Leveraging real-time payments (RTP) in digital ecosystems: How banks can benefit from expanded access

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INTRODUCTION

With the reach of digital payment services expanding globally, consumers and businesses often have multiple options that cater to their specific payment needs: quicker funds availability, low cost, processing of bulk files, automated reconciliation of transaction details, with 24/7 processing and availability being essential considerations for both consumer and business payment use cases. The introduction of real-time payment systems and related initiatives, such as open banking, have spurred the development of digital payment services further and are changing end-user expectations around speed, availability, data, and customized products.

The evolving expectations of end-users have necessitated shifts in how banks and other payment service providers access payment systems and deliver payment services. There has been a growing realization by regulators and market players that expanding access to payment systems is a key enabler for the development of fully digital ecosystems for commerce and business. Non-traditional providers, merchants, and large corporates are key players in these ecosystems. Recent years have seen efforts to expand access to these players through new regulations and new approaches to payment system architecture aimed at opening access while maintaining financial sector stability and end-user protections. What has been less clear until now is the implications that expanded access to these payment systems – particularly real-time payment systems – will have for banks and their corporate customers.

This paper will explore trends in payment system access models and examine how the move toward open access can enable the next-generation of payment services. Payment services are no longer solely the domain of banks. As fully digital ecosystems continue to mature, the expectation on banks will be to enable end-to-end digital payment services that deliver value to consumers and businesses beyond the simple exchange of funds. Real-time payment systems are a vital tool that banks can use to improve service to corporate clients, increase efficiencies in payments processing, and ultimately to develop new business models that will enable them to compete with agile new players and expand their business in both domestic and cross-border contexts.

GLOBAL TRENDS IN PAYMENTS

Recent years have seen more change in payment systems globally than ever before. The introduction, and maturation, of real-time payment systems, growing adoption of ISO 20022, the development of cryptocurrencies and blockchain-based platforms, and the rise of open banking regulations and business models are major efforts that not confined to a single country or region. While the development of payment systems and use of payment instruments differs in each market, these trends point to obvious conclusions regarding end-user expectations and digital innovations that payment service providers will be dealing with for years to come. These conclusions include:

- **Need for a seamless experience and new channels:** Consumer apps such as Uber are leading the way in providing a seamless payment experience. Uber riders merely choose a destination, are matched with a driver, and the payment happens in the background after the trip is complete, with no need to enter card details or top up a virtual account in a closed-loop system. Tech giants such as Amazon have also made it easier for customers to pay with the click of a button by saving payment details to their account. Crucially, Uber and Amazon leverage legacy payment instruments such as cards in new ways that do not require a PIN or signature. And more and more consumers use their mobile phones to pay, a trend that will increase greatly as Generation Z enters adulthood.[1] The days of clumsy payment processes that require users to spend time thinking about how to pay are numbered.

- **New players are here to stay:** Payments have largely been the domain of banks, and large banks, in particular, have been the traditional gatekeepers of payment systems and payment services more broadly (particularly for corporates). But the rapidly changing expectations of consumers and businesses globally have created an opening that is being filled by fintechs and challenger banks. These nimble players may not offer full-suite payment and banking services as traditional banks, but they are laser-focused on providing digital services in niche areas that focus on improving the customer experience and deriving value from data.[2] In some markets, new regulations bring these players under regulatory oversight and enable them to offer an increasing variety of services. Some markets allow these players to access interbank payment systems directly. In the European Union, authorized third parties can even directly access a customers' bank account. There is no putting the genie back in the bottle: fintechs and challenger banks will remain an integral part of the digital payments ecosystem in the 2020s and beyond.

- **Regulatory driven industry-wide collaboration to move forward:** The changes mentioned above are not confined to individual institutions. Indeed, the scale and scope of change in the payments industry is often driven and overseen by regulatory and industry-wide initiatives that seek to bring all relevant players together to tackle common issues and chart the way forward for digital payment services. European regulators have mandated the development of open banking through the second Payment Services Directive (PSD2). Canada, South Africa, and the United States have conducted far-reaching industry reviews aimed at defining and charting a path forward for payment systems modernization. The common element among all of these initiatives is a recognition that full-scale industry change must involve a full spectrum of industry participants under the guidance of empowered decision-makers who can use multiple levers to push for improvements without sacrificing overall financial stability or the commercial imperatives of market players.

While the scope of these changes may differ in each market, a review of the changes happening to payments on a global level makes clear the macro trend toward the development of full ecosystems to deliver

[1] https://www.paysafe.com/blog/is-generation-z-shaping-the-future-of-payments/
[2] https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/05/open-banking-opening-opportunities-for-customer-value.pdf

innovative digital payment solutions for consumers and businesses. The emergence of real-time payments has been one of the most crucial developments in payments over the past decade. Real-time payment systems are at the core of many efforts to modernize payments and financial services. With real-time payment systems live in almost 50 markets – including major economies such as the United States, China, the Euro area (and many non-Euro EU states), India, Australia, and Brazil – it is no exaggeration to say that the future of payments is already here.

ACCESS MODELS IN NEXT-GENERATION PAYMENT SYSTEMS

While there are many potential ways to ensure greater competition and innovation in payment services, the ecosystem approach is only possible if access to payment systems is expanded to new players such as non-bank payment service providers (PSPs), merchants, and corporates. Broadening access beyond financial institutions can help alleviate potential bottlenecks that could have negative effects on the wider economy. Of course, the introduction of new players must also be accompanied by robust oversight and monitoring to ensure that these latest participants fulfil the regulatory obligations of payment service providers.

EVOLUTION OF ACCESS MODELS

Access to payment systems occurs on two levels: technical access to an interbank clearing system (clearing), and access to a settlement account held at the central bank (settlement). Participants who settle on their own behalf using their settlement account at the central bank are referred to as direct participants, while institutions who do not settle on their own behalf are known as indirect participants (regardless of whether or not they have direct access to a clearing infrastructure). Traditionally, access to both clearing and settlement levels has been confined to financial institutions, who may provide indirect access to both clearing and settlement to smaller banks, non-bank PSPs, and corporates. As technology and regulation have evolved, payment system access models have shifted as well. There is a clear trend toward expanded access to clearing for banks and non-banks alike.[3] This evolution is ongoing and will have significant implications for how all players in the payments value chain compete and gain revenue.

GLOBAL RTP STATISTICS

45 REAL-TIME PAYMENT SCHEMES GLOBALLY

Major markets: UK, India, China, Euro area, United States, Japan, Australia, Brazil, Denmark, Singapore, Sweden, South Africa, Mexico, Nigeria, South Korea, Poland, Hungary, Chile

VOLUME GROWTH – REAL-TIME PAYMENT SYSTEMS (2018)

EBA Clearing – RT1: 726%
Denmark – Straksclearing: 112%
India – IMPS: 47%
Sweden – BiR: 20%
UK – Faster Payments: 17%

VOLUME GROWTH – PROXY PAYMENT APPS (2018)

India – UPI: 134%
US – Zelle: 69%
Sweden – Swish: 43%

SEPA INSTANT CREDIT TRANSFER (SCT INST) ADDRESSABLE BANKS IN EUROPE: 2,272

54% OF US ACCOUNTS ADDRESSABLE BY THE CLEARING HOUSE'S RTP SYSTEM

[3] Some markets have also expanded access to central bank settlement accounts to new players. However, most smaller banks and non-bank PSPs continue to settle indirectly through a bank correspondent. This paper will focus on access to clearing mechanisms (unless otherwise noted).

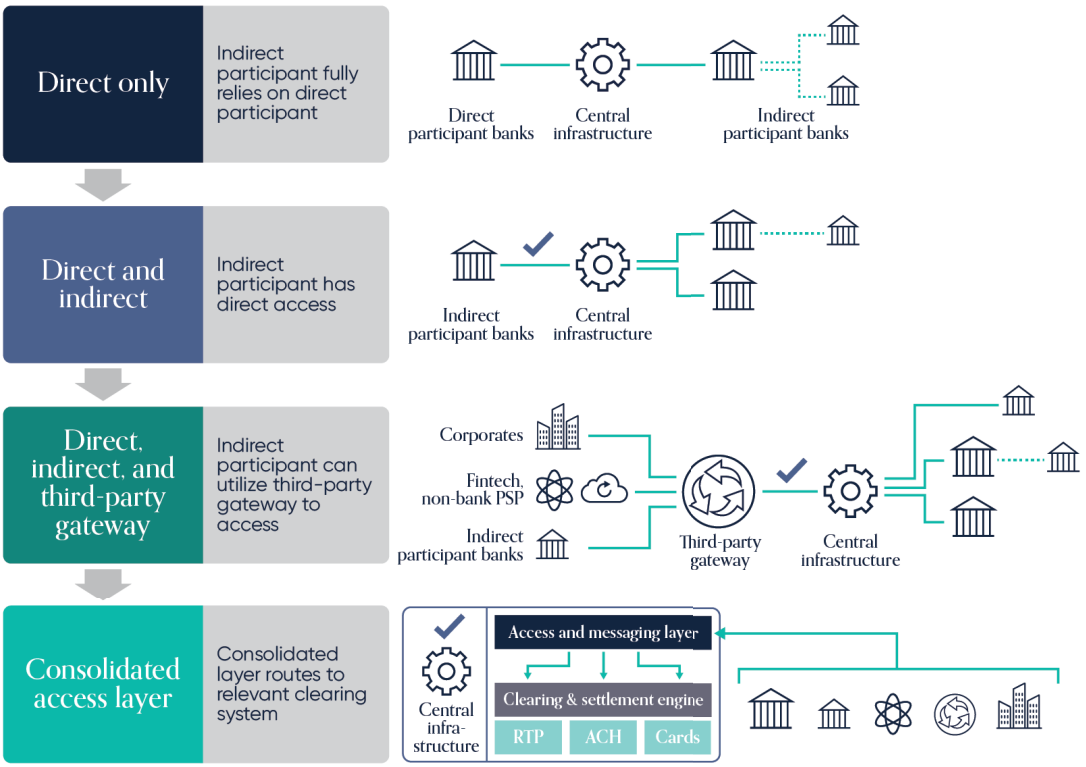

Figure 1 Evolution of payment system access models Source: Lipis Advisors

1st FIRST-GENERATION – ACCESS CONFINED TO BANKS

The first-generation of electronic payment systems such as automated clearing house (ACH) and real-time systems limited access to registered banks. Initially, large banks were the only players with direct access to a central clearing infrastructure. Meanwhile, the smaller banks could only gain access to such systems via a direct participant, which acts as a correspondent to facilitate both clearing and settlement for these smaller institutions. In these systems, the central infrastructure connects to direct participants only (e.g. participants who settle on their own behalf at the central bank).

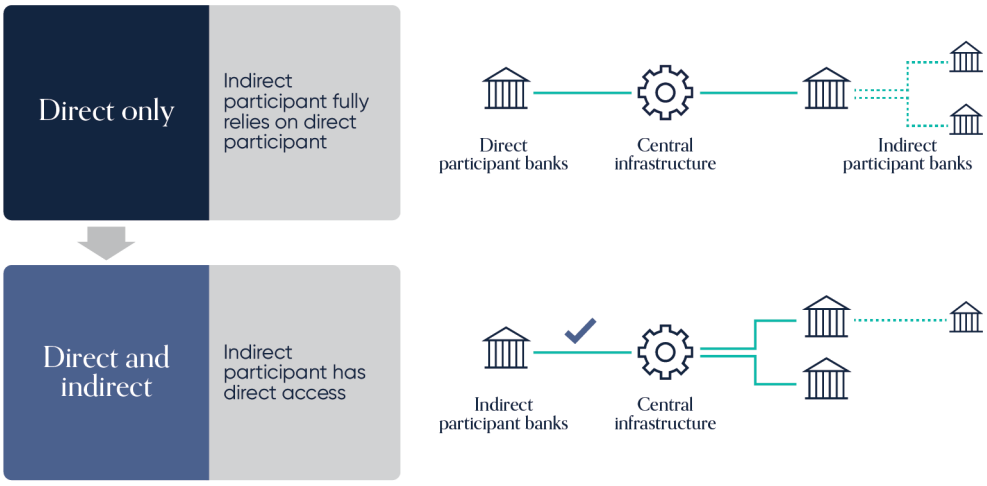

Figure 2 First-generation payment system access Source: Lipis Advisors

While these systems offer operational simplicity and ease of oversight, they can also result in fragmented service levels to end-users. To combat this some countries have enabled indirect participants (i.e. those who settle via a correspondent) to access the central clearing infrastructure directly. While these systems still confine payment system access to banks, they do enable smaller financial institutions to provide an improved service to their customers by offering direct technical access to a central clearing infrastructure, eliminating the delays that can be associated with relying on a larger correspondent. This type of access gives players more control over their payments operations and gives payment system operators more transparency on payment flows in the whole market. In this model, indirect participants continue to settle via direct participants, who manage liquidity at the central bank and negotiate SLAs with indirect correspondents. And some indirect participants continue to access clearing via direct participants if they perceive the cost of directly accessing the central infrastructure to be too high. But this model is a crucial first step toward expanding payment system functionality to new players.

2nd SECOND-GENERATION – TECHNICAL ACCESS AVAILABLE TO NON-BANKS THROUGH GATEWAYS

Banks are not the only players who use payment systems. Large corporates can represent a significant portion of payments in ACH and real-time gross settlement (RTGS) systems. In 2019, B2B and B2C payments in US ACH systems

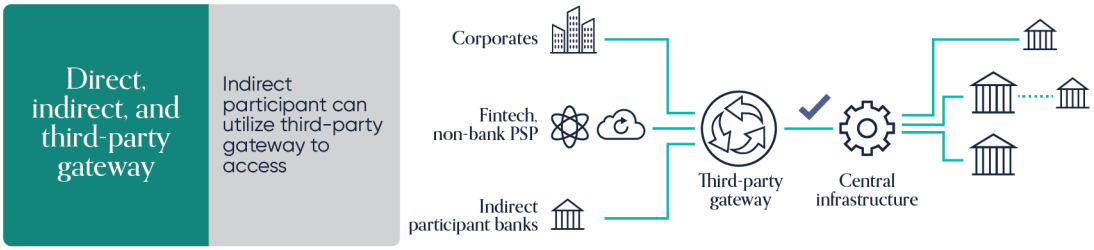

Figure 3 Second-generation payment system access Source: Lipis Advisors

totalled over 11 billion transactions, representing almost half (45%) of all ACH volumes.[4] In recent years, the rise of fintechs and other non-bank PSPs such as TransferWise, Klarna, and Venmo has also brought new competitors in payment services for cross-border payments, e-commerce, and P2P transfers. Second-generation payment systems reflect the reality of payment services more broadly by expanding access to payment systems beyond banks to include non-bank PSPs and corporates. Third-party gateways are a crucial component of second-generation systems with expanded access.[5] While some larger non-bank players may directly access a central infrastructure (such as TransferWise in the UK's Faster Payments system), non-bank PSPs and corporates typically rely on a gateway provider to facilitate direct access to payment systems. Such technical gateways can allow new players to access a central infrastructure at a lower cost and with more flexibility than with a direct connection to the central infrastructure itself. For corporates, gateways enable the submission of payments 24/7/365 and often include a de-bulking mechanism for real-time payment systems (which are message-based, not file-based payment systems).

[4] Business payments in US ACH systems have also seen steady growth, with B2B ACH transactions growing by 12% and salary payments (Direct Deposit) growing by 6% compared to 2018. Source: https://www.nacha.org/system/files/2020-02/2019-ACH-Volume-Value-Infographic-Feb%202020.pdf

[5] In addition to connecting directly to an interbank clearing system, gateways can also allow indirect participants to directly manage their liquidity for central bank settlement via a technical provider instead of a financial institution. By accessing settlement via a technical gateway, indirect participants gain a real-time overview of settlement liquidity and can set automated alerts when this liquidity reaches a high or low mark. Technical settlement gateways still require a direct participant bank as a sponsor, but indirect participants can contract directly with the technical gateway providers, not with the direct sponsoring institution.

In addition to easing access for corporates and non-bank PSPs, the use of third-party gateways also opens up new opportunities for competition in payment services. In the US, players like Jack Henry have entered agreements with The Clearing House (TCH) to facilitate access to the RTP system for smaller financial institutions, while in the UK players like Bottomline, FIS, and ACI facilitate access to the Faster Payments system. The introduction of third-party gateways is a vital step in bringing more transparency and oversight into payment services more broadly while laying the groundwork for a "level playing field" on which banks and non-banks can compete for end-users.

3rd THIRD-GENERATION – UNIVERSAL ACCESS LAYER TO ONE OR MORE CLEARING MECHANISMS

In recent years, the further development and maturation of real-time payment systems have seen the introduction of a new payment system architecture that consolidates one or more payment rail(s) under a single access layer used by all participants. Under this model, the underlying clearing and settlement mechanisms are separate from the access layer, which is open to all direct and indirect participants. By separating access and messaging from clearing and settlement, this model seeks to create a truly level playing field between all payment system participants – direct and indirect as well as bank and non-bank alike. Some third-generation systems are already live. Australia's New Payments Platform (NPP) features an overlay services layer that sits on top of the underlying real-time clearing and settlement infrastructure, while in India, the Unified Payments Interface (UPI) offers a standardized messaging layer for mobile payments executed via the real-time Immediate Payments Service (IMPS) system. But while third-generation systems are largely a phenomenon of real-time payments, other systems in development are more expansive. The UK's New Payments Architecture (currently in development) will consolidate multiple payment systems under a common access layer – Faster Payments (real-time), Bacs (ACH), and Cheque & Credit Clearing Company (cheques) – leveraging ISO 20022 for messaging.

While still in the early stages of adoption, third-generation systems that separate the access and messaging layers from clearing and settlement point to the future of payment systems more broadly. The separation of access from clearing and settlement is evidence of a growing trend away from separate, monolithic payment streams (e.g. ACH, card, real-time, RTGS) and toward a more holistic electronic payments ecosystem that expands access beyond large banks to include smaller financial institutions, fintechs, merchants, and corporates. As these systems develop, clearing and settlement will become an everyday utility used by all relevant players. In this world, the key differentiator will be on additional services that leverage underlying clearing and settlement (typically with a need for real-time clearing and settlement). Payment systems will become the building blocks for true value-added services. In this world, the metadata[6] generated by real-time transactions and transactional data relevant to payments will become the foundation of new business models. For

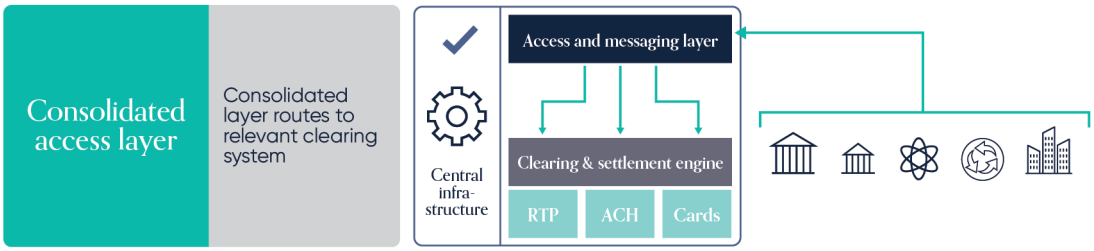

Figure 4 Third-generation payment system access — Source: Lipis Advisors

[6] Metadata is commonly referred to as "data about data." In other words, data that helps categorize, structure, or retrieve other data and that helps provide clarity on a group of data. Examples of metadata in payments can include the device used to make a payment, or the location where a payment was made. Over time, groups of metadata can be analysed to provide banks more clarity on how their customers pay and identify opportunities to offer additional services.

> As these systems develop, clearing and settlement will become an everyday utility used by all relevant players. In this world, the key differentiator will be on additional services that leverage underlying clearing and settlement (typically with a need for real-time clearing and settlement).

banks, in particular, this shift presents significant opportunities and serious challenges that will necessitate a shift in mindset, technology, and business models.

CREATING VALUE USING NEXT-GENERATION PAYMENT SYSTEMS

Today most banks in Europe and the US are focused on tactical decisions around RTP connectivity and near-term use cases such as person-to-person (P2P) and consumer-to-business (C2B) payments. Many have opted to take a more cautious approach to real-time payments, preferring to leave as many core IT systems untouched as possible. This reluctant approach is understandable, particularly in light of recent regulatory mandates such as the ECB's mandate that European banks following the SCT Inst scheme also join the TARGET Instant Payment Settlement (TIPS) real-time system by the end of 2021.[7] But banks that view real-time payments as simply a tactical move will risk being quickly left behind as these systems mature and competition from new players increases. While real-time payments – whether mandated by regulators or voluntary – do not see initial volumes that rival legacy systems like ACH, the growth in real-time volumes can be significant in the first five years after going live. Denmark saw growth rates of nearly 60% from year 2 to 3, with growth exceeding 110% from year 4 to 5. Growth was even more explosive in Sweden, with volumes increasing five-fold from year 2 to 3. Growth rates in India for the Unified Payments Interface (UPI) are even more dramatic: year 2 saw volumes increase 160-fold (from 2.7 million to 424.7 million) before "levelling out" at a mere 846% growth in year 3, with year 4 seeing 300% growth to 10.8 billion transactions in 2019. Understanding the full implications of expanded access to RTP can help banks develop a more strategic plan for real-time payments that can inform a phased implementation approach that will lead to the full-scale renovation needed to drive revenue and compete against legacy and new players alike.

NEW PLAYERS, MORE DATA

While third-generation real-time payment systems are more the exception than the rule today, the implications of expanded access and the maturing of RTP functionality are already evident. New competitors such as fintechs and challenger banks are leveraging customer data to provide value-added services that go beyond a simple funds transfer. Services such as account consolidation, budgeting and financial planning, and cash-back and loyalty programs are all on offer by bank competitors – often at low cost and with an intuitive user interface. As these players gain access to payment systems, and payment systems themselves put messaging and data at the forefront (by consolidating one or more clearing and settlement mechanisms under a common access layer), the pressure on banks to shift their focus to value-added services in transaction banking will multiply. Luckily for banks, most second-generation and all third-generation real-time payment systems feature a key tool they can use to develop additional services for corporates: ISO 20022.

ISO 20022 is the de facto global standard for real-time payments and will be a crucial building block of third-generation payment systems. Real-time payment systems in the Euro area and the US already use ISO 20022 for payments messaging, while all euro-denominated ACH transactions also leverage the standard.[8] The establishment of ISO 20022

[7] https://www.ecb.europa.eu/paym/intro/news/html/ecb.mipnews200724.en.html

[8] In the US, TCH's RTP system is already live while the Federal Reserve's FedNow system is in development. ISO 20022 message specifications for FedNow are currently being developed. In Europe, various national/regional payment system operators operate ACH and real-time systems that are ISO 20022-compliant, as are EBA Clearing's pan-European RT1 system and the European Central Bank's TARGET Instant Payment Settlement (TIPS).

as a global standard for payments more broadly will be greatly accelerated by the planned moves of the US Federal Reserve, European Central Bank, and SWIFT to migrate legacy systems and standards like Fedwire, TARGET2, and the MT series of messages used for cross-border payments.[9] These moves signal that ISO 20022 will be a key feature of all areas of the payments business from now on and will provide a foundation for cross-border links between payment infrastructures.

ISO 20022 FOR REAL-TIME, HIGH-VALUE, AND CROSS-BORDER PAYMENTS

OVER HALF OF ALL REAL-TIME PAYMENT SYSTEMS GLOBALLY USE ISO 20022 FOR PAYMENTS MESSAGING, WITH NEARLY ALL SYSTEMS INTRODUCED IN THE PAST 5 YEARS USING THE STANDARD

- All European markets either already use SCT Inst or a proprietary ISO 20022-based standard, or are in the process of migrating to ISO 20022 (incl. the UK, Iceland, Norway)

HIGH-VALUE PAYMENTS

- The European Central Bank is planning an upgrade of the TARGET2 system by consolidating it with the securities settlement system T2S. ISO 20022 will be a core feature of the new platform, which will be used to settle instant payments and cross-currency transactions in Europe. Despite SWIFT's postponement of the cross-border ISO 20022 migration until November 2022, the new T2/T2S combined platform is due to go live in November 2022. EBA Clearing's EURO1 system will also migrate to ISO 20022 in November 2022 in alignment with TARGET2.
- The US Federal Reserve has announced plans to move to ISO 20022 in the Fedwire Funds Service, with a possible implementation date in 2023. The Clearing House's CHIPS high-value system will also migrate to ISO 20022 at that time to ensure interoperability. A key impetus for this move is the desire of global financial institutions to harmonize messaging in key markets and to enhance the amount of structured data sent with payment messages. The use of ISO 20022 for high-value payments was already identified as a potential need in 2017 as part of the Fed's Payments Improvement project. Later that year, The Clearing House's ISO 20022-compliant RTP system went live.
- The Bank of England is currently undergoing an RTGS Renewal Programme that will include the introduction of ISO 20022 messages in the CHAPS system on a like-for-like basis (without enhanced data) from June 2022. CHAPS Direct Participants will be mandated to receive ISO 20022 messages with enhanced data from February 2023, with the introduction of a new RTGS core infrastructure to process CHAPS messages following in September 2023.

CROSS-BORDER PAYMENTS

- In Q1 2020, SWIFT pushed back the implementation of ISO 20022 for all cross-border payments until the end of 2022, with the migration period ending in November 2025. After this date, payments using the legacy MT series of messages will no longer be processed by the system. SWIFT gpi is already compliant with ISO 20022 (although use of the standard is not yet mandatory for gpi payments).

[9] The planned migrations to ISO 20022 in Fedwire, TARGET2, and the SWIFT network have all been temporarily postponed. This delay does not mitigate the need for banks to adopt the standard. More forward-looking banks will use these delays to holistically assess where and how they can draw the most value from ISO 20022 in their payments business and develop a migration strategy that goes beyond a mere compliance project.

The further integration of ISO 20022 in payment systems combined with the expansion and maturity of real-time payments mean that banks have to prioritize speed, automation, and big data insights throughout the payments value chain. Richer and more automated data-enabled by ISO 20022 will bring huge improvements to reconciliation and compliance, thereby lowering operating costs. Banks will have no choice but to become proactive in monitoring customer activity and anticipating the need for new products and services. And as the SWIFT network and systemically important domestic infrastructures go live with ISO 20022, cross-border links between infrastructures will bring greater efficiency and demand for international payments. As all players connect via consolidated messaging interfaces and domestic and cross-border links between payment systems expand, banks and their corporate customers will operate in fully digital ecosystems that demand a more full-scale transformation in both back- and front-office systems.

> The metadata generated by real-time transactions and transactional data relevant to payments will become the foundation of new business models.

YOUR MVP IS DOA

The days of settling for a minimum viable product in payments are over. Adding another silo for real-time payments to outdated core systems is a recipe for disaster in a world where connectivity, speed, and data richness reign. The true value of real-time payments for banks and (in particular) their corporate and small business customers will come in data-rich additional services that leverage RTP functionality. Enabling this will require banks to take a more full-scale approach to their internal transformation. While a "big bang" migration of core systems is unlikely, banks should nevertheless plan out beyond the first phase of this transformation to avoid being left behind by fintechs and more forward-looking banks. Merely settling for basic real-time functionality and a wait-and-see approach to how RTP matures means that banks are postponing a more full-scale transformation which is inevitable in a real-time, 24/7 world. For banks that are unsure of how to drive revenue through P2P and C2B real-time payments, a focus on corporate use cases can be the "carrot" that guides their IT transformation.

There are three major areas banks can focus for corporate RTP use cases: fraud screening, domestic payments, and cross-border payments. The complexity of fraud monitoring for corporate payments is already more complicated than for consumer payments. This complexity will multiply in a real-time world, where data (both payments data and payments-related information) exchanges between parties within seconds and the volume of digital payments will grow exponentially as real-time payment systems mature and new players have direct access to interbank infrastructures. In this environment, manual exceptions processing as practiced by banks and others today will not be sufficient. Banks will have to leverage customer data and new technologies to automate Know Your Customer (KYC) processes and sanctions checks. ISO 20022 can also play a key role in enhanced analytics for banks, which can enable more robust and automated KYC and sanctions checks, and more advanced KYC and fraud analytics. This last part is of crucial importance for corporates, as a recent survey found that over half of all corporate respondents experienced fraud in the last year.[10]

Banks and other stakeholders will also have to collaborate on developing secure proxies for businesses to facilitate easier access to real-time payment systems. Unlike consumers, who can use common proxies such as an email address or mobile phone number to make payments, businesses large and small do not have a single default proxy that can mask bank account details. Business proxies tend to require

[10] Strategic Treasurer, „Treasury Fraud & Controls Survey," sponsored by Bottomline, 2020, pg. 7. https://strategictreasurer.com/2020-treasury-fraud-and-controls/ https://strategictreasurer.com/74-2020-treasury-fraud-and-controls/#:~:text=In%202019%2C%20treasurers%20are%20feeling%20more%20secure%20and,the%202019%20Treasury%20Fraud%20%26%20Controls%20Survey%20Results

industry and government collaboration. In Singapore, companies can use the government-issued Unique Entity Number (UEN) to send and receive real-time payments using the PayNow Corporate service overseen by the Association of Banks in Singapore (which leverages the real-time FAST payment system). Ensuring secure proxies that clearly link to bank account details will be a crucial step in avoiding a spike in fraud rates as business use of RTP evolves.

In a domestic context, real-time payments can offer businesses more transparency on payment flows as well as greater flexibility in funds transfers. European banks already derive a majority of their revenue (52%) from commercial payments, and this trend is on the rise as volumes accelerate.[11] By incorporating real-time payments, banks can offer their business customers a vital tool for paying suppliers and employees. Just-in-time supplier payments can allow small businesses to save on inventory (e.g. for consumer home goods such as kitchen appliances) and larger retailers such as supermarkets to pay local suppliers without the need to wait for funds to clear. Invoice details can also seamlessly flow with these payments, and reconciliation automated for each party in the transaction. Enabling such automated reconciliation is a huge benefit for corporates, as it can significantly reduce reconciliation times and error rates. A majority of UK corporates now use the Faster Payments System and almost half of all medium-sized businesses surveyed in the 2020 Business Payments Barometer plan to integrate real-time payments in their business within the coming year.[12]

> Business payments (B2B and B2C) make up 97% of cross-border payment flows (measured in value) and represent almost two-thirds (65%) of revenue from cross-border payments.

Real-time payments also offer an excellent opportunity for corporates to pay gig economy workers at the end of a shift, giving employees immediate access to funds while providing the employer with an up-to-the-second overview of available liquidity. As workers in the gig economy expand[13] and employers increasingly shift to hourly and part-time work, this flexibility will be essential for retailers and other merchants who employ large numbers of people. This trend is likely to continue apace as the economic effects of the Covid-19 crisis become clear. And for larger value payments, real-time payments could present a lower-cost alternative to RTGS/wire payments, which come with high fees and operational inefficiencies. Real-time systems in both Europe and the United States have raised the transaction value limit of real-time payments to EUR 100,000[14] and USD 100,000, respectively. Many payments made using wire systems today that are under USD 100,000 could flow to real-time payment systems to provide greater speed, lower cost, and more flexibility for corporates and banks alike.

Perhaps the most significant area for the disruption that RTP will bring for corporates is in international payments, which are far more important for businesses than for consumers. As McKinsey has shown, business payments (B2B and B2C) make up 97% of cross-border payment flows (measured in value) and represent almost

[11] McKinsey & Company, "Global Payments Report 2019: Amid sustained growth, accelerating challenges demand bold actions," September 2019, pg. 5. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/tracking%20the%20sources%20of%20robust%20payments%20growth%20mckinsey%20global%20payments%20map/global-payments-report-2019-amid-sustained-growth-vf.ashx

[12] Bottomline Technologies, "2020 Business Payments Barometer," pg. 20. https://www.bottomline.com/uk/2020-business-payments-barometer

[13] A 2019 report by Mastercard estimates that the gig economy will more than double by 2023 to USD 455.2 billion, with a CAGR of 17.4%. While the economic effects of the Covid-19 crisis on the gig economy remain unclear, the current high unemployment figures may have a multiplying effect on the number of workers and payment flows through the gig economy. Source: https://newsroom.mastercard.com/wp-content/uploads/2019/05/Gig-Economy-White-Paper-May-2019.pdf

[14] While the ECB's TIPS system does not have an upper limit on the value of transactions it can process, the SCT Inst scheme currently has a EUR 100,000 limit for each transaction.

two-thirds (65%) of revenue from cross-border payments.[15] The massive inefficiencies in terms of cross-border payments processing lead to significant delays in the cross-border settlement as well as very high costs. These inefficiencies are being tackled by both legacy players such as SWIFT, as well as innovative fintechs. The introduction of SWIFT gpi in 2017 has led to immediate benefits for banks sending funds internationally. By 2019, 65% of cross-border flows in the SWIFT network leveraged gpi, with payments flows almost doubling from 2018 to 2019 (from USD 40 trillion to USD 77 trillion).[16] Banks are increasingly looking to new players such as TransferWise and Ripple as well as new initiatives from established players such as Visa B2B Connect to help increase the speed and efficiency of cross-border payments. As cross-border trade and commerce continue to grow, and global standards like ISO 20022 proliferate, the importance of international payments for banks and their corporate customers is set to take off in the coming years. A failure to address the inefficiencies of cross-border payments means that banks risk being disintermediated in this vital space.

Real-time payments offer an essential tool that can help address cross-border pain points and bring real value to businesses of all sizes with ISO 20022 as a critical building block. The use of the standard in major real-time payment systems as well as SWIFT gpi[17] means that banks and their clients can gain efficiencies through a single global standard. Cross-border flows and transactional information can be bundled and automated, leading to less manual processing for reconciliation exceptions processing. The rich data capacity of ISO 20022 also enables banks to more efficiently provide multi-jurisdictional KYC and sanctions checks for corporate clients without the need to supplement payments messaging with calls to third-party or proprietary systems. Increased speed of processing for cross-border payments will also bring considerable benefits to banks and

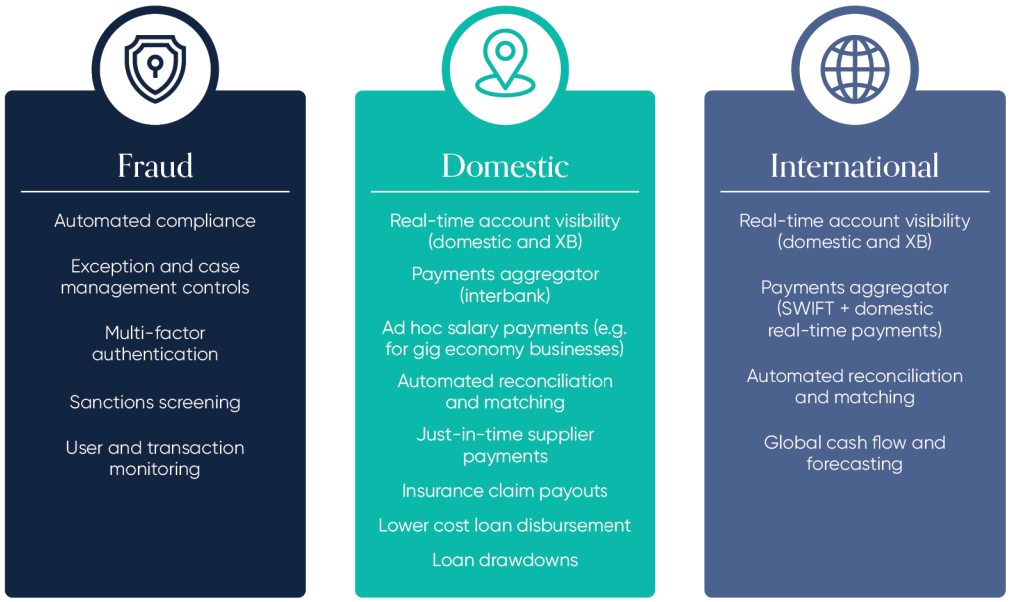

Figure 5 RTP functionality for corporates Source: Lipis Advisors

[15] McKinsey & Company, "Global Payments Report 2019: Amid sustained growth, accelerating challenges demand bold actions," September 2019, pg. 7. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/tracking%20the%20sources%20of%20robust%20payments%20growth%20mckinsey%20global%20payments%20map/global-payments-report-2019-amid-sustained-growth-vf.ashx

[16] https://www.swift.com/news-events/news/swift-gpi-traffic-soars-77-trillion-2019

[17] Some markets such as Singapore are even developing links between their domestic real-time payment system and SWIFT gpi, thereby integrating cross-border payments functionality within a domestic payments infrastructure. Source: https://www.swift.com/news-events/press-releases/swift-sees-success-global-instant-cross-border-payments-singapores-fast

corporates alike. Linkages between domestic real-time payment systems in Singapore and Australia with SWIFT gpi have led to test runs that have seen payments between the countries cleared in a matter of seconds, with end-to-end processing completed in as little as 25 seconds.[18] By integrating transactional information and increasing processing speed, banks can provide full account visibility of both domestic and cross-border payment flows to corporates and small businesses embedded in B2B supply chains. From here, banks can offer a single dashboard for corporates that incorporates this information and adds related services such as insurance and loans, thereby providing a single source of truth for global, regional, and domestic payment flows. Combined with AI and big data analytics, this information can forecast payment flows, liquidity needs, and proactively mitigate fraud.

What unites these corporate use cases is that each goes beyond the exchange of funds to provide additional value to customers. Greater account visibility, better terms on financing and loans, enhanced and automated reconciliation, flexible pay-outs to part-time employees or insurance disbursements, and transparency and certainty on cross-border payment flows all provide value beyond the payment itself.

FINDING THE RIGHT APPROACH TO ACCESS

The technological evolution in access methods is not restricted to interbank payment systems. Banks and non-bank PSPs have also experienced an evolution in internal processing due to the rise of SaaS and cloud-based solutions. This shift allows smaller and newer players an opportunity to compete with more established financial institutions and can bring larger players the flexibility needed in a fast-changing, digital payments environment. But the adoption of cloud-based solutions alone is no guarantee of success in real-time payments. Banks and other PSPs looking to offer real-time payments need to determine the right approach for connecting and enabling real-time payments that allows them to pursue a phased renovation of core systems without operational disruptions. Key areas of focus in this process include:

Banks and other PSPs looking to offer real-time payments need to determine the right approach that allows them to pursue a phased renovation of core systems without operational disruptions.

- Investment that is in line with expected volumes
- Integration with core systems and legacy processes
- Flexibility to scale services as needed
- Ability to add new services as the need arises
- Need to collaborate with new partners

INVESTMENT – PAY AS YOU GO

The establishment and growth of real-time payments will require new investment for most players, regardless of whether they access a payment system directly or indirectly. Compared to hosted solutions such as mainframes, cloud solutions require no Capex investment upfront, allowing banks to benefit from a "pay as you go" model as real-time volumes evolve.[19] This flexibility is particularly crucial for smaller institutions who have to balance investment decisions against potentially imprecise volume estimates and unclear use cases beyond P2P and C2B at the outset. In the coming years, this space will evolve quickly. Corporate treasurers are expected to invest heavily in bank connectivity and data aggregation solutions for treasury and payments operations in 2020.[20] These solutions allow for basic functionality and lower cost at the outset in areas such as payments

[18] https://www.swift.com/news-events/press-releases/swift-sees-success-global-instant-cross-border-payments-singapores-fast

[19] https://www.ebf.eu/wp-content/uploads/2020/06/EBF-Cloud-Banking-Forum_The-use-of-cloud-computing-by-financial-institutions.pdf

[20] Strategic Treasurer, "Analyst report, Bank Connectivity Solutions – Bottomline," 2019. https://strategictreasurer.com/analyst-reports-2019/

and compliance, with the option to expand investment in add-on services as the need arises. By outsourcing hosting to the cloud, banks and corporates can decrease capital expenditures without sacrificing resiliency or functionality.

INTEGRATION – A PHASED APPROACH TO CORE RENOVATION

Investment in RTP is not only driven by the cost of new technology or improvements to channels such as mobile. The biggest driver of cost is in integrating new functionality with a bank's core systems.[21] When implementing real-time payments functionality, banks of all sizes in Europe and the US often cite a desire to do this with minimal disruption to core banking systems. Since most banks continue to rely on legacy batch-based IT systems, some changes to core IT and business process are necessary to enable 24/7 operations and instant transfer of funds. The trepidation about a more full-scale back-office transformation is understandable, particularly if a system is in its early days and volumes and use cases remain unclear at the outset. A SaaS or cloud-based approach can enable both a more targeted initial deployment of real-time payments as well as a phased replacement approach that can take shape as real-time matures for corporate and cross-border payments. Many such solutions also offer a sandbox environment for API development that allows banks to integrate quickly new functionality as needed. In the long run, all banks will have to move toward core systems that enable the instant exchange of information on a 24/7/365 basis. But this cannot be done from one day to the next. The reality for banks is that this process must evenly balance with the need to maintain operational stability and service levels. SaaS and cloud-based approaches allow for a low-impact investment that can be scaled as the need arises.

In the long run, all banks will have to move toward core systems that enable instant exchange of information on a 24/7/365 basis.

FLEXIBILITY – SCALE AS NEEDED

While real-time payments have a long way to go until volumes rival those of legacy systems such as ACH and cards, growth rates in real-time markets are often significant from the very outset. It is not uncommon to see year on year growth rates over 200%.[22] Banks must maintain resiliency and security as volumes scale, being sure to observe the "five 9s" (99.999% uptime) as transactions scale and new services become available. Ensuring flexibility on an operational level leaves decision-makers free to focus on adding new services and targeting new customers. The trend toward cloud-based flexibility echoes the 2019 B2B payments survey, which found that most bank and corporate respondents expect that APIs will be the technology that overwhelmingly impacts B2B payments in the next 2-3 years.[23] The adoption of API-based solutions such as aggregators will be a key enabler for ubiquity and reach for payment services in a complex and fragmented landscape. By using standardized APIs and global data formats such as ISO 20022, new players can enter a market and leverage a payment system or partnership with a bank, fintech, or technology vendor to offer services to consumers and businesses directly. Likewise, larger banks and corporates operating in multiple markets will see operational benefits from standardization and API-based access to payment systems.

SERVICES – ADD FUNCTIONALITY AS NEEDED

In addition to the need to flexibly scale real-time payments volumes as adoption grows, banks and other PSPs also need to be prepared to add new functionality that is fundamental to the development of value-added services. As real-time use cases expand and new players have direct access to payment systems, the competition for end-users will become fierce. The way to win the customer is to offer value-added services that go beyond a simple funds transfer. Cloud-based solutions allow banks

[21] https://iconsolutions.com/wp-content/uploads/2016/11/Instant-Payments-Insights-from-early-adopters.pdf

[22] Recent statistics show RT growth rates in France and Spain to have grown by 215% and 211% respectively since launch. Australia's RT payments transaction volumes have seen a growth of 277% since launch. Source: Lipis Advisors internal database.

[23] Strategic Treasurer, "2019 B2B Payments Survey," sponsored by Bottomline, 2019, pg. 8. https://strategictreasurer.com/2019-b2b-payments-survey/

to add functionality in addition to scaling transaction volumes while providing the flexibility to integrate with today's core systems and plan for a more full-scale back-office rejuvenation. Tokenized proxy payments are a major enabler for mobile real-time payments, allowing consumers to send and receive payments using an easily remembered proxy such as a mobile phone number or email address, as opposed to sharing a bank account or routing number. Tokenizing bank account details is crucial for real-time consumer payments use cases because they provide a platform for connecting new services to the underlying bank account or payment rail while safeguarding sensitive bank account information. Tokenized proxy payments are already moving beyond P2P, with Zelle in the United States already offering B2C functionality that allows corporates and merchants to disburse funds to customers via proxy. In addition to tokenized proxy payments, the introduction of Request to Pay (RtP) functionality is also a pivotal step in the further evolution of real-time payments. RtP allows a biller to send an electronic request for payment to the payee, who can then choose to make or decline a payment. RtP gives businesses and consumers more control over their outgoing payments while enhancing control and visibility of their cash flow. Some banks see Request to Pay as an opportunity to deliver payments through new channels, with merchants and billers able to link payments through social media or other apps without the need for a customer to log on to online banking.[24] As real-time payment systems expand globally, and their adoption increases, financial institutions that join will need to add RtP as standard functionality.

The ability to add new functionality as the need arises is particularly important for corporate payments. As corporate use cases mature with the integration of real-time functionality with enterprise resource planning (ERP) systems, further cross-border links between real-time systems and global networks such as SWIFT, and with banks unlocking the full value of ISO 20022 in their core systems, the opportunities for corporates to reduce costs, improve reconciliation, and unlock working capital and liquidity will rise as well. The biggest game-changer for businesses with real-time payments is not instant availability of funds or even 24/7/365 availability. Instead, corporates and small businesses are expected to realize tremendous value through rich, structured data that all new real-time payment systems can accommodate through the use of ISO 20022.

PARTNERSHIP – COLLABORATE TO IMPROVE SERVICE

The theme of access is not just about how banks and other PSPs access interbank payment systems. The evolution of open banking – being spurred in Europe by the PSD2 – also necessitates the need to provide access to internal systems and information within banks. But this necessity goes beyond a regulatory mandate. Open banking business models – where banks partner with fintechs or other banks to provide services to end-users – are gaining traction, particularly in corporate payments. As Bottomline's 2019 B2B Payments Survey showed that although most corporates continue to rely on banks for B2B payment services, over three-quarters of banks leverage fintech solutions (often on a white label basis) to deliver corporate payment functionality. The collaborative approach with fintechs is unsurprising for many banks, who typically rely on complex legacy core systems and business processes that are less amenable to quick, agile product development seen among fintechs. From the perspective of a fintech, banks can help increase the reach and effectiveness of niche solutions by integrating it into their full-suite banking services and access to interbank payment systems. Cloud-based solutions allow both banks and fintechs to more seamlessly connect and flexibly expand collaboration while ensuring data security and regulatory compliance. The continued evolution of open banking business models, as well as regulatory mandates like the PSD2, will necessitate solutions that allow banks to collaborate seamlessly with fintechs without the need for expensive additional integration and onboarding.

[24] The SEPA Request-to-Pay Scheme is due to go live in Europe in November 2020, while The Clearing House's RTP system has request to pay functionality built into the system rules. Future initiatives such as the P27 multi-currency system in the Nordics are also expected to introduce request to pay as a key additional service.

CONCLUSION

Real-time payments are increasingly becoming the table stakes for next-generation payments. Banks who fail to offer real-time payments connectivity and services – domestic and cross-border – will lose customers to agile new banks and fintechs. Corporates and small businesses increasingly view real-time payments as a necessity. As the access to payment systems expand and traditional sources of revenue such as transaction fees are squeezed, banks will have to focus on value-added services that deliver greater automation, higher efficiency, lower cost, and data-rich insights that can help businesses manage working capital and prevent fraud. Banks need to start thinking about full-scale back-office renovation now – even if their immediate plans for real-time payments are more tactically inclined. Cloud-based or hosted solutions can help banks and corporates connect to real-time payment systems with minimal up-front investment and the flexibility needed to scale transactions and add functionality as required. This next-generation approach is the full promise of open banking – instant exchange of funds, richer payments and transaction data, automated monitoring and reconciliation, and cross-platform connectivity.

About Lipis Advisors

Lipis Advisors is a leading strategy consultancy specializing in the payment sector. Lipis Advisors staff are experts on payment systems, services, and strategy, as well as the underlying technologies that support payment infrastructures. Lipis Advisors advises on all forms of payments, including ACH payments, real-time payments, card payments, cheques, mobile payments, online payments, and RTGS/wire payments.

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