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What about a pilot?

s 9(2)(g)(i)



19 July 2023

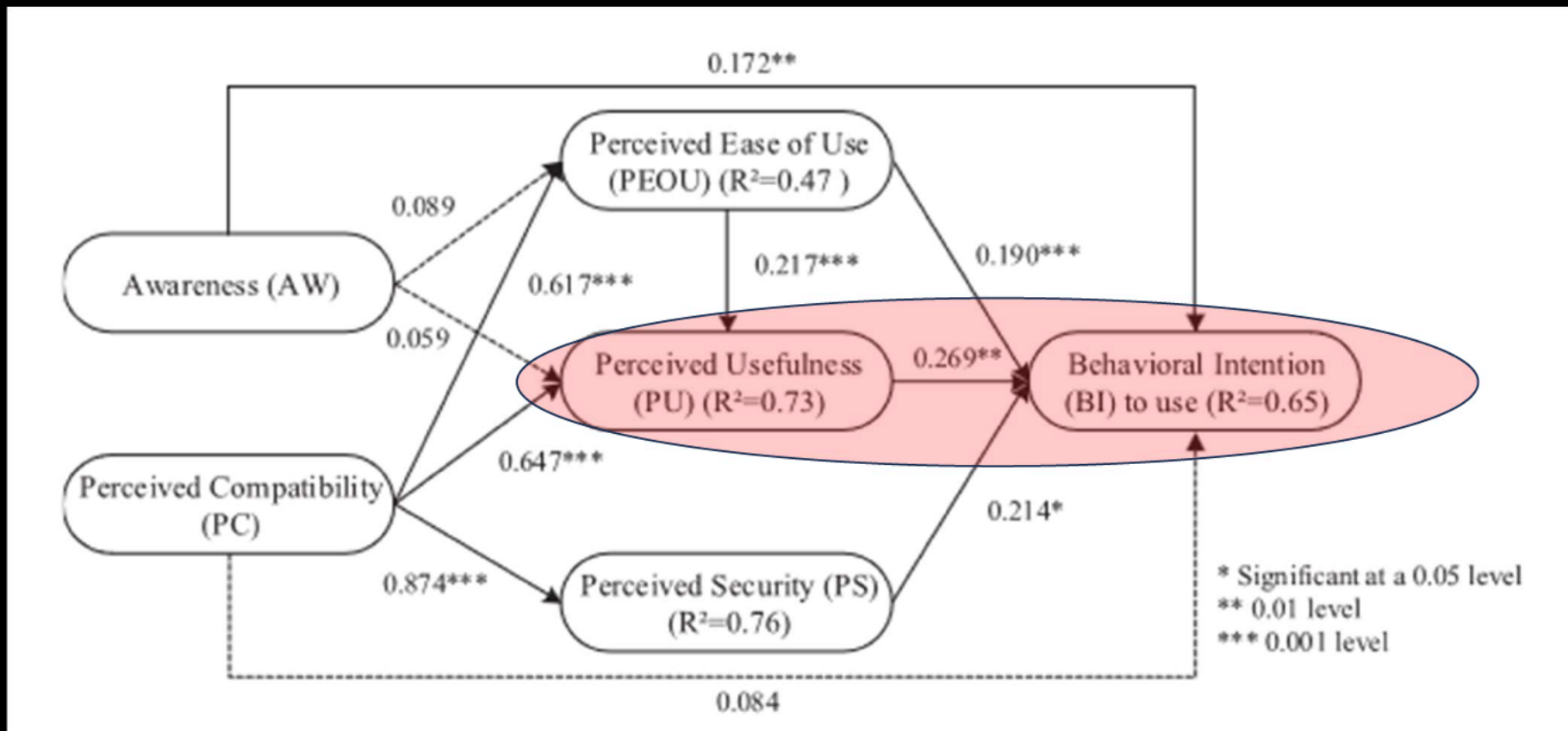
Overview

- What
- Why
- When
- How

“The case for CBDC hinges on whether it strengthens the functions of money for users and central banks.”

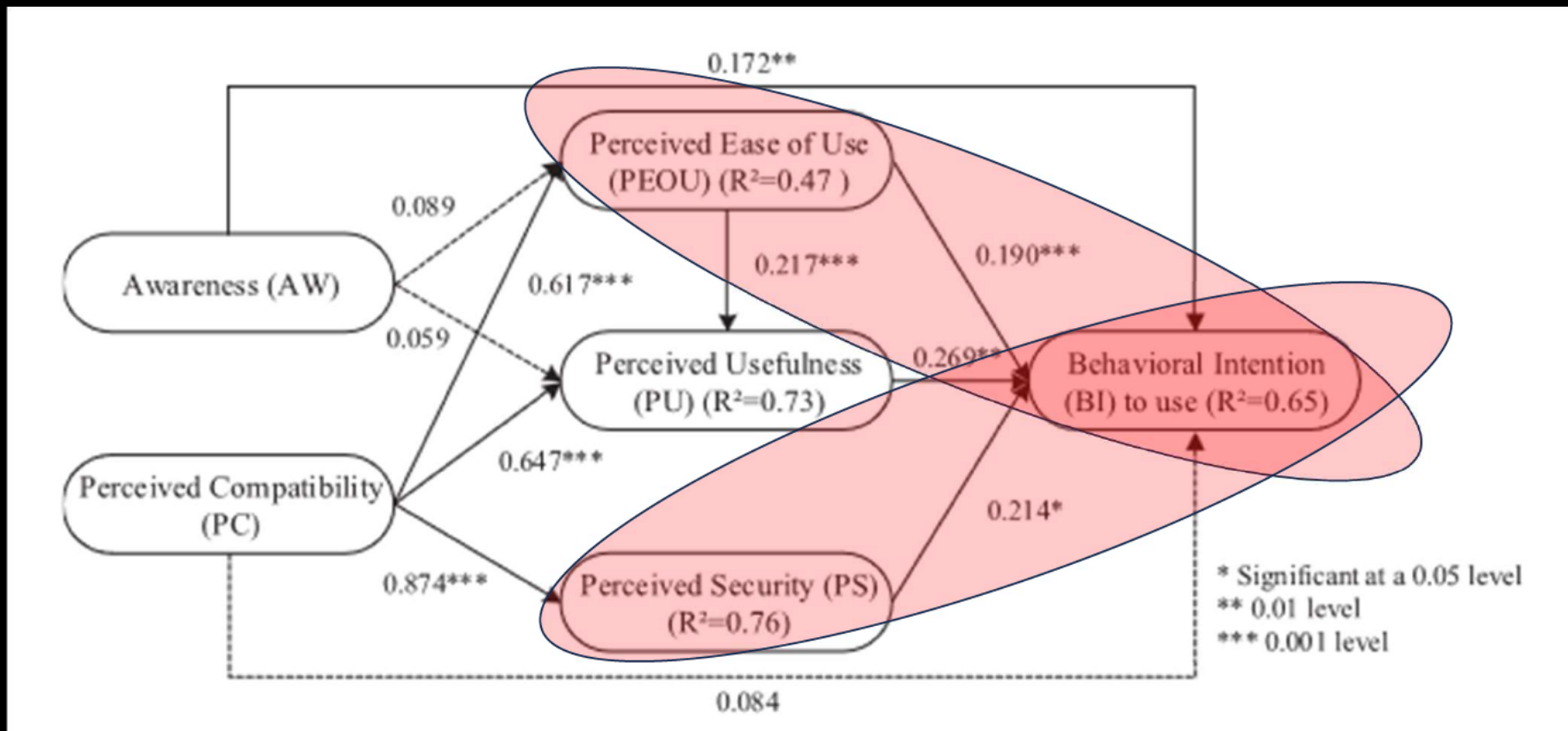
[\(imf, 2018\)](#)

Technology Acceptance Model (users)



“...demand for CBDC will depend on its design.” ([imf, 2018](#))

Technology Acceptance Model (users)



What

What

“an objective study of a new technological concept in a somewhat realistic setting” (Glass, 1997)

- Safely move from claims, assumptions -> to observations, measurements
- Scale (sample size)
- Scope (Product features)
- Duration

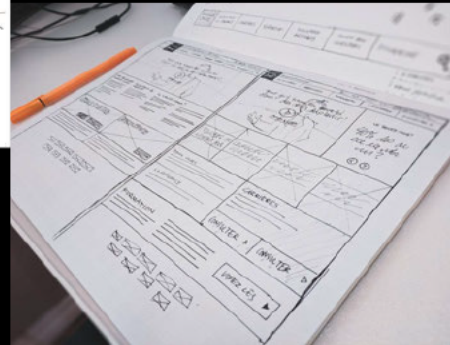
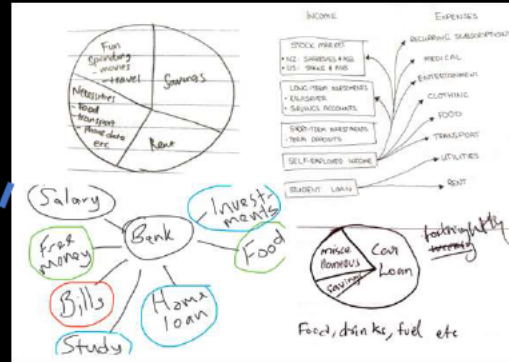
Why

Why run a pilot

- Measurement
- Design ideas – product enhancement
- Realistic conditions - generalise
- Evaluate
- Learning
 - Critical errors
 - Unexpected outcomes
 - Risk
- End user perceptions
- No harm (Glass, 1997)

When

When



- Refine/prioritise requirements
- Refine scope
- Gauge progress
- Sets up iterative learning
- Feasibility study

<https://lcfawcett.medium.com/ironhack-ux-ui-challenge-2-wireframing-through-spotify-651f5526fe45>

pilot

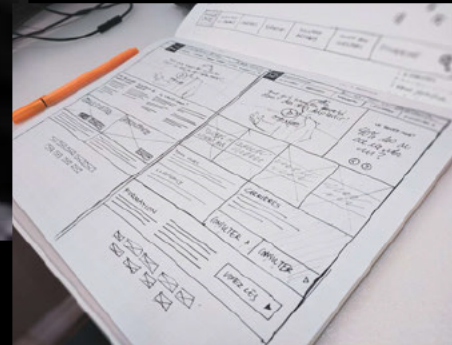
start

Technology Development Project Timeline

When



<https://bdtechtalks.com/2021/08/26/good-software-company-traits/>



<https://lcfawcett.medium.com/ironhack-ux-ui-challenge-2-wireframing-through-spotify-651f5526fe45>

pilot

- Refine/prioritise requirements
- Refine scope
- Useful deviations

start



Technology Development Project Timeline

When



<https://bdtechtalks.com/2021/08/26/good-software-company-traits/>

- Verifying requirements
- Verifying scope
- User acceptance



start

end

Technology Development Project Timeline

How

CBDC pilots

	One-off	Staged	
		Sandboxed	Deployed
	<i>E-Peso</i>	<i>E-Krona</i>	<i>Sand Dollar</i>
Duration	6 months (Nov 2017 – Apr 2018)	1 year (2020, 2021, 2022)	Varies (Dec 2019)
Expansion	-	Increasing feature set	Increasing users
Design	Token & wallet (centrally validated), app-based, wallet linked to SIM	Token & wallet (decentralized validation by distributors)	Token & wallet (decentralized validation by distributors)
Reach	10,000 individuals and retail businesses	2 banks	20,000 individuals,

CBDC pilots

	One-off	Staged	
		Sandboxed	Deployed
	<i>E-Peso</i>	<i>E-Krona</i>	<i>Sand Dollar</i>
Motivations	(1) Declining cash use, (2) Boost country's image as leader in financial innovation	(1) Declining cash use, (2) Complement to cash	1) efficiency of the Bahamian payments system (2) access to payment systems & financial services, (3) financial inclusion, cost-effectiveness, (4) defenses against money laundering, counterfeiting, etc.
	Further findings by BIS: https://www.bis.org/publ/bppdf/bispap136.pdf		

CBDC pilots

	One-off
	<i>E-Peso</i>
Outcomes	<ul style="list-style-type: none">• During the pilot, banks approached the team and wanted to be involved.• Mainly used for small payments• Transfers between peers very common• No major technological incidents• Included people with no/limited access to bank accounts• Increased familiarity -> increased transactions

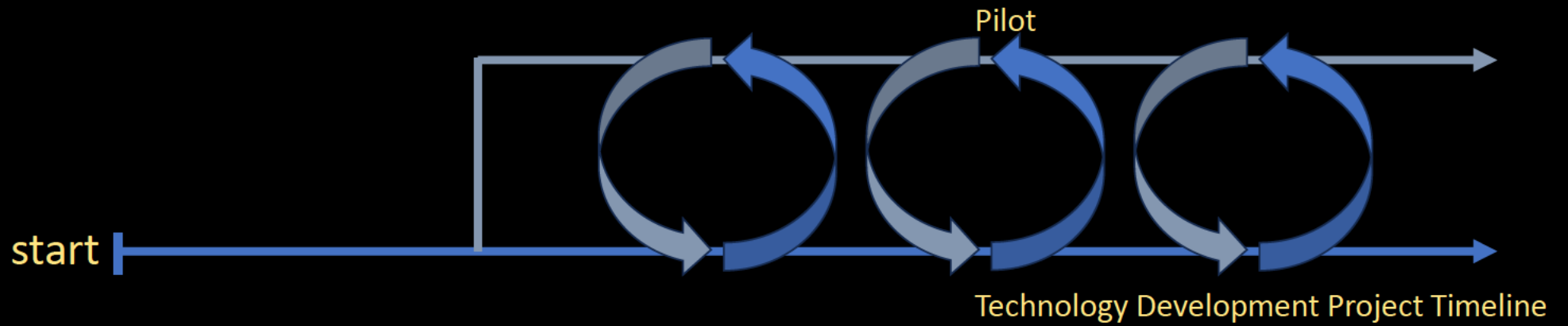
CBDC pilots

	Staged
	Sandboxed
	<i>E-Krona</i>
Outcomes	<ul style="list-style-type: none">• Conditional payments, not conditional money• Use case is technically implemented• Increased transparency does not eliminate need for regulation and supervision• Separate e-Krona storage, transfer, & settlement from conditional payments logic

CBDC pilots

	Staged
	Deployed
	<i>Sand Dollar</i>
Outcomes	<ul style="list-style-type: none">• National rollout Oct 2020• Functions continually added• Service fees to be added• Card based access (less digitally savvy)• Link to bank accounts

When



Motives for exploring a CBDC in New Zealand

Our main motives for exploring a CBDC are:

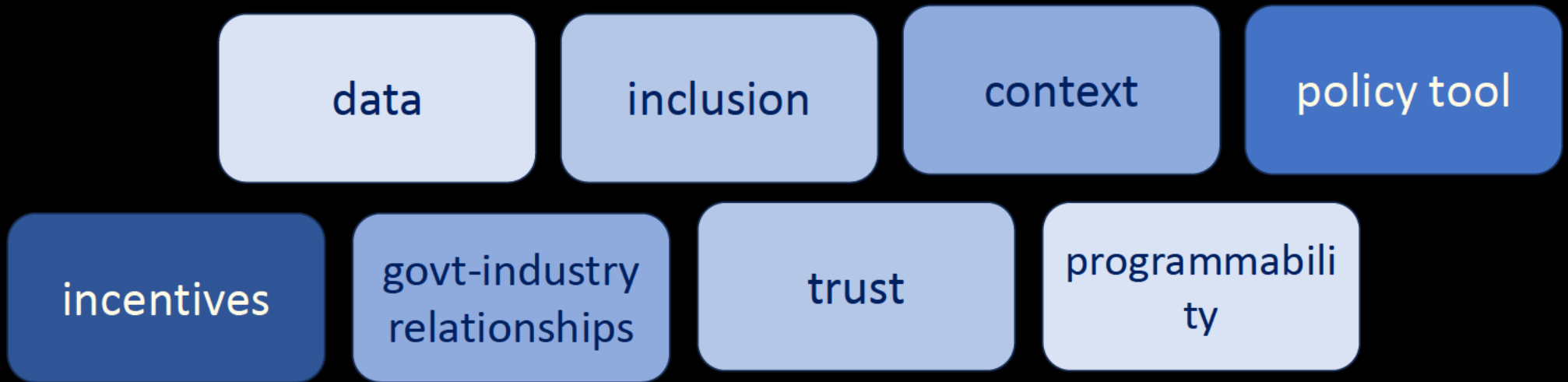
- Addressing the secular decline in the use of physical cash
- Future-proofing the cash system to remain fit for purpose
- Fostering innovation to enhance welfare of NZ citizens by increasing efficiency in the payments system

We are not:

- Exploring it to copy what other central banks are doing
- Aiming for the CBDC to eradicate cryptoassets
- Seeking to enhance state control over people and to curtail individual freedoms



Open questions that can inform pilot design



Open questions that can inform pilot design

data

- How should data generated by CBDC use be protected / used / managed / destroyed?
- What is a reasonable level of user, account and transaction anonymity?

Open questions that can inform pilot design

- Is CBDC a replacement or complement for cash use?
- How does CBDC perform as a choice of payment in the context of other choices?



context

Open questions that can inform pilot design

inclusion

- Does CBDC promote financial (and digital) inclusion?
- What are the impacts on the elderly, disabilities, low financial literacy?

Road to pilot

- Decide on the “When”
- Focus objectives on open questions (paying attention to what has been learned)
- Decide on how & what to measure
- Agree “success” criteria
- Risk analysis



Summary

Subject	CBDC Forum 6
Meeting Date	19 July 2023
Meeting Time	10:00am-3:00pm
Venue	ANZ Tower (Auckland) and Microsoft Teams
Attendees	Members: Alex Sims (AS), Andrew Dodd (AD), Conrad Morgan (CM), David Corbett (DC), Chad Haighmark (stand-in for Jane Retimana), Jennifer Ferreira (JF), Mitchell Pham (MP), Paul Quickenden (PQ), Simon Jensen (SJ), Brian Bonar (BB), John Warwick (JW), Fran Strajnar (FS), Mitesh Mistry (MM) Reserve Bank: Robbie Taylor (RT), Tim Duston (TD), Quinn Pooley (QP), Makoto Seta (MS), Matteo Solinas (MA), Andrew McCallin (AM), Roanna McLeod (RM)
Apologies	Joanne Dacombe, Lee Timutimu, Michelle Kitney, Adrian Smith

1. Welcome & update from the Reserve Bank

RT gave a welcome to the Forum and introduced Matteo Solinas to Forum members. RT commented on the great progress made on CBDC since he was away, and outlined what is going on in the RBNZ policy team and what is coming up. Cash trials, private innovation, real time payments, CoFR, continuing usefulness of the CBDC Forum were mentioned. Some commented that cash trials need to reflect the needs of the people who need cash the most, including rural users.

2. Use cases, synergies & strategic narrative - Tim Duston

TD firstly highlighted the synergies in NZ and the opportunities that brings, and discussed how to pitch to NZ as to why a CBDC is needed.

TD gave a recap of Accenture engagement – more work is needed on use cases through market research. The engagement also reassured us that we are on the right track. Other things that we found useful: helped us pin down elements of what makes a CBDC different. Things that set NZ apart a little bit are emerging digital pillars – real-time payments, digital ID, open banking, and other elements. Some countries are slightly ahead on these but in NZ we have an opportunity to think about these things in sync as they start to get built out. Other things that set us apart: mixture of things around cash usage, more modern economy – digital nation, and a focus on Māori data sovereignty. These things provide a solid foundation for a CBDC.

TD showed the four use cases Accenture developed. Use cases 1: Resilience through offline payments, 2: New payment options for SMEs and small organisations, and 4: Improved cashflow from supply chain, are common around the world, while 3: Making digital payments more accessible, is more specific to NZ. Unbanked were not reflected in any of these use cases. Linking the use cases to the underlying themes (e.g., apply to the inclusion theme) may further help focus the use cases.

Need to consider whether monetary sovereignty is a key element to justify a CBDC. A CBDC is difficult to explain simply to people. TD introduced slides that contain elements of a narrative to help with this. Some discussion amongst members whether monetary sovereignty is the right argument – whether trust in central bank money & value anchor are key or not. Alternative attributes around offline may be stronger arguments.

RBNZ is focused on the wellbeing and prosperity of NZers. Money systems are changing, and there are new forms of money. Public money has a key role, we want to protect trust in the NZD and need to think about public money to meet our future needs.

Privacy will be a key element in the narrative, as is the need for a social license that enables people to freely participate in society. Also, the transferability question – can it be transacted freely?

Digital currencies are coming – an opportunity exists to set the rules / arrangements to prevent CBDC from being misused by the government or people. If there is a risk that the NZD is substituted by the AUD, then need to consider what elements of CBDC design might mitigate those risks. Need to be clear on what focusing on – inclusion vs. innovation vs. sovereignty. The former two can be served without a CBDC. CBDC may only be a small part of a much larger world of digital assets.

s 9(2)(g)(i) asked whether the important question is whether it is necessary for NZ to have its own digital currency, or just adopt others? s 9(2) pointed out that this answer had to reflect the needs of NZ people.

RT reminded that RBNZ is just in an exploratory phase and are also trying to contemplate a future world that is vastly different to what we are facing right now. What are the drivers and risk for that future environment, and what needs to be thought about now as a result?

TD invited Forum members to go away and think about what the narrative for how and why NZ might need a CBDC looks like for them, and to send that through.

3. Inclusion workshop – Quinn Pooley

QP presented the work which explored inclusion so far. This moves away from people-based definitions of inclusion to circumstance based approaches.

s 9(2)(g)(i) noted the need to legislate to protect cash to give people genuine choice. RT acknowledged this is being considered as part of the separate cash policy work, and no existing legislation exists today. s 9(2)(g)(i) said that that if the RBNZ wants to be genuine here it needs to legislate and take some action.

QP covered what meaningful choice and confidence to exercise choice means in the NZ context and where the inclusion needs are in NZ now, relative to these criteria.

s 9(2)(g)(i) questioned whether the statistics provided were inclusion issues, or financial wellbeing issues?

- Can and should a CBDC (and its ecosystem) be responsible for or solve for these problems?

s 9(2)(g)(i) noted that a CBDC should not make things any more difficult for people, and if it does, the design should be reconsidered.

s 9(2)(g)(i) noted that it is unrealistic a CBDC would be delivered right the first time for everyone.

Members commented on 'offline CBDC functionality' and if an offline CBDC was not available, would it still be a meaningful choice? Maybe reframing that question as "What happens with CBDC when it goes offline?" could be more helpful. It will not be possible to deliver everything to everyone upfront. Some member notes on CBDC as 'meaningful choice' include:

- s 9(2)(g)(i) noted that a roadmap would help prioritise what is most important first.
- CBDC should not disrupt cash, and not take choice away. Cash needs to be mandated
- s 9(2)(g)(i)
- CBDC needs to be widely accepted and have significant adoption to be a form of meaningful choice.

QP noted that a CBDC could be an effective onramp to digital money and payments if it was part of the current financial ecosystem. QP also discussed the 'people-led' requirements for community-driven access (i.e., Māori and Pacifica-led). Asked the group what the other requirements might be for this?

- RT noted that the requirements highlighted should be considered 'opportunities' instead.

s 9(2)(g)(i) noted that it would be impossible to meet *all* consumer needs.

s 9(2)(g)(i) noted the many other cultures and ethnicities in Aotearoa, and how many of them have strong links to where they came from and have regular economic transactions with their families and friends, so the international perspectives are important here as well. s 9(2) added that this leads on to the importance of cross border transactions.

Going forward, is there an opportunity to share survey data sets amongst members of the Forum s 9(2)(g)(i)

s 9(2)(g)(ii) noted that there are plenty of generic market research which potentially could be shared to further frame and think about these areas.

4. Member-led session 'What about a pilot?' – s 9(2)(g)(i)

s 9(2)(g)(i) presented s 9(2) slides describing what a pilot is, why it may be helpful, and when one could be run. It could help refine the scope of a CBDC programme, and more than one pilot could be run over time focusing on different things using a 'Double Diamond' Discover/Define/Develop/Deliver process. Pilots can be an expensive thing to do, and there could be more lightweight ways to test specific things (like interface choices... where to place a button).

s 9(2)(g)(i) commented that *how* to do something for CBDC (test technology for example) may be testable, but harder to test whether a CBDC will deliver monetary sovereignty. s 9(2) noted that choosing what to pilot will be important, and although that may be difficult it could be helpful identifying the usage demand level and the desired features. s 9(2) considered that NZ did not need to be unique or world beating in this space, so we should learn from overseas and embrace that. s 9(2) noted that the RBA pilot approach (14 pilot cases) was end-to-end, rather than focusing on just the transactions.

s 9(2)(g)(i) noted that there are still a lot of unanswered questions from pilots: is CBDC a replacement or complement for cash use? How does CBDC perform as a choice of payment in the context of other choices? Does it promote financial inclusion?

s 9(2)(g)(i) presented a roadmap to a pilot: decide when; focus on open questions that are yet to be answered; decide on how and what to measure; agree success criteria; risk analysis.

Some member feedback below:

s 9(2)(g)(i) – important to frame the strategic context and outcomes, where are the big risks, that CBDC can mitigate. API Council could help support innovation or pilots.

s 9(2)(g)(i) – pilots are not the only way to learn. A war game type scenario could be considered, e.g., what would it look like to lose control of money supply? Important to clarify what questions you are trying to answer first.

s 9(2)(g)(i) – could start with AU use cases (and other jurisdictions like UK and Canada) and just see what would need to change for NZ? Partnering with RBA pilot companies?

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s 9(2)(g)(i) – rather than focusing on proving / refuting specific hypothesis that we come across today, we should explore the unknown things that we have not thought of, the future innovations that might come along.

s 9(2)(g)(i) – could test what needs exists for a CBDC to be successful, and to focus in on those needs.

- MS – what about RBNZ issuing a CBDC and like the RBA/DFCRC, inviting others to pilot it in some agreed way?

s 9(2)(g)(i) – suggested starting with Cash System Review objectives and going where would a CBDC be a feasible alternative that delivers on the CBDC narrative. As a starting point, to stand up the pilot(s) use existing systems that are trusted. The payment ecosystem is becoming complex and this needs to be simplified - the goal of CBDC should be to help achieve this.

5. Open discussion

RT invited for any final remarks and comments:

s 9(2)(g)(i) – is there any way to test the monetary sovereignty hypothesis? Need to check that this is a real risk, and if so, what the cost is to NZ of losing this. The business case needs to land on a problem statement, which is not 100% clear just now.

s 9(2)(g)(i) – the narrative cannot be couched around monetary sovereignty and the value anchor as people won't understand. Drafting a 3-year plan with some milestones would help identify what inputs you need from the Forum. Identifying specific items for the Forum to help in order to advance the consultation or business case would be helpful – e.g., draft consultation questions or business case to facilitate a discussion/help answer the questions we may have.

s 9(2)(g)(i) – if a table of contents for the business case is drafted, then the Forum could help identify areas they could contribute.

s 9(2)(g)(i) – need to refine the value anchor story because CBDC is not the solution.

- RT – there is a difference between monetary sovereignty and value anchor, which are often conflated.

s 9(2)(g)(i) – need to be able to explain CBDC to friends and family at a BBQ. Clarity on elements why CBDC needed to protect sovereignty; what is NZ's position given the currency is not a global one? What might the infrastructure required be, and how far can we go on that today? Structure, conduct and performance of payments – start think about what might change, by who, and recognise the wider ecosystem impacts. Suggested that a scenario analysis might help tease out what we need to address the needs – which might be a stablecoin instead.

- TD – asked the Forum to prepare a written position statement on CBDC. Need three things in next session: 1. scenario testing – including risks and uncertainties into the future; 2. need strategic case for CBDC; 3. need to convert into a “BBQ narrative”.

6. Wrap up

RT thanked everyone for attending today and reminded everyone to fill out the survey/give feedback by end of the week.

CBDC Forum.

Terms of Reference for FY 2023

November 2023



Reserve Bank
of New Zealand
Te Pūtea Matua



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Terms of Reference

Purpose and scope

The purpose of the CBDC Forum will be to provide an opportunity to engage key stakeholders and gather input on various user needs, system governance, technology and operational aspects of a CBDC. The Forum will offer a structured mechanism for obtaining expert views and advice on a potential New Zealand CBDC.

The Reserve Bank has not yet made a decision on whether to introduce a CBDC. The CBDC Forum will not focus on whether to introduce a CBDC, rather its focus will be on how to design and implement one effectively. As such, the CBDC Forum will help us through Phase 2 of our CBDC work programme, which aims to progress work on the design and testing of a possible CBDC. CBDC Forum input is expected on issues, such as:

- The tasks the CBDC system needs to perform (CBDC use cases);
- The functional needs of CBDC users;
- The various key roles in the CBDC system;
- Data, privacy and anonymity considerations;
- Digital and financial inclusion issues; and
- Other practical challenges associated with designing, implementing and operating a CBDC.

The CBDC Forum will also help us to connect with other key stakeholders or forums to explore policy and design issues in detail.

The CBDC Forum will provide input that helps us to design a CBDC that best meets the needs of New Zealanders but will not have any decision-making responsibilities. For example, issues identified and views raised by the Forum will feed into our wider CBDC work programme and, where appropriate, be considered and discussed with our engagement partners and influencers and raised up to decision-makers.

Complex or thematic issues identified by the Forum – like privacy and financial inclusion concerns – could be explored further in regulatory, policy or technology deep dives. We could also run public forums or deliberative workshops on these issues. The Forum will not be a substitute for running public consultations or publishing informational releases on our CBDC work programme; these will be undertaken as needed.

The CBDC Forum purpose, scope and membership will be reviewed annually by the Reserve Bank. This will help to ensure that the Forum remains fit for purpose as the work programme on CBDC progresses and evolves through the various stages over time.

Membership

Participating in the CBDC Forum is at the invitation of the Reserve Bank, following an expressions of interest process. Members will be drawn from the relevant range of CBDC stakeholders from banks, payment service providers, fintech organisations, retailers, businesses, consumers, civil society organisations and academia.

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The CBDC Forum will comprise a diverse set of knowledgeable participants with relevant background and experience. Members will either be senior figures within their industry or institutions or have skills and experience useful to the issues the CBDC Forum will be engaging on.

Members will be expected to commit to taking a constructive and open-minded approach to a CBDC. By joining the Forum, members will need to commit to exploring *how* a CBDC could be successfully deployed in New Zealand. To help facilitate this, membership will be on an individual basis (rather than an organisational basis). This means that a member that permanently steps down from the Forum, or is unable to attend a particular meeting, will not be able to automatically pass on their seat to another person within their institution. However, in the case of a member being unable to attend a scheduled meeting, they will have the opportunity to provide written feedback on the papers or issues being discussed ahead of the meeting.

To ensure that there is representation from experts in the topics being discussed at any particular CBDC Forum meeting, external stakeholders may be invited to attend by the Chair, in consultation with the Forum.

Responsibilities and activities

The Reserve Bank will engage with members of the CBDC Forum on material issues related to the CBDC work programme, including user needs, system governance, technology, and operational aspects of a CBDC. To promote open discussion and to allow members to provide frank and robust comments, meetings will be conducted under the Chatham House rule.

Members of the CBDC Forum will be expected to prepare for and participate in CBDC Forum meetings, as well as share information, perspectives and opinions on the discussed topics that reflect a broad perspective (rather than only representing the interests of their individual organisations).

Members will also be able to provide input into the agenda of future meetings and request that specific topics are included for discussion. These requests should be communicated to the Secretariat in advance of the meeting to which the request relates. The Chair of the Forum will ultimately decide on what is included in the final agenda. Members may also be asked to host a session to present and lead a discussion on a topic relevant to the Forum. This provides an opportunity for members to socialise a topic of interest to them.

The Secretariat will circulate minutes of the discussions held at the CBDC Forum with members after the meeting. Members will be able to provide feedback and suggest changes to the contents of the minutes to the Secretariat.

Meeting frequency and duration

The CBDC Forum will meet approximately five to six times a year. The Forum could vary the meeting frequency where circumstances warrant it, at the discretion of the Chair and with consultation of members. CBDC Forum meetings will be held in-person with the option to attend virtually via Microsoft Teams. It is anticipated that meetings will predominantly be in person but there may be occasions where a virtual meeting is held.

To ensure sufficient time for substantive discussions, scheduled in-person meetings will be for approximately half a day. Virtual meetings will likely be for a shorter duration.

For more technical aspects of the discussion, these may be conducted through a working group where interested members meet if the Forum identifies complex or thematic issues to explore in

further depth. Such working groups will then report back to the wider group at the main CBDC Forum meetings.

Chair and secretariat

The CBDC Forum will be chaired by the Manager of Money and Cash Policy at the Reserve Bank of New Zealand. The Reserve Bank will also provide the Secretariat.

The Chair will be responsible for:

- Setting the strategy for the CBDC Forum and its forward agenda;
- Moderating the discussions in meetings; and
- Inviting any external stakeholders to attend meetings, where appropriate.

The Secretariat will be responsible for:

- Circulating minutes of the meetings with members;
- Reminding members of meeting practice and hygiene, such as competition guidelines;
- Coordinating responses to any public inquiries in relation to the CBDC Forum, including publication of materials discussed at the CBDC Forum;
- Preparing the agenda and materials for the meetings; and
- Coordinating any outreach to other external stakeholders, if required.

Conflicts, competition law and information sharing

Members will be responsible for disclosing any conflicts of interest that may arise from their involvement with the CBDC Forum. As part of mitigating conflicts of interest, members will be expected to withdraw from the Forum before entering into any part of a procurement process with the Reserve Bank related to the CBDC work programme (e.g., proof of concept).

Members should refrain from using the Forum as an opportunity to promote products or services to the Reserve Bank or other members, and from publicising their involvement with the Forum for the purposes of marketing in other jurisdictions.

Members must ensure that they comply with their obligations under any applicable competition law. If members are unclear about their obligations, they should seek further guidance from their respective organisations.

Members must also ensure that any information that they share with the Forum is not protected by their organisation. In cases where a member is unsure of the level of protection of the information, then it is the member's responsibility to not share such information.

Relationship Charter

The Reserve Bank aspires to build and maintain the best 'regulator/regulated' supervisory relationships possible, with all its regulated entities. As part of this, the Relationship Charter was

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established in 2018 for working effectively with our regulated entities and represents a mutual undertaking of how the parties will work together to achieve this aspiration.¹

The Reserve Bank is committed to upholding the values of the Relationship Charter when we engage with members of the CBDC Forum – including with non-regulated entities. These include a commitment that our behaviours will be honest, diligent, achievement focused, open-minded and professional; and that our communication will be clear, consistent, targeted and timely. This will help ensure that the CBDC Forum’s work is underpinned by the principle of ‘te hunga tiaki’ – the combined stewardship of an efficient system for the benefit of all.

We expect members of the CBDC Forum to also be willing to commit to upholding the principles of the Relationship Charter.

¹ See here for further details on the Reserve Bank’s Relationship Charter <https://www.rbnz.govt.nz/regulation-and-supervision/statements-of-approaches/statement-of-relationship-management-approach>