

# **APPENDIX 04: PAYMENTS MODERNISATION PLAN**



paymentsnz

PAYMENTS DIRECTION

# Payments Modernisation Plan

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September 2020

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# 1. Introduction

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Payment instruments and systems are critical to the effective functioning of our economy. They enable consumers to make and receive safe and efficient payments, and they support the day-to-day financial transactions that facilitate commerce and trade. Those instruments and systems need to reflect not only the evolving way Kiwis want to make and receive payments, but also trends in technology, regulation, and developments in other jurisdictions around the world, especially those where we have significant cross-border economic relationships.

This Payments Modernisation Plan (PMP) sets out a future view of the wider payments ecosystem in 2030 and the capabilities required to deliver that view.

We developed the PMP to share our thinking and recent developments in payments with interested stakeholders – including consumer representatives, businesses, industry bodies, and government agencies.

Input on this document will help shape our next steps toward building a long-term strategic roadmap to modernise the payments ecosystem in New Zealand.

We hope you find the insights within this PMP useful. If you have any further questions after reading, please get in touch with us at [payments.direction@paymentsnz.co.nz](mailto:payments.direction@paymentsnz.co.nz)



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## 2. Executive summary

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**Over the past two decades a technological revolution has reshaped how we communicate, connect, conduct commerce and manage our personal and business interactions. Payments have been swept up in that revolution.**

Some of the world's most innovative global technology platforms have entered the payments space with the ability to leverage their immense global scale and reach. Customer needs and expectations have been influenced by this and are now evolving at a rapid pace. Global trends tell a story about the increasing demand to initiate and receive payments 24/7/365, to do so in real time, on a platform of the customer's choice and to use information other than a bank account number to complete that payment.

Increasingly, customers want to take advantage of the benefits that accrue from richer data – important data about the payment that travels with the payment, rather than via another means. They also demand simpler payment experiences and for those experiences to offer the same high level of security they have come to expect.

Our vision is to ensure New Zealand has the world's most progressive payments system while making sure payments are simple and secure for Kiwis. Ultimately, we want Kiwis to be able to pay who they want, when they want and how they want.

Payments Direction is an industry-led strategic initiative that helps us move toward this future by identifying the payments modernisation initiatives required across the payments ecosystem, taking into account global trends and influences.

Payments is an industry with strong network characteristics, with a need for a high level of security, efficiency, and interoperability. Our Payments Direction work is focused on identifying opportunities for collaborative industry activity. Those opportunities will provide payments ecosystem members with the foundations to deliver new customer-facing initiatives.

You can find out more about payments modernisation and Payments Direction in sections 3 and 4 of this document.

This year we have harnessed the expertise of an industry working group comprising of representatives from our Participant and Member base to revisit our existing Payments Direction future view and to create the PMP. That work sought to extend our previous future view work undertaken in 2015 and looked at the next decade up to 2030. In developing the PMP we have considered how global forces of change are likely to play out in New Zealand and to identify areas where collaborative industry activity is likely to be required to support a dynamic and vibrant future payments ecosystem.

Even though our current payment system and instruments are modern, safe and meet the majority of customer needs, there are limitations on what the current arrangements can support. For example, at present customers are unable to make and receive interbank payments in real time and have immediate use of the funds. This places a constraint on payment behaviour in a world where everything is expected to be conducted immediately 24/7/365. Similarly, customers do not have a ubiquitous solution to pay someone if they do not have the bank account number of the person they want to pay. This is inconvenient for the customer, can restrict commerce, and the ability for the wider market to innovate. You can read more about the current system limitations in section 5.

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Our vision is to ensure New Zealand has the world's most progressive payments system while making sure payments are simple and secure for Kiwis.

By 2030, customers are highly likely to want world-class, safe and secure real-time payment experiences that are also data-rich. They are likely to want the ability to make payments using readily available information, to receive notifications that describe payment status, and to be able to initiate and receive payments 24/7/365 with little differentiation between their domestic and cross-border payment experiences. We anticipate this payments ecosystem to be characterised by:

- Local and cross-border payments that offer real-time experiences.
- Payments that are rich in data and information and support data driven innovation.
- Payments systems that are continuously available to allow Kiwis to complete their payments.
- A broadening mix of players working together in a larger-than-ever payments ecosystem.
- Customer payments experiences which are simple and trusted.
- Enhanced confidence in payment system integrity.
- Simple, seamless and secure payments.

You can read more about these future view characteristics in section 6.

Achieving that future view will require a core group of capabilities to be delivered over the next decade. Collectively they will form a series of building blocks for payments modernisation across our domestic payments ecosystem. They are shown in Figure 1 and are discussed in more detail in section 7.

Individually each of these building blocks could bring notable benefits to the payments ecosystem. However, the sum of these building blocks is far greater than their component parts. The way they combine adds a synergistic quality. For example, while payee identifiers provide an easier way for people to make and receive payments, if those identifiers are integrated with real-time capabilities then additional benefits accrue.

At this point we have been focused on understanding what capability building blocks might be required, rather than how those capabilities might be delivered and by when. Should a decision be made to proceed with delivery of any of these capabilities, further analysis and stakeholder input will be needed to determine the most effective ways to advance the above building blocks, taking into account the expected benefits and costs, and the views of those who will ultimately be responsible for the investment and implementation decisions.

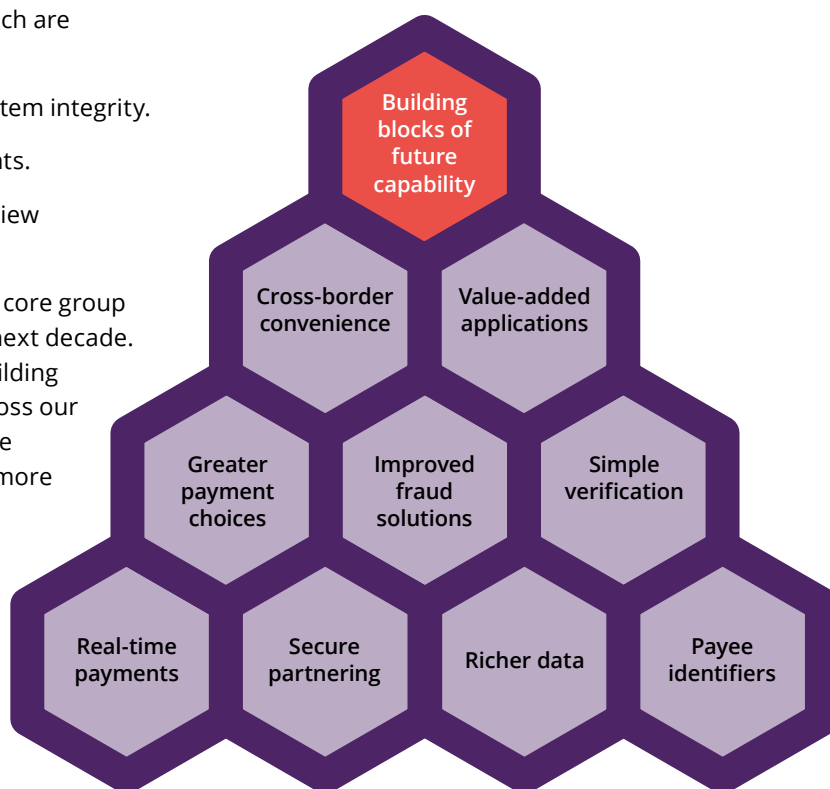


Figure 1 – Building blocks of future capability



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# 3. The importance of payments modernisation

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## **Payments instruments and systems keep New Zealand (and the rest of the world) working.**

They are critical to the functioning of society, enabling consumption, savings, investment, commerce and trade by making the trusted transfer of value possible. Together payments instruments and systems are a core engine of most economies.

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Payments modernisation should enable innovative and interoperable payments systems so Kiwis can pay who they want, when they want and how they want.

Given this importance, we have developed a range of guiding principles to be applied to modernisation activities we undertake in the future. Those principles link back to an overarching principle which sets out that payments modernisation should enable innovative and interoperable payments solutions so Kiwis can pay who they want, when they want and how they want. This:

- **Helps Kiwis achieve their financial goals** – by delivering more modern and flexible payment methods making it easier for them to budget, save and invest.
- **Improves financial inclusion** – by ensuring payment methods can be used in a sustainable way by the broadest range of communities.
- **Builds a more productive New Zealand** – by moving money in the economy in seamless and efficient ways and by removing unnecessary and time-consuming processes and activities.
- **Improves the financial resilience of Kiwi consumers and businesses** – by harnessing payments data and tools to help Kiwis plan ahead and ensuring they can access payment methods and transaction accounts that are relevant to their individual circumstances.
- **Supports competition and innovation to give Kiwis more choice in payments** – by having more open and competitive landscapes where new financial institutions and non-bank entities collaborate, compete and innovate.

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## 4. Payments Direction – looking to the future

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### **Our Payments Direction initiative is tasked with considering the forces currently reshaping the global payments ecosystem and what that means for the payments ecosystem in New Zealand.**

Payments Direction has already been instrumental in helping position the domestic payments ecosystem for the future through:

- The API Centre. Launched in May 2019 the API Centre is a vehicle for the development, maintenance and governance of common payments-related API standards that can be used across the payments ecosystem. It is a platform for delivering greater openness in banking and payments.
- SBI-365. This is a significant core payments infrastructure initiative to extend the settlement and interchange of financial transactions between banks. Once implemented, it will enable Kiwis to make and receive electronic payments between accounts across different banks every day of the year.

Our work to date has been informed by a series of environmental scans which have underscored an ever-increasing pace of transformation across the payments industry. That transformation is part of a much more general pattern of economic, social, and technological change evident in nearly all sectors of the economy. How people and organisations interact is being transformed by the Internet of everything, the rise of the API economy, the proliferation of mobile devices, and the rise of global technology platforms with unprecedented scale and reach. The global payments landscape is experiencing rapid and extensive change and the timeframes over which those changes are occurring is becoming increasingly compressed.

Customers are increasingly mobile, and they want their interactions and transactions to be completed seamlessly and instantaneously irrespective of the context. In many cases, open systems and standardised frameworks and interfaces are critical to meeting those expectations. Legislative reforms covering payments and banking regulation, privacy, data rights and consumer representation have opened traditional payments markets to new entrants. Those same reforms have placed greater controls over how consumer data can be used, have delivered consumers with new rights, and have increased competitive pressures. Non-bank players have launched new payment methods to market which have been instrumental in changing the consumer payment experience.

New Zealand is subject to these same global forces of change and some of those forces are now clearly gaining traction in the domestic payments ecosystem. For example, the Ministry of Business, Innovation and Employment recently released a discussion document on the role a Consumer Data Right might play in open data and banking in New Zealand. Last year the Reserve Bank released an issues paper on the future of cash use and invited feedback from individuals and groups. Both developments are very much in step with trends underway in other jurisdictions.

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The global payments landscape is experiencing rapid and extensive change and the timeframes over which those changes are occurring is becoming increasingly compressed.

Our most recent environmental scan – the 2020 refresh – underscores that Payments Direction remains in step with global developments. The 2020 refresh also highlights that COVID-19 is likely to accelerate some structural changes that have been underway across the economy for some time. These include:

- The move towards online everything. Nearly all sectors of the economy from retail to personal services to health are suddenly online to a greater or lesser degree.
- The need for deeply engaging digital experiences. The depth of digital experience is important in a world where in-store browsing is no longer perceived as being without risk and the widespread availability of broadband internet is commonplace.
- The push towards automation. Automated processes facilitate quick delivery of products to consumers, especially where payments are integrated as part of the purchase process.
- The ability to remote work. Platforms like Zoom and Microsoft Teams have established it is possible to manage a fully distributed workforce, although some business processes have yet to be fully integrated into the remote working environment.
- An emphasis on closing the digital divide. The pandemic has sharpened the focus on access to high speed broadband and on the exclusion that occurs when certain sections of the community do not have access to either devices or the enabling infrastructure.

Our 2020 environmental scan is available on our website at [www.paymentsnz.co.nz/resources/research-reports/](http://www.paymentsnz.co.nz/resources/research-reports/)

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Our conclusion is that the future of payments continues to hinge on greater openness, convenience, availability and speed. It also relies on the increased use of common standards to generate greater interoperability and to provide more choice in how end users make and receive payments.

# 5. Current limitations

## The existing capabilities of the domestic payments system serve current end user needs well, but there are limitations in what those systems can support.

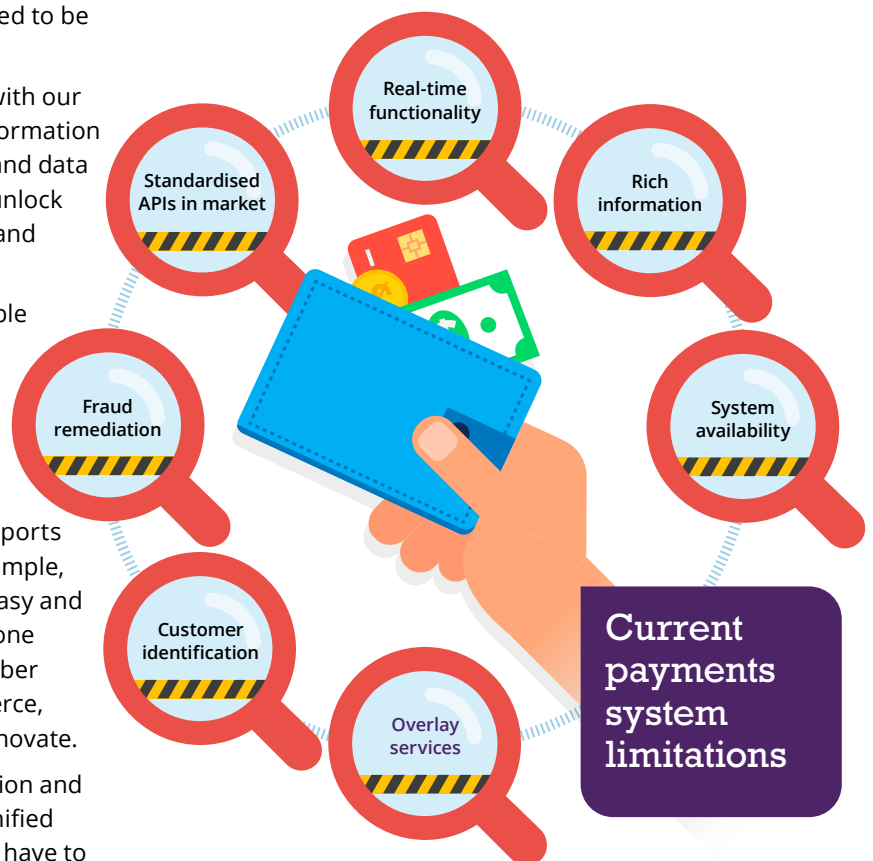
After assessing a broad range of factors and taking into consideration our current domestic settings, we identified seven limitations of note:

1. Our inter-bank payment system is a batch system that does not support real-time payments – supporting real-time capabilities in the future would be consistent with developments in the rest of the economy where everything is expected to be conducted immediately 24/7/365.
2. The messaging standard (BACHO) used with our inter-bank payment system limits the information carried from payer to payee – a modern and data rich format would enable the market to unlock a range of interoperability, productivity, and efficiency benefits.
3. Our inter-bank payment system is available only on a 5 day/15-hour basis – moving availability towards 24/7/365 would allow customers to send and receive interbank account to account payments, at the time that best suits them.
4. Our inter-bank payment system only supports limited overlay service offerings – for example, providing customers with a ubiquitous, easy and reliable way to make a payment to someone where they do not have the account number of the beneficiary would improve commerce, and the ability for the wider market to innovate.
5. Each party does its own identity verification and due diligence processes (KYC/CDD) – a unified approach would mean customers do not have to repeat complex activities and disclosures, and the industry could avoid duplicating costly compliance efforts to establish the legitimacy of the payer and payee.
6. The industry does not have a shared tool set to manage and monitor payments fraud – improved tool sets would allow industry to make further gains in detecting, averting and remediating fraud across the end-to-end payments network and value chain.

7. There is a limited set of standardised APIs in the marketplace – as the API ecosystem becomes more ‘plug-and-play’, customers will receive the full suite of potential innovations from banks and third parties working together.

Some of these limitations are already being addressed. For example, the launch of the API Centre is a first step towards addressing the limited set of standardised APIs in the marketplace. SBI-365, when launched, will expand the current system availability.

Figure 2 – Limitations of our current payments system



## 6. Future view

**Our future view of the payments ecosystem in 2030 comprises seven characteristics, which are set out in Figure 3 below.**

**Realising that future view will not only address the limitations discussed above but will also mean the domestic payments ecosystem is well-positioned for the future.**

Figure 3 - Characteristics of the payments ecosystem in 2030



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Below we explain in further detail what we mean by each of the future view characteristics.

**Real time – local and cross-border payments offer real-time experiences.**

A shift to fast domestic account-to-account payment services will morph into real-time payments. End users will not notice a material difference between the end-to-end speed of their domestic vs cross-border payment experience. Global technology platforms and their enabling technologies and capabilities will play a more substantial role in delivering real-time payment experiences.

**Informative and informed – payments are rich in data and information and support data-driven innovation.**

Kiwis will benefit from being able to send and receive more timely, relevant and rich data about and with their payments. This will be made possible by a shift towards the use of richer payments messaging, the deployment of new tools to support payment adjacent data/information and by the capabilities of global technology platforms as they play a broader role in the value chain. The result will be better data-driven innovation and new value propositions and support for a broader range of use cases.

**Always on - payments systems are continuously available to allow Kiwis to complete their payments.**

Customers will be able to send and receive payments any time of the day or night, on any day of the year.

**Broadening industry mix – a broadening mix of players work together in a larger than ever payments ecosystem.**

Payments innovation will take place across a more open payments ecosystem and be driven by a mix of partnerships of existing and new payment industry and fintech players and also by global technology platforms with their considerable scale and reach.

**Simple authentication – customers’ payments experiences are simple and trusted.**

Those experiences will be driven by competitive and collaborative activity and innovation that leverages improvements in common technology, tools, standards, processes and infrastructure to support greater use of digital identity.

**Safe and secure – confidence in payment system integrity.**

Industry deepens its commitment to building Kiwis’ on-going confidence in the integrity of the payments system.

**Simple safe ways to pay me – payments are simple, seamless and secure.**

Customers can choose to be paid using meaningful information through the payment method that best suits their personal or business circumstances.

### Validation

To validate this future view, working group representatives submitted over 80 user stories. Expressed as statements of desired future capabilities, each story describes actions end users want to undertake, but cannot because the required capabilities are either not present or not fully developed in the current payments ecosystem.

The graphics on the following pages show the key user story themes we received. The user story themes are arranged according to the future view they most closely align to.



Figure 4

### Real time

Local and cross-border experiences offer real-time payments



Figure 5

### Informative and informed

Payments are rich in data and information and support data driven innovation



Figure 6

### Always on

Payment systems are continuously available to allow Kiwis to complete their payments

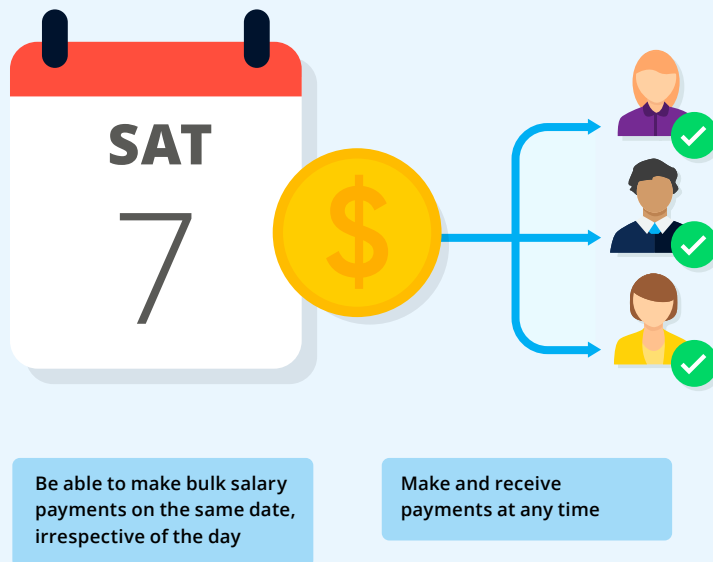




Figure 7

### Broadening industry mix

A broadening mix of players work together in a larger than ever ecosystem

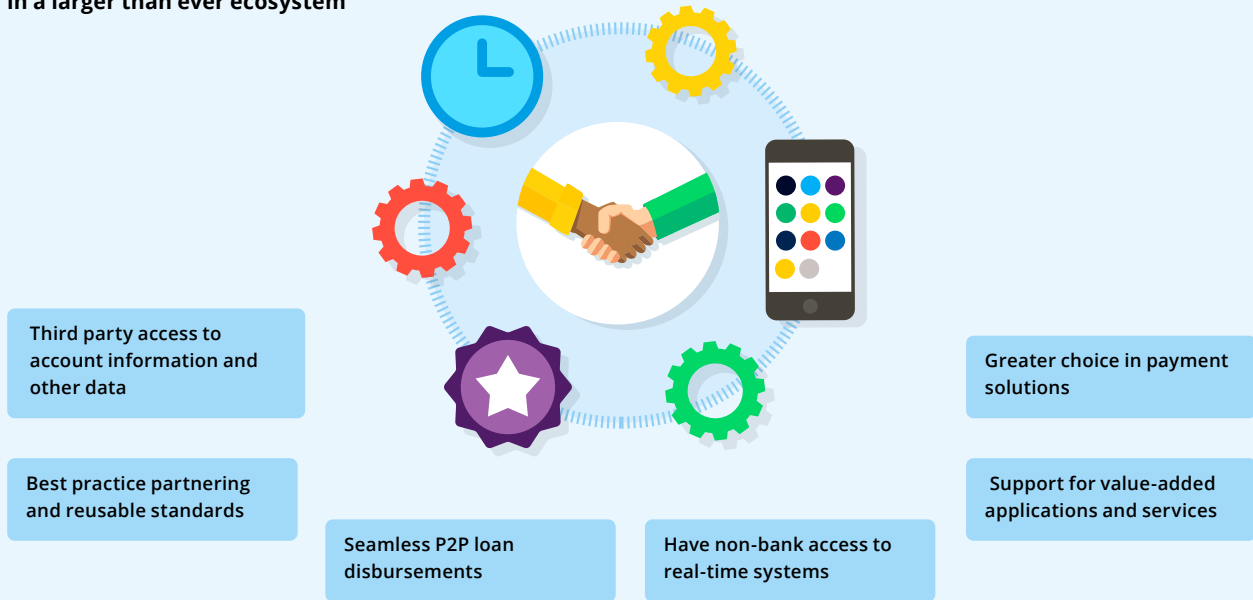


Figure 8

### Simple authentication

Customers payment experiences are simple and trusted

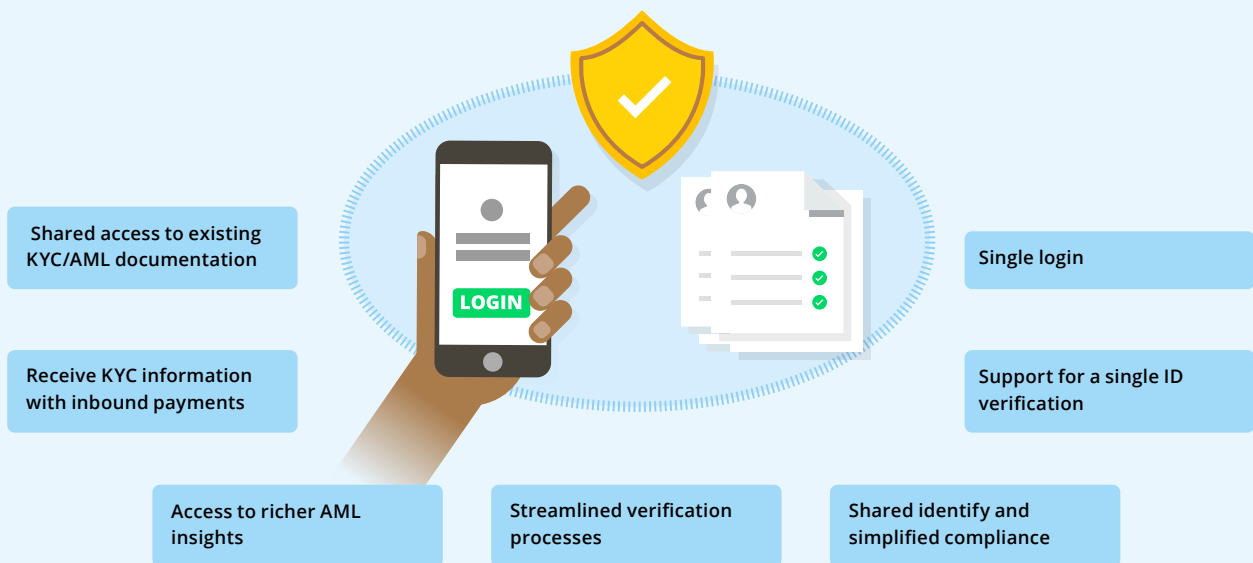


Figure 9

## Safe and secure

Confidence in payment systems integrity



Ability to support interbank notifications of fraud

Detect fraud on a real-time basis

Having confidence in the identity of the payee

Figure 10

## Simple safe ways to pay me

Payments are simple, seamless and secure



Secure and efficient management of payee identifiers

Request payments using a payee identifier

Make payments using a payee identifier

Transfer payee identifiers between organisations

Use payee identifiers to enable better fraud screening

Use payee identifiers to distribute government assistance

# 7. Future capabilities

**In this section we present the core building blocks of payments modernisation in New Zealand around which collaborative industry activity will coalesce to deliver the future view we've already outlined.**

These building blocks are the product of extensive discussions with and between working group representatives on the high-level capabilities that are most likely to be required to support payments modernisation in New Zealand.

The capability building blocks are about the future, not the present. Each building block has the potential to address at least one of the current or emerging limitations in the domestic payments ecosystem and to play an important part in delivering a more vibrant and dynamic future.

Engaging with stakeholders provides an opportunity to test and validate whether these building blocks are correctly stated and whether there are other building blocks that industry needs to consider as it develops a payments modernisation roadmap.



## Capability building blocks for payments modernisation

- **Real-time payments** – customers can make and receive real-time payments.
- **Greater payment choices** – customers have greater choice about when and how to make or receive payments.
- **Payee identifiers** – customers can use payee identifiers to make or receive payments.
- **Improved fraud solutions** – industry can improve the detection and remediation of fraud.
- **Secure partnering** – between banks and third parties using harmonised standards.
- **Cross-border convenience** – customers can make and receive cross-border payments with convenience.
- **Richer data** – customers and industry can realise the productivity, efficiency and innovation benefits of richer data.
- **Simple verification** – customers enjoy improved experiences through simple verification.
- **Value-added applications** – the payments system supports value-added applications and services.

Some of the building blocks are expected to lead to improvements in the short term, whereas others may need several years of effort before being able to fully deliver their promise. For example, the richer data building block could rest on increased adoption of ISO 20022, which is already being deployed in many jurisdictions and has broad international support<sup>1</sup>. By contrast, fully realising the benefits from the cross-border convenience building block likely hinges on a coordinated effort across several jurisdictions.

## Not a linear series of deliverables

While delivery of each of these building blocks individually has the ability to bring significant benefits to the payments ecosystem, the most enduring enhancements are likely to arise if, over time, the building blocks are advanced in a coordinated manner. This is because putting in place any single building block has the potential to advance the realisation of multiple future views.

We can use the Payee Identifier building block as an example to illustrate this point more fully.

## Example – Payee Identifier

At present, customers do not have an easy and reliable way to make a payment to someone where they do not have the account number of the beneficiary. Further, the nature of bank account numbers, generally, does not lead to a user-friendly experience because:

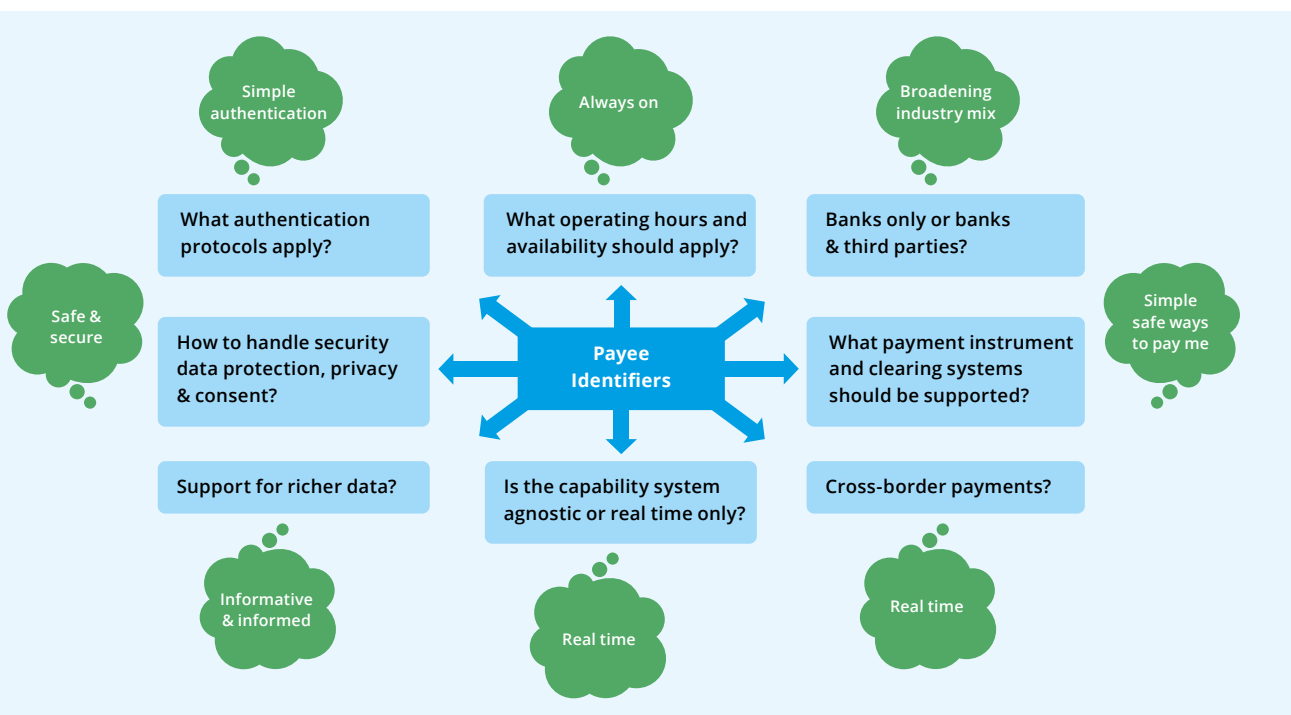
- Customers are generally required to know the exact bank account number of the person they are sending money to.
- Many customers will not remember their own bank account numbers or know the account numbers of those they want to send money to.
- The initiating customer often needs to enter a string of 15 digits correctly for the payment to be correctly processed.
- Some customers are reluctant to provide their bank account numbers because they are concerned they might be used fraudulently.

The use of an identifier, such as a mobile phone number in place of a bank account, would resolve this pain point. In deciding to move ahead with that building block industry will need to address a range of high-level design questions that speak to other future views.

Those questions would clearly include how to identify the payee. For example, would the identifiers include email addresses and social media handles in addition to a mobile phone number? Inevitably as this is worked through, a range of high-level design questions that speak to other future views would also need to be addressed. For example, how could the payee identifier capability help support the use of modern and data-rich formats across the payment ecosystem? Figure 11 seeks to use proxy as an example to illustrate that concurrent consideration of these high-level design questions provides an opportunity to maximise the synergistic effects of the capability building blocks.

The key point is that advancing any one building block will trigger a chain reaction of questions that impact other elements of the future view.

Figure 11 – High level design questions example



1 In New Zealand, the High Value Clearing System is in the process of transitioning its existing MT messaging format to ISO 20022, which should provide broader insights for our payments ecosystem with regard to ISO 20022.

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## 8. Conclusion and next steps

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The future view set out in this PMP rests on nine building blocks of capability. While no decisions have been made on specifically when these building blocks would be available or the technological solutions required to deploy them, the industry is working to the assumption that, by 2030, these building blocks will need to be in place if the future view is to be realised.

When our stakeholder engagement is completed, we expect to work with industry to assess the responses we received and to discuss how these responses should be reflected in a revised PMP and accompanying roadmap for payments modernisation. That roadmap will provide a guide to when the capability building blocks are expected to be delivered and in what order and will be an important resource to support future delivery activity.

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# Appendix

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**Thank you to the following organisations who took part in the working group to develop this PMP:**

- ASB
- Kiwibank
- SWIFT
- Westpac
- ANZ
- Xero
- BNZ
- Paymark
- Datacom
- Visa
- Co-op Money
- FIS Global
- NZX
- American Express
- Trade Me
- HSBC
- China Construction Bank
- Mastercard
- TSB
- Foodstuffs
- ACI Worldwide
- Citibank
- Bank of China
- ICBC
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# Glossary

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**Account to account payment** – the transfer of monetary value from one bank account to another.

**APIs (Application Programming Interface)** – a standardised tool for software to securely communicate with other software. APIs act as a messenger which takes third party requests and tells a system what to do, and then returns with a response.

**API standards** – a set of operational rules and technical specifications that set out how two (or more) systems can securely interact with each other to share information in a standardised way.

**BACHO** – Bankers Association House Clearing Organisation. This is New Zealand's proprietary messaging format for bulk electronic payments and is limited in the number and type of characters that can be used by customers for reference information.

**Customer due diligence (CDD)** – the process where relevant information about the customer is evaluated for, among other things, any potential risks for money laundering/terrorist financing activities. New Zealand has specific legislation, the Anti-Money Laundering and Countering Financing of Terrorism Act 2009. This Act places obligations on New Zealand's financial institutions to detect and deter money laundering and the financing of terrorism (AML/CFT).

**ISO 20022** – a financial services messaging standard developed within the International Organisation for Standardisation. ISO 20022 is a single common language for financial communications whatever the business domain, the communication network, and the counterparty (other financial institutions, clients, suppliers and market infrastructures).

**Know your customer (KYC)** – the process used by institutions to verify the identity, suitability, and risks involved with maintaining a business relationship.

**Members** – members are organisations that have joined the Payments NZ membership programme. There are two different kinds of membership: Infrastructure and Industry membership, which reflect the different kinds of organisations in the payment ecosystem.

**Overlay services** – these are services over and above the core payment clearing and settlement that add functionality to the payment.

**Participants** – financial organisations (primarily banks) that exchange payments directly with other Participants in one or more of the four clearing systems administered by Payments NZ. Direct participation in a clearing system is an efficient and cost-effective way to exchange payments directly with other Participants using common processes.

**Payment ecosystem** – includes payment systems, payments products, people and organisations that make and receive payments and those people and organisations that are involved in activities related to or adjacent to payment processes.

**Real-time payments** – an interbank account to account payment that is posted into the beneficiaries account and cleared within one minute.

**SBI/SBI 365 (Settlement before Interchange)** – the settlement and interchange system used by our Participants to settle payments and exchange the payment information using a BACHO file with other Participants throughout the business day on a bilateral basis. When introduced SBI 365 will enable Kiwis to make and receive electronic account to account payments between different banks every day of the year.

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+64 4 890 6750  
connect@paymentsnz.co.nz  
www.paymentsnz.co.nz

