Payments modernization - Legacy to real-time to *Payments at the speed of thought*

RS Software (India) Limited
Annual Report 2022-23

RS software

Table of Contents

Forward-looking statement

In this Annual Report we have disclosed forward-looking information to enable investors to comprehend our prospects and take informed investment decisions. This report and other statements - written and oral - that we periodically make, contain forward-looking statements that set out anticipated results based on the management's plans and assumptions. We have tried, wherever possible, to identify such statements by using words such as 'anticipates', 'estimates', 'expects', 'projects', 'intends', 'plans', 'believes' and words of similar substance in connection with any discussion of future performance. We cannot guarantee that these forward-looking statements will be realized, although we believe we have been prudent in assumptions. The achievement of results is subject to risks, uncertainties and even inaccurate assumptions. Should known or unknown risks or uncertainties materialize, or should underlying assumptions prove inaccurate, actual results could vary materially from those anticipated, estimated or projected. Readers should bear this in mind.

We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

The world is learning from India in monetizing payments modernization

RS Software helping India to be the gold standard globally for digital payments

UPI, built exclusively by RS Software, is transforming India

Continuous innovation is raising the bar everyday for what payments modernization must deliver

RS Software vision
Payments at the speed of thought

With the rise of digital infrastructure and availability of smart phone powered by increasingly sophisticated yet affordable technology, all forms of payments are undergoing transformation – be it small-to-medium value payments like cards and real-time payments or be it medium-to-large value payments like RTGS.

Credit Cards

Credit cards have matured from plastic with magnetic stripes that needed to be swiped, to chip embedded cards that are dipped and now to NFC enabled card that can be tapped to make payment. With innovation of tokenization, Apple, Samsung, Google and many more have been able to do away with the physical card completely and "implant" the card in the smart phone itself which can be tapped to make payment.

With API and cloud driving digital platforms, companies like Visa, Mastercard, Marqeta, and many more have modernized their services and are making it possible for card issuance, card acceptance, making payment and non-payment transactions and much more. They are providing APIs, documentation, sandbox and everything that developers need to connect and innovate. While CIBC, Canada may be using Visa APIs for getting the Foreign Exchange Rates, Dragon Pass is using Visa APIs for Payment Account Validation, and Fidelity Bank Plc uses Visa Direct API for a real-time payment.

Core systems modernization

Jim McCarthy, EVP of Product and Sales at Thredd while referring to the organizations that have not prioritized a full-scale payment modernization, "… is akin to doing the digital front-end work and not transforming the back end, and the result is bolting on new processes to creaky legacy systems."

Upgrading core systems to support RTP is a significant investment. Many banks, both in developed countries and developing countries, are in various phases of modernization. The directives such as PSD2, practices such as Open Banking and RTP are pushing the need for banks to modernize.

The 2022 McKinsey Global Payments Report confirms that banks are aggressively modernizing their core systems to real-time, third-generation cores and updating their payments infrastructures, largely in response to the continued rise of instant payments, open-banking requirements, and cloud technology.

Path to monetisation

There are two distinct opportunity areas – (a) leverage the learning from one another and build on top of that, and (b) leverage the new technology innovations that are becoming available and improve the solution for greater security, lesser friction, larger adoption and value driven monetization.

Payment modernization – **some done, lots more to do!**

There were more than 195 bn real-time transactions recorded globally in 2022, according to ACI Worldwide data released March 28. That's 63% higher than the 121 bn recorded in 2021. ACI projects a growth rate that will reach 512 bn by 2027, or 28% of all global electronic transactions.Even though impressive growth of achieving almost 2.6 times growth in 5 years, almost 72% of payment transactions will not be in real-time. RS Software is pursuing a vision *payments at the speed of thought*. Clearly what gets established is that payments modernization is making good progress, but lots more to do – "miles to go before I can sleep". There is a school of thought that says until the entire globe relies on a single legal system, a single monetary policy, and a single financial system, companies will need to build solutions to bridge the differences, Good news is that growth, which largely reflects real-time payments within individual countries, will create pressure on all real-time rails to operate internationally to serve more needs.

Real-time Payments – **Are they making the difference?**

Real-time payments are making a difference. It should not be viewed as a faster ACH option as it has properties that can help to harness larger value. It has the advantages of RTGS i.e., finality of fund transfer, without the processing burden for Gross Settlement as it typically uses Net Settlement, it is 24x7x365 that RTGS took years to reach. Because of this, new use-cases are emerging that would not be possible without RTP.

As mentioned in the November 2022 report from Alacriti:

- Real-time payments are a tool to deliver payment solutions, which fall into two categories: overlay services and digital tools.
  - Overlays are value-added solutions available to all that include QR codes, Request for Payments (RfP) alias directories, etc., that solve problems.
  - Digital tools are about how the real-time payment is used. Leading banks expose APIs to make it possible for clients to embed real-time payments in their workflows. This moves the real-time payment away from a payment product into a payment solution. Not only does it make the bank more sticky, but it's an opportunity to generate revenue.
- It also states that RTP could be amongst the most profitable part of bank's business and argues as below:
  - "One of the large surveys we did last year was about data, payments, and monetization. In this chart, you'll see that corporates are willing to pay for real-time cash forecasting, automated reconciliation, real-time cash balances, etc. because they are perceived as a value. It's not just P2P and a one-off transaction. For many banks, it's amongst the most profitable part of their business because it's all fully automated. As volumes go up, the costs are relatively fixed, so the margins just improve and improve."

- Use Cases that are bolstered because of RTP are emerging and the article provides the following:
  - In terms of some high-level use cases, what we're finding most prevalent in the U.S. are loan disbursements, gig economy payroll, and payroll in general (which is starting to shift toward real-time payments). Merchant funding is important so stores can get their funds faster. And for insurance, closing quickly on property and insurance claims from policyholders.
  - People are reengineering bill pay to make payments faster and more predictable in terms of document exchange. Using RfP for invoicing is an obvious application for commercial entities. However, there is going to be a gravitation towards any type of document that needs to be signed, which is an opportunity for monetization.
  - Cross Border is another strong use case and that RTP and FedNow will eventually have a service for cross-border payments as well, including the handling of FX (foreign exchange).

From opportunity perspective, it can be interpreted that RTP could be amongst the most profitable part of bank's business in the context of the data published in the McKinsey Global Payments Report (October 2022). It is clear that the account related growth will be 44% in Asia-Pacific, 24% in North America, 52% in EMEA, and 10% in Latin-America, and RTP revenue is a part of this account related revenue.

Alacriti report states that FRM for RTP is a different ballgame, as it needs to be 24x7x365, solution needs to be proactive, so transactions are analyzed and decisioned on the fly while the transaction's being created, rather than discovering the transaction is fraudulent afterward and having to work on getting the funds returned, and, the data can be used to make intelligent decisions before sending the transaction and customized around account takeover and identifying mule accounts.

To make a difference to the brand of real-time payments wherever deployed, this real-time-FRM is a capability that needs to be there as central infrastructure as well as within the banks and FIs. **Interestingly, all of these are addressed by RS IntelliEdge™.**

RS Software's demonstrated success in **implementing real-time payments globally**

Having successfully delivered the Digital Payment stack of India consisting of the UPI (real-time payment), BBPS (bill payment) and EFRM (fraud and risk management) we have demonstrated our capabilities in delivering API-first, Mobile-first, Cloud-agnostic, Developer-centric, HA, scalable systems. These systems will be leveraged as other public digital public infrastructures like ONDC (digital commerce), OCEN (credit network) and CBDC (digital currency) gain momentum.

Since the launch of UPI in April 2016, the **unheard adoption of digital payments in India is the highest testimony to RS Software's demonstrated success** in delivering high speed, highly available and secure payment platforms. This has resulted in our ongoing engagement to continue to enhance and transform the payment platforms as adoption increases.

50 years and 79 countries

The first form of real-time payments came up in Japan 50 years ago. Real-time payments (RTP) is now available in more than 79 countries in some form or the other. The journey of RTP starts with an implementation, but there are a whole lot of societal factors that interplay to make it a success. These factors change with geography and demography they serve.

The first and foremost is adoption. The adoption necessitates building connectors for banks and FIs to connect them to the RTP rails. The connectors orchestrate the messages between the assets within the bank and the RTP rails plus exposes digital services, read APIs, that help bank or third-parties or fintechs to build consumer and merchant facing software where the actual interactions happen.

We, at RS Software, are humbled to have the privilege of building the RTP rails for India, the UPI which was launched on April 11, 2016. RS Software has also built connectors to UPI which have been deployed in a few banks. The company had also built bank apps consuming the APIs exposed by the connectors to build consumer facing services and merchant facing services for a few banks.

RS Software has also designed the Real-Time Rails (RTR) for Canada partnering with Deloitte Canada delivering to Interac, the technology partner of Payments Canada, which is being implemented by IBM Canada.

In India, RTP, read UPI, was championed by RBI and operated by NPCI, the technology arm of RBI. It was a sovereign decision to rollout RTP to steer India from a cash-primary society to a less-cash society.

Unlike India, in USA it is completely market driven. In 2013 Venmo, an instant payment service was launched by parent company PayPal. In 2017, 7 banks of USA – Bank of America, Truist, Capital One, JPMorgan Chase, PNC Bank, U.S. Bank, and Wells Fargo – launched Zelle, another faster payment service to compete with Venmo. Interestingly, in the same year, i.e., 2017, The Clearing House (TCH), a consortium of 22 banks in USA, 7 of which are common with Zelle, launched real-time payment (TCH RTP) service.

Venmo is semi-closed loop as it came from PayPal. In 2018 Venmo and Mastercard teamed up to provide a card that is accepted wherever Mastercard was accepted. Outside of 7 banks, banks and FIs can connect to Zelle and offer instant payment service to its customers. As of 2022, Zelle covers eighty percent of the US population who can connect via their banking app and is supported by over 1600 financial institutions.

RS Software product suite accelerates and improves the adoption by encouraging collaboration between FIs and Fintechs for addressing consumer and business payments use cases. The suite also offers a developer-friendly sandbox environment for Fintechs and FIs to experiment and arrive at the most effective use cases. Thus, fostering innovation at the edges, leading to accelerated and higher adoption.

The next factor is inclusion. There are banks who can afford to operate a service like RTP connector, however, there would be a long tail of banks that cannot. Hence, either they have to piggyback on a large bank or wait for a Software-as-a-Service (SaaS) solution be made available for them to subscribe.

There is another factor of prioritization. It is not always that banks want to operate technology as that is not their core business. In such cases even the very large banks would want to move the operation to providers.

RS Software has built a cloud-hosted platform that integrates with the central core real-time payments system, and helps Financial Institutions and Fintech to monetize and process real-time payment and bill payment transactions and associated payment use cases. The company has partnered with HPY India to launch this platform, in India, and this offering has the potential globally.

In USA, as of 2021, there were 4,844 insured commercial banks, according to the Federal Deposit Insurance Corporation (FDIC). Clearly Zelle covered less than one third of the banks and FIs. To improve inclusion, Federal Bank of USA is working to bring forth FedNow, a RTP rail that any bank in USA can avail, the initial launch is planned on July 2023.

The next challenge is scale. Without knowing the adoption success, one cannot invest in technology to support hyper-scale. However, every architectural design is done with a certain scale in mind. If the adoption and inclusion succeed beyond a threshold, the architectural design needs to undergo fundamental changes. A distant aspiration is to make the channel cross-border ready so that the adoption can transcend political borders.

UPI is an example for this.

One year after its launch, the count of transactions was 7.2 mn a month in April 2017, which is now 8898 mn in April 2023, a CAGR of 177%+. This needed a refactoring of the UPI architecture.

Further, earlier UPI ran in active-passive mode which meant factoring certain amount of downtime per year, but as adoption was huge, this was becoming a challenge.

At launch, UPI was a proprietary message format, while world was moving to ISO 20022. Finally, UPI was initially thought to cover domestic transactions, but there was interest for cross-border as many Indians travel abroad.

These 4 factors – scale-up, increase availability, ISO 20022 support and cross-border usage became critical. RS Software has completed the reengineering – the platform has been benchmarked at 1 bn transactions per day, is deployed in active-active mode, supports ISO 20022 messages, and is accepting cross-border UPI payments.

RS Software has made India ready for growth of its flagship instant digital payments – UPI. In G20 summit, many countries have expressed interest in implementing UPI like platform for themselves; and cross-border UPI acceptance is now a reality with UPI being accepted at Singapore, UAE, and other places.

While it is clear that most of the countries will not need this scale, but all will probably undergo a similar journey. RS Software is ready to service these implementations having successfully done the same for the largest RTP rails in the world plus having experience of helping adoption of RTP rails of other countries.

For countries that are contemplating a rewrite of their RTP infrastructure or planning to upgrade their infrastructure in phases, RS Software can deploy its products RS RTPS™ and RS DigitalEdge™ to streamline the process.

The next step that follows is supporting different use-cases. A report from Finastra identifies the following use cases of RTP:

1. Speed – A real-time experience is key, and there is no lag in the user's experience. Real-time payments can replace other payment methods at the point of sale.
2. 24/7 – As we move into a world where everything is 24/7, customers also expect everything to be 24/7 for payments.
3. A Single Message – Many good use cases involve being able to embed a transaction in a value chain and use business rules or automation to trigger the next steps, which comes from it being a single message vs. batch.
4. Irrevocable, Good Funds – Once the funds are in the account, there is no worrying about a check bouncing, a transaction recalled, etc. That's good for use cases around working capital but also where you're eliminating fraud. Before handing over goods, sellers can have the funds before giving possession of that item.
5. Enriched Data – This is the capacity to provide more complete remittance information with payments. This is important for both automation and reconciliation. Not only does the transaction include who it's from and who it's for, but also what it's for.

The sub-use cases that leverage these base use-cases for commerce are as follows:

1. Request for Pay: Merchant invokes the request and sends to Payer, this eases reconciliation.
2. Mandate: Scheduling unattended subscription payment typical for fixed charges like magazines, newspapers, SIP, EMI, etc. and variable charges like utility payments – electricity, water, etc.
3. Bill Payment: It is a prominent use-case of RTP as that helps the payer to pay bills just-in-time without the risk of late fees. It also helps to attach payer, payee and what is paid for with the payment that helps in reconciliation and straight through processing.
4. Embedded Payment: The Single Message use-case is leveraged to embed a payment transaction in the commerce flow. An example where RS is working on this for InsureCloud SaaS platform is provided below.
5. Invisible Payment: This is a bit futuristic when machines and IoT devices "initiates" the payment request and make payment to probably an attended or unattended machine!

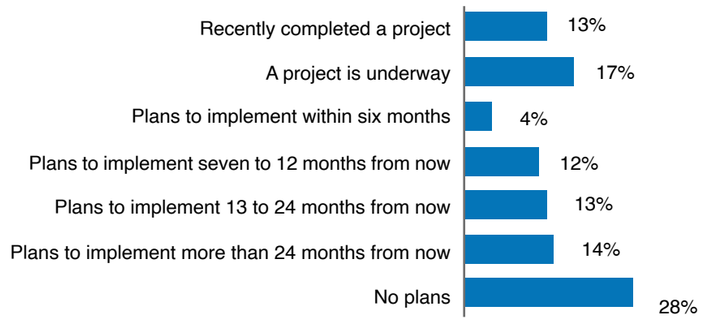
RS Software has experience in implementing overlay services, the major path to monetization of modernized payment infrastructure, including but not limited to Request for Pay, Mandates, Bill Payment. The technology that helps in realizing these use cases is enabled by constructs in the RTP platform and is well served by the overlay layer that adds the differential features to improve the user experience of the use-cases. RS DigitalEdge™ is the product of choice for such requirements. Industry vertical solutions can be created - RS DigitalEdge™ is positioned as key component of the solution. The aim is to have payments, including RTP, embedded into the commerce flow.

The important role of **real-time payments**

One of the biggest drivers of payments modernization has been and remains real-time payments. All critical processes and systems at banks have historically been batch based. With expectations, and in some cases mandates, around real-time settlement and availability came new infrastructure and processing capability demands to accommodate. With this need for change, banks have had to modernize and update critical systems at the bank.

IMPLEMENTATION OF NEW PAYMENT PROCESSING SOLUTION

An institution's plans concerning implementation of a new payment processing solution for one or more payment rails or systems



Source: Aite-Novarica Group's survey of 108 global payments and product executives, Q4 2022 to Q1 2023

This constant cycle of banks going live with new payment rails provides increasing market opportunity and an evolving competitive environment. Banks with no plans to go live with real-time payment rails that have not already implemented real-time payments capabilities will become increasingly disadvantaged in the market. While it may not be too late yet, that time very well may be coming sooner rather than later.

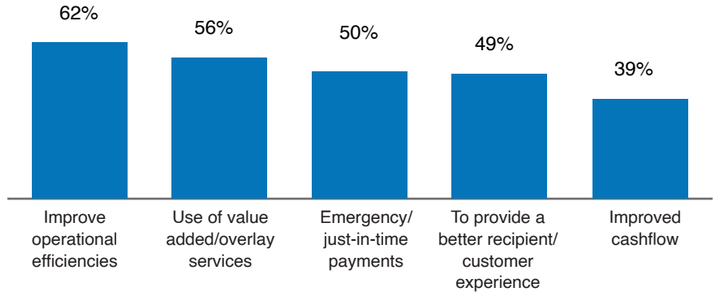
BUSINESS CUSTOMER USES OF IMMEDIATE PAYMENTS

User demand is the biggest driver for offering real-time payments (outside of mandates). Consumers have come to expect the real-time transfer and availability of funds; this is also becoming true of business end-users. Even with the number of FIs offering real-time payments, banks and end-users report the speed of settlement as the biggest gap in bank payment offerings. In fact, while the number of FIs in North America that offer real-time payments is significantly less than in Europe, the gap in the speed of settlement is the same in all regions.

For smaller institutions, the gap in real-time offerings widens even more; the obstacles to offering new products and services are amplified with fewer resources and smaller budgets. Regardless of where a business selects to bank, the outcomes and uses of real-time payments are the same. The majority of commercial clients recognize the value of the operational efficiencies created by real-time payments (refer to diagram below).

USES OF IMMEDIATE PAYMENTS BY COMMERCIAL CLIENTS

Important uses for real-time/immediate payments among commercial clients of an institution



Source: Aite-Novarica Group's survey of 108 global payments and product executives, Q4 2022 to Q1 2023

Emergency or just-in-time payments were once the most prevalent use case. However, as real-time payments have become less exotic, other benefits have begun to overshadow this most obvious use. Value-added or overlay services, such as the ability to view remittance documents, are important.

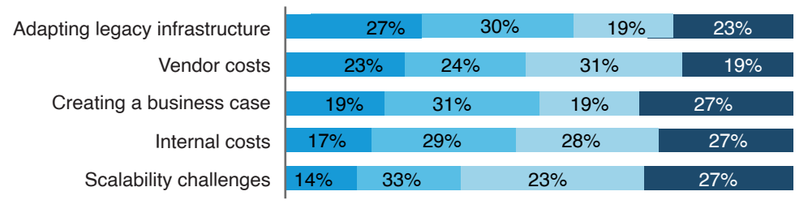
While improved cash flow appears to have less importance, it is arguably the most important. The ability to receive a real-time payment, particularly in the small and midsize business space, can be critical, as can the ability to control when a payment is released. As real-time transactions become even more embedded in business processes, the importance of these usages will continue to grow.

CHALLENGES OF IMPLEMENTING REAL-TIME SOLUTIONS

When considering real-time payment solutions specifically, legacy infrastructure continues to plague modernization efforts: 57% of banks report it is extremely or very challenging (refer to diagram below).

USES OF IMMEDIATE PAYMENTS BY COMMERCIAL CLIENTS

Important uses for real-time/immediate payments among commercial clients of an institution



Smaller banks are more sensitive to these hurdles than their larger counterparts. They are especially susceptible to challenges with overcoming cost hurdles in addition to the technical complexities. Selecting the most appropriate vendor partner is even more important for them, as the right partnership can mitigate some of these challenges at least slightly.

The Evolution of Payment Innovation
In Emerging Markets

The evolution of payments has spanned centuries. From the barter system where people traded goods and services for other goods and services as a means of payment to the use of coins and paper money, we are seeing the payments evolve to become more instantaneous and efficient, without the need for any physical exchange or storage.

Digital payment systems like cards and mobile wallets are being used today and using digital currencies for payments is expected to be the future of payments. This advancement has been driven by the desire to make payments more secure and faster. The move to digital has also enabled better financial inclusion and credit availability at a global scale never seen before in human history.

Improving Access To Financial Services

The Covid-19 pandemic played a major role in driving up this adoption of digital payments. It fostered financial inclusion, making financial services more accessible. According to a survey, 76% of adults globally have a bank account, either through a financial institution or through a mobile money provider.

The percentage of account ownership increased by double digits across 34 countries since 2017. With global lockdowns in place during the pandemic, traditional financial services took the digital route to make their services accessible.

Technology Leapfrogging In Emerging Markets

Innovation in payment mechanisms can have a more profound effect in emerging markets than in traditional markets.

One such example is India. The RBI in its annual report for 2020-21 noted that digital transaction volumes in 2020-21 rose to 43.71 bn rupees (about $528.7 mn), a spike from the 2019 figure of 34.12 bn rupees ($412.7 mn). This increase was mainly due to the consumer adoption of payment mechanisms like the unified payment interface (UPI). The adoption of the UPI payments recorded a three-time increase in transactions and value during the fiscal year 2020-21 following the pandemic.

India was traditionally a debit card market, unlike the U.S. where credit cards are dominant. However, while the usage of credit cards emerged, the issue of credit cards in India grew significantly at a compound annual growth rate (CAGR) of 26% and 23%, respectively in 2019 and 2020. While the pandemic boosted digital payment adoption, the Indian credit card sector also grew by 7% in 2020-21.

Regulator Influence On Payment Innovation

Regulators can also greatly influence the trajectory of payment innovations. Banks have a limitation on how many companies and sectors they can have exposure to because of the larger financial risks involved. With digital technology adoption, banks no longer have a complete grip over their customers as they did historically. Banks today are acquiring fintech startups to acquire new technology or customers and are transitioning to pipeline service providers. For example, Goldman Sachs provides this service to 6.7 mn users of Apple cards who use this service within their device play stores.

JPMorgan also entered the travel industry by acquiring a booking system, a restaurant review company and a travel agent firm. The bank aims to convert the users of these services into their customers.

The Evolving Role Of Fintech

However, in emerging markets, fintech is taking on a banking role to benefit from cheap deposits and licensing exemptions; 2021 saw fintech announcing plans to buy banks. For example - Paytm in India. The app started as a payment mechanism, then expanded online shopping services. In 2015, Paytm started providing banking services and got a regulator license in 2017. A company like Amazon or Apple in the U.S. would be unable to make a similar transition to banking services due to current regulations.

This is also the reason why fintech in emerging markets can be more innovative. They have minimal regulatory interference until they reach a critical mass. The banks resort to collaboration or buyouts to adopt new technology services into the banking system. In 2021, merger and acquisition (M&A) activity trended upward.

Digital currency is now one of the most discussed topics in the world of payments. Earlier in September 2022, the U.S. treasury recommended exploring the creation of a digital dollar or a central bank digital currency (CBDC). The main reason for the popularity of digital currencies is fintech innovation in this space. The fintech working in this space offers a lot more than just being an alternative form of payment.

There are bound to be interesting insights from the rapid progress happening in some areas, which are slow to take root in mature markets either because of regulatory constraints or because of too much investment in current technology.

From a fintech perspective, identifying the right markets ripe for innovation is the key. There are some truths such as convenience, transparency and speed that will always come out on top, irrespective of the region. Understanding the need to improve upon these factors is a good place to start, even if the innovation journey is not linear for a startup. An effort to widen the reach and increase inclusion is a sign of progress and will likely be sought after by larger enterprises as well.

Major trends driving **the massive growth of RTP payments**

1. Active Digitization

A significant part of real-time payments booming success throughout the past few years is due to the impact driven by the COVID-19 outbreak and the consumers' strengthening interest in all things digital. While 2022 has been marked by a decrease in virus cases, users do not seem to wish to give up the convenience of digitalized experiences and instantaneous payments.

In response to this demand, banks worldwide are actively investing in optimizing their payment channels. In Europe, new industry players and fintechs have urged traditional banks to set higher standards for user experience, including the adoption of real-time payments. In the meantime, in Asia and LATAM, mobile non-card RTPs are already driving unprecedented transaction volumes.

All in all, while each market has its own development pace, the global picture demonstrates a solid preference for real-time payment services from both the consumer and merchant sides.

2. Expanding Cloud Coverage of Banks

There have been a lot of successful use cases of cloud tech in a wide array of spheres, so it was only a matter of time before the banking industry hopped on the trend. As a result, there was a rise in cloud-hosted Payments-as-a-Sevice (PaaS) solutions in 2022.

As of now, cloud-based payment processing is the only efficient option for providing FIs with the capacity to achieve the level of flexibility, speed, and security of payments dictated by the increasingly digitized space. By 2025, it is predicted that 8 out of 10 financial institutions to use outsourced cloud and platform infrastructure2.

According to experts, the agility, efficiency, and scalability of PaaS cloud solutions are exactly what banks and other entities need to respond to the race for real-time payments faster and with lower upfront costs in 2023 and beyond.

3. Strengthening Payments Connectivity

The transition to cloud platforms and real-time payments has pointed out the flaws and overlaps in the processing systems used by financial institutions.

With ISO 20022 going live in March 2023 and the ongoing efforts for payment modernization, organizations will have a lot on their plate. Thus, many of them require a more strategic platform-based approach. The best approach for virtually any FI is to consolidate its payment systems into a single tailored solution that ticks every box.

This tendency for payment processing consolidation, which became even more apparent in 2022, will simplify the management of multiple payment schemes and allow organizations to focus on adding value to customers in the future.

4. Persisting Relevance of Payment Cards

Yet another factor that has a notable influence on the development of real-time payments as of 2022 is the prominence of debit and credit cards. Despite global payment digitization, they remain relevant across countries.

However, it's important to note that issuers encounter challenges related to the aging infrastructure, increasing burden of compliance, and scaling costs. Hence, we are seeing issuing banks investing in technology with the goal of optimizing costs and increasing profitability. This often leads to solutions that merge RTPs and card services to create an outstanding consumer experience.

For instance, Mastercard Send enables real-time P2P transactions for Mastercard cardholders. Another example illustrating this trend is the initiative of some acquires to send instant payments to the gig workers' bank cards right after the end of their shifts.

What to expect from real-time payments in 2023?

RTP solutions are evolving rapidly in response to global events and consumer demand. While 2022 was a productive period when it comes to the evolution of instant payments, 2023 is promising to be an even more eventful year for this niche, with ISO20022 and the FedNow initiative going live.

With that said, real-time payments also have brilliant long-term perspectives. According to the latest statistics, the market size value of real-time payments has reached $17 bn in 2022 and is expected to exceed $193 bn by 2030, increasing at a CAGR of 34.9%.

Global real-time **payments market**

National governments and central banks that enable the vital move towards real-time payments unlock economic growth and accelerate financial inclusion for increasingly fast-paced and digital-led 'gig economies' according to the third edition of Prime Time for Real -Time 2022, published by ACI Worldwide, (NASDAQ: ACIW), in partnership with GlobalData, a leading data and analytics company, and the Centre for Economics and Business Research (Cebr).

The report – tracking real-time payments volumes and growth across 53 countries – includes an economic impact study for the first time, providing a comprehensive view of the economic benefits of real-time payments for consumers, businesses and the broader economy across 30 countries. The report covers all G20 nations, excluding Russia.

The research shows that governments that advance the real-time modernization of their national payments infrastructure create a win-win situation for all stakeholders in the payments ecosystem: consumers and businesses benefit from fast, frictionless and hyper-connected payments services, financial institutions future-proof their business in a highly competitive environment by speeding up cloud-first and data-centric modernization, and national governments boost economic growth, reduce the size of their shadow economy and create a fairer financial system for all.

- By 2026, real-time payments are forecast to account for 25.6% of total global electronic payments, up from 13.8% of total global electronic payments in 2021.
- Emerging economies are outpacing developed nations in real-time growth and the associated economic benefits.
  - The world's five top real-time payments markets – India, China, Thailand, Brazil and South Korea, made 92.9 bn real-time payments in 2021 – forecast to grow to 356.9 bn by 2026 – a Compound Annual Growth Rate (CAGR) of 30.9%.
  - The combined real-time volume of the five countries helped facilitate US$54.6 bn of additional economic output in 2021 – forecast to climb to US$131.1 bn in 2026.
- Leading developed countries, including the U.S., Canada, U.K., France and Germany, lag on the real-time transaction uptick and lose out on economic growth.
  - 7.5 bn real-time payments were made across these countries in 2021, forecast to grow to 20.9 bn by 2026 with a CAGR of 22.7%. The combined real-time volume helped facilitate US$7.3 bn of additional economic output in 2021, forecast to rise to US$14 bn in 2026.
- In the Middle East, Africa and South Asia, real-time payments will account for 80% of all electronic payments by 2026, while Europe and the U.S. trajectories sit at 12.7% and 4.67%, respectively.