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Document 15



Central Bank Digital Currency (CBDC) Aparangi ā Te Pūtea Matua **CBDC Forum Session 5**

Friday, 12 May 2023

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Nau mai, haere mai Welcome

Katy Simpson

Housekeeping



Relationship Charter.

The Reserve Bank aspires to build and maintain the best 'regulator/regulated' supervisory relationships possible, with all the different regulated entities. This Charter represents a mutual undertaking of how the parties will work together to achieve this aspiration. We will regularly measure our performance against the commitments set out in the Charter and share the lessons.

Our mutual commitments

Our behaviours will be

Honest

positions are openly stated, constructively, freely and frankly

Diligent

provide clear expectations and deliver on them

Achievement focused

work together to achieve sound and efficient outcomes

Open-minded

each other's perspective is constructively sought and understood

Professional

disagreements can happen on issues, not people

Our communication will be

Clear

easily understood, with decisions explained

Targeted

made to the right people in governance and management

Consistent

one organisation, one message, one tone

Timely

communication with no surprises

Ground rules

Relationship charter

- Respecting diversity of background, thought and expression
- Encouraging participation and fun
- Chatham House rules

Probity

- No anti-competitive behaviour (price-setting, division of markets, agreements lessening competition, cartels etc), and raise a hand if concerned
- This is a “sales pitch free zone”
- Mis/representing CBDC Forum membership or its work



CBDC Forum members

| Name | Organisation | Name | Organisation |
|-----------------|---------------------------|-------------------|------------------------|
| Adrian Smith | BlinkPay | Alexandra Sims | University of Auckland |
| Brian Bonar | ANZ | Conrad Morgan | Worldline |
| David Corbett | PowerFinance | Fran Strajnar | Techemy |
| Jane Retimana | Payments NZ | Jennifer Ferreira | Victoria University |
| Joanne Dacombe | Disabled Persons Assembly | John Warwick | Foodstuffs |
| Michelle Kitney | Volunteering NZ | Mitchell Pham | FintechNZ |
| Paul Quickenden | EasyCrypto | Simon Jensen | Buddle Findlay |
| Andrew Dodd | ASB | Mitesh Mistry | Kiwibank |
| Lee Timutimu | Arataki Systems | | |

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Chair and secretariat

| | |
|-------------|-----------------|
| | |
| Chair | Katy Simpson |
| | |
| Secretariat | Navina Soondram |
| | Makoto Seta |
| | |
| | |
| RBNZ Team | Tim Duston |
| | Amber Wadsworth |
| | Andrew McCallin |
| | |

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Agenda for today

| Time | # | Item | Presenters |
|---------|----|--|------------------------------|
| 10:00am | 1. | Welcome | Katy Simpson |
| 10:10am | 2. | Exploring the relationship between use cases and design choices | Accenture / Tim Duston |
| 11:10am | | Break | |
| 11:15am | 3. | Exploring the relationship between use cases and design choices (cont'd) | Accenture / Tim Duston |
| 12:15pm | | Lunch | |
| 1:05pm | 4. | Update from the Reserve Bank | Katy Simpson |
| 1:20pm | 5. | Feedback on "What success looks like" & Open discussion | Tim Duston / Andrew McCallin |
| 1:50pm | 6. | Wrap up | Katy Simpson |
| 2:00pm | | Close | |



Item 2:

Exploring the relationship between use cases and design choices

Accenture / Tim Duston

Recap & update on CBDC explorations

- Last meeting the Forum commissioned an 'exploration' focusing on CBDC use cases
- RBNZ has worked with our new exploration partner to commission this activity
- RBNZ has engaged Accenture as our Exploration partner
- RBNZ's explorations with Accenture include a focus on: supporting wide user adoption and inclusion; privacy; configuration options; innovative payments; reliability, safety and scalability; and operational capability requirements
- Deliverables include developing key use cases and user journeys
- RBNZ external communications about this engagement will be forthcoming shortly
- Accordingly, Accenture has provided the attached advance content and will be running the interactive session on use cases with the Forum



Item 3:
**Exploring the relationship
between use cases and
design choices (cont'd)**

Accenture / Tim Duston

Item 4:

Update from the Reserve Bank

Katy Simpson

Item 5:

Feedback on the request “What success looks like”

Tim Duston, Andrew McCallin

Background

- The following question was proposed in the CBDC Forum on 15 May:
Given your experience, understanding, and perspective as a CBDC Forum member, what do you think success looks like for a CBDC in Aotearoa New Zealand?
- Responses received from 9 Forum members
- These have been summarised & synthesised into themes
- Let's discuss how well these capture and reflect members collective views

Word cloud



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Themes

- **Beneficial** - Benefits of CBDC must outweigh costs, for NZ and everyone
- **Efficient** - Fast, easy, secure payments, lower costs, efficiency important
- **Useful** - Users need compelling case, CBDC needs to be understood, easy to use, accessible and inclusive
- **Innovative** - Innovation & programmable payments could give the edge over cash
- **Collaborative** - Complements existing industry work rather than duplicating it
- Cross-border and wholesale important to some

Discussion

The Forum is invited to discuss generally the 'success' themes – do they capture what you were expecting?

What would the Forum like to do as a next step?

1. No further action?
2. Develop Forum success statements?
3. Something else?

Item 5: Open discussion

Item 6: Tākai | Wrap up

Katy Simpson

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NGĀ MIHI.

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CBDC FORUM

The relationship between Use Cases and Design Choices

12th May 2023

AGENDA

Part 1 – Introduction & Explore CBDC Use Cases for Strategic design

| | | |
|----|---|----------------|
| 01 | Introduction | ~5 min |
| 02 | CBDC Use Cases and the Waveform Approach | ~10 min |
| 03 | Walk through Example Use Case | ~20 min |
| 04 | Relationship between Use Cases, Strategic Choices & Design Options | ~10 min |
| | | BREAK ~ 15 min |
| 05 | Interactive Session | ~50 min |
| 06 | Questions | ~10 min |

Introductions



Governance / Leadership Team



Lori Hand
Managing Director
RBNZ Client Lead



Andrew Symons
Managing Director
Financial Services, NZ



Ryan McQueen
Managing Director
Payments & Open
Data, ANZ



Ian Woolford
Head of Money & Cash
RBNZ

Core Delivery Team



Matthew Wright
Delivery Lead



Charles Cameron
Functional Consultant



Robert Langley
Lead Architect Payments &
Digital Currencies



Neysan Zolzer
Service Designer



Corrina Halford
Functional Analyst



Mike Aston
Executive Advisor Payments
and Digital Currencies



Pallavi Sami
Project Analyst



Nalin Lad
Digital Currency
Global Co-Lead



Maria Guseva
Senior Payments and
Banking Principal



Tim Duston
CBDC & Payments
Advisor



Amber Wadsworth
CBDC Policy Lead



Nicola Speir
Senior Project
Manager



Kosta Hahladakis
Enterprise Architect



Andrew McCallin
CBDC Business
Analyst



Katy Simpson
Money & Cash
Policy Manager



Nigel Somerfield
Principle Architect



Navina Soondram
Project Coordinator

Global SME Pool



Dr. Ousmene Mandeng
Global Economics
Lead of Monetary
Innovation



Anna Potapova
CBDC Technical
Delivery Manager



Deepak Lalan
Managing Director
Blockchain Practice
Lead, India



Petar Zelic
Global Blockchain
Architect



Peter de Rooij
Global Blockchain
Architect



Sunil Krishnan
Simulation Environment
Lead

Accenture's Assignment

The brief

- Apply 80/20 rule
- Set RBNZ up for 'design options'
- Focus on use cases

Approach

- Collaborative
- Workshops
- Cross-RBNZ teams
- Draw from Accenture tools and international CBDC experts

Deliverables

- Insights dossier
- Priority use cases (4)
- User journey maps (4)
- Resulting design options / choices

CBDC Use cases and the Waveform Approach

USE CASES

- Use cases are obviously a fundamental component of a payment ecosystem
- Some use cases are hygiene, some address policy objectives, some can be non-financial
- In an exploration process such as this, they also serve as a useful vehicle to explore the capabilities and design choices that need to be invoked to deploy and support the use case operationally, within the guard rails of the strategic CBDC principles such as privacy and security
- During RBNZ's current exploration phase, we have used a number of use cases, selected from a long list, to work through a collaborative process covering:
 - Use Case Matrix
 - Use Case Prioritisation
 - Use Case Evaluation

USE CASES MATRIX

Focus Areas

Use Case Priority Scale



| | | | | | |
|-----------------|--------------------|--|---|--|---|
| WHO PAYS | Governments | Government to Consumer (G2C) e.g. Direct payment of state benefits | Government to Business (G2B) e.g. State directed Lending | Inter-Governmental Payments (G2G) e.g. Transfers between govt. departments | |
| | Businesses | Business to Consumer (B2C) e.g. Wages Insurance payments | Business to Business (B2B) e.g. Invoice Payments / Securities Trading | Business to Government (B2G) e.g. Taxes | Cross Border Business Payments e.g. Import/Export; Foreign Large Value Transactions |
| | Consumer | Consumer to Consumer (C2C) e.g. (P2P Transfer) Paying a Friend | Consumer to Business (C2B) e.g. Purchasing Goods/Services | Customer to Government (C2G) e.g. Taxes | Cross Border consumer payments e.g. Remittances |
| | | Consumer | Businesses | Governments | Cross - Border |

TO WHOM PAYS

USE CASE PRIORITISATION

Long-list

Create a long list of Use Cases that are relevant for the market

- Policy research work
- Internal brainstorming session
- Joint brainstorming sessions with market participants

Prioritization framework

Choose the decision criteria and their weights to prioritize use cases

- Market potential (value to consumers)
- Strategic alignment (policy objectives, vision or strategy)
- Feasibility (speed, efforts, risks)

Short-list

Assess use cases and apply weighted criteria to get a short list of Use Cases

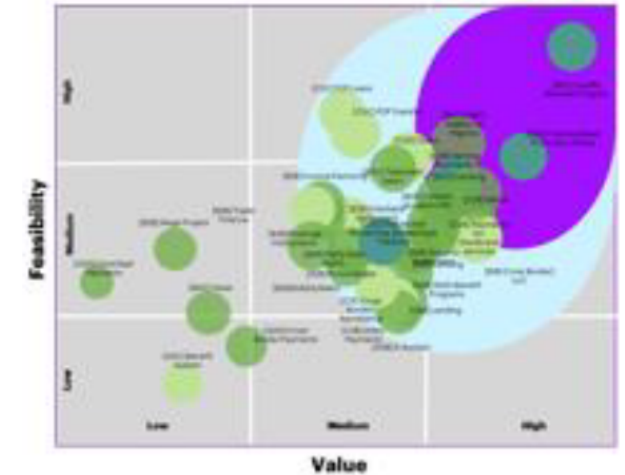
- Long list of use cases
- Decision making framework
- Analytical and expert inputs on weighted parameters

INPUTS

EXAMPLE

| WHO PAYS | TO WHOM PAYS | | | |
|------------|--|---|--|---|
| | Consumer | Businesses | Governments | Cross - Border |
| Government | Government to Consumer (G2C) e.g. Direct payment of state benefits | Government to Business (G2B) e.g. State directed Lending | Inter-Governmental Payments (G2G) e.g. Transfers between govt. departments | |
| Businesses | Business to Consumer (B2C) e.g. Wages / Insurance payments | Business to Business (B2B) e.g. Invoice Payments / Securities Trading | Business to Government (B2G) e.g. Taxes | Cross Border Business Payments e.g. Import/Export, Foreign Large Value Transactions |
| Consumer | Consumer to Consumer (C2C) e.g. (P2P Transfer) Paying a friend | Consumer to Business (C2B) e.g. Purchasing Goods/Services | Customer to Government (C2G) e.g. Taxes | Cross Border consumer payments e.g. Remittances |

| Dimensions | Weights | Parameters | Description |
|---------------------|---------|-------------------------------------|---|
| Strategic Alignment | 10% | Innovation | To what degree does the use case introduce new products/services? |
| | 10% | Business Collaboration | To what degree does the use case require collaboration between businesses? |
| | 10% | Market Necessary | To what degree does the use case address a market need? |
| | 10% | Multipier Effect | To what degree does the use case have a multiplier effect on other use cases? |
| Value | 10% | Strategic Alignment to Values | To what degree does the use case align with the organization's strategic values? |
| | 10% | Efficiency & Cost savings | To what degree does the use case improve efficiency or reduce costs? |
| | 10% | User Experience | To what degree does the use case improve user experience (e.g., engagement, satisfaction, productivity, convenience, time to market, etc.)? |
| Feasibility | 10% | Financial ecosystem development | To what degree does the use case require development of new financial products or services? |
| | 10% | Transparency & Financial Inclusion | To what degree does the use case promote transparency or financial inclusion? |
| | 10% | Effort for Implementation | To what degree can the use case be implemented with minimal effort? |
| | 10% | Dependency of 3 rd party | To what degree does the use case rely on 3 rd party dependencies? |
| | 10% | Technology / Complexity | To what degree is the use case technologically complex? |



WAVEFORM APPROACH TO EVALUATING USE CASES

Use Cases are the features that customers will actually use. This is a naturally non-exhaustive list.

The overarching themes or categories of use cases define the underlying common **features** that enable one or more use cases.

The intrinsic **benefits** derived from the features.

The **technical capabilities** required to bring the benefits to life.

The 'long tail' of **regulation** and implementation plus inherent **risks** that need to be mitigated.

Use Cases

Features

Benefits

Capabilities

Risks

EXAMPLES:

SME Domestic Retail Payments

Rule based payments

Lower Cost

Atomic settlement

How might we test the treasury management and security benefits for SME over physical cash handling?

Split Payments

Improved Cash Flow

Programmability

How might we validate the cost benefits from minimizing card processing fees and the longer settlement times?

USE CASE EXAMPLE

USE CASE EXAMPLE 1 – OFFLINE PAYMENTS

CHALLENGE

Kiri is a resident of the East Coast North island where she is a well know member of the community. Her available bank branch is some distance away and is therefore inconvenient to visit. She has a modern smart phone and is comfortable accessing the internet and social media. She only uses cash when there is no alternative so prefers digital payments, however, mobile coverage is patchy. The area also has a history of severe weather events impacting the community which can cause outages in both POS and online payments. She is reluctant to hold a stash of cash in case of emergencies due to security issues and limited cash flow.

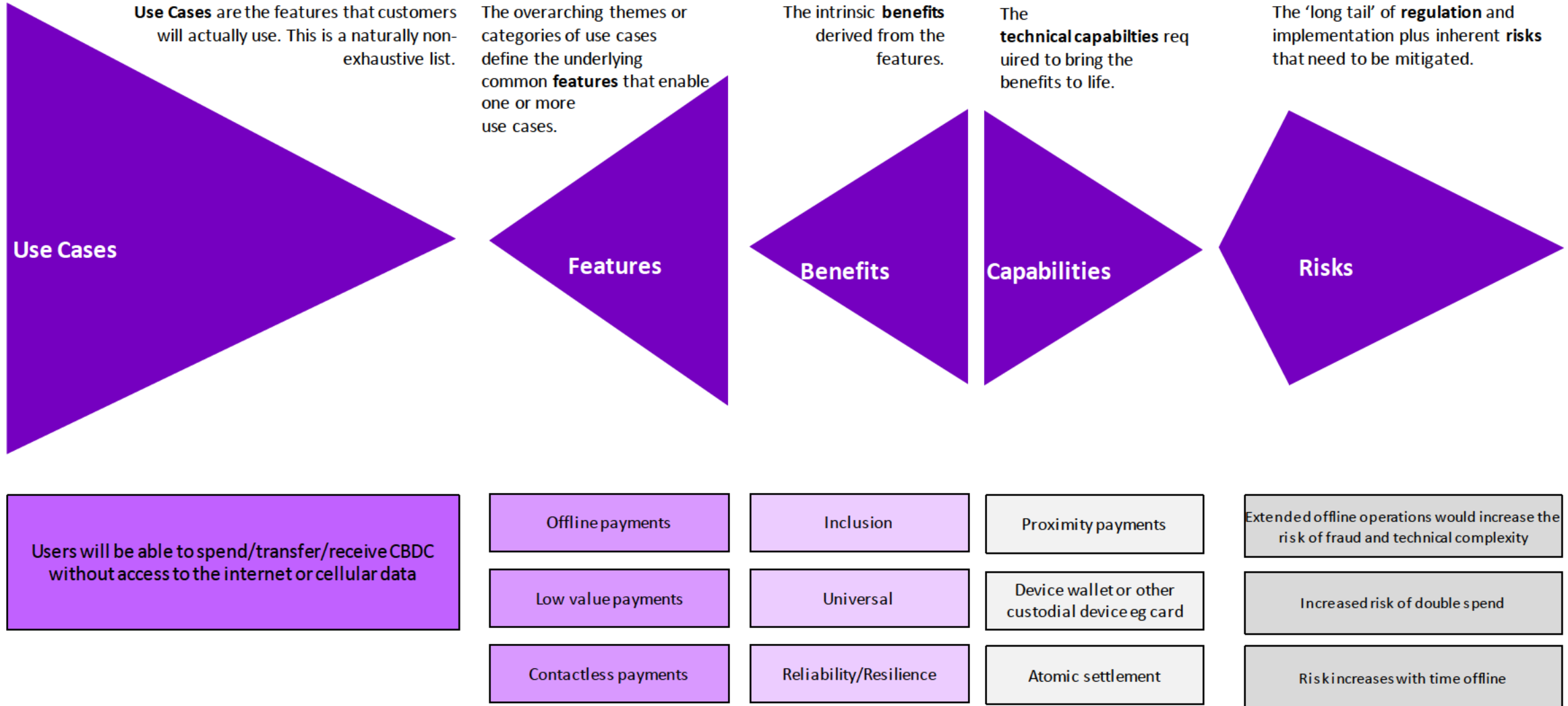
POTENTIAL SOLUTION

In a world with CBDC, Kiri would have the ability to access digital wallet services through her smartphone. She would continue to use her bank for managing her normal financial affairs but this capability would provide her with a payment option and importantly, with offline capability, could be used when there was no access to internet or related outages.

The offline payment capability would therefore support the following related use cases:

- Another option for everyday payments and purchases, especially in remote areas
- The ability to use the CBDC in her wallet to pay for essentials during major disruptions to services caused by severe weather events or catastrophic technology failures – even if this disruption continues for a number of days
- For social payment scenarios (low value) within the community to family, friends, whanau, local clubs, schools

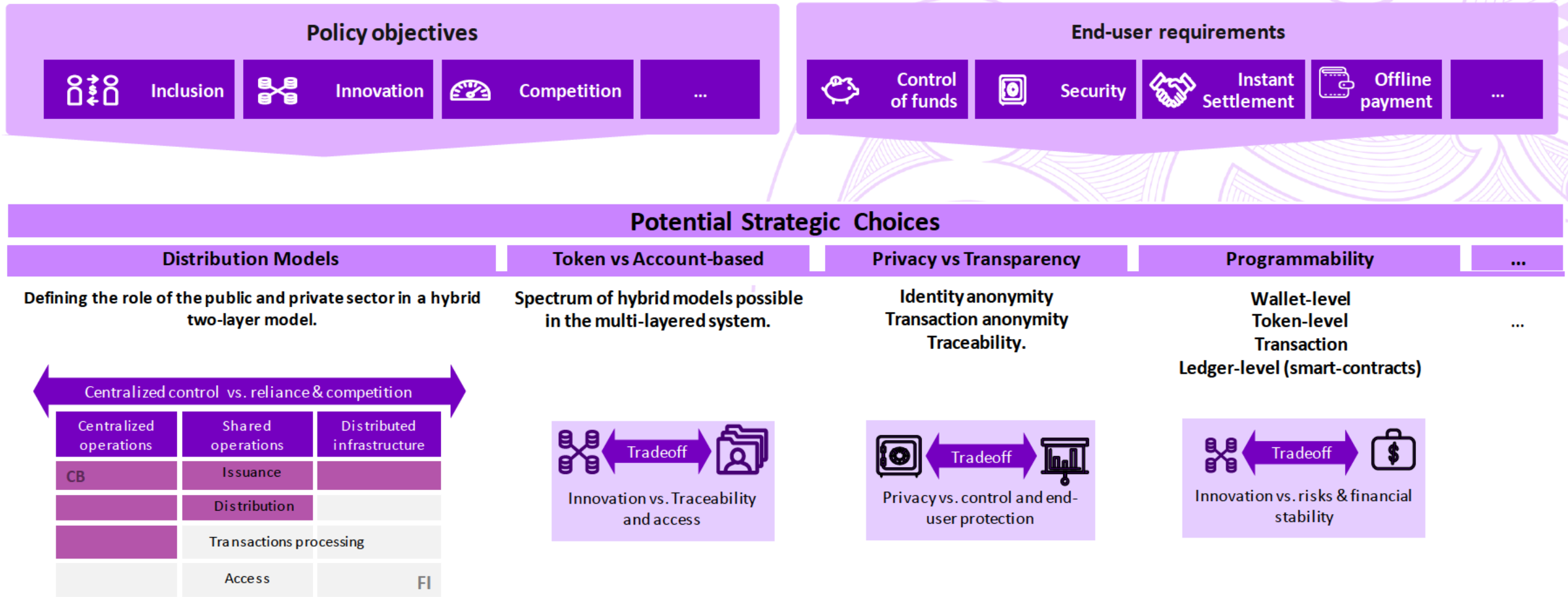
USE CASE 1 ANALYSIS



Relationship between Use Cases, Strategic Choices & Design Options

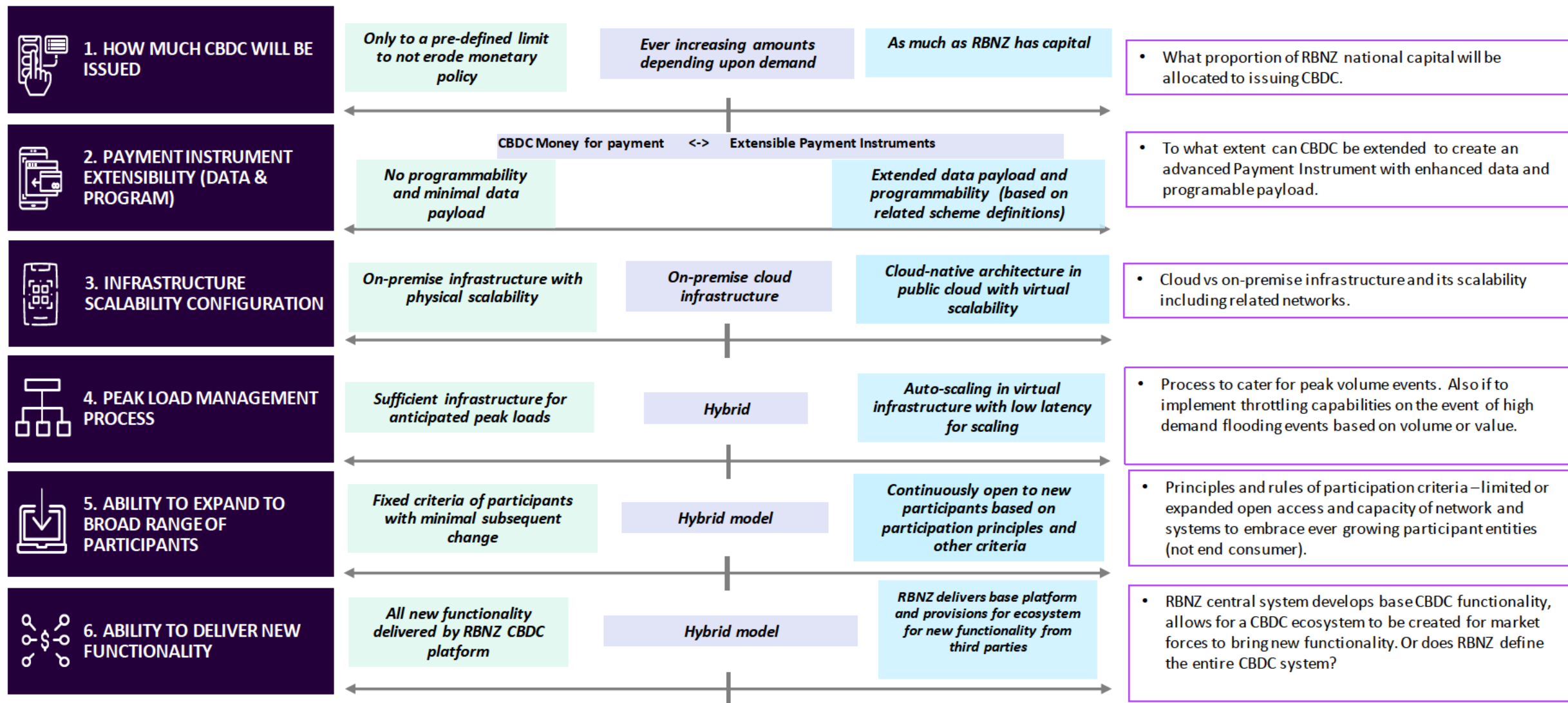
CBDC Strategic Choices and Tradeoffs

Policy objectives and end-user requirements will determine strategic choices and system capabilities.



RELIABILITY, SAFETY, SCALABILITY STRATEGIC CHOICES

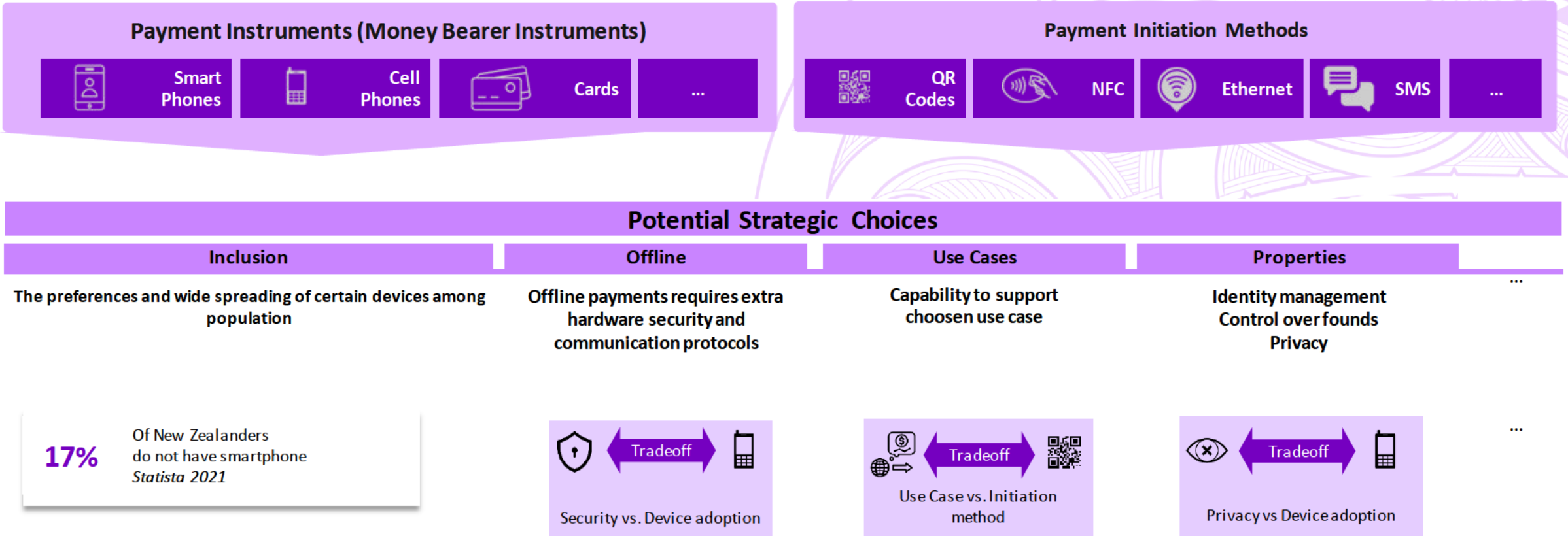
SCALABILITY



ADOPTION AND INCLUSION

"Last Mile" Instruments

Choice of the payment devices and payment initiation method strongly depends on different factors such as offline payments, innovative use cases, CBDC properties etc. To provide wide adoption and inclusion chosen device should be accessible by the whole population



INTERACTIVE SESSION



INTERACTIVE SESSION INSTRUCTIONS

- Two Groups will work through a Use Case Ideations and Analysis exercise
 - **Group 1 – those online + Facilitator Tim Duston – On Miro Board**
 - Andrew Dodd - ASB
 - Conrad Morgan - Worldline
 - Paul Quickenden - EasyCrypto
 - Fran Strajnar - Techemy
 - Mitchell Pham - FintechNZ
 - David Corbett - PowerFinance
 - Simon Jensen – Buddle Findlay
 - Alexandra Sims – University of Auckland
 - Lee Timutimu – Arataki Systems
 - **Group 2 – those in person + Facilitator Andrew McCallin – In Room**
 - Brian Bonar – ANZ
 - Mitesh Mistry – Kiwibank
 - Joanne Dacombe – DPA
 - Michelle Kitney – Volunteering NZ
 - Jennifer Ferreira – Victoria University
 - John Warwick - Foodstuffs

INTERACTIVE SESSION INSTRUCTIONS

- Each group are to work together to analyse 2 Use Cases by completing the waveform table as below
 - Those online will complete the table on the Miro Board – Charles Cameron will be your ‘scribe’ to capture your ideas/points/decisions on the Board
 - Those in the room will have hard copy materials for the collaboration
- Either ideate use cases within your group or pick use cases from the examples provided (on Miro Board and hard copies In Room)
- Approximately 40 minutes to complete the exercise, then elect a spokesperson(s) to discuss your results (5 minutes)

| Focus Area | Use Case | Features | Benefits | Capabilities | Risks |
|-------------------|-------------------------------------|--|---|---|---|
| Eg. P2P, B2C, B2B | A brief description of the Use Case | The underlying common features eg lowvaluepayments | The intrinsic benefits derived from the features eg inclusion | The technical capabilities required to bring the benefits to life | Inherent risks that need to be mitigated eg fraud |
| USE CASE 1 | | | | | |
| USE CASE 2 | | | | | |

QUESTIONS



Accenture Aotearoa



Thank-you
Ngā mihi