronic forms of identification to be used for CDD purposes). This would therefore help facilitate remote KYC and onboarding, which in turn lowers the cost of compliance for institutions as well as costs for consumers considerably. There is still risk that, in an effort to be conservative and avoid potential penalties, institutions will still rely on traditional documents even where digital alternatives are available and allowed. As such, buy-in from the regulator (and ideally formal acknowledgement of the digital identity for CDD) is crucial.

Digital ID platform should meet foreign regulations in order to capture passport information and understand a person's nationality. For expats and citizens of other countries, the digital ID should also be able to facilitate and meet their home jurisdiction requirements. For example, the ability to facilitate GDPR and US regulations such as Foreign Account Tax Compliance Act (FATCA)¹⁹. This is important when it comes to handling foreign passport information (such as biographic and biometric data) to be able to adequately identify and note the nationality of people in line with accepted international systems, formats and standards in place.

16 Outlined in Section 12(C) subsection (3). Available at: [http://www.parliament.gov.sb/files/legislation/Acts/2010/Money%20Laundering%20and%20Proceeds%20Crime%20\(Amendment\)%20Act%202010.pdf](http://www.parliament.gov.sb/files/legislation/Acts/2010/Money%20Laundering%20and%20Proceeds%20Crime%20(Amendment)%20Act%202010.pdf)

17 This is supported by stakeholder interviews which revealed a focus on collecting documents such as birth certificates, driving licence or provident fund cards to facilitate account opening.

18 The use of documents to assert identity is specified in the Solomon Islands FIU's guideline for financial Institutions and cash dealers as well as in Guideline No.1 2013. Available at: <http://www.cbsi.com.sb/financial-intelligence/documents/>

19 FATCA requires foreign financial institutions and certain other non-financial foreign entities to report information to their local Tax Authority about foreign assets that are held by their US taxpayers and entities. Available at: <https://www.irs.gov/businesses/corporations/foreign-account-tax-compliance-act-fatca>

Summarised insights from current ecosystem in the Solomon Islands

Digital ecosystem

1. Mobile phones comprise 71% of web traffic by device, making this instrument the most widely adopted and useful tool to access a digital ID utility for individuals. However, the utility should accommodate voice and USSD access, given that 78% of the population currently do not access the internet through any device.
2. The majority of the country is currently covered by 2G networks and feature and basic phones dominate over smartphones. Until these metrics increase considerably, a digital ID utility and its enabled services would have to be accessible to the individual via voice or USSD channels first and foremost. If only data channels are accommodated, there is a high risk of exclusion.
3. Large gaps in electricity coverage, particularly in remote areas could negatively impact the quality service of a digital ID platform as well as its uptake.
4. Mobile digital services are nascent and fragile with low current uptake, limiting their ability to drive considerable uptake of the digital ID platform.

Demand-side considerations

5. Pijin (a Melanesian pidgin) and English would ideally be accommodated in a digital ID interface. For those more comfortable in other languages, a voice service should be considered. Given the extremely diverse set of languages across the Solomon Islands, this requires careful consideration to avoid exclusion.

6. As mobile internet and social media use is limited, trust still needs to be established for the majority of the population. Fit-for-purpose awareness and usage campaigns around digital services and digital ID use would have to be factored into the set-up costs to drive uptake.

Regulatory environment

7. Legislation governing data privacy is in place in the telecommunications sector, which could provide a framework for developing national broad-based consumer data privacy legislation.
8. Legal frameworks outlining data protection controls and standards as well as penalties for unauthorised access, use or alteration to personal data need to be developed and implemented. Putting in place adequate safeguards can help promote user trust and help facilitate adoption of a digital ID solution.
9. A national cybersecurity framework is under development which bodes well for ensuring security of a digital ID platform against data breaches. If this framework is not finalised before the launch of a digital ID platform, standards adopted by the platform could set the tone for legislation and regulation around cybersecurity in the country.
10. Technically the Solomon Islands' AML-CFT framework is accommodative of utilising a digital ID solution for CDD purposes. However, guidance issued by FIU insisting on physical documentation has led to misinterpretations as to what is allowed.



4. Use case analysis

This section analyses the different use cases for a digital ID in the country. Use cases in this context are the most prominent services in the Solomon Islands that currently require an identity document to be presented or verified and that would have use for a digital ID utility. Both civil and financial services use cases are assessed for challenges that could be addressed by a digital ID platform. After this overview, the use cases are ranked based on their transaction scale as well as their relative importance in terms of meeting stakeholders' objectives and national priorities.

4.1. Use case overview

Table 3 and Table 4 list all major applicable use cases in the Solomon Islands civil and financial space, respectively. This information is based on literature and stakeholder engagements and includes the most prominent needs in the Solomon Islands context.

4.2. Use case ranking

Two ranking lenses are applied in this exercise: transaction scale as well as national stakeholder objectives to assess the extent of demand for such a platform in the local context.

Use cases provide transaction scale for a digital ID platform. The current number of users in the respective sectors serve as a first proxy to understand how much scale in transactions the platform could possibly generate. This is important to inform the governance and financial model discussed in Section 5. Ideally all use cases would be integrated to create the maximum scale on the platform. However, it is not practical to integrate all use cases at once, and the ranking based on transaction scale gives an indication of priority of integration. Box 5 outlines the methodology behind this analysis lens.

Stakeholder objectives and national policies will drive stakeholder buy-in in practice. The transaction scale ranking is important to understand the demand for a platform in the absence of existing digital solutions. There are a limited number of digital solutions already in the Solomon Islands and hence it will be important to reflect how that influences the likelihood of buy-in for a new system from the perspective of the affected stakeholders. Different agendas and objectives ultimately need to be met by the platform to make the utility useful for the public and private sector – in some cases these are driven by national or regional policies, in other cases by profit. Stakeholder interviews, literature and national policies influenced the priority ranking in the national objectives lens. Box 6 provides further information on the approach behind this parameter.

Table 3. Civil service use cases for a digital ID platform in the Solomon Islands

Use case	Challenge the digital ID platform could address
Enable unique and up-to-date voter identification	Current voting database has issues with duplicates as well as containing outdated data. Solution: A digital ID platform would centralise detail or information changes such as address, civil status etc. to ensure up-to-date, robust information on the voter base.
Enable tax base identification and remote tax returns	Tax filing can be a time-intensive process for both citizens and tax administration. Compliance issues exist both in terms of identifying who needs to pay tax and to actually file the tax return. Solution: A digital ID platform could enable direct access to identification documents, so they do not have to be provided by the applicant; a digital ID platform could facilitate tax filing by enabling the connection of different databases across sectors to prepopulate forms and make it easier to enforce compliance.
Close foundational ID gap	Over 45% of Solomon Islanders currently do not have any form of official identity, excluding this share of the population from accessing both remote and in-person services. Solution: A digital identity platform could enable individuals to be onboarded onto the platform and begin the journey of having their identity verified through identity proofing. Ultimately, this will enable access to service such as voting, financial services and welfare payments.
Enable replacement of birth certificates and centralised birth registration	Currently there is low birth certificate penetration in the Solomon Islands. Geography may be a possible barrier to accessing birth certificates, particularly for remote islands. Additionally, there is no electronic system for remotely replacing birth certificates, which is crucial after natural disasters. Solution: A digital identity platform would enable remote access to digital birth certificates and could reduce the cost of access when needing to use a birth certificate as an identifier. It would also enable a template to onboard and register new births in the right format.

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Use case	Challenge the digital ID platform could address
Improve marriage and death registration and data sharing	<p>Data sharing between agencies on death and marriage status information is often slow and error-prone, with the potential for fraud and identity theft.</p> <p>Solution: A digital ID platform would facilitate data sharing and allow for registration of civil matters to be centralised and unique. It would enable remote access to an individual's status to enable further remote services.</p>
Title deed registration and verification	<p>While there is an electronic database for title deeds, it is not connected with other services or databases to ensure up-to-date information.</p> <p>Solution: A digital ID platform will ensure that all title deed holders are verified, ensuring a robust title deed system.</p>
Enable centralised and remote criminal background check	<p>Processes around criminal background checks are currently manual and time-consuming. Criminal background checks are conducted in case of crimes, for enhanced due diligence of politically exposed persons (PEP), for individuals on sanctions lists as well as for visa purposes and employment, among others.</p> <p>Solution: A digital ID platform would enable authorities, employers, FSPs and others to have the most up-to-date information on the criminal history of individuals if linked to a unique identity. Moreover, the waiting period for a police clearance could be eliminated through real-time verification.</p>
Enable monitoring of school enrolment	<p>There is no central register for school enrolment.</p> <p>Solution: A digital ID platform could support the creation of a central register, could monitor school enrolment rates and could provide for proactive student cadre planning per location.</p>
Allow for remote driving licence renewal and registration	<p>Original birth certificate must be presented when registering for a driving licence and the process is done face to face.</p> <p>Solution: A digital ID platform would centralise driver identity information to allow for remote renewal and would make the registration process more seamless due to the ability to verify an individual's identity information.</p>
Allow for quicker hospital admissions and health service access	<p>Hospital admissions and health service access involve many time-consuming forms and need for identification could impact an individual's ability to access urgent healthcare.</p> <p>Solution: A digital ID platform would allow for quick identification of patient and related health records if stored on platform.</p>

Source: Authors' own based on literature and stakeholder interviews

Table 4. Financial service use cases for a digital ID platform in the Solomon Islands

Use case	Challenge the digital ID platform could address
Enable remote opening and verification of financial accounts	<p>Currently accounts are opened with hard-copy documents and in person only. There is no shared digital verification system to allow third parties to verify account information.</p> <p>Solution: A digital ID platform would decrease the need for hard copies and aid remote onboarding and verification through centralised information. Higher CDD veracity process, quality assurance links to sector and country risk evaluations.</p>
Enable SIM card registration and verification and e-money registration	<p>Individuals can currently obtain SIM cards without having to register any KYC information, which leads to risks in mobile money services and increased threat of fraudulent activity.</p> <p>Solution: A digital ID platform would link an identity to a SIM card, not an identity document, to allow for robust verification of mobile money transactions and SIM card ownership. It can enable multiple SIMs linked per unique identity.</p>
Increase effectiveness G2P	<p>Many of the Government's nearly 16,000 staff are scattered across the islands and there are issues with receiving remote payments as well as duplicates in the system.</p> <p>Solution: A digital ID platform would uniquely identify individuals eligible for G2P welfare and it would also provide a de facto routing of welfare payments, even for those without accounts, to enable collection via the most appropriate instrument. This would assist in enabling government employees to access their salary remotely.</p>

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Use case	Challenge the digital ID platform could address
New identity mechanism for pension payments	<p>Disability and old age benefit from the National Provident Fund, potentially have duplicates in their system.</p> <p>Solution: While the SINPF has an ID mechanism for all its members, it could prove unviable to maintain a parallel identity system once the digital ID platform is introduced. As such the SINPF can be linked into the digital ID system and utilised as the main identity mechanism due to its robustness, safety and convenience.</p>
Enable remote customer due diligence (CDD) for money transfer operators (MTOs)	<p>Face-to-face interactions with agents to collect cash remittances is expensive and requires a wide agent network. Additionally, customers must bring physical identification documents every time they collect cash remittances.</p> <p>Solution: A digital ID platform and its related proxy identities would enable digital receipt of remittances. Robustly verifying the identity of recipients can impact risk profile of institutions in respect of correspondent banking and thus encourage increased international ratings and access.</p>
Enable the development of secure e-commerce payments	<p>E-commerce is currently nascent in the Solomon Islands, mainly restricted to Facebook, which does not provide enough security especially when it comes to payments.</p> <p>Solution: A digital ID platform would enable secure real-time payments by aiding effective customer and vendor identification but also driving more e-commerce solutions. This would establish e-commerce as a key future use case for the digital ID platform.</p>
Enable remote utility payments	<p>Utility payments can now be made online through Ezi Pei which was launched in 2020, but uptake is still low.</p> <p>Solution: Use of digital ID or ID proxies which can be linked to or become the debtors' subsidiary ledger and routing mechanism. This enables quick and accurate digital account payments through a number of digital and cash receiving channels plus portals.</p>
Enable remote credit reporting and history access	<p>Accessing credit history is vital to enable the extension of credit, for both providers and consumers. While the Solomon Islands has established the Credit and Data Bureau, it is currently underutilised.</p> <p>Solution: A digital ID platform would enable more coverage from the credit bureau as they can use the identity platform for identity verification and proxy identities.</p>
Enable remote insurance onboarding and claims verification	<p>Insurance penetration is low and onboarding processes costly for providers. Claims pay-out processes are also costly and time-consuming.</p> <p>Solution: A digital ID platform would enable quicker onboarding through remote identity verification, which can lower CDD costs, making insurance more accessible and affordable. Digital identity linked proxy IDs can be used to route claims pay-outs.</p>

Source: Authors' own based on literature and stakeholder interviews

Box 5: Ranking methodology for transaction scale lens

Transaction scale or number. Transaction scale refers to the number of requests for identity verification or onboarding from individuals and/or service providers (including government) that the platform would perform.

High, moderate, low priority. The ranking is divided into high, moderate and low priority integration based on the likely number of average recurring transactions per month. Some of these services, such as voter registration, will be performed as needed and not monthly but for comparability we express the likely number of digital ID transactions per month. The annex provides further details on the assumptions behind the calculations.

Once-off transactions. These transactions are not reoccurring and include the first onboarding of new individuals as well as the consolidation of identity information of each existing digital identity database in the Solomon Islands. As they are only performed once, they are not necessarily a continuous driver for scale but are important to take into account when it comes to estimating the initial cost and governance model of the platform, which is discussed in [Section 5](#).

Growth. The growth indicator highlights to what extent the use case in question is likely to grow over the next five years. A high-growth use case suggests that its importance will likely increase over time even though its current demand may be moderate or low. The growth rate is dependent on a number of infrastructure developments, especially in the digital payments space and is only indicative.

Box 6: Ranking methodology for national priority lens

High, moderate, low priority. The ranking is divided into high, moderate and low priority integration based on the composite of several factors. These factors include the extent to which the use case was mentioned in literature or in stakeholder interviews as fulfilling a concrete need. Not every use case listed in Section 4.1 is high in terms of stakeholder interests, either because the use case does not tie neatly to existing national policies, i.e. does not fulfil a priority objective and is hence less likely to be prioritised for integration in practice; or because stakeholders have already invested in other infrastructure

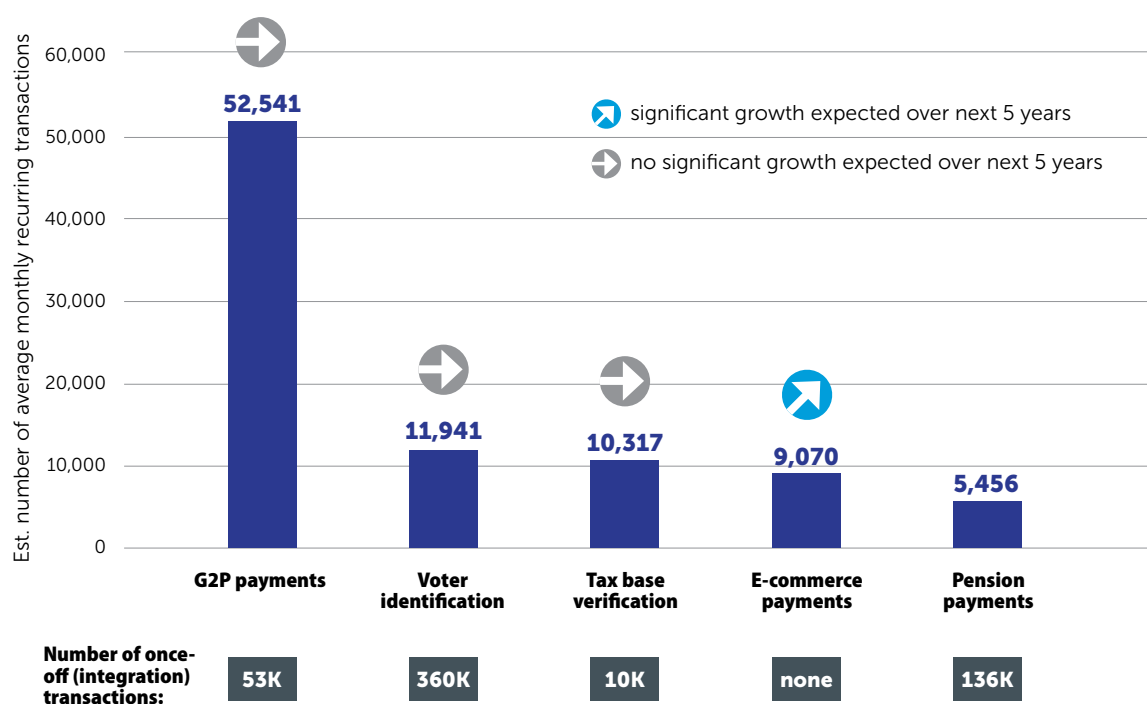
to meet their needs for identity verification. Use cases with an existing digital infrastructure have been ranked lower priority as the gains from introducing a digital ID platform for them will most likely be lower. In such cases, especially where transaction scale is high it will be important to clearly quantify the added benefit (e.g. cost savings or efficiency gains) that integration with the digital ID platform would have, as otherwise stakeholder buy-in could be a challenge. The collected information is based on stakeholder engagements and existing literature.

High-priority use cases

G2P payments high on transaction scale and national priority list; need to close foundational ID gap to drive scale and enable inclusivity of platform. High transaction use cases, shown in Figure 2, are services that we estimate to have over 5,000 potential monthly requests to verify an individual's identity via the digital ID platform. There are only five use cases with relatively high transaction potential. The one clear contributor to scale would be identification requests linked to G2P payments with almost 53,000 transactions. As this is also a high priority use case to meet national objectives as shown

in Table 5, it should form a core pillar of an inclusive digital ID platform. Voter and tax identification as well as e-commerce payments are expected to reach around 10,000 transactions currently, with only e-commerce predicted to increase in scale over the next five years. Given the low base of internet users, this growth is expected to remain moderate, however. Two of the highest priorities from a national perspective, yet much lower on a monthly transaction scale, are to close the foundational identity gap for inclusivity and to register SIM cards due to increasing use of mobile phones. Meeting CDD requirements for financial account opening (including mobile money) are also a high priority for

Figure 2. High-scale transaction use cases



Source: Authors' own based on literature and stakeholder interviews

Table 5. Use cases with high national priority

National priority lens	
Use case	Considerations
Closing the foundational ID gap	The digital ID platform is a high priority to the Ministry of Home Affairs and Central Bank of Solomon Islands to address the gap in foundational ID. Currently, multiple forms of ID of differing robustness are present in the Solomon Islands and there is no single, accepted, universal ID. Consolidating the multiple ID databases and reaching those without any form of identity will therefore be a top priority for using the platform.
Financial account opening and due diligence	The digital ID platform is a high priority to the Central Bank of Solomon Islands to enable financial inclusion and manage risks to the financial sector and beyond. It also ranks as a high priority to financial service providers to onboard new clients, enable individuals to meet KYC/CDD requirements and manage risks linked to current clients.
SIM and e-money account registration and verification	For the providers, the Telecommunications Commission Solomon Islands (TCSI) and the Central Bank of Solomon Islands, the platform is a high priority because developing a robust SIM registry system is important to mitigate ML-TF risks arising in e-money.
G2P payments	For the government of the Solomon Islands, ensuring timely, well-targeted welfare payments as well as reducing fraud risks around these payments is important to ensure the wellbeing of Solomon Islanders.

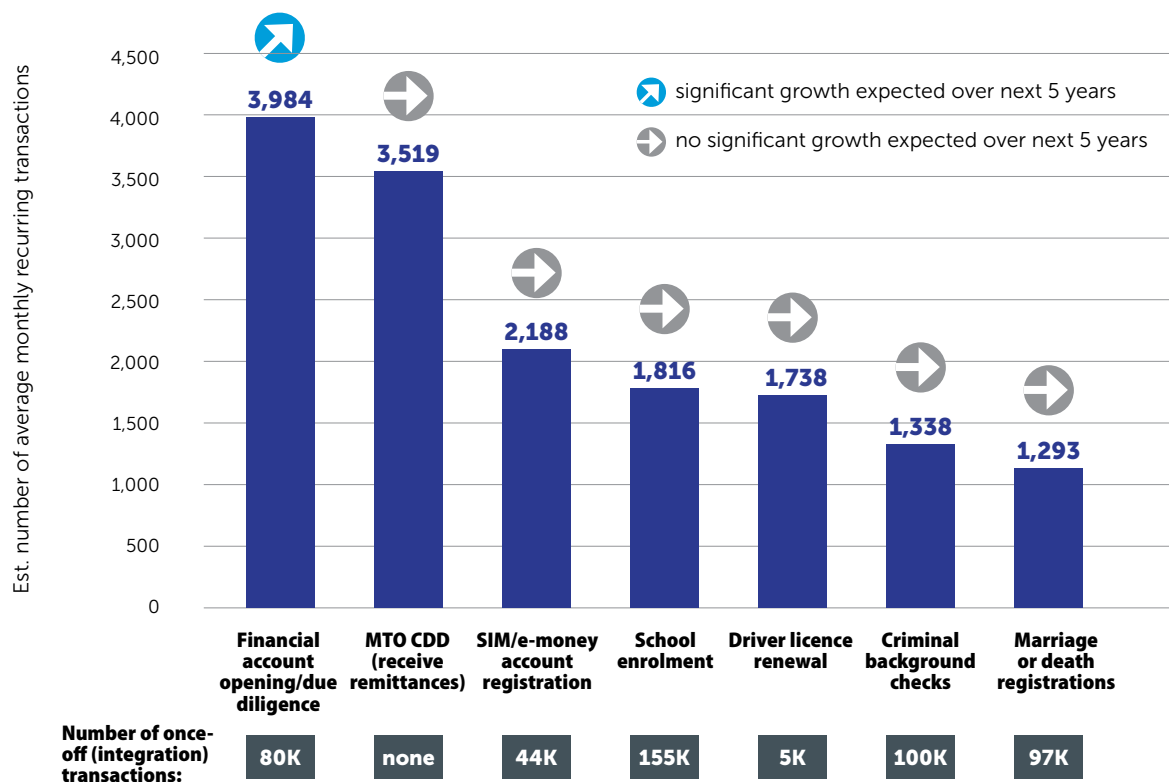
Source: Authors' own based on literature and stakeholder interviews

stakeholders given the risks to the stability of the financial system. Pension payments from the SINPF also have relatively high transaction potential and while it already has its own identity mechanism, linking it to a digital ID would be recommended as it could prove unviable to maintain two parallel systems for this use case.

Medium priority use cases

Significant overlap between transaction and national priorities. Use cases with an expected monthly number of between 1,000 and 5,000 transactions are included in the medium priority for the Solomon Islands. The three highest use cases in this category, as shown in Figure 3, are made up of financial services, i.e. financial account

Figure 3. Medium-scale transaction use cases



Source: Authors' own based on literature and stakeholder interviews

Table 6. Use cases with medium national priority

National priority lens	
Use case	Considerations
Voter identification	Using a digital ID platform for voter identification is a medium priority given the existing system, but is a value-add to the elections office as it ensures a more up-to-date voters registry and reduces the risk of electoral fraud occurring.
Tax base verification	There is an existing e-tax project but it is struggling to identify and onboard taxpayers without a universal ID. The digital ID platform would therefore be a priority for the Inland Revenue division of the Solomon Islands in order to maximise tax collection and improve efficiency.
Criminal background checks	While there is a relatively low crime rate, the Solomon Islands Ministry of Justice and Legal Affairs as well as the Royal Solomon Islands Police Force will benefit from the digital ID platform by being able to access real-time integrated information.
Marriage or death registrations	For the Ministry of Justice and Legal Affairs, the platform will enable them to track marriages as well as deaths more accurately. For the Ministry of Health, the platform enables accurate accounting of deaths. For both, a separate database already exists, hence the medium categorisation.
School enrolment	Using a digital ID platform for school enrolment is a medium priority given the already high rate of enrolment. In particular, the Ministry of Education and Human Resources Development (MEHRD) can benefit from being able to account accurately for enrolled students and school-age children that are not in school. The data on the platform is also helpful to the Ministry of Education for budgeting purposes.
Birth registration	Most citizens are currently registered at birth, making this use cases slightly less of a priority for stakeholders. The digital ID platform will add value to the Solomon Islands Ministry of Home Affairs and the Solomon Islands Ministry of Health to keep a centralised account of new births that other providers can access. For the Solomon Islands National Statistics Office, the platform serves as a tool to accurately analyse and estimate population information.
E-commerce payments	Using a digital ID platform for e-commerce payments is a medium priority as the e-commerce sector is still nascent. The Solomon Islands government can make use of this developing industry to drive digital payments enabled by a robust digital ID system and hence could create more traction in e-commerce.
MTO CDD (receiving remittances)	The digital ID platform is a medium priority to the Central Bank of Solomon Islands in terms of being a significant enabler of remittances and a mechanism for ensuring the integrity of the ML/TF regime in the cross-border remittances space. For money transfer operators, a digital platform could alleviate overly stringent CDD caused by de-risking, which is throttling remittance inflows.

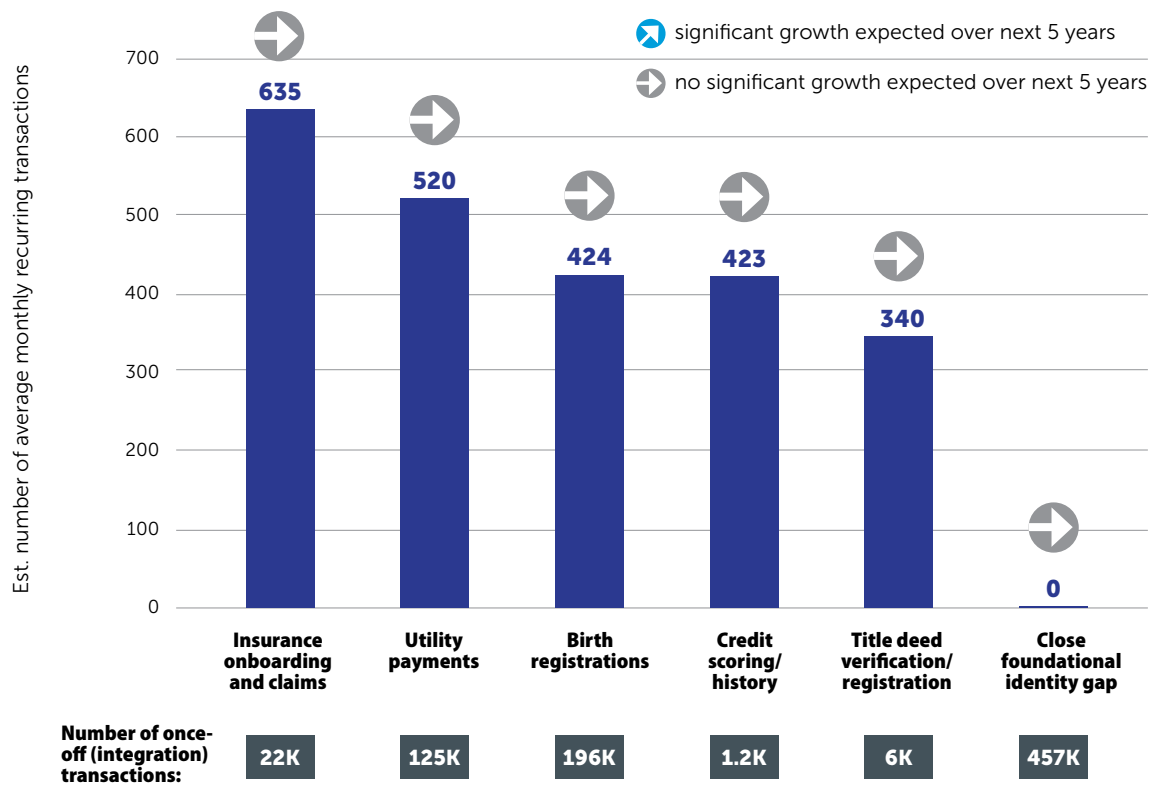
Source: Authors' own based on literature and stakeholder interviews

opening as well as enabling the receipt of remittances. The remaining use cases include school enrolment, driving licence renewal, criminal background checks as well as registering marriages and deaths. All use cases in this category are expected to remain fairly constant over the next five years. In terms of national priorities, listed in Table 6, in addition to marriage and birth registrations and school enrolment, voter and tax identification are considered in this category. Most of these civil use cases already have an electronic enrolment component and hence are less likely to be prioritised unless significant challenges with the current systems exist. Remittances are not as big a driver as in other Pacific Islands jurisdictions, yet are still of importance to national budgets and wellbeing of citizens.

Low priority use cases

Utility payments, insurance, credit history and title deeds low on priority list. Use cases with less than 1,000 monthly expected transactions are considered low priority on the transaction scale, as shown in Figure 4. Utility payments, often a driver for digital ID transactions in other countries, are low in the Solomon Islands. Electronic utility payments are already possible and given their small scale they are hence also low on the national priority list in Table 7. Insurance onboarding, credit history access and title deed verifications are all low in scale and in terms of national priorities. None of the use cases in this category are expected to grow considerably.

Figure 4. Low-scale transaction use cases



Source: Authors' own based on literature and stakeholder interviews

Table 7. Use cases with lower national priority

National priority lens	
Use case	Considerations
Utility payments	Enabling utility payments are a low priority because this is already possible through online services; additional gains from integration may be too small. The Solomon Islands Water Authority and the Solomon Islands Electricity Authority could, however, see long-term benefits from digitised utility payments as a result of the platform.
Credit scoring and history	Given the existence of a newly established credit bureau, the credit scoring and history are a low priority for the digital ID platform. The inclusion of biometrics and proxy IDs in the platform may, however, benefit the existing bureau in improving the quality of credit scoring and history in the Solomon Islands.
Title deed verification	Given the existence of an electronic registry for title deeds done by the Ministry of Lands Housing and Survey, using the digital ID platform for title verification may be lower priority. The Ministry of Lands Housing and Survey may, however, benefit from the digital ID platform in registering new titles on remote islands and customary land that is currently not registered.
Insurance onboarding and claims	While a digital ID platform may assist in improving risk management in general, the platform is a low priority use case for insurance given the low uptake of insurance in the Solomon Islands.
Pension payments	The Solomon Islands National Provident Fund has already an established ID mechanism for all its members. Linking into the digital ID platform could, however, allow it to benefit from a more robust identification mechanism.

Source: Authors' own based on literature and stakeholder interviews

Summarised insights from use case analysis

1. While there is a significant number of use cases that could benefit from a digital ID utility in the Solomon Islands, the likely monthly transactions that could be generated by the majority of these use cases may not make it financially viable to integrate a large share of them. Regional integration will be key.
2. Given the size of the current databases, once-off integration and consolidation of existing information will require considerable effort before revenue can be generated, but is absolutely crucial to bring inclusivity, efficiency and longer-term cost savings to the market.
3. G2P payments present the largest opportunity in terms of monthly scale and they are also high on the national priority list. An ID utility should integrate identification of recipients as one of the main drivers of use.
4. In terms of national priority, closing the foundational identity gap will be vital in narrowing the digital divide and in developing an inclusive economy. The platform can give the template for onboarding, meet KYC/CDD requirements and it will be crucial to bring more people into the formal system to generate scale and improve inclusion.
5. Utilising the digital platform for SIM registration would have several benefits, ranging from streamlined e-money account opening to enabling ID proxies. This use case should ideally be integrated to bring value to a range of stakeholders as well as aiding in meeting national objectives.
6. Several systems for electronic service delivery already exist, to a varying degree of efficiency. This puts these existing services at a lower priority for integration with the platform from a stakeholder perspective and it will require significant efforts to get stakeholder buy-in in that space.



5. Governance and financial considerations for a digital ID platform

This section will pull together the insights gathered from the previous sections of the report to assess the essential design features for consideration of the platform, their cost implications as well as the governance structure the solution could employ.

5.1. Governance structure

Designing a fit-for-purpose governance structure for a digital ID platform is crucial to ensure longevity of the utility and should be assessed carefully. This section provides considerations around an approach to determine the best governance model for the platform in the Solomon Islands. Table 8 lists the advantages, disadvantages and implications for the Solomon Islands of each of the four governance models introduced in Box 3.

Public-private partnership and NGO-led model more suitable for the Solomon Islands context but only if there is regional integration. All four models are technically possible in the Solomon Islands, yet all four have significant disadvantages that can outweigh the benefits of establishing a national digital ID platform. While the need for a digital ID platform is there, the substantial stakeholder collaboration and funding required to implement and operate such a utility across a wide range of use cases are likely to be major deterrents for the Solomon Islands. Applying the use case analysis above to governance configurations, financial use cases are projected at 20,000 transactions per month which would realistically be insufficient to support even a lightweight platform and hence not very likely to bring the desired benefits to the Solomon Islands' national objectives. A lightweight and underfunded platform is likely to remain below its utility potential with a high risk of project abandonment. An NGO or development partner-led model as well as a public-private partnership spearheaded by a dominant government department has a good chance of gaining traction, but only if scale in the utility can be increased through regional integration with multiple other Pacific Island states. If there is no regional integration, the likelihood of sustainability is low.

Regulatory changes can cause delay; need to adjust as soon as possible. Given the lengthy processes required to change regulation, the necessary regulatory amendments need to be initiated as soon as possible to not lose momentum. Given the need for regional integration on the platform, a policy should be developed that includes regional perspectives and calls for harmonised regulatory frameworks that in turn enable the Solomon Islands' regulatory reforms. It is not incompatible for the facility to be built in parallel with regulatory changes, provided such changes clarify the utility's framework norms and standards. If the necessary specifications are known upfront or are compliant with established local and international norms and standards, the regulation can follow the platform establishment.

5.2. Financial model

The financial model of the digital ID utility can be split into the set-up costs of the utility and the operational costs of running the utility once it has been set up. The considerations when conducting a cost-benefit analysis are discussed in this section. In general, the stronger the utility is set up and capacitated from the start, the easier it will be to secure continuous financing to ensure longer-term sustainability.

Set-up costs

A systemically important utility: set-up to centre around this goal. For an island state like the Solomon Islands that is fragmented, infrastructure projects regularly compete for budget and need to prove their value-add clearly to warrant attention from authorities. This digital ID platform has the potential to significantly contribute to the Solomon Islands' ability to build a digital economy if it proves itself as a systemically important service, underpinning most of the digital and even face-to-face interactions that require identification. The set-up costs are therefore driven to a big extent by efforts to align all crucial stakeholders' expectations in terms of functionality and get stakeholder buy-in through targeted efficiency projections per stakeholder. This upfront investment in terms of time, research and advocacy meetings is essential in eventually creating a systemically important utility that is supported by all.

NGO or donor community to fund set-up costs. As discussed in the previous section, involvement from an NGO or development partner in the financing and governance of the platform could be a suitable option for the Solomon Islands. By its nature, an NGO model would have an efficiency and inclusive agenda instead of a profit imperative, allowing for a considerate and future-looking design of the platform instead of focusing only on the high-transaction scale use cases. The prospect of an inclusive digital platform that allows the majority of Solomon Islanders to benefit is significantly easier to advocate to donors than a for-profit utility, especially to cover the set-up costs. These costs are expected to be high as the existing identity information needs to be deduplicated and consolidated, yet they are much lower than creating a new database that includes the onboarding of individuals from scratch. Therefore, as stakeholders will need convincing to buy into the utility and any benefits from the platform will take time before they can be reaped, the funding necessary to design and set up the platform will likely need to be shouldered by donors or grants. The operational costs can then be recovered through the cost savings by integrated stakeholders, discussed in more detail below. As discussed above, regional integration should be taken into consideration from the onset to increase financial viability.

Table 8. Governance model assessment

Advantages

Government-led, owned and operated	Private sector-led, owned and operated	Government-led, private sector-owned and operated	NGO-led and government or private-sector-owned and operated
<ul style="list-style-type: none"> • Central ownership structure with dedicated resources • Initial funding model aligned with national budgets or budgetary assistance or loans • Regional integration based on national buy-in and regional financing links • Aligns very closely with acute current foundational ID needs and national priorities 	<ul style="list-style-type: none"> • Independent and market-driven utility • Simplified lines of decision making and procurement • Alignment with commercial interests • Commercial dynamics, competition and efficiency • Some access to advanced external resources, skills and capacity to implement and operate at scale with remote providers • Speed to market 	<ul style="list-style-type: none"> • Alignment between national government policies and regional government strategies • Governance aligned to sovereign states and credible institutions • Ability to create mutual as well as commercially competitive spaces • Harnesses commercial dynamics and competitiveness in a structured marketplace • Potential for hybrid funding models from national budgets or loans and commercial capital based on clear government-backed market structures • Alignment with commercial interests in a strategically structured regime 	<ul style="list-style-type: none"> • Stronger alignment of facility with regional goals and SDGs • Streamlined but consultative structures and objectives • More agile financial model which can be a hybrid between global organisations, donor countries and NGO foundations plus government assistance and commercial funding • Allows for funding to be aligned to a trusted mutual utility concept and also a competitive commercial space that adds value to the consumer • Decisions and funding are not strictly tied to multi-national budgetary processes • Arm's length decisions when it comes to regional viability vs country specific requirements • Less burden on individual government structures and key national institutions but including key institutions in key digital ID utility governance and oversight structures • Stronger alignment with regional and national policy needs but with an underpinning of commercial scale for sustainability

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Table 8. Governance model assessment (continued)

Disadvantages

Government-led, owned and operated	Private sector-led, owned and operated	Government-led, private sector-owned and operated	NGO-led and government or private-sector-owned and operated
<ul style="list-style-type: none"> • Need to build a consortium of different government departments to ensure buy-in, all with different objectives • Potential conflict of interest as platform caters for both public and private sector use cases • Potential limited buy-in by private sector if not involved in governance • Potentially slower changes to integration of use cases • Set-up and implementation funding would displace current needs • Continued funding for facility difficult • Lengthy and complex procurement processes which can result in delays, increased costs and compromises in key specifications • Advanced system implementation and operation capacity constraints 	<ul style="list-style-type: none"> • Lack of scale, would be unlikely to sustain a standalone business case as an investable project • To sustain any business case would require building key existing commercial use cases with limited or no additional focus use cases of importance to achieve sectoral or national policy objectives • Infrastructure would need to be shared or very lightweight and acutely aimed at very specific use cases with limited ability to reach ubiquity • Key business case focus on a very thin strata of included middle and higher-income consumers with less focus on lower-income and hard-to-reach segments • Competition norms reduce the possibility of a non-competitive sphere and common utility with a unit-cost efficiency incentive as opposed to a profit-optimisation imperative 	<ul style="list-style-type: none"> • Government and private sector objectives and incentives are difficult to align in an effective public-private partnership (PPP) • Over and above limited overall funding available, structurally different funding and reporting cycles plus differing administrative requirements and timelines can result in inertia or project failure • Lack of clear governance framework, common strategic objectives and lines of control can result in facility paralysis or misdirection • Given local scale, vendor lock-in agreements are inevitable with the risk of suboptimal facility or excessive default cost guarantees • Changes in government policy and commercial considerations need to be proactively managed • High possibility of vendor or private sector abandonment if use cases are slow to be adopted 	<ul style="list-style-type: none"> • NGO funding cycles, types of funding, theory of change and specific goals difficult to manage in the short-to-medium term • NGOs require substantive buy-in and contracting by governments and/or financial and capacity contributions • A high focus on non-commercial use cases can limit scalability and sustainability • NGO strategic funding and support objectives can change in a short period • NGO measurement of results and reporting can be onerous and not always within the frame of reference of governments and private sector • Potential for vendor lock-in agreements • Potential for government or private sector abandonment • Ultimate transition to self-sustainable regional utility ownership and governance can result in facility paralysis or misdirection

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Table 8. Governance model assessment (continued)

Suitability for the Solomon Islands

Government-led, owned and operated	Private sector-led, owned and operated	Government-led, private sector-owned and operated	NGO-led and government or private-sector-owned and operated
<ul style="list-style-type: none"> • Can be a significant burden in the Solomon Islands given the current development demands and the capacity in government • Will be difficult to coordinate between departments and would increase pressure on existing projects • Substantial need, but the funding required and implementing such a facility as a standalone national resource and not a shared or regional resource would be an exceedingly difficult model to sustain 	<ul style="list-style-type: none"> • The Solomon Islands has limited access to international institutions that would be capable of implementing and operating such a facility and they view it as a non-core activity and question scalability • Private sector not very cohesively organised into sectors, to accommodate a sector approach like, for example, in Nigeria • Limited appetite from existing commercial entities to own and control such a facility, but high interest in how the facility can impact their internal processes • External or international vendor is more probable but comes with risks in terms of catering to the local context 	<ul style="list-style-type: none"> • The Solomon Islands' Government has limited available capacity to coordinate or lead such an approach given the extent of existing policy initiatives and needs • Cross-departmental considerations could be a challenge • Strong governance centres may lack a direct mandate to oversee such a facility. For example, it would require a predominant financial services component to fall within the Reserve Bank mandate • Use case scalability considerations are significant and would point to a regional facility with a governance model that can harmonise requirements that are fit for purpose in both larger developed as well as smaller less developed markets 	<ul style="list-style-type: none"> • Would need to be a trusted NGO with a long-term commitment across the countries as an honest broker • Amount, type, mix and timing of funding that could be leveraged would be important • Capacity to establish a governance structure locally and possibly between nations • An NGO would be more likely to succeed across different jurisdictions than one single government or a consortium • From the use case scale evaluations, a facility will more readily achieve scale if leveraged across multiple jurisdictions. This is particularly the case in the Solomon Islands

Source: Authors' own based on literature and stakeholder interviews

Operational costs

Financial contributions to platform to be set out upfront. In order to reduce the risk of abandonment of the project and to balance the continuous financing of the platform regardless of the initial funding, all providers and government departments that will be using the utility should be contractually bound to budgetary contributions based on their respective savings gained through the platform. This can ensure the recovery of some operational costs in the initial years and prove the systemic value to the stakeholders. If there are no cost savings, then a stakeholder would not have to continuously contribute, other than for the maintenance of their own system integration and links. In order to help ensure sustainability, a portion of the budgetary allocations should also be reinvested into the facility to help with its upgrading and renewal. This system requires clear rules to mitigate for abuse but could present a viable financing model. In practice this means that grant funding could be sought at the start to cover the most essential infrastructure pieces and technical assistance yet ultimately the platform should not be free to use indefinitely²⁰. This model would also utilise a fee-based structure, for example for every SIM verification, MTO transaction verification, bank account opening etc. This will again help provide the system with a high level of sustainability and provide another source of operational expenditure apart from budgetary allocations.

Build for regional integration. On their own, the expected monthly transactions running through the platform in the Solomon Islands are too low. This has implications for the sustainability of the platform if operational costs outweigh the costs that can be recovered through charging per transaction. Even if cost savings for stakeholders are significant, they

may still not cover the running costs of the utility. From a financial as well as scale perspective, it is therefore advisable to extend the reach of the utility into neighbouring jurisdictions and ideally to the entire region. Technological advancements make it possible to ringfence the respective data by country but still utilise the infrastructure capabilities for verification from anywhere in the region. This not only harmonises data formats and encourages regional collaboration but can then lead to cost sharing between the countries based on utilisation levels. Regional integration can happen gradually, but it should be aimed for from the onset of establishing the facility to guide the market and especially the necessary regulatory reforms in each jurisdiction. Fiji is an economic leader with the most existing use cases when compared to the Solomon Islands and other Pacific Island countries. Therefore, Fiji is best placed to also lead a regional integration and set-up discussion.

Retail payment switch potential to subsidise costs and increase efficiency through real-time payments.

There is potential to integrate the ID proxy platform with the national payment system through a link with a retail payment switch. The platform and financial switch would together operate as a centralised facility that can route retail payments with a high degree of certainty as it can validate the payments channel in real time using a link to the ID proxies. The capability of the ID platform to act in concert with a financial switch would not need to be decided upfront but if the need arises, the utility can effectively support the independent routing of transactions in the financial sphere with a high level of accuracy. A switch utility could then contribute to covering the operational costs of the digital ID platform not only on direct fees but from potential financial sector efficiency gains.

²⁰ Aadhaar in India is state-run, similar to a parastatal, i.e. a stand-alone institution. It failed to contractually bind the department responsible for managing the cooking gas subsidy to contribute to the cost of the platform and the significant cost savings reaped by that department were not, even in a small part, applied towards the sustainability of the digital ID system that made such savings possible in perpetuity.

Summarised insights for the governance and financial model

1. The facility needs to be regionally integrated as the Solomon Islands on its own is unlikely to create enough scale in a digital ID platform. The more Pacific Islands are integrated the higher the chance of financial viability. But regional integration requires strong harmonised regulatory frameworks and increases the range of stakeholders that have to be accommodated.
2. The platform should ideally serve as a cross-cutting utility to drive scale and achieve national policy objectives and hence both private sector and public entities in addition to the Reserve Bank should be involved in design and governance. The aim is to create systemically important infrastructure.
3. Private sector entities signal interest in the utility but there are no clear signs that an entirely privately operated utility is preferred by any stakeholder.
4. A government-led, private sector-owned and operated approach could be suitable for the region if collaboration and buy-in can be ensured and if the initial funding for the set-up can be secured.
5. NGOs or development partners are well placed to assist with the set-up costs if the utility is aimed at inclusivity instead of profit maximisation. For the continuous financing of operational costs, however, stakeholders should be contractually bound to contribute to costs based on their respective efficiency cost savings, in addition to viable transaction fees and system integration costs. The aim of an NGO-led financial model would be to sustainably balance revenue and utility.
6. The utility could eventually also enable a real-time retail payment switch that can route transactions with high accuracy, which could contribute to the operational costs and overall systemic utility.

6. Conclusion and recommendations



The objective of this digital identity platform diagnostic for the Solomon Islands is to establish whether the current identity landscape, regulatory environment, existing and future use cases as well as consumers would benefit from establishing such a utility, as well as what design considerations need to be considered. The Solomon Islands, together with other Pacific Islands, could certainly benefit from a digital ID platform if its design reflects the realities of the market.

Current identity landscape

As much as 70% of Solomon Islanders currently do not have access to an identity document. The excluded people would need to be onboarded individually onto the platform, which needs to be taken into account when estimating the costs of the platform. Closing this gap is fundamental to the inclusivity of the platform and should be prioritised despite the costs.

There is significant overlap in identity information collected in the five different main identity databases in the Solomon Islands (birth registry, voter ID, driving licence register, passport register and provident fund registry), including biometrics. A clear gap in the Solomon Islands identity space is the ability for third parties to verify an identity remotely, which undermines the purpose of a digital identity as it leads to the need for face-to-face validation. This is a clear value proposition of a digital ID platform. In addition, such a utility is best placed to serve as a centralised deduplication and consolidation facility that can create one robust identity for individuals as a basis for ID proxies.

Apart from ID numbers, current suitable ID proxies in the Solomon Islands include photographs (via facial recognition software), thumbprints and fingerprints (currently collected only by the ePassport database). However, significant robustness checks would need to be conducted to increase the quality of the photograph and thumbprints. Also, a larger share of the population would need to have their fingerprints taken, considering the low penetration of ePassports.

A big potential for the enablement of ID proxies lies in phone numbers, SIM cards and voice templates. SIM cards are currently not registered with an identity document and hence this integration would need to be enabled before phone numbers can be turned into ID proxies. Their potential reach is attractive and therefore this use case is strategic for the ID platform. Voice prints could also be a suitable proxy, especially as they can be onboarded remotely and are particularly suitable for remote and less literate populations. Voice templates can be included in the digital ID utility.

Digital infrastructure

The use of mobile phones is growing slowly; the digital ecosystem including mobile-accessible services such as mobile money is still nascent. Despite these challenges, mobile phone solutions are the most suitable interface to engage with the utility from a consumer perspective. However, almost 80% of Solomon Islanders do not currently access the internet and hence voice and USSD solutions for identity verification should be considered on top of a 2G-enabled service. The adoption of smartphones is expected to grow moderately over the next five years and basic and feature phones will still dominate the market for the foreseeable future. This further underlines the need for USSD and voice access.

Regulatory environment

In order to ensure trust and protect people's identities, a data protection framework is crucial to underpin a digital ID utility. Legislation governing data privacy is in place in the telecommunications sector which could provide a framework for developing national broad-based consumer data privacy legislation. A national cybersecurity framework is under development which bodes well for ensuring security of a digital ID platform against data breaches. If this framework is not finalised before launch of a digital ID platform, standards adopted by the platform could set the tone for legislation and regulation around cybersecurity in the country. Both should be designed with regional integration in mind as well as compliance with international norms and standards.

Given the interest and suitability of a digital ID platform for the financial sector in particular, the utility needs to comply with AML-CFT regulation as well as with regional and international norms and recommendations. The Solomon Islands' AML-CFT regulation already technically allows for the use of electronic documentation in asserting the identity of an individual and hence technically there is no barrier in allowing providers to conduct remote customer due diligence. However, guidance issued by the FIU insisting on physical documentation leads to misinterpretations by providers. In practice, financial institutions are only using physical documents to identify and verify consumers to ensure compliance and there is alignment around in-person customer due diligence without reference to any specific risk mitigation. Therefore, it is necessary to have strong buy-in of the FIU to issue guidance on remote customer due diligence without the need for physical document verification.

Consumer readiness

The Solomon Islands' population is mostly literate and is most comfortable in speaking Pijin (a Melanesian pidgin) and English, which should be the language choices for a digital interface of the utility. However, there are over 70

spoken languages across the country and hence there is a need to add a voice service in more languages to increase inclusivity, including for illiterate individuals.

The digital service market is still fragile and significant trust and usage barriers still have to be overcome. Therefore, to drive uptake and scale of a digital ID solution, high-profile awareness campaigns need to accompany roll-out and should be anchored in the consumer benefits of the platform to speak to the population's needs.

Use cases

A total of 18 use cases have been identified to benefit from a digital ID platform in the Solomon Islands, ranging from 300 to 12,000 estimated monthly transactions. G2P payments are the only use case with over 50,000 transactions. That makes this use case a clear core contributor to the platform. Overall, this is a relatively low scale in terms of transactions and it further underlines the need for regional integration to create enough scale. The large number of transactions are likely to be generated in the financial services sector, which is also high on the national priority list in the Solomon Islands' policies and objectives. Therefore, financial service providers, including mobile money providers, need to be prioritised for buy-in. Ideally, all use cases should be gradually integrated to create scale and make the platform a systemically important piece of infrastructure with a long lifespan.

Many civil services have already been digitised due to the efforts of public authorities. It will be important to clearly show and calculate the value-add for those stakeholders to win their buy-in for integration. Where possible, the benefits of the utility should be expressed as a contributor to national policies to be taken seriously into consideration by stakeholders. Given the ongoing efforts and engagements around the ID systems across a range of projects, this may lead to fatigue and lower interest, which needs to be considered when planning stakeholder engagements.

Governance

In order to drive transactions on the platform and gradually prove the value to the economy, all stakeholders should be involved financially and/or in the governance of the platform. Given the need for regional integration, the Reserve Bank is well placed to lead the conceptualisation of the platform, driving regulatory

reforms as well as advocate for it with private and public entities across the region to align with the other central banks. Ultimately, the platform should be run by a private provider to remain impartial and take advantage of better technology capabilities, but a mix of private and public sector players should govern the utility. NGOs and development partners can assist with developing a suitable business and governance model for the platform once it has been established, for example, which stakeholders will be part of the utility as a starting point. NGOs could also be considered to run the platform, yet there are risks of abandonment if continuous financing cannot be ensured or if the country is locked into vendor agreements.

Financial model

The initial set-up costs could be shouldered by NGOs and development partners if the utility aims to be inclusive instead of having a purely profit-maximising objective. Therefore, it will be important to specify the objectives of the platform clearly from the start and gain stakeholder buy-in based on these objectives.

The initial set-up costs include the once-off integration, consolidation and deduplication of existing identity platforms, which will require considerable effort and stakeholder engagement that should not be underestimated in the cost calculations.

Entities that make use of the platform should be contractually bound to contribute to the operational costs of running the utility from the outset. This contribution can be proportional to the individual cost savings through the platform for integrated services if and when these cost savings materialise. In other words, stakeholders are expected to contribute only when the platform becomes useful to them in order to ensure continuous buy-in.

Financial services alone are unlikely to continuously create the necessary scale in the utility to ensure its sustainability, even if integrated regionally. While it is simpler to integrate and collaborate with fewer stakeholders, it is important to consider how to gradually integrate more services outside the financial space if this is not feasible from the outset. The digital ID platform could eventually also enable a real-time retail payment switch that can route transactions with high accuracy through the use of ID proxies. This is another potential avenue to consider in the financial model.

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Annex: Detailed transaction scale assumptions

High-priority use cases

Transaction scale lens

Rank	Use case	Recurring transactions per month	Once-off transactions	Growth	Assumptions (numbers multiplied to get to total figure)
1	G2P payments	52,541	52,541	Low	<ul style="list-style-type: none"> 8.4% of the population use their account to receive government payments (2014). Assumption: half of G2P receivers use their account to receive government payments which we assume to be monthly, so doubling this percentage. Disaster relief and assistance accounts for almost one-fifth of social protection expenditure and constitutes the majority of social assistance programmes. <p>Calculation:</p> <ul style="list-style-type: none"> Once-off integration: $312,749 \times 8.4\% \times 2 = 52,541$ Recurring transactions: 52,541
2	Voter identification	11,941	359,690	Very low	<ul style="list-style-type: none"> Once every four years, voters' details will be required. In previous elections there were 359,690 registered voters. Assuming the same voters vote and new voter growth is in line with population growth. Population growth among adults was 14.65% between 2015 and 2020. So, assuming the voter population grows by 2.9% each year and voter death is at 0.42%. <p>Calculation:</p> <ul style="list-style-type: none"> $359,690 \times 2.9\% + 359,690 \times 0.42\% = 11,941$
3	Tax base verification	10,317	10,317	Low	<ul style="list-style-type: none"> Approximately 123,800 salary and wage earners are to be covered by the new online tax system. Assuming only formal employed people pay income tax. <p>Calculation:</p> <ul style="list-style-type: none"> $123,800 / 12 = 10,317$

4	E-commerce payments	9,070	No once-off integration	High	<ul style="list-style-type: none"> There are 147,500 internet users in the Solomon Islands. Among banked adults, 40.1% have mobile banking services and 25.6% of adults are banked. This is used by 53.2% of mobile banking clients one to two times per month. Roughly 20% use it three to five times per month. Assuming the percentage of the population using mobile banking is the same as the percentage using e-commerce payments and using the lower-bound transaction indications. <p>Calculation:</p> <ul style="list-style-type: none"> Recurring transactions: $(312,749 \times 25.6\% \times 40.1\% \times 53.2\%) / 4 + (312,749 \times 25.6\% \times 40.1\% \times 20\%) \times \frac{3}{4} = 9,070$
5	Pension payments	5,456	135,960	Low	<ul style="list-style-type: none"> The SINPF recorded a total of 135,960 members with a credit balance in 2008; in 2009, a total of 5,197 received pension payments. Members who applied to withdraw from the SINPF were paid a total of SBD46,000,000. Only those receiving pensions will be updated monthly via the digital ID platform and then updates for each death, which is approx. 3,108 deaths per year. <p>Calculation:</p> <ul style="list-style-type: none"> Once-off integration: 135,960 Recurring transactions: $5,197 + 3,108 / 12 = 5,456$
Medium-priority use cases					
Transaction scale lens					
Rank	Use case	Recurring transactions per month	Once-off transactions	Growth	Assumptions (numbers multiplied to get to total figure)
6	Financial account opening or due diligence	3,984	80,063	Medium	<ul style="list-style-type: none"> Banked adults = $312,749 \times 25.6\% = 80,063$ There isn't any new data. Assuming a minimum of a 1% improvement = $105,709 \times 1.01 = 106,766 - 105,709 = 1,057$ new customers. The Solomon Islands death rate is 4.2 per 1,000 people which is $105,709 \times 0.42\% = 444$ deaths per annum or 37 customer deaths per month. Assuming customer due diligence every 3 years for a customer = $80,063 / 36 = 2,223$ 9.9% of bank customers have not used their account in the last 12 months. Assuming customer churn is therefore at 10% of banked customers = $80,063 \times 10\% = 8,006 / 12 = 667$ <p>Calculation:</p> <ul style="list-style-type: none"> Once-off integration = $31,2749 \times 25.6\% = 80,063$ Re-occurring monthly: $1,057 + 37 + 2,223 + 667 = 3,984$ per month

7	MTO CDD	3,519	No once-off integration	Low	<ul style="list-style-type: none"> In 2015, only 3.3% of adults in the Solomon Islands received remittances from abroad. It is not clear which channels were used. The adult population was $312,749 \times 3.3\% = 9,382$ remittance receivers in the Solomon Islands. We don't have data on how many transactions run through MTOs. Relative to Fiji and Vanuatu, financial inclusion is lower in the Solomon Islands (25.6%), therefore we can assume that MTOs potentially cover between 25% and 50% of the market. That means that multiplying the MTO potential by the adult population receiving remittances, the range we estimate is between 2,346 and 4,691 (rounded to 2,000–5,000 transactions per month). We take the mid-point which is $(2,346 + 4,691) / 2 = 3,519$
8	SIM or e-money registration	2,188	43,968	Medium	<ul style="list-style-type: none"> SIM cards: 479,800 mobile connections in 2020 and an increase of 21,000 between 2019 and 2020 so increase by 4.5% E-money: 3.66% of the 15+ population have at least one active mobile financial service product. We assume individuals have 1.5 active mobile financial service products and the inactivity rate is 50%. We assume the same growth rate as Fiji. <p><i>Calculation SIM cards:</i></p> <ul style="list-style-type: none"> Once-off integration: $479,800 / 12 = 39,984$ Recurring transactions: $21,000 / 12 = 1,750$ <p><i>Calculation e-money:</i></p> <ul style="list-style-type: none"> Once-off integration: $(435,378 \times 3.66\% \times 2 \times 1.5) / 12 = 3,984$ – Number of population above 15 years multiplied by share that has one active account times 1.5 times 2 Recurring transaction: $3,984 \times 11\% = 438$
9	School enrolment	1,816	155,000	Low	<ul style="list-style-type: none"> Net intake rate in grade 1 (% of official school-age population) in the Solomon Islands was reported at 9.232% in 2018 and 236,000 people are below the age of 14. <p><i>Calculation:</i></p> <ul style="list-style-type: none"> $(236,000 \times 9.232\%) / 12 = 1,816$
10	Driving licence renewal	1,738	5,213	Very low	<ul style="list-style-type: none"> According to the 2012/2013 income and expenditure survey 15% of the Solomon Island households use vehicles to travel to a healthcare facility. Assuming that 20% of the population have a driving licence and that they renew it every three years. <p><i>Calculations:</i></p> <ul style="list-style-type: none"> Once-off integration: $312,749 \times 20\% / 12 = 5,213$ Recurring transactions: $312,749 \times 20\% / 36 = 1,738$
11	Criminal background check	1,338	100,050	Low	<ul style="list-style-type: none"> Not found, but assuming this happens infrequently. Assuming that 3% of the population needs a criminal record once a year. And 6,670 offences were recorded in 2019. <p><i>Calculations:</i></p> <ul style="list-style-type: none"> Once-off integration: $6,670 \times 15 = 100,050$ (accumulation of records over the past 15 years) Recurring transactions: $(312,749 \times 3\% + 6,670) / 12 = 1,338$

12	Marriage and death registrations	1,293	96,957	Very low	<ul style="list-style-type: none"> Death rate is 4.64 per 1,000 inhabitants which is $669,823 \times 4.64 = 3,108$ – taking the whole population number. No information on marriage rate, so taking Fiji number and adjusting it proportionally to population size which is 12,405. <p>Calculations:</p> <ul style="list-style-type: none"> Once-off integration: $(12,405 + 3,108) / 12 \times 75 = 96,957$ Recurring transactions: $(12,405 + 3,108) / 12 = 1,293$
Low-priority use cases					
Transaction scale lens					
Rank	Use case	Recurring transactions per month	Once-off transactions	Growth	Assumptions (numbers multiplied to get to total figure)
13	Insurance onboarding and claims	635	21,892	Low	<ul style="list-style-type: none"> Once-off integration: 7% of adults have insurance in 2015/2016. Multiplied by adult population is $312,749 \times 7\% = 21,892$. These adults will be onboarded in year 1. Re-occurring transactions: Population growth among adults was 14.65% between 2015 and 2020. So, assuming the population grows by 2.9% each year. New customers will be 635. There wasn't any information on insurance claims.
14	Utility payments	520	125,013	Low	<ul style="list-style-type: none"> 91,251 households. 71% have access to water = 64,788 66% have access to electricity = 60,225 Total = 125,013 payments per month. $125,013 / 12 = 10,418$ Year 1 will be the once-off integration of the existing database onto the new platform, so all households. Year 2 will be for changes in people accessing electricity and water. Assuming each year 5% of the current base changes. We do not assume that they would KYC for each monthly payment. <p>Calculations:</p> <ul style="list-style-type: none"> Monthly transactions: $125,013 / 12 = 10,418$ Recurring monthly transactions: Assuming 5% of customers would move each year = $10,418 \times 5\% = 520$
15	Birth registrations	424	196,281	Low	<ul style="list-style-type: none"> Once-off integration: 195,857 individuals have access to a birth certificate. Re-occurring transactions: Other than new births, the birth registry will have very few new users per month. Population growth rate of about 2.6%. $195,857 \times 2.6\% / 12 = 424$. The Year 1 new users will be 5,092 per annum and 424 new users per month just from births.

16	Credit scoring and history	423	1,199	Low	<ul style="list-style-type: none"> • 4.6% of adults have a credit report, up from 3.4% in 2018. • Growth rate in credit information is 35.3%. <p>Calculation:</p> <ul style="list-style-type: none"> • Once-off integration: adult population multiplied by the percentage of adults that have credit report divided by 12: $312,749 \times 4.6\% / 12 = 1,199$ • Re-occurring transactions: adult population multiplied by the percentage increase between 2018 and 2019: $1,199 \times 35.3\% = 423$
17	Title deed verification and registration	340	5,926	Very low	<ul style="list-style-type: none"> • No data found - using Fiji data and adjusting it to the Solomon Islands' population size. <p>Calculation:</p> <ul style="list-style-type: none"> • Once-off integration: $(12,057 / 636,377) \times 312,749 = 5,926$ • Recurring transactions: $(691 / 636,377) \times 312,749 = 340$
18	Closing foundational ID gap	No re-occurring transactions	457,000	Very low	<ul style="list-style-type: none"> • Total population is 652,858 and individuals with birth certificates is equal to 195,857 • Once-off integration: $652,858 - 195,857 = 457,000$

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