



Informed Design: A Case Study Series

Insights from Women's Micro Bank Limited (WMBL) & UNCDF

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Good design can mean the difference between a woman using digital financial services (DFS) or not. It is a crucial part of every stage of the customer journey – not just for user interfaces or marketing approaches. Despite its importance, DFS design doesn't always consider women's lives and realities, resulting in low adoption and usage of products and services. This is one of several case studies looking at the role of design in DFS for women across South Africa, Uganda, and other geographies – focusing on examples where research findings have translated into design that can ease and encourage women's use of DFS.

Women's Micro Bank Limited (WMBL) is a licensed microbank regulated by the Bank of Papua New Guinea that aims to empower Papua New Guinean women and their families through the provision of simple and accessible financial services offered in a sustainable manner.

United Nations Capital Development Fund (UNCDF) is the United Nations' capital investment agency focused on the world's 46 Least Developed Countries (LDCs).

Background

Papua New Guinea (PNG) has a unique geography of highlands, islands and waterways that make domestic movement difficult for the 10 million largely rural (87%) population.¹ Low mobile penetration and a limited number of brick-and-mortar banks have contributed to around 75% of the total population remaining excluded from the formal financial sector,² with women significantly less likely to have access to financial services than men.

Women's Micro Bank Limited (WMBL), previously known as the PNG Women in Business Micro Finance Institute Limited, was established in 2010 with the aim of providing basic financial services to unbanked women in rural areas of PNG – easing challenges in

accessing, registering and using formal financial services. WMBL received its banking business license in May 2014 and is regulated by the Bank of PNG. It is the first women's microbank in the Pacific region, and more than 9,000 women bought shares to raise the capital required for the banking license.

However, this license only enabled WMBL to open one physical branch, and with a disbursed potential client base, the organization initially struggled to successfully attract, verify and onboard new women clients. To understand specific pain points along the customer sign-up journey, WMBL examined how existing operations and processes affected the customer experience,

¹ World Bank, 2021. See: <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=PG>

² (Second) National Financial Inclusion Strategy 2016-2020. See: http://mddb.apec.org/Documents/2018/SMEWG/DIA/18_smewg_dia_008.pdf



and joined forces with UNCDF (the UN Capital Development Fund) to bolster its efforts, drawing on UNCDF's knowledge and experience in employing emerging technologies in developing markets.

UNCDF began its financial inclusion operations in PNG in 2009, working across digital financial service providers to develop an *"inclusive environment for inception and scale up of digital financial services."* Their strong grasp of PNG's financial inclusion ecosystem, knowledge of global trends and ability to leverage wider resources were paramount in forming a partnership with WMBL.

Research

WMBL's existing client base and offered an organic means of research and attaining insights across the business. Branch staff, frontline staff and market staff already met weekly to ensure that each business unit was sharing information and that any issues were surfaced. Through these meetings, several challenges were identified. These included:

- **Access to banking structures.** The majority of WMBL's current and potential

clients live in rural areas and would have to travel significant distances to get to a bank branch. Compounding the issue, PNG's limited infrastructure – roads, electricity, public transport – further impacts already lengthy travel times.

- **Low literacy levels.** Less than 58%³ of women in PNG are literate, resulting in women commonly authenticating financial transactions with an "X" rather than a signature, putting transactions and accounts at risk of forgery.
- **High costs of borrowing for low-income women.** The operational costs of reaching out to rural communities for pre-appraisal and again for repayment collection were significant for WMBL, who then had to pass these costs on to their clients by way of interest rates, deposit requirements and bank fees, rendering the loans unaffordable for many.
- **Know Your Client (KYC) requirements.** Despite ongoing investment, the majority of PNG's population (80%) lack a national identity.⁴ WMBL's new clients were informal sector vendors, the majority of whom did not have an ID, proof of address or credit history and were largely cash-based, resulting in arduous KYC verification.

³ World Bank data, September 2021. See <https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?locations=PG>

⁴ Highet et al., 2019. See: <https://www.gsma.com/mobilefordevelopment/resources/digital-transformation-the-role-of-mobile-technology-in-papua-new-guinea/>

UNCDF and WMBL's research approach included conversations with its own staff, direct customer research and feedback from the Women in Business Network, comprised of women entrepreneurs onboarded in 2010 during the first phase of the bank. The Women in Business Network was still active throughout the research phase and consisted of both budding and existing small business owners supporting each other to launch and sustain small businesses. The group provided an established and robust means of both testing initiatives and soliciting feedback.

The joint team spent a year carrying out light touch research and scoping client needs. During this time, a dedicated technical advisor met clients, examined the customer experience, mapped out processes and systems and studied WMBL's operations manuals, templates and onboarding protocols. Through this process, the technical advisor was able to examine the assumptions made about WMBL's process and clients, determining what changes (if any) needed to be made to the documents and processes studied.

Based on their initial findings, WMBL's design strategy was predicated on two purposes: to introduce banking points and viable lending options to densely populated rural areas, and to usher in a biometric identification and authentication solution that would offer greater ease and security of transactions for WMBL'S clients.

Turning Research into Design

To address the physical access challenges faced by women in their client base, WMBL piloted a branchless banking solution – the Mama Bank Access Point (MAP) initiative – in six locations across PNG: Kwikila, Kerema, Madang, Maprik, Goroka and Port Moresby.

The initiative was developed and carried out in partnership with UNCDF.

The MAPs are compact low-cost structures, operated by a small team using a tablet linked to a biometric reader and a Bluetooth printer. Each MAP station is managed by a team of three full-time WMBL staff: a manager, a transaction coordinator, and a business development coordinator. The full-time status of the staff offers clients more consistent coverage, with staff working at fixed locations. To onboard, customers undergo a fingerprint scan which is then used (along with their banking passbook) to verify their account and perform transactions.

WMBL and UNCDF monitored the pilot phase closely, working with the already robust Women in Business Network to improve awareness of the initiative. In addition, they partnered with local radio stations, providing messaging in the local language, Tok Pisin, to educate the public and alert them to the MAP locations. The Women in Business Network was key in providing early WMBL members with an updated view of the bank, portraying it as 'their' bank and sharing information about products, services and the new biometric model.

A few months after the launch of the first rural access points, several issues emerged and were responded to accordingly:

- **Inconvenient locations.** Two of the MAPs were not conveniently situated for the communities they were trying to service and needed to be moved closer to settlements or market centers, allowing more women to reach them. Thereafter, WMBL noticed a significant increase in the volume and value of transactions.
- **Unease with new technology.** Initially, understanding and perception of biometric technology amongst women customers was inadequate – local communities were unfamiliar with the concept. To counter this, Women in

Business galvanized its network to improve awareness through education campaigns that emphasized its ease of use.

- **Limited power supply.** PNG's intermittent access to energy and its effect on the MAPs reduced confidence in MAPs services. WMBL/UNCDF purchased solar-powered chargers for tablets, alleviating this disruption.
- **Security concerns.** There were concerns around transporting excess cash from some of the more rural MAPs to the bank. In response, one such MAP was moved closer to the nearby commercial bank providing liquidity.
- **Biometric challenges.** Initially, just two fingers were scanned for a biometric reading, but MAP staff soon noted that clients' fingers were often swollen after a day in the garden or market and difficult to scan. To counter this, they began scanning all 10 fingers. While the quality of the data remained the

same, scanning 10 fingers instead of two provided more data to triangulate and verify the customer's identity.

- **Inconsistent connectivity.** Precarious mobile phone network access meant that tablet service was often interrupted, threatening women's trust in the system. To lessen the disruption, access points were programmed to automatically switch from one network provider to an alternative when the primary operator was down. In addition, WMBL and UNCDF worked with the biometrics provider to make an offline version of the tablet available.

As these initial pain points were resolved, customer transactions increased threefold, reflecting a growing interest and confidence in the use of the biometric system by women. Furthermore, the bank's shareholders, (originally 9,000 women customers), have since increased to 13,000 as the bank successfully raised further capital. Messaging that detailed the rationale



Key Insight	Corresponding Design Element
Most women clients had no formal ID and low levels of literacy, signing documentation with an “X” instead of their names. This created challenges for KYC and verifying customer identity when making a financial transaction.	UNCDF and WMBL introduced biometric scanners, using fingerprints to confirm women's identities.
Frequent power and connectivity outages created disruptions in transactions, eroding women's confidence in the system.	WMBL addressed connectivity issues through programming automatic operator switching, as well as allowing for offline processing. Alongside Women in Business' ongoing dialogue, this fostered an understanding and trust in the system.
Traditional banks' lending costs (interest and bank fees) for women were high due to operational costs and perceived risk, rendering borrowing out of reach for many women.	UNCDF created a credit guarantee to lower WMBL's risk, enabling them to extend affordable loans to more women borrowers, free of deposit requirements.
When women used the biometric scanner immediately after working in the garden or the market, their fingers were swollen, making it difficult to get an accurate fingerprint read of the two fingers used.	WMBL increased the number of fingers scanned to 10. This produced more data points, so even if women's fingers were swollen the scan could accurately triangulate the identity of the customer in question.

behind the MAPs and explained the move to a biometric solution built trust and a sense of continuity with both existing and potential clients.

The biometric solution doesn't rely on women holding technological artifacts – clients are not offered an ATM card, nor do they require a mobile phone. While WMBL does collect mobile phone numbers from those who have them, the country's low mobile penetration rate and gender gap mean that very few women do. With the biometric verification in place, accounts can only be accessed with the customer present.

Without a widely deployed national foundational ID system, WMBL's biometric solution offers a *functional*⁵ alternative – as the Government of PNG does not yet have the infrastructure to recognize biometrics, there is not currently a path to integrate this with the national ID or reduce KYC restrictions. PNG's national ID system (*foundational*) does not yet include the majority of the population, so biometric data cannot be used to reduce the central bank's KYC requirements.

Results

Prior to launching the MAPs, WMBL had a total of around 15,000 customers, with just over 8,000 active customers. At the conclusion of the pilot phase, the number of active accounts had increased to over 20,000 with a total customer base of over 32,000. Today, the customer base is around 85,000, with approximately 55% active.

Following the success of the pilot, UNCDF provided WMBL with support to expand the MAPs into other parts of the country, targeting an additional 20,000 women within a year. These new customers have brought the overall lending portfolio up from PGK 3.5 million (USD 980,000)⁶ in January 2019 to PGK 6.4 million (USD 1,800,000) in December 2019. Savings mobilization also increased from PGK 6 million (USD 1,690,000) to PGK 9 million (USD 2,530,000) over the same period.

5 ID4D Practitioners Guide, 2019. See: <https://documents1.worldbank.org/curated/en/248371559325561562/pdf/ID4D-Practitioner-s-Guide.pdf>

6 1 Papua New Guinean Kina equals 0.28 USD. May 17, 2022

Looking Forward

To begin to address the cost of credit, UNCDF set up a revolving guarantee fund of USD 450,000 that is fully capitalized and will reduce the current 20% deposit requirement for new customers. The guarantee will cover the first loss of 25% of the loan portfolio, meaning that WMBL can leverage four times the capitalized credit, enabling them to offer up to USD 1.8 million (PGK 6.4million) worth of loans to women market vendors. At present, WMBL's average loan size of PGK 5000 (USD 1,420) can only be extended to 320 women. With the guarantee fund, the average loan size could be increased to PGK 20,000 or the number of loan beneficiaries could be increased to 1,380 women. This is the first time UNCDF has offered a 'portfolio guarantee.' It is supported by UNDP and UN Women and is set to launch in 2022.

The positive impact of WMBL's biometric banking system has also triggered the launch of similar initiatives by other banks within PNG, although these initiatives remain nascent.

Finally, UNCDF and WMBL recently launched a partnership with CGAP to address the challenges of women working in small-scale agriculture and as market vendors through skills building and market-based financial services.

All photos courtesy of WMBL.

