



EMERGING PAYMENTS
ASSOCIATION

The Impact of Realtime on Payments and Data

OCTOBER 2019



**Report from the EPA's Project
Futures Workshop**

Sponsored by



The purpose of Project Futures is to provide members of the Emerging Payments Association with insight and thought leadership on new innovations and technological developments, emerging market trends, and the prospective future regulatory landscape in payments.

The Project Futures workshop held at the Glazier's Hall, London Bridge in September 2019 focused on the impact of realtime on payments and data.

The focus of the discussion was as follows:

- To clarify what we mean by realtime payments and determine current usage
- To discuss why the industry needs to transition to realtime
- To hear about the innovative realtime use cases that are emerging
- To identify key barriers and challenges that must be addressed

The half-day workshop was structured around four interactive breakout sessions on:

- The emerging market trends faced by the ecosystem in transitioning to realtime with a review of the key business and social factors
- The impact of realtime on consumers, SMEs, corporates, government and the payments industry
- The technology and regulation challenges faced
- A review of realtime innovations and use cases

This report is part of a series of Project Futures reports produced by the Emerging Payments Association. It highlights the contents of the discussions, the insights derived and the conclusions drawn. These conclusions highlight the direction of travel for the payments industry as it develops and how the ecosystem may change in the light of new technologies and innovations. Previous reports are available from the EPA website on: The impact of new credit and lending services on payment providers, Data proliferation and using data to drive payments innovation, Monetisation of data, and Innovation in international trade.

Thank you to the Benefactor behind this project, FICO, the workshop moderator and report author Mark McMurtrie, Director of Payments Consultancy Ltd and to the 25 workshop participants for their contributions to this interactive and insightful workshop.



For more details and to join you should contact Nick May at nick.may@emergingpayments.org

Realtime Payments

This report covers realtime bank payments and card payments as well as transaction data. It has been produced based on discussions from a workshop that was arranged by the EPA. We recognise that a variety of names are used as alternatives to realtime including 'instant', 'immediate' and 'faster', but all address the same topic and in this report, we shall use the terms interchangeably. The main point is that with realtime, funds are moved instantly (or in near realtime) and usually as single immediate payments instead of being processed on a delayed basis and within a batch of transactions. In the workshop we looked at the impact upon the customer, the way people pay, the payments experience and the effect this will have on the payments industry. We primarily looked at the UK market but also considered trends from continental Europe, North America, the Middle East and Asia recognising that the payments market is increasing global in nature. Many of the workshop participants represented organisations that provide solutions and services internationally.

We heard that the expectations of users have fundamentally changed. We now live in a truly instant and connected world that expects everything to happen immediately, at any time of day, or day of the year. This is today's

24x7x365 world and one that applies to listening to music, watching a film, shopping online, or communicating instantly. Payments are no exception to these expectations with customers no longer accepting delays to funds movement and clearance. Workshop participants thought that 'realtime' represented the 'new normal' for payment processing. Realtime means that transferred funds are immediately available to be spent by the recipient and that confirmation of the transfer is straight away available to both the payee and payer. Another key principle of realtime is that of funds irrevocability.

"Realtime is the 'new normal' for payments processing. Customers expect it and companies know that they have to provide it."

Realtime Payments - Availability by Country

Aruba	Australia	Azerbaijan	Bahrain	Belarus	Belgium	Belize
Bhutan	Brazil	Brunei	Canada	Cambodia	Central America	Chile
China	Colombia	Costa Rica	Czech Republic	Denmark	Europe	Finland
Ghana	Hong Kong	Hungary	Iceland	India	Italy	Japan
Kenya	Latvia	Lithuania	Malaysia	Maldives	Mexico	Netherlands
Nepal	New Zealand	Nicaragua	Nigeria	Nordics	Norway	Oman
Peru	Philippines	Poland	Portugal	Romania	Russia	Rwanda
Samoa	Saudi Arabia	Serbia	Singapore	Slovenia	South Africa	South Korea
Spain	Sri Lanka	Sweden	Switzerland	Taiwan	Tajikistan	Thailand
Turkey	UAE	United Kingdom	United States	Ukraine	Vietnam	

AVAILABLE TODAY (53)

IN PLANNING PHASE OR UNDER DISCUSSION (16)



“Workshop participants thought that ‘realtime’ represented the ‘new normal’ for payment processing. Realtime means that transferred funds are immediately available to be spent by the recipient and that confirmation of the transfer is straight away available to both the payee and payer.”

Market status

Realtime payment systems are now operational in 53 countries around the world and implementation plans or discussions are underway in a further 16 countries. The scope of realtime varies across these countries with some having national systems, others just settlement, some hybrids and another group only offering Person-to-Person (P2P) services. The first national realtime system, called Zengin, was launched in Japan in 1973 and so realtime discussions have been around for a long time. The UK is an early global adopter of realtime with the Faster Payments scheme launching on the 27th May 2008. Regional realtime payment programmes are a new area of focus including the European SCT Inst and the P27 Nordics programme. ▶

“Traditional card based payments use realtime for authorisation, although the funds are not settled immediately.”

Realtime needs to be applied at multiple levels within the payments ecosystem in order to achieve the full benefits. A national realtime payments network sits at the heart, banks then need to have their own internal systems that can connect to this and also operate in realtime. Governments also need to operate modern Realtime Gross Settlement (RTGS) systems that can settle transactions individually throughout a day. UK plc recognises the importance of realtime and plans are in place to upgrade the UK's Faster Payments Scheme (FPS) to a New Payments Architecture (NPA) and also from the Bank of England for a modern RTGS.

PSD2 and Open Banking are further catalysts to

the growth in realtime payments. These regulations aim to stimulate innovation and competition and have been designed to operate in realtime.

“Open banking will accelerate the adoption of realtime payments”

The international card networks understand the new market dynamics and are busy investing heavily in realtime payment companies and assets (like Vocalink, NETS and Bankable) as well as creating new products such as Visa Direct and Mastercard Send to allow the faster movement of funds. Traditional card based payments use realtime for authorisation, although the funds are not settled immediately. So

the card networks already have extensive realtime experience.

Transactional data offers great potential for businesses, but today this is largely being under utilised. Big data can be aggregated to create anonymity or with appropriate permissions used to create personalised offers. New advanced analytical tools are able to deliver improved insight into customer behaviour and preferences. Fraud prevention and risk management solutions need to operate in realtime in order to stop criminal activity and keep payments safe. ■





Market Trends

The most significant market trend is the continual shift away from cash and cheques to digital payment methods. These utilise advanced communication and processing networks allowing payments to be completed far quicker. The CapGemini 2019 World Payments Report states that non-cash payments grew by 12% globally last year, with developing regions growing faster and Asia recording 32% growth. The prediction is that there will be 1046 billion non-cash transactions globally by 2022 up from the latest reported figure of 538 billion, a phenomenal 94% increase.

Realtime payments are a significant contributor

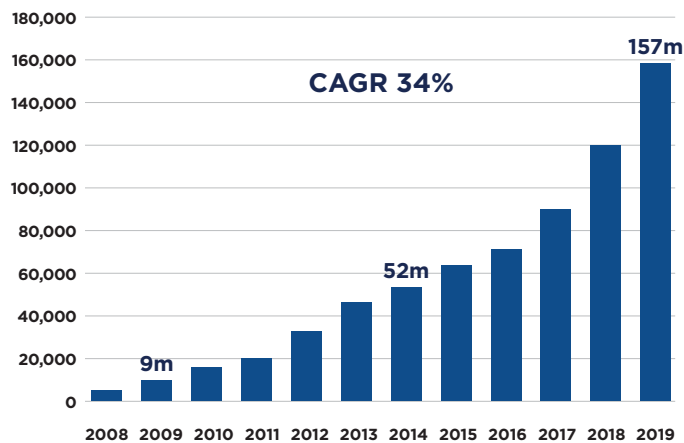
to non-cash payment statistics and are also showing rapid growth. The UK's Faster Payments Scheme (FPS) processed over 2 billion transactions last year a 23% increase over the previous year. In August 2019 FPS processed 201.8 million (+17%) realtime payments worth £160 billion (+11%).

“UK Faster Payments network processed 17% more realtime transactions last month valued at £160 billion.” ▶

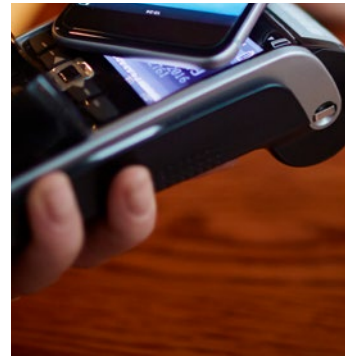
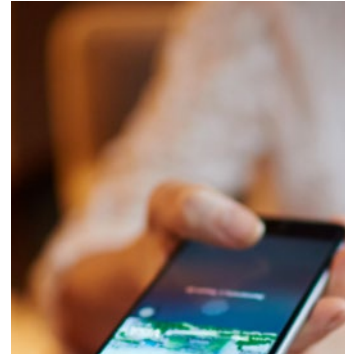


“The prediction is that there will be 1046 billion non-cash transactions globally by 2022 up from the latest reported figure of 538 billion, a phenomenal 94% increase.”

Number of Single Immediate Realtime Transactions



UK Faster Payment Transaction Volumes for the Month of July in Thousands



EU Adoption of SCT Inst

The new voluntary European SCT Inst realtime scheme is also making good progress as more Payment Service Providers (PSPs) join and users learn about the option for instant payments. 2078 PSPs have confirmed their participation in the SCT Inst programme, representing just over 50% of the number sending traditional Sepa Credit Transfers (SCT). Transaction volumes have increased by 177% in the last quarter. The recent decision by the European Payments Council to increase the maximum transaction amount from €15,000 to €100,000 from the 1st July 2020 will further accelerate adoption and volumes.

The New Competitive Landscape

The payments market has become highly competitive with incumbent banks now having to compete with neo banks, challenger banks, FinTechs and the GAFAs, who do not have the challenges of having a large branch network and legacy systems. Payments are increasingly being made from a mobile phone, within an app or from a digital wallet. This is particularly true for Gen Z and Millennials who expect to always be able to make a payment instantly and effortlessly from their phone.

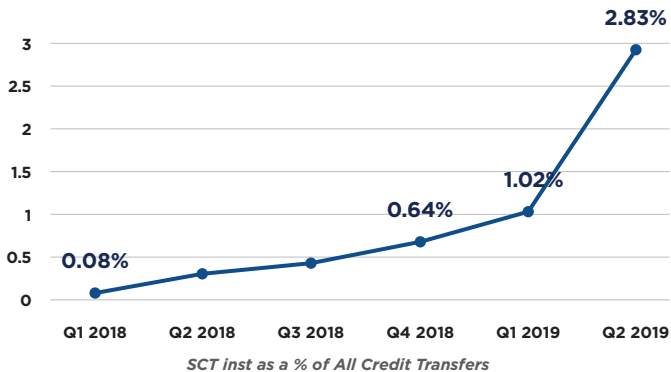
“Realtime payment volumes will continue to grow through both lower and higher transaction value usage.”

The US was one of the first markets to introduce P2P faster payments. Venmo, now owned by PayPal, established early market leadership but have since been overtaken by Zelle the bank owned P2P realtime payments scheme. In Q2 2019 171 million transactions, valued at \$44 billion, were processed through Zelle.

Globalisation

The payments market is becoming increasingly global in nature reflecting the increase in international trade and travel. New international standards, like ISO 20022, are helping payment systems transition to today’s market needs, which increasingly require realtime processing. Wide scale ISO 20022 adoptions also offer the potential for inter-connectivity of national realtime systems into regional processing schemes. The Southeast Asian (ASEAN) countries are planning along these lines. The Swift gpi programme will also help improve cross border payments interoperability.

SCT Inst Transactions



Central Banks and Realtime

Central banks increasingly understand the importance of realtime payment systems to their economies and are investing in next generational realtime settlement systems and making central bank money available to stimulate activity. The European Central Bank (ECB) Target Instant Payments Settlement Service (TIPS) confirms this point and is credited with broadening access and adoption of SCT Inst.

Realtime and New Services

We heard in the workshop how open banking is helping drive further

realtime payment adoption with 35 national programmes in the pipeline. 18 financial services brands are now offering open banking in the UK and together they managed 98 million API calls in August 2019.

Realtime payment systems allow new services to be launched. On the back of access to enhanced customer and transaction data realtime faster lending decision can be taken allowing deferred (pay later) or instalment payment options to be made available.


“New services can be launched on the back of realtime networks and data”

Further examples are the Request to Pay (Request for Payment) option that empower users and allows them to choose when a payment should be made. The Confirmation of Payee is another new service, which has been designed to tackle the worrying growth in Authorised Push Payment (APP) scams.

“Realtime data allows deeper insight, greater personalisation, faster decisions and easier affordability checking”

The Impact of Business Factors on Realtime

Participants highlighted how realtime payment programmes are heavily influenced by macro and micro economic factors. The transition to realtime is very expensive and significant investment funding is needed for both central and bank systems. This is at the same time as regulators are driving down the profitability of providing banking and payment services. ▶



“Realtime payment volumes will continue to grow through both lower and higher transaction value usage.”

Pricing Strategies and Realtime

A critical business factor is the decision on which pricing strategy to adopt for realtime. This varies by country and at times also by PSP. Person-to-Person (P2P) realtime payments are generally provided free of charge due to consumer and competitive pressure. Traditionally, banks rely on healthy fees for processing business payments. Should realtime attract a premium price or follow batch-based payment pricing? The pricing decision will have a major impact on the adoption rate as seen, initially in the UK, in Scandinavia and in Poland. The Netherlands in contrast has decided to migrate all batch-based payments quickly to the new instant payments system in order to accelerate adoption and eliminate the cost of running two systems.

“Pricing strategies have a huge influence on realtime adoption rates”

Realtime and Fraud Prevention

When moving to realtime it is critical that fraud prevention controls and

risk management systems are also able to operate within these new tight time constraints with decisions needing to be taken in micro-seconds. Criminals see realtime as an opportunity and look to exploit weak points. New approaches and thinking is required to address an increase in disputed payments and claims for compensation.

“It is critical that fraud prevention controls can also operate in realtime”

Impact on Organisation Design

The move to realtime has implications on multiple departments within an organisation and on established business practices. It also requires employees to have appropriate skills and these are noted to be in short supply. Newly architected payment systems, however, allow more decisions to be taken within business operation teams, such as by transaction orchestration, reducing the reliance on busy IT departments.

Realtime payments are increasingly being integrated with other services such as invoices, purchase



orders and loyalty reward programmes. Least cost payment routing and data monetisation are further key realtime business factors.

“Realtime payments can be integrated into instant reward programmes”

The Impact of Social Factors on Realtime

The workshop discussed how social factors are having a big impact on realtime payments. These include changing customer attitudes, values, ethics and lifestyles. We heard about the differences in payment preferences based on age, gender and socio economic group. Customers now have far greater expectations, lack patience and are more willing to change financial services provider.

“Gen Z and Millenials want realtime mobile payments and demand a great user experience.”

Technology adoption

Gen Z and Millenials want to be able to make payments from a mobile device and demand a great user experience. Other groups may be less comfortable with using mobile and Internet technology and so these must not be overlooked. There are also cultural differences and attitudes to debt, which apply and must be considered when making a choice of payment method. This can be seen by the low credit card usage in Germany, Austria and the Netherlands.

Social Media

Social media is another key factor as this has such a



high influence on society today. Companies face much greater reputational damage when things go wrong as social media accelerates and amplifies the distribution of bad news. Social responsibility is critical to ensure there is no discrimination against disadvantaged groups. Affordability controls and spend management tools must be in place with realtime payments.

“Customers now expect to be offered account aggregation and spend management tools. This is no longer a differentiator”

Green environmental factors are growing in importance and these too must be considered. Replacing paper receipts with eReceipts is one initiative that is attracting greater interest and can be delivered as part of a realtime payments service thanks to PSD2 open access to data. ■



Impact of Realtime

Benefits to Individuals

The viewpoint of the workshop was that the most popular initial realtime use case for individuals is Person-to-Person (P2P) payments allowing them to send and receive money instantly, frequently to friends and family. Market pressure has ensured that this is provided free of charge. It is far simpler to send money to a phone number saved in your contacts list than having to request and then type in lengthy bank sort codes and account numbers. The UK banks set up Paym five years ago to provide a realtime P2P service. Paym is now available to over 90% of UK bank account users, and more than 4 million individuals are using this realtime payments service.

“The UK P2P payments market is expected to increase to £55 billion by 2022. Additionally, the number of U.K. mobile banking app users is expected to grow from 22 million to 35 million by 2023.”

Enhanced Customer Experience

The UK's FPS allows individuals to pay for goods and services instantly. This is replacing the use of paper cheques and cash. Realtime has the advantage of helping individuals improve their management and control of money. Critically they see how much money they have in their account

before completing a purchase providing easier affordability checking. Individuals also value the benefit of receiving funds earlier. Realtime payments allow individuals to pay a bill at the last possible moment and avoid late penalty charges. Realtime notifications have become a new and much valued bank account feature.

“With realtime, the account balance is known before completing a purchase”

Enhanced convenience

Many individuals remain concerned about sending funds to the wrong account and becoming a victim of a push payments scam. The launch of a UK Confirmation of Payee service in March 2020 and the creation in 2019 of a voluntary consumer protection code will help address some of these consumer concerns.

The benefits of realtime information and data can be as significant as the payment itself as it allows

greater personalisation of offers and instant rewards to be made available. The increased relevance and timeliness boosts customer acceptance and usage.

Benefits to SMEs

The main benefit for Small and Medium Sized Enterprises (SMEs) from realtime payments is the improved cash flow management capabilities that it brings and the requirement to hold less working capital.

“Realtime allows improved cash flow management”

Faster receipt of invoice payments is positive for the cash balance, as also is the ability to optimise when to make a payment to a supplier.

“Realtime payments avoid chargebacks.”



“There will be 1046 billion non-cash transactions globally by 2022.”

SMEs can reduce their inventory levels thanks to realtime payments. A high end UK audio equipment retailer has now reduced their stock levels as they can now place an order on their supplier after they have received a customer order, knowing that next day deliveries can be fulfilled and payment will not delay the sale.

Realtime bank payments provide certainty of funds and avoid the risk of a chargeback being received by the merchant. These bank payments are also charged at a lower rate than for card payment transaction, especially if the sale has a high transaction value.

“Realtime payments avoid chargebacks”

The enhanced transactional data available within a realtime payment allows a SME to have greater understanding of their customer. Realtime bank payments are expected to bring administrative efficiencies as well as helping boost levels of trust.

Benefits to Corporates

Corporates benefit from an increased choice in how and when to make and accept payments. They achieve liquidity and cash management improvements thanks to access to realtime financial positions. This allows treasury efficiencies to be achieved. Card acceptance costs can be driven down as the migration to bank account payments happens. If a corporate seeks to move all batch-based payments, including payroll, to realtime they may see higher fees as many have previously negotiated low rates.



One of the biggest gains from the adoption of ISO 20022 realtime payment standards is the ability to link an invoice or purchase order to a payment. This makes the reconciliation process far more efficient and accurate. Many payment systems additionally include a 'request for further information' field within the realtime message.

“Reconciliation is far more efficient as a payment can be directly linked to an invoice”

Although corporates like receiving funds quicker they are not happy about having to make payments faster thanks to the negative impact on cash flow and float. Realtime does, however, offer greater flexibility when making urgent salary / wage payments as these can be made at the last moment.

Benefits to Government

There are many impacts on Government from the arrival of realtime payments. Some are positive whilst others are less favourable. The Government will need to upgrade multiple systems, networks and business practices to reflect realtime operation. This will come at a high cost; require investment and take time.

A positive is the ability to make payments in realtime to social and welfare recipients who will benefit from the immediate receipt of funds. Other use cases include faster receipt of tax payments, licenses and other types of fees.

The Bank of England is planning the introduction of a completely new RTGS system by 2023 to ensure the UK continues to have an efficient payment settlement service to allow the country to remain competitive. ▶



“Realtime bank payments provide certainty of funds and avoid the risk of a chargeback being received by the merchant.”



The US Federal Reserve has also decided to build a national realtime settlement service, dubbed FedNow, in order to yield economic benefits for individuals and businesses. This service is expected to go live in 2023 or 24.

“A new Realtime Settlement System is being created to ensure the UK remains competitive”

Government needs to create regulations and an environment that promotes innovation and competition as well as providing education to individuals and businesses. Cyber attacks, data breaches and payment scams damage UK plc and Government has an important role to play in helping protect all stakeholders.

A continual challenge is to ensure that central and local government, plus public authorities and agencies are compliant with new regulations and by the deadline.

Benefits to the Payments Industry

The payments industry faces the challenges of meeting higher customer expectations and the need to operate with greater agility. Banks have multiple batch based processing systems that need to be replaced or enhanced to allow realtime operations. These are major IT programmes, which require significant investment and carry a high risk thanks to their size, complexity and critical

nature. Realtime payment infrastructure has to have high capacity, availability, resilience and security.

The impact when things go wrong is far higher in a realtime world and the risk of fraud attack increases as criminals recognise the difficulties of instantly identifying a fraudulent transaction. This is one of the reasons why greater investment is required in fraud prevention, analytic software and tools as part of any realtime programme.

“Investment is needed in analytics software and tools to manage risk and fight fraud”

Banks and Fintechs - Friend or Foe?

Banks need to decide how they wish to treat FinTechs. Should they compete, partner or acquire them, or a combination of these. The choice will be critical for long-term success. PSD2 and Open Banking regulations have highlighted some of the changes that are needed for operating going forward. Clearing and Settlement Mechanisms (CSMs) will also be key players in the transition to realtime bank payments with EBA Clearing, STET, VocaLink, equensWorldline, NETS and SIA at the forefront in Europe.

The Relationship Between Card Payments and Bank Payments

To date there have been two payment universes, one for card-based payments and the other looking after bank account to account payments. These two worlds

are now on a convergence path with the main questions being associated with the timescales and where adoption will be seen first. Realtime is one of the key drivers for this convergence. Within five years we will be seeing clear signs of this convergence. Sectors with high average transaction values will be early adopters.

“The payments industry will need to transform to support both card and bank payment options”

Each year the payments industry continues to become more global in nature and therefore realtime initiatives need to reflect this market trend. Europe has created the SCT Inst and TIPS to ensure realtime



payments are available across the Eurozone. Interoperability is required between national realtime payment systems and also between CSMs. Realtime standards, such as ISO 20022, Swift gpi and those from Visa and Mastercard, are critical for the future of the payments industry and these must offer interoperability and cross border connectivity. ■



Technology & Regulation

Regulation

The workshop discussions highlighted the importance regulators play in controlling payment markets. In Europe there have been a series of major payments regulations that are driving significant change in the industry including Merchant Interchange Fee (MIF), General Data Protection Regulation (GDPR) and the second Payments Services Directive (PSD2), which includes the Regulatory Technical Standards (RTS) and requirement for Strong Customer Authentication (SCA).

National Competent Authorities (NCAs), the FCA from a UK standpoint, ensure the enforcement of European regulations. The UK was one of the first markets globally to establish a dedicated economic Payment Systems Regulator (PSR). In the UK we can add

the Competition and Markets Authority (CMA) order to this list as it was this body that forced the 9 main banks to introduce Open Banking.

“In the UK, payments are highly regulated by the FCA, PSR, CMA and the Treasury”

Balancing Innovation, Competition and Regulation

Many of these regulations aim to increase competition and drive innovation. At the workshop we heard about the need for a regulator to balance the needs of banks and FinTechs and to level the playing field between them. Participants wanted forward-looking regulators who provided clarity, engaged with participants and promoted adoption. It was noted that effective regulation comes with clear timescales and mechanisms to efficiently answer questions that are raised.

The key regulatory challenges highlighted included the need to keep pace with technology advancement, the variety of standards, interpretation divergences, the speed of regulatory development and alignment between different regulations.

“A forward looking and approachable regulator makes a big difference” ▶

Regulators

- European Commission
- European Banking Authority
- Financial Conduct Authority
- Payment Systems Regulator
- Competition and Markets Authority
- HM Treasury

The Indian case study

The Indian market is a great example of how realtime payments can become universally available if there is strong regulatory intervention and government pressure. The Unified Payments Interface (UPI) and Immediate Payment Service (IMPS) both allow instant real-time funds transfer through mobile phones. These realtime schemes are owned by the Indian government and managed

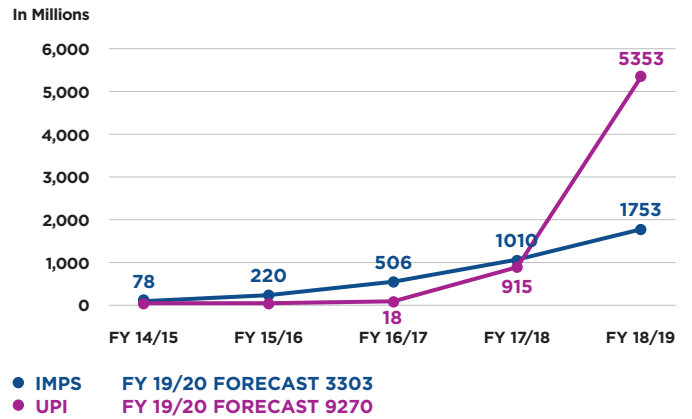
through the National Payments Corporation of India (NPCI). A key factor in these successes has been the availability of a national ID programme called Aadhaar, which uses biometric and demographic data to create a unique 12 unique identity number. User validation is critical to payment programmes.

“Realtime payments adoption is being held back by a lack of secure identity programmes”

The Role of Scheme Rules

Card scheme mandates are a form of industry regulation but without the legal backing and enforcement. Adoption of the Visa Direct and Mastercard Send products are at the choice of individual members. PCI security standards are a further variant of industry regulation. Many of the national realtime payment initiatives, including the European SCT Inst, are

Indian Realtime Payment Transaction Volumes



voluntary in nature and PSPs are not forced to be compliant or push adoption.

Technology

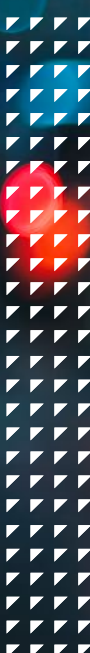
Realtime payments rely on advanced technology solutions, which have to be highly scalable, secure and reliable. It was noted by participants that legacy payment systems, including early realtime networks, are increasingly failing to deliver resilience.

The market expectations are for 100% service availability 24x7x365 including when planned maintenance takes place.

“Realtime payment systems need to be highly resilient, scalable, flexible and secure”

ISO 20022

The ISO 20022 standard has become the primary choice for realtime payment schemes around





“The UK Open Banking APIs are not yet performing at the levels expected of realtime payment systems. In August 2019 the average availability of the account provider, based on the 18 operating brands, was 98.70%.”

the world, although it is recognised that variances may apply at national and regional levels. Various industry initiatives are underway to provide further clarity on ISO 20022 message formats and to address any interoperability issues. Realtime payments require the integration of multiple systems and this becomes a critical challenge. One example being the conversion of Swift MT

message types used for cross border payments into ISO 20022 message formats.

“ISO 20022 standards are key to realtime payments integration and interoperability”

The Pace of Education

We discussed how technology evolution is moving faster than customer education and the problems this causes.



Consumer technology advances are moving at a faster rate than corporate systems. QR codes are one form of technology being used in Asia to drive realtime payment transfers and so we may expect greater adoption of QR codes in Europe.

New realtime payment systems may be deployed in the Cloud in order to achieve cost reductions, high scalability and flexibility but appropriate security and operating controls need to be put in place.

Legacy system constraints may result in some banks connecting to national realtime schemes without fully realtime enabling their in-house systems. This strategy is not optimal and prevents the full benefits of realtime being achieved.

“The full benefits are only achieved once all integrations have been completed and systems have been upgraded or replaced”

The UK Open Banking APIs are not yet performing at the levels expected of realtime payment systems. In August 2019 the average availability of the account provider, based on the 18 operating brands, was 98.70%. Actions need to be taken to boost availability to over 99.99%, which is the minimum acceptable card payments performance level. ■





Innovation

The final session of the day focussed on realtime payments innovation. Participants shared a wide variety of realtime use cases, which ranged from the need for immediate payment, payment on delivery or completion of a service, to just in time payments and for treasury/cash management reasons. It is these use cases that are expected to drive adoption as there has to be real added value over and above a current (non realtime) payment method. Centrally managed realtime infrastructure rails are required but it is the FinTechs who are expected to deliver most of the innovations. Many of the innovative features, including an improved user experience, reflect the user

requirement for frictionless and seamless payments.

The importance of new payment devices was discussed in the workshop with mobile phones, NFC, the Internet of Things (IoT) and wearables being considered to be most significant. Smartphones are expected to be the primary initiation point for realtime payments.

“FinTechs and smartphones are key to delivering realtime payments innovation and adoption”

How Digital Identity Enables Realtime Payments

The workshop highlighted the critical need for digital identity services in order to deliver many of the realtime innovations that are being discussed. The

lack of a strong national ID programme is felt to be holding back payments innovation in the UK and elsewhere. Workshop participants shared best practices from the Nordics and India where realtime payments and eID programmes are working effectively together.

How Overlay Services Help Promote Realtime

Overlay services that run on top of a national realtime network are another effective way to deliver innovation. We heard a great example on how Osko, which runs on top of the Australian New Payments Platform (NPP), enables payments to be made and received faster. Already more than 60 million transactions valued at AU\$60 billion have been

completed through 65 financial institutions.

“Participants felt that where innovation leads, adoption will follow”

One of the key innovation areas is in bringing realtime payment solutions to merchants. These would offer an alternative to traditional card based payments, disintermediating the international card schemes and thereby bringing down the cost of payments acceptance. Realtime merchant payment solutions also remove the risk of a chargeback, which is particularly appealing to retailers. However before wide scale adoption consideration will need to be given to how to handle customer disputes, providing a refund where

P2P

- Split payment of a joint bill
- Paying back an IOU
- Emergency funds transfer
- Paying friends and family
- Online auction site and marketplace purchases
- Buying goods from another consumer
- Moving funds between accounts and institutions

P2B

- Payment for online purchases
- Payment to suppliers of home services
- Reactivation of services
- Payments of invoices to avoid late payment fees and fines
- Payment to avoid services being cut off
- Advance payment for high value purchases
- Payment on delivery of goods
- Donations to disaster relief & charities
- Payment of taxes, fines and penalties

Realtime use case examples

B2P

- Urgent payment of compensation claims
- Insurance claims
- Tip disbursements
- Business expense repayments
- Welfare payments
- Payments to freelancers or day workers
- To encourage cheque reduction
- Immediate reimbursement for returned or fault goods
- Request for Payment including by utilities
- Refunds

B2B

- Payment of taxes, fines and penalties
- Urgent correction of a payment error
- When cash and card limits have been exceeded
- To release delivery of goods
- Making payroll later and for adjustments
- Transfers between businesses instead of using a cheque
- Intercompany transfer payments
- Treasury and cash management reasons

necessary and protecting consumer rights. The UK Open Banking specifications do not currently have a refund transaction.

Innovations are often best seen through use cases. There are many popular realtime payment examples and these vary dependent on the two stakeholders involved in the transaction (P2P, P2B, B2P and B2B).

How Compliance Hinders Realtime

We heard that the amount of innovation a financial institution can deliver is being severely hampered by the growing number of regulatory compliance projects that have to be completed. This ties up financial and employee resources and management bandwidth. The 'Cost

of Compliance Report' calculates that globally banks are spending more than \$270 billion a year on compliance and regulatory obligations and having on average 10-15% of their staff dedicated to compliance.

"Banks have far less to spend on innovation today thanks to the multitude of compliance programmes that have to be delivered"

Data is Central

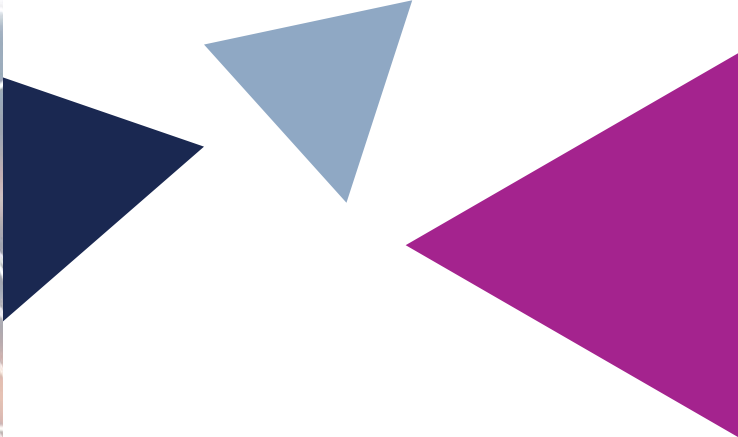
Many of the realtime innovations relate to the improved use of data, which is achieved through greater use of analytics, personalisation and the desire to monetise data. Big data can be turned into valuable insight through the use of algorithms, tools and software. Naturally, any use

of data must be compliant with GDPR regulations and customer permission has to be explicitly obtained.

"Improved insight into customer behaviour can be achieved through greater use of analytics, algorithms, and artificial intelligence". ■



"Overlay services that run on top of a national realtime network are another effective way to deliver innovation. We heard a great example on how Osko, which runs on top of the Australian New Payments Platform (NPP), enables payments to be made and received faster."



Summary

- Realtime payments are happening today and usage is growing rapidly both in the UK and all around world
- Realtime is becoming the 'new normal' for payments processing
- P2P payments are often the initial use case, but business payments offer the greatest potential and value
- The standard to use for realtime payments is ISO 20022
- Banks and FinTechs should partner to fulfil the maximum benefits
- Adoption rates will be dependent on regulatory deadlines and pricing strategies
- Innovative services can be implemented as overlay's to realtime networks
- Realtime data is under utilised today but offers great potential
- Instant rewards, personalised offers and tailored finance options will be possible through use of realtime data
- Realtime is helping drive the convergence between card and bank payments
- Realtime allows improved financial management and affordability controls
- Faster processing times create opportunities for criminals to exploit and so investment is needed in enhanced fraud protection and risk management
- PSD2 and Open Banking will act as catalysts for realtime payments
- Improved insight into customer behaviour can be achieved through greater use of analytics, algorithms, and artificial intelligence
- Customers expect payments to be made instantly and so companies know that they have to provide it



About FICO, Benefactor of Project Futures

FICO (NYSE:FICO) is a leading analytics software company, helping businesses in 90+ countries make better decisions that drive higher levels of growth, profitability and customer satisfaction. The company's ground-breaking use of Big Data and mathematical algorithms to predict consumer behaviour has transformed entire industries. FICO provides analytics software and tools used across multiple industries to manage risk, fight fraud, build more profitable customer relationships, optimize operations and meet strict government regulations.

With thanks

Gary Pine (W2 Global Data) is project Lead of Project Futures. Mark McMurtrie, Director of Payments Consultancy Ltd, moderated the workshop and authored this report. The EPA would like to thank the Benefactor of Project Futures, FICO, for their backing of the project, its workshops, and in helping identify technology and future innovations that will spark a dynamic change for both businesses and consumers.

To work with us to create a better payments industry in future...

To join our Project Futures (EPA members only) contact:

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About the EPA

The Emerging Payments Association (EPA), established in 2008, connects the payments ecosystem, encourages innovation and drives profitable business growth for payment companies. Its goals are to strengthen and expand the payments industry to benefit all stakeholders.

It achieves this by delivering a comprehensive programme of activities for members with help from an Independent Advisory Board, which addresses key issues impacting the industry.

These activities include:

- A programme of 70 events annually
- Annual Black-Tie award ceremony
- Leading industry change projects
- Lobbying activities
- Training and development
- Research, reports and white papers

The EPA has over 150 members and is growing at 30% annually. Its members come from across the payments value chain; including payment schemes, banks and issuers, merchant acquirers, PSPs, merchants and more. These companies have come together, from across the UK and internationally, to join our association, collaborate, and speak with a unified voice.