

Circular Financial Identity – The Missing Piece for Financial Inclusion

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Financial inclusion remains a critical global issue, with approximately 1.4 billion people still lacking access to formal financial services. Traditional financial systems often exclude marginalised populations, such as low-income individuals, women, rural communities, and refugees.

The Circular Financial Identity (CFI) concept was developed out of Defy. Defy is a FinTech company created by xcube.co to leverage technologies and public-private partnerships to offer inclusive financial products to the underserved community.

Unlike traditional digital identities that rely on static information and centralized databases, CFI employs a dynamic, decentralised, and interoperable system. This allows under-documented individuals and Micro, Small & Medium Enterprises (MSMEs) to gradually build their financial identity by

capturing their digital financial footprint across various domains such as earning, spending, borrowing, saving, investing, and lending.

The continuous accumulation and reuse of financial data create a comprehensive, robust, and evolving picture of their financial behaviour and capabilities, enabling access to a broader range of financial services.

Imagine Amina, a young woman with dreams of starting her own tailoring shop.

It's not just a livelihood – it's independence and hope for her family's future. But like so many others in her community, Amina is held back by barriers:

- No access to formal financial services.
- Limited financial literacy.
- No credit history tied to her name.

Now, imagine a solution that could change her story, empowering her to rewrite her and her community's future. With CFI, Amina can now be onboarded to a financial identity profile through decentralised KYC process. It captures her digital financial footprint over time.



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The continuous accumulation and reuse of financial data create a comprehensive real-time risk scoring that enables financial institutions to offer women like Amina various financial products with a risk-based approach.

The vulnerable populations constantly struggle in survival mode, they prioritise their financial needs over other matters. As a business, it's our priority to take care of the consumers and ensure we comply with the regulations to protect the public.

CFI relies on technologies such as blockchain, artificial intelligence (AI), and advanced data encryption to enhance data privacy and transparency. These technologies provide an immutable ledger, offering transparent audit trails and reliable data computation while preserving privacy. For example, we apply zero-knowledge proofs (ZKPs) while handling data, a cryptographic method used to prove knowledge about a piece of data, without revealing the data itself.

Our infrastructure is designed in a way there is no single point of failure. We use Multi-party computation (MPC) technology, in a general sense, MPC enables multiple parties – each holding their own private data – to evaluate a computation without ever revealing any of the private data held by each party or any related secret information, which is widely utilised in digital asset security today.

Lastly, digital literacy is essential when it comes to offering solutions to vulnerable populations in less developed regions. Individuals must have the digital skills to use CFI systems. Financial education and digital literacy programmes will help bridge this gap.

At xcube.co, we have been on a mission to transform the lives of 130,000 vulnerable women, weaving a narrative of empowerment and resilience.

Imagine a refugee mother, once trapped in the cycle of financial exclusion, now holding a digital wallet that serves as her gateway to a brighter future. Through our innovative platform, Defy, she can now build her financial identity by recording her cash transactions and access a tailored savings account setting segregating her personal and small business finances. As she transacts, she can gain access over time to microloans to expand her small business, and insurance to protect her family—all while gaining financial literacy through her mobile device. Not only is she now economically empowered but she is now a stable pillar for her community's resilience against future shocks.

Defy measures its impact on financial inclusion by capturing transformative stories and tracking quantitative and qualitative indicators. These indicators reflect how women transition from cash to digital economies, gain access to tailored financial products, and show improvements in financial literacy, resulting in resilient financial identities. Each success story, which includes milestones like income growth,

A woman in a red hoodie is walking away from the camera, carrying a large, dark metal bucket on her head. She is walking through a green, hilly landscape. The text is overlaid on the right side of the image.

“Build ideas that elevate humanity; I believe technology is an enabler to make our world a better place.”



improved savings habits, and newfound economic stability, is a testament to the power of financial inclusion. By partnering with NGOs and international organisations, Defy not only collects data on these outcomes but also ensures that these women are seen as empowered individuals, not just numbers. These partnerships help align efforts with both individual needs and institutional risk mitigation requirements, while regular assessments evaluate the broader impacts of financial inclusion, such as increased economic participation and reduced vulnerability, thus inspiring global change.

As we gear up to present our achievements at the UN International Conference on Financing for Development, we aim to catalyse a global movement. The initiative's success promises to secure international funding and act as a beacon of hope for communities worldwide. Through Defy, women are not only transforming their own lives but are also setting the foundation for sustainable financial inclusion globally.

Recall Amina's story?

Countless women like her across the Middle East seek to expand their businesses and enhance their family's well-being.



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To support this, we've formed a public-private partnership with UNFPA, Shamsaha, UNIDO, and a Middle Eastern development bank, illustrating our commitment to a holistic ecosystem strategy. Shamsaha, the region's leading women's crisis response program, offers 24/7 multilingual psycho-social first aid in ten countries, including in conflict zones like Sudan and Palestine. Through partnerships with UNFPA and Shamsaha, we plan to integrate over 130,000 women into the financial system using the Shamsaha App. Concurrently, our collaboration with UNIDO and the development bank aims to extend comprehensive financial inclusion (CFI) to hundreds of thousands of MSMEs, enabling them to grow their businesses and provide better for their families.

In the immediate next phase, we look forward to replicating the model we implement in the Middle East in Southeast Asia countries including Malaysia, Indonesia, Philippines, Cambodia, Thailand and Singapore. We have started the discussion with several implementation partners in these countries with a specific demographic focus on Women & MSMEs. And we look forward to kicking off the partnership formation with a focus on refugees & gig workers.

Building Ideas That Elevate Humanity is the core of everything we do at xcube.co. This also aligns with my personal values I believe technology is an enabler to make our world a better place.

We are actively seeking long-term strategic partners to enhance our initiatives across ASEAN. Our needs include funding support from investments, corporate social responsibility funds, and government grants to accelerate our impact. We aim to establish corporate partnerships that offer scalable solutions benefiting underserved communities while yielding mutual financial gains. Additionally, we seek implementation partners among non-profits and grassroots communities to broaden our outreach. Collaborating with governments and policymakers to shape inclusive financial policies is also a key focus of our strategy, so if you'd like to be part of this initiative, do connect with us on LinkedIn!



About the Author: Eelee Lua is a seasoned professional in the Governance, Risk, and Compliance (GRC) sector since 2012, specializing in financial services compliance through due diligence and investigations. Transitioning from client success roles to technology, she embraced the tech-driven environments of health and HR startups, joining AsiaVerify in 2020 as its first Singapore employee. AsiaVerify, a leading RegTech company, enhances business verification processes in APAC, pivotal for the FinTech ecosystem. In 2021, she joined the Women in FinTech sub-committee of the Singapore FinTech Association and became a Singapore FinTech Festival ambassador in 2023, significantly expanding my global network and promoting the festival internationally. Currently, as Chief of Staff at xcube.co, she leverages her expertise in FinTech, RegTech, and strategic partnerships to foster venture building and impactful collaborations in ASEAN and the Middle East, focusing on elevating humanity through innovative corporate-startup partnerships.