



# Winds of change: Regulations driving the global payments industry

November 2019



# Foreword

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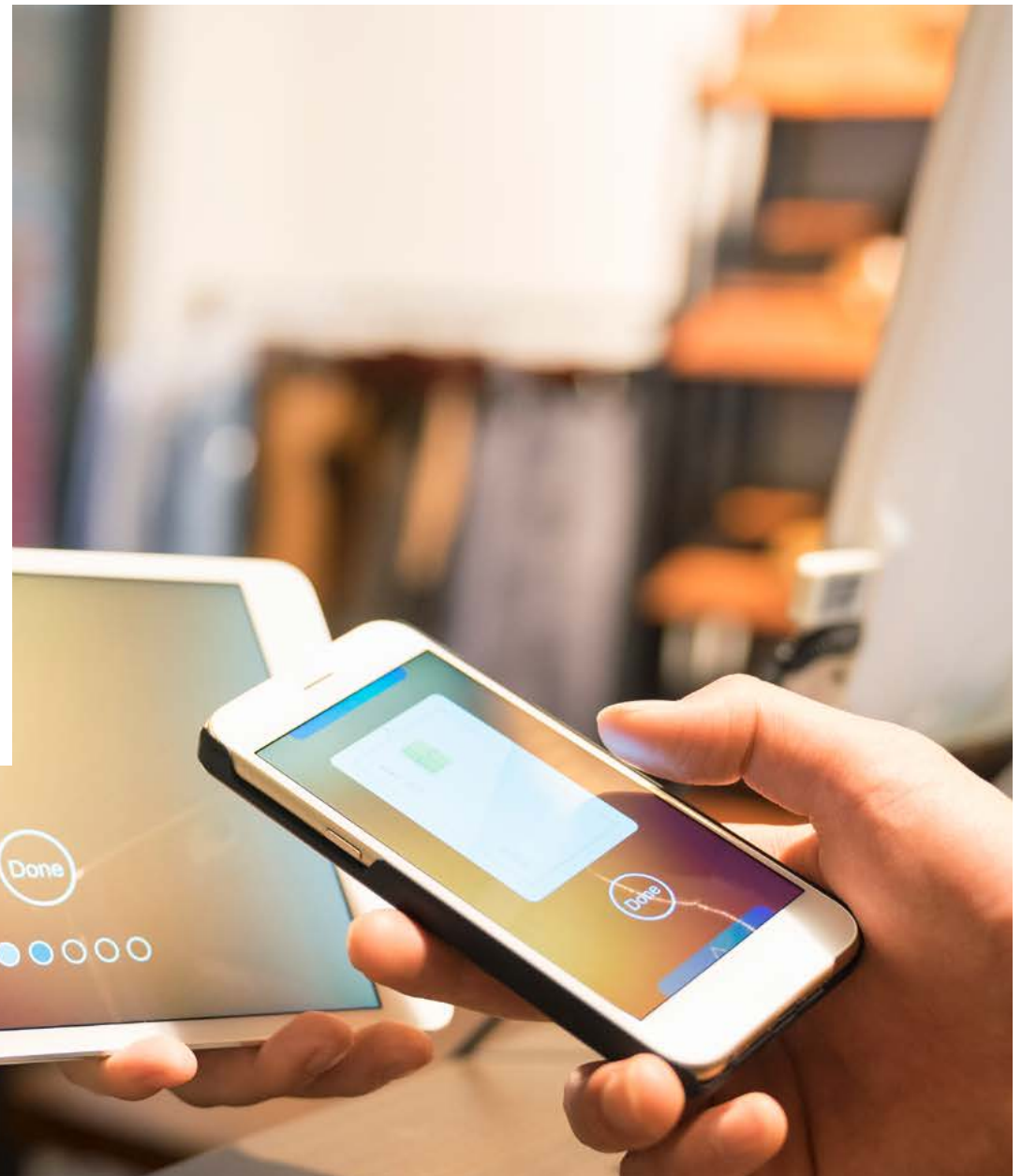
Dear readers,

It is our pleasure to bring to you the latest edition of PwC's Payments newsletter.

In this edition, we have focused on the regulations that impact the payments system, as well as the framework of the banking financial sector. We have also covered the impact of an Open Banking Standard and Payment Service Directive 2 (PSD2) landscape, the impact of increased governance and compliance as countries releasing their vision documents for short-/long-term compliance rules, bringing non-banking players under the ambit of payment regulatory frameworks and setting up the infrastructure systems at a country level for new-age payments system.

We hope you will find this to be an insightful read.

For details or feedback, please write to [vivek.belgavi@pwc.com](mailto:vivek.belgavi@pwc.com) or [mihir.gandhi@pwc.com](mailto:mihir.gandhi@pwc.com)



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A woman with long brown hair, wearing a light blue blazer and glasses on her head, is seated at a dark table. She is looking towards the right, with her hands clasped together. In the background, another woman with long dark hair is seated at the same table, looking down at a laptop. A glass of water and a laptop are visible on the table.

# Introduction

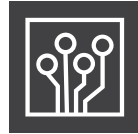
# Introduction

In the past decade, the innovations in the payments industry have altered its landscape faster than ever. The industry is undergoing significant changes driven by regulatory initiatives or by business requirements, leading to new technological innovations as well as collaboration between banking and with non-banking entities.

## Drivers of change



Regulatory changes



Technological innovations



Market changes



Changes in regulatory frameworks have been the key drivers in the recent past.<sup>1</sup> Most of the regulators worldwide are moving from the core automated clearing house (ACH) system to the real-time payments system. At present, 54 countries have active real-time payments systems in operation. Migration towards ISO20022, open application programme interfaces (APIs), new technology adaptations, etc., are leading the progress in real-time payments around the world.



**Worldwide real-time payments systems adaptations.**

1. [www.swift.com](http://www.swift.com)



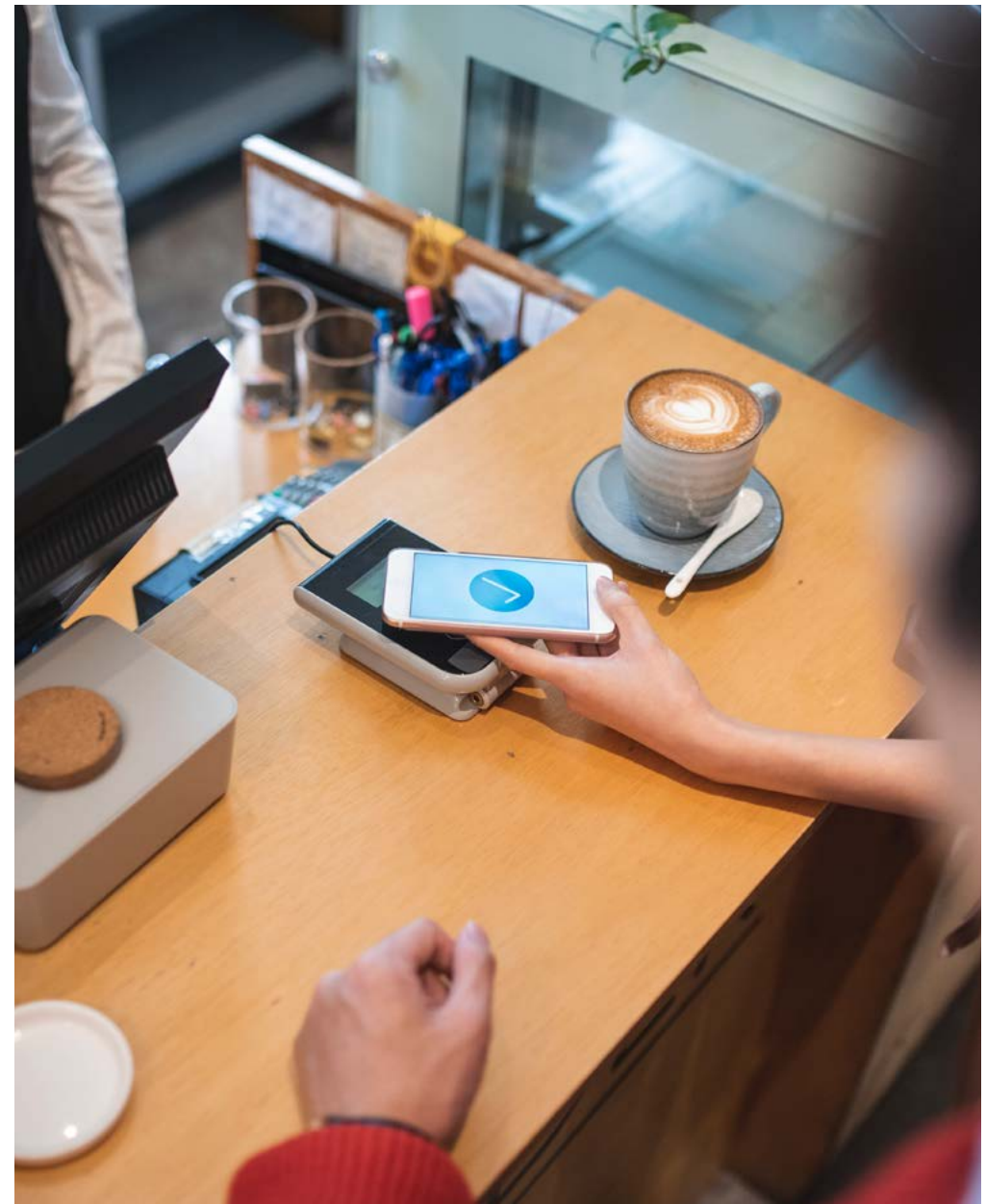
# Introduction

Financial services technology is advancing with the help of regulatory support. It is pushing the ecosystem players to modernise and upgrade their legacy systems.

China and India are leading the innovations in the payments industry in Asia Pacific. China is leading with the help of unique innovations, whereas players in India are modernising their payments systems. Singapore is also exploring technologically advanced solutions based on the regional customer requirements.

With the adaptation of regulations recommended by BASEL III norms, PSD2 and Single Euro Payments Area (SEPA) instant credit transfer (SCT Inst) in the European region, the European Union (EU) is contributing to the increase of healthy competition in the financial services space. Not only the banks in the EU region, but also non-banking financial companies (NBFCs) are entering the market and competing in the financial market (more specifically in the payments industry). This is increasing the competition and the innovations in the market, thereby benefiting customers from a convenience and usage perspective.

Multiple regulatory changes across the world are having a major impact on the payments industry. We have discussed a few of the key changes below.







# Open Banking Standard



# Open Banking Standard

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In open banking, banks have to mandatorily publish technical protocols (APIs) to enable FinTechs and other non-bank entities to use such APIs for developing solutions and providing services to the customers.

The open banking trend started in Europe and has been taken up by the rest of the world. Open banking is the idea of banks sharing customer data with third-party service providers (TPPs) through a secured framework, enabling them to leverage the same to build customer products based on the insights derived from the data.

The wide world of innovations is made possible through the open banking platform. High levels of customisation and personalised services can be provided to the customers without major cost implications for the customers. Following are some of the use cases of open banking:

1. The TPP can access customers' account data in a bank and initiate a payment on behalf of customers.
2. Multiple bank account details can be made available in one app.
3. There can be one app for all bank notifications and analytics dashboards.
4. Innovations by non-banks that can use the data to develop specific solutions.

Other than Europe, Australia, the UK, Canada, New Zealand, Mexico, Argentina, Brazil, Nigeria, Hong Kong, Japan and Taiwan are working on open banking regulations.

For TPPs to connect to banks and work within the secured environment and use the customer data to provide the services, PSD2 open banking initiative provides payment service providers (PSPs) with a framework with appropriate mitigation measures and control mechanisms. It ensures that the operational and security-related risks to the payment service is controlled within the environment.

## **Impact and implication**

All those who are part of the payments value chain are affected by the PSD2 derivatives. For the banks to remain in competition, they should consider strategic adaptations, collaborations, and API integration with selected players for building key use cases as value-creating opportunities.



# Open Banking Standard

## Opportunities for banks

**Monetising the data:** PSD2 derivatives oblige banks to share certain types of data. Banks can decide on the additional data available and establish new services.

**Faster data transmission:** An upgrade in the current systems and adaptation of new-age technologies to enable the faster movement and reconciliation of data is required.

## Challenges for banks

**Redesign framework to interact with TPP:** Incorporate efficient partnerships, framework creation and interface adaptation to establish ecosystem to work closely with TPPs.

**Security threats:** Banks and non-banks have to be compliant with the technical standards, thereby ensuring proper security and data protection in an open framework.



Banks are getting compliant with the technical standards for open banking and ensuring the security and data protection in open framework for the TPPs involved. PSD2 drives three new service providers in the open data framework:

1

**Payment initiation service provider (PISP):** Integrates the payment initiation service with the open banking framework. They can provide payment initiation services on behalf of the customer.

2

**Account information service Provider (AISP):** Integrates the account information service to the open banking framework. They can provide the service on collated account-related information from multiple banks.

3

**Card-based payment instrument issuer (CBPPI):** Provides the service on card-based payment instruments.

# Open Banking Standard

## Opportunities for TPPs

**New innovations:** The innovations such as connect to bank and access the customer data to provide new services such as all bank account related information displaying in one dashboard, or analysing the account details to outline the users spending habits, etc.

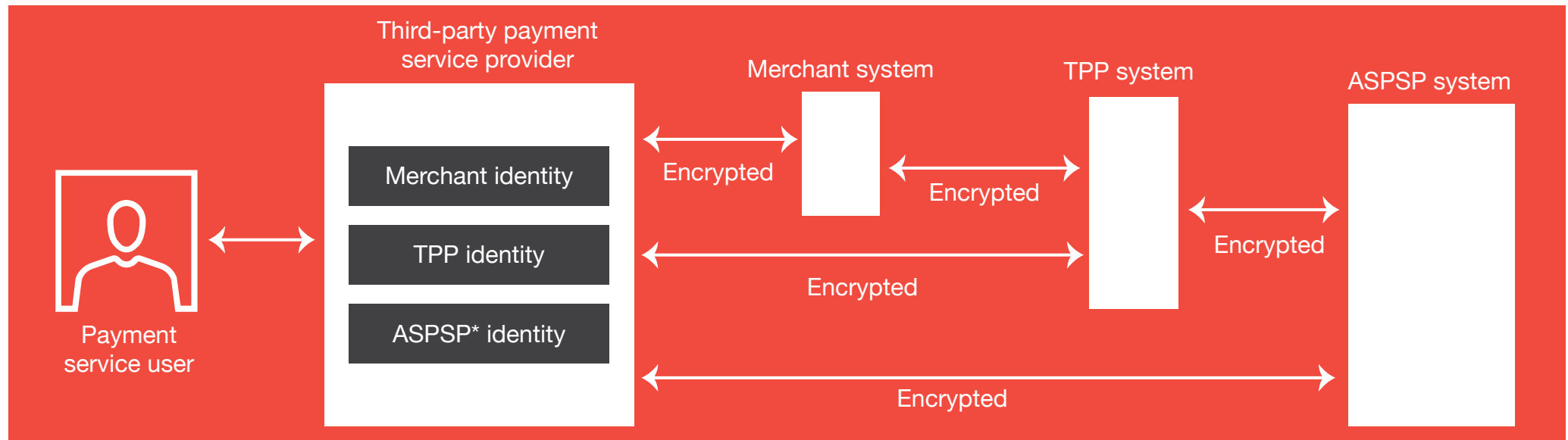
**Faster and easier payments:** TPPs can facilitate the use of online banking to make online payments and initiate the payments on behalf of the customer.

## Challenges for TPPs

**Compliance with regulatory standards:** TPPs will have to comply with the traditional regulatory aspects of traditional payments services.



The ecosystem that TPPs will be connected to access the bank data to provide the service to customers can be illustrated as below:



\*Account Servicing Payment Service Provider



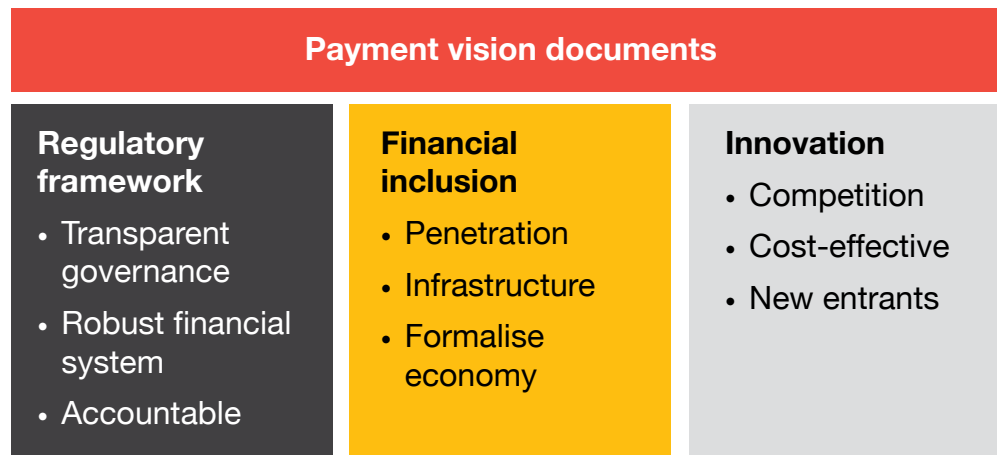


# Increased governance and compliance

# Increased governance and compliance

Central banks worldwide are taking up initiatives to move towards cashless operations. Central banks of many countries are taking some visionary steps to make their operations entirely digital. Countries like India, the UAE, Saudi Arabia, South Africa and Nigeria have released their respective payments vision documents in recent times. The Reserve Bank of India (RBI) has released its short-term 'Payment Systems Vision' for 2020-2021.<sup>2</sup> Countries like Saudi Arabia and Nigeria have released long-term vision documents for 2030. Similarly, a vision document for 2025 has been released by the Reserve Bank of South Africa, titled 'The National Payment System Framework and Strategy'.

Vision documents primarily focus on three areas, as shown below:



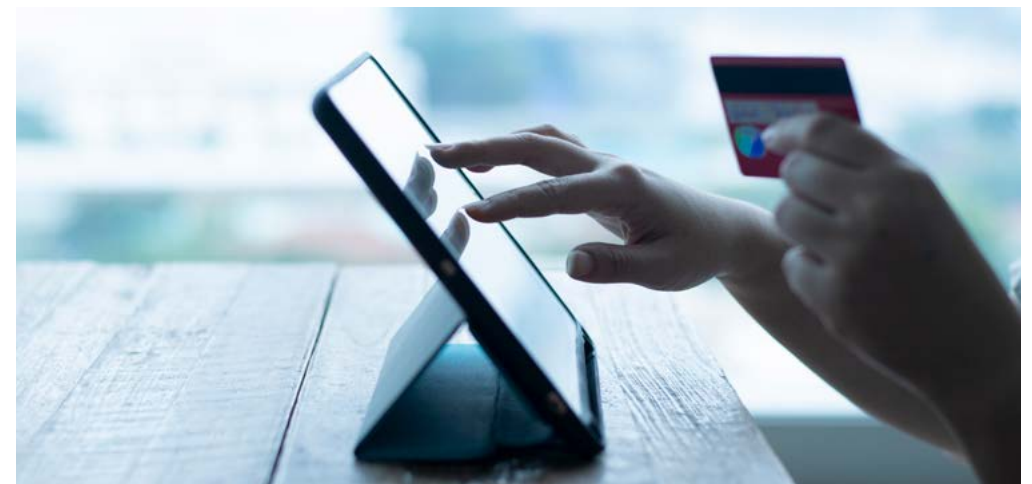
Source: PwC analysis

## 1. Regulatory frameworks for robust system and secure payments

Payments is a fast-paced industry and modern payment techniques have been adopted by most nations, increasing the need to strengthen regulatory and governance framework.

New players are joining conventional banks in the payments industry. It is essential that central banks monitor these new players for financial stability and security.

Transparency and accountability are a must to retain the trust of people who use digital payments. A huge segment of people still prefer cash-based transactions. Transparency in digital payment systems will bridge the gaps for them and help them adopt such payment methods. Central banks are also aware of generation of payments-related data and are vouching for data localisation for data security purposes and keeping the trust intact among consumers.



2. [https://www.rbi.org.in/Scripts/BS\\_PressReleaseDisplay.aspx?prid=47045](https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=47045)



# Increased governance and compliance

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## 2. Innovative, faster and cost-effective payments

The payments industry is experiencing large-scale innovation to cut down transaction and setup costs on the one hand and speed up payments process on the other. Central banks are levelling the field for NBFCs to enter the competition. Start-ups as well as big tech players have both made significant strides in the industry. They are building solutions in disruptive and innovative ways to improve customer experience.

Central banks are also focusing on innovative payment features such as inter-operability, tokenisation, instant settlement for improving customer privacy. They are working to provide high-level security in the payments framework and are also balancing the security with customer convenience for payment systems. This is a common issue addressed in many vision documents.

## 3. Financial inclusion

Most of the above-mentioned nations developing economies have cash-dominant economies. Central banks in these countries are taking initiatives in formalising their economy and gradually moving towards digital payment systems is one of them. Regional integration, connecting rural and urban economy are some of the important purposes of their visions. Moreover, central banks are also focusing on bringing low-income communities, entrepreneurs, and small- and medium-scale industries within the formal economic structure by promoting digital payments among them. Quick disbursement and easy repayment of loans are some of the initiatives being taken.

Central banks also focus on building low-cost payment acceptance infrastructures which will enable easy, quick and cost-effective transaction. Quick respond (QR) codes, instant payments, near-field communication (NFC)-based payments, etc., are some technologies that have been leveraged.



A close-up photograph of a person's hand holding a black smartphone over a payment terminal. The terminal has a circular sensor area. The background is blurred, showing what appears to be a public space with other terminals and bright lighting. A red rectangular box with white text is overlaid on the right side of the image.

# Bringing non-banking players under the regulatory ambit



# Bringing non-banking players under the regulatory ambit

As can be observed, many new non-banking players are entering the payments industry with the purpose of solving customer needs in a fast-paced, technologically advanced environment.

While open banking is becoming more common, new entrants must follow the new regulations in the payments industry.

These regulations allow other companies from outside the banking sector to provide financial services. However, these players need to work to build the customer base and earn the customer's trust by building an open and secure environment.

Whilst the non-banking players are actively working on new use cases or is in early stage of adoption meanwhile some of them are already implemented.

- 1. Request to pay:** This enhanced feature from the perspective of payments technology allows the customer to pay the bills directly from the bank account, post validation. This was only made possible by the concept of open banking, wherein the third-party payment intermediary routes the customer's instructions to the bank account for processing the payment request.
- 2. Invisible payments:** The payments that take place in the background follow a streamlined process, without any contact to finalise the payment. This process is similar to the ones used by cab aggregators to receive payments from their customers.
- 3. Digitally assisted payments:** Mapping of payment instruments in the background with the help of an artificial assistant in order to assist consumers digitally comes under the growing adoption of Internet of things (IoT).

## The impact and implications

In order to maintain the customer efficiency and security, Non-banking players are impacted by regular change in government regulatory norms and guidelines

## Challenges for non-banking players

**Regulatory requirements** – mainly the non-banking players need to adhere to its continuous change in regulatory norms from time to time and understand the structure and regulatory framework.

**Component services** – while open APIs allow organisations to focus on developing their own solutions, while on the other side end-to-end services do need more effort to be built and maintained.

**Open to all parties** – with the minimum accreditation, PSD2 allows different parties to deliver payment services.

1. Enhanced inter-operability (payment, 'apps' leveraging multiple payment networks)

3. Invisible payments (touch-and-go)

2. Digitisation of identities and trust

4. Data access and transparency



Embracing  
technology  
for new age  
payments



# Embracing technology for new age payments

Building centralised infra rails for the country's payment systems which banks/other payment companies can use for rolling out better payment services to their customers, the National Payments Corporation of India (NPCI) in India is offering a centralised switching platform for banks and non-banks to connect and provide such payments services.

Currently, financial institutions (FIs) are enabling technology advancement by updating their legacy systems. They are digitising the current banking system and the process so that the customer can go online. Now, FIs around the globe have started to upgrade their technology to embrace real-time payments and innovations and open banking.

To embrace the digital wave for the upcoming new-age payment advancements, FIs should focus on the following priorities:

- upgrade the IT infrastructure to get ready for new age payments systems
- consider software as a service (SaaS) or platform as a service (PaaS) beyond the cloud
- embrace technology and develop artificial intelligence (AI)-based mechanisms to detect fraud and strengthen cyber security
- understand customer needs and create intelligence for serving their needs.

## Upgrade the IT infrastructure

1

Leverage modern technology capable of handling real-time payments, open banking and other innovative initiations from regulatory frameworks around the globe. It can help to reduce the time required to go to the market and utilise that time to rapidly enhance production and evolve on innovations.

Accept that technology innovation may not ensure profitability but it will help for faster adoption and customer embracement in the market.

## SaaS and PaaS beyond the cloud

2

The recurring change in legacy financial services burdens incumbents with a huge IT operating cost. Also, legacy systems and integrated architecture of FIs are very complex, hard to manage, and continue with the change.

Cloud innovations on SaaS and PaaS will allow FIs to manage the effort of integration and innovation around the embracement of new technology, and thereby reducing the cost and time to go to market.

## Fraud and cyber security

3

Forthcoming cybersecurity threats can be addressed by enabling of cloud-based services and proper technology tools.

Cloud-based cybersecurity and fraud detection can reduce the time between detection and resolution, which can also support learning-based algorithms for detection of new threats and drawing of new defensive strategies.

## Customer insights and AI

4

Open architecture and integrated environments will generate large volumes of data. The technology capability must be built to derive customer insights and deliver more customer-centric requirements and needs.

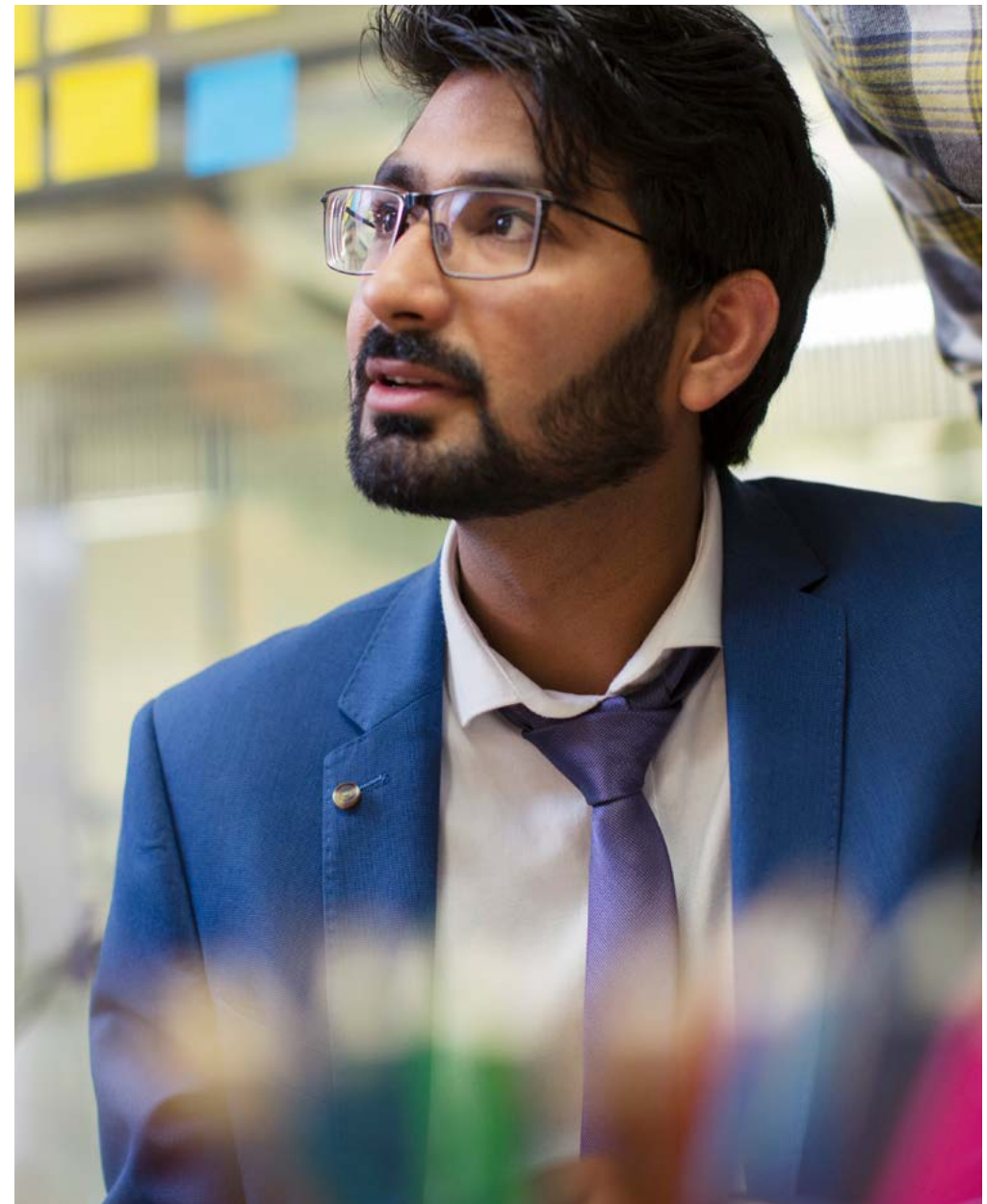
It is important to have clear strategies to adopt the advanced AI and machine learning (ML) abilities to check the balance and integration over the existing systems and architecture.

# Embracing technology for new age payments

FinTech companies are already starting to embrace advanced technologies and cloud-based models. They are focusing on not only embracing the new innovations but also on cost reduction, improving customer efficiency, developing customer-centric products, increasing security and ease of use, etc.

Some of the new age technology adoption use cases are as follows:

1. SCT Inst cloud-based payment as a service platform where an FI can plug and play all SCT Inst services, including reconciliation.
2. In simplified legacy payment systems, organisations can adopt an aggressive SaaS-based model coupled with robotics and AI-based automation for better performance.
3. By reflecting the role of technology risk functioning, FIs can establish a governance, regulating and reporting framework for cyber security



A close-up photograph of a person's hand holding a smartwatch over a payment terminal. The person is wearing a dark jacket and a watch with a black strap. The background is blurred, showing other people and what appears to be an outdoor setting with white flowers. A red rectangular box with white text is overlaid on the right side of the image.

# Payments technology updates



# Payments technology updates

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## Getting ready for ISO 20022

*Euromoney*

The time has come to examine exactly how adoption of the ISO 20022 messaging standard will happen. To make the process as smooth as possible, banks need to understand the scope of changes required, secure resources and plan their implementation projects, according to Saqib Sheikh, global head of the ISO 20022 programme at Swift.

[Read more.](#)

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## What Europe Can Learn About Open Banking From The UK

*Financemonthly*

One lesson to be learnt from the UK is that embracing Open Banking allows banks and financial institutions to innovate and deliver exceptional services to their customers.

[Read more.](#)

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## Towards a European Central Liquidity Management opportunity

*PwC*

European Central Liquidity Management system starting from the launch of TIPS. ECLM and TIPS as a new opportunity for FIs liquidity management.

[Read more.](#)

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## APIs Perspective: Analysis of the PSD2 and Open Banking in Europe

*Medici*

Banking, which is a heavily regulated industry, is changing partly due to regulations and also due to new players and tech-led experiences they are bringing to the customers.

[Read more.](#)

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## SWIFT seeks open banking network

*Times of India*

The hyper-connected future of tomorrow could see us enabling seamless cross-border payment experience via domestic real-time systems, without the need for beneficiary bank account information. Open banking, which will play a big role in this experience, is something SWIFT is building capabilities around.

[Read more.](#)

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# Contact us

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