

EXECUTIVE SUMMARY

The retail payments ecosystem in the Solomon Islands is heavily reliant on cash, which accounted for 80% of transactions in 2020. Despite the availability of supporting financial infrastructure, the usage of electronic payment methods, such as cards, mobile money wallets, and online banking, remains limited. This is primarily due to the concentration of financial service access points in the capital city of Honiara, while most of the country's rural provinces lack bank branches, ATMs, agents, and connectivity. Currently, the nation's four commercial banks have only 15 branches nationwide and 59 ATMs, with over 70% located in Honiara. Although mobile money wallets have recently been introduced, they have few active users, and there is no interoperability between providers yet.

Manual cheque clearing has been the norm for interbank payments. However, this will be modernized through the new Automated Transfer System (ATS) infrastructure project underway by the Central Bank of Solomon Islands (CBSI). Despite such modernization efforts, several cross-cutting challenges constrain the adoption of digital payment methods across various use cases, such as limited infrastructure, identification challenges, heavy cash reliance, absence of interoperability, and regulatory gaps.

An in-depth analysis of five key payment use cases reveals distinct challenges each faces in shifting towards digital transactions. Based on this analysis, this report has identified five focus actions to achieve financial inclusion:

Firstly, implement a fully interoperable digital payments infrastructure through an optimal centralized model. A regulator-led model that offers standardization and oversight can connect providers through a national switch with unified rules and standards, enabling accessible and efficient digital transactions. Regulators and the Central Bank should evaluate the best approach between market-led, regulator-guided, regulator-initiated, and regulator-led models.

Secondly, establish necessary supporting infrastructure, including a national ID and physical (postal) addressing systems. Integrating a national digital ID system with payments can enable innovative services like proxy identifiers, simplifying customer payment initiation and eliminating the need to remember account details.

Thirdly, foster a proactive regulatory environment by updating legislation and frameworks for data protection, cybersecurity, anti-money laundering (AML), and fintech. These reforms can accelerate progress and attract investments.

Fourthly, promote the sustainability of digital payment products by driving growth and adoption. Collaboration between providers and the government can offer subsidies, fee reductions, tax breaks, cashback, and marketing support to incentivize merchant acceptance of digital payments. Achieving a critical mass of users and touchpoints is crucial for sustainability.

Fifthly, diversify products and services beyond basic transfer services. Given the small market size of the Solomon Islands, digital payment providers should consider offering additional digital financial services tailored to market needs after establishing core payment capabilities.

In summary, modernizing retail payments in the Solomon Islands requires coordinated efforts in regulation, infrastructure development, incentive programs, and public awareness. A shared vision, partnerships, and regional coordination will be instrumental in unlocking digitization and achieving financial inclusion.

ACKNOWLEDGEMENTS:

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LIST OF ABBREVIATIONS

2G Second generation 3G Third generation 4G Fourth generation

ACH Automated Clearing House AML Anti-Money Laundering

ANZ Australia and New Zealand Banking Group Limited

API Application Programming Interface

ATM Automated Teller Machine ATS Automated Transfer System

AUD Australian Dollars
B2P Business-to-Person
BHIM Bharat Interface for Money
BSP Bank South Pacific
BTCA Better Than Cash Alliance
CBSI Central Bank of Solomon Islands

CDD Customer Due Diligence

CFT Combating the Financing of Terrorism

COVID-19 Coronavirus Disease
CVA Cash and Voucher Assistance
E-commerce Electronic commerce
EFT Electronic Fund Transfer

EFTPOS Electronic funds transfer at point of sale

EODB Ease Of Doing Business
FAST Fast and Secure Transfers
FIN Foreign Identification Number
G2P Government-to-Person
GDP Gross Domestic Product

GSMA Global System for Mobile communications Association

IBPS Internet Banking Payment System

ID Identification

IDES Inclusive Digital Economy Scorecard

IFT Instant Fund Transfer

IGOs Intergovernmental Organizations

INGOs International Non-Governmental Organizations

KYC Know Your Customer

MAS Monetary Authority of Singapore MNO Mobile Network Operator

MOSIP Modular Open-Source Identity Platform

MTO Money Transfer Operator
NFI Non-Financial institutions
NOC No Objection Certificate

NPPA New Payments Platform Australia NRIC National Registration Identity Card

P2B Person-to-Business
P2G Person-to-Government
P2P Person-to-Person
PBoC People's Bank of China
POB Pan Oceanic Bank
POS Point Of Sale

PPP Purchasing Power Parity

QR Quick Response

RSP Remittance Service Provider RTGS Real Time Gross Settlement SBD Solomon Islands Dollar SIM Subscriber Identity Module

SINPF Solomon Islands National Provident Fund

SMB Small and Medium Business

UN United Nations

UNCDF United Nations Capital Development Fund

UNDESA United Nations Department of Economic and Social Affairs

UNDP United Nations Development Programme

UNICEF United Nations International Children's Emergency Fund

USD United States Dollar VPA Virtual Payment Address

1. PROJECT OVERVIEW

The primary objective of this report is to assess the retail payments ecosystem in the Solomon Islands and explore potential options for advancing the digital payment ecosystem in the country. The key research objectives that guide the structure of the report are as follows:

- 1. Assess the current state and trends of the retail payments sector in the Solomon Islands including:
 - a. A high-level mapping of the retail payment sector emphasizing the regulatory and policy environment.
 - b. An assessment of the digital retail payment ecosystem, including financial and digital infrastructure, legal and regulatory framework, and user readiness, to identify gaps in offerings and infrastructure.
- 2. Deep dive into the current state and trends of digital payments in the Solomon Islands including:
 - a. An assessment of the levels and usage of various digital payment instruments in the markets.
 - b. An evaluation of opportunities, barriers, and potential solutions across the use cases in the digital payment ecosystem.
- 3. Develop a roadmap that includes:
 - a. Recommendations for how the government, private sector, and other stakeholders can promote the uptake of digital retail payments.

b. Potential solutions to address opportunities and constraints for digital retail payments based on successful case studies from other countries.

The research for this report involved a combination of primary and secondary research methods. Primary research included interviews and consultations with country and industry experts in the Solomon Islands, as well as engagement with the Central Bank of Solomon Islands (CBSI) National Payment System Department, CBSI National Financial Inclusion Unit, and the United Nations Capital Development Fund (UNCDF) team in the Solomon Islands. Annex 1 provides a list of interviewees.

Secondary research comprised an analysis of publications and research reports, including the Solomon Islands National Financial Inclusion Strategy 3 2021-2025, An Inclusive Digital Identity Platform in the Solomon Islands, Oxfam Cash Feasibility Study in the Solomon Islands, World Bank's Fast Payment Toolkit, and other relevant publications. Also, published case studies on innovative digital payment methods from different countries were considered. Secondary research sources are included in the footnotes.

This report aims to contribute to the ongoing dialogue surrounding digital payments and financial inclusion in the Solomon Islands. By providing insights, recommendations, and case studies, it endeavors to support the development of an inclusive and efficient retail payments ecosystem in the country.

INTRODUCTION TO THE SOLOMON ISLANDS' FINANCIAL LANDSCAPE 2.

The Solomon Islands is an archipelago in the South Pacific, consisting of over 900 islands, atolls, and cays, of which only around 300 are inhabited. With a total population of 740,000 (as of July 2023), the Solomon Islands is one of the least densely populated countries globally, with only 26 people per square kilometer and almost 76% of the population living in rural areas.2

Solomon Islands' GDP Per Capita (PPP) was around US\$2,654 in 2022, with almost half of that coming from the services sector.3 The country's 2022 GDP Per Capita is smaller when compared to the average GDP Per Capita PPP of US\$7,548 for all the Pacific Islands Small States (including Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu).4 The small size of the economy and production base has led to diseconomies of scale for many businesses, hindering the growth of services in the island countries.

Due to the small and scarce population, economic growth and opportunities in the country are limited, leading to a significant financial dependence on the nearby economies of Fiji, Australia, and New Zealand. Emigration is not as high as in other Pacific Island Countries. Still, it is now increasing due to regional, bilateral labour mobility schemes, with many migrants searching for better jobs and livelihoods outside of the Pacific region, especially in Australia and New Zealand.

The geography of the Solomon Islands also presents a challenge. The country is spread over 1,500 kilometers of ocean, which poses significant challenges in transportation, communication, and access to infrastructure and services. With islands scattered over such a large area, traditional means of connection and information sharing are limited. Therefore, adopting modern digital technologies

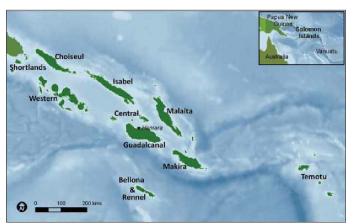


Figure 1: Provinces in the Solomon Islands.5

- United Nations Conference on Trade and Development, "Digital Economy Report 2022: Pacific Edition," February
- omited tradibits contented on trade and between primerit, pages Explosing Report 2022. Pages Explosing April 2022, Pages 1, 1997, 19
- Central Bank of Solomon Islands, "Domestic Economy," https://www.cbsi.com.sb/domestic-economy/. The World Bank, "GDP Per Capita, PPP (current international \$) Solomon Islands, Pacific island small states, https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=SB
- Peterson & Hamilton, "Ridges to Reefs Conservation Plan for Isabel Province, Solomon Islands," January 2012, https://www.researchgate.net/figure/Provinces-of-Solomon-Islands_fig1_257345390

3and platforms is essential for the Solomon Islands to improve connectivity, enhance the delivery of government services, support economic development, and reduce isolation among these far-flung islands and communities that make up this island nation archipelago.

2.1. **Retail Payment Landscape**

The retail payments landscape in the Pacific Islands countries, including the Solomon Islands, has undergone significant changes in the last few years as Pacific countries have worked to expand the region's digital infrastructure, enabling more people to go online.

Despite progress in reducing the unbanked population in the Pacific, there remains a serious lack of financial inclusion due to the geographic challenges of countries in the region, such as dispersed island geography, limited transportation and telecommunication infrastructure, and low population density. In the Solomon Islands, almost two-thirds of the population relies on informal financial services or is altogether excluded from financial services. To overcome this, the country is promoting digital payment methods, such as mobile money and internet banking, through regulatory, institutional, and infrastructure support. Developing an efficient retail payment system in the country is crucial to promoting financial inclusion.

Retail payment systems are typically low-value payment systems catering to the needs of consumers, businesses, and the Government in serving their payment requirements. In the Solomon Islands, the retail payment systems consist of cash, cheque clearing, electronic funds transfer (internet/mobile banking, QR payments), card payment systems, and e-money. The retail payments system of the Solomon Islands, which includes commercial banks, mobile money/e-wallet service providers, remittance service providers, telecom operators, regulators, and consumers, is governed and operated by CBSI. CBSI acts as the enabler for interbank payments through manual cheque clearance, with work underway to automate the process.

Despite the promising potential, the current retail payment ecosystem in the Solomon Islands remains underdeveloped, with cash still dominating around 80% of the total retail transactions as of 2020; there is also limited usage of electronic payment methods.6 Several factors contribute to this situation, including the high cost of establishing payment infrastructure, low levels of financial literacy, and a general lack of trust in financial institutions. Nevertheless, the demand for electronic payment solutions is rising steadily in the country, driven by the increasing usage of mobile phones, improving network connectivity, and efforts from the government and development partners to promote financial inclusion.

United Nations Capital Development Fund, "Inclusive Digital Economy Scorecard Report Solomon Islands 2020," March 2021, http://www.mca.gov.sb/resources/publications/strategic-plans/115-the-inclusive-digitaleconomy scorecard-in-solomon-islands/file.html#:~:text=3.3%25.

Implementing a modern retail payments ecosystem in the Solomon Islands will yield multiple advantages. First and foremost, it would make conducting transactions more convenient for individuals and businesses and reduce the cost of doing business in the country. Moreover, a wellfunctioning electronic payments system would be instrumental in promoting financial inclusion, bringing more people into the formal financial sector, and offering them access to a broader range of financial services.

In this regard, the National Payment Systems Act for the Solomon Islands was passed in October 2022, with the aim to increase access to affordable digital payment services, reduce reliance on cash, and drive broad-based financial inclusion.^{7,8} This legislation serves as the basis for the ongoing development of the Automated Transfer System (ATS) in the country, a project by the World Bank Group under the Pacific Payment and Remittances Regional Initiative, with technical support from Montran Corporation.

The Montran-based Automated Transfer System (ATS) handles very high volumes of both high-value payments and low-value payments, such as credit transfers, direct debits, and cheques and includes both Real Time Gross Settlement (RTGS) and Automated Clearing House (ACH) capabilities.9 The RTGS function facilitates real-time settlement of large value payments between the financial institutions connected to the system. The ACH capability itself handles two types of payments: (i) the Electronic Funds Transfer (EFT) or the Direct Credit Transfers, and (ii) the Instant Fund Transfer (IFT), which is a hybrid between ACH and RTGS.

TABLE VO			IE (IN SBD MILLION) OF CHEQUES CLEARED BSI BETWEEN 2016 AND 2022						
	2016	2017	2018	2019	2020	2021	2022		
Volume	216785	213415	216187	184717	189727	173904	155945		
Value (in SBD million)	10052	10025.5	10532	8915.1	8947.8	8863.9	9351.4		

Table 1 shows the volume and value (in SBD millions) of cheques cleared by CBSI between 2016 and 2022.10 With the expected launch of the ATS by the end of 2023, cheque clearing and settlement will be automated which will help to further modernize the payments and settlement ecosystem in the country.

2.2 Assessment of the pillars of the digital retail payment ecosystem in the Solomon Islands

The review of the digital payments landscape globally indicates that the typical success and growth of any country's digital payment industry is largely dependent on four main pillars, namely,

- Solomon Islands Government, "Attorney General's Chambers," https://solomons.gov.sb/ministry-of-justice-and-legal-affairs/attorney-generals-chambers/#essential_services; Stakeholder Interviews.

 Solomon Islands Government, " Payment Systems Act 2022," https://www.cbsi.com.sb/wp-content/up-loads/2023/04/Payment-Systems-Act-2022.pdf
- Montran Corporation, "Automated Transfer System," https://www.montran.com/solutions/automated-transfer system/?cn-reloaded=1
- Source: CBSI data

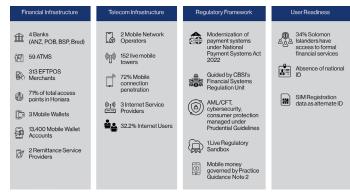


Figure 2: Overview of the digital payment ecosystem pillars

- Financial Infrastructure
- Telecom infrastructure
- Regulatory Framework
- · User readiness

Each of these factors is driven by multiple elements that can ultimately create an enabling ecosystem for digital payments to thrive. An overview of the current digital payment ecosystem in the Solomon Islands is presented below, followed by a detailed analysis of the four pillars.

Infrastructure

The growth of digital payments depends on the stability of the underlying infrastructure. In a country like the Solomon Islands where the geographic remoteness acts as a barrier to financial inclusion, infrastructure must go beyond financial touchpoints like banks, ATMs and point-ofsale systems to include telecom infrastructure as it plays a vital role in enabling mobile money platforms, which have become ubiquitous in the economy due to high mobile penetration but limited access to traditional banking.

Financial Infrastructure

The financial infrastructure in the Solomon Islands plays a crucial role in facilitating various payment transactions and supporting the country's economic activities. However, there are unique challenges stemming from the geographic dispersion of the islands and limited financial services accessibility. This section provides an overview of the Solomon Islands' financial infrastructure, including commercial banks, automated teller machines (ATMs), mobile money wallets, online/mobile banking systems, remittance service providers, and the status of inter-bank transfers.

Banking Services

The Solomon Islands relies on both traditional and agency banking, and currently has four commercial banks serving the country's financial needs: Bred, Pan Oceanic Bank (POB), Bank of South Pacific (BSP), and Australia and New Zealand Banking Group Limited (ANZ). Notably, BSP is the only bank that offers agency banking and serves the other provinces outside of Guadalcanal, where the capital city, Honiara, is located, demonstrating the limited coverage and accessibility of banking services beyond urban

centers.

As of 2022, there are only 15 bank branches spread across the Solomon Islands, creating significant challenges for many individuals to access formal banking services. Most of these branches, around 11 out of 15, are concentrated solely in the capital city, Honiara, located in Guadalcanal province. There are seven agency banking terminals located in the rural provinces. The below figure shows the total value of transactions processed through bank teller versus bank agents in Honiara.

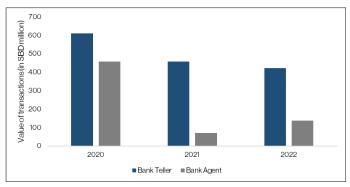


Figure 3: Total value of transaction processed through bank teller vs bank agents between 2020 and 2022 (in SBD million)

The current availability of automated teller machines (ATMs) in the Solomon Islands is quite limited. In terms of ATM density, the Solomon Islands lags behind its regional peers such as Fiji and Samoa. As of 2021, the country has 13.94 ATMs per 100,000 adults, while Fiji and Samoa have 50.48 and 61.96 ATMs per 100,000 adults respectively. To put this into perspective, the United Kingdom has 96.28 ATMs per 100,000 adults, Singapore has 54.3 ATMs per 100,000 adults, and India has 21.4 ATMs per 100,000 adults as of 2021.¹¹

With only 59 ATMs nationwide, most of them (49 out of 59) are concentrated in Honiara, leaving other provinces at a disadvantage. The lack of formal banking infrastructure outside Honiara poses a considerable hurdle for individuals and businesses residing in remote areas. People from other provinces must undertake lengthy and often costly journeys to access essential banking services, with only three provinces housing these limited facilities. There are only 53 mobile agents in the Solomon Islands as of 2023, of which 44 are in rural areas of other provinces. The figure below illustrates the geographical distribution of bank branches and ATMs, highlighting the severe limitations in accessibility for the country's dispersed communities.

Solomon Islands banks issue both open and closed loop debit and credit cards. Open-loop cards are payment cards authorized by a card network, such as Visa or Mastercard, that can be used wherever cards on that network are accepted. Closed-loop cards are any electronic payment card that can be used only on ATMs or EFTPOS machines from

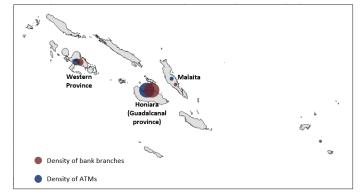


Figure 4: Geographical spread and density of bank branches and ATMs in the Solomon Islands¹⁴

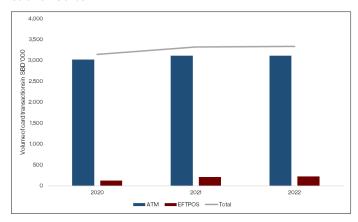


Figure 5: Volume of card transactions in the Solomon Islands between 2020 and 2022 (in SBD '000)15

Of the Solomon Islands banks, Bred, ANZ, and BSP issue cards, while POB does not. A total of 96,848 cards (both debit and credit) are currently in use in the country as of August 2023, of which 40,349 are open-loop or Visaenabled cards (41%), and 56,499 (59%) are closed-loop cards. There are no cards that are issued on the Mastercard payment network.

The three issuing banks are also acquirers with a total of 423 EFTPOS terminals across the country (August 2023). Around 72% of the EFTPOS terminals (304 terminals) are in Honiara. There are 313 EFTPOS merchants, of which 246 (78.5%) are in Honiara.¹⁷

There has been a recent shift towards online banking with all four commercial banks offering online and mobile banking platforms. These digital platforms enable customers to access their accounts, make transfers, pay bills, and conduct various banking activities through the Internet or mobile applications. Online and mobile banking solutions provide a convenient and secure way for individuals to manage their finances, especially for those residing in urban areas with internet connectivity.

Currently, interbank payment clearing in the Solomon Islands is done through manual cheques, which can take two

¹¹ The World Bank, "Automated teller machines (ATMs) (per 100,000 adults)," https://data.worldbank.org/indicator/

FB.ATM.TOTL.P5

Source: CBSI data

¹³ Source: CBSI data

¹⁴ Source: CBSI data

¹⁵ Source: CBSI data16 Source: CBSI data

¹⁷ Source: CBSI data

to three days to settle, leading to payment delays. However, the country is improving its payment infrastructure, which should be further helped by the expected launch of the ATS in the fourth quarter of 2023.18 The priority for CBSI now is to onboard all four commercial banks to the ATS system, which will enable faster inter-bank payments and lay the foundation for real-time payments in the Solomon Islands, bringing increased efficiency and convenience to financial transactions across the country.

Mobile Money/Wallet Services

Currently, three mobile money wallets are available in the Solomon Islands: Ezi Pei and Iumi Cash, both foreign-owned and operated, and M-Selen, a mobile money solution operated by Solomon's Our Telekom, launched in February 2020, January 2021, and June 2023 respectively. 19,20

At an aggregate level, as of July 2023, there are about 13,400 mobile wallet accounts in the Solomon Islands, of which only 10-15% are active.²¹ With the launch of the new M-Selen product, the penetration and usage of mobile wallet is expected to increase, especially driven by domestic transfers from Honiara to rural areas as Our Telekom is the dominant mobile telco in the Solomon Islands, with more than 80% of the market share.²²

As of August 2023, M-Selen has around 50 mobile money agents located across the Solomon Islands. However, 31 of these agents are located in Honiara alone.²³ Each of these mobile money wallets operates with its unique business model and offers similar services, allowing users to conduct financial transactions through their mobile devices. EziPei and IumiCash offer cash in/cash out, person-toperson (P2P) transfers, phone and cash power top-ups, and merchant/bill payments. Additionally, IumiCash offers QR payments as it works only on smart devices. M-Selen offers services such as cash-in/cash-out, P2P transfers, mobile top-ups, balance checks, and mini-account statements. These digital wallets improve financial inclusion and enable convenient payment options for individuals without access to traditional banking services.

Remittance Services

Cross-border remittances also play a significant role in the Solomon Islands' financial ecosystem, with Western Union being the main remittance service provider in the country. The Bank of the South Pacific (BSP) also offers MoneyGram services, facilitating international money transfers for individuals and businesses.²⁴ These remittance services contribute to the inflow of funds from overseas and support the livelihoods of many households in the Solomon Islands.

Overall, while the financial infrastructure in the Solomon Islands faces limitations in terms of coverage and accessibility, there are notable developments in mobile money, online/mobile banking, and remittance services. The ongoing initiatives to enhance inter-bank transfers through the implementation of the ATS signify progress toward a more efficient and modern payment ecosystem. Addressing the financial infrastructure gaps is crucial to promoting financial inclusion, supporting economic growth, and enabling convenient and secure retail payments throughout the Solomon Islands.

Telecom Infrastructure

The Inclusive Digital Economy Scorecard (IDES) is a strategic performance tool designed to assess and monitor the advancement of digital economy in a country. Launched in 2020 with a pilot phase involving four countries (Uganda, Burkina Faso, Nepal, and the Solomon Islands), the IDES has now been formally adopted by seven nations. Moreover, an additional 18 countries across Africa, Asia, and the Pacific are actively involved in its implementation. The IDES provides an overall score for the development of a digital economy based on various indicators for its main components (policy and regulation, infrastructure, innovation, and skills). It also provides a score for the inclusiveness of the digital economy for marginalized segments (rural population, women, youth, micro-, small, and medium-sized enterprises – MSMEs – refugees, older people, people with disabilities).²⁵ In the Solomon Islands, IDES is owned and monitored by the Ministry of Communication and Aviation. Within IDES, the Digital Economy Score (%) indicates the level of development of the digital economy in the country.

At the end of 2020, the digital economy score for the Solomon Islands stood at 39%, which improved to 41% and 43% in 2021 and 2022 respectively. 26,27 This indicates that the country is firmly in the development stage with nascent innovation despite the country having most of the relevant foundational digital rails such as policy and regulation, ID infrastructure, with several providers offering mass-market digital financial services.²⁸

The GSMA mobile connectivity index score for the Solomon Islands for the year 2022 was 38.9, indicating a moderate level of mobile connectivity. The Solomon Islands has two Mobile Network Operators: Our Telekom and B-Mobile. Our Telekom is the dominant mobile telco in the Solomon Islands, with more than 80% of the market share. Mobile phones have a penetration rate of 72%.²⁹ Only 25% of the population is covered by 4G services, 20%

Central Bank of Solomon Islands, "CBSI Financial Stability Report_ Second Half 2022," https://www.cbsi.com

sb/wp-content/uploads/2023/06/Financial-Stability-Report_2H22.pdf.
Solomon Star News, "Ezi-Pei launched," February 2020, https://www.solomonstarnews.com/ezi-pei-launched/

Appadvice, "lumicash," https://appadvice.com/game/app/iumicash/1550254624

Source: Stakeholder interviews Source: Stakeholder Interview

Our Telekom, "M-Selen Agent," Accessed in August 2023, https://www.ourtelekom.com.sb/products-xj47da/m-

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United Nations Capital Development Fund, "Solomon Islands Country Monitor on Migration & Remittances: July 2022," September 2022, https://www.uncdf.org/article/7958/solomon-islands-country-monitor-on-migrationremittance-july-2022.

United Nations Capital Development Fund, "Inclusive Digital Economy Scorecard Report - Solomon Islands 2020," March 2021, https://ides.uncdf.org/2021/SLB
United Nations Capital Development Fund, "Inclusive Digital Economy Scorecard - Solomon Islands 2021,"

https://ides.uncdf.org/2021/SLB Source: Solomon Islands Government, "Solomon Islands' Inclusive Digital Economy Score Improving Year on Year," August 2023, https://solomons.gov.sb/solomon-islands-inclusive-digital-economy-score-improving-year-

United Nations Capital Development Fund, "About the Market Development Stages," https://ides.uncdf.org/ about/market-development-stages.

GSMA, "GSMA Mobile Connectivity Index 2022," https://www.mobileconnectivityindex.com/index. html?source=post_page----#year=2022&zonelsocode=SLB&analysisView=SLB

by 3G and 50% by 2G services.³⁰

As of 2020, there were 236 live mobile towers in the Solomon Islands, of which Our Telekom owns 171 towers and the rest by Bmobile.31 Approximately 30% of the total number of towers (nearly half of these are located in Honiara) are concentrated in Guadalcanal province alone with the remaining distributed among the rest of the other rural provinces.³² Notably, 75% of the rural population has mobile connectivity, and the network coverage is generally good in major cities like Honiara.33 Lack of sufficient mobile towers and power outages affect the uptime of the existing cell towers thus posing challenges to the reliability and availability of digital services, including mobile data and internet access.

To address this, the government of the Solomon Islands is actively working to increase the number of mobile towers, particularly in rural provinces. Under the Solomon Islands National Broadband Infrastructure Project, funded through a concessional loan from the Exim Bank of China, the government has contracted Huawei/China Harbour Engineering Company Limited for the construction of up to 161 additional towers in the country. The first 48 percent of the 161 towers is expected to be completed before the Pacific Games in November 2023.34

The Solomon Islands is connected to internet infrastructure through satellites and submarine cables. The optical fiber submarine cable, launched in December 2019, is more reliable than the satellite networks, but is still fragile as there is only one submarine cable connection and only 4 of the inhabited islands are connected to the internet services by the submarine cable, and the remaining 343 islands still rely on satellite or microwave for internet connectivity.³⁵

Internet usage in the Solomon Islands has been gradually increasing. Currently, the Solomon Islands host four Internet Service Providers, namely, Solomon Telekom/Our Telekom, Bmobile/Vodafone and SATSOL. As of January 2022, there were approximately 230,500 internet users in the country, which is about 32.2% of total population in the country.³⁶ While this represents a significant portion of the population, it also indicates that internet access is not yet widespread, and there is room for further growth in digital connectivity.

Despite the improving internet connectivity, there are still challenges. Satellite signals are often interrupted, and in May 2023 when a fishing boat accidentally dropped anchor near the undersea cable, located close to the Port of Honiara, which disrupted domestic internet services and caused major outages for residents in provinces like Malaita, Western, and Choiseul. The estimated 2-month repair process underlines the infrastructure's fragility and emphasizes the critical need to safeguard it to ensure reliable and uninterrupted connectivity.37

Overall, the telecom infrastructure in the Solomon Islands is evolving to meet the population's increasing demands.

Legal and Regulatory Framework

The legal and regulatory framework governing retail payments in the Solomon Islands is vital for transparency, consumer protection, and payment ecosystem stability. The CBSI's Financial System Regulation Department (FSRD) is the primary authority responsible for researching, regulating, and licensing commercial banks & credit institutions, supervising credit unions, and insurance companies. They play a crucial role in formulating policies relating to financial stability, including fostering secure and efficient retail payment market.

Until July 2023, mobile money services in the Solomon Islands were primarily governed by Practice Guidance Note 2 issued by the CBSI.³⁸ However, recognizing the recent developments and demand in the market, a new E-money regulation is pending with the Attorney General Chambers. This forthcoming regulation is expected to bring changes to the licensing and supervision of mobile money service providers and agents. Currently, these entities operate with just a letter issued by CBSI which grants them 'No Objection', with relevant data and statistics being reported to FSRD and National Financial Inclusion Unit (NFIU). The new regulation will require licensing for these players, increasing oversight and accountability.

While the Solomon Islands has a regulatory sandbox in place, it remains largely unutilized due to the country's absence of a robust fintech ecosystem. As of August 2023, the CBSI has received a few applications for the usage of the sandbox, of which two applicants are expected to proceed further.³⁹ The regulatory sandbox provides a controlled environment for testing innovative financial products and services. Expanding the sandbox and introducing more use cases and innovations will depend on the development of the local fintech ecosystem.

In terms of regulatory gaps, four focus areas have been identified:

• Cybersecurity: The Solomon Islands currently lacks specific provisions with respect to cybersecurity legislation, which is crucial to ensuring the security and integrity of digital payment systems. However, there is an ongoing initiative to introduce cybersecurity bill for the Solomon Islands.

United Nations Conference on Trade And Development, "Digital Economy Report Pacific Edition 2022," February 2023, https://unctad.org/system/files/official-document/dtlecdc2022d4_en.pdf

Source: Stakeholder Interviews

Our Telekom, "Network Coverage," Accessed in August 2023, https://www.ourtelekom.com.sb/contact/network-GSMA, "GSMA Mobile Connectivity Index 2022," https://www.mobileconnectivityindex.com/index.html?

sb/proposed-161-towers-project-progressed/ United Nations Conference on Trade And Development, "Digital Economy Report Pacific Edition 2022," February 2023, https://unctad.org/system/files/official-document/dtlecdc2022d4_en.pdf

Datareportal, "Digital 2022: The Solomon Islands," February 2022, https://datareportal.com/reports/digital-2022-solomon-island

Hawkins, Radio New Zealand, "Cable firm CEO hopeful Solomons will be fully online in a few days," Accessed in July 2023, https://www.mz.co.nz/international/pacific-news/494177/cable-firm-ceo-hopeful-solomons-will-be-

Central Bank of Solomon Islands, Prudential Supervision Policies, "Mobile Money Services – Practice Guidance Note No. 2," Accessed in July 2023, https://www.cbsi.com.sb/wp-content/uploads/2023/02/PGN2-Mobile-Money-Services-revised.pdf

Source: Stakeholder interview

- Anti-money laundering: The existing Money Laundering Act has gaps in addressing digital payments and virtual currencies. However, this legislation is currently under review to strengthen the legal framework and align it with international best practices.
- Financial consumer protection: Consumer protection frameworks for new digital payment methods and online complaints are lacking. The CBSI issued guidelines for financial consumer protection, emphasizing the need for service providers and financial institutions to establish consumer complaints units.
- Fintech regulations: The Solomon Islands lacks regulations or initiatives to promote the development of the fintech ecosystem in the country.

The legal and regulatory framework for retail payments in the Solomon Islands is evolving to adapt to the changing payment landscape and promote financial inclusion. Recent developments include the National Payment Systems Act, forthcoming regulations for mobile money services, and guidelines for financial consumer protection. However, there is a need for further advancements, such as cybersecurity regulations and updated AML provisions to address emerging challenges and ensure a secure and resilient retail payment ecosystem.

User Readiness

Various factors, including financial inclusion levels, identification requirements, and regulatory frameworks influence consumer readiness for digital payments in the Solomon Islands. Understanding user readiness is crucial for designing effective strategies to promote digital payment adoption and financial inclusion.

Financial inclusion remains relatively low in the Solomon Islands, with only 34% of the population having access to formal financial services. Moreover, nearly 31% of adults are excluded from any form of financial services. Looking at access to technology, around 72% of the population have access to mobile phones, of which 42% use smart phones. Al,42 These statistics highlight the significant challenges in reaching underserved populations and promoting financial inclusion in the country.

In the Solomon Islands, the absence of a national identi-

fication (ID) system has led to various acceptable identification documents for Know Your Customer (KYC) purposes. These include passports, voter's IDs, driving licenses, birth certificates or a letter from an individual's village representative. However, as of 2021, only 30% of Solomon Islanders have access to a birth certificate, which is the foundation for obtaining four additional legal identity documents. The statistics show that approximately 55% of the adult population possess a voter ID card, while around 24% have a Solomon Islands National Provident Fund (SINPF) card.⁴³

It's important to note that in rural areas, where formal IDs may be scarce, individuals can use a letter from the village head or pastor as valid proof of identification. This reliance on alternative forms of identification underscores the need for flexible and inclusive KYC processes, ensuring that even those without formal documents can still access essential financial services. A significant challenge with the existing ID documents lies in their robustness. The presence of duplicates within the ID systems hampers the effective utilization of these databases for various financial service use cases, such as P2G, G2P transfers, and pension payments.

To establish a robust alternate database for ID requirements, an amendment to the Telecommunications Act was passed in 2021 mandating the registration of SIM cards purchased and owned within the country. As of June 14, 2023, the Telecommunication Commission of the Solomon Islands was in the process of issuing directives to service providers, making SIM card registration mandatory. Once the database is established, this can serve as a digital repository for IDs in the country. The act also provides a list of valid ID documents that can be used for SIM card registration.

Overall, consumer readiness for digital payments in the Solomon Islands faces challenges regarding financial inclusion levels and identification requirements. Low financial inclusion rates highlight the importance of targeted efforts to reach underserved populations and promote access to formal financial services. Flexibility in identification processes and regulatory measures that balance security and accessibility can enhance consumer readiness and support the adoption of digital payment solutions.

⁴⁰ Source: CBSI GSMA Mobile Connectivity Index 2022," https://www.mobileconnectivityindex.com/index.html? source=post_page-----#year=2022&zonelsocode=SLB&analysisView=SLB

⁴² Stakeholder Interview

United Nations Capital Development Fund, "An Inclusive Digital Identity Platform in the Solomon Islands Country Diagnostic," January 2021, https://cenfri.org/wp-content/uploads/2021-Pacific-SolomonIslands-digital-ID-country-diagnostic.pdf

3. THE RETAIL PAYMENT ECOSYSTEM IN THE SOLOMON ISLANDS - DEEP DIVE INTO THE USE CASES

Use cases, in the context of this report, refer to services in the Solomon Islands that involve transactions between two parties and have a potential or existing use for digital payment services. In this section, we provide an overview of the different payment methods available across different use cases and then further explore each payment type in detail. For each use case, we detail:

- 1. Overview of the Use Case: Description and explanation of the identified use case within the Solomon Islands context.
- 2. Challenges and Existing Gaps in Current Payment Process - including existing payment options: Identification and exploration of specific challenges and limitations in current payment processes associated with each use case. These are examined distinctly from the cross-cutting challenges such as lack of sufficient access points, connectivity issues, KYC and high cost of data and smartphones.
- Case Studies from Other Countries: Presentation of relevant case studies from other countries that have addressed similar challenges or implemented innova-

tive solutions.

4. Key Success Factors: Summary of the main takeaways and insights from the discussed case study.

The information from this section is based on a literature review and stakeholder engagements and includes the most prominent needs in the Solomon Islands.

3.1. Overview of the available payment methods for each use case

The table below provides an overview of the available payment methods for each specific use case. However, the extent of adoption varies significantly depending on the use case, which will be thoroughly examined in the following section.

Cash remains the predominant payment method in the Solomon Islands, highlighting the limited availability of diverse digital payment options. Nevertheless, there are promising indications of a gradual shift toward digital adoption driven by infrastructure enhancements, increased awareness, and regulatory improvements.

Nature of Payment	Use cases	Cash	Cheque	Bank Deposit (ATM/Teller) or Transfer	EFTPOS	Mobile/ Internet banking	Digital Wallet (EziPei/ Iumicash)	Mobile Money	QR code
Personal payments (P2P)	Domestic transfers				NA				
	Utility payments (P2B)								
Business Payments (P2B,	Payment for Goods and Services (P2B)								
B2P)	Savings - NPF payments (P2B)								
	Salary/Benefit payments (B2P)				NA				
	Tax and fee payments (P2G)								
Government Payments (P2G, G2P)	Salary Payments to Staff (G2P)				NA				
	Cash Assistance from Ministers (G2P)				NA				
	Remittance inflows from workers in New Zealand and Australia			NA	NA				
International Remittances	Remittances to and from international students			NA	NA				
	Withdrawal and transfer of Superannuation from Australia			NA	NA				
	Salary payment to staff				NA				
Humanitarian Payments	Payment for Goods and Services								
	Cash and Voucher Assistance				NA				

Figure 6: Overview of available payment methods in the Solomon Islands.⁴⁴

⁴⁴ Source: Kapronasia Analysis

3.2. Use Case Analysis

Before diving into a detailed analysis of each individual use case, it is useful to provide an overview of the key challenges facing the Solomon Islands that hinder the adoption of digital retail payments in the country. This summarized framework will be employed throughout the subsequent five use cases, with distinct challenges pertinent to each use case being accentuated in blue for clarity.

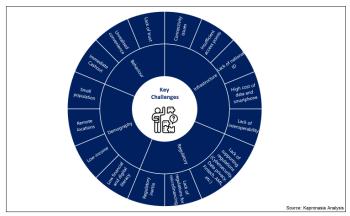


Figure 7: Summary of Key Challenges facing digital payment ecosystem in the Solomon Island.

Personal Payments (Person-to-person (P2P)

In the Solomon Islands, personal payments primarily involve domestic transfers, including the transfer of airtime and money. As of 2020, about 72% of domestic remittances (transfer from the capital city, Honiara to other rural provinces) are done in cash and typically through relatives and acquaintances transferring the money in person.⁴⁵

Challenges:

The current challenge with personal payments in the Solomon Islands revolves around the issues of infrastructure and behaviour (as highlighted in the graph below) because of which there is heavy reliance on cash.

(i) Infrastructure:

- a. There are not enough access points (such as bank branches, ATMs, agents) in the rural areas of the provinces for people to withdraw or deposit cash which forces them to travel longer distances to access cash and other banking services, increasing the cost of accessing these services.
- b. Network connectivity is a major issue in rural areas as only three provinces have under-sea cable and the other areas still rely on satellite connections, not to mention the frequent power shutdowns and lack of sufficient backup generators to power the cellular towers.
- c. Mobile banking apps and certain digital wallets such as Iumicash need smart devices to work which may not be easily affordable for many Solo-

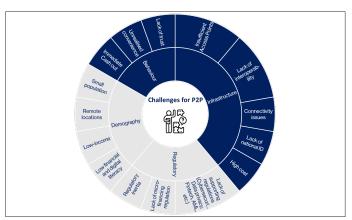


Figure 8: Challenges for Personal Payments in the Solomon Islands

mon Islanders.

(ii) Behaviour:

a. Usage of digital wallets for P2P transactions is very low and mostly driven by cash transfers/ payments from humanitarian organizations which threatens the sustainability of digital wallets. In the Solomon Islands, only a fraction, less than 10%, of the total volume of mobile wallets is currently active.

Box 1: Case study on Kenya's M-PESA

Before M-Pesa's introduction, the traditional banking sector had largely withdrawn from rural areas due to challenges around profitability, primarily stemming from high operational costs, inadequate banking culture, limited infrastructure, leaving many without access to financial services.

M-Pesa filled this gap by providing a reliable method of sending money from urban working members to unemployed relatives in rural areas. The origin of mobile money in Kenya can be traced back to a pilot study in 2002, where mobile banking was introduced to small villages using four-wheel-drive vehicles acting as "mobile banks."

The success of this pilot study laid the foundation for later digital mobile money initiatives. In Kenya, when M-Pesa was introduced, users were utilizing airtime, which encompassed phone data or minutes, not only for communication purposes but also as a form of virtual currency. They would purchase and resell airtime, transfer it to relatives, and even store most of their wealth in airtime, which could be later resold as needed.

This practice was safer than carrying cash and more convenient than using traditional banks, as airtime vendors were widely accessible. Initially, M-Pesa was intended for repaying microloans, catering to low-income individuals often supported by NGOs and international charities. However, the creators quickly realized its versatile applications, with people using it

⁴⁵ Central Bank of Solomon Islands, "Solomon Islands National Financial Inclusion Strategy 3 (2021-2025)," April 2021, https://www.mca.gov.sb/resources/publications/strategic-plans/116-solomon-islands-nationalfinancial-inclusion-strategy3-1/file.html

as an overnight safe, facilitating low-fee money transfers between distant areas, sending airtime as gifts to relatives, and addressing various financial needs they lacked access to otherwise.

M-Pesa effectively became a substitute for critical financial institutions that were not easily accessible to the population. Recognizing the demand for versatile services, M-Pesa expanded its offerings by partnering with Kenya Power for electricity bill payments. Subsequently, it introduced a range of services, including receiving school fees (Lipa Karo), booking and paying for event tickets (M-Ticketing), and providing medical insurance (Linda Jamii), among others.46 Before the launch of M-PESA, the proportion of the adult population included in formal financial services was only 26.7% in 2006, but it has now increased to 82.9% in 2019.47

The success of M-PESA can be attributed to several unique factors. The combination of market share, early adopters, simplicity, and preexisting ownership structures fostered an environment of trust, relevance, and familiarity, key ingredients for M-PESA's remarkable achievement. Leveraging the existing prepaid airtime infrastructure stood as a primary driver of M-PESA's success. During its launch, M-PESA initially concentrated on peer-to-peer (P2P) transfers, catering to customers seeking efficient domestic remittance solutions.

Once the core service gained momentum, M-PESA organically expanded its offerings, introducing a series of value-added services over time. The "Bottom of the Pyramid" approach targeted most of the poor who lacked access to traditional banking and had specific needs that could not be addressed by traditional banking structures. Early adopters shared airtime credits, fostering trust and familiarity with the technology. M-PESA's homogeneity and ubiquity allowed easy adoption while preexisting mobile phone ownership facilitated the transition to mobile-based financial services. The simplicity of the money transfer process, which required recipients to visit M-Pesa agents and preferably open an M-Pesa account, contributed to its widespread adoption.

Business Payments (B2P, P2B)

Business payments include any payments where one party is a corporation/business entity. In the Solomon Islands, four use cases for business-related payments have been identified which include:

- **Utility Payments**
- Payment by individuals for Procurement of Goods and Services (including E-comerce),
- Savings Provident Fund Payment
- Salary/Benefit Payments.

Challenges:

In the Solomon Islands, settlement of merchant payments through cash is common as opposed to digital payment methods. The current challenges with business payments involve issues concerning interoperability, cost, behavior, and infrastructure.

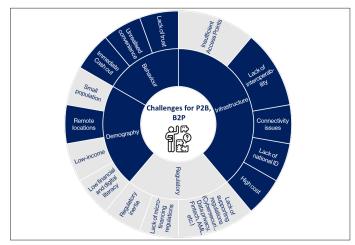


Figure 9: Challenges for Business Payments in the Solomon Islands

(i) Interoperability:

- a. There is no interoperability for bank cards. So, merchants who have EFTPOS issued by one bank might not be able to accept card payments from the customers of other banks if the cards are not on a global payment network such as Visa or Mastercard.
- b. QR-code payment options are only offered by two providers - Bred Bank and Iumicash. There is also no interoperability for QR payments.

(ii) Cost:

- a. Smaller merchants are unable to provide multiple payment options due to the cost and charges involved in setting up EFTPOS machines and using digital wallets.
- Additional charges for card payments, passed on to the customers from the merchants, are another deterrent for people to use cards for merchant payments.

(iii) Behaviour:

Though multiple digital payment methods exist such as for utility payments, the usage is very low for such services due to lack of awareness, infrastructural issues pertaining to affordability and availability of reliable services and a lack of trust in such digital services as evident from the immediate cash-out.

(iv) Infrastructure:

Given the network connectivity issues and frequent power shutdowns, it is convenient for mer-

Onamu. Gadgets Africa. "The Evolution of M-PESA and The Future it Holds For Safaricom" April 2021, https:// Orland, Gadgets Allica, The Evolution of Mi-ESA and The Future it Holius For Salahconi "April 2021, https:// gadgetsafrica.com/2021/04/27/evolution-and-future-of-m-pesa/ Ndung'u, "A Digital Financial Services Revolution in Kenya: The M-Pesa Case Study," March 2021, https://

aercafrica.org/old-website/wp-content/uploads/2021/03/AERC-MPesa-Case-Study.pdf

chants to accept cash payments even if other digital payment methods exist.

Box 2: Case Study on Kenya's Kopo Kopo Platform⁴⁸

While M-Pesa had gained popularity for person-toperson (P2P) payments, very few businesses had merchant accounts with M-Pesa, limiting its use for personto-business (P2B) payments. Additionally, challenges such as lack of infrastructure, regulatory hurdles, limited adoption of digital payments by some small businesses, competition from established players, and limited access to capital were common in the fintech industry in emerging markets, including Kenya.

Kopo Kopo, a fintech company based in Kenya, sought to address the challenges faced by small and medium-sized businesses (SMBs) by providing a digital payment and financial management platform. Kopo Kopo's platform enables merchants to accept mobile payments from customers using various mobile money services like M-Pesa, Airtel Money, and Tigo Pesa. The company also offers value-added services such as data analytics, customer engagement tools, and financial management tools to help SMBs better manage their business operations. Since its launch in 2011, Kopo Kopo has reached over 12,500 merchants in East Africa.⁴⁹

The product became a success due to few distinguishing factors:

- 1. Though initially, Kopo Kopo faced a lot of challenges such as a lack of infrastructure, regulatory hurdles, and heavy competition from M-Pesa, through a very well defined strategy and partnerships, Kopo Kopo has been able to leverage M-Pesa's popularity and integrate its platform with M-Pesa's mobile money service. This has allowed Kopo Kopo to offer its payment processing services to M-Pesa customers and has helped to increase the adoption of digital payments in Kenya. Kopo Kopo's partnerships with other mobile money providers, such as Airtel Money and Tigo Pesa, have also helped to expand its customer base beyond M-Pesa users.
- 2. In addition to its core payment processing services, Kopo Kopo mobile money Kenya also offers a range of value-added services to its merchants, such as data analytics, customer engagement tools, and financial management tools. Kopo Kopo also provides immediate cash advances to selected merchants that meet the qualification requirements. These services help small and medium-sized businesses better understand and manage their business operations, leading to increased efficiency and profitability.

To use Kopo Kopo's services, merchants need to sign up online or through the mobile app. They can choose from various payment solutions like QR codes, mobile money, or card payments based on their preferences. When customers make payments through Kopo Kopo's platform, the funds are processed and settled into the merchant's account according to a predetermined schedule.

Kopo Kopo provides real-time reporting and analytics tools to help merchants better understand their business operations and financial performance, enabling them to make informed decisions. Additionally, the company offers value-added services such as data analytics, customer engagement tools, and financial management tools. These services enhance SMBs' understanding of their operations, leading to improved efficiency and profitability.

Government Payments (G2P, P2G)

In 2017, the Solomon Islands Government became a member of the Better Than Cash Alliance (BTCA) and committed to improving the use of electronic payment channels for both payments and receipts. One of the main components of the commitment was developing and implementing a series of actions to digitize both Government to Person (G2P) and Person to Government (P2G) payment flows which has yet to be completed.⁵⁰

Government payments in the Solomon Islands fall under three main categories: Tax and fee payments (P2G), Salary and Benefit Payments (G2P), and Cash Assistance from Ministers (G2P).

Challenges:

For P2G payments, there are specific challenges relating to infrastructure and interoperability.

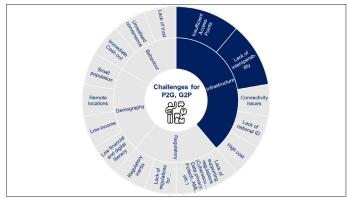


Figure 10: Challenges for Government Payments in the Solomon Islands

(i) Infrastructure:

a. The Ministry of Finance does not have any option for online or digital payment of taxes. There are no tax collection offices in the provinces and tax payments can only be made directly in the capital

⁴⁸ Taylor, CFI-Blog, "Kopo Kopo Building on the Rails of Mobile Money in Kenya," March 2023, https://cfi-blog.org/ kopokopo- building-on-the-rails-of-mobile-money-in-kenya/

⁴⁹ GSMA, "Kopo Kopo – Kenya,"April 2014, https://www.gsma.com/mobilefordevelopment/resources/kopo-kopo/

⁵⁰ United Nations Capital Development Fund, "Solomon Islands Government commits to digitization of 80% of payments by 2020," May 2017, https://www.uncdf.org/article/2073/solomon-islands-government-commits-todigitization-of-80-ofpayments- by-2020

city, Honiara, which leads to significant monetary and non-monetary costs.

(ii) Interoperability:

a. Within the Ministry of Finance, various departments use different systems which leads to an issue of interconnectedness within the government systems. For example, the Dynamics 365 system manages budgetary allocation to the ministries; salary payments for the staff are managed by the Orion system; customs duty collection is managed by the Department of Inland Revenue through a different system.

Box 3: Case Study on West Africa's Orange Solution 51

In West and Central Africa, a significant portion of the population lacked access to formal financial services. Government agencies encountered difficulties in efficiently collecting revenues, distributing benefits, and managing social welfare programs due to the lack of a reliable and accessible payment mechanism, especially in rural areas.

Orange, a leading telecommunications provider, introduced a pioneering Person-to-Government (P2G) mobile money service. Below is the schematic of the P2G payment model.

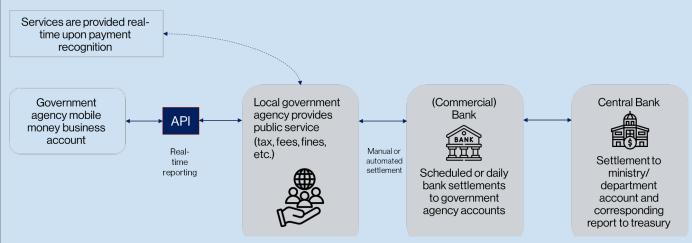


Figure 11: Schematic of digitised P2G payment model with direct integration between mobile money provider and government agency 52

Digitizing University registration and fees led to cost savings of 5% of the total annual budget in Burkina Faso. In Cote D'Ivoire, digitizing civil service exam entry fees reduced the cost by more than half from \$77 to \$39.53

The following lessons are important for the Solomon Islands, especially given the commitment of the government to digitizing P2G and G2P payments.

- The digitization of P2G payments should be embedded in national strategies and there should be designated 'champions' to drive the initiative.
- Digitization efforts should start with a single use case and e-service platform to avoid potential confusion among
- Mandating digital payments can be a compelling way to drive consumer adoption, especially as part of a larger, concerted movement away from cash. The population's level of trust in the government is as important as the availability and reliability of mobile services.

⁵¹ Wasunna, Mburu, Hassan, Plaitakis, GSMA, "Championing a unified digital Person-to-Government (P2G) payments strategy," June 2019, https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/06/GSMA_Champion-

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Wasunna , Mburu , Hassan, Plaitakis, GSMA, "Championing a unified digital Person-to-Government (P2G) payments strategy," June 2019, https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/06/GSMA_Championinga-unified-digital-person-to-government-payments-strategy.pdf

International Remittances

Labor migration is an emerging aspect of the Solomon Islands' economic landscape, driven primarily by individuals seeking better education and employment opportunities. The top destination countries for Solomon Islanders seeking education and work abroad include Australia, Papua New Guinea, Vanuatu, the United States, Ukraine, Canada, Switzerland, the Russian Federation, the Marshall Islands, and the Netherlands. New Zealand is also a popular destination, particularly for seasonal migrant workers.⁵⁴

According to the United Nations Department of Economic and Social Affairs (UNDESA 2019), the Solomon Islands has been classified as one of the low mobility countries with emigrants accounting for 0.3 percent of the population.⁵⁵ However, this scenario is changing due to the Pacific Labor Mobility Scheme and the resulting bilateral agreements between the Solomon Islands and countries such as Australia, New Zealand, and Fiji.

As of 2023, the country has established two labour mobility programs, one each with Australia and New Zealand. The Australian program has a duration of four years, which as of June 2023 engaged approximately 5,084 Solomon Islanders in various industries, including meat processing, fishing, horticulture, aged care, and tourism. The New Zealand program primarily focuses on seasonal work, particularly in the horticulture sector. Given the successful implementation of these two programs, the Solomon Islands aims to further expand labor mobility initiatives by collaborating with other Pacific nations. This presents a significant opportunity for digitizing the future of remittance inflows, thereby contributing to the country's economic growth and development.

In 2022, the total remittances inflow to the Solomon Islands was SBD 470 million (approximately US\$ 55 million). ⁵⁶ The Informal remittance channels mostly include sending money with friends and family, which is difficult to quantify.

In the realm of international remittances, three prominent use cases have been identified, showcasing significant potential for digitization:

- (i) Remittance inflows from workers in New Zealand and Australia to support their families in their home country.
- (ii) Remittances to and from international students studying abroad involve the movement of money to cover educational expenses, living costs, and financial support to/from their families.
- (iii) Withdrawal and transfer of Superannuation from Australia by individuals who have worked in Australia and subsequently returned to the Solomon Islands.



Data source: Central Bank of Solomon Islands

solomon-islands

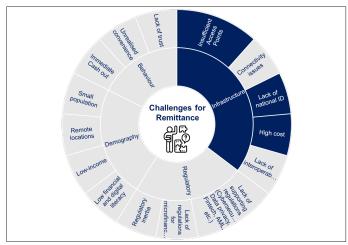


Figure 12: Challenges for International Remittances in the Solomon Islands

Challenges:

For international remittances, the main challenges relate to cost and infrastructure.

(i) Cost:

a. The cost of remittances in the Solomon Islands is currently at 11.1% which is four times higher than the global average of 6.35% (GSMA). Figure 10 shows a snapshot comparing the cost of remitting 500 Australian Dollars (AUD) from Australia to the Solomon Islands through different operators (as of July 2023). The average cost varies from 3.2-16% across the various channels.

(ii) Infrastructure:

- a. Fewer financial institutions provide remittance services due to high costs and delays in the withdrawal of funds. Micro Finance institutions like the South Pacific Business Development (SPBD) Microfinance, typically do not engage in forex or remittances directly, but may partner with local money transfer operators, such as SPBD in Samoa, which has partnered with KlickEx Pacific.⁵⁷
- b. The agents or branches of the remittance service providers are also available only in limited locations (main cities) which restrict access. For example, as of July 2023, Western Union agents are only located in Honiara, Auki, and Munda (Figure 11). However, ID verification can only be done in Honiara which further curtails access.
- c. A unique challenge faced by workers participating in these labor mobility programs is accessing their superannuation funds in Australia when they return to the Solomon Islands upon completion of the program. Although they have access to their local Solomon Islands bank account, they do not have access to their Australian bank accounts. While the Australian program provides super-

⁵⁷ https://www.facebook.com/100064659673260/posts/pfbid0reX1s9b4ACX1PzCKVEcxzu7Fg7kJgJQG-FqPuLXN5MqVF6pto7k vEDvbNPC2WDAFdl/?app=fbl

annuation payments in the form of checks, local banks in the Solomon Islands, including ANZ, do not accept foreign checks, rendering the workers unable to receive their funds. Some individuals who still maintain a bank account in Australia, particularly a Visa account, can access their superannuation funds. Nevertheless, the process for obtaining these funds is highly cumbersome.

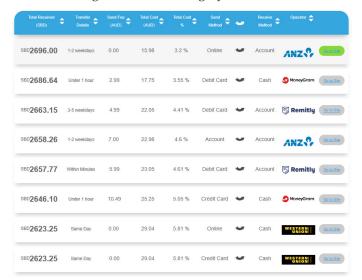


Figure 13: Cost of remitting AUD to the Solomon Islands 58



Figure 14: Western Union Agent locations in the Solomon Islands 59

Box 4: Case Study on Malaysia's Valyou – mobile money for international remittances

Many individuals in Malaysia rely on remittances from abroad, but traditional methods often involve high fees, lengthy processing times, and limited accessibility.

Mobile money makes sending remittances more convenient, particularly for migrants working and living in remote areas. This is largely due to agent distribution networks that compensate for the absence of remittance service providers (RSPs) and bank branches in rural locations. Leveraging their pre-existing relationship with the local telco Digi and partnering with mom-and-pop shops and established grocery stores, Valyou was able to set up a targeted physical distribution network, pro-

viding an accessible alternative to illicit remittance services in Malaysia known as hawala.

Below is a snapshot of Vaylou's journey.60



Figure 15: A snapshot of Valyou's product and service development journey

This solution enabled the formalization of remittance services and helped reduce the cost of remittances. In 2019, Valyou integrated blockchain technology into the mobile money solution in partnership with Ant Financial and Standard Chartered. The blockchain integration initially focused on the Malaysia-Pakistan corridor.

The case study underlines the importance of interoperable national payment systems. It was through integration with the Malaysian national switch, PayNet, that Valyou was able to provide cash-in functionality from bank accounts to mobile money and vice versa, which was the starting point of its international remittances journey.

As an extension of the mobile money remittance product tailored to migrant workers in Malaysia, Valyou unlocked other use cases by introducing adjacent financial services such as savings, credit, and insurance, showcasing the importance of new digital financial services targeting a specific use case first to drive adoption before extending to other use cases.⁶¹

Humanitarian Payments

The Solomon Islands has a strong presence of Intergovernmental Organizations (IGOs) and International Non-Governmental Organizations (INGOs), including several entities affiliated with the United Nations (UN). Notable UN agencies operating within the country's borders encompass UN Women, the United Nations International Children's Emergency Fund (UNICEF), the United Nations Capital Development Fund (UNCDF), the United Nations Development Programme (UNDP), as well as Save the Children.

These organizations engage in a range of regular and emergency programming initiatives in the Solomon Is-

⁵⁸ Source: https://sendmoneypacific.org/

⁶⁰ GSMA, "How mobile money is scaling international remittances and fostering financial resilience: Learnings from Valyou in Malaysia," November 2020, https://www.gsma.com/mobilefordevelopment/wp-content/up-loads/2021/01/IGSMA Howmpobile, money-is-scaling-international-remittances-1 nof

loads/2021/01/GSMA_Howmobile- money-is-scaling-international-remittances-1.pdf
61 GSMA, "How mobile money is scaling international remittances and fostering financial resilience: Learnings from Valyou in Malaysia," November 2020, https://www.gsma.com/mobilefordevelopment/wp-content/up-loads/2021/01/GSMA_Howmobile-money-is-scaling-international-remittances-1.pdf

lands, each with distinct responsibilities that do not overlap. For instance, Save the Children stands as the sole organization providing Cash and Voucher Assistance (CVA) within the nation, whereas UN Women spearheads the "Market for Change" project, focusing on the establishment of secure and inclusive marketplaces. UNICEF, on the other hand, concentrates its efforts on health and vaccination programs.

These diverse UN agencies, alongside Save the Children, collaborate to address various social, economic, and developmental needs within the Solomon Islands, operating within their specific mandates to contribute effectively to the overall well-being of the country's population. They employ payment systems for three distinct use cases, which encompass various financial transactions. Within regular programming, they conduct two primary types of payments, namely:

- (i) Facilitation of allowances for field staff responsible for implementing their programs on the ground.
- (ii) Payments for the procurement of goods and services required for their operations.

In the realm of emergency programming, these organizations also facilitate Cash and Voucher Assistance (CVA), enabling them to provide essential financial support to individuals in need during crises.

Challenges:

For humanitarian payments, the challenges mainly relate to infrastructure and market issues.

(i) Infrastructure:

a. In the rural provinces of the Solomon Islands, where most of the regular programming takes place, the absence of well-developed digital services creates security and logistical challenges when settling payments for procured goods and services in cash. This places an additional burden on program staff, who must now handle opera-



Figure 16: Challenges for Humanitarian Payments in the Solomon Islands

tional aspects as well.

- b. Additionally, even when existing digital wallets are used, albeit in limited capacity, to facilitate allowances for field workers, a major challenge is the lack of proper liquidity management. Specifically, the lack of readily available agents in the rural provinces poses a significant obstacle.
- c. Although some individuals utilize digital wallets, there are delays in fund transfers and a heavy reliance on digital wallets occurs only when organizations transfer funds through them and immediately cash out salaries. This practice poses a threat to the sustainability of digital wallets.
- d. The lack of ID contributes to delays in vendor registration.

(ii) Market issue:

a. The absence of functional local markets in rural provinces hampers service provisioning, further exacerbating the burden on these organizations.

Box 5: Case Study on RECOVR Togo's Novissi Cash Transfer

Togo, with a population of 8 million and a GDP of \$5.4 billion in 2018, is classified as a low-income country. With a gross national income per capita of just \$660, Togo is well below the Sub-Saharan Africa average of \$1,520.⁶² When COVID-19 hit, the government had to find ways to quickly get cash into the hands of people so that their basic needs are met.

The Togo government implemented a cash transfer program that involved identifying the eligible population by selecting poor neighborhoods and obtaining an anonymized list of mobile phone subscribers. Beneficiaries self-register through an automated system, and their information is collected while ensuring privacy. Telecom operators open mobile money accounts for beneficiaries and initiate digital payments. Cash-out points and customer services are established for easy access to funds. Post-distribution monitoring surveys are conducted to gather usage information, targeting effectiveness, compliance, and accountability.

Within 9 months of launching the program, more than 8 million USD was disbursed to 138,531 beneficiaries. 63

Kazeem, Quartz, "One of Africa's smallest economies is plugging social welfare gaps with digital cash transfers," June 2020, https://qz.com/africa/1867044/togo-digitizes-social-welfare-with-mobile-cash-transfer-program

Debenedetti, Innovation for Poverty Action, "Togo's Novissi Cash Transfer: Designing and Implementing a Fully Digital Social Assistance Program during COVID-19," https://poverty-action.org/sites/default/files/publications/Togo-Novissi-Cash-Transfer-Brief-August%202021.pdf

Step 1. Identify and target



- Find the poorest geographies using satellite predictions
- Identify poorest people using cell usage patterns
- Whitelist cell phone numbers

Step 2. Self-enrol



- Launch radio ads inviting people to dial *855#
- · Applicant enters ID info
- On the backend, screen phone number and ID against whitelists

Step 3. Pay



 Pay whitelisted individuals instantly via mobile money

Figure 17: RECOVR Togo's Novissi Cash Transfer Process⁶³

The following lessons for digital services stand out from the Togo example which applies to the context of the Solomon Islands:

- 1. The government and humanitarian actors can leverage mobile money for quick fund transfers for regular and emergency programming by partnering with MNOs. This is very important, especially considering given the recent launch of the mobile money service, M-Selen, in the Solomon Islands in June 2023. However, such systems will prove useful only if those payments are accepted at merchant points or if enough cashout points exist. Hence, it underlines the importance of agent networks and the need for interoperable payment systems and methods.
- 2. Even without a beneficiary database, the government of Togo could use the existing voter registry database to quickly launch the program. This use of existing administrative data, and building additional layers on top of the system (e.g. additional verifications and requests for demographic information) makes the underlying database system fit for purpose. However, such a targeting works only in the presence of national IDs that can be integrated into such a system for KYC requirements.

Debenedetti, Innovation for Poverty Action, "Togo's Novissi Cash Transfer: Designing and Implementing a Fully Digital Social Assistance Program during COVID-19," https://poverty-action.org/sites/default/files/publications/Togo-Novissi-Cash-Transfer-Brief-August%202021.pdf

4. RECOMMENDATIONS

While there seem to be multiple roadblocks in achieving digital financial inclusion in the Solomon Islands, with a focus on specific aspects and leveraging examples from other countries, the Solomon Islands can leapfrog in digital finance uptake. With integration into the formal banking system being a major challenge due to geographic remoteness and limited market size in the Solomon Islands, digital wallets, including mobile money hold great potential for the country. A well-established digital payment ecosystem, with a focus on digital wallet penetration, has the following characteristics.

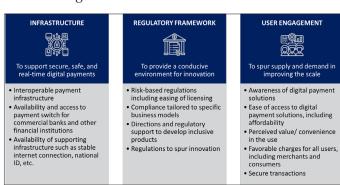


Figure 18: Characteristics of a well-established digital payment ecosystem

The successful growth of digital payment ecosystem in a country like Solomon Islands will depend on how well the three pillars - infrastructure, regulation, and user engagement - can be leveraged. The next steps toward achieving financial inclusion for the Central Bank of Solomon Islands have been categorized under five focus actions.

- 1. Implement interoperable digital payment system infrastructure in the country (Infrastructure)
- 2. Establish the necessary supporting infrastructure, including national ID and national addressing systems (Infrastructure)
- 3. Foster a proactive regulatory environment (Regula-
- 4. Promote sustainability of digital payment products by driving growth and adoption (User engagement)
- 5. Diversify products and services (User engagement)

4.1. Implementing interoperable digital payment system infrastructure

The crucial step towards achieving financial inclusion in the Solomon Islands is to focus on paving the way for interoperable payment systems in the country, the lack of which is one of the significant challenges for a small market like the Solomon Islands. The absence of interoperability means that different payment service providers, banks, and digital wallet platforms operate in silos, hindering the seamless exchange of funds and transaction information between different payment service providers, banks, and digital wallet platforms and inhibiting growth.

For digital payment uptake to succeed, a widespread network of acceptance points is essential. The "two-sided market problem" poses a challenge, as customers will only adopt digital payments if enough retailers accept them. Conversely, retailers will maintain active payment acceptance points only if enough customers want to pay digitally. To succeed, providers must rapidly build significant scale on both sides of the market, creating a selfsustaining critical mass within a limited timeframe. This ensures that customers find enough places to transact digitally, while retailers maintain active payment acceptance points, fostering a thriving digital payment ecosystem.⁶⁵

In the small market of the Solomon Islands, where potential users and businesses are limited, and the cost of installing digital infrastructure is high, providers should prioritize interoperability rather than creating numerous touchpoints. Without interoperability, digital payments are confined to situations where both the merchant and customer use the same provider, reducing the number of acceptance points and limiting the customer base. This lack of interoperability can lead to customer frustration when they find digital merchants unable to accept their payment. To overcome this, customers would have to sign up for multiple wallets and manage various balances, a cumbersome process that drives some to revert to cash transactions. Similarly, merchants face the burden of dealing with multiple schemes, involving different hardware, processes, and settlement accounts, adding to their frustration.

Interoperability allows various digital payment providers, banks, and mobile money operators to connect and collaborate, creating a unified ecosystem that caters to a larger customer base. When users can make payments and transfers between different platforms, it eliminates barriers and enhances convenience for all stakeholders in the digital payment ecosystem. With a larger user base and increased transaction volumes created by interoperability, digital payment platforms can realize economies of scale, reducing the cost per transaction and attaining a quicker return on investment. It helps in recovering initial setup costs and ongoing expenses, making the business model financially sustainable in a shorter timeframe.

Interoperability between payment systems involves the capability for one or more elements of the payment system such as the infrastructure, rules, technical standards and applications to communicate with each other. Any interoperability agreement requires both technical interoperability and legal and commercial agreements underpinning the exchange of payments in different systems.66 Developing the technical, legal, and commercial agreements around interoperability requires broad collaboration and agreement among payment system stakeholders.

CGAP, "Interoperability: Why and How Providers Should Pursue It," September 2019, https://www.cgap.org/research/publication/interoperability-why-and-how-providers-should-pursue-it
The World Bank, "Focus Note: Interoperability in Fast Payment Systems," September 2021, https://fastpay-

ments.worldbank.org/sites/default/files/2021-10/Interoperability_in_FPS_Final.pdf

Most interoperable payment systems can be classified into four kinds based on whether one or more of the following conditions are met: (i) the existence of standards (established by the regulator), (ii) the availability of necessary infrastructure (provided by the regulator for the service providers to make use of), and (iii) the requirement to utilize the provided infrastructure (by the regulator).



Figure 19: Classification of interoperable payment systems

To foster interoperability among payment service providers, CBSI can consider exploring one of the four options listed above, arranged in ascending order of regulatory control.



Market-initiated interoperability

The market has a crucial role to play in fostering interoperability in payments through collaborative initiatives. In situations where none of the three conditions listed above are present, individual payment service providers can establish interoperability by entering bilateral arrangements with other players in the market.

One example illustrating this approach is as follows: Suppose Iumicash, which has a bank account in Bank A, wishes to achieve interoperability with EziPei, which has a bank account in Bank B. In the absence of a central infrastructure, Iumicash can create an additional account in Bank B to facilitate interoperability. This would involve debiting funds from Iumicash's account in Bank B and crediting the EziPei account in Bank B. However, establishing such interoperability would require a bilateral arrangement between EziPei and Iumicash, encompassing messaging standards, protocols, and proxy identifiers. Moreover, these payment service providers can enhance interoperability by providing open APIs, enabling smooth integration with third-party applications and systems.

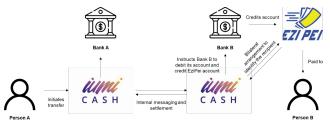


Figure 20: Hypothetical example for market-initiated interoperability

An exemplary instance of this approach can be observed in Vanuatu's card interoperability. Despite the absence of a national payment switch, local banks in Vanuatu have established bilateral arrangements among themselves. These arrangements permit the usage of local cards on the

ATM/EFTPOS networks of other local banks, promoting interoperability within the country's payment system.

Similarly, in Kenya, the approach to achieving interoperability across closed-loop schemes was market-led, and the Kenyan market has now achieved interoperability across services offered by Safaricom (owner of M-Pesa), Airtel, and Telkom Kenya.⁶⁷

However, the market-led approach has its own draw-backs. Firstly, the local regulator will not have much control over the pricing, timeframe, security controls, and standards. Secondly, as a market-led initiative, the pace and approach to achieving interoperability may be determined by the collective actions and decisions of payment service providers, banks, and digital wallet platforms.

Regulator-guided interoperability

Under this system, a regulator can let the market establish its interoperable systems as above, but guide the market by establishing necessary technical standards and scheme rules, and regulate certain aspects such as fees and charges, security controls, and settlement timeframes.

In the absence of uniform standards and scheme rules, the different payment systems in the market function as closed-loop systems, lacking direct connections to users' bank accounts, resulting in market fragmentation. In such a case, the regulator can adopt a regulatory approach to foster interoperability within the payment systems by developing and enforcing a comprehensive regulatory framework which outlines the necessary standards, protocols, and technical specifications to facilitate smooth interoperability among the various components of the payment system. Regulators in countries like Tanzania and Nigeria have taken steps to promote interoperability by issuing mandates that enable seamless connections between these schemes.⁶⁸

Regulator-initiated interoperability

In addition to establishing standards and scheme rules, the regulator can also provide necessary central infrastructure that the service providers can connect into to establish interoperable payment systems. Such central infrastructure may be provided by the regulator themselves or through a reliable third-party, which may or may not be affiliated with the government/regulator. However, the key here is to leave it to the discretion of the service providers to use the central infrastructure or not.

For example, Singapore's FAST (Fast and Secure Transfers) was launched by the Association of Banks in Singapore and is an electronic funds transfer system that enables customers of the participating entities to transfer Singapore Dollar funds from one entity to another in Singapore. Using the FAST network was not mandatory for financial institutions in Singapore., but most joined re-

⁶⁷ The World Bank, "Focus Note: Interoperability in Fast Payment Systems," September 2021, https://fastpayments.worldbank.org/sites/default/files/2021-10/Interoperability_in_FPS_Final.pdf

⁶⁸ I

gardless because of the revenue opportunity.

PayNow was subsequently introduced as an overlay service on the FAST system to enable payments through proxy identifiers such as mobile number, Singapore NRIC/FIN, and Virtual Payment Address (VPA). The Central Bank of Singapore, and the Monetary Authority of Singapore (MAS), monitor and assesses FAST to ensure that they have proper structures, processes, and rules in place for safety and efficiency but do not own it. The model is visualized below.

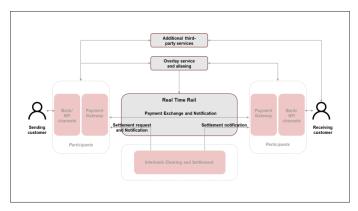


Figure 21: Example architecture of centralized payment system operated by third-party or regulator.6

Another example is the New Payments Platform in Australia which is owned and operated by the New Payments Platform Australia (NPPA), which is a wholly owned subsidiary of a member-owned organization, Australian Payments Plus. Australian Payments Plus has a diverse range of members including Australia's domestic banks, international banks operating in Australia, some of the country's largest merchants, payment service providers, and payment processors.⁷⁰ The Reserve Bank of Australia (RBA) is only responsible for the oversight and regulation of payment systems in the country and is empowered to set financial stability standards for clearing and settlement facilities.

In this model, the key to interoperability in the Solomon Islands would be CBSI ensuring that settlement accounts exist in every bank for each of the payment service providers and that standards for messaging and addressing are established and followed.

Regulator-led interoperability

In this case, the regulator establishes necessary central infrastructure payment systems such as a national payment switch and mandates all the financial institutions in the country settle payments via the system. The singular platform and mandate enables seamless interoperability between participating banks and payment service providers. This approach results in a more regulated payment system within the country. For example, The People's

Bank of China is the owner of the Internet Banking Payment System (IBPS). It is being operated by China National Clearing Centre, which is a public institution fully owned by the People's Bank of China and responsible for the operation, maintenance, and management of IBPS.71 China has two parallel domestic real-time payment systems with different clearing methods:⁷²

- China UnionPay system, which is primarily responsible for building and operating a unified information exchange network of interbank bankcards nationwide.
- NetsUnion clearing system, which is a nationwide centralized platform for the processing of online transactions undertaken by the country's third party payments providers involving bank accounts.⁷³

Earlier, China had various closed-loop payment systems such as Alipay (operated by Ant Group) and WeChat Pay (developed by Tencent). The PBoC later mandated all payment service providers to use its central infrastructure to settle payments which gives the regulator more control and oversight over payments. Adopting a market-let approach first (through bilateral agreement) and then later called on to use the central payment system infrastructure to enable interoperability has its own disadvantages. When the payment service providers are already mature, they may have less incentive to connect to the central infrastructure and the regulators may have less capability to influence market players. In the absence of a central infrastructure, the private sector players are left to design and determine their own rules and pricing for interoperability. However, when the regulator intervenes to impose the use of central infrastructure, there is resistance and delay from the private sector as their profits are threatened by a reduction in cost and increased competition in the market.

Waiting for interoperability to evolve over time may lead to fragmented and siloed systems, making it more challenging to implement later on. If each provider builds its infrastructure without considering interoperability, it can result in proprietary and closed systems, limiting the scope for collaboration and hindering the potential benefits of a connected payment ecosystem. Moreover, the cost of retrofitting existing systems for interoperability can be significantly higher than building interoperability into the foundation of the payment ecosystem from the start.

Hence, initiating interoperability through central infrastructure would be beneficial as can likely result in standardizing the clearing of digital payments, lowering the operating costs, increasing the clearing efficiency, promoting regulatory oversight and maintaining sustainability.74

The World Bank Group, "Considerations and Lessons for the Development and Implementation of Fast Pavment Systems," September 2021, https://fastpayments.worldbank.org/sites/default/files/2021- 11/Fast%20Payment%20Flagship Final Nov%201.pdf

Australian Payment Plus, "About Us," https://www.auspayplus.com.au/about-us.

The World Bank Group, "Considerations and Lessons for the Development and Implementation of Fast Payment Systems," September 2021, https://fastpayments.worldbank.org/sites/default/files/2021- 11/Fast%20Payment%20Flagship_Final_Nov%201.pdf
Baker McKenzie, "Asia Pacific Reference Guide to Fast Payment Systems," April 2022, https://www.bakermck-

enzie.com/- /media/files/insight/publications/2022/04/bmap-reference-guide-to-fast-payment-systemsapril.pdf
China Banking News, "NetsUnion Clearing Corporation," July 2018, https://www.chinabankingnews.com/wiki/netsunionclearing-corporation/ 73

Dong, Porteous, Mburu, BFA Global, "Highlights emerging from China," November 2020, https://bfaglobal.com/ wpcontent/ uploads/2022/08/Highlights-emerging-from-China.pdf

Participants in a payment system can be direct or indirect. Direct participants are typically banks with a direct link to the underlying payment system infrastructure and having a settlement account at the central bank's settlement system—if settlement occurs in central bank money. The settlement can take place in commercial bank money as well. Indirect participants are other financial institutions or other PSPs using the payment system infrastructure either directly or via a sponsor primary participant and leveraging the sponsor's settlement account with the central bank for the settlement of their transactions.

The key to interoperability in this model would be to allow eligible non-bank financial institutions (NFIs) to access the central infrastructure as direct or indirect participants. In various countries, non-financial institutions (NFIs) are successfully integrating into such central infrastructure, offering cost-effective and lower-value transfer capabilities. One such example is Singapore where a super-app, Grab (can include footnote), and a Mobile Network Operator, Singtel, have connected to Singapore's Fast and Secure Transfer (FAST) system to provide financial services to its customers.

A good case study of such an interoperable instant payment system led by regulator would be that of Ghana Interbank Payments and Settlement System (GhIPSS) developed by the Central Bank of Ghana through a phased approach. With attempts to involve banks to develop an interoperable payment system having initially failed, the Central Bank empowered GhIPSS, a wholly owned subsidiary of the Bank of Ghana, to develop and manage interoperable payment infrastructures in Ghana.

GhIPSS took a phased approach to enabling payment infrastructure:

- 008: E-zwich smart card for banking via ATMs was built. E-zwich is a biometrically enabled card that enables users to conduct banking services with any other e-zwich-enabled bank via an ATM
- 2009: Cheque digitization was introduced to reduce clearing times
- 2011: Automated clearing house built for faster interbank transfers
- 2012: gh-link, Ghana's interbank switching and processing system, was built to interconnect bank and non-bank providers

This foundation then allowed the launch of a real-time retail payment system called GhIPSS Instant Pay (GIP) in 2015. The phased build-out, leveraging existing infrastructure, was key for managing complexity and costs. With the platforms in place, GhIPSS launched GIP in 2015 as a low-value, real-time interbank system. A critical complement was interoperability with Mobile Money launched in 2016. Together with the e-zwich card system, this created a "financial inclusion triangle" enabling interoperability between banks, wallets, cards, branches, and merchants.

The key success factors from Ghana's experience in enhancing its retail payment system are:

- Empowering a dedicated implementer: Ghana empowering GhIPSS, with regulatory backing from the Central Bank, was crucial to drive progress on building payment infrastructure.
- Phased infrastructure development: Ghana's gradual build-out of foundations like cards, automation, and switching enabled the eventual launch of realtime payments while managing costs.
- Prioritizing interoperability: Connecting providers through switches and gateways was central to creating an inclusive payments ecosystem.
- Expanding digital access channels: Integration with mobile money and enabling payments via proxies, QR codes, etc. significantly expanded access.
- Supportive regulation and policies: Ghana enacted regulation to enable participation of non-banks and innovative models, while managing risks.
- Collaborative governance model: Currently, GhIPSS is owned by the central bank. But plans are underway to transition to a shareholder structure with majority bank ownership. This is expected to drive industry participation, innovation, and adoption of services for greater financial inclusion.

4.2. Establishing supporting infrastructure for digital payment systems

Establishing supporting infrastructure for digital payment systems in the Solomon Islands is crucial for improving retail payments. Two key pillars that require attention are the implementation of a national ID system and a national physical (postal) addressing system (specifically, for Ecommerce).

Introducing a national ID system would provide a foundational identity framework, enabling secure and reliable customer identification for financial transactions. This would enhance Know Your Customer (KYC) processes and facilitate seamless digital onboarding. These pillars, combined with infrastructure development in terms of improved mobile connectivity, and transport systems, would lay the groundwork for a robust and inclusive digital payment ecosystem in the Solomon Islands.

National ID

As established earlier, the Solomon Islands currently faces a significant issue: the lack of a national ID system and limited access to foundational identity documents. To address this issue, narrowing the gap in foundational identity coverage is crucial. While acceptable identification documents include passports, voter IDs, driving licenses, and birth certificates, the latter is the easiest to obtain. In rural areas where individuals may not have access to these IDs, a letter from the village head or pastor is considered valid proof of identity.

However, establishing a national ID system in the Solomon Islands holds immense potential. It can improve access to financial services by enabling Know Your Customer (KYC) compliance, securing digital transactions, and streamlining government-to-person payments and cross-border transactions. In the long term, the Solomon Islands can explore establishing a digital ID platform that can enable additional use cases such as:⁷⁵

- Remote opening and verification of financial accounts, including e-money registration
- Increasing effective of G2P, pension and humanitarian payments
- Enabling remote customer due diligence (CDD) for money transfer operators (MTOs)
- Enabling the development of secure e-commerce payments and utility payments
- Facilitating remote insurance onboarding and claims verification

To initiate this process, the Solomon Islands has already passed the Telecommunications (Amendment) Act in 2021, which mandates SIM card registration. Leveraging the existing information within mobile network operator (MNO) databases can lay the foundation for unique and robust identities. With the recent issuance of directives in June 2023, a rigorous SIM registration process for both existing and new SIM holders will be executed, leading to the establishment of a database that can eventually serve as the basis for a national ID system.

From a retail payments standpoint, such a national ID system is crucial for the development of any overlay services that can be built on the central payment infrastructure which have proved critical for increasing the velocity of uptake of fast retail payments in many markets. For example, In Singapore, the proxy addressing service, known as PayNow, rides on the FAST payment system and the proxy database are centralized. PayNow acts as an initiating interface of payments in FAST for retail customers of nine participating banks and three NFIs in Singapore. PayNow enables retail customers to send and receive Singapore Dollar funds from one entity to another in Singapore through FAST by using just their mobile number, Singapore National Registration Identity Card (NRIC) number/Foreign Identification Number (FIN), or Virtual Payment Address (VPA) instantly.

In the future, the Solomon Islands can also look at other countries' examples such as India's Aadhaar system to enable the establishment of similar national digital IDs. For example, the International Institute of Information Technology, Bengaluru (IIIT-B) has developed an open-source foundational identity platform called the Modular Open-Source Identity Platform (MOSIP), which is currently being used by six countries – Sri Lanka, Morocco, the Philippines, Guinea, Ethiopia, and the Togolese Republic – to

provide digital identities to their citizens.

National physical (postal) addressing system for E-commerce

While there is positive outlook for E-commerce in the Solomon Islands, two main barriers to wider acceptance of B2C E-Commerce in the Solomon Islands have been identified: delivery infrastructure and secure payment methods.

Firstly, there is a need to establish a national physical addressing system. Though initiatives like what3words are helping address the issue of the lack of an addressing system, it remains one of the crucial elements of E-commerce. Additionally, logistical constraints have been identified in the country. One possible solution for this could be leveraging the existing taxi services for E-Commerce logistics.

Secondly, there is a need for a payment gateway to initiate digital payments. Until now, cash on delivery is the main payment method that the developing local online merchants in the Solomon Islands are dealing with. To enable digital E-commerce payments, a payment gateway needs to be set up to serve as an intermediary between e-commerce businesses and financial institutions by authorizing and processing credit/debit card transactions and bank transfers in real time.

When a customer purchases a product or service online, the payment gateway takes the payment information submitted and runs various checks and authorizations to complete the payment. This includes verifying the validity of payment details, checking for sufficient funds, collecting payment on behalf of the merchant, and transferring funds (minus any fees) into the merchant's account.

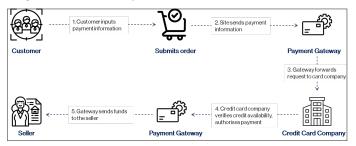


Figure 22: Working of a Payment Gateway.76

Payment gateways provide several key benefits:

- Enhanced security Gateways use encryption, tokenization, fraud detection, and other tools to protect sensitive financial information and reduce risks.
- Increased accessibility By supporting credit cards, digital wallets, and bank transfers, gateways allow businesses to offer flexible payment options.
- Automated reconciliation Payment records are

⁷⁵ United Nations Capital Development Fund, "An Inclusive Digital Identity Platform in the Solomon Islands Country Diagnostic," January 2021, https://cenfri.org/wp-content/uploads/2021-Pacific-SolomonIslands-digital-ID-countrydiagnostic. pdf

Medium, "What is a Payment Gateway and Payment Switch? Understanding the basics of Payments architecture," April 2021, https://medium.com/m2p-yap-fintech/what-is-payment-switch-and-payment-gateway-understanding-the-basics-ofpayments- architecture-5ece85b5f69a

maintained allowing for automated accounting, reporting, and settlement.

 Global reach - Gateways enable businesses to sell across geographies by supporting multiple currencies and international payment methods.

Payment gateways simplify online transactions by handling the complexity of bank connectivity and regulatory compliance. They are essential infrastructure for e-commerce in today's digital payments landscape.

However, the current usage of the KlikPei platform and E-commerce volumes do not warrant a national payment gateway to be established at this point. It would more likely be feasible to establish payment gateway at individual e-commerce platform level.

4.3. Fostering a Proactive Regulatory Environment

To ensure that the growth of digital financial services is regulator-led, proactively establishing a robust legal and regulatory framework is crucial to promote innovation in payments while ensuring the security and safety of payment arrangements. In the context of digital retail payment systems, applicable legislation typically includes domestic regulations and laws related to payment systems and services, banking, and the central bank. Peripheral regulations or laws such as those concerning open banking, digital ID, KYC guidelines, and consumer protection may also apply.

While many jurisdictions already have such regulations in place within their Real-Time Gross Settlement (RTGS) systems, their applicability to other systems must be ensured. Given that the Solomon Islands is currently in the process of implementing ATS, it is the right time to revisit the financial sector regulations in the country in anticipation of the rise in digital payments in the coming years.

In the case of the Solomon Islands, several regulatory gaps have been identified.

- 1. Mobile money services are governed by Practice Guidance Note 2 issued by the Central Bank of Solomon Islands (CBSI), but there are no specific regulations for these services. Mobile money service providers and agents are not licensed, and CBSI only provides a No Object Certificate (NOC) for their operation without supervision or data collection.
- 2. There is a lack of cybersecurity legislation in the country.
- 3. The Money Laundering Act and Regulations need to be updated to address digital payments and virtual currencies.
- 4. There are no specific regulations for Microfinance Institutions
- 5. The country lacks legislation around Data Protection and Localization.
- 6. Though there is a live regulatory sandbox, there is no

fintech regulation in the country.

To address these regulatory gaps and meet the changing landscape and demand for digital payment methods, the Solomon Islands is in the process of developing new mobile money regulations and a national cybersecurity framework. Under the new mobile money regulation, service providers will be licensed and regulated, ensuring greater oversight and compliance.

With the rise of real-time payments, concerns regarding financial crimes like money laundering and terrorism financing have grown. The faster processing times associated with fast payment systems reduce the time available for pre-transaction Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) analysis and fraud detection. Consequently, participants in these systems face the challenge of conducting AML/CFT checks and ensuring a secure payment environment within a matter of seconds. To address this issue, an increasing number of third-party providers offer real-time payment fraud detection software. These solutions leverage cutting-edge technologies like artificial intelligence and machine learning to enable rapid AML/CFT checks and sanctions screening. By optimizing AML/CFT screening and fraud-detection processes, participants can efficiently manage client-related risks associated with processing real-time payments. However, this requires guidelines for KYC/AML policies. In the Solomon Islands, the Money Laundering Act is also under review to address the specific requirements of digital payments.

To foster the expansion of digital payments in the Solomon Islands, it is vital to prioritize two key aspects. Firstly, addressing data protection concerns should be a priority. This involves implementing robust measures to safeguard user information, encompassing security protocols, consent requirements, and secure data storage practices.

Secondly, creating a favorable environment for fintech companies to enter the Solomon Islands market is crucial. This can be achieved through well-defined regulations tailored to accommodate fintech innovations. However, it is important to note that regional integration is essential for optimal results. By collaborating with other Pacific Islands and implementing harmonized regulations, the chances of attracting fintech participation will significantly increase. A broader regional approach provides the necessary scale for sustainable fintech growth and enhances the overall effectiveness of digital payment initiatives.

Regulating microfinance is important to ensure consumer protection, orderly market development, and financial stability, considering that microfinance is one of the use cases of digital retail payments.

4.4. Promoting sustainability of digital payment products by driving growth and adoption

In most jurisdictions that have adopted real-time payment systems, low end-user prices, ease of use, and multiple use cases appear to be the main drivers of user uptake. CBSI should also focus on the economics of merchant payments and consider offsetting merchant fees. The critical focus should be to encourage merchant adoption of digital payments. In most jurisdictions where digital payments have been successful, this has been accomplished by incentives such as reduced transaction fees, cashback rewards, tax deductions, and subsidies for both merchants and consumers for a certain period until digital payments become ubiquitous. For this, the ecosystem should look at working with a development partner. Some of the jurisdictions that have used incentives to encourage merchant adoption of digital payments include India, Singapore, and Kenya.

For example, in 2016, to facilitate the transition to digital payments, India launched the BHIM (Bharat Interface for Money) app. Merchants were encouraged to adopt digital payments by offering cashback incentives for a specific period. Customers using the BHIM app for transactions received cashback rewards, while merchants received incentives based on the transaction volume. These incentives played a significant role in boosting digital payment adoption among both merchants and consumers. Similarly, to promote merchant adoption of M-Pesa in Kenya, Safaricom, the telecom provider offering M-Pesa, offered merchants financial incentives, including reduced transaction fees, cash rewards, and marketing support. These incentives encouraged merchants, particularly small businesses, to accept M-Pesa payments. Additionally, consumers were incentivized to use M-Pesa through features like loyalty points and discounts at participating merchants.

4.5. Diversifying products and services

Given that the Solomon Islands is a relatively small market, too many providers offering the same services might not be ideal to maintain the sustainability of any business model. Since payment business models are intrinsically volume-driven, digitization can be started with a very particular use case. The newly launched M-Selen product in the country is one such example as the focus is on domestic transfers from Honiara to the other provinces. To drive adoption and use, businesses can leverage Solomon Islanders who return from Australia and New Zealand after their Employment Scheme to serve as early adopters as they would be adept at using financial service technology.

Once the necessary basic infrastructure is in place for the business model to be sustainable, Mobile-enabled adjacent financial services – such as savings, credit, e-commerce, and insurance – extend financial inclusion beyond access and usage. For example, Valyou mobile money services in Malaysia as initially introduced to improve outward remittances. Once the necessary volume was reached, Valyou identified two adjacent services that could be linked to remittances from Malaysia to serve recipient families: a micro-credit offering and a micro-insurance product with Webdoc Health, both through the Easypaisa mobile money service in Pakistan.⁷⁷

⁷⁷ GSMA, "How mobile money is scaling international remittances and fostering financial resilience: Learnings from Valyou in Malaysia," November 2020, https://www.gsma.com/mobilefordevelopment/wp-content/up-loads/2021/01/GSMA_Howmobile- money-is-scaling-international-remittances-1.pdf

CONCLUSION

It is clear that the Pacific Islands payments industries are, similar to the rest of the world, innovating. Various stakeholders, including regulators and private players, are taking initiatives to improve the retail payment systems in their respective countries, aligning with global developmental trends. However, these initiatives are being implemented in a fragmented manner, lacking a cohesive and holistic retail payment strategy.

To address this, the Central Bank of Solomon Islands (CBSI) should consider developing a national payments strategy that prioritizes both short-term and long-term goals. In the short term, the focus should be on achieving quick wins, such as increasing the adoption of mobile money wallets through incentives like cashback, rewards, and reduced user fees. Additionally, enabling banks and

other financial sector participants to connect to a central payment infrastructure can facilitate faster settlement.

In the long term, certain aspects such as digital identification and regulatory changes need to be addressed with consistent effort. Developing a robust digital ID system and updating regulations can enhance the security and efficiency of the retail payment ecosystem in the Solomon Islands.

In conclusion, the CBSI should take the next step towards establishing a national payments strategy that addresses the various aspects of the payments ecosystem. By prioritizing short-term goals and laying the foundation for long-term improvements, the Solomon Islands can enhance its retail payment systems and align with global trends in the digital payment landscape.

ANNEX 1: LIST OF KEY INFORMANT INTERVIEWS

Organization	Contacts	Designation		
Calarian Darial Communities	Alfred Kituru	Chief Executive Officer		
Solomon Postal Corporation	Caroline Kanoko	Director Financial Services		
	Michael Wate	General Manager		
Solomon Islands National Provident Fund	Don Fakari	Manager ITD		
	Wilson Hano	Manager Operations		
Pan Oceanic Bank Ltd	Upul Hettiarachchi	Chief Executive Officer		
r an Oceanic Bank Ltu	Mario Balasingham	Head of IT & Digital Banking		
BRED BANK Solomon Islands	Owen Thomson	Chief Executive Officer		
Telecommunication Commission of Solomon Islands	Calvin Ziru	Commissioner		
Telecommunication Commussion of Solomon Islands	Richard Martin	Markets and Competition Lead		
ANZ Solomon Islands	Fiona Aisake	Chief Operating Officer		
ANZ Solomon Islands	Augustine Wateani	Manager Digital Channels		
	Samuel Warunima	Chief Manager		
CBSI Financial System Regulation Department	Denson Denni	Manager Applied Research, Policy & Regulation		
Ministry of Einance Colomon Islands	Selwyn Takana	Deputy Secretary Economic		
Ministry of Finance, Solomon Islands	Primula Mua	Director, Economic Research Unit		
Labour Mobility Unit, Ministry of Foreign Affairs & External Trade	Christina Maoma	Research Officer		
UN Women	Collin Potakana	National Project Coordinator - Market for Change Project		
CBSI: Solomon Islands Financial Intelligence Unit	Jimmy Sendersly	Director		
SATSOL	Amtony Fourie	Chief Executive Office, SATSOL		
SAISOL	Antony Ferris	Director, IUMI Cash		
United Nations Capital Dayslanment Fund	Sam Mulawa	Country Coordinator		
United Nations Capital Development Fund	Zoe Victoria Tate	Technical Specialist (Country Lead)		
Save the Children	Joshua Wore	Cash Coordinator		
Solomon Islands Chamber of Commerce & Industry	Natalina Hong	Chief Executive Officer		
	Sandra Fore	Country Head		
Bank South Pacific Solomon Islands	Lyn Fa'arodo	Manager - Digital Services		
	Giddings Qiqo	Manager - Operations		
	Wilfred Nindikuai	Marketing Officer		
BMOBILE	Don Williams	Finance Officer		
	Maxwell Panasasa	Project Engineer		
Bulk Shop Merchant	Adam Bartlet	Managing Director		
Development Bank of Solomon Islands	Nafitalai Cakacaka	Chief Executive Officer		
Solomon Telekom Company Ltd	Christina Lasaqa	Chief Executive Officer		
United Nations International Children's Emergency Fund	Zelalem Taffesse	Chief of Office		

