

PAYMENTS DIRECTION

2015 Environmental scan report

Our changing payments landscape

September 2015

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Foreword

It's no secret the payments landscape is changing. After a long time of periodic innovation and relative stability, our industry is now characterised by continuous innovation. Advancements in digital technology has seen a number of non-traditional players entering the market, intensifying competition and driving new customer expectations about how payments should be made and received.

Payments is emerging from banking as an industry in its own right and regulators are increasing their focus on the importance of payment systems to the efficient functioning of the economy. As a result, regulatory agendas are changing and expectations on payments associations, like Payments NZ, are increasing as consumers, businesses and regulators all expect more from the payments industry.

The speed at which our industry is being transformed means a concerted effort will be required from all stakeholders in order to stay ahead of these rapidly changing expectations. As an industry, it's a good time to take stock and consider how the future payments ecosystem might look and where our major opportunities and challenges lie. Our Payments Direction initiative provides a chance to do this. Payments Direction is about having our finger on the pulse in order to plan ahead and make informed decisions about our future and how we might enable the industry to leverage opportunities and respond to the challenges that lie ahead.

Our first step has been to complete an environmental scan. We undertook a wide ranging and extensive review of local and international research and used this to assess global trends and issues relevant to payments in New Zealand. Our research findings suggest much of the recent work done to date in New Zealand, such as removing risk in our retail settlement system and introducing new rules and standards for mobile payments, is in step with what we see happening in other jurisdictions. We were also pleased to find the discussions underway within our industry about its future direction reflect the issues being discussed right around the world, especially among our international counterparts.

This report consolidates the results of that environmental scan and identifies and analyses the central themes that emerged. I encourage you to read this report to better understand the changes and developments occurring globally to payments and payment systems and what this may mean for New Zealand. I also hope you continue to follow the progress of Payments Direction. Keep an eye on our website for updates on the companion output to this report, *Payments 2025 – A view of the payments ecosystem in 10 years time*.



Steve Wiggins
Chief Executive, Payments NZ

A background image showing a blurred business meeting with people in suits. A blue semi-transparent overlay covers the lower half of the image, containing text and a hand holding a pen. Below the blue overlay, there are images of business documents with charts and graphs.

Executive summary

The payments landscape is evolving at an unprecedented rate. This report provides a sense of the trends and influences that are relevant to the New Zealand payments ecosystem.

Payments Direction is a strategic programme of work we've commissioned to help us better understand what the future of payments might look like and determine the work Payments NZ needs to do to effectively contribute to maintaining a progressive payments ecosystem. This report, *2015 Environmental scan report: Our changing payments landscape*, summarises the findings from an environmental scan we undertook and provides us with a sense of the trends and influences that may affect our payments ecosystem over the next decade.

The environmental scan consisted of a wide ranging and extensive review of domestic and international research material relevant to the New Zealand economy and its payments system, as well as a macro review of New Zealand's regulatory and economic landscape. Our findings confirm that New Zealand has a modern and robust payments system, but they also illustrate that the speed of change within the payments landscape is on the rise and this means that our ecosystem will be subjected to increased pressure over the coming years.

We identified five key themes to describe the trends and influences relevant to our payments system. These themes are:



1. Payments are increasingly continuous and international in orientation.

There is an increasing expectation that payments instruments and payment system availability should facilitate the continuous economic activity of companies and consumers that takes place irrespective of geographic location or time zone.



2. Payments are increasingly faster, more mobile, more informative and linked across the value chain.

Payment instruments and payment systems need to: support immediacy in commercial interactions, irrespective of location; allow information of value to be transmitted with the payment; and open the way for new payment propositions to be delivered.



3. Payments infrastructure refreshes and renewals are widespread and arise for a number of reasons.

Infrastructure refreshes and renewals are a catalyst for change, enabling faster or real-time payments to be delivered, multiple payment instruments to be handled on a single platform, and helping to achieve compliance with regulation and regulatory policy.



4. Financial services and payments regulation is expanding and aiming to produce more inclusive and resilient systems.

Regulators are showing a renewed interest in the operation and governance of financial and payment systems, with some of that regulation being driven from offshore for a number of reasons. Additionally, in some jurisdictions regulators are driving payments system modernisation and inclusion.



5. Payments associations face rising expectations.

Payment associations are expected to be positioned to articulate a long-term vision for payments, to engage in meaningful ways with a diverse range of stakeholders, to demonstrate their independence, and to work productively with regulators.

While these findings are consistent with the impacts and change factors similar to those being found elsewhere, the context in which we operate in New Zealand is unique. This presents opportunities for payments ecosystem players to have a role in shaping and moulding our future system and to make the most of these opportunities we need to think carefully about the way forward. From the scan we know that expectations are on the rise. If we want to continue to meet these and stay ahead, our payments ecosystem needs to be progressive, flexible and open to change. While many of the trends discussed in this report will be best addressed by commercial solutions delivered in competitive markets, others require a coordinated and collaborative response.

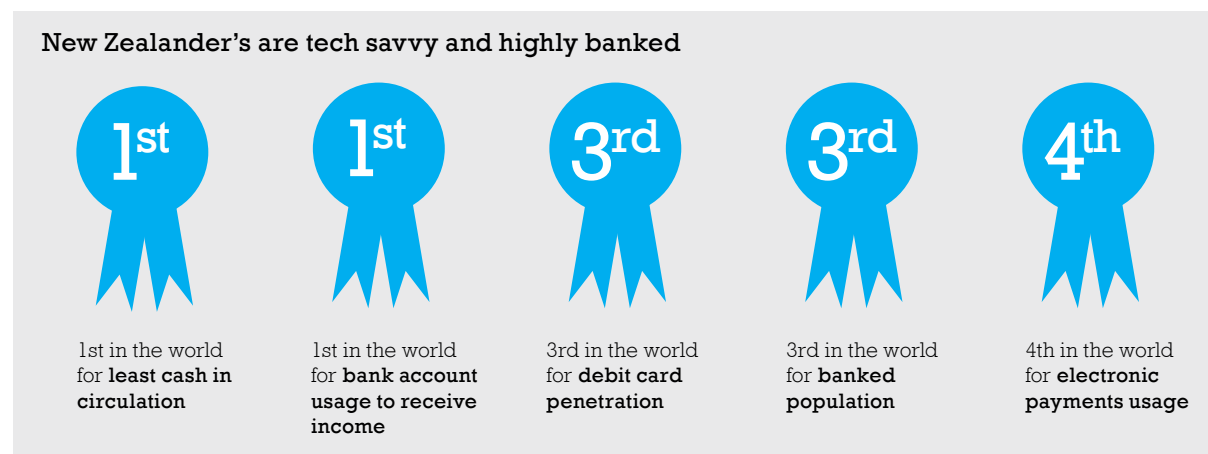
The next Payments Direction output, *Payments 2025: A view of the payments ecosystem in 10 years time*, explores these themes in more detail and outlines our view on what the New Zealand payments ecosystem of 2025 could look like.

A satellite view of Earth from space, showing a curved horizon and a mix of blue oceans, white clouds, and brown/green landmasses. The perspective is from a high angle, looking down at the planet's surface.

New Zealand's payments ecosystem

New Zealand is unique. When looking at the relevance of global payments trends, we need to keep New Zealand's current payments ecosystem in mind.

The integrity and sophistication of New Zealand's payments ecosystem plays an important role in the functioning of our economy. New Zealand has a very modern payments culture with low cash and cheque usage and one of the highest electronic funds transfer rates per capita¹. Only 30 years ago the vast majority of payments were made using cash and cheques, and while these payment instruments continue to play an important role, today most payments are made electronically. New Zealand's relatively small population of 4.5 million people is generally tech savvy and highly banked.



The World Bank's comprehensive Global Financial Inclusion Database describes New Zealand as having the following characteristics:²

- **High electronic payments usage:** 4th highest in the world with 83.2% of adults using electronic payments.
- **Highly banked population:** 3rd in the world with 99.4% of adults having an account at a formal financial institution.
- **High debit card penetration:** 3rd in the world with 93.8% of adults having and using a debit / EFTPOS card.
- **High usage of bank accounts to receive income:** 1st in the world with 73% of adults using their accounts to receive payments from work or selling goods. Australia is second at 69%.

Against that backdrop, it should come as no surprise that we have the least cash in circulation. New Zealand has the lowest value of banknotes in circulation in the world at NZ\$1,035 per capita.³ We are also ranked 1st in the world in terms of the lowest total cash as a percentage of GDP at 2.1% of GDP.⁴

New Zealand has a robust and predominantly electronic payments infrastructure and payments ecosystem players have a strong track record of collaborating to establish payment networks. The development of the domestic EFTPOS system is a good early example of this. Over recent years a range of improvements have been made to our payments system. Some of these improvements have been completed under the banner of Payments NZ, such as the Settlement Before Interchange (SBI) arrangements for retail payments and the introduction of mobile payments rules and standards which ensure the integrity, efficiency and security of mobile payments. Other improvements have come about through alliances of industry players, for example, Semble's mobile wallet initiative. Further improvements are scheduled to take place as the Reserve Bank of New Zealand (RBNZ) works

1 SWIFT (2013) *New Zealand's move to Intra-day payments and settlement via SWIFTNet*, page 1. Available at http://www.paymentsnz.co.nz/cms_show_download.php?id=96.

2 The World Bank, Global Findex (Global Financial Inclusion Database). Available at <http://databank.worldbank.org/data/reports.aspx?source=1228>

3 Payments NZ (June 2014) *What is really happening with cash in New Zealand*. Available at <http://www.paymentsnz.co.nz/articles/cash-in-new-zealand2>

4 Australian Payments Clearing Association (July 2014) *The Evolution of Cash an Investigate Study: Summary of Findings*, page 17. Available at www.apca.com.au/docs/policy-debate/evolution-of-cash.pdf

through how best to modernise its real-time gross settlement systems (ESAS and NZClear).

The most significant recent change to the payments landscape in New Zealand has been SBI. Introduced in 2012, SBI has resulted in more frequent intra-day settlements and a significant shortening of the lag between retail transactions and the final clearing of funds. SWIFT describes SBI as a modern and robust solution which constitutes an excellent base to layer up innovation and changes over time.⁵ Payments NZ's Participants have utilised SBI to increase the frequency of payment file exchange with some of our largest banks now sending out payment files every hour and the average time it takes to settle a batch of payments at the RBNZ is now down to six seconds.⁶

At the retail level, one of the notable changes to payment instruments in New Zealand is the recent high uptake of contactless cards and introduction of mobile acceptance at point of sale. This uptake has been reinforced by significant investment in contactless mobile payment propositions by payments ecosystem players.

New Zealand's modern payments infrastructure and payment instruments have been attained with low levels of regulatory prescription as to the shape of the payments system or the direction of innovation. Regulators in other jurisdictions take a range of approaches on such strategic issues, some of which are comparatively prescriptive. In contrast, New Zealand's payments system oversight regime is at the low intensity end of the international spectrum. The RBNZ has a stated approach of avoiding prescription in terms of future payments system architecture and has expressed a clear preference for market-based solutions.⁷

The establishment of Payments NZ, in 2010, has improved the governance of the payments system and paved the way for a more open and competitive payments industry.⁸

The New Zealand payments system is relatively efficient, safe and secure and has served us well over an extended period. However, the payments landscape is now changing faster than ever. Consumer preferences and advances in technology are driving innovation in the retail space. Increasingly, payments and 'fintech' are becoming industries in their own right, distinct from banking. International regulatory developments are impacting the operation of aspects of the domestic payments ecosystem. Many countries are now on a trajectory to surpass New Zealand in payments innovation.⁹

Our Payments Direction initiative has been commissioned to help us gain perspective into what the world of payments will look like over the next decade and plan how we need to respond to those changes. Other payments associations (like Payments NZ) around the world are also looking into trends in payments that affect their ecosystems and asking similar questions. Like these other payments associations, we are seeing similar trends and transformations in the New Zealand payments ecosystem. Many of these trends, especially in the area of infrastructure renewal, may require a coordinated and collaborative industry response. In order to retain New Zealand's reputation as a world leader in payments, the industry needs to consider where these collaborative responses would be most beneficial.

5 SWIFT (2013) *New Zealand's move to Intra-day payments and settlement via SWIFTNet*, page 2. Available at http://www.paymentsnz.co.nz/cms_show_download.php?id=96.

6 Lipis Advisors (March 2014) *Global Payments System Analysis (Final Report: Volume 2, Country Profiles)*, page 70.

7 The Reserve Bank of New Zealand, speech by Grant Spencer (11 November 2014) *Reserve Bank perspective on payments: A speech delivered to the Payments New Zealand Conference in Auckland*. Available at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5929222.html

8 Ibid.

9 Payments NZ (April 2015) *Are our payment systems as good as we think they are?* Available at <http://paymentsnz.co.nz/articles/are-our-payment-systems-as-good-as-we-think-they-are>

A hand in a blue sleeve points upwards towards a globe. The globe is overlaid with a network of glowing white lines and circular nodes, representing global connectivity or data flow. The background is a deep blue gradient.

The five themes

In this section we explore the five themes taken from the environmental scan. We break these down, consider the effects internationally and how each is relevant to New Zealand.



1. Payments are increasingly continuous and international in orientation

Summary of key findings

- **Cross-border payments are expanding:** driven by growth in trade flows.
- **Payment systems are being used as a platform for change:** there is a sustained move towards regional payments system cooperation.
- **Global remittance flows are growing:** driven by rapidly falling barriers to global mobility, employment and standardisation.
- **Payments are being leveraged to contribute to GDP growth:** fast electronic payments are contributing to GDP growth by removing friction from the payments process and making the process more secure.
- **Payments are increasingly mirroring borderless and continuous economic activity:** there is an increasing expectation payments system availability should facilitate the continuous economic activity of companies and consumers.

Theme analysis

Continuous and borderless payments

The prevalence of internet and mobile technology means people and organisations are becoming increasingly accustomed to interacting and transacting in a world of continuous and borderless activity. What follows is an expectation that payment instruments and systems should mirror and facilitate this activity by allowing transactions to be processed more frequently, efficiently, and without constraints posed by time or location.

In many jurisdictions payment systems are becoming more available with the general direction orientated firmly towards 24/7 availability.¹⁰ At the same time, central bank settlement systems are also widening their hours of operation in recognition of this trend.¹¹

In New Zealand SBI provides a reliable, efficient and relatively fast batch retail settlement system. This allows banks to settle retail transactions at regular intervals during the day. SBI (non-card) electronic payments operate 5 days a week, normally from 9am to 12.15am, which represents roughly 75 hours of a possible 168 hour week (availability of around 45%).

While SBI continues to serve us well, it is capable of being further enhanced. It is likely that over time, questions will be posed about the efficiency gains to be realised for New Zealand from having a payments system that operates on a continuous basis (or at least a seven day basis) and which mirrors international trends. This is especially true since SBI's core components already operate on a reasonably continuous basis; the RBNZ's ESAS system is available 23.5 hours a day, 7 days per week, and SWIFT FileAct messaging is available 24 hours a day, 6.5 days per week.

¹⁰ Payments NZ (March 2015) *Research paper: Payments Now*, page 9.

¹¹ Bank of Japan, speech by Hiroshi Nakaso, Deputy Governor of the Bank of Japan (25 November 2014) *Toward Innovative Payment and Settlement Systems: Keynote Speech at the 9th Asia Banking CEO Round Table*, page 8.

Payments that are increasingly international in orientation

Global trade has always been important to New Zealand and is likely to become increasingly important over the next decade. As part of its Business Growth Agenda, the New Zealand Government has set a target for exports to represent 40% of GDP by 2025¹² (over the period 2010 to 2013, exports were approximately 30% of GDP)¹³. When compared with other OECD member countries, our export to GDP ratio is about average but well below the 40%-50% of GDP for similar-sized OECD countries.¹⁴

In its Business Growth Agenda, the government has committed to ensuring 'the rules, regulations and policies – both here in New Zealand and in key markets offshore – promote exports'.¹⁵

Asia has eclipsed Europe as the nexus of global trade growth, and in the past five years has added more to global GDP than the European Union, Japan and the USA combined.¹⁶ In the New Zealand context, Asian economies are taking on more importance as trading partners and providing significant demand for New Zealand exports, especially commodities. For example, New Zealand exports to China have increased from \$0.4bn in 1993 to \$10bn in 2013.¹⁷

People and organisations will come to expect faster and more efficient cross-border payments.

As the speed and functionality of payments increases in domestic environments, people and organisations will come to expect faster and more efficient cross-border payments. When combined with the growing importance of international trade, this suggests we might want to consider:

- whether there are opportunities to streamline cross-border payments to make New Zealand a simple and efficient place to trade with; and
- increasing the emphasis on global interoperability of payment systems, especially in respect of those countries with which New Zealand has significant trading relationships.

Improving the ease with which cross-border payments can be made will help to facilitate a widened and varied set of trading relationships for New Zealand's exporters and importers.

Calls to explore how payment systems can be leveraged for the benefit of New Zealand.

Improving the functionality and sophistication of payment systems can support broader economic objectives both within the domestic economy and across national boundaries.

In domestic economies around the world, electronic payment solutions are being used to:¹⁸

- Spur economic activity.
- Contribute to GDP growth by removing friction from the payments process and increasing the productivity of money in commerce.
- Make payments more secure.

12 Ministry of Business, Innovation & Employment (August 2012) *The Business Growth Agenda Progress Reports: Building Export Markets*, page 3. Available at <http://www.mbie.govt.nz/what-we-do/business-growth-agenda/export-markets>

13 The World Bank, *Exports of goods and services (% of GDP)*. Available at <http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS>

14 Ministry of Business, Innovation & Employment (August 2012) *The Business Growth Agenda Progress Reports: Building Export Markets*, page 9. Available at <http://www.mbie.govt.nz/what-we-do/business-growth-agenda/export-markets>

15 Ministry of Business, Innovation & Employment (August 2012) *The Business Growth Agenda Progress Reports: Building Export Markets*, page 5. Available at <http://www.mbie.govt.nz/what-we-do/business-growth-agenda/export-markets>

16 McKinsey & Company (August 2014) *Insights into the dynamics of new trade flows*, page 22.

17 Chartered Accounts Australia and New Zealand (August 2014) *Future [Inc.] Developing a plan for New Zealand's Continued Prosperity*, page 25.

18 Moody's Analytics (February 2013) *The Impact of Electronic Payments on Economic Growth*, page 3. Available at http://usa.visa.com/download/corporate/_media/moodys-economy-white-paper-feb-2013.pdf

Payment systems are also being leveraged to achieve greater levels of economic cooperation and payments integration across national boundaries.¹⁹ One well-known example of regional payment system integration would be the Single Euro Payments Area (SEPA).

Integrating regional payment systems offers a range of benefits such as:

- Faster settlement of transactions.
- The harmonisation of payment formats and processes (which reduces the number of banking relationships necessary to support business across multiple countries).
- Efficiency gains from international interoperability via standardisation of payment information.

Closer to home other jurisdictions, notably Singapore, have used payments system modernisation to fulfil ambitions of becoming a regional economic hub, capable of handling real-time cross-border transactions.²⁰

Any future dialogue and discussion as to how payment systems could be leveraged to achieve broader economic objectives for New Zealand should consider:

1. How the deployment of fast payment solutions might contribute to the productivity of money, and in doing so, make a positive contribution to GDP.
2. Whether to pursue convergence in standards and approaches with jurisdictions where we have a significant economic relationship. For example, Australia's plans to launch the New Payments Platform (NPP) and to adopt ISO 20022 messaging standards. This may present greater opportunities for trans-Tasman interoperability (for example with the sharing and exchanging of payments files).
3. How we might deploy open access payments infrastructure to drive innovation in payment services and to take advantage of the growth in fintech.
4. Explore how payment systems could be used to make new digital markets secure given the increasing intersection of financial services.

We return to these ideas in later sections of this report. Over time, the issue of how payment systems can best serve the interests of New Zealand will be influential in deciding how our payment systems should evolve.

¹⁹ Lipis Advisors (May 2014) *Global Payments System Analysis (Final Report: Volume 1, Comparative Analysis)*, page 46.

²⁰ Payments NZ (March 2015) *Research paper: Payments Now*, page 37.



2. Payments are increasingly faster, more mobile, more informative and linked across the value chain

Summary of key findings

- **Real-time payments (RTP) are increasingly important:** RTPs are closing a clear gap between meeting customer demands for immediacy and the capability of traditional batch processed deferred payments. RTPs are an inter-bank account-to-account payment that is posted and confirmed to the originating bank within one minute.²¹
- **The payments value chain is being extended:** pre-payment, payment processing and post-payment services are becoming better integrated, sometimes by new entrants blending payment propositions into their product or service offerings.
- **Payment instruments are being re-examined:** to determine how those instruments sit together as a whole and whether they are properly aligned with future expectations.
- **Increasing payments convergence is taking place:** at both a channel and product level.
- **Payments are supporting internationalisation:** global payments environments are evolving to support the internationalisation of commerce.
- **Payment systems are subject to continuous innovation:** as a result of disturbances from digital technologies, regulation, intensifying competition and new market entrants.
- **Mobility in payments is increasingly important:** in both developed and developing economies across three broad fronts: card based, closed loop and account to account.
- **Infrastructure renewals support innovation:** new opportunities to support payments innovation are arising due to infrastructure renewal.

Theme analysis

More rapid and responsive payments innovation

The rate of payments innovation has increased markedly over the past 15 years. Continual advancements in digital technology, particularly in the mobile space, has seen a number of non-traditional players entering payments, challenging traditional ways of thinking, intensifying competition and driving new customer expectations. Payments has now moved from periodic to continuous innovation and payments is no longer a subset of banking, but an industry in its own right. To provide an indication of the scale of innovation underway, global investment in fintech ventures rose from US\$4.05 bn in 2013 to US\$12.1 bn in 2014.²²

New Zealand is well positioned to take advantage of this pattern of increasing and continuous innovation. Our high level of financial inclusion (with 99.4% of adults having an account at a formal institution)²³ and our status as a 'very electronic savvy society'²⁴ means New Zealand could be

21 SWIFT (28 May 2014) *Latin American Regional Conference 2014, Payment Industry Perspectives* [PowerPoint slides], page 5. Available at <http://www.slideshare.net/SWIFTcommunity/larc2014payments-industryperspectives9jun2014>

22 Accenture (2015) *The Future of Fintech and Banking: Digitally disrupted or reimagined?* page 2. Available at <http://www.fintechinnovationlablondon.net/media/730274/Accenture-The-Future-of-Fintech-and-Banking-digitallydisrupted-or-reima-.pdf>.

23 The World Bank, *Global Findex (Global Financial Inclusion Database)*. Available at <http://databank.worldbank.org/data/reports.aspx?source=1228>

24 Lipis Advisors (May 2014) *Global Payments System Analysis (Final Report: Volume 2, Country Profiles)*, page 70.

an ideal test environment for new and emerging technology. Our small market size, strong track record in collaboration²⁵ and a regulatory setting that prefers industry-led solutions also contribute to this ideal test environment. Semble provides an example of how ecosystem players can position themselves to develop a world-first collaboration between mobile networks and banks.²⁶ That platform will allow banks, payments and other service providers to create applications for digital versions of their physical cards to be stored in that wallet.

Payments innovation is increasingly being driven by non-traditional technology or fintech companies. These innovations often occur on top of, or within existing payment infrastructures, networks or systems, for example, Apple and Google payment offerings leverage the established card networks. In addition to this, innovation could deliver entirely new game changing ways to make payments, outside of established infrastructures and payment instruments. These new innovative ways can be referred to as a 'new sandpit'. The best example of an emerging 'new sandpit' derives from distributed ledger technology, commonly known as block chain, which emerged as the technology behind cryptocurrencies such as bitcoin.²⁷ Currently, a significant amount of research and development activity is occurring on how distributed ledger technology can be used for more traditional commercial activity, including payments in fiat (central bank) currencies.²⁸

In order to adapt to rapid payments innovation, traditional payments ecosystem players may need to change the way they operate. Our research suggests there are "three behaviours in relation to fintech that traditional players can employ in order to reimagine themselves digitally"²⁹:

- **Act open:** with external technology and knowledge solution providers. For example, some financial institutions are already working with blockchain, the protocol that underpins the distributed architecture of the bitcoin cryptocurrency.
- **Collaborate:** by co-innovating with those outside the core payments industry to identify new ways to generate value.
- **Invest:** in some instances using corporate investment vehicles to allow new startups and innovators to be sponsored by established players.

Faster payments

Advances in networking and information technology have raised our expectations that there will be immediacy in nearly every interaction we have. We expect to be able to purchase goods and services, obtain news and information, and communicate, 24/7 from nearly any location around the world.

Internationally there is a distinct trend towards:

- Making payments more available with a move towards 24/7 availability so payments can be sent and received at all times of the day, every day of the year.
- Adopting more immediate payments capability in the form of RTPs.

Our research on RTPs reached some very clear conclusions, including:

25 The Reserve Bank of New Zealand, speech by Grant Spencer (11 November 2014) *Reserve Bank perspective on payments: A speech delivered to the Payments New Zealand Conference in Auckland*. Available at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5929222.html

26 For more information see <http://www.semble.co.nz/faqs>

27 Euro Banking Association (11 May 2015) *Cryptotechnologies, a major IT innovation and catalyst for change: 4 categories, 4 applications and 4 scenarios. An exploration for transaction banking and payment professionals*, page 14. Available at https://www.abe-eba.eu/downloads/knowledge-and-research/EBA_20150511_EBA_Cryptotechnologies_a_major_IT_innovation_v1_0.pdf

28 Ibid.

29 Accenture (2015) *The Future of Fintech and Banking: Digitally disrupted or reimaged?* Pages 8-10. Available at <http://www.fintechinnovationlablondon.net/media/730274/Accenture-The-Future-of-Fintech-and-Banking-digitallydisrupted-or-reima-.pdf>

- RTPs are closing a clear and current gap between meeting customer demands for immediacy and the capability of traditional batch processed deferred payment systems.
- There are at least 14 live RTPs systems in use around the world, with another four in development (including Australia's NPP).³⁰
- One common initiative among RTPs systems is the move to adopt ISO 20022 as the preferred messaging standard because of the rich payments functionality this supports.³¹
- RTP deployments are made for different reasons with the faster payment outcome being achieved in different ways. Some deployments are narrow in orientation and focus on mobile peer-to-peer real-time scenarios, such as Kenya's M-Pesa solution. Others provide a backbone for a wide range of payment scenarios and overlay services, such as Singapore's FAST system or the UK's Faster Payment Service.

Real-time capability allows financial institutions to position their enterprise so their relationship with customers is focused on the account. Correspondingly, people and organisations can expect a payments system that is better suited to their needs and provides immediate access to payments. In the case of organisations, the real-time system can be leveraged to provide consumers with improved product offerings, especially in areas where timing and consequence are important. Account-to-account real-time systems can, and will, increasingly compete directly with card payments both in-store and online.

As mentioned earlier, our domestic SBI system is relatively fast for a deferred batch system and currently settles at regular intervals during the day. Participants are getting faster at sending payments into the system. Payments NZ recently instituted the development of a new best practice guideline, effective in November 2016, which will see Participants settling no longer than an hour after the customer has made their instruction to the bank to make payment. While that development certainly helps to speed up domestic account-to-account payments, it needs to be set against a growing expectation that payments should be able to be made around the clock and immediately.

With the global integration of payment systems and the growth of RTPs around the world, it is likely questions will be posed as to whether, when and how New Zealand should make a coordinated move towards faster payments. We can expect the industry to closely monitor the success of Australia's NPP to see what lessons might be relevant to the New Zealand market place.³²

More informative payments

Globally, there is a significant amount of momentum towards ISO 20022 as the preferred payments messaging standard.

Payments are also becoming more informative, frequently through the use of modern messaging standards like ISO 20022. Our research into modern messaging standards noted a significant amount of industry momentum towards ISO 20022 as the preferred payments messaging standard, especially in RTP systems because of the rich payments functionality this supports.³³ That said, there are two points to keep in mind:

- The use of modern messaging standards, like ISO 20022, does not hinge on the deployment of real-time capability. Modern messaging standards should allow Participants and others to leverage data-rich information to open up other predictive, knowledge derived and information-based commercial opportunities and improve operational efficiencies, irrespective of whether we are operating in a real-time world or not.

30 Lipis Advisors (May 2014) *Global Payments System Analysis (Final Report: Volume 1, Comparative Analysis)*, page 92.

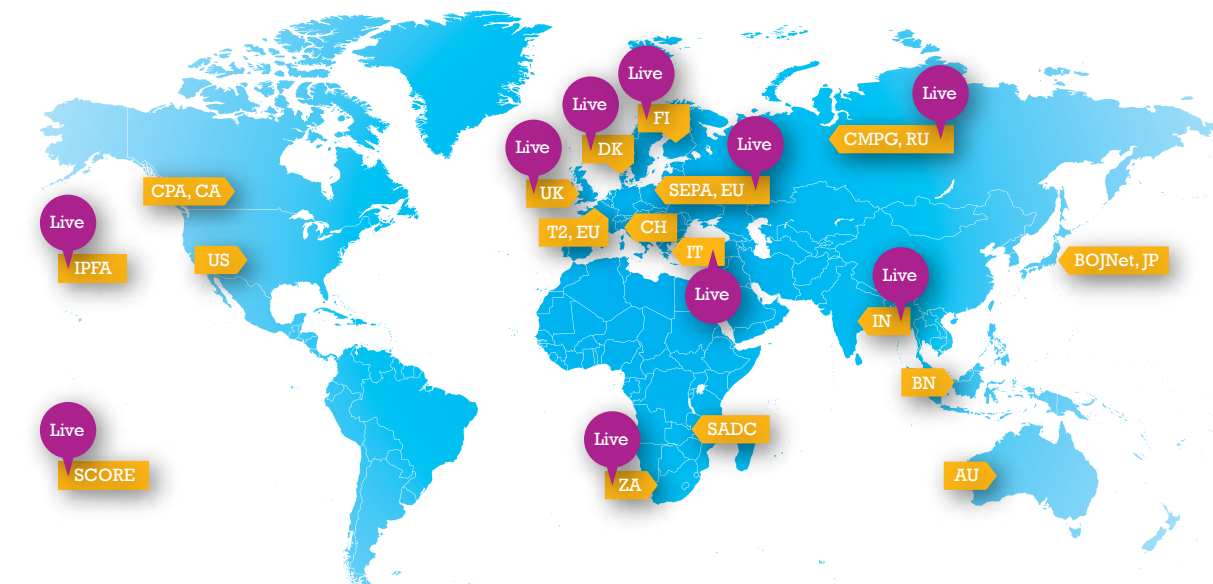
31 Payments NZ (March 2015) *Research paper: Payments Now*, page 12.

32 Lipis Advisors (May 2014) *Global Payments System Analysis (Final Report: Volume 2, Country Profiles)*, page 71.

33 Payments NZ (March 2015) *Discussion paper: Re-mastering payments messaging*, 2 Ed, page 9.

- Not all RTP systems use ISO 20022. For example, the UK's Faster Payments Service used ISO 8583 messaging standard to deploy a real-time service, in line with the UK's existing card payment infrastructure.

FIGURE 1. ADOPTION MAP OF ISO 20022 PAYMENTS INITIATIVES - GLOBAL VIEW



Source: Adapted from ISO 20022 Organisation, *Adoption initiatives introduction maps*, page 2. Reprinted with permission. Available at <http://www.iso20022.org/adoption.page>

Payments that are better linked across the value chain

While there are moves abroad to increase the information content of payments, there are also related moves underway to integrate the payments value chain so pre-payment (e.g. marketing), payment processing, and post-payment services (e.g. loyalty schemes) are better connected and in New Zealand we have seen some of these connections established in the mobile space.

Our current messaging standard, BACHO, has served us well over the years; however, going forward it may limit further integration across the value chain, particularly in respect of account-to-account transactions.

Excluding cards and MT high value payments³⁴, the BACHO format is used to conduct most electronic payments in New Zealand, including the majority of bills paid, online 'pay anyone' payments, and salaries. From a customer perspective, BACHO limits:

- how much information about the payment is carried in the payments message, and
- the information contained in bank statements.

It is possible to deliver pre- and post-payment services under BACHO by adding references to information held elsewhere; however, it is not an enduring way to deliver value as it does not allow organisations to get adjacent to the consumer as they travel along the payments value chain.³⁵ If we are to support the expanding digital environment and provide for greater integration across the value chain, we need smarter payments messaging. As signalled previously, the research suggests ISO 20022 is emerging as the de facto global standard for linking the various stages of the payments value chain for both domestic and cross-border payments. It is occupying this space not because that standard is a commercial product in its own right, but because it allows payments ecosystem players

34 MT (message text) standards have been developed to support the business transactions of SWIFT users. All high value financial messages transmitted via the SWIFT network must adhere to the MT standards.

35 Payments NZ (March 2015) *Discussion paper: Re-mastering payments messaging*, 2 Ed, page 10.

to explore information-rich, digital, flexible, interoperable, efficient and innovative commercial propositions.

It is clear the adoption of ISO 20022 would have a significant impact across the domestic payments ecosystem by enabling banks and payment processors to offer a greater range of pre- and post-payment services and to develop partnerships with others who wish to do the same. Our expectation is the potential adoption of ISO 20022 will be debated and evaluated by payments ecosystem players in the context of the strategic outcomes they would like this standard, or another intelligent messaging solution, to achieve.

The need for payments to be increasingly mobile

Over the next decade the impact of mobile technology on the New Zealand payments ecosystem could be profound. Mobile technology is seen as connecting and empowering consumers, providing a growth engine for SMEs, and is a significant driver of GDP.³⁶

Mobile payments are developing across three broad fronts:

- Card-based mobile payments (such as Semble, Apple and Facebook).
- Closed loop payments (such as Snapper and PayPal, which require pre-funding).
- Bank account to bank account payments (which fall into the real-time category).

The proliferation of mobile devices is very likely to accelerate the adoption of real-time services, particularly among younger consumers and digital natives.

In 2014, in recognition of the growing importance of mobile payments in New Zealand, Payments NZ released rules and standards governing the mobile payments system.

New Zealand's focus on developing mobile payment interoperability has been dominated to date by card-based mobile payments. A key strategic question for industry is: how should real-time account-to-account payments be developed, including those enabled by mobile devices? If real-time account-to-account payments enabled by mobile devices are to be pursued, this decision would need to be supported by a strategic decision to transition to real-time capability.

³⁶ Boston Consulting Group (January 2015) *The Mobile Revolution: How mobile technologies drive a trillion-dollar impact*, page 38. Available at https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution/



3. Payments infrastructure refreshes and renewals are widespread and arise for a number of reasons

Summary of key findings

- **Infrastructure is in a state of flux:** due to widespread changes to reduce costs, comply with increasing regulation and minimise risk.
- **Infrastructure is enabling change:** the role of infrastructure as a catalyst for change is often documented in national payments plans.
- **Infrastructure is supporting real-time payments:** infrastructure evolutions are often focussed on enabling real-time payments.
- **Infrastructure platforms are consolidating:** to the point where a single platform can handle multiple payment instruments.
- **Central bank modernisation is underway:** central banks are in the process of modernising their systems by way of significant upgrade or full system replacement.
- **Shared infrastructure requires common solutions:** there is growing recognition that the development of shared infrastructure across the payments value chain may give rise to issues of governance, standardisation, funding and investment arrangements.
- **Differing pace of development:** resulting in emerging markets that are 'leapfrogging' developed economies.

Theme analysis

Central bank infrastructure modernisation

Payment systems operate within the limitations of the central bank settlement system in which they settle, hence why the modernisation of central bank infrastructure is an important issue across all payment ecosystems globally. For regulators, central bank modernisation is one way to address the long-term strategic needs of the economy;³⁷ real-time gross settlement systems (RTGS) need to be able to accommodate market developments and users' future needs.

In New Zealand, the RBNZ owns and operates two RTGS systems. The first is ESAS³⁸, the system that processes payment instructions between settlement account holders. The second is NZClear, the system used to settle the sale and purchase of securities. The RBNZ is currently undertaking a strategic review and consultation exercise in respect of these RTGS systems. As part of the review process, the RBNZ is considering its role as a provider of payment and settlement services. Among other things, that review will address the cost of ownership, risk, and the difficulties of innovating off the back of existing systems.

In early 2015, the RBNZ sought registrations of interest from potential vendors for the procurement of a RTGS system to replace ESAS and a security system to replace NZClear. In June 2015, RBNZ announced they wish to find a new provider of NZClear services.³⁹ The RBNZ's decisions about the

³⁷ Payments NZ (March 2015) *Research paper: Trends and implications impacting High Value Clearing Systems around the world*, page 7.

³⁸ Exchange Settlement Account System.

³⁹ The Reserve Bank of New Zealand (2 June 2015) *Reserve Bank seeks buyer for NZClear*. Available at <http://www.rbnz.govt.nz/news/2015/reserve-bank-seeks-buyer-for-nz-clear.html>

future of ESAS and NZClear are vitally important to payments ecosystem players and will continue to be monitored by Payments NZ.

Moves to improve domestic payments system infrastructure capabilities

Around the world there are moves to improve payments infrastructure to support new products and services, to increase settlement speeds and to lower settlement risk. These are playing out in different ways. In some instances the improvements requires a 'new build', in other instances the improvements take the form of incremental and progressive enhancements.

Australia's NPP is an example of a new build of core shared infrastructure that will support real-time capability and make account-to-account transfers a viable payment option for e-commerce and point-of-sale transactions, allow additional information to be shared about a payment, and support the development of overlay services which can be offered by individual financial institutions to their customers. The NPP will settle each payment on a RTGS basis, putting the central bank on the critical path for processing each and every transaction.

Mexico's central bank owned SPEI is an example of incremental infrastructure improvement. SPEI is unique as it is not only a hybrid wholesale/retail system, but it is the only genuine batch processed real-time system in operation. A batch is settled when SPEI collects 300 payments, or every 20 seconds (whichever comes first). The central bank, which owns SPEI, has driven the continual improvement and has also led a programme to migrate all government payments into SPEI, including government salaries and benefits. SPEI has an advanced queuing system and continuously runs an algorithm to determine which payments can be settled, by whom, given the available funds.

As has been indicated, New Zealand's payments infrastructure is already in a good state. The principal shared infrastructure in New Zealand is represented by the rules and standards that govern the four clearing systems used by existing Participants and SBI, which is owned by Payments NZ. Prior to SBI, domestic retail transactions were processed on a next-day net deferred settlement basis via the automated clearing house, Interchange and Settlement Limited. That solution carried an unknown and uncapped net deferred settlement risk which introduced a systemic risk associated with the possible failure of a given Participant. Under SBI, Participants clear and settle the files multiple times throughout each business day, substantially removing the settlement risk.

Ongoing system development will be critical to New Zealand's ability to have a world-class payments system in the future.

Although our infrastructure is already in a good state, ongoing development will be critical to our ability to have a world-class payments system in the future. There are existing elements of New Zealand's payments system (such as SBI) that can be modernised on an incremental or modular basis, whereas other aspects, such as at the central bank level, are already earmarked for refresh.

Given the global trend towards infrastructure renewal and refreshes, there are some key questions in respect of the New Zealand payments ecosystem that should be addressed, including:

- How could New Zealand's payments infrastructure support our desired future state, especially if that future state is characterised by fast payments, information rich, increasingly mobile transactions and possibly cryptocurrencies and digital customer service interfaces?
- How can we be smart about implementing improvements, for example, by using modular continual improvement approaches such as those deployed in Mexico?
- How might competing priorities be best resolved?

Given our proximity to Australia and the extent of our economic relationship with that country, Payments NZ will be maintaining a watching brief on the NPP as a prime test case for future shared infrastructure developments in New Zealand.



4. Financial services and payments regulation is expanding, and aiming to produce more inclusive and resilient systems

Summary of key findings

- **Re-regulation of financial market infrastructures:** regulators are moving to strengthen their powers over financial market infrastructures.
- **Concerted risk management:** there is greater recognition of the systemic risk associated with payment systems and management of that risk.
- **Focus on managing Participant failure:** there is significant regulatory focus on managing Participant failure and reducing the contagion effect.
- **Think globally, act locally:** there is a trend for the domestic regulatory agenda to be set by extraterritorial regulation.
- **Secure and minimise:** regulators are looking to limit opportunities for lost GDP and tax revenues through illegal activity and the shadow economy.
- **Regulators are driving modernisation:** some regulators are requiring current system infrastructure be replaced to support new products and services and to increase settlement speeds and lower settlement risk.
- **Regulators are expanding the pool:** by increasingly promulgating regulations to expand the pool of payment providers or to remove barriers restricting innovation in payments.
- **Protecting consumers is an increasing priority for regulators:** there is a specific focus on transparency, fraud prevention and fee limitation.
- **Increasing inclusion is an important outcome:** regulation is increasingly being used to promote financial inclusion.

Theme analysis

Moves to strengthen oversight of payment systems

Internationally there has been a trend towards greater regulation of financial services and payment systems. This trend has its roots in the global financial crisis (GFC). While payment systems proved robust during the GFC, inevitably the role of these systems and their potential risks took on more importance for regulators.⁴⁰ Post GFC there is growing recognition that payment systems, both large value and retail, could be the source of instability in the future.⁴¹ Regulators around the globe are seeking to strengthen their powers over financial market infrastructure, which includes payment and settlement systems as a critical component of that infrastructure.

There is no dedicated payments legislation in New Zealand. Instead, in 2003, formal oversight of payment systems was introduced with Part 5B and 5C of the Reserve Bank of New Zealand Amendment Act 2003. Settlement systems are jointly regulated by The Financial Markets Authority

40 Payments NZ (March 2015) *Research paper: Trends and implications impacting High Value Clearing Systems around the world*, page 12.

41 The Reserve Bank of India, inaugural address by H R Khan, Deputy Governor (14 February 2013) *Principles for financial market infrastructure and innovations in retail payment systems – some perspectives*, page 3. BIS Central Bankers Speeches. Available at www.bis.org/review/r130215d.pdf

(which oversees market infrastructure and securities markets activity) and the RBNZ (which oversees the payment system).

The RBNZ has expressed the view that it prefers to see market-based solutions.⁴² When compared with other jurisdictions, New Zealand's regulatory regime could be described as a relatively light touch. That said, as with other central banks, the RBNZ has concluded its powers to deal with payment systems are insufficient and is currently consulting on its proposal to review the statutory oversight framework for systemically important payment systems and other financial markets infrastructure.⁴³

Our payment systems function with high levels of efficiency and soundness which has been achieved under comparatively light-handed regulatory conditions. This demonstrates that industry-led self-regulation tends to work well in New Zealand.

New Zealand is a small market and it is important any regulation arrangements are 'right sized' for this market.

Rising expectations in the regulatory space are likely to be a continuing subject for the next decade. To respond to those expectations, the payments industry is going to need to ensure there is an alignment between its desired outcomes and the outcomes sought by the RBNZ so the RBNZ has no reason to move from its position that it generally "does not seek to prescribe the shape of the payment system or the direction of innovation."⁴⁴ New Zealand is a small market and it is important any regulation arrangements are 'right sized' for this market.

Managing risk and Participant failure

With regulators giving greater recognition to the systemic risk associated with payment systems, there is a greater emphasis on the need for concerted risk management programmes. Together with risk management there is also significant regulatory focus on the role of payment systems in managing Participant failure.⁴⁵ In New Zealand, for example, this has been evidenced by the local incorporation of Westpac, strong regulator support for the deployment of SBI, the RBNZ's Open Bank Resolution (OBR) policy, and robust Payments NZ rules on Participant failure.

A continued focus by the RBNZ on managing Participant failure and the resilience of systemically important payments infrastructures is near certain. As a result, this will be a continued area of focus for Payments NZ.

Regulation crossing borders – think globally, act locally

Global regulatory requirements set by extraterritorial regulation add another level of complexity to the domestic compliance agenda.⁴⁶ New Zealand regulators will take into account payments standards and principles promulgated by international bodies, for example, the Bank for International Settlements international standards for payment, clearing and settlement systems and IOSCO's Principles for Financial Markets Infrastructure, and the European Commission's PSD2. As global economic activity becomes even more integrated, global regulatory frameworks and principles will be even more influential.

42 The Reserve Bank of New Zealand, speech by Grant Spencer (11 November 2014) *Reserve Bank perspective on payments: A speech delivered to the Payments New Zealand Conference in Auckland*. Available at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5929222.htm

43 The Reserve Bank of New Zealand (3 July 2015) *Consultation Document: Oversight of Designated Financial Market Infrastructures*. Available at http://www.rbnz.govt.nz/regulation_and_supervision/payment_system_oversight/Oversight-of-Designated-Financial-Market-Infrastructures.pdf

44 Ibid.

45 Payments NZ (March 2015) *Research paper: Trends and implications impacting High Value Clearing Systems around the world*, page 12.

46 Internal Consulting Group (December 2014) *Knowledge Area Review: The Future & Implications of the Evolving Payments System, a review of increasingly interoperable worldwide payments*, page 41.

At present the majority of New Zealand's international obligations in respect of regulation come out of countries with whom we have had long standing political ties. These include the USA in respect of the FATCA and AML/CFT requirements, or international organisations such as the OECD, the IMF, the Basel Committee and the Bank for International Settlements, all of which have strong connections to our traditional trade, economic and political partners.

In New Zealand our trading relationships are beginning to diverge from our historical international political ties with the rise of China and South East Asian trading nations and their importance to the our economy. The progressive shift of economic power to the east may mean new extraterritorial regulation is driven out of China, when it has traditionally stemmed from the USA and Europe.⁴⁷ This may pose some challenges for New Zealand whose regulatory paradigm has been driven out of developments in Australia, North America and Europe.

More inclusive ecosystem

Globally, regulators are focused on ensuring an open and level playing field in which no barriers to entry exist.

Globally regulators are increasingly promulgating regulations to expand the pool of payment providers and to remove barriers restricting innovation in payments.⁴⁸ The payments landscape has experienced a number of changes over the last decade, including the addition of new payments instruments and non-bank payments service providers. Accordingly, regulators are focused on ensuring an open and level playing field in which no barriers to entry exist. In addition, in Europe regulators are looking to promote innovation and inclusiveness by opening up access to bank accounts to licenced third party providers so customers can initiate payments via these third party providers (instead of via their bank).⁴⁹

This trend has also played out in New Zealand with a significant regulatory focus from the RBNZ on access policy and on Payments NZ's continual improvements to its access rules and processes.

It is likely New Zealand regulators will remain focused on access and removing barriers to entry.

Security of new digital markets

The shared economy is still in its infancy in New Zealand and crypto and virtual currencies have yet to make a significant impact. However, the future growth of these digital economies poses new challenges for regulators and tax authorities.⁵⁰ Governments increasingly want markets to be secure so there are limited opportunities for lost GDP and tax revenues due to illegal activity and the shadow economy.

It is probable that at its current level of activity, some of the shared economy may be operating 'under the radar,' without fully complying with a range of legislative obligations.⁵¹ In New Zealand, the government recently noted the online world is a material risk to its revenue base due to its inability to ensure all transactions are properly taxed.⁵² There are calls for greater scrutiny of the shadow

47 Internal Consulting Group (December 2014) *Knowledge Area Review: The Future & Implications of the Evolving Payments System, a review of increasingly interoperable worldwide payments*, page 39.

48 Lipis Advisors (May 2014) *Global Payments System Analysis (Final Report: Volume 1, Comparative Analysis)*, page 40.

49 Pinsent Masons, McFadyen, A. (26 January 2015) *Key Features of PSD2 and what they mean for the payments industry*. Available at <http://www.out-law.com/en/articles/2015/january/key-features-of-psd2-and-what-they-mean-for-the-payments-industry/>

50 OECD (2014) *Addressing the Tax Challenges of the Digital Economy*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, page 112. Available at http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/addressing-the-tax-challenges-of-the-digital-economy_9789264218789-en#page4

51 ABC News, Malone, U. (19 August 2015) *Government regulation lagging behind 'don't ask, don't tell' home-sharing economy*. Available at <http://www.abc.net.au/news/2015-08-16/calls-for-regulation-of-home-sharing-economy/6696078>

52 Coulston, T. (2014) *Pressure Points in the NZ Payments System*, page 22.

economy to increase tax revenues and to ensure everyone pays their fair share of tax.⁵³

In terms of the domestic payments ecosystem, the growth of the shared economy will bring a new set of issues, especially in a world of 'big data' where the payments value chain can be lengthened and where reporting on payments may be required to support or confirm tax compliance activities (e.g. for GST or income tax purposes).

The government will continue to be interested in how it can further leverage the payments system to address current holes in the tax base⁵⁴ which means it is likely that taxation and financial services will increasingly intersect.⁵⁵

The New Zealand Inland Revenue's current position on the taxation of cryptocurrencies is, "generally, if goods or services are sold in exchange for Bitcoin, the market value of the goods and services received in exchange are liable for tax."⁵⁶ New Zealand authorities will start to give greater consideration to the regulation, governance and taxation of virtual and cryptocurrencies as they begin to take hold in New Zealand. It is yet to be determined what impact this will have, if any, on Payments NZ.

53 KPMG, Joyce, T. (Tax Partner) (7 July 2014) *Tax and Politics: Target the black economy not the multi-nationals*. Available at <http://www.kpmg.com/nz/en/issuesandinsights/articlespublications/press-releases/pages/tax-politics-target-black-economy.aspx>

54 NZ Herald, Jones, N. (12 March 2015) *Online shoppers could soon be hit with GST*. Available at http://www.nzherald.co.nz/technology/news/article.cfm?c_id=5&objectid=%2011418586

55 Payments NZ (March 2015) *Research paper: Trends and implications impacting High Value Clearing Systems around the world*, page 14.

56 Internal Consulting Group (December 2014) *Knowledge Area Review: The Future & Implications of the Evolving Payments System, a review of increasingly interoperable worldwide payments*, page 59.



5. Payments associations face rising expectations

Summary of key findings

- **Expectations have never been higher:** Expectations on payments, the payments industry, and by extension, on payments associations have never been higher and are likely to continue increasing.
- **Regulatory reform and expansion:** Payments regulation is increasingly driven by global compliance requirements and expanding regulatory scope beyond inter-bank clearing to the whole end-to-end payments ecosystem.
- **Payments associations and regulatory overlap:** There is a significant overlap between the mandate of payments associations and regulatory public policy interests which can lead to tensions between industry bodies and regulators.
- **Long-term national payments plans are of growing importance to payments associations:** The combination of payments system complexity, its reliance on shared infrastructure, rapidly changing technologies, the time and coordination required to deliver major change, and regulatory interest in economic efficiency mean that all payments associations (looked at during our research) have or are working on long-term plans.
- **Widening stakeholder engagement:** Technology-driven expansion of the payments ecosystem beyond banks and traditional clearing houses has expanded stakeholder outreach by both regulators and payments associations.
- **Governance structure renewal:** In response to changing demands and expectations, payments associations are renewing their governance structures to increase independence and widen engagement.

Payments associations are those organisations which have a role in the management, governance or self-regulation and oversight of a payments system including the management of rules and standards, strategic direction and development, innovation of principal payment systems and industry coordination activities.

Theme analysis

Greater certainty about decisions and investments

Our research into payments associations suggests long-term payments plans play a key role in developing a country's payments capability. The degree to which those plans reflect private sector or public policy objectives, or a blend of both, largely reflects whether industry or regulatory bodies set that plan. For example:

- The NACHA⁵⁷ ACH Blueprint was developed via an industry consultative process that took six months and included both interviews with stakeholders and the completion of a broad industry-wide survey.⁵⁸

⁵⁷ National Automated Clearing House Association (USA).

⁵⁸ Payments NZ (June 2015) *Research paper: ICPACE organisational profiles*, page 35.

- In Ireland the National Payments Plan was published by the Central Bank of Ireland and was developed by a pan-government committee that also included private sector banking representation.⁵⁹
- In Canada, the Canadian Payments Association board approved a new strategic plan with the modernisation of Canada's payments system as one of three key strategic priorities.⁶⁰
- The South African Reserve Bank sets the National Payment System Framework and Strategy, the latest of which was Vision 2015 (published in 2010) and provides a clear steer as to what the Payments Association of South Africa is expected to focus on.⁶¹

Across the jurisdictions we examined, long-term payments plans provide payments ecosystem players with greater confidence about priority setting, the decisions that have to be made and, once those decisions are made, the investments required to deliver the desired future state.

Some of these plans are fairly prescriptive. In the UK the new Payment System Regulator (PSR) aims to ensure payment systems and the regulatory framework operate in the best interests of service-users and the wider UK economy. The PSR has published a set of change policies which extend to matters, such as opening up governance and control of payment systems by involving additional players in more transparent decision making.⁶² Other plans, such as the NACHA ACH Blue Print is a flexible document, highlighting areas of opportunity and the options available to capitalise on that.⁶³

As mentioned earlier, the New Zealand payments ecosystem is characterised by its non-intrusive regulatory setting and industry-led self-regulation. Like our counterparts, Payments NZ is in the process of producing a strategic roadmap.

The roadmap is an important stage of the Payments Direction initiative as we are fast coming to a point where further exploration of the full potential of the payments network requires collective consideration with a focus on how the network can support future service innovation. The implicit decisions in the roadmap will largely concern whether, how and when we enhance and upgrade underlying payments infrastructure so new and better services can be delivered to people and organisations.

Greater inclusion

There are calls to take into account the views and perspectives of a wider range of organisations.

The shape of our payments ecosystem is rapidly changing and there are calls to take into account the views and perspectives of a wider range of organisations. Both regulators and payments associations need to be able to illustrate they are in touch with the wider payments ecosystem in order to effectively fulfil their role. This is reflective of the payments industry's expanding horizons and ecosystem. For example:

- Recognising that the success of its Next Generation⁶⁴ initiative rests on having multiple touch points across the payments ecosystem, the Canadian Payments Association is emphasising active engagement with key stakeholders as well as their members.⁶⁵
- In some jurisdictions there are moves to open up access to payment account information to licenced non-bank third parties so they can initiate payments (with the customer's explicit

59 Payments NZ (June 2015) *Research paper: ICPACE organisational profiles*, page 23.

60 Ibid, page 18.

61 Ibid, page 29.

62 Ibid, page 30.

63 Ibid, page 35.

64 Next Generation is the Canadian Payments Association modernization initiative.

65 Payments NZ (June 2015) *Research paper: ICPACE organisational profiles*, page 18.

consent). Those proposals reflect the growing number of account aggregators who enable customers to access different online banking accounts including credit cards, current and savings accounts using a single online portal.⁶⁶

The implication is that deciding on the future of our payments ecosystem now requires a wider range of stakeholders to have a greater say. It follows that in order to accommodate the number of non-traditional payments organisations entering the payments space, payments associations are having to demonstrate 'connectedness' across the payments ecosystem in order to effectively fulfil their role.

Payments NZ's membership programme which launched in October 2014, is an important step towards a more inclusive and connected payments ecosystem. Consumers, businesses and regulators all expect more from the payments industry in terms of the technology to support new products and services, the penetration of new entrants into the market, and compliance with new regulatory frameworks. By extension, these rising expectations fall onto payments associations, irrespective of their mandates. The challenge for Payments NZ is being ready to respond to this shift in expectations on those matters which fall within its remit.

A re-examination of the way the payments ecosystem is governed

We have discerned the governance structures of payments associations internationally are being refreshed to increase independence from any one sector of the industry and to facilitate widened engagement. As mentioned earlier, wider engagement is vital given the pace of change within the payments ecosystem.

Payments associations are re-examining how they should position themselves in respect of:

- The degree of possible collaboration and alignment between industry and regulators where there is overlap.
- The degree of self-regulatory authority that is possible.
- Their role in achieving public policy objectives.
- The level of autonomy the industry would like (or can get) in setting its own strategic direction.
- Their effectiveness in delivering change without relying on regulatory intervention or 'compliance' justifications.

From a regulatory perspective, independence helps to satisfy regulators that the best interests of the system are at the forefront of decision making and no one group is dominant. For example:

- The Canadian Payments Association now has a majority of independent directors.⁶⁷
- The Australian Payments Clearing Association (APCA) has widened its membership base to include 'operator members'.⁶⁸

In contrast, following government consultation on separating the regulatory function from the industry body, a new PSR was recently established in the UK with a mandate to ensure payment systems and the regulatory framework operate in the best interests of service-users and the wider UK economy.⁶⁹ This left the UK Payments Council having to reposition itself as a trade association body known as Payments UK.

The RBNZ's preference is for a governance structure that facilitates competition and innovation, whilst

66 Pinsent Masons, McFadyen, A. (26 January 2015) *Key Features of PSD2 and what they mean for the payments industry*. Available at <http://www.out-law.com/en/articles/2015/january/key-features-of-psd2-and-what-they-mean-for-the-payments-industry/>

67 Canada Gazette (21 March 2015) *Canadian Payments Association Election of Directors Regulations*. Available at <http://gazette.gc.ca/rp-pr/p1/2015/2015-03-21/html/reg4-eng.php>

68 Australian Payments Clearing Association (2015) *About APCA – Membership*. Available at <http://www.apca.com.au/about-apca/how-we-work/membership>

69 Payments NZ (June 2015) *Research paper: ICPACE organisational profiles*, page 30.

allowing all stakeholders an input into the strategic direction of the industry. The RBNZ has stated they will continue to follow payments industry governance developments with close interest.⁷⁰

Our governance structure is comparatively young having been in existence for only five years and has served us well during that time. The Payments NZ board comprises three independent directors (including an independent chair) and eight shareholder appointed directors. The RBNZ attends board meetings as an observer and has the right to attend Management Committee meetings. There are some decisions (say in respect of levies, charges, fees and access) which are reserved for the independent directors.

We have also widened our reach across the payments ecosystem to allow for broader engagement with the launch of our membership programme. The extent to which the current governance arrangements within Payments NZ are effective, in terms of balancing the interests of the various stakeholders in the payments ecosystem, are likely to be determined over time as new direct settlement Participants join and the new membership programme matures.

⁷⁰ The Reserve Bank of New Zealand, speech by Grant Spencer (11 November 2014) *Reserve Bank perspective on payments: A speech delivered to the Payments New Zealand Conference in Auckland*. Available at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5929222.html



Conclusion

New Zealand's payments ecosystem needs to be flexible and open to change. As an industry we need to think carefully about the way forward, especially where a coordinated and collaborative response is required.



New Zealand has a world-class payments system that is fast, stable and secure and we have continued to improve the domestic 'collaborative' aspects of that infrastructure. That said, we are in the midst of a period of unprecedented change, and from the research we know that expectations are on the rise. If we want to continue to meet these expectations and stay ahead, our payments ecosystem needs to be flexible and open to change.

While many of the trends discussed in this report will be best addressed by commercial solutions delivered in competitive markets, others require a coordinated and collaborative response, especially in respect of agreeing common approaches and industry standards. There are some important questions we need to address in that collaborative space, including:

- How well positioned are our various infrastructures to support what we know about the future?
- How can we be smart about implementing improvements by using modular continual improvement approaches?
- How can payment systems best serve the interests of New Zealand?

While this report summarises research evidence, as opposed to prescribing how the payments system should be developed, we have been able draw on that information to make an assessment of the key factors likely to influence the New Zealand payments ecosystem over the next 10 years or so. These key factors are:

1. **Speed and availability** – making faster payments more widely available, more of the time.
2. **Information** – delivering more informative transactions to people and organisations.
3. **Leverage through collaboration** – broadening involvement in payments innovation.
4. **Scale and power** – the effect of non-traditional players with scale and power on the New Zealand payments ecosystem.
5. **Regulation** – the effect of increasing involvement by regulators and policy makers.
6. **Simplification** – realising opportunities to simplify payment systems and to improve interoperability across the payments ecosystem.
7. **Internationalisation** – the move towards simplifying and making cross-border payments intuitive.
8. **The new sandpit** – the possibility of a game changing new way of making payments.

Over the next few years the industry will need to think about and decide how to best respond to these key factors. Payments NZ is well placed to help the industry undertake that dialogue, especially in those areas where a coordinated and collaborative industry response might be required so we can identify solutions that are in the best interests of New Zealand.

Our next Payments Direction output is *Payments 2025: A view of the payments ecosystem in 10 years time*, a report detailing Payments NZ's view of what the future payments ecosystem could look like. The report will be based on findings from the environmental scan and organised around six key threads:

1. Simple payment systems.
2. Fast payments.
3. Informative transactions.
4. Dynamic network.
5. Just right regulation.
6. International payments.

Following *Payments 2025: A view of the payments ecosystem in 10 years time*, the final phase of Payments Direction is to develop a strategic roadmap and strategic work programme for Payments NZ. The roadmap will draw on earlier outputs from Payments Direction, be aligned with our company's functions, objectives and overarching vision and will anchor future company work programmes.



Appendices

Appendix one: Approach

The starting point for our Payments Direction strategic initiative was to complete an environmental scan of the payments ecosystem. The environmental scan formed the foundation for this report. The report's five central themes were extracted from the scan as the most important take-outs.

The scan was organised around the following five focus areas:

1. General international economic trends relevant to New Zealand's payments system.
2. Payments innovation.
3. Payments system infrastructure.
4. Regulation of payment systems.
5. Current issues in payments associations.

Across those five focus areas we undertook desk based research of relevant domestic and international material including but not limited to:

- Global Payments System Analysis Reports, prepared by Lipis Advisors.
- Knowledge Area Review on the Future and Implications of the Evolving Payments System by Internal Consulting Group.
- Papers prepared by organisations with 'best in class' expertise in payments, such as the SWIFT Institute.
- Publications by the OECD and New Zealand Government departments and agencies.
- Strategic analyses received from other payments associations and ICPACE members.
- Payments NZ's own research, including *Payments Now: Researching and reviewing the world of real-time payment systems*, *Re-mastering Payments Messaging: A study of New Zealand's strategic opportunity to adopt the ISO 20022 payments messaging standard* and papers on High Value Clearing Systems and developments in payments associations.

As the results of our desk based research became available, Payments NZ worked closely with the Payments Direction Advisory Committee (comprised of Payments NZ Board directors, Management Committee and Member representatives) which was established to provide the project team with advice and direction, to check the accuracy of our findings and ensure completeness of coverage. As an additional check, at relevant points the information was circulated to Management Committee representatives for their review and input.

Appendix two: Glossary

AML/CFT (The Anti-Money Laundering and Countering Financing of Terrorism Act 2009) - is New Zealand legislation that places obligations on New Zealand's financial institutions to detect and deter money laundering and the financing of terrorism.

BACHO - is the current file standard used by all Participants. The BACHO standard is owned and managed by Payments NZ and is the responsibility of the Bulk Electronic Clearing System (BECS) Management Committee. All payments information exchanged between Participants for direct credits, bill payments, automatic payments, direct debits and cheques is contained in this file standard.

Cryptocurrencies - are digital currencies that use cryptography to secure the transactions and control the creation of new units. Cryptocurrencies are a subset of alternative currencies, or specifically of digital currencies. Bitcoin is one and probably the best known example of a cryptocurrency.

Digital customer service interfaces - a 'virtual layer' sitting on top of existing payment infrastructure which enables people and organisations to be better connected with their money and different service providers. Refer to video at <https://www.youtube.com/watch?v=5t9pLyJ4GUc>

Fintech - an abbreviation of financial technology. Fintech is a term which describes the intersection of financial services and technology and especially the use of technology to deliver innovation in financial services.

Foreign Account Tax Compliance Act (FATCA) - is USA legislation that aims to reduce tax evasion by US citizen, tax residents, and entities. FATCA requires all foreign financial institutions that are not exempt, including New Zealand financial institutions, to register with the Internal Revenue Service (IRS) and report on US citizens and tax residents who have specified foreign financial assets that exceed certain thresholds.

International Monetary Fund (IMF) - is a global organisation based in Washington DC. The IMF's primary purpose is to ensure the stability of the international monetary system - the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other including all macroeconomic and financial sector issues that bear on global stability. There are currently 188 member countries in the IMF.

ISO 20022 - a financial services messaging standard developed within the International Organisation for Standardisation (ISO). 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).

Management Committee - Management Committees are responsible for the rules and standards, work programme and projects within their clearing system.

Members - Members are organisations that have joined the Payments NZ membership programme. There are three different kinds of membership: Infrastructure, Standards and Industry membership - which reflect the different kinds of organisations in the payment ecosystem.

MT high value payments - MT (message text) standards have been developed to support the business transactions of SWIFT users. All high value financial messages transmitted via the SWIFT network must adhere to the MT standards.

New Payments Platform - The New Payments Platform (NPP) is new infrastructure for Australia's low-value payments. It will provide Australian businesses and consumers with a fast, versatile, data-rich payments system for making their everyday payments.

Payments NZ - includes the Company, Governance Committees and Management (officers and employees)

Participant - a Participant exchanges payments directly with other Participants in one or more of the four clearing systems run by Payments NZ.

Payments associations - are those organisations which have a role in the management, governance or self-regulation and oversight of a payments system.

Payments ecosystem - includes payment systems, payments products and people and organisations that make and receive payments

Payments industry - refers to Participants, Members, the Reserve Bank of New Zealand and other relevant stakeholders in the business of payments which will vary from time to time.

Payments system - a payments system consists of the mechanisms - including the institutions, people, rules and technologies - that make the exchange of monetary value possible.

Payment Service Directive (PSD) - Is a directive of the European Commission that provides the legal foundation for the creation of a single, Europe-wide market for payments. PSD was introduced to establish a set of rules applicable to all payment services in the European Union. PSD also provides the legal platform for the Single European Payments Area (SEPA).

Payment Services Directive (PSD2) - is a revised directive on payment services, adopted on 23 July 2013.

Payments value chain - the full range of activities and processes organisations undertake to bring payments products and services and related service offerings from conception to delivery.

Real-time gross settlement systems (RTGS) - systems financial institutions use to settle their obligations on a real-time gross settlement basis, meaning large payments are settled individually as the request happens and are final and irrevocable once settled.

Settlement Before Interchange (SBI) - is New Zealand's batch retail financial payment system, administered by Payments NZ, through which SBI Participants bi-laterally interchange and settle transaction files multiple times throughout each business day.

Single Euro Payments Area (SEPA) - is a European banking industry initiative to create a European Single Market for retail payments.

SWIFT - the Society for the Worldwide Interbank Financial Telecommunication – which was founded in Brussels in 1973. SWIFT is a co-operative organisation dedicated to the promotion and development of standardized global interactivity for financial transactions. More than 10,800 banking organisations, securities institutions and corporate customers in over 200 countries exchange millions of standardised financial messages daily via SWIFT.

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