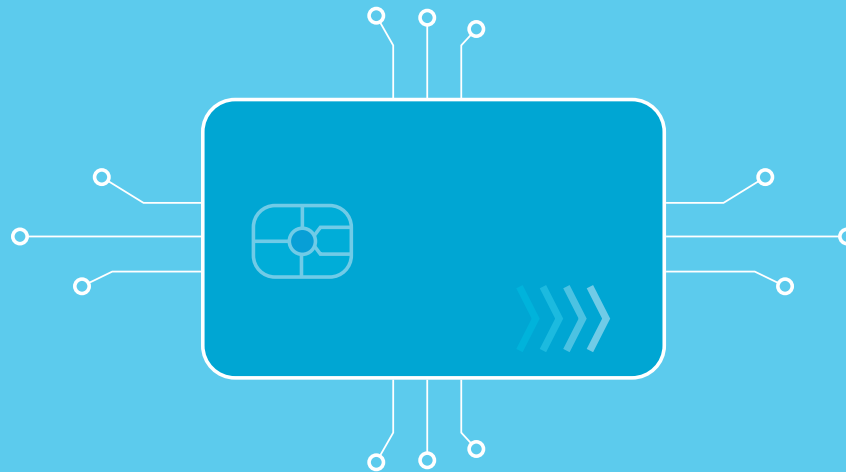
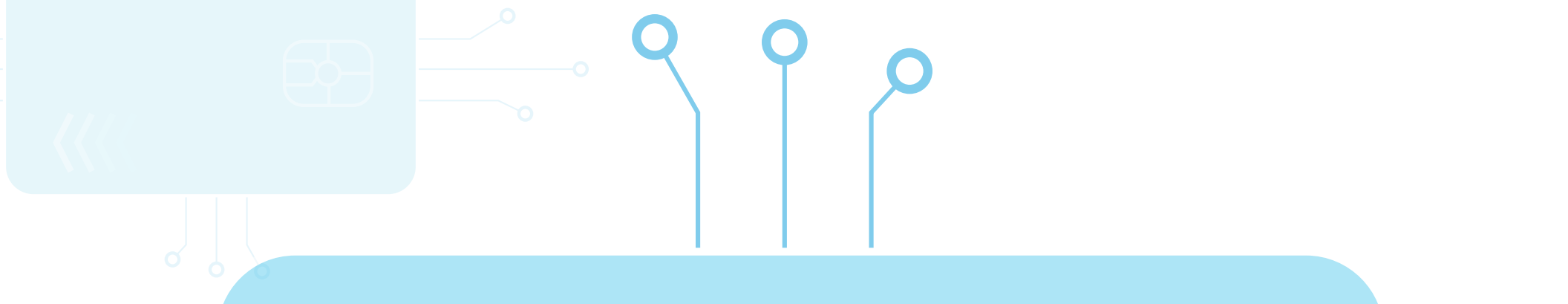


UNLOCKING THE DOOR TO FINANCIAL INCLUSION

THE PAPUA NEW GUINEA DIGITAL BANK
IDENTIFICATION CARD PILOT PROJECT





The Bank of Papua New Guinea (BPNG) requested support from the Asian Development Bank (ADB) to address the lack of official identification (ID) documents among many people, a major obstacle to opening a bank account. The challenge: find a robust, sustainable digital solution that could work in remote and rural areas with no internet access or electricity.

ADB provided financial support and convened technical and implementation partners to pilot a Digital Bank ID Card solution in rural Papua New Guinea. This also involved ADB providing support for the development of an e-Know Your Customer (e-KYC) framework and implementation of a regulatory sandbox for the BPNG, the first in the Pacific region. Agents from two microfinance institutions were given a tablet-based mobile enrollment device with a camera and fingerprint reader, and near-field communication smart cards that worked in online and offline environments. Over 2,500 subsistence farmers and small traders were enrolled and were able to use the Digital Bank ID Cards to immediately open a bank account. The solution was enthusiastically received by the cardholders, the microfinance institutions, and BPNG as an effective solution to the know-your-customer obstacle to financial inclusion in rural Papua New Guinea.

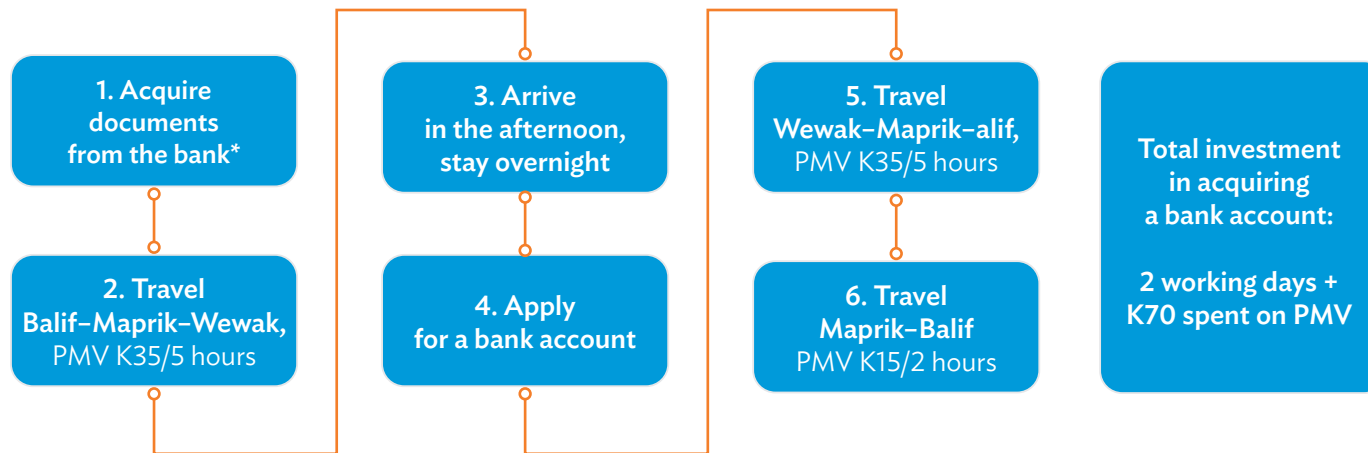
Background

In rural Papua New Guinea (PNG) where the terrain is challenging and public transportation is limited, one of the biggest obstacles to financial inclusion is the know-your-customer (KYC) challenge financial institutions face, when the majority of the population lacks official identification (ID). Without proof of identity, it becomes extremely complicated, and at times impossible, to execute basic financial services such as opening a bank account and making payments. This is also true for business and employment opportunities, as proof of identity is needed to validate a person's identity and credibility when seeking credit, for example.

Exclusion from the banking system forces people to remain in the cash economy, which in turn leaves them vulnerable to theft of their savings and economic shocks. Lack of a safe place to deposit, save, and invest money particularly disempowers women and exacerbates their financial vulnerability. To open a bank account, people lacking official ID must round up three letters from people of public trust, such as their village chief, ward councillor, or church minister, to vouch for their identity. They frequently must travel back and forth to the nearest physical bank branch, often forced to stay overnight at considerable cost.

In the late 2010s, the Bank of Papua New Guinea (BPNG), concerned that the banking sector's service to rural customers was decreasing, wanted to find ways to increase their financial inclusion. BPNG recognized that, for the time being, the mobile phone-based banking solutions transforming banking services for poor people in some African countries could not be adopted in PNG due to limited mobile phone use and lack of data connectivity at that time. Instead, they sought another solution that could overcome this limitation to work in remote areas without internet access or even mobile phone connectivity.

Example Process in Acquiring a Bank Account in Rural Papua New Guinea



* This may also sometimes require travel.
PMV = public motor vehicle, PNG = Papua New Guinea.
Source: Digizen.

BPNG in 2019 asked the Asian Development Bank (ADB) to design a pilot project to bring a digital ID solution to rural areas of PNG. The objective of the Digital Bank ID Card pilot project was to create a viable, innovative, convenient, and secure digital ID solution, with both technical and business feasibility, providing individuals in remote and rural areas a secure ID through biometric capture.

The Stakeholders



The Asian Development Bank

ADB provided financial support and knowledge and technical expertise, and was a neutral dialogue partner, contributing to open and constructive communication.



The Bank of Papua New Guinea

BPNG was data governor and set rules, standards, guidelines, processes, and policies. It oversaw enforcement by all participating entities and placed the technology provider in its regulatory sandbox for the duration of the pilot.



MiBank and Mama Bank

MiBank and Mama Bank were the executing agencies. Their agents enrolled cardholders to the Digital Bank ID Card scheme and issued cards, following standard rules and policies set out by BPNG as the data governor. They used the Digital Bank ID Cards to identify their customers for bank transactions such as account openings and cash deposits.



Digizen

Digizen, the Digital Bank ID Card system developer and operator, set up and managed the operations of the entire system and provided technical support for the financial institutions.



The Cardholders

The Digital Bank ID Card was aimed at people lacking previous official documentation but engaged in economic activity such as vanilla farming. They applied for a Digital Bank ID Card providing personal data for identification.

Regulatory Context

BPNG enabled the pilot with its establishment of a regulatory sandbox to test new business models, innovative services, and technological solutions in a safe environment, a first for the Pacific region. The Digital Bank ID Card pilot was an ideal candidate for entry to the sandbox, because it pertained to electronic know-your-customer (e-KYC) and it operated the service through cloud technology. While BPNG had regulations in place for customer due diligence, these had not yet specifically covered e-KYC. By providing regulatory relief, BPNG's sandbox ensured the project could be piloted. In parallel, BPNG assessed the existing Prudential Standards for Customer Due Diligence, taking into consideration e-KYC principles. Amendments to this regulation have been proposed and undergoing public consultation and is projected to be approved in September 2023.

ADB supported the development of a data governance policy that followed international best practice standards. BPNG, as the data governor, oversaw the the implementation of the pilot through the BPNG regulatory sandbox, guided by that policy. The regulatory sandbox, e-KYC framework, and data governance policy were key to establishing an enabling environment for the use of new technologies. Without these fundamentals in place, the Digital Bank ID Card solution would not have been implemented.

ADB convened stakeholders for the project and provided funding, bringing together BPNG; two microfinance institutions, Nationwide Microbank (MiBank) and Womens Micro Bank (Mama Bank); and a technology provider, Finnish start-up company Digizen. Organizers selected Maprik and Wewak as pilot sites—both villages around two towns in East Sepik province—where many subsistence farmers grow vanilla and cacao.

How the Digital ID Card Works

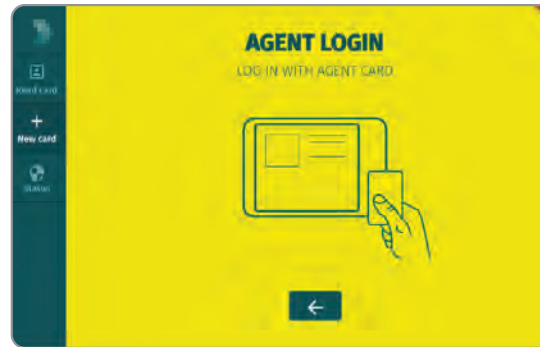
Creating the Card

The technology consists of a tablet-based mobile enrollment device with a camera and fingerprint reader and near-field communication smart cards. The agents capture identity attributes, photos, and fingerprints via a tablet-based mobile enrollment device. Vouching authorities (such as a village chief) can verify on the spot people who lack official documentation, then use their own Digital Bank ID Card and PIN code to create a digital signature for the immediate issuance of the Digital Bank ID Card. The process is quick and low-cost and can be done without immediate access to the internet. This mimics the current vouching process as recognized and prescribed in BPNG’s KYC regulations for financial institutions.¹

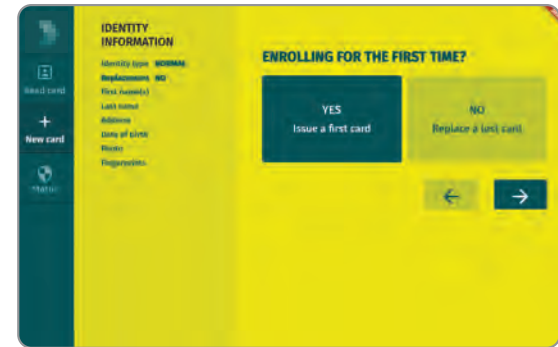
¹ Bank of Papua New Guinea. 2000. Prudential Standard BPS253: Customer Due Diligence Standards.



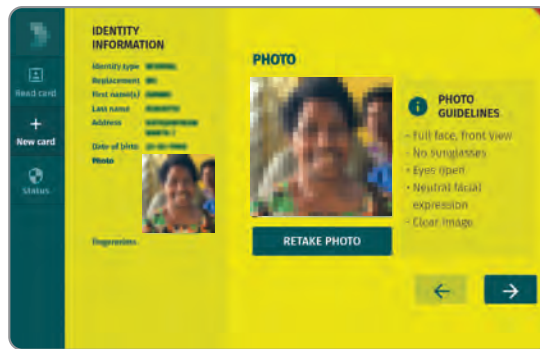
(1) Beginning of the Digital Bank ID Card enrollment process.



(2) Agents login by tapping their Digital Bank ID Card on the reader and entering their PIN code.



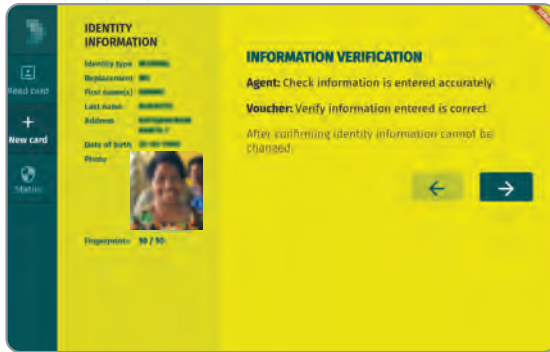
(3) Agents can create a first card or replace a lost card.



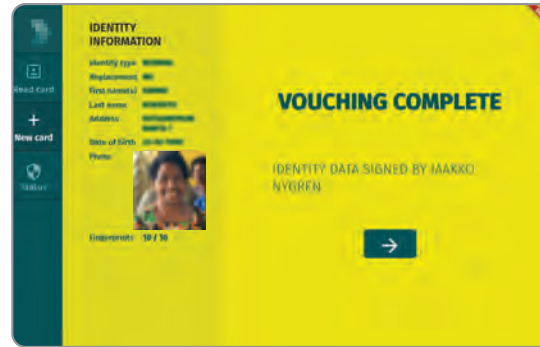
(4) Personal data is captured and entered including photo of individual.



(5) The person’s 10-digit fingerprint is captured.



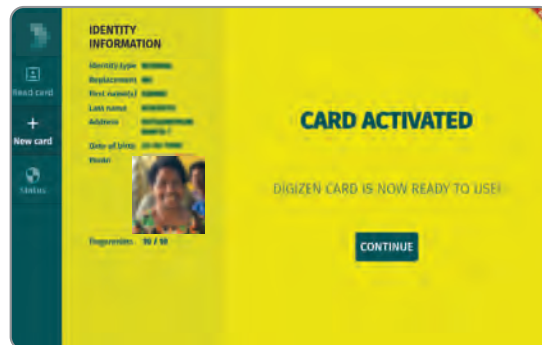
(6) The village chief checks and verifies the data on the enrollment device.



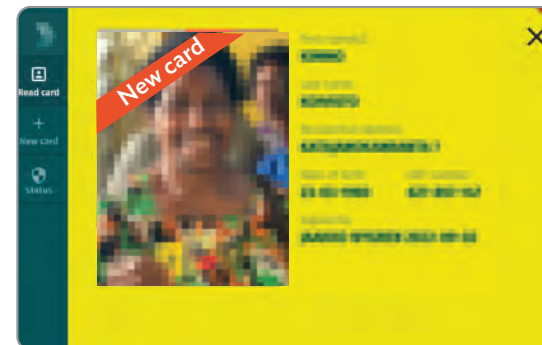
(7) The village chief digitally signs this with his or her own Digital Bank ID Card.



(8) The ID is ready to be written on the card. Agent places blank card near the near-field communication (NFC) antenna on the device, and the data is transferred to the card.

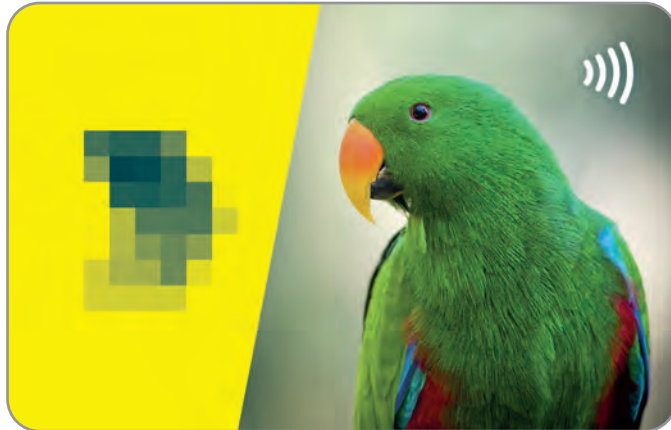


(9) The Digital Bank ID Card is activated and can be used immediately even with no internet connection.

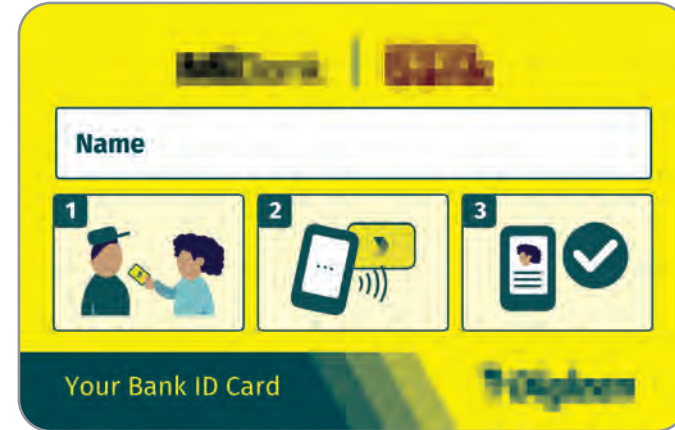


(10) Each time the Digital Bank ID Card is read, the photo and information above is presented.

The Digital Bank ID Cards



FRONT



BACK

Storing the Data

The personal data collected in the Digital Bank ID system is uploaded onto a secure registry that sits on cloud technology. The registry data is de-duplicated based on the collected biometrics (fingerprints) to ensure everyone is in the system only once. The cardholder can use the Digital Bank ID Card for KYC to become customers of MiBank and Mama Bank or for ID verification when conducting banking transactions. The solution can be integrated with the two microbanks' own customer records system, and is interoperable between the two participating financial institutions, enabling them to verify a person's identity regardless of which institution issued the card. The card can be read by authorized agents of the Digital Bank ID Card app using a near-field communication-enabled smartphone.

One of the objectives of the regulatory sandbox, and Digizen's entry into it, was for BPNG, as the regulator, to gain confidence that the solution did not entail risks of data leaks or data compromise. As such, the exchange of data in the system was kept to a minimum and the data approach made as simple as possible.



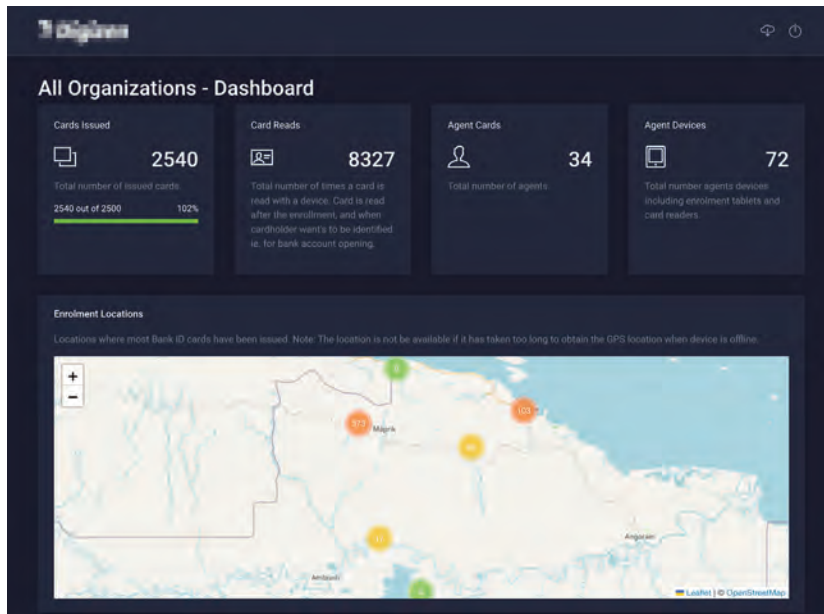
The Digital Bank ID Card Pilot

In early 2020, the Digital Bank ID Card solution was successfully concept-tested in six villages in East Sepik province. After delays due to the coronavirus disease (COVID-19) pandemic in 2020 and 2021, which prevented travel to PNG, and a global smart chip shortage, the pilot was launched on 29 November 2022 and ran for 3 months.

Pilot Launch

During the pilot launch, the Digizen team trained the microfinance institution agents on how to use the system and perform identity data collection and verification. They traveled with agents to villages around Wewak and Maprik to ensure the registration process and technology were working as anticipated, including in settings without reliable access to mobile phone reception, internet, or electricity.

Digital Bank ID Card Project Dashboard



Source: Digizen and OpenStreetMap.

For the next 3 months, agents issued over 2,500 cards and onboarded cardholders who were not existing bank customers. The cards were issued in villages, both near Wewak and Maprik and others that were far away, some reachable only by hours-long boat rides up the Sepik River. The agents' progress could be monitored remotely in near real time through a dashboard showing who were using the devices, how many cards were issued on any given day, and from which location they uploaded the card data.

At the same time as issuing the cards, the agents surveyed a sample of the customers. Together with the banks' cardholder data, the survey responses helped to document the cardholders' profile and better understand their motivation for getting the card.

The survey revealed cardholders had a median age of 43, but ranged from 19 to 71, an indicator of the widespread interest in obtaining the card, and the broad need for access to banking services. The project has a strong women's empowerment angle, with women accounting for around 45% of cards issued.

Most survey respondents were vanilla and cacao farmers, though many were also traders, as well as women vegetable farmers. Almost all had found that lack of ID had hindered opening a bank account, which they wanted as a safe place to keep money, to remit and receive money, and build their credit profiles to access loans. When asked about borrowing, most said they would choose to borrow from a financial institution, if possible, but few had been able to do so, and had instead borrowed from family and friends.

Voices of the Pilot Participants: the Cardholders

At the end of the pilot, the project team, including an impact study expert, returned to the pilot site to check in with the agents on how the card issuing and onboarding process had gone, and to meet some of the cardholders and find out what difference the card had made.

For the cardholders, being able to instantly open a bank account removed a barrier in minutes that had stood in their way for years. It was transformative in helping them to better prepare for their financial needs, obligations, and aspirations.

Financial Security

Saving was necessary for education costs and to prepare for unpredictable life events, such as medical expenses. As Rachel of Amahup village, Maprik said: “In my family, there are six kids and two aged parents. I’m saving for school fees and in case of illness.” For her neighbor, Anita, having the card, and opening an account, meant that she could take the cash from sales of her garden produce and keep it safe. “I want to deposit as much as I can,” she said, “and I want to feel more financially secure.” For Dorin, having a place to save money and build her credit eligibility was going to help her family establish another business outside vanilla farming, and help her community as well. “I live in a remote area, with little access to transport,” she explained. “I’m interested in applying for a loan so I can buy a vehicle for public transport, which is a big problem for mothers in our area.”

Co-op Formation

One key pathway for subsistence farmers to increase market access and exert more control over the price of their crops is through forming a cooperative. However, obtaining a commercial bank account for the co-op requires every member to have a bank account. When a single co-op can have hundreds of members, this creates months of delays while the paperwork for bank account opening is gathered.

Access to the Digital Bank ID Card would be transformational for setting up co-ops, according to Philip Lus, director of the Maligani Agriculture Producers co-op, which has over 400 members. “Only 10% of our members had a bank account prior to joining the co-op and they had accounts that were dormant. Now 30-plus members have the Digital Bank ID Card,” he said. With full access to the Digital Bank ID Card, an entire village of farmers could be onboarded in an afternoon.

Entrepreneurship


Similarly, for Desmond in Kukwal village, Maprik, having an ID and being able to open a bank account was a key step in furthering his ambitions for his business. As a participant in the European Union’s Support to Rural Entrepreneurship, Investment and Trade (the STREIT Program) in PNG, Desmond had added fish farming to his cacao and vanilla farming and goods trading businesses. But he wanted to go further, and set up a chicken farming venture too. “I didn’t have a bank account before. Without it, there are too many opportunities to spend money,” he explained. “The difference now is I save money. I’m saving K100 [\$28] a month for my business.”

Financial Literacy

The Digital Bank ID Card was also popular with village leaders, such as Wilson Yakioson, a Kukwal community leader. He is regularly called upon to write a letter vouching for a villager’s identity. With the card, he can do this instantly. He also notes how the card issuance increased opportunities for villagers to get more financial education. “The card makes banking very easy. When our villagers open an account, they also get education about how to manage their money, they gain financial literacy,” he said.

Voices of the Pilot Participants: the Microfinance Institution Agents

The Digital Bank ID Card got a full thumbs-up from the agents, who conveyed their clients’ great enthusiasm for the card. “People said ‘this is our dream’ to have an ID, so they can open a bank account,” said Solomon Dilyndiwi, MiBank’s East Sepik branch manager. “With a bank account they get to feel like any other citizen, they have a recognized form of ID.” Linda Manikut, Mama Bank’s Maprik team leader, agreed: “For the customers, we see the smile of relief, that this problem in their life [lack of ID] has finally been solved.”



The alternative—providing three letters from persons of trust—creates a high barrier to entry to banking, said Elvis Lavu, Mama Bank’s team leader in Wewak. “Over 95% of our customers are illiterate. If you ask them to provide three letters, they feel scared, and may not come back to open an account.”

A Savings Culture and the Role of Agents in Financial Literacy

Once an account is open, it facilitates financial literacy education and encourages a savings culture. This can change people’s livelihoods. As George Telek Lahui, a MiBank agent said: “When they save, they can borrow against their savings to buy, for example, a vehicle, or build a better home.” Promoting a savings culture takes time and education but being able to offer a unique ID solution alongside a bank account gave agents a tangible reason to do outreach. “One of my customers told me putting money in the bank is like taking a dead man to the morgue, as my money can’t make any money for me in the bank”² said Maureen Mobi, Mama Bank agent. She said, however, that she was able to explain that “putting money in the bank is safer and can help him secure a loan.”

A Few Technical Issues

Agents encountered a small number of technical issues. Two agents reported the app crashing, and one lost some cardholder data due to app deletion. There were some delayed de-duplications due to a server performance issue and two people received cards that were initially unreadable due to an error in certificate handling, but these delays affected only a handful of users and were quickly remediated. All the devices were in working order at the end of the pilot, and none were lost or damaged.

Success Factors and Lessons Learned

The Digital Bank ID Card pilot proved that the solution is fit for purpose. The technology is robust, easy to use, and solves the problem it sets out

to solve. There is clear demand from communities involved in the pilot to enroll cardholders. Crucially, the interests of BPNG, the participating microfinance institutions, their clients, and community leaders are aligned. The solution has a strong gender dimension and advances women’s empowerment, showing high acceptability among women.

Defining Success

ADB measures project success according to the criteria of relevance, effectiveness, efficiency, sustainability, and impact.² By overcoming the barrier to lack of ID, with a solution for which there was clearly high demand, the Digital Bank ID Card pilot project proved that the solution is relevant. Financial inclusion is key to economic and financial system stability and helps mobilize domestic resources through national savings.³ This in turn supports attainment of the Sustainable Development Goals (SDGs), especially SDG 8: decent work and economic growth; SDG 9: industry, innovation and infrastructure; and SDG 10: reduced inequalities.⁴

The project’s effectiveness lies in its ease of adoption. The technology was not the project’s main innovation; rather, it was getting the technology into the hands of those who had regular, trusted contact with the grassroots population that the project aimed to serve. The access to communities that MiBank and Mama Bank had was key to the project’s effectiveness. The project also helped BPNG refine its regulatory sandbox processes, which will help providers of other financial innovations entering the sandbox in the future.

From Months to Minutes

The project’s efficiency can be measured by how quickly it overcame a long-standing barrier to financial inclusion. The card issuance process takes minutes, and produces a robust digital ID that fulfills the criteria of the Financial Action Task Force (the global money laundering and terrorist

² ADB. 2014. *Annual Evaluation Review, The Use of Project Success Ratings*. Manila. <https://www.adb.org/sites/default/files/linked-documents/A-Use-of-Project-Success-Ratings.pdf>.

³ United Nations Capital Development Fund. 2023. *The Sustainable Development Goals*. <https://www.uncdf.org/sdgs#:~:text=Financial%20Inclusion%20creates%20more%20stable,helps%20to%20boost%20government%20revenue>.

⁴ United Nations. *The 17 Goals*. <https://sdgs.un.org/goals>.

financing watchdog) for digital ID in data collection and resolution, validation, and verification.⁵

At this stage, it is too early to assess the sustainability and impact of the Digital Bank ID Card pilot. These will depend on whether and to what extent the solution is adopted post-pilot, which hinges on the commercial negotiations between the technology provider and financial institutions. In the early days of commercialization when volumes are low, it would be impossible to roll out Digital Bank ID Card with income financing only, and it would require external funding from private investors, development organizations, or from the government. Once sufficient volume is reached, the system can become self-sustaining and potentially profitable.

A key success factor was that the technology helped microfinance agents achieve their business goals. The project also could not have succeeded without the support of the BPNG and buy-in of both management and agents, and their efforts in socializing the solution with village leaders ahead of the enrollment drives, and their patience and hard work in educating villagers about the card.

The work to enhance the due diligence standards to encompass e-KYC and the regulatory sandbox were also key to the project's success. This ensured the regulatory foundation was in place and a safe environment in which to test the solution. In May 2023, Digizen graduated from the BPNG regulatory sandbox and began commercial negotiations with Mama Bank and MiBank on continued adoption of the Digital Bank ID Card.

Other Uses for the Digital Bank ID Card

The ease of adoption of the technology in low-resource settings and the way it overcame illiteracy and lack of official ID point to uses by other financial institutions and in other ways. It could be used as a form of ID to purchase domestic airline tickets, for example, or vouch for a parent's identity when enrolling a child in school.

The solution used in this pilot has potential for adoption in other development projects, such as the ADB initiative with Agunity (an award-winning technology provider, creating digital solutions that integrate remote farming communities into global supply partnerships) to deploy digital payments to vanilla farmers in PNG. The solution could also be used as the identification method for receipt of development-linked conditional cash transfer payments.

Beyond Finance

One of the solution's most exciting potential uses is in health care. A unique health identifier is foundational to health equity because it helps ensure continuity of care across different sources of health service delivery and across the life course. A digital health ID also enables collection of population health data and is key to implementation of health insurance. By supporting equitable access of quality health services without undue financial hardship, it serves the goal of universal health coverage. A digital ID card such as the one used in this pilot project could fulfill that role. However, envisioning its use beyond the bottom-of-the-pyramid banking sector raises two critical success factors: having a network of trusted individuals to vouch for the solution and implement it, and identifying a suitable data custodian.

Beyond Papua New Guinea

The financial inclusion challenges that BPNG set out to address are by no means unique to PNG. An estimated 850 million people in the world lack identification and therefore cannot access services and obtain their rights. Onerous procedures, inefficiencies, and documentary requirements remain a significant barrier to obtaining an ID for people in many countries.⁶ The Digital Bank ID Card solution has demonstrated in PNG that it can help overcome these barriers, especially among marginalized and vulnerable groups. The solution provides a credible alternative in any resource-constrained setting to establishing verified identities meeting the high assurance required for services such as banking.

⁵ Financial Action Task Force Guidance on Digital ID. <https://www.fatf-gafi.org/en/publications/Financialinclusionandnpoissues/Digital-identity-guidance.html#:~:text=A%20robust%20digital%20ID%20can,consultation%20with%20the%20private%20sector.>

⁶ ID4D, GLOBAL DATASET, Volume 1 | 2021 Global ID Coverage Estimates. [https://documents1.worldbank.org/curated/en/099705012232226786/pdf/P176341032c1ef0b20adf10abad304425ef.pdf.](https://documents1.worldbank.org/curated/en/099705012232226786/pdf/P176341032c1ef0b20adf10abad304425ef.pdf)

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⁷ Established by ADB. Financing partner: the Government of Luxembourg.

⁸ Administered by ADB. Financing partner: the Government of Japan.

⁹ Administered by ADB.



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