



GOING DIGITAL

What's Next for Vanuatu in Blockchain Innovation?

Policy and Regulatory Recommendations
for Financial and Economic Inclusion

FOREWORD

The rapid development of blockchain technology and digital payment infrastructure globally has meant that the identification of suitable integration pathways has been somewhat daunting task for regulators and policymakers alike in many Pacific Island Countries.

This paper provides Vanuatu with a snapshot of some of the actual development opportunities that could be leveraged by integrating access to blockchain technology into the country's legislative framework. It succinctly identifies how this technology can be the catalyst to assist in achieving the country's 2030 NSDP Goals.

We are grateful for the contributions of such a broad group of stakeholders, including regulators, the private sector and donor partners, who have been invaluable in shaping a suggested regulatory pathway forward.

CREDITS & ACKNOWLEDGMENTS

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OXFAM



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EXECUTIVE SUMMARY

About the UnBlocked Cash Project

Many would consider Vanuatu to be host to significant constraints of digital innovation at the national level, including gaps in infrastructure, limitations in financial and digital inclusion and recurrent exposure to natural hazards across extremely complex geography. Despite these challenges, Oxfam and partners from the private, public and social sectors made global headlines in 2020 for being one of the first international examples of using blockchain infrastructure

and payment systems to deliver a large-scale, long-term humanitarian recovery programme at the national level. From October 2020 to July of 2021, the UnBlocked Cash Project by Oxfam hosted a broad and inclusive network of partners, including local and international NGOs and civil society groups, financial institutions, Provincial governments and the critical support of a private sector network of over 350 business partners.

“What the UnBlocked Cash Project did for Vanuatu wasn’t just about humanitarian delivery – it demonstrated that with a concerted, multi-stakeholder effort and investment, blockchain technology is feasible across Vanuatu. Furthermore, it represents a potential stepping stone to “leapfrog” further in other areas, such as expanding the digital economy, improving financial transparency and resource management, growing e-commerce, and in the expansion of digital financial services to enhance financial inclusion”.

The Vanuatu Business Resilience Council played a central role in these efforts, demonstrating the extent to which private sector support and partnership is a critical component for fast-tracking digital innovations at scale and in a truly inclusive and multi-sectoral manner. In addition, the same collaboration highlighted what many don’t know about Vanuatu: that the private sector is extremely diverse, that community networks are vast and close-knit, and small and medium-sized businesses are the driving forces of Vanuatu’s economy. All of these elements are central to any concerted effort to mitigate the multiple natural disasters to which the country is prone.

The UnBlocked Cash Project was initially developed as a rapid mechanism to simplify providing cash and voucher-based humanitarian assistance to remote and vulnerable populations in Vanuatu. The initiative provided extensive evidence on impact to demonstrate the use of blockchain technology to speed humanitarian delivery, post-disaster household and local economic recovery.

Purpose and Structure

Today, the level of impact and user and stakeholder interest in the UnBlocked Cash Project clearly demonstrates a need to look closely at how this effort makes a case for broader and longer-term sustainable adoption of blockchain technology for financial and economic inclusion. To do so, **Oxfam, Pacific Advisory and donors engaged in an effort to examine how these lessons can be translated into further use cases and appropriate policy and regulatory adaptations.** These are required steps to make this technology widely available and accessible to everyone – above and beyond intermittent humanitarian and development projects.

This paper seeks to make the link between the experience and use of blockchain technology for the facilitation of payments to businesses and individuals in and during the UnBlocked Cash Project, and what this tells us in terms of what can be done to harness future opportunities for the use of blockchain technology by Vanuatu’s private sector and government.

SECTION 1 of this paper describes some of the key findings of the UnBlocked Cash Project specific to Vanuatu and the use of the technology for humanitarian response from 2019-2021.

In **SECTION 2**, Pacific Advisory shares the findings of extensive face-to-face discussions and surveys conducted with stakeholders beyond the humanitarian sector, but who are likely to be most concerned with broader adoption of blockchain in-country: government, financial professionals, and the business community. With this as a foundation, we then build evidence through analysis of interviews and consultations conducted in 2022 with key informants across government, financial services and the business sector. This analysis demonstrates a demand-driven orientation towards the relevant regulatory adaptations and policy measures, some of which may be enabling or inhibiting more open engagement and use of blockchain technology.

Moving from theory and feedback into practice, we then use **SECTION 3** to present, analyse and explain three blockchain “Use Cases”, or scenarios where blockchain can be used, and context-adapted for Vanuatu. We present uses that demonstrate a clear alignment with the learnings of UnBlocked Cash and provide detail around the strengths and functions of blockchain technology, and how it could be integrated into Vanuatu’s economic and national development goals. Regional and global examples from similar small island developing states and emerging economies that share similar contexts and capacities will also be used to demonstrate what is feasible and relevant to Vanuatu’s long-term development.



USE CASE 1

Digital and Decentralized Finance:
Solutions for Financial Inclusion



USE CASE 2

Central Bank Digital Currencies:
A Leadership & Compliance Opportunity



USE CASE 3

Digitizing National ID Systems:
Government Systems & Access to Services

The latter portion of the paper, Section 4, then zooms in on the intersection of policy, legislation and regulatory risks and opportunities. This section is focused on the public sector and government, including current and potential policy and regulation, gaps, risk considerations. It provides mapping of policy and regulatory recommendations. Furthermore this section is designed to provide policy-relevant analysis and ideas on what is required – and what new opportunities may exist – to create an enabling legal environment for more accessible use of blockchain technology by all national stakeholders; to mitigate risk, and at the same time fast-track

progress towards Vanuatu’s financial and economic growth and inclusion goals.

Methodologically, this study applies a mixed method approach that combines quantitative surveys, qualitative discussions with stakeholders, and desk research. Sources used in research include academic and media sources, policy, legislation, and regulatory documentation, and public reports from Oxfam, the Government of Vanuatu, and other key donors and stakeholders in Vanuatu and throughout the region. These sources are primarily intended to support contextual analysis.



Recommendations

In the final section, this study wraps up with recommendations across each significant area of analysis (below). These sections also discuss other actions required of the variety of stakeholders who will need to support and sustain their contributions and engagement in efforts to bring the benefits of blockchain innovation to Vanuatu in a practical, ‘de-risked’, feasible and inclusive manner.



STAKEHOLDER RECOMMENDATIONS: are provided to consolidate the research analysis and **provide actionable suggestions aligned with the needs, interests and priorities** of the stakeholder groups engaged in the study. These recommendations are cross-cutting and applicable to those such as **donors, policymakers, regulators, private sector enterprise and development partners who wish to explore blockchain technology.**



POLICY RECOMMENDATIONS: details specific recommendations arising from the research. These are **broken down by policy area, accompanied by a listing of Vanuatu’s relevant policies and the corresponding areas of legislation concerned by each recommendation** in question. This section is targeted towards policymakers and regulators specifically but should also act as guidance for donors and others, such as compliance-concerned companies or service.



RECOMMENDATIONS ROADMAP: This section provides an **action-oriented sequence of recommendations detailing specific measures that can be implemented in Vanuatu, in the short term (i.e. within 2 years). It is intended to be a practical guide for donors or government stakeholders who wish to make tangible progress towards blockchain adoption** in an evidence-based manner, builds capacity and is adapted to existing regulation and policy.



01

A Way Forward – Lessons and Opportunities from UnBlocked Cash

The UnBlocked Cash Project: A leap forward in digital innovation

The UBC project teaches a few key lessons when it comes to expanding the use of blockchain in Vanuatu. When it comes to evolving technologies being used within communities the most important factor is whether or not people will actually use the technology. The UBC project shows that should blockchain payment systems be implemented more widely, people will be ready to use them, and even potentially prefer them should circumstances allow (i.e., vendors of all sizes/inventories using the system).

Secondly, the UBC project shows that with blockchain technology behind payment systems there is increased cost and time savings for beneficiaries. In looking at the expansion of use of blockchain across the country this means cost and time savings for all, and most importantly rural and underserved populations. Being financially excluded comes with additional costs both monetary and in terms of time, when it comes to transacting. Thus with expanded blockchain use, rural and underserved populations will no longer be penalized monetarily and time wise for not being in a municipal center. With these increased time and cost savings, rural communities are more free to transact, save, and invest in their livelihoods, communities and futures.

Now, how does one go about expanding the wealth of knowledge stemming from UnBlocked Cash to generating a more open and enabling environment for Government and other stakeholders? How to ensure that the positive and sustainable impacts thus far aren't a missed opportunity? Arguably, 'leapfrog' innovations such as UnBlocked Cash should not remain the domain of the humanitarian sector. As some of the use cases in this paper demonstrate, the majority of blockchain innovations in emerging markets require support and adoption by local business and national governments to truly harness the technology's potential for long-lasting, wide-ranging impact that is economically beneficial and well-integrated. Ideally, these impacts should extend beyond the limits of a single, exceptional project or organization.



Do you think that private sector parties have the responsibility to remove or reduce these barriers?

"I think the private sector has a role to play in removing these barriers but they are not solely responsible nor will they be successful if they try to do this alone."

UBC as Vanuatu's First Blockchain Use Case

From 2018-19, Oxfam led the humanitarian community in piloting a global first – a digital cash transfer system, built on blockchain technology and developed hand-in-hand with local communities and Sempo, an Australian-based fintech startup. The UnBlocked Cash Project (UBC) was successfully piloted in two communities in Vanuatu and garnered global attention from the media, humanitarian sector and the blockchain community. This demonstrated that with the right skills and community engagement, even a human-centred approach can lead to success in deploying innovative technologies to help reach the most remote communities.

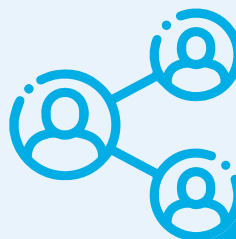
Oxfam and 18 consortium partners implemented UBC at scale in 2020 – 2021 in response to the Covid-19 pandemic and Tropical Cyclone Harold. The project covered three provinces in Vanuatu: Sanma, Shefa and Tafea Province. Technical oversight was provided by Oxfam (OIV) and was implemented by Save the Children, World Vision, ADRA, Vanuatu Church of Christ (VCC), Churches of Christ Conference of Vanuatu (CCCV), Vanuatu Red Cross Society (VRCS) and the Vanuatu Business Resilience Council under the Chamber of Commerce and Industry (VCCI). Funding was provided by the government of New Zealand through its Ministry of Foreign Affairs and Trade (MFAT), the Australian Department of Foreign Affairs and Trade (DFAT) through the Australian Humanitarian Partnership (AHP) and the International Organization for Migration (IOM).



300 million
VUV to



24,465 people
via a network of



358 Businesses
across

13 islands in
3 provinces:

Sanma
Shefa and
Tafea

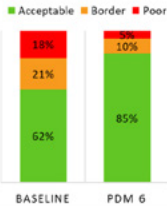


UnBlocked Cash

Localising Cash and Voucher Assistance (CVA) capacity while improving livelihoods of vulnerable groups in Sanma, Shefa and Tafea Province



FOOD SECURITY



FOOD CONSUMPTION SCORE

Food insecurity has **decreased** by **62%** compared to baseline

LIVELIHOOD RECOVERY AND ESSENTIAL NEEDS

FUND USAGE (TOP 3)



BASIC NEEDS

99% can meet basic needs at end-line

MULTI-SECTORAL COPING STRATEGY

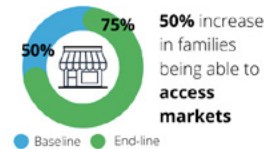
Decrease in high livelihood stress by **61%** at end-line

COVERAGE

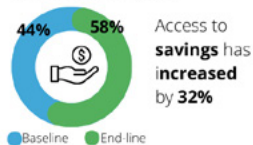
24 Area Councils
Over **300** communities
4,493 recipients
358 vendors

ACCESS TO SERVICES

ACCESS TO MARKETS



ACCESS TO SAVINGS



PROTECTION AND SAFETY (RECIPIENTS)

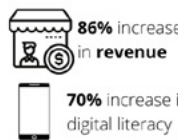
98% feel safe using the e-voucher

49% of recipients reported a **decline in household tension** at end-line

FUNDS

300 Million VUV distributed to recipients

BUSINESS RECOVERY



CAPACITY BUILDING



PROTECTION AND SAFETY (VENDORS)

98% positive change between the community and vendors

60% of vendors reported a **decline in community tension** at end-line

SURVEYS

2,621 Baseline and End-line Surveys
4,814 Post-distribution monitoring

Partners: World Vision, ALBA, Save the Children, UNICEF, VSPD, VIEWP, DIGICEL, SEMPO, OXFAM

All payments to households and the transactions of participants with participating vendors to purchase goods to meet essential needs were completed digitally and "on-chain", using the blockchain e-payments application developed by Sempo. The results of the programme, beyond its innovation, are significant:



62%

Improvements in food security



50%

Increased access to markets



86%

Vendors reporting an increase in revenue



70%

Increase in smartphone usage

In other words, the programme demonstrated two critical advances linked to the use of this digital finance tool: (1) rapid improvement in livelihoods for both businesses and households, as well as (2) longer-term gains such as improved digital access, literacy and capacity across the board for local businesses and partner organisations.

While the plethora of partners and field teams were hard at work implementing the initiative, the UnBlocked Cash Project began to gather global visibility and interest – featured in publications by the OECD, international media outlets such as The Guardian, Nasdaq.com, WIRED Magazine and others. In 2020, it was recognized as the EU’s Horizon 2020 Prize winner for Blockchains for Social Good, as the first Pacific-founded project to be recognized by this global award. Today, the project has gone global, with UnBlocked Cash Projects expanding to Papua New Guinea, the Solomon Islands and even Zimbabwe, where a pilot is ongoing in 2022.

The efforts of everyone involved – from businesses, to communities, to government – continue to be recognized as a compelling global example of what’s possible with blockchain technology, even in remote and challenging places, with a feature article in CoinTelegraph, a leading publication on blockchain innovations, published as recently as May 2022.

This solution was developed and derived directly from lessons and challenges identified in previous research and response efforts, and builds upon the global preference and commitment to deliver more humanitarian and development programs in the form of cash, voucher, and market-based approaches. In fact, the domain of cash and voucher assistance bears several very direct links to significant policy areas for Vanuatu. Cash and voucher programs support financial infrastructure, access and inclusion, as well as economic growth. At the same time, these programs often face the same challenges of financial access, and restrictive regulations that may be maladapted to a country’s more remote or vulnerable communities. An understanding of the country’s financial regulations, compliance considerations and close consultation with the Central/Reserve Banks are often required, and these were built into the UBC project from the beginning.

Likewise, cash and voucher approaches in the humanitarian and development sectors also share a common goal with policy-makers by ensuring that these interventions serve to spur recovery, economic growth and poverty alleviation. Wherever possible, the same initiatives seek to twin financial delivery with improved financial literacy and access over time. As with any project-based intervention, questions of integration, sustainability and long-term impact follow – and are often required to ensure that impacts are durable and contribute to longer-term national development goals.

02

First UBC, Then What? Stakeholder Support for Sustained Adoption at Scale

The UnBlocked Cash Project provides early indications as to the feasibility of blockchain technology, how it can be used, and how simple tactics to train and upskill communities and stakeholders in Vanuatu can support this process. However, these lessons can only bear fruit in the longer term if critical stakeholders – namely the private sector, financial institutions, and government – buy in to the idea of adoption at scale in Vanuatu. What made the success of UBC significant, paradoxically, also reveals a potential risk to longer-term use and adoption. A single organization, with the support of donors and in the context of a humanitarian program, was able to drive stakeholder buy-in and adoption for a single, agreed cause and course of action. While this was a singular feat, it also exposes a singular source of dependency rather than broader and more distributed ownership of a common solution.

To realistically examine the potential for blockchain to serve as the infrastructure of choice to expedite digital innovations across multiple industries and sectors, such as financial services, e-commerce, and/or government information systems, a significant number of critical stakeholders in each of these areas must be on board. Multi-party support and involvement is required order to create an enabling environment for accelerated innovation across Vanuatu's economy, and to make the digitization opportunities offered by blockchain 'stick'. Blockchain technology – referring to user applications (software), blockchain infrastructure, and digital and virtual assets together – is simply a tool. It is only useful if it can be used.

Adoption requires all stakeholders to able to identify where, and how this tool is useful for their own purposes. For example, by lowering the cost of doing business for SMEs processing payments and by improving compliance monitoring via increased transaction transparency for AML-CTF reporting by financial institutions and regulators. Or, by expanding public access to, and delivery of, government goods and services by virtue of digitizing identification and asset records, such as ID cards, and land titles. Cross border payment and labour mobility, both of concern to Vanuatu for decades, are also new areas where blockchain is making an impact elsewhere, and should be studied within Vanuatu's context as drivers of change that enhance economic impact.



Do you think that financial institutions and regulators have the responsibility to remove or reduce regulatory barriers?

“86.7%
of private sector respondents said
YES”

Good News: There's Already a Blockchain Roadmap for Vanuatu

UBC has already served the purpose of sowing broader interest in the opportunities blockchain offers, particularly within the private sector. Work has been ongoing since 2021 to present research and raise awareness across the business sector on the nature and uses of blockchain. This includes trainings for business professionals and examining how and why there is a compelling argument for Vanuatu to embrace this suite of tools to accelerate economic growth and development. Clearly, this is a shared areas of interest and concern, for private sector and government alike. In fact, many are already on board and in the process of planning how this can be done. The level of 'buy-in' is evident in an extensive paper released by the Vanuatu Business Resilience Council with the support of USAID in early 2022¹. The document lays the groundwork and charting an "Adaptation Roadmap" for the use of blockchain at scale, in a manner both suitable and sustainable for Vanuatu's growing economy.

Amongst its recommendations, several areas stand out in the VBRC piece: first, that the paper clearly documents a very extensive stakeholder consultation process that includes major donors, local businesses, digital innovators and government, indicating that buy-in is being garnered at the industry level for adoption. The fact that this informs the roadmap and approaches suggested is significant – hence the terminology of the paper focusing on 'adaptation', or the need to adapt the technology to the needs of Vanuatu's context, rather than the other way around. This bodes well for a localized approach that makes the technology and associated education and skills widely available and accessible as a critical driver of adoption.

VBRC's recommendations hone quickly in on specifics – in what ways, exactly, blockchain technology should be developed and adapted for local use.

Specifically, the VBRC study details opportunities for enhancing financial infrastructure, compliance monitoring, fiduciary governance, and inclusion in the exploration of a Central Bank Digital Currency (and the central role of local financial institutions). An area also studied is the potential for the technology to accelerate goals to provide all Vanuatu's citizens with a national ID, as well as a functional and effective government database to manage and facilitate the links between digital IDs and access to government and private services. This includes uses such as conducting police checks, ensuring that KYC requirements are met in accessing finance, and improving the ease of doing business. More interestingly, the two recommended use cases are linked, because digitizing record-keeping at the individual level (Digital ID) while also digitizing transactions in finance (CBDC) creates the opportunity to link systems – accelerating processes for the average individual, such as being able to open a bank account digitally. For businesses, this simplifies the process of processing payments, ensuring that all parties have access to a trusted source of information on payee history, identification, location and financial information required for the execution of payments.

The in-depth analysis in the VBRC Roadmap won't be rehashed here, but does provide specific and detailed explanations of how the particular inefficiencies and challenges of 'status quo' systems in Vanuatu can be addressed through blockchain adaptation and adoption. Suggestions are provided for interested parties such as national, regional and local banks, government regulatory bodies, and even local and international developers who require insights into how country systems operate in order to optimize them in the transition to blockchain usage.

¹ *Blockchain Technology Adaptation Roadmap for Vanuatu: How to use blockchain technology as a lever to foster Vanuatu's developing economy*, VBRC & USAID, February 2022.

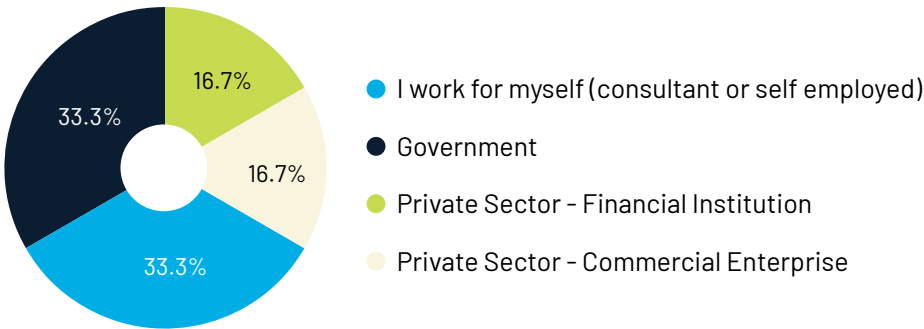
Overall, the Vanuatu Blockchain Roadmap provides a clear outline of the benefits of blockchain adoption for the Government of Vanuatu and private enterprise. This includes the reduction of redundancies and high costs associated with inefficient database management for government and citizens, and faster and less costly access to and delivery of services via the use of a common “trust framework” to govern Digital ID data acquisition, verification and authentication. There are even relevant examples from neighbouring countries, with a standout being the “YuTru” solution hailing from Papua New Guinea, where work is already well underway to leverage blockchain to enhance service delivery and records management.

Stakeholder Perceptions & Interest in Blockchain Innovation for Financial and Economic Growth

It’s clear that efforts are underway in the private and humanitarian sector to drive blockchain adoption in Vanuatu. Nonetheless – we ask the following questions:

- What do the stakeholders concerned by these recommendations and research actually think about blockchain after seeing UBC in action, and do they consider broader adoption to be feasible?
- What are the perceived risks and barriers according to Government, Financial Institutions and Businesses, and what are the best ways to tackle them?
- Who – between government, business, donors, and development partners – is responsible and capable of doing what in order to actually make blockchain applications accessible to everyone, and in a positive way?
- When – and how much time might it take to build awareness, education and capacity in Vanuatu to support the adoption process?
- How do stakeholders see blockchain being used in the future, and what are the ‘safest’ and most valuable use cases for the country to explore?

In order to supplement the recommendations in this paper, stakeholder surveys were conducted with key informants across all these areas of work, and provide some valuable insights that are required in order to articulate policy changes that are relevant and responsive to Vanuatu’s citizens.



From March to April 2022, a stakeholder survey was conducted by Pacific Advisory to collect feedback, assess levels of knowledge of the technology, and to explore perceptions and suggestions around what is actually needed to make it accessible and available safely, and to everyone.

The survey process employed voluntary participation and purposive sampling across a group of 27 stakeholders, with target interviewees and survey respondents equally representative of experts across government, financial services and private enterprise.



Opportunities

- 70% of stakeholders report a favorable view of blockchain platforms for delivery of government, development or humanitarian assistance
- More than half (58%) are convinced that blockchain platforms can be used for e-payments /e-commerce by businesses and banks
- Over 60% see blockchain as a suitable option to improve government systems and record-keeping in Vanuatu.



Regulatory & Policy Risks

- Use of blockchain by individuals or institutions for investment and to trade digital (virtual) assets
- Outdated and restrictive regulations that need to be updated to enable testing and investment
- Lack of available blockchain service providers, in part due to restrictive regulatory environment “holding back” financial innovation
- Political buy-in and potentially long timeframe required for regulatory adaptation or introduction of new, more enabling regulation.



Knowledge & Capacity Challenges

- Need for more education of key decision makers on what blockchain is, how it can be used and why it is relevant
- Low levels of digital inclusion and access, especially at the community level
- Insufficient training and education opportunities available to upskill and generate public awareness
- Lack of education and awareness may be linked to low levels of interest in government and by regulators to support innovation
- Lack of funding, investment and incentives for development and testing of the technology.

Suggested Use Cases (*in order of preference*)

1.	To enhance govt record keeping, such as digital identification systems and land registries	85%
2.	For supply chain management such as tracking of goods and govt assets (logistics)	85%
3.	Delivery of cash assistance similar to UnBlocked Cash by govt & non-govt agencies	77%
4.	For payment and point of sale applications, particularly for retail transactions and money transfers	72%
5.	Use by Central/Reserve Banks to create a Central Bank Digital Currency or Digital Vatu for transparency, traceability and financial inclusion	63%

The stakeholders consulted have close proximity to, and knowledge of the current policy and regulatory environment in Vanuatu. It is critical to point out that these consultations do serve to provide a preliminary 'proxy' indication of existing regulatory constraints and areas of concern. This information provides a lens of analysis to identify specific regulatory considerations and policy recommendations later in this paper. This data is not intended to be statistically representative and is subject to the opinions of the respondents. Regardless, these consultations are highly informative and indicate specifically where public and private investments in blockchain technology should be concentrated, and where the largest challenges and risks are in the process.

Results of these surveys and consultations are promising and do, in fact, show high levels of optimism and curiosity in being able to learn more about blockchain technology. Feedback also indicates an appetite to collaborate on a multi-sectoral level in order to use it more widely in Vanuatu. Most concerns raised, both in the areas of knowledge and regulatory risk raise issues that are certainly not unique to Vanuatu, and that are also not unique to blockchain technology. Vanuatu and many other emerging economies in the Pacific and other regions have successfully tackled these same issues, recently and in the past. In this sense, a transition to blockchain adoption might be compared to the introduction of mobile phone services, or affordable access to internet connectivity.

This is a reminder that these are challenges that are typical to development progress, particularly when a form of technology is introduced that is highly adaptable to usage across sectors and systems. Feedback from stakeholders does reflect this. All but a few express optimism that the risks and challenges raised can be surmounted, as they have been by Vanuatu's government and business community in decades past. This is why many today refer to the advent of blockchain and Web3 technologies as "The Fourth Industrial Revolution" by major players such as [APEC](#), and the [World Bank](#). The [World Economic Forum](#) is also host to a multi-year initiative involving over 300 public and private organisations and governments to speed the progress of blockchain access and adoption internationally. Neighbouring nations such as Australia², New Zealand³, Papua New Guinea⁴ and Fiji⁵ have also hosted major global blockchain showcases and events to attract investment, raise public awareness, and investigate where the technology is best suited to supporting national economic development.



Do you think that regulators (government) have the responsibility to remove or reduce barriers to blockchain adoption in Vanuatu?

91.7% SAY YES

"The quicker regulations are addressed, the faster awareness is created on these technologies, the more aligned we are with the rest of the world".

² IEEE International Conference on Blockchain, Melbourne, Australia <http://nsclab.org/blockchain2021/>

³ 2018 Blockchain Pasific Conference, Port Moresby: <https://www.looppng.com/tech/png-recognises-blockchain-potential-80099>

⁴ <https://cointelegraph.com/news/central-bank-of-papua-new-guinea-embraces-blockchain-in-effort-to-help-unbanked>

⁵ Regional Blockchain TechCamp, Suva, Fiji, 2018: <https://fj.usembassy.gov/regional-techcamp-blockchain-technology/>

Survey Results: Assessing Risk & Overcoming Challenges to Adoption

On a broad scale, 66 percent of private sector respondents indicated that regulatory risks are associated with: “any blockchain finance applications or platforms that go beyond processing simple user-to-user payments and transactions (similar to E-payments or MVatu)”. Comparatively, 45.5 percent of public sector respondents indicated that “any financial processes or transactions that utilize blockchain infrastructure in some way” as the main area regarding blockchain finance associated with regulatory risk. The responses indicate that the private sector is most worried about complex payments and transactions using blockchain technology, while the public sector seems to see any financial processes using blockchain technology in general as the biggest risk. The latter is also indicative of the general mindset of Vanuatu’s regulators. Although blockchain has many uses, regulators are most mindful for it to be used for financial services and will most likely focus on that aspect of development in the nascent stages of adoption.

When it comes to addressing these risks the public and private sector differ once again: 93 percent of the private sector respondents indicated that the Reserve Bank of Vanuatu (RBV) would be the main regulator responsible for assessing and addressing these risks. This is presumably because RBV is responsible for supervising and regulating banking business and the extension of credit, as well as general monetary and fiscal stability. Comparatively, 90.9 percent of public sector respondents said the party responsible should be the Vanuatu Financial Services Commission (VFSC), the entity responsible for the regulation of investment business, trust and company service providers. While the parties indicated have slightly different responsibilities, both public and private sector regulators believe it would take two to three years to address these risks and make regulatory changes.



Identifying regulatory risks of using blockchain

66% **PRIVATE SECTOR**
Only blockchain finance applications that go beyond simple P2P payments.

45.5% **REGULATORS & FINANCIAL INSTITUTIONS**
Any financial use of blockchain OR digital assets note: same statistic for both questions.

46.7% **PRIVATE SECTOR**
Anything involving cryptocurrencies.

36.4% **REGULATORS & FINANCIAL INSTITUTIONS**
Only financial processes and transactions using volatile digital assets.

Addressing Risks

93% **PRIVATE SECTOR**
Reserve Bank of Vanuatu is responsible.

36.4% **REGULATORS & FINANCIAL INSTITUTIONS**
Vanuatu Financial Services Commission is responsible.

NEARLY HALF

AGREE THAT REGULATION IS OUTDATED AND NEEDS TO BE UPDATED TO ENABLE INNOVATION.

In that time, authorities would require education and up skilling in order to address the current regulatory gaps in Vanuatu when it comes to blockchain usage. The overwhelming majority of both public and private sector regulators indicate that compliance: AML/CTF and KYC (incl. local standards and global FATF standards), and regulation of asset holdings and asset trading (incl. speculative assets and derivatives) are the main gaps in the current regulatory frameworks. The cause of these gaps is attributed to the following: (a) outdated regulations and/or policies that need to be updated (according to 46.7 percent of private sector stakeholders and 45.5 percent of public sector stakeholders) and (b) lack of knowledge and awareness (according to 33.3 percent of private sector stakeholders and 27.3 percent of public sector stakeholders).

Training, Education and Resourcing Requirements

To close these gaps both private sector and public sector stakeholders believe that education is the key.

86.7 and 81.8 percent of private and public sector stakeholders respectively, indicated that education and training on blockchain and its financial uses will help to close knowledge and capacity gaps. 66.7 and 72.7 percent of private and public sector stakeholders respectively, indicated that awareness campaigns and information dissemination to highlight the relevance and benefits of this technology for Vanuatu are essential.



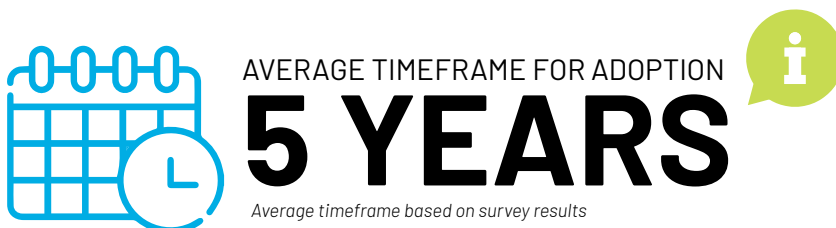
Overcoming Barriers:

RESOURCES	BARRIERS
To accomplish this, more than 70 percent of both public and private stakeholders said the following resources would be necessary:	In addition to closing the regulatory gaps, Vanuatu must also surmount the barriers to adoption. According to both private and public sector regulators the greatest barriers to adoption are:
Funding from external donors (DFAT, MFAT, ADB, World Bank etc)	Low levels of digital literacy and digital inclusion (incl. knowledge and use of computers, smartphones, tablets etc)
Training and education programs	Political, legislative or policy-related barriers
Private sector support (non-financial)	Lack of access to companies in or with a presence in Vanuatu who offer blockchain solutions (and the need for incentives and measures to attract investment).

These barriers correspond to aforementioned causes of regulatory gaps namely outdated regulations, and lack of knowledge and awareness. Policy and legislative related barriers have two inhibiting functions: first, they hinder the regulatory environment from being updated to accommodate the use of emerging technology. Second, these barriers limit the technology itself from being used and adopted by institutions and businesses. Similarly, lack of awareness and education surrounding blockchain technology and financial literacy both hinders the updating of regulations and the impetus for adopting digital and frontier technologies in the first place. This links directly to the question of knowledge and capacity – it is critical to be able to use a new technology openly, in order to understand and build the capacities to adopt it.

To overcome these barriers regulators have expressed varying opinions. Some private sector parties see government capacity as lacking and thus believe the private sector must take the lead. Comparatively, some public sector respondents believe that before any barriers can be overcome, regulators as a whole must have a deeper and more comprehensive understanding of blockchain technology. As this is a new leap in technological advancement, some public sector respondents have noted that Vanuatu should not try to lead the space “from the front”, but rather keep up to date with global advances.

Both public and private sector parties see regulatory matters (compliance, adapting regulatory stance, de-risking, etc) as a main concern alongside general lack of access to blockchain technology applications. Both private and public sector stakeholders agree the best way to move forward involves increasing exposure and access to blockchain technology and encouraging digital innovation across all sectors for people to be able to learn and eventually trust in using the technology. 53 percent of the private sector believes this will happen slowly over the next 5-10 years, while the majority of the public sector believes it will take anywhere from 2-6 years.



03

Blockchain acceptance and adoption: Practical uses and considerations

To be pragmatic, let's begin with a focus on the three common use case areas that stakeholder data and lessons from UBC support. We present these as the most viable avenues for the use of the technology in Vanuatu. Expanding that lens, we also introduce examples from the Pacific Region and other countries with similar contexts and development challenges as Vanuatu. This regional and international scope provides additional examples of how these particular use cases have been introduced at the country level with the support of private investment and government buy-in.

Starting with an overview of use cases is necessary to set specific goals and objectives to answer the question: "blockchain, but to do what and for what purpose?". From there, current regulation and policies can be associated to each use case so that recommendations are clear and practical – to know how to regulate, one needs to know what actions are being regulated. In order to permit or encourage actions such as 'investment in blockchain' at the policy level, it's important to know for whom, for what purpose, and to meet what national and economic goals.



High-Feasibility Use Cases: Digital Finance, Digital Identity and Government Systems

The showcasing of “use cases” at the regional and global level should serve as a frame of reference to show what is possible. More importantly, these examples impress the fact that blockchain is certainly no longer the domain of “developed countries”. According to the International Finance Corporation (World Bank Group)⁶ and the United Nations⁷, the pace of blockchain adoption is both faster and its impacts more significant in emerging markets and developing nations. Even better, this is also a very promising area for south-south knowledge exchange across countries. It also provides opportunities for north-south technology support and exchange required for the expansion of blockchain infrastructure across global and emerging markets.

Interestingly, the IFC attributes this rapid pace of adoption and impact as being directly associated with the common challenges of developing states. As the 2018 report highlights, emerging markets like Vanuatu are “poised for a more rapid adoption of blockchain due to their underbanked populations, higher banking risks, and lower bank penetration. Blockchain may be critical to mitigating the de-risking by financial institutions that is impacting these markets”. The use cases identified in this global analysis align very closely with the uses cases that Vanuatu-based stakeholders recommended in the survey conducted by Pacific Advisory as part of this study. Stakeholders were asked to rank which use cases they considered to be most viable. Specifically, this included: digital finance & financial inclusion; record keeping in the public sector, and value and supply chain management.

Given these parallels, it only makes sense to do a deeper dive to see what these “use cases” might look like in other places that share contextual similarities with Vanuatu.

The following sections will describe and relativize the need for new use cases with the exception of continued use of blockchain for humanitarian assistance. The use of blockchain to facilitate humanitarian delivery is covered in a previous section and has been thoroughly documented in Oxfam’s existing program documentation and public messaging on UBC.



If a useful blockchain finance or payment system were available to your business now, what training and capacity development would be required to use it successfully?

TWO THIRDS
(66.6%) of private sector believe:

“We could use it immediately or with basic training from the service provider”

⁶ Blockchain: Opportunities for Private Enterprises in Emerging Markets, International Finance Corporation, 2018. https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications_listing_page/blockchain+report

⁷ Harnessing the promise of blockchain to save lives, UNCTAD, 2021: <https://unctad.org/news/harnessing-promise-blockchain-change-lives>

⁸ Global Crypto Adoption Index, 2021, Chainalysis: <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/>

* <https://openknowledge.worldbank.org/handle/10986/31251>



Use Case One

Digital and Decentralized Finance: Solutions for Financial Inclusion

Financial inclusion has been a national priority in Vanuatu for nearly a decade, as outlined in the Reserve Bank's National Financial Inclusion Strategy. It is a critical precursor to economic inclusion. Without broad economic inclusion across a country's population, economic growth becomes uneven, and in some cases stagnant. Accessing financial services are critical for households to be able to save and manage their money over the long term as a means of building wealth, and in turn contributing to development goals, such as increasing the national GDP. The state of financial inclusion in Vanuatu lags behind that of other Pacific Islands, due mainly to poor digital and physical infrastructure. These issues then have resulted in creating high costs to access and use financial services and capacity constraints, such as limited opportunities for up skilling and employment in the financial sector (Davidovic et al., 2019; PFIP, 2016). With Vanuatu's rugged landscape and sparse populations, digital infrastructure requires reliable mobile network and internet coverage (Davidovic et al., 2019). Without digital access, difficulties in developing, introducing and accessing digital financial services ensues. This removes an avenue (digital finance) which has been demonstrated to accelerate financial inclusion in other small island states and developing economies.

Resultantly, there is a large proportion of Ni-Vanuatu who are not using financial services.

While the majority of earners in Vanuatu are involved in agricultural work, only 31 percent of agricultural earners report having a bank account (PFIP, 2016). This is indicative of the limited reach traditional financial services have in the country alongside low levels of financial literacy, resulting in a minority of the population using formal financial services. Furthermore, when adults do have bank accounts, this is not necessarily indicative of usage. In 2016, PFIP found that 22 percent of banked adults reported no transactions (deposits, withdrawals, savings or borrowing) in the past 12 months (PFIP, 2016). Even though some people do have access to formal bank accounts, their usage is not habitual. This suggests obstacles to accessing and using them, a limited range of convenient services available, and resulting limits in financial literacy.

Linked closely to poverty and social exclusion, financial exclusion creates greater costs for those excluded, including paying more for basic financial transactions and not being able to access certain services and types of employment. Ultimately, financial exclusion is costing Vanuatu socioeconomically, limiting the amount of education and active participation in the economy.

Decentralized Finance, or "De-Fi", is a general term that refers to the use of blockchain applications and platforms for the execution of financial transactions. Blockchain infrastructure facilitates this in a manner that 'disintermediates'⁹ (automates) the role of traditional intermediaries in the financial system. This automation occurs by using blockchain algorithms and encryption to secure and process transactions faster and more securely than conventional banking infrastructure. This is the longest-standing and fastest growing area of blockchain development, and is also the area that promises the most impactful results. By some estimates, there is over US\$ 239 billion invested (globally) in decentralized finance protocols, applications and systems thus far in 2022⁹.

⁹"Blockworks, 2022. Large Institutional Transactions Push Total Value Locked in DeFi to \$239B". Available at: <https://blockworks.co/large-institutional-transactions-push-total-value-locked-in-defi-to-239b/#:~:text=Large%20Institutional%20Transactions%20Push%20Total%20Value%20Locked%20in%20DeFi%20to%20%24239B,-The%20growth%20has&text=Total%20value%20locked%20in%20DeFi%20increased%20from%20%24601%20million%20at,to%20a%20new%20research%20report> Original report can be found at: https://blog.amberdata.io/defi-and-the-transformation-of-institutional-finance?utm_medium=email&_hsmi=210559080&_hsenc=p2ANqtz-4jBnJwnHdMtyADjUnlFmz3EWc60XJyaMGd11NYqYtV3SX4KRwULMEajGaUK9DCcdv2vEuHTmoCtizJJEAqItmaLmM00&utm_content=210559080&utm_source=hs_email

Financial services that are critical to poverty reduction and economic growth, such as peer-to-peer payments, savings accounts, small business transactions, and loan, can be made available via blockchain applications that can be accessed on any mobile device that is connected to a data network.

Interoperability with mobile money and banks is possible and increasingly integrated into these systems, which allows for ease of financial access via digital channels. At the same time, integration also ensures that money can be “cashed in” or “cashed out” of the system by users as needed. The blockchain application used in Oxfam’s UnBlocked Cash Project is, in fact, a decentralized finance platform, and has already demonstrated the extent to which De-Fi applications can drive rapid gains in transacting power that translate into increased income and business activity.

Decentralized finance applications are growing in diversity and become increasingly adapted to service the needs of the unbanked. These applications don’t need to be built anew. A growing industry of blockchain service providers can provide standalone payment and transaction management applications to institutions, private businesses, and individuals. The [Celo Network](#) (a blockchain), for example, hosts hundreds of fintech companies and DeFi applications that work exclusively for the purposes of expanding accessible finance ecosystems, especially in emerging markets. Celo hosts active projects in virtually every continent. In addition, the ecosystem prioritizes the exchange of stable virtual currencies and provides dozens of grants supporting local businesses, governments and organisations in order to facilitate access to the applications hosted on their network.

Financing and grants are also available and offered by companies and philanthropic organisations, such as the [Ethereum Foundation](#), [Coinbase Giving](#), and [Binance Charity](#). These actors offer technical support & advisory for long-term adoption of decentralized finance solutions, especially in emerging markets. Support and grants provided include networks to blockchain service providers and other resources for large-scale social impact initiatives and national-level financial inclusion projects seeking to digitize.

In fact, collaboration and investment via international experts and partners with blockchain expertise presents a major opportunity to accelerate progress and implementation of Vanuatu’s new e-commerce strategy, especially in the area of decentralized finance and digital payments.

With the successful track record of UBC, we have a solid foundation to demonstrate the need and viability of DeFi solutions to enhance financial and economic inclusion. The evidence is clear that there is a strong private sector appetite to engage and adopt these solutions. Lastly, Vanuatu is uniquely representative of a new frontier in emerging markets in the Pacific region, where few of these resources have yet reached, and where the DeFi ecosystem still has space to grow and expand.

**Disintermediation is the removal of intermediaries in economics from a supply chain, or “cutting out the middlemen” in connection with a transaction or series of transactions*. Source: <https://en.wikipedia.org/wiki/Disintermediation>*

How Decentralized Finance Supports Financial Access and Inclusion

Broad-based adoption of decentralized finance solutions, as well as the broader digitalization of cash (ex. Card-based payments, mobile money, online banking) can engender increased financial inclusion by firstly expanding access points (i.e., via mobile phones), and secondly, lowering costs of access to financial services (Burton, 2021). In not having to incur the costs of traditional financial services, the penetration of financial services can reach much farther than traditional urban and peri urban areas.

On a gendered level, increased blockchain adoption may allow women further control of their financial activities and economic opportunities (Burton, 2021). Vanuatu's adoption of decentralized finance products has the potential to accelerate women's access to the basic financial services and products required to build wealth, such as microlending, high-interest savings accounts and digital payments. All of these financial services are now available via any digital device that can be used at home, or on the go. Existing microfinance providers can also benefit by adopting blockchain-based systems in order to digitize and expand their services.

Creating a regulatory and incentive-based environment that clears the way for local businesses and banks to engage with blockchain ecosystems and service providers would unlock significant and rapid gains in reaching Vanuatu's financial inclusion goals, at multiple levels:



For unbanked citizens and households: Decentralized finance applications can offer simple and easy to use savings applications with higher interest yields and low-cost transaction features. This can overcome access barriers in places where banks are not present, or where services are too expensive;



For small and medium-sized businesses: Simple payment applications that operate in a similar manner to UnBlocked Cash can be made available digitally and on a subscription basis. This allows smaller businesses to increase business volume without worrying about handling cash, and reducing transaction costs, thus driving e-commerce adoption. Scaling adoption can also occur when business groups, cooperatives and consortia adopt the common use of a single application;



For Banks: Institutional collaboration with blockchain service providers and ecosystems allows the build-in of interoperability with existing bank accounts. This provides a fast-track solution for digital banking and mobile deposits and potentially lending solutions. Transaction and credit histories accessible to the user and bank offer to reduce overhead costs (as above, for business transaction processing).



For Government: Similar to UBC, decentralized finance and data management applications can be set up and used at the ministry level to facilitate, track and more easily account for the delivery of payments across Vanuatu. This may include the payment of suppliers on other islands and payments to government staff and civil servants, while mitigating the risks of corruption or budget mismanagement by maintaining high levels of financial transparency.

DID YOU KNOW?

*If all UBC participants continued to use their blockchain accounts for everyday transactions, this would equate to

9%

increase in meeting National Financial Inclusion goals.

*Ref: National Financial Inclusion Strategy 2018-2023.

It should be noted that Vanuatu has placed financial inclusion at the centre of policy discussions and priorities of the Reserve Bank of Vanuatu, which houses a Financial Inclusion Unit. However, the National Financial Inclusion Strategy 2018-2023 has seen little in terms of substantive gains in financial inclusion. There has also been little reporting on how financial institutions in Vanuatu have addressed the combined challenges of better access to financial services, especially in outer islands, or lowering the fees and costs of financial transactions.

Some evidence actually indicates that access to finance has been contracting, making it all the more pressing to look at innovative finance solutions. The National Bank of Vanuatu has decreased the number of staff and services available at outer island bank branches in recent years, with no viable substitute for financial access provided. Smaller institutions such as the Vanuatu Rural Development Bank have significant issues in providing affordable credit beyond the major centres due to a lack of options to assess eligibility and applications. There are few available options for a customer to make loan repayments in a timely manner without physically traveling long distances or even to another island to do so. Looking to digital financial solutions, particularly those offered by blockchain and decentralized finance, presents an alternative pathway that can accelerate progress to national financial inclusion goals.





Use Case Two

Central Bank Digital Currencies: A Government Leadership & Compliance Opportunity

One of the most compelling cases that combines blockchain infrastructure, decentralized finance and financial inclusion is the growing adoption of efforts to digitize national currencies, otherwise known as Central Bank Digital Currencies (CBDCs). This is a use case that focuses specifically using a de-risking and forward government engagement approach. These initiatives effectively offer all of the benefits of decentralized finance, but with a model that places regulatory oversight by Central Bank and Reserve banks oversight at the centre. More importantly, CBDCs provide opportunities for governments and particularly regulators to take a leading role in driving innovation in a manner that is aligned with existing policy and regulatory frameworks.

Instead of resorting to the use of defi applications that may require currency exchange, virtual assets or specific stablecoins (digital currencies pegged to a stable reserve currency) to execute transactions, CBDCs simply seek to bring the existing national currency “on-chain”. Specifically, this means that Central Bank Digital Currencies are not classified at all as cryptocurrencies, because they are not decentralized. Instead, they are governed by a central authority (Central Banks). In so doing, Central/Reserve Banks benefit exponentially in several ways. First, CBDCs provide enhanced oversight and compliance monitoring offered by the financial transparency unique to traceable blockchain transactions. Second, improved liquidity management and tracking can be used to support anti-inflation and other currency controls necessary in developing markets. Thirdly, a CBDCs offers the digitization of financial services in a manner that is fully interoperable and that drives increased financial access and inclusion.

Most importantly, the traceability of transactions on a single, national platform provided by a CBDC allows Vanuatu to meet a critical goal: financial transparency and increased compliance with international AML/CTF monitoring requirements. Vanuatu has historically been ‘blacklisted’ and ‘greylisted’ by major global compliance and development partners, such as the FATF and EU as a result of shortcomings in financial transparency linked to regular and consistent transaction monitoring and reporting.

Interestingly, the adoption of CBDCs is especially prevalent in small island developing states – and in the Caribbean region in particular, which is host to the highest concentration of CBDCs initiatives globally, with over 70% of countries in the region having already developed a CBDC or with development in progress or pilot stages¹⁰.

The contextual similarities between Vanuatu and other Pacific Island Nations with the Caribbean are critical to consider here. Both regions are highly exposed to climate change and seasonal climate and seismic hazards. The majority of countries in both regions are multi-island states with complex geographies, infrastructure challenges and financial exclusion in outer island communities. Economies in both regions are highly dependent on tourism, labour mobility and the provision of offshore financial services.

The Caribbean is a region that mirrors many of Vanuatu's challenges. Existing CBDC initiatives show that it is possible to 'leapfrog' and harness blockchain for the purposes of making digital finance accessible to everyone, and in a manner that meets governance and development goals..

At the same time, the prevalence of offshore financial centres and inter-island migration have provided a justification for Caribbean governments to leverage CBDCs as a de-risking strategy, using blockchain technology to enhance financial intelligence and compliance monitoring and reporting to global bodies, such as the FATF.

These same opportunities exist for Vanuatu, and should be taken as an indication that there is no need to 're-invent the wheel' and rather learn from existing approaches in similar contexts. Furthermore, many of Vanuatu's existing legislation and policies support the fundamental objectives and benefits of a CBDC. Specifically, this includes the National Financial Inclusion Strategy (RBV)¹¹; the Digital Asset Legislation & Guidance Notes¹² (VFSC), and the recommendations provided in the most recent ICT Policy Framework¹³ (OGCIO).

As far as global practice and standards go, the Bank for International Settlements (BIS), the foremost global body devoted to supporting central banks' pursuit of monetary and financial stability, has published several in-depth analyses of blockchain technology and CBDCs. These provide a framework that can and should be used by central banks, especially in emerging economies where monetary governance and systems are struggling.

Bank of International Settlements: Recommendations to Central Banks (2021)

The BIS 2021 Annual Report ¹⁴ states:

- Central Bank Digital Currencies offer, in digital form, the unique advantages of central bank money: settlement finality, liquidity and integrity;
- Digital money (i.e. CBDCs) should be designed with public interest in mind. Like the latest generation of instant retail payment systems, retail CBDCs could ensure open payment platforms and a competitive level playing field that is conducive to innovation
- CBDCs built on digital identification could improve cross-border payments, and limit the risks of currency substitution
- By investing in CBDC development, Central banks can enhance the functioning of the monetary system by facilitating the entry of new players to foster private sector innovation in payment services. These goals could be achieved by creating open payment platforms that promote competition and innovation, ensuring that the network effects are channeled towards a virtuous circle of greater competition and better services to the public.

¹⁰ Global CBDC Tracker: <https://cbdctracker.org/>

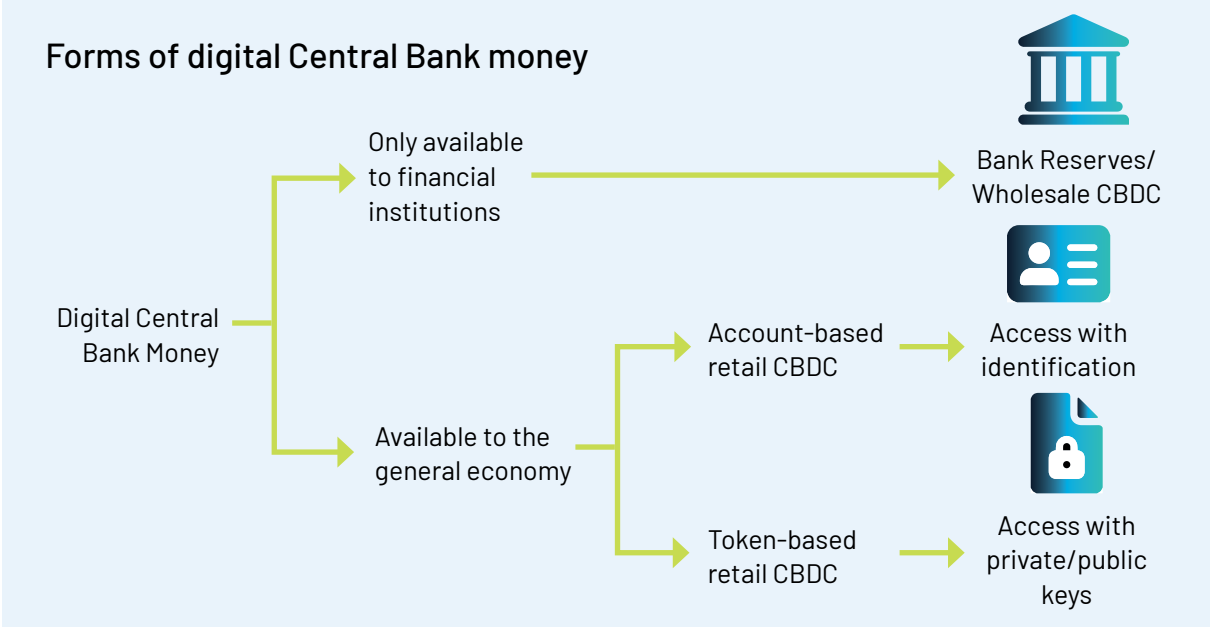
¹¹ Vanuatu National Financial Inclusion Strategy: https://www.rbv.gov.vu/images/Financial_Inclusion/Vanuatu%20National%20Financial%20Inclusion%20Strategy%202018-2023.pdf

¹² <https://www.vfsc.vu/wp-content/uploads/2021/10/Guidance-Digital-Asset.pdf>

¹³ National ICT Policy Consultation Document, OGCI0: https://ogcio.gov.vu/images/Docs/NIDC/National_ICT_Policy_-_Consultation_Document_-_draft_v_095_-_For_Committee_Review.pdf

¹⁴ Annual Economic Report 2021, Bank for International Settlements: <https://www.bis.org/publ/arpdf/ar2021e3.htm>

The 2021 BIS report also breaks down CBDC options for Central Banks to consider. “Wholesale CBDCs”, which are issued and governed by the Central Bank and only accessible via accredited financial institutions, or, a more flexible and growth oriented model, the “retail CBDCs”. The latter offers entry points for both financial institutions and other economic players, such as households making peer-to-peer transfers, or businesses adopting digital payment systems to expedite transaction management (Figure 2)¹⁵.



It is important to point out that the distinction between these models is important for Vanuatu and within the context of learning from UBC as a first use case. **In fact, the way in which the UBC project was structured and negotiated with the Reserve Bank of Vanuatu by Oxfam, Barrett & Partners (financial partner), and Wanfuteng Bank illustrates precisely the same architecture as a token-based CBDC**, a digital VUV backed on a 1-1 basis with funds in a trust account, and with monthly reporting submitted to the Reserve Bank of Vanuatu on a monthly basis detailing anonymized transaction data and liquidity balances. Users of the system included all economic players, including financial service providers, individual households, and SMEs. The retail CBDC model, in other words, has already been tested successfully in Vanuatu; why not use this as a foundation to explore further?

CBDCs at the Island Level: The Case of the Bahamas

Perhaps the foremost example globally of a successfully launched CBDC originates in the Caribbean. The SandDollar initiative was launched by the Government of the Bahamas in 2019. This was partly in response to the recognition of the need for more flexible and lightweight financial services following Category 5 Hurricane Dorian in 2019. As a country of approximately 387,000 people across 30 inhabited islands (out of 700 total islands in the territory),

the main priorities of the Central Bank of the Bahamas in building the SandDollar were to enhance financial inclusion, increase the efficiency and accessibility of payment services, and to combat compliance challenges driven by the prevalence of cash and interisland migration.

¹⁵Ibid


Outer island communities in the Bahamas (and Vanuatu) often struggle with access to financial institutions, without bank branches or ATMs widely available beyond the 3 largest islands. At the same time, informal economic activities and interisland trade demonstrate a vibrant and diverse array of small businesses and economic activity; yet little of these productive activities are reflected in the formal economy and financial systems.

Virtually all of these challenges are similar, and relevant to Vanuatu. The Central Bank of the Bahamas (CBB) has taken a three step approach to the [roll-out of the SandDollar](#), demonstrating how updated policy and regulatory amendments have been used to drive technological innovation. Central Bank leadership was been central to efforts to foster collaboration and inclusion of existing banks and payment service providers. The roll-out process began in 2019 with a clear set of policy goals:

1. To improve outcomes around financial inclusion and access;
2. Making domestic payment systems more efficient;
3. Ensuring universal access to banking services and deposit accounts across the archipelago; and
4. Reducing unrecorded economic activities in the informal sector and ensuring a full admission of small and medium-sized businesses into the digital space.

These goals were enshrined in the form of the Digital Assets and Registered Exchange Bill (DARE Bill) in 2020. The bill brings the majority of legislative reform under a single umbrella. The DARE Bill provides a digital asset policy framework developed jointly by the Securities Commission of the Bahamas and the Bahamas Central Bank. It also includes a regulatory framework, legal definitions, and more importantly, industry compliance standards and objectives for the establishment of an industry and ensuing investment, entrepreneurial and employment opportunities.

This reform is suitable reference point for Vanuatu given the similarities between the two countries in size and policy priorities and, potentially, could serve as a basis for cross-island collaboration¹⁶. Interestingly, the passing of the bill was instrumental in gaining a re-rating by the FATF in 2022, deeming the Bahamas as compliant or largely compliant in 38 of the FATF's 40 recommendations, and as a result was removed from the EU's list of third-country jurisdictions with strategic AML/CTF deficiencies¹⁷. The latter illustrates yet another striking similarity to Vanuatu's contextual challenges.



03 BENEFITS

Why Should we use Sand Dollar?

Sand Dollar is the digital version of the Bahamian dollar (B\$). Like cash, Sand Dollar is issued by the Central Bank of The Bahamas through authorised financial institutions (AFIs). Sand Dollar allows greater flexibility and accessibility for residents that want to participate in financial services via either a mobile phone application (iOS and Android) or using a physical payment card to access a digital wallet. It also provides an excellent record of income and spending, which can be used as supporting data for micro-loan applications.

¹⁶ Press Release "Digital Assets and Registered Exchanges Bill, 2020, to Provide Legal Framework to Regulate Issuance and Sale of Digital Assets", November 5, 2020

¹⁷ DARE Act Upgrade, May 19, 2022. <https://thenassauguardian.com/dare-act-upgrade/>

Following the enactment of the DARE bill, the SandDollar initiative moved to the first phase of its development in October 2020 (now complete). Phase 1 included product development and establishment of a network of existing banks and payment service providers (including mobile money providers) that have now adopted and integrated the SandDollar in their payment and settlement systems. These, Authorized Financial Institutions effectively act as SandDollar agents, and individual citizens can enroll onto the platform using a SandDollar App in four simple steps¹⁸. Information for merchants to enroll and use SandDollar in their businesses, as well as information for local fintechs and e-payment providers have been made available by the Central Bank via the SandDollar website. Frequent public news and radio announcements to enhance public awareness. In 2021, the Central Bank of the Bahamas formed a Community Adoption team tasked with public and community outreach, with a focus on digital and financial education and literacy, and prioritization of support to rural communities in the outer islands to enhance adoption.



¹⁸ <https://www.sanddollar.bs/individual>



Use Case Three

Digitizing National Identification Systems- Blockchain for Government Systems and Access to Services

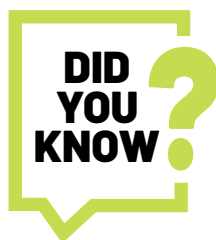
Global policy-making and institutional finance bodies that contribute significantly to development progress and institutional strengthening in Vanuatu, such as the Asian Development Bank¹⁹ and World Bank Group, have consistently highlighted the need for strong identification (ID) systems as one of the “building blocks for development” (ADB, 2016.).

Building a strong and accurate system for the management of national ID data makes service delivery efficient, can enable and facilitate digital payments and a digital economy, and can improve citizens’ rights and access to services.

For governments, accurate ID systems can improve public sector transparency, reduce budget leakage and prevent corruption. In the Pacific region and beyond, nations that have successfully rolled out biometric and digital ID systems have effectively accelerated economic and social development, and stronger and better trust in government, because such systems facilitate access to essential services.

Conversely, limited poor management of national identification systems can have insidious impacts on critical development gains and socioeconomic progress. In these situations, marginalized and remote communities are often undocumented and unaccounted for, which then leads to little upstream effort to provide essential services to these communities. Duplicate, or ‘dead’ records in national identification systems that are not maintained or updated provide ample opportunity for voter fraud and/or embezzlement of government payments and benefits. With the increasing socioeconomic pressures of climate hazards and global events such as COVID-19, poor government record keeping of identification registers can slow and prevent the delivery of social assistance and support subsidies. Even at the macro-economic level, inaccurate national ID systems can hinder development planning, particularly in terms of how population and demographic data impacts decisions to build critical infrastructure, such as schools, water systems, and roads.

Setting financial applications aside, blockchain technology is, at its core, a ‘smart’ and decentralized system of databases that provide automated authentication and verification of data across multiple datasets. This enhances accuracy and ensures that multiple parties are able to access the same data, at the same time, and maintain confidence in the security and accuracy of that data. The aforementioned “Blockchain Roadmap” for Vanuatu mentions that the potential of blockchain for improved record keeping and reduction of inefficiencies and redundancies is already being examined by the Vanuatu Financial Services Commission²⁰.



The Vanuatu Police Force has launched an online portal for residents and citizens to apply for their electronic police clearance certificate. The solution is built on blockchain technology²¹.

²¹Ref: National Financial Inclusion Strategy 2018-2023.

¹⁹ Identity for Development in Asia and the Pacific, Asian Development Bank: <https://www.adb.org/sites/default/files/publication/211556/identity-development-asia-pacific.pdf>

²⁰ Ibid. Vanuatu Blockchain Roadmap, VBRC

The consequences of manual and error-prone government systems are serious – whether via honest mistakes associated with manual processing or the deliberate falsification of records. Both slow down the delivery of services and erode public trust in government systems.

A robust case is laid out in the VBRC Blockchain Roadmap to further describe how a Digital ID built on blockchain infrastructure has the potential to improve systems and outcomes on multiple fronts. This includes financial inclusion, documentation of beneficiaries of government and post-assistance disaster delivery, the digital verification of Know-Your-Customer data, management of medical and education records, and an overall reduction in administrative cost and burdens across multiple ministries and departments²¹. A digital identification system is defined as a set of records (available on a digital device) that can verify that an individual is who they say they are. This could help foster increased financial inclusion, alongside increased compliance and interoperability of financial services in Vanuatu and across the region.

Digital ID systems have already helped an additional 1.1 billion people across Africa and Asia accelerate access to financial services. Cash transfers, retail payments, wire transfers, money transfer and other transactions are regulated activities. Each requires compliance with AML/CTF regulations and raises the question of knowing your customer (KYC). A digital identification system powered by blockchain technology and biometric data can help ease KYC verification, and shield users from fraud and data protection risks (Davidovic et al., 2019). When multiple private and public parties hold individual data separately, the risk of leakage and exploitation increases. A Digital ID would allow institutions like banks, visa operators, foreign work programs to all share information for KYC and due diligence requirements via a single source, rather than using multiple, redundant systems.



86.7%

of the private sector &

100%

of public sector

respondents have indicated that a digital ID is one of the most important factors in achieving regulatory adaptation and eventually integration for widespread adoption of blockchain technology and blockchain finance in Vanuatu.

Vanuatu has passed legislation for a national ID card system, but its implementation is still in its infancy. Official documentation is still required to access banking services (PFIP, 2011). A blockchain powered digital ID could kill two birds with one stone: (1) speeding implementation of the envisaged national ID system and (2) advancing financial inclusion and access. It is intended that the national ID system and the national payment system being implemented by the RBV will in turn save government agencies time and money. For citizens, this reduces the redundancies of KYC and due diligence requirements (VBRC, 2022) that prevent many from opening bank accounts or accessing credit. KYC data is made more easily and quickly accessible through a verifiable digital record, both by citizens and banking institutions.

²¹ Ibid. <https://www.climatelinks.org/resources/blockchain-technology-roadmap-vanuatu>

²² Bermuda Starts Development of a Blockchain-Based National ID System: <https://www.coindesk.com/markets/2019/10/16/bermuda-starts-development-of-a-blockchain-based-national-id-system/>

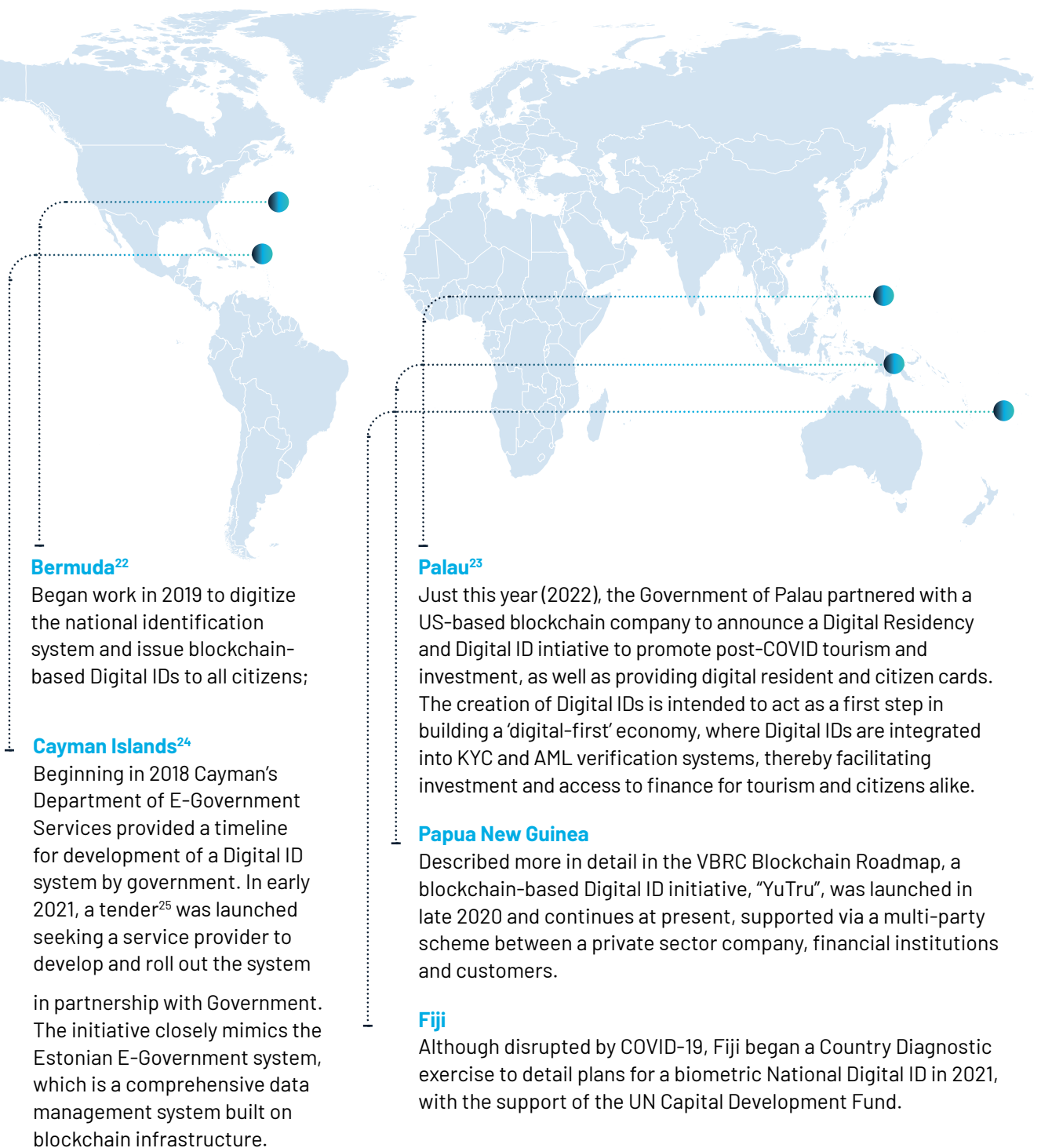
²³ <https://www.thestreet.com/crypto/news/-cryptic-labs-and-palau-unveil-digital-residency-using-blockchain>

²⁴ <https://www.the-blockchain.com/2018/07/02/are-digital-ids-the-start-of-a-blockchain-based-service-economy-for-the-cayman-islands/>

²⁵ <https://www.caymancompass.com/wp-content/uploads/2021/01/National-eID-RFP-080121.pdf>

Island Innovations in Digital ID Infrastructure

Much like the previous example with CBDCs, islands like Vanuatu have the distinct advantage of hosting smaller populations. This makes it easier to accelerate the process of transitioning to a Digital ID system that is built on, and that benefits from the data integration, security, and authentication mechanisms specific to blockchain technology. In fact, there are several examples of Small Island Developing States (SIDS) in the Pacific region and elsewhere who have been leading the charge, including the following countries:



In addition to this selection of examples, the blockchain industry is home to a growing amount of investment and companies that specialize in the creation of Digital ID applications and protocols, and in virtually all cases, the design and purpose of these systems is primarily to enable better and more streamlined data verification for compliance and risk management, particularly in the financial sector.

Leading consulting firms such as McKinsey Global and Deloitte²⁶ have suggested that at least 20% of digital ID systems and credentials will be built on blockchain infrastructure by 2025²⁷. Large tech companies such as IBM and Consensus (home to the Ethereum Blockchain) have invested millions in developing Digital ID systems to meet financial compliance challenges while also offering to solve for socio-economic exclusion created by loss or lack of access to credentials. In 2016, the UN launched the ID2020 Alliance, with the objective of ensuring universal and ethical access to digital ID as a main requirement to meet the 2030 Sustainable development goals.

For Vanuatu, this means that there are a wide variety of investors, institutional donors, and service providers available to engage with government and other stakeholders to build a Digital ID system from the bottom-up, and in a manner that addresses existing difficulties with database reconciliation and management.

This promises not only to provide citizens with the benefits of having an effective and service-integrated ID system – it also offers to make the work of Government ministries and departments much easier and more efficient.



What resources are required to close these gaps?

91.7% of Regulators agree:
"Training and education as well as non-financial Private sector support is needed"

²⁶ <https://www2.deloitte.com/global/en/pages/risk/articles/the-future-of-digital-identity.html>

²⁷ Blockchain, Self-Sovereign Identity and Digital Credentials: Promise Versus Praxis in Education: <https://www.frontiersin.org/articles/10.3389/fbloc.2021.616779/full>

04

Policy Analysis & Regulatory Considerations

To recap, the use cases described in the previous section also align well with national and regional development goals. Each provides solutions that address existing gaps in public access to essential goods and services, as well as challenges to the ease of doing business in Vanuatu:



Increased Financial Inclusion and Access: More investment and access to decentralized finance solutions, including by government and the private sector;



Improving Government Records & Services: Digitization of national identification and similar record keeping systems to expand access to public services and improve population data;



Accelerating E-Payments and Cash and Voucher Assistance: Continued and wider use of digital payment systems by SMEs and humanitarian and development partners for the delivery of development, disaster risk reduction and response assistance.

Further alignment across common regional and national development and policy goals are detailed in the following sections (noting that these are not exhaustive and do not include SDGs). Here, we aim to map policies from the region to Vanuatu's national policy and national development goals and documents.

It would be worthwhile here to take a step back and question where regulatory reform should sit in the blockchain adoption process – typically, regulation does not necessarily come first in the introduction of new systems or technology. Usually, national goals and policies come first, to set objectives, before any regulatory consideration or assessment can be made, and prior to the passing of legislation. Policy provides the guiding recommendations, priorities and logic of a specific approach that is adopted at country level. Policy guidance is offered to orient stakeholders and identify who may be responsible for what actions required to achieve a common goal.

When it comes to the question of blockchain adoption in Vanuatu, existing policies are in fact quite robust and well-aligned with adoption of the technology for the use cases described above. At the policy level, there is a generally enabling environment to leverage emerging technology to develop unique and contextually adapted solutions, including financial and economic well-being and inclusion, better delivery of government services and mitigation of climate-induced hazards.

Vanuatu's legal framework also generally provides an enabling environment for the adoption of blockchain technology. Recent developments are indicating a shift towards fulfilling policy objectives and recommendations within this space. For example, over the past year, Vanuatu's Parliament has passed new legislation establishing a digital 'Central Register' for national identity management²⁸ and a national digital payment system²⁹. These actions provide the foundation for digitizing and integrating the national ID system with government services and payments, and has the potential to do the same for private sector financial services.

²⁸ Vanuatu National Identity Act No. 27 of 2021 and Civil Registry and Identity Management Act No. 28 of 2021

²⁹ National Payment System Act No. 7 of 2021

Other projects currently underway are also progressing further developments to the regulatory framework, such as the RBV's implementation of a National Payment System under the new legislation. Nonetheless, some review of the institutional and legislative framework are needed to better regulate the safety and use of blockchain applications. These efforts would fall under the National Taskforce on Data Protection & Privacy's draft Data Protection and Privacy Policy and proposed legislation³⁰, and the OGCI's revision of the Universal Access Policy – the new 'Digital Universal Service Policy'³¹.

A brief, hierarchical mapping of what regional policy goals are aligned with national policy goals, and which of these align with suggested blockchain use cases are as follows:

For Financial Inclusion:



Regional Policy Goals

- Create integrated pathways for economic recovery & resilience (PIFS)
- Enhanced engagement with Central Banks and payment systems Innovation (PFIP/UNDP)
- Enhance ability of financial service providers to efficiently deliver financial services to Pacific Island communities lacking access to money, loans, and business banking services (UNDP, IFC, WB)
- Expand access to finance for microentrepreneurs (IFC)



National Goals

- Ensure financial sector stability and make financial services affordable and accessible for all through pursuing financial inclusion strategies (NSDP ECO 1.8)
- Create an improved business environment with a stable regulatory framework, which promotes competition, protects consumers, attracts investment, and reduces the costs of doing business (NSDP ECO 4.1)
- Develop and strengthen financial infrastructure, policy and regulatory environment and ecosystems that balance opportunities and innovations in financial markets leading to improved access, usage and quality of financial services (NFIS 5.1.2)
- Improved access to formal financial services for all, particularly the rural population, women, individuals engaged in agriculture and lower-income households (NFIS 5.2.1)
- Implement interoperability of electronic payment platforms between formal financial services providers such as banks and further between financial service providers and mobile network operations (NFIS 5.2.3)
- Promote electronic payment channels in Government transactions, including state-owned enterprises (NFIS 5.2.4)
- Encourage digital payment channels among medium to large private sector employers and associations for business-to-business transactions (NFIS 5.2.5)



Use Cases

- Expanded access to, and investment in decentralized finance solutions for improved financial access, infrastructure and economic growth
 - » Central Bank Digital Currencies
 - » Blockchain-based POS and Payment Applications for SMEs and by business networks
 - » Easier access and lower cost savings and payment instruments for citizens

For Digital ID Systems:



Regional Policy Goals

- Inclusive and contextualized social protection systems (PIFS)
- Strengthening National Identification Systems to improve access to essential services and (ADB)



National Goals

- Responsive and capable state institutions delivering quality public services to all citizens (NSDP)
- Increase use of and access to information and communications technologies, including on-line government services (NSDP ECO 2.9)
- Ensure consistency in KYC requirements across all financial service providers and ensure that they facilitate the changing market whilst meeting regulatory and other needs for KYC (NFIS 5.1.3)



Use Cases

- Digitization of National ID system (Digital ID) for enhanced record keeping, integrated data management and expanded access to govt services
 - » Integration of Digital ID with digital financial products and systems (as above) to facilitate delivery of government payments

For Climate Change & Disaster Risk Reduction:



Regional Policy Goals

- Disaster Resilience and Risk Reduction (all)



National Goals

- Enhanced resilience and adaptive capacity to climate change and natural disasters (NSDP)
- Strengthen post-disaster systems in planning, preparedness, response and recovery (NSDP)



Use Cases

- Accelerated delivery of DRR and post-disaster assistance to communities using digital payment systems (UBC)
 - » Continued use of UBC model by government and partners to respond to and mitigate disaster impacts using digital payments

Previous page:

³⁰ <https://www.coe.int/en/web/cybercrime/-/glacy-support-for-data-protection-legislation-in-vanuatu-workshop-for-drafting-the-data-protection-and-privacy-policy>

³¹ As referred to in the Trade Policy Framework Update 2019-2025, p120

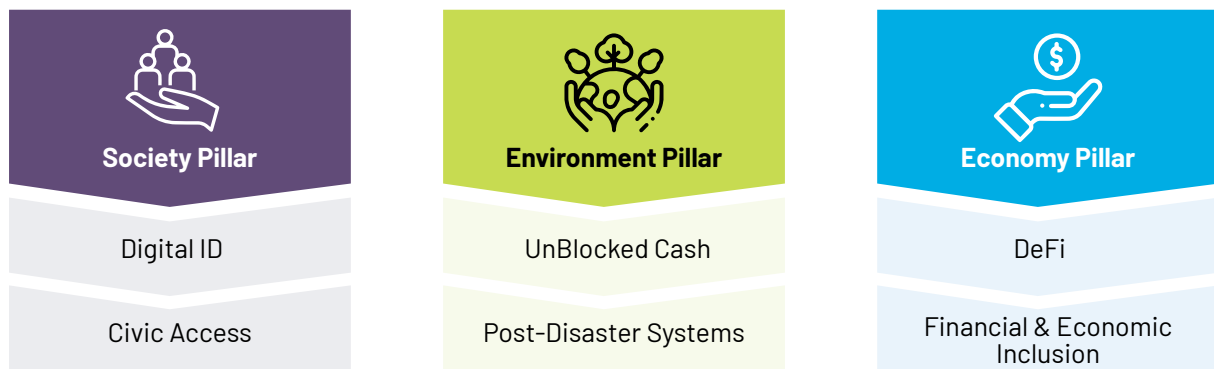
Key Enablers in Vanuatu's Policy & Legislation

Review and analysis of the policy and regulatory framework, carried out as a component of this paper has reviewed Vanuatu's national policies and legislation, including subsidiary legislation (regulators and orders), in relation to the use of blockchain in Vanuatu and use cases detailed in the section above. Some of these policies have been referred to in the previous section. A complete list of the policies and legislation reviewed is available on pages 58-62.

This review aimed to identify areas within the national framework that would enable the adoption of blockchain technology, as well as areas that would require further development, whether it be due to existing regulatory blocks or an absence of necessary or best practice regulations.

The National Sustainable Development Plan for Vanuatu is the foremost guiding policy document that details Vanuatu's national development goals. It also provides the overarching policy framework for Vanuatu's development. Below, we have linked the key pillars of the NSDP to the use cases suggested for blockchain adoption:

How NSDP 3 pillars link to Blockchain Use Cases



Under the NSDP Society Pillar, specific policy objectives are set out to increase civic engagement and voter registration³² and improve the cost-effectiveness of national institutions³³ with the overall aim of achieving a 'dynamic public sector with good governance principles and strong institutions delivering the support and services expected by all citizens of Vanuatu'³⁴.

As detailed in Use Case #3 in Section III of this paper on "Digitizing National Identification Systems", over 80% consulted for this paper are convinced that the digitization of government records would both support easier access to government services, as well as more efficient and effective government service delivery at scale. Most importantly, the virtues of blockchain as a "smart" database system that is consistently updated and verified offers to make government record keeping much easier for local and national authorities. Improving ease of use by government then makes it easier for government to scale and expand access to essential services, to verify identity and related records (such as police checks, health records and financial history). It also allows for better budget management and accurate spending, for example by targeting specific services to those who need it most, such as national pension schemes for the elderly, or education subsidies for school-aged children from resource-poor households.

³² SOC 6.3; SOC 6.3.1, NSDP

³³ SOC 6.4; SOC 6.4.1, NSDP

³⁴ Society Pillar No. 6, NSDP

The current systems used to manage government and ID records in Vanuatu are highly manual, duplicative, and prone to loss and misplacement of paper documents. By comparison, a national identification system based on blockchain infrastructure can be accessed by multiple departments and ministries through a central, digital access point (ex., a laptop). For individuals, a digital record that includes critical information such as national ID number, birth, marriage, health, and education records eliminates the risk of loss of documents by individuals and local authorities, which often happens following one of Vanuatu's many natural disasters.



Under the NSDP's Environment Pillar, specific policy objectives are set to 'strengthen post-disaster systems' by increasing the number of support plans and durable solutions available to communities³⁵. It also includes a goal to increase the funding available from external support³⁶ with the aim of building a 'strong and resilient nation in the face of climate change and disaster risks'³⁷.

UBC's scalability and use in Vanuatu in 2020-2021 strongly demonstrates the utility of blockchain-based systems as a mechanism to distribute humanitarian and development resources that are intended to mitigate the impacts of climate change. Over VUV 240,000,000 distributed and transparently accounted for using the digital payment system selected by Oxfam.

The ability to distribute assistance in this manner demonstrates a systems-level improvement in the speed of delivery in post-disaster scenarios, as well as driving critical resilience and recovery indicators for beneficiary households and small and medium sized businesses, such as increased food security and access to income and savings. Potentially, it also provides a viable avenue for distributing climate finance funds to local authorities and communities

What UBC demonstrates is that blockchain is a highly effective system for the rapid and precise redistribution of donor and state resources . This can be used to ensure better top-down distribution of climate finance funds, as well as climate and disaster preparedness mechanisms at the community level, say, for the distribution of a regular preparedness and resilience budget to Community Disaster and Climate Change Committees (CDCCCs).

³⁵ ENV 3.3; ENV 3.3.1; ENV 3.3.2 NSDP

³⁶ ENV 3.5; ENV 3.5.1; ENV 3.5.3 NSDP

³⁷ Environment Pillar No. 3, NSDP

The cloud-based nature of blockchain payment and fund distribution mechanisms is also a protective measure which shields these systems from the infrastructure damages that accompany climate hazards. In fact, some UN agencies are now exploring the use of blockchain infrastructure for anticipatory assistance; i.e. the automated distribution of assistance to communities, local authorities and businesses before an extreme climate event, based on a set of 'triggers' linked to climate hazards (UN OCHA, 2021).

Most significant is the NSDP's Economy Pillar, which has multiple policy objectives of making financial services more affordable and accessible through financial inclusion strategies. Goals include increasing the number of service users by 30%³⁸, increasing exports by 15-20% by improving access to export markets³⁹, increasing the number of users of online government services by 80%⁴⁰, and improving the data captured for economic analysis on the rural economy and communities⁴¹.

A general objective of creating an enabling business environment via these objectives is also envisaged by creating a stable regulatory framework with reduced costs of doing business⁴², improved processes for securing land for economic activities⁴³, and an increase of public/private joint venture by 10%⁴⁴.

The description of 'decentralized finance' products and services, also known as blockchain-based financial products, has been described in Use Case #1 of Section III of this paper. These solutions offer considerable potential to improve financial inclusion, access and cost for individuals who are economically excluded. For SME's these systems reduce the transaction costs of doing business and to improve the ease of doing business by providing digital payments, inventory management and record-keeping for small businesses. Virtually all of these benefits are connected to the goals detailed in the NSDP Economy Pillar.

The provision of standalone, blockchain-based digital commerce applications to business owners is on the rise in emerging economies similar to Vanuatu, primarily because blockchain offers a significant reduction in both local and international transaction costs.

For banks, blockchain offers the infrastructure to quickly and easily digitize financial services in a manner that is highly compliant with financial transparency, monitoring and record-keeping. In fact, some blockchain service providers have begun to offer credit history and compliance features that are built-in with conventional financial infrastructure, ensuring that any digital transaction is sufficiently backed by currency reserves and bank deposit holdings. The value of using blockchain's digital ledger to track and trace financial transactions, as we see in the case of Central Bank Digital Currencies, both improves compliance and provides much-needed data to track how liquidity circulates throughout a country's economy. This effectively offers economic and market data that can drive policies and decision making, expose key 'levers' of economic growth, and greatly facilitate a more precise and targeted distribution of economic stimulus and similar support measures.

Although there is no specific reference to the use of blockchain technology within the NSDP, recent reviews of the national ICT policy and legislation⁴⁵ intend to expand the NSDP indicators to better accommodate ICT infrastructure policy objectives. Specifically, this in relation to mobile and digital payments, digital identity, verification and validation, as well as critical national infrastructure such as data centers (elaborated further below)⁴⁶.

³⁸ ECO 1.8; ECO 1.8.1, NSDP

³⁹ ECO 1.5 NSDP

⁴⁰ ECO 2.9; ECO 2.9.2, NSDP

⁴¹ ECO 3.5; ECO 3.5.1, NSDP

⁴² ECO 4.1, NSDP

⁴³ ECO 4.8, NSDP

⁴⁴ ECO 4.9; ECO 4.9.1, NSDP

⁴⁵ National ICT Policy Framework (Draft version for consultation Feb 2021)

⁴⁶ As above, pp 30-33

This will also coincide with the expansion of the Universal Access Policy to a Universal Digital Service Policy, currently under review by the TRBR and OGCIO, to address inclusivity of government services and enable all citizens to access and use digital service delivery and e-Government⁴⁷. In other words, there are significant upcoming policy and regulatory reforms concerning technology that align with the need to mainstream blockchain adoption.

New legislation establishing a digital Central Register and national ID system already provides the framework requiring everyone residing in Vanuatu to have a digital identity created. These are then verified and validated by the Registrar-General⁴⁸ through their 'digital identity credentials'⁴⁹. The legal identity is supported by biometric data, QR codes and national identification numbers with 'unique sequences of decimal digits for the unique identification of a person and interoperability between civil registers'⁵⁰. The legislation also explicitly states that the purposes of the National ID cards are to confirm a person's legal identity, citizenship and facilitate the administration of 'electoral, taxation, health, immigration and land Acts, and any other Acts relating to the legal identity of a person'⁵¹. Blockchain could provide the infrastructure to action this legislation.

The digital Central Register and its identity data is therefore intended to be interoperable with a wide range of government services. It is also intended to support and increase the efficiency of compliance with KYC and FAFT/AML requirements under the Anti-Money Laundering and Counter-Terrorism Financing Act for the new National Payment System being implemented by the RBV (see more detail on this below). There is clear potential to use this as the foundation for KYC integrations in digital payment systems used by local businesses and payment service providers, without any further legislative amendments.

Although the specific provisions to regulate this area are currently absent from the legislation, there are broad functions and powers given to the Registrar-General to pass regulations to give life to the intention of the Act⁵². Therefore, process of passing any regulations developed is straightforward, only requiring the support of a single stakeholder (Registrar-General), technically speaking. This is actually a very agile regulatory regime, making it highly feasible to ensure that regulatory considerations around the use of blockchain are integrated in due course.

The ICT Policy Framework also suggests 're purposing' some existing regulatory bodies, specifically the Reserve Bank of Vanuatu, to progress digital delivery mechanisms such as electronic money, stored value devices and technology⁵³.

⁴⁷ See National ICT Policy Framework (Draft version for consultation Feb 2021) and Trade Policy Framework Update p 118

⁴⁸ Section 10, Civil Registry and Identity Management Act No. 28 of 2021

⁴⁹ Section 28, Civil Registry and Identity Management Act No. 28 of 2021

⁵⁰ Sections 12-14, Vanuatu National Identity Act No. 27 of 2021; Section 2, Vanuatu National Identity Act No. 27 of 2021 and Civil Registry and Identity Management Act No. 28 of 2021

⁵¹ Section 1, Vanuatu National Identity Act No. 27 of 2021

⁵² See for example, sections 3 and 48, Civil Registry and Identity Management Act No. 28 of 2021

⁵³ National ICT Policy Framework (Draft version for consultation Feb 2021), p 20

The recent National Payment Systems Act⁵⁴, now under the responsibility of the RBV, outlines a system for processing, clearing or settling funds within the domestic financial system. The legislation applies to stakeholders beyond the RBV, government and existing financial institutions already recognised in other legislation⁵⁵, and expands the scope of regulation to ‘money changers, mobile network operators, remittance service providers and other payment participants’⁵⁶, previously not regulated. It also gives the RBV the functions and powers of carrying out licensing, regulation and oversight over the payment system⁵⁷, which explicitly deals with electronic money, transfers, payment instruments. These aspects expand on the provisions of the outdated Electronic Transactions Act, and provide a clear, risk-managed entry point for integrating blockchain applications such as decentralized finance platforms.

While the legislation exists and is enabling for the purposes of blockchain, it is still in its infancy and there is substantial work ahead for the RBV to develop its rules. The national payment system has been developed though, and is planned to live in early 2023. In its current form, the system does not use blockchain technology, but there are plans to add additional features to support this.

These new laws make significant progress towards creating the regulatory framework needed to achieve the goals of the National Financial Inclusion Strategy as detailed in the table above, and make progress towards other policy objectives aiming to create a digital-friendly economy. This includes the recently launched National E-Commerce Strategy and Roadmap, which aims to improve existing m-payment solutions and other payment gateways⁵⁸. It also follows the ICT Policy Framework objectives as they relate to e-commerce⁵⁹. Lastly this strategy includes the recommendations in the comprehensive Trade Policy Framework Update (TPFU), which explicitly recognises the need to address new technologies such as blockchain, and its potential to transform the delivery of services and the costs of doing business⁶⁰.

Regulatory Gaps and Areas for Further Development

Although these legislative developments demonstrate significant steps towards the realisation of key policy areas in relation to national digital ID and payment systems within government, gaps within the legal framework remain. These gaps are most prevalent in the areas that will impact on the private sector and a more digitally focused economy generally. Gaps in security policies relating to data protection, privacy and other consumer protections, ICT infrastructure, cybercrime and e-commerce have been identified across multiple national policies. There are also still some remaining gaps within existing legislation and the need for new laws to be developed.

The National Payment System and Regulation of Financial Dealers

As detailed above, the RBV is responsible for the National Payment System. This area of work links directly to the use case discussion on decentralized finance systems examined earlier in this paper. RBV is currently implementing the provisions of the National Payment Systems Act, which requires development of the payment system. It is intended that this system comply with the global standards set by the Financial Action Task Force and Bank for International Settlements (BIS), to avoid future penalisation for failure to comply by the global regulatory bodies and those who require compliance in order to provide development support and financing, such as the World Bank and European Union. This payment system has an interdependent relationship with the existing regulation of financial dealers currently under the responsibility of the VFSC. This is an area that requires further development to accommodate blockchain applications. On a more positive note, there is now extensive guidance from the BIS and FATF to governments on how to do so, including via the use of CBDCs (see Use Case II in this paper).

⁵⁴ National Payment System Act No.8 of 2021

⁵⁵ Financial Institutions Act; International Banking Act; Financial Dealers Licenses Act

⁵⁶ Section 3, National Payment System Act No.8 of 2021

⁵⁷ As above, Explanatory Note

⁵⁸ Strategic Output Measure 5, E-Commerce Strategy and Roadmap 2022-26

⁵⁹ See for example overlap between Strategic Output Measure 4, E-Commerce Strategy and Roadmap and Part 10, ICT Policy Framework (2021)

⁶⁰ Vanuatu Trade Policy Framework Update 2019-2025, p117, 160-6

VFSC is responsible for the Financial Dealers Licensing Act, which requires that any organisation seeking to deal in digital assets first have a financial dealers license (categories A-C). Only then can the organisation apply for a Category D license which permits trading of digital assets. For the organisation to then use the National Payment System, it must then apply for a license with the RBV, which is dependent on the organisation have the Category A-C and D licenses with the VFSC. However, the Financial Dealers Act and Financial Institutions Act do not currently regulate other financial payment system participants, such as 'money changers, mobile network operators, remittance service providers and other payment participants', which are now regulated by the National Payment Systems Act⁶¹. This could either be a viable opening for using decentralized finance platforms, or a regulatory risk area, depending on how these applications are adopted, by whom, and for what purpose.

It is the intention of the VFSC to separate out the Category D licensing system for digital assets into its own separate piece of legislation, due to the ever-expanding digital products requiring regulation under this category. It is not clear at this stage whether the other categories of financial system participants will fall within the scope of any future regulation in this area.

Lastly, there are also significant updates required to the current Electronic Transactions Act and the E-Business Act. Both of these Acts were initially passed by Parliament in 2000. The Electronic Transactions Act has not had any significant amendments since 2000. It attempts to create 'equivalence between existing transaction processes and their digital replacements', which national policies have identified as inadequate or 'unlikely to succeed' instead calling for framework legislation to be developed⁶² to guide progress. Furthermore, the Act has provisions regulating registration of certification service providers, but to date there have not been any regulations passed to control the operation of Certification Authorities⁶³. The E-Business Act, on the other hand, has been amended three times, most recently in 2017 to align with the Anti-Money Laundering and Counter-Terrorism Financing Act and the establishment of the FIU⁶⁴. However, inconsistencies within the broader legal framework remain and are yet to be addressed⁶⁵.

Data Protection and Privacy

There is consensus across the national policies reviewed in relation to the inadequacies of the existing legal framework to protect and ensure the protection and privacy of data⁶⁶. Although there are multiple existing laws that address data protection and privacy⁶⁷, these are inconsistent and fall below international standards. For example, there is a limited duty of care established to safeguard information that is personal or sensitive, which has resulted in the EU citing Vanuatu as a country that cannot have data shared openly with it⁶⁸.

⁶¹ Section 3, National Payment System Act No.8 of 2021

⁶² Policy Recommendation 33, National ICT Policy Framework (Draft version for consultation Feb 2021), p 53

⁶³ As above, see Section 20(2) Electronic Transactions Act

⁶⁴ E-Business (Amendment) Act No. 30 of 2017

⁶⁵ It is beyond the scope of this paper to analyse these inconsistencies in detail. However, the VFSC and RBV are intending to coordinate on the review institutional and legal framework in relation to these issues and can be consulted on these developments. This also falls under the Financial Sector Reforms initiated by the RBV now being led by the Minister of Finance and Economic Management.

⁶⁶ National ICT Policy Framework (2021), p20; National Trade Policy Framework Update; National E-Commerce Strategy and Roadmap

⁶⁷ See for example, Part 5, Electronic Transactions Act; Parts 4 and 5, Cybersecurity Act; Part 6, Civil Registration and Identity Management Act; Right to Information Act.

⁶⁸ National ICT Policy Framework (2021), p20

Policy recommendations have ranged from adoption of international best practices⁶⁹, the development of a Data Protection and Privacy Act⁷⁰, amendments to existing legislation such as the Right to Information Act, Electronic Transaction Act and Official Secrets Act⁷¹, and establishment of a regulatory body to assume responsibility for standards, compliance and safeguarding all data types⁷². Some progress has been seen in relation to this area through collaboration with the Council of Europe was signed in December 2021 and a National Expert Task Force for Data Protection & Privacy put in place, with the goal of updating the current legislative framework. When it comes to blockchain adoption, it is important to note here that one of the hallmarks of blockchain infrastructure is a high level of encryption and advanced data protection layers. In this sense, blockchain applications may help to improve data protection in practice, even if legislative change lags slightly.

Consumer Rights and Protections

More specific to the digital economy and e-commerce are legislative gaps in relation to consumer protections. The legal framework around consumer rights currently consists of the outdated British Sale of Goods Act and a general criminal offence of deceptive and misleading conduct under the Penal Code.


While a National Competition and Consumer Protection Policy under the responsibility of the Ministry of Trade has been endorsed by the Council of Ministers, limited implementation has taken place since its endorsement.

Accompanying legislation is yet to be developed as recommended by various national policies⁷³. Also relevant to consumer protection are proposed amendments to the Electronic Transaction Act, which 'fails to meet the needs of the e-commerce environment'⁷⁴ and should be replaced by a 'framework legislation' rather than attempt to establish 'equivalence' between hard copy and digital copies of the transaction processes⁷⁵.

Cybercrime

Other recommendations provided in the policies mentioned have seen progress in the area of cybercrime more generally, such as the establishment of the Vanuatu Computer Emergency Response Team (CERT VU) whose purpose is to support businesses, organization and individuals affected by cyber security incidents, and provide advice and information on the same. Although the Cybercrime Policy is somewhat outdated, the recent Cybercrime Act passed in 2021 demonstrates some of the progress in this area.

The new legislation provides the framework for data shared between jurisdictions and aligns with international standards such as the Budapest Convention on Cybercrime⁷⁶.



What can regulators do to close these gaps?

91.7% of Regulators believe:
"Updating of current regulations is the answer"

⁶⁹ EU General Data Protection Regulation 2016/679
⁷⁰ Strategic Output Measure 4.1.3, E-Commerce Strategy and Roadmap; Trade Policy Framework Update, p269
⁷¹ Recommendations No. 25-6, National ICT Policy Framework (2021), p46
⁷² National ICT Policy Framework (2021), p20
⁷³ Trade Policy Framework Update, p269; E-Commerce Strategy and Roadmap
⁷⁴ E-Commerce Strategy and Roadmap
⁷⁵ National ICT Policy Framework (2021), Part 10
⁷⁶ <https://www.rnz.co.nz/international/pacific-news/429717/vanuatu-set-to-adopt-new-cyber-crime-law>

Summary: Promising Policy Directions with Legislative Limitations

Overall, Vanuatu's policy environment is very forward facing, and is not overly prescriptive in how policy goals or recommendations are achieved. This clearly provides space for innovation and investment in technologies such as blockchain, when and where the use of blockchain infrastructure can be clearly demonstrated to serve national policy goals. The strong emphasis throughout policy frameworks is on economic inclusion, development and growth. This includes with financial services, inclusion and infrastructure, as well as more robust government systems and services being critical driving forces requiring improvement to meet these goals. It is very clear that there are demonstrated uses and aspects of blockchain technology that offer the tools and systems to government and enterprise to accelerate progress in achieving this, but it should be acknowledged that blockchain is only a tool – much like a bicycle, it requires training, consistent utilization and direction in order to be useful.

As stated earlier in this paper, policy provides direction, but legislation and regulation are required in order to put in place sufficient 'guardrails', or safeguards, in place to ensure responsible use and implementation.

Because blockchain technology is a form of internet-based information technology, looking at the legislative and regulatory environment governing IT infrastructure is key, and unfortunately reveals some gaps and shortcomings that would need to be addressed in order to perform responsible de-risking and to ensure protections are in place for users, namely the citizens of Vanuatu, businesses, and institutions using blockchain systems and applications.

However – existing gaps also invite improvements that are required generally to improve both IT and financial compliance and security at the national level, with or without the presence of blockchain technology. The positive spin here is that blockchain (again, as a tool, not a goal in and of itself) can offer a means to this end by providing highly secure and cryptographically encrypted data storage, and distributed and decentralized access to data that avoids the risks of a central point of failure, which is a specific policy recommendation in Vanuatu's Universal Access Policy. The fact that most of the legislative shortcomings here are concentrated across the responsibilities of TRBR and OGCI suggest that these are critical government players that must become more actively engaged in the blockchain adoption and corresponding legal reform processes.

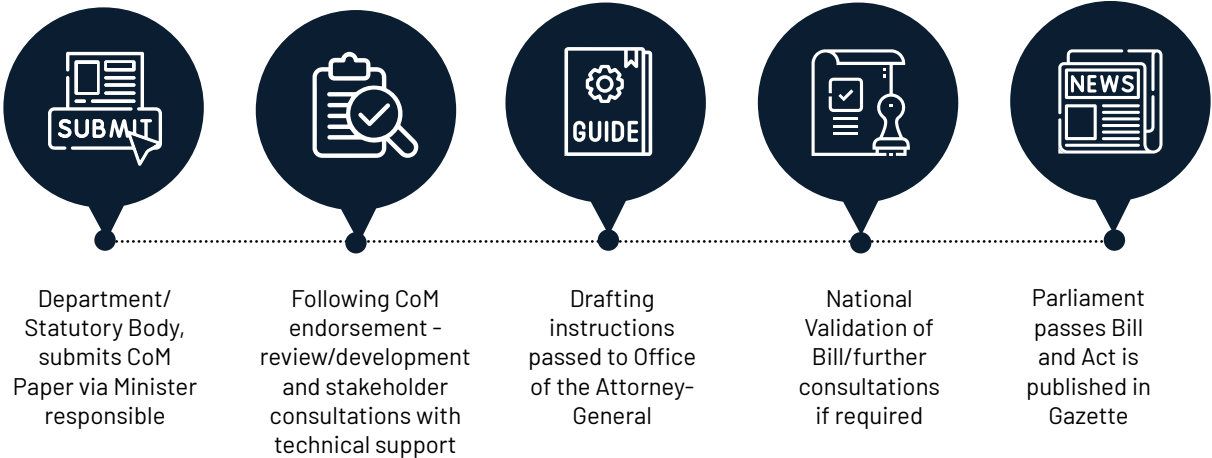
Pathways and Processes for Legal Reform

The process chart below maps out the various stages of the law reform process in Vanuatu. While this is the general law reform process, other processes do exist and can potentially be more time efficient if there is political support. The length of time involved in the overall process in one part is dependent on how long the review, consultations and drafting instructions take to be completed. The reform process up to the drafting instructions can be carried out independently, by the department or with technical support, but the Vanuatu Law Reform Office and the Office of the Attorney-General also support these law reform processes subject to capacity.

Once drafting instructions are provided to the Office of the Attorney-General, the legislative drafting can take on average between 1-18 months depending on their capacity and the priority of the Bill, as determined by CoM. Bills that are completed should in principle be validated by stakeholders before the next parliament sitting when the Bill is deliberated. The process of proposing new legislation will generally take longer than proposing amendments to existing legislation. If only minor amendments are required to existing legislation, there is a process whereby the institution responsible can directly request the Office of the Attorney-General to make changes through the Statute Law (Miscellaneous Provisions) Act, which is the most expedient process of changing laws.

Development of rules, regulations and orders can be carried out directly by the Minister or person responsible for the Act where existing legislation provides for this. It is a useful regulatory tool that does not require support of Parliament and can fill gaps or expand on the provisions of existing legislation so long as they are not inconsistent with the provisions of that Act and any other legislation.

Legal Reform Process: Summary Timeline



The key stakeholders to engage with for the areas of law reform discussed in this section are in the table below:

Blockchain Adoption: Recommended Policy & Legislative Reforms

Key Govt Stakeholder/s	Reform/Development	Uses
Reserve Bank of Vanuatu	National Payment System Act – developing payment system, licensing system and rules Electronic Transactions Act E-Commerce Act	E-Government Services, foundation for G2G, G2B, G2C Financial Inclusion Regulation of financial institutions and dealers in relation to using the National Payment System
VFSC	Electronic Transactions Act Financial Dealers Licensing Act E-Commerce Act Proposed new legislation for licensing digital assets (separated out from Financial Dealers Licensing Act)	Regulation of financial institutions and dealers
Ministry/Minister of Finance	Support and initiation of legislative amendments to all of the above Acts Consumer Protection Bill	
Registrar-General (Civil Registry, Ministry of Internal Affairs)	Civil Registry and Identity Management Act; National Identity Act – Regulations to support blockchain applications as the foundation of the national ID management system	National Digital ID, KYC/AML requirement
OGCIO & CERT VU	Data Protection & Privacy Policy and Act	
Ministry/Minister of Trade	Consumer Protection Bill E-Commerce Act Support and initiation of legislative development/review for these two legislative instruments	E-Commerce and development of digital economy for trade

Mitigating and Addressing Regulatory Risk

Circling back to the questions of Vanuatu's regulatory landscape as described by stakeholders during the consultation phase of this study, it is clear that stakeholders have rightly pointed out the need for reform. There are some significant, but achievable regulatory considerations and improvements required in order to ensure that the use cases described herein and/or expanded use of UBC-like solutions is, in fact, possible.

As a matter of fact, regulation and policies can be crafted to ensure that these innovations are encouraged, simply because testing and product development, a core part of the innovations process, is needed to make sure that Vanuatu gains appropriate, adapted and context-relevant blockchain solutions that are sustainable, accessible and robust.

Nonetheless, stakeholders interviewed see current regulation in Vanuatu, particularly in the finance and technology sector as being prohibitive in its current form, which is problematic. There are in fact two major regulatory risks to consider and to mitigate. First, that the current regulatory environment itself has a "chilling" effect in that it is too conservative and constrictive to enable innovation despite public interest and available resources. Secondly, that blockchain technology itself presents intrinsic regulatory risks as a result of its decentralized nature, and that these need to be mitigated.

Stakeholder Survey: Ranking of Blockchain Use Case Risks (2022)

Use Case	Average Rank*
Crypto	3.41
CBDC	2.41
Compliance	2.33
Agriculture	2.22
E-Payments	2.00
Institutional Pmts	2.04
Digital ID	1.81
Supply Chain	1.69
Humanitarian	1.59

*5 = highest risk; 1= lowest risk

Both of these statements are true, but it is also a fair question as to whether such a constrictive regulatory environment is in fact warranted if, in fact, blockchain innovation has been stalled due to a lack of access. As a result, it has not yet resulted in the manifestation of any of the intrinsic risks perceived by government and stakeholders. An example of this is the perceived risk of trading in cryptocurrencies, which stakeholders ranked as the highest possible risk – despite the fact that there is no viable way in Vanuatu today to access, purchase or trade cryptocurrencies, even via most international digital currency exchanges. Beyond government, this does tell us that the environment in Vanuatu can be characterized as adopting a typically "risk based approach" (RBA) from the outset, as opposed to taking a "risk management" or mitigative approach to regulation⁷⁷.

⁷⁷ Similarities and differences between regulation designed to manage risks and a risk-based approach. Maddocks Australia, 2016: <https://www.maddocks.com.au/insights/15256#:~:text=A%20risk%2Dbased%20approach%20to%20regulation%20is%20aimed%20at%20prioritising,design%20of%20the%20regulatory%20framework>

It is highly common for nations at Vanuatu's stage in development to adopt this type of an approach, with the Caribbean nations mentioned previously being no exception. The RBA approach is appropriate, and has also been recommended by the Financial Action Task Force (FATF) as being the recommended process for countries looking to regulate virtual assets and virtual asset providers

(VASPs), based on a 2021 Guidance Note to this effect⁷⁸. Numerous international regulatory bodies and academic institutions have outlined some of the risk considerations associated with the use of blockchain technology.

Bear in mind, however, that risk evaluation and assessment is designed to help regulators navigate the process of blockchain adoption, rather than stop or obstruct the innovation process.

This was a key topic in a 2019 OECD Global Blockchain Policy Forum, where the issue was articulated in a manner very relevant to Vanuatu's current situation and regulatory landscape: "Fulfilling blockchain's potential depends upon a policy environment that supports innovation and experimentation while acknowledging and mitigating risks."

What is clear is that the policy and regulatory framework for this technology is under-developed". This is not a challenge unique to Vanuatu, as the 1600 attending OECD Blockchain Policy Forum members demonstrated.

This was only one global policy event of many focused on blockchain adoption. It is now a global effort to ensure that developed and developing economies alike can create a policy and regulatory environment that encourages innovators and regulators to work together towards goals that serve social good and economic growth.

Luckily, Vanuatu is certainly not the first country with stakeholders to weigh and face these issues. In fact, there are a number of strong blockchain policy toolkits, risk assessment and management frameworks offered by reputable institutions, such as global consulting and research firms, that have been designed for institutional, company and government use, such as [Deloitte's Blockchain Risk Management Framework](#), or the [Decentralized Finance \(DeFi\) Policy Maker's Toolkit](#) developed by the World Economic Forum. Global support bodies and business consortia, such as the [Global Blockchain Business Council](#) host dedicated regulatory groups composed of country regulators, and offer tailored consulting and technical advisory services, especially to governments in emerging markets. In short, these resources are available for stakeholders in Vanuatu to access and leverage for the purposes of country regulatory assessment, reform and education of policy makers.

⁷⁸ <https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>

Stakeholder Concerns: National Regulatory & Legislative Barriers to Blockchain Adoption

Before examining a general overview of the agreed and identified risks associated with the use of blockchain technology, let's begin with the first barrier identified by stakeholders – which actually refers to outdated regulation, rather than restrictive or poorly adapted regulation. Data privacy, protection and security are rarely mentioned in financial regulations, and are spuriously covered in existing ICT policy and regulations, which is a critical foundation when considering the use of decentralized ledger systems and the use of blockchain for Digital IDs. However, on the positive side, a collaboration with the Council of Europe was signed in December 2021 and a National Expert Task Force for Data Protection & Privacy put in place, with the goal of updating the current legislative framework⁷⁹.

Attracting investment from blockchain businesses and service providers is also an uneasy fit within currently business licencing regime, which fails to provide for IT services providers as a broader category let alone more specific categories like blockchain providers. The closest proximation is “telecommunications, telegraphic and communication service companies and providers”. Updates of the business licencing regime, along with the laws already referred to above are needed to ensure Vanuatu remains relevant and attractive to outside investors, which is where the majority of blockchain capacities and services are currently based.

Other examples that indicate where regulation is in place in principle but not yet fully applied in practice, include challenges with adopting and implementing regular and accurate supervision of domestic and offshore financial institutions; limited integration of databases, communication and information across government departments; and limited mechanisms for the Reserve Bank of Vanuatu to accurately assess market risk and track and identify AML risks.

In virtually all cases, the most significant and recurring issues across Vanuatu's regulatory landscape appear to be related to functional systems that gather and provide accurate information can be used to enact and enforce the rules in place (even when these are outdated). This is important – as it suggests that blockchain may offer systems-level improvements in the areas of financial transparency, but only if the underlying regulations required to encourage investment and innovation can be updated and brought to current standards.

In reality, Vanuatu's national policies are generally enabling and are beginning to result in updates to the legal framework, but most regulatory risks appear to originate from poor data availability and monitoring mechanisms, which in turn hinder effective regulatory supervision⁸⁰. The same issues are at the heart of the ongoing issue of the EU's blacklisting of Vanuatu as a non-cooperative jurisdiction, which is directly linked to issues of regular tracking and reporting of information, transaction monitoring, and transparency. Digitizing transactions using blockchain-based platforms can help – and thus improve fiscal governance and reporting.

⁷⁹ <https://dig.watch/updates/vanuatu-considers-new-data-protection-legislation>

⁸⁰ Vanuatu Assessment of the Supervision and Regulation of the Financial Sector, International Monetary Fund: <https://www.imf.org/external/pubs/ft/scr/2003/cr03254.pdf>

⁸¹ Updated Sectoral Risk Classification (Vanuatu), FATF/FIU: <https://fiu.gov.vu/docs/Updated%20Sectoral%20Risk%20Classification%20March-May2018.pdf>

To address the last area of stakeholder concern, there appears to be a need for increased leadership appetite at the government level. This leadership capacity is critical to exercise the ownership and drive required to truly lead Vanuatu forward towards large-scale blockchain innovation. National ownership and political leadership will ensure that adoption occurs in a manner that brings resources, better systems and positive change to the financial sector, business community, and the public at large. Here, it appears that the main constraint is not political will, but rather, a need for strong technical support, up skilling and capacity building – educating government regulators, civil servants, finance sector workers, and policymakers on the purpose and potential of blockchain technology more broadly. This would require more than just training. It necessitates building and cultivating dedicated teams focused on identifying and supporting the introduction of new blockchain use cases. Guidance is needed for the vetting and sourcing of blockchain service providers. Support is needed for public awareness and messaging, mobilization of foreign investment, and the expansion of institutional and cross-country (regional or international) partnerships to share and exchange knowledge. It is as yet unclear what government body might lead the charge here.



General Regulatory Risks and Concerns

With the pace of blockchain development, regulators face a major challenge in balancing the need to maintain enough flexibility to encourage innovation while also constantly managing and mitigating risks to the public. The advent of “Fintech” represents the introduction of a series of emerging technologies (including, but not limited to blockchain), combined with new asset classes, transaction tools and architecture. This comes with new ways to change (and decentralize) how financial institutions are controlled, and so it has been difficult for financial regulation to keep up – even in more ‘developed’ country contexts. A recent study at Duke University⁸² on the state of U.S. regulation, for example, suggests that regulators should adopt approaches that focus on the national interest and goals of financial innovations, rather than regulating in a piecemeal fashion.

The conclusion is that pragmatic and purpose-driven approaches are more appropriate for risk management. For nations like Vanuatu, this will necessarily mean looking at regulatory development and risk management for the most beneficial uses covered previously in this paper. These include the introduction of digital financial products and financial inclusion, SME innovation and growth, and ID systems that facilitate better access to and management of government services.

Financial services and institutions do potentially stand as the first to benefit from blockchain systems that provide rapid and efficient cost-reduction characteristics, potentially allowing these actors to provide more and better financial services to an expanded client base at less cost.

At the same time, the decentralized finance industry creates stiff competition, potentially putting traditional finance players at a disadvantage. Digital IDs and certificates that reflect a unique right to ownership, associated with an immutable transaction history can also reduce the costs of verifying authenticity and creditworthiness.

Across all of these areas, the advent of digital and virtual assets exchanged between parties on a speculative basis present a real threat for two reasons: first, these are often issued and operated on platforms owned by “Big Tech” companies and not financial entities, or present jurisdictional challenges due to their decentralized nature; secondly, the availability of alternatives to government-backed currencies risks derailing country-level efforts to implement monetary policy and economic stabilization measures. Protective measures, such as deposit insurance, are often absent.



What are the current gaps in regulations in Vanuatu when it comes to use of blockchain and blockchain finance?

75% of Regulators responded:

“Digital finance/ E-banking, e-commerce and e-payments”

⁸² Grennan, J. *Fintech regulation in the United States: Past, Present and Future*, Duke University Fuqua School of Business (Innovation & Entrepreneurship Initiative), 2022. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4045057

Counterparty Risk

In locations where the classification of digital assets lacks a suitable framework, decentralized finance solutions and other virtual asset providers exist at the intersection of two industries that rarely collaborate to regulate together: technology and finance. This creates regulatory difficulties in oversight and numerous loopholes. The question of whether cryptocurrencies are taxed as securities is a key example. When technologies fail but use automated and decentralized systems, there is a question as to whether the system itself, or the company, or even the person who wrote the code is legally liable for this failure. For the complainant, the target of litigation and dispute resolution avenues then become unclear. This indicates a need for major cross-sectoral / cross-ministry governance, collaboration and information sharing, which is often very difficult, especially in contexts such as Vanuatu where leadership changes are common and frequent.

The IFC has specifically looked into the question of the unique regulatory risks that emerging markets are exposed to, some of which are structural. The vast majority of country laws and regulations, including in the Pacific, are premised on centralized systems of control and responsibility, which are maladapted to the governance of infrastructure that is decentralized by nature. This raises enforcement issues. For example, blockchain technology is being used very successfully in emerging markets to simplify cross-border payments and remittances by removing the need for transfers to pass through multiple parties (all with fees).

These use cases present a major benefit to the consumer – especially in the Pacific, where remittance rates are among the world’s highest. Yet, it does raise the question of who is responsible if there is no central entity facilitating the process to be held accountable if funds are lost. In the case of blockchain-based lending and interest-bearing instruments, there is a jurisdictional enforcement question if funds backing a specific service are exposed to market risk in an entirely different jurisdiction, or if the underlying algorithm used by the network is inaccurate.

Market Risk

Cryptocurrencies, which have been identified by stakeholders surveyed, and both the VFSC and RBV as the highest risk areas of blockchain technology, do carry a high risk of fraud and instability. These risks are even more acute if and when made available to communities and population groups that are inherently vulnerable and lack access to conventional investment vehicles. The amount of investment in blockchain technology has led to the prevalence of ‘get rich quick’ schemes are often predatory in nature and take advantage of people in places where access to investment is limited. Education and awareness is required to ensure that everyone understands that even ‘established’ and well regulated cryptocurrencies are still considered to be very high risk investments, and are inherently volatile.

A more nascent risk – even for those who stay away from more volatile crypto-assets is the question of how to monitor the stability of collateralization mechanisms, which arises in cases where a “stable” crypto currency experiences rapid devaluation due to a drop in the value of underlying collateral assets.

A growing number of decentralized finance protocols and government regulators are beginning to impose over-collateralization requirements for this purpose.

Put simply, regulators may wish to take an incremental approach to permitting the availability, trade, and purchase of virtual asset classes such as these – and focus instead on use cases that further public interest and the provision of essential goods and services. However, the same regulation should not constrain more useful applications of the technology, such as tokenization, which can be used to facilitate trade and exchange of real-world goods that effectively collateralize each transaction, or ‘utility tokens’ without value, but that are programmed to fulfill a specific purpose, such as verifying or facilitating the change of valuable or sensitive information.

Other Risks

Other risks are largely similar to parallel risks in the financial services sector, such as liquidity and default risks, where inadequate funds are available for transaction settlement. This is linked often to volatility and price fluctuations – for example, there have been several recent examples where macro-level market conditions have led to “flash” crashes on centralized exchange platforms. In other words, an external event causes deposit holders to liquidate positions all at the same time, causing prices to drop faster than new transactions can guarantee sufficient liquidity for settlement – similar to a ‘run on the banks’, but in the digital sphere.

Risks associated with data protection and cybersecurity, as with most internet applications, are highly relevant and require guidance for users to educate and protect themselves. For example, keeping one’s digital assets or cryptocurrency holdings on a centralized exchange exposes the user to a theft hack of the exchange itself; transferring assets to a ‘cold wallet’ on a personal device is much safer and more effective. However, this can also be prone to individual error, as a private key, or unique encrypted password is required – hundreds of early bitcoin investors have lost millions by misplacing the original laptop or hard drive where their bitcoins were stored, losing funds that were once effectively worthless, but are now worth millions.

A last risk to consider is not specific to regulation at all – but it is very relevant to Vanuatu and has been echoed by public and private sector stakeholders alike. This has to do with the knowledge and capacity of institutions, governments, individuals and businesses in private markets to accurately and diligently screen the quality of service providers used for blockchain applications. Screening parties and processes must consider that these providers may have a presence across multiple jurisdictions. This often manifests as a procurement risk (supplier/contractual) that is more acute in local and regional markets where the blockchain market for service provision may be less competitive (Vanuatu) and, therefore less likely to filter out poor quality solutions. It is also a risk where blockchain scammers may prey on unsuspecting or resource-poor clients.

Understanding core blockchain infrastructure and information security considerations, which blockchain network the solution is built on, and the stability of the company’s business model (especially if this is a start-up) are all considerations to bear in mind and weigh thoroughly before selecting a single solution. Obtaining a technical expert or advisor to support the process of selecting a suitable blockchain solution is necessary, and fortunately, is now quite practical given the rapid growth and evolving maturity of the blockchain space.



“We have reached a point in time where such technologies as blockchain have suddenly become of paramount importance to how we do business. The quicker regulations are addressed, and the faster a greater awareness is created on these technologies, the more aligned we are to the rest of the world.”

05

Recommendations: Where to from here?

Blockchain technology is new and complex; in previous years, many local and international stakeholders might have dismissed its suitability or feasibility for successful use in Vanuatu – especially for humanitarian response and in the face of the country’s high and recurrent level of disaster risk exposure. Yet – the UnBlocked Cash Project changed the game. Oxfam and partners successfully demonstrated that a consistent and persistent effort: a collaborative approach to stakeholder buy-in; community awareness; hands-on training and education, and a contextually-appropriate and simple application interface made it possible. All of these actions combined made the large-scale launch of a blockchain payment system possible in the face of three concurrent unfolding national disasters. This is both unique and significant, and yielded fantastic impact and results.

Most importantly, this sends the message that the use and scalability of blockchain technology in Vanuatu is possible, especially if it meets an appropriate need and is adapted to local markets. This is effectively a substitute for a national feasibility assessment, and far surpasses what any other Pacific Island Country in the region has done with regards to blockchain innovation, especially in the finance space.

So now, the question stands – will Oxfam, donors, government and private sector stakeholders in Vanuatu seize this opportunity for posterity, or treat it as an exception in time, and leave it behind?

This study is intended to plant the seed for collaborative and sustained efforts to ensure that this investment and effort – nearly 25,000 people, over 350 businesses and 18 partner organisations, and several million donor dollars – was worthwhile. We have sought to demonstrate throughout this research how this effort might yield returns, and how this is highly relevant to the Vanuatu’s financial and economic growth.

Rather than re-iterating the project-level successes of UBC, this piece aims to face outwards, and indicate what directions are possible, who can lead the way, and what actions and considerations are necessary to move blockchain adoption efforts forward. To be clear – the UnBlocked Cash Project was not a simple endeavour, but thousands of Ni-Vanuatu families will tell you it was worth it. The same lesson applies to government and private sector actions and efforts to expand testing, exploration and access to blockchain applications for financial inclusion, SME support, economic growth, and improved governance and public service delivery. Sustainable development and growth cannot rely on a single organization; it must be adopted as a long-term, group effort.

The following recommendations are divided into two sections. First, we provide specific suggestions for sector stakeholders to advise strategy and planning for the future. Second, we provide a roadmap for action and policy change to lay out what is possible to clear a sustainable path forward.



Strategic Recommendations: For Country Stakeholders

To move forward with integrating blockchain further into the financial, business, and development landscape in Vanuatu the regulatory environment must be made to suit the needs of this advancement. There are three essential areas that need to be bolstered in order for the regulatory environment to become fit for purpose: (1) collaboration; (2) infrastructure and capacity, and (3) practice.

Increased collaboration between national ministries and regional bodies will help to make the regulatory environment more efficient, accessible and streamlined. Ultimately, this can lead to more uptake of blockchain technology for various uses in an ethical, safe, and sustainable manner. Likewise, bolstering infrastructure, both digitally and physically, alongside capacity development, will help to make blockchain a more viable tool in ni-Vanuatu society. With these actions, the technology will be easier to use due to increased access, and knowledge. Lastly, permitting growth in practice through blockchain usage and service delivery will eventually assist in scaling adoption and familiarization. Eventually, the ensemble of these actions together will create broader recognition that blockchain is a useful solution to conducting business in this challenging environment.

1. Multi-Sectoral Mobilization & Collaboration

A key pillar to making blockchain usage easier to implement and expand in various sectors in Vanuatu, collaboration is essential in creating an environment that is conducive to expanding usage in a safe and ethical way. Overall, policies and laws put in place should be conducive to guaranteeing universal access to information technology, expanding access to finance, improving general digital infrastructure, and promoting collaboration models (Davidovic et al.2019).

In building increased collaboration between government ministries, private enterprise, and regulatory bodies there is a need for improved coordination and strengthened partnerships.

Primarily there is a need to amalgamate supervisory authorities and users (businesses) in order to harmonize legislation for blockchain usage across all sectors, and in a way that is practical and sustainable. **In creating a single, multisectoral body responsible for developing policies and promoting advocacy and awareness, and exploring and assessing potential systems and solutions such, the process for introducing blockchain technology would be more efficient and operable.**

This effort would likely take the form of a consortium, coalition or steering group. **The focus of this group should balance promotional and practical work, and seek to build a strong community of practice to guide and position stakeholders across sectors to support others in the longer-term process of adoption.** This unified body should advocate for entities across sectors using blockchain technology to work together, and also measure and document the nation's progress towards increased financial inclusion. While Government will certainly be engaged in these efforts from the outset and in the governance structure (by steering committee or other), a second, and further step suggested in the VBRC's Blockchain Roadmap (2022) is to establish a Ministry for Digital Economy. Whether in the form of a ministry or concerted group effort (consortium or otherwise), the goal should be to provide access opportunities alongside the correct legislative framework, budgetary controls, and authority to enact policy and integrate decisions into existing laws and systems.

As an alternative, a “parent” ministry, such as the Ministry of Finance and Economy, may be selected after a specific period of time, and establish a dedicated Department to the efforts to achieve similar results. This could qualify as an attractive governance and digital development initiative, and regional donors (DFAT, MFAT, USAID) and IFIs (World Bank, ADB) should be approached accordingly to support financing.

Once this unified body is established with clear lines of accountability, this in turn can engender increasing cooperation between regulators as all using blockchain technology in their services will report to the same central authority (ADB, 2016). In having this centralized authority and increased collaboration between sectors, holistic regulations should be developed across all sectors inhibiting working in silos and the development of competing processes. Siloed, entity-focused regulations will undoubtedly lead to certain markets being overregulated and stifled, and the opportunity for firms to capitalize on loopholes in regulatory systems to circumvent those that are unfavorable (ADB, 2016). For example, in regulating the use of a blockchain-powered digital ID, it is essential to have a balance of power between stakeholders (public, private etc) in order to prevent political and financial bias skewing the way in which something so integral to daily life is governed (VBRC, 2022). Moving forward, an activity-focused, and risk-based approach will encourage cooperation among blockchain’s various stakeholders to develop a level playing field for all.

2. Cross-Regional Learning and Knowledge Transfer

To make the regulatory system more efficient and increase operability both in Vanuatu and in the region at large, collaboration between regional bodies is essential. A regional regulatory approach is integral to not only help Pacific nations overcome resource and skill constraints, but to ensure that countries can adapt strong controls all while facilitating knowledge and capacity sharing. With the evidence base and practical foundation provided by UnBlocked Cash, this is also an vital opportunity for Vanuatu to demonstrate leadership in the Pacific Region by pioneering the effort.

Regional collaboration would also help Vanuatu and other Pacific nations to overcome infrastructural challenges as well as distances to markets. In working together to create a pan regional central payment infrastructure using blockchain technology, countries could enable real-time and interoperable cross-border payments (PDEP, 2021). This is an integral step to moving the region forward in a collective manner and one that honors the true nature of the Pacific as a “Sea of Islands” with populations, culture, and business, constantly moving between countries. To overcome regulatory barriers, governments should look to establish uniform payment regulations, specifically those around licensing, easing current onboarding regulations without compromising on AML/CFT rules, and developing complimentary regulations surrounding data privacy and cybersecurity grounded on international standards (PDEP, 2021). This will allow for an expansive blockchain environment where businesses can grow easily and expand beyond national boundaries due to these unified regulations.



Stakeholder Survey

What other influencing factors are important in achieving regulatory adaptation and eventually integration for widespread adoption of blockchain technology and blockchain finance in Vanuatu?

100% of regulatory/financial respondents believe: *“The potential to use blockchain technology for government systems, such as financial transparency and tracking, payments, and national ID (digital ID) systems”.*

Ultimately, while national regulators should still have power over regulatory decisions, such coordination will no doubt help to grow the use across the region (Shust, 2021). With market entry eased for both incumbent and new service providers financial inclusion and development progress across the region will be bolstered.

There is no reason that cross-regional efforts should be limited to the Pacific Region alone – as mentioned earlier in this paper, the Caribbean region is a strong champion of South-South Partnership, and shares similar geographical, infrastructure, and capacity challenges as Vanuatu and other PICs.

Multiple global donors, such as the Commonwealth, the World Bank, and UN Agencies have already established mechanisms to support collaboration across island nations, with the SAMOA pathways and Small Islands Developing States Partnership Framework as key examples. Emerging geopolitical donors in the Pacific Region, such as the EU, USAID and France have significant investments and partner networks across the Caribbean; a proposal for a more localized, south-south transfer of capacities may also garner interest and financing

3. Attract Technical Capacity, Investment and Solutions

Vanuatu has the potential to make blockchain accessible, efficient, and a trusted technology through investment in capacity development and infrastructure. Building capacity via increased financial and fintech literacy both in government and in the general public will help to make blockchain a better understood method of operation, helping to increase trust and ultimately uptake. Bolstering physical and digital infrastructure will in turn help blockchain powered solutions to become more inclusive.

There is certainly no shortage of resources or interest in opportunities to expand blockchain ecosystems to frontier markets in new regions, like Vanuatu. Many major blockchain players, such as Coinbase, Consensus, Chainlink Labs, Celo, and Bitt, a major provider of CBDC infrastructure, are already aware of the UnBlocked Cash Project, and would likely be thrilled to offer support for broader systems building and adoption – these are not typical development players and therefore have a vested interest in sustained and expanded adoption of the technology across multiple applications.

To measure the rate of progress and impact, more data, an agreed procurement process, including sourcing of system specifications and proposals should be collected from blockchain providers (PFIP, 2011). **This technical support can be sourced through a standard, internationally disseminated Tender or RFP that aligns with the specific use cases in this document: Digital Identity, a CBDC (retail or wholesale), and blockchain payment applications.** This data should include service and product profiles, showing what types of BC powered services are being offered as well as user level indicators like the number of active clients per enterprise and institution (PFIP, 2011). Product demonstrations to a multi-stakeholder consortium of decision makers can raise education and awareness; feasibility and due diligence studies can serve to assess technological suitability, and user uptake statistics from other operating environments can gauge whether existing user demographics fit Vanuatu's population profile.

To accomplish the goal of increasing use of blockchain across Vanuatu, the amount of blockchain applications and services using blockchain – even if these are simply pilots or beta testing – should be made available. This would help to accomplish a number of things: raising awareness through 'learning by doing' via access to blockchain products by the public, seeding institutional adoption through sector-specific pilots, and informing product adaptation and development to assess the longer-term suitability and usability of these solutions.

In increasing demand for blockchain technology, Vanuatu first must have a flexible regulatory environment to foster increased competition (ITU, 2019). In making it easier for firms to operate while still maintaining high ethical and safety standards, Vanuatu can increase the amount of firms operating in the sphere, thus reducing costs and making services more accessible (Davidovic et al., 2019). By increasing the use of blockchain powered mobile and fixed ICT services, this can increase the GDP of Vanuatu by making business more efficient and upping financial inclusion. Lastly, with an increase in GDP, and a transformation of the economy to being more digital, Vanuatu can help stop brain drain by creating a modern economy that is dynamic, accessible and competitive (ITU, 2019).

4. Build Trust and Education

For blockchain-powered solutions to be expanded in Vanuatu, they must be used, to be used they must be trusted. To build this trust in blockchain powered systems, consumers need to understand the basics of what it is they are using and how to use it. Financial literacy needs to be increased at a basic level in the public, teaching people simple methods for savings, how to use loans and credit etc.

At the government level priority and investment should go to fostering the right skills and knowledge of fintech and blockchain infrastructure and solutions to better inform regulators and other implicated stakeholders (ex. financial service providers) in Vanuatu. To do so, financial and digital literacy should be a key element of a national capacity development strategy. If not remedied, this knowledge gap can result in a weaker capacity to act against attacks and fraud ultimately exposing Vanuatu to increasing cybersecurity risks.

When it comes to blockchain financial literacy, providers should coordinate with one another on their product curriculums to see how they all can work together to inform the public on their services and how these services can be used in tandem (PFIP, 2011). **Ultimately access to financial services is insufficient if consumers are not aware of the uses of such products or how to use them– financial and digital (blockchain) literacy and trust is integral to increasing penetration of blockchain solutions in Vanuatu.**

Learning from Oxfam’s UBC efforts, education, capacity building and learning can be highly effective within a short period of time through an applied learning, or “learning by doing” approach.

When users are able to access blockchain applications and use them in the regular course of business, or in their everyday lives, not only do the benefits of the technology become evident, expertise on how to use, compare and potentially design platforms and applications ensues. In this regard, **it is critical for policymakers and legislators to understand that opening and attracting opportunities for businesses and other players to use blockchain infrastructure (i.e. adoption) is a direct driver of technical knowledge and capacity.** This was precisely the case in Vanuatu when internet services and connectivity became widely available – and the ability for regular men and women to use and navigate web-based services rapidly increased as a result. After all – how can you learn something new, if it’s not made accessible to you? Trainings and workshops can only go so far, and will remain abstract without accompanying policy and regulatory enablers to bring service providers to Vanuatu, who can then provide exposure and applied learning opportunities to all users, in government and business and beyond.

5. Engage Infrastructure Providers

For Vanuatu to increase the uptake of blockchain technology, services must be able to reach a wider range of people in a cost effective manner. To expand usage beyond urban and peri urban areas, digital and physical infrastructure must be bolstered.

Specifically, **employing and engaging mobile infrastructure providers is both a business opportunity and a fail-safe: if blockchain adoption grows, so does data and ISP network usage.** The provision of stable network connectivity is also necessary for the successful testing and piloting of potential blockchain solutions, and doing so at scale and with a long-term plan can provide an opportunity to negotiate lower costs for end users.

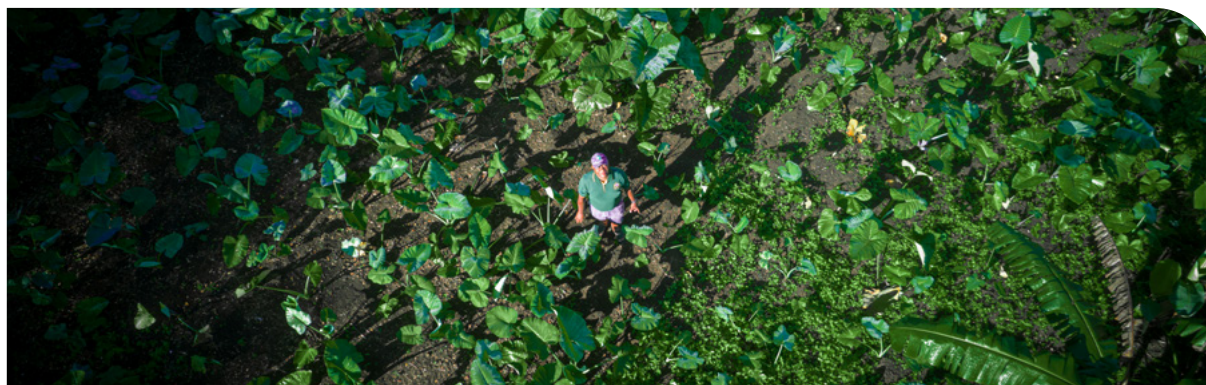
Currently the expansion of submarine fiber-optic cables and greater mobile network coverage is helping to resolve the “tyranny of distance” facing Vanuatu (Davidovic et al., 2019). In small economies like that of Vanuatu, the high cost of scaling up fintech may impede adoption. Thus to improve coverage in the many remote areas of Vanuatu where cabling is not financially viable, Vanuatu should consider the increasingly affordable option of satellite coverage (Ibid). Satellite coverage is not only more affordable, but can help avoid disruption to critical services in ways undersea cables cannot (as evidenced by Tonga’s 2022 volcanic eruption).

6. Use Existing Regulatory Mechanisms for Innovations Testing

To make blockchain expansion financially viable for Vanuatu, which has a small total addressable market, there needs to be consistent demand. The more products and people using blockchain the cheaper it will be to implement. Testing products and applications for contextual suitability and functionality in Vanuatu and for Ni-Vanuatu people, is key to ensuring that blockchain solutions are aligned with consumer preferences. As a means of doing this, blockchain solutions should be tested in a sandbox environment, this way testing can be done in a live environment, troubleshooted, and ultimately brought to market sooner and with fewer flaws.

Sandbox testing is an essential step to boosting the regulatory environment in Vanuatu as it allows for regulators and stakeholders to work together on building their services, identifying risks and consequences, and create regulations that foster growth in an ethical and sustainable manner. It also allows for a clear and ‘safe’ process to adapt and adopt blockchain solutions to Vanuatu’s context, infrastructure, and the preferences of Ni-Vanuatu people.

Additionally, it will allow for financial regulators in Vanuatu to review potential new services, ease the application and implementation processes all while allowing firms to test their services in real time. In doing so, this will allow regulators and service providers to identify and mitigate unanticipated risks and consequences before these services go to mass market (Shust, 2021). The application process for the sandbox should be digital as well as communication between all parties during the testing and evaluation process to ensure it can be easily documented and shared.





Policy Recommendations



Banking & Financial Services



**General
recommendation**

Blockchain-based financial services, if provided to the public and by accredited financial institutions, largely serve the objectives and general purpose of current legislation and policy. Digitization using blockchain platforms has the potential to accelerate the achievement of national financial inclusion goals by expanding financial access.

The “digital ledger” aspect of blockchain will also permit better and more precise adherence to existing legislation on the reporting, record keeping, and security of financial transactions.



Policies

Vanuatu National Financial Inclusions Strategy 2018-2023

Legislation

- Electronic Transaction Act
- Financial Institutions Act
- International Banking Act
- National Payment Systems Act
- Reserve Bank of Vanuatu Act





Economic Growth & Development



General recommendation

It is consistently acknowledged in existing policy and legislation that economic progress is closely tied to economic access and the inclusion, participation and growth of small businesses. Blockchain offers digital platforms to facilitate e-commerce, facilitate supply chain management, and reduce the cost of doing business. The availability of these applications and platforms via easily-accessed digital devices promises to expand access and availability of business services to SMEs in Vanuatu, potentially much faster than building the 'bricks and mortar' infrastructure to do so.



Policies

National Sustainable Development Plan – The People's Plan 2030

Vanuatu Trade Policy Framework Update 2019 – 2025

Vanuatu Infrastructure Strategic Investment Plan 2015 – 2024

Vanuatu E-Commerce Strategy and Roadmap 2022

Legislation

E-Business Act

Electronic Transactions Act





Government Services



**General
recommendation**

Blockchain-based systems are primarily used to manage large and complex databases and the exchange and management of information and transactions of information contained therein.

Specific blockchain-based solutions for digital identity management align directly with and can offer a rapid improvement on existing data management of civil registries and more rapid expansion of national identification for all citizens with minimal risk of duplication and data leakage and loss. Integrated database systems that provide multiple ministries and departments access to a single digital ledger lends itself well to achieving the objectives of more accurate and auditable public financial and economic management. Protocols and guidelines in the PFEM act can also be 'programmed' into the system to improve automation and efficiency.

Legislation

**Civil Registration and Identity Management
Public Finance and Economic Management Act**





IT & Communications



General recommendation

The language in these policies and laws suggest that the selection, vetting, selection, licensing and monitoring of blockchain service providers, infrastructure (the blockchain itself) and applications falls largely under the legislative purview of TRBR. Any future adoption of the technology by specific ministries or other government bodies should require close collaboration with TRBR and should seek compliance with these acts and policies. The decentralized nature of blockchain technology and the ease of access to blockchain applications strongly serves the Universal Access policy. Significant investments in upskilling and learning about blockchain should focus primarily on these government bodies (TRBR, OGCI).



Policies

National Information, Communication and Technology Policy 2013

Universal Access Policy 2013

Cybersecurity Policy 2013

Legislation

**Telecommunications and Radio Communications
Regulation Act**





Security & Compliance



General recommendation

The cryptographic security of blockchain is also far more compliant with relevant cybersecurity regulation than most existing technology platforms used in Vanuatu, especially in the matters of financial and database security (particularly of government systems). The transparency and ease of monitoring of financial transactions in the case of blockchain-based financial applications offers an easy and quick method to maximize AMT/CT compliance, specifically in the matter of monitoring and reporting required to improve FATF compliance ratings.



Policies

Cybersecurity Policy 2013

Legislation

Anti-Money Laundering and Counter-Terrorism Financing Act

Personal Property Securities Act



Putting Policy in Action: Recommendations Roadmap

01



Sourcing capacity building and technical support from Donors

- » Create Project Team
- » Project lead based at OGCIO coordinating overall project management and Technical Advisor's (TA's)
- » TA's to be placed at Ministry of Internal Affairs (includes key departments such as Civil Registry), Ministry of Finance (includes VFSC and RBV), and the Law Reform Commission or Office of the Attorney-General (reforming laws)
- » Other TAs to consider may include VFIU and additional support at OGCIO for Data Protection and Privacy consideration.



02



Identify current acts, regulations and policies where Blockchain enabling interventions are required

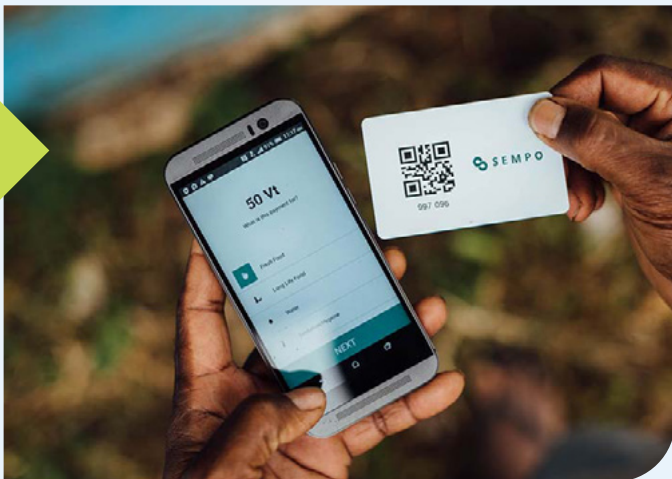
- » National Payment Policy
- » National Digital ID Policy
- » RBV and CBDC

03



Legislation and Policy

- » TA at Law Reform Commission or Office of the Attorney-General to support amendments to existing legislation and development of new legislation
- » Stakeholder / working groups established in specific areas if demend neccasary.



04



ADOPTION

- » Implementation Framework, Capacity Needs Assessment & Monitoring and Evaluation

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Annex I - Summary list

National Policies

- National Sustainable Development Plan – The People’s Plan 2030
 - » National Sustainable Development Plan Monitoring & Evaluation Framework
- Vanuatu National Financial Inclusions Strategy 2018-2023
- National Information, Communication and Technology Policy 2013
 - » National ICT Policy Framework (Draft for consultation – Feb 2021)
- Universal Access Policy 2013
- Cybersecurity Policy 2013
- Vanuatu Trade Policy Framework Update 2019 – 2025
- Vanuatu Infrastructure Strategic Investment Plan 2015 – 2024
- Vanuatu E-Commerce Strategy and Roadmap 2022

Legislation and subsidiary legislation

- **Anti-Money Laundering and Counter-Terrorism Financing Act No. 13 of 2014**
 - » Anti-Money Laundering and Counter-Terrorism Financing (Amendment) Act No. 2 of 2015
 - » Anti-Money Laundering and Counter-Terrorism Financing (Amendment) Act No. 16 of 2017
- **Civil Registration and Identity Management Act No.28 of 2021**
- **Cybercrime Act No.22 of 2021**
- **E-Business Act No. 25 of 2000**
 - » E-Business Amendment Act No. 17 of 2007
 - » E-Business Amendment Act No. 19 of 2013
 - » E-Business Amendment Act No. 30 of 2017

- **Electronic Transactions Act No. 24 of 2000**
 - » Electronic Transactions (Amendment) Amended by Statute Law (Miscellaneous) Provisions Act No.2 of 2010
- **Financial Dealers Licensing Act (Cap 70) and Amendments**
 - » Previously Prevention of Fraud (Investment) Act and Dealers in Securities (Licensing) Act
- **Financial Institutions Act No.2 of 1999**
 - » Financial Institutions Amendment Act No.21 of 2002
 - » Financial Institutions Amendment Act No.19 of 2009
 - » Financial Institutions Amendment Act No.19 of 2017
- **International Banking Act No.4 of 2002**
 - » International Banking (Amendment) Amended by Statute Law (Miscellaneous Provisions) Act No. 19 of 2013
 - » International Banking Amendment Act No. 12 of 2017
- **National Payment System Act No. 8 of 2021**
- **Vanuatu National Identity Act No.27 of 2021**
 - » Vanuatu National Identity Regulation Order No.93 of 2022
- **Personal Property Securities Act No.17 of 2008**
 - » Personal Property Securities Amendment Act No.34 of 2009
- **Public Finance and Economic Management Act (Consolidated Edition 2020)**
- **Reserve Bank of Vanuatu Act (Consolidated Edition 2006)**
 - » Reserve Bank of Vanuatu Amendment Act No. 5 of 2008
 - » Reserve Bank of Vanuatu Amendment Act No. 9 of 2009
 - » Reserve Bank of Vanuatu Amendment Act No. 17 of 2009





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