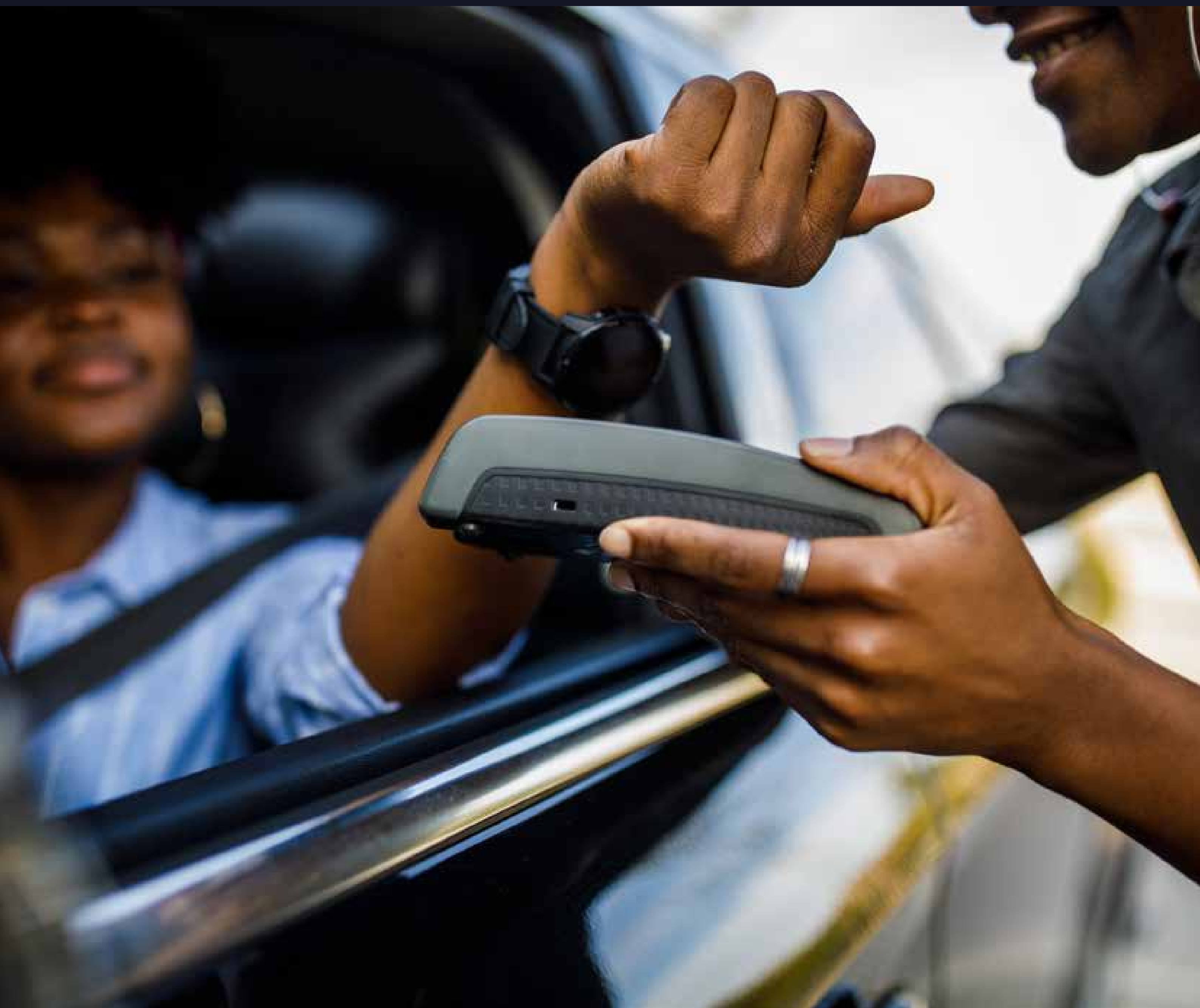
# PAYMENTS

## TOP TRENDS 2024



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# FOREWORD

Payments is the fastest-evolving financial services domain. Generative artificial intelligence (gen AI), worldwide expansion of central bank digital currency (CBDC) initiatives, global interoperability, BigTech active intrusion, and rising consumer expectations require reinvention. Only payment firms that acknowledge – and agilely adapt to – disruption can capitalize on change to spark sustainable growth.

Customer experience focus will turn more acute through 2024 and beyond. As convenience and shopper choices are prioritized, payment alternatives such as pay by bank and buy now pay later will expand. When it comes to payment apps and wallets, traditional payments players can expect even stronger competitive challenges from BigTechs and PayTechs.

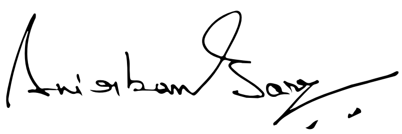
In the retail domain, to expand customer choice and optimize efficiency, the potential of instant payments is now in the spotlight across the globe. The same holds in the corporate payments domain, where real-time treasury solutions expand the efficiency topic as an enabler to faster decision-making and better cash management.

Payments players are actively embracing the latest technologies, often pushed by new-age players. Central banks across the globe are exploring CBDC to leverage payment interoperability and lower barriers to financial inclusion while promoting financial stability and sovereignty. And now, as firms introduce AI into the payment value chain, productivity gains are expected. Workforce co-pilot, empowered by generative AI and automation fueled by AI will help payment providers streamline workflows, reduce errors attributed to manual processes, and deliver meaningful insights, all leading to efficiency and customer experience gains.

More and more enterprise processes and back-end workflows are being rationalized or streamlined with the continued adoption of composable structures. Cloud marketplaces and software-as-a-service technologies are now critical to providers who prioritize flexibility and scalability. Digital transformation is fast-tracking change in accounts payables/receivables.

Several regional initiatives are impacting the speedy evolution of a globally interoperable and harmonized payments network; without standardized criteria – the Bank for International Settlements (BIS) calls it a single rule book – seamless cross-border payments and international trade will continue to face roadblocks. Yet, regulatory schemes are catalyzing innovation as protocols such as PSD3 (the EU's updated Payment Services Directive), ISO 20022 (the new standard for electronic cross-border payments and cash reporting), and various CBDC mandates go into effect in 2024 and beyond.

The months ahead hold significant promise for the payments industry as payments firms, corporate clients, PayTechs, and value-chain stakeholders benefit from AI, new payment methods, and productivity gains.



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# INTRODUCTION

Supported by artificial intelligence (AI) tools and new and innovative methods, the payments industry is reinventing itself for enhanced performance, convenience, and profitability. Payment service providers, financial institutions, and PayTechs are continuously evolving to offer new payment options by leveraging new-age technologies to augment value chain efficiency, boost productivity and ultimately delight customers.

## MARKET DYNAMICS

Instant payment infrastructure expansion in major markets and ongoing adoption of open banking frameworks are driving digital payments growth, as instruments such as digital wallets and instant payments become increasingly popular.

- Global, non-cash transaction volume will reach almost 1.3 trillion by 2023, nearly achieving 16.6% year-over-year growth, according to Capgemini's World Payments Report 2023. By 2027, non-cash transaction volumes are projected to reach about 2.3 trillion, doubling 2022 volumes.
- Payment instruments such as virtual cards, account to account payments, and digital wallets are gaining acceptance among consumers.

BigTechs are innovating by being both a distribution partner and a potential threat to incumbent payments players. X, formerly Twitter, is hinting at a super app with a focus on payments. And that means increased competition in the battle for consumer attention and loyalty. X is working on securing money transmission licenses across the United States.[1] In China, BigTechs have developed payment services based on eWallets, which allow users to pay with their smartphones via QR codes or NFC. These eWallets are linked to bank accounts, credit cards, or prepaid balances.

## LOOKING BACK AT 2023

Last year, we explored the rise of embedded finance and how payments players needed to meet the needs of B2B buy now pay later (BNPL). We also discussed the prominence of central bank digital currency as a regulated alternative to cryptocurrencies, and how standardization initiatives like ISO 20022 might create value streams for clients.

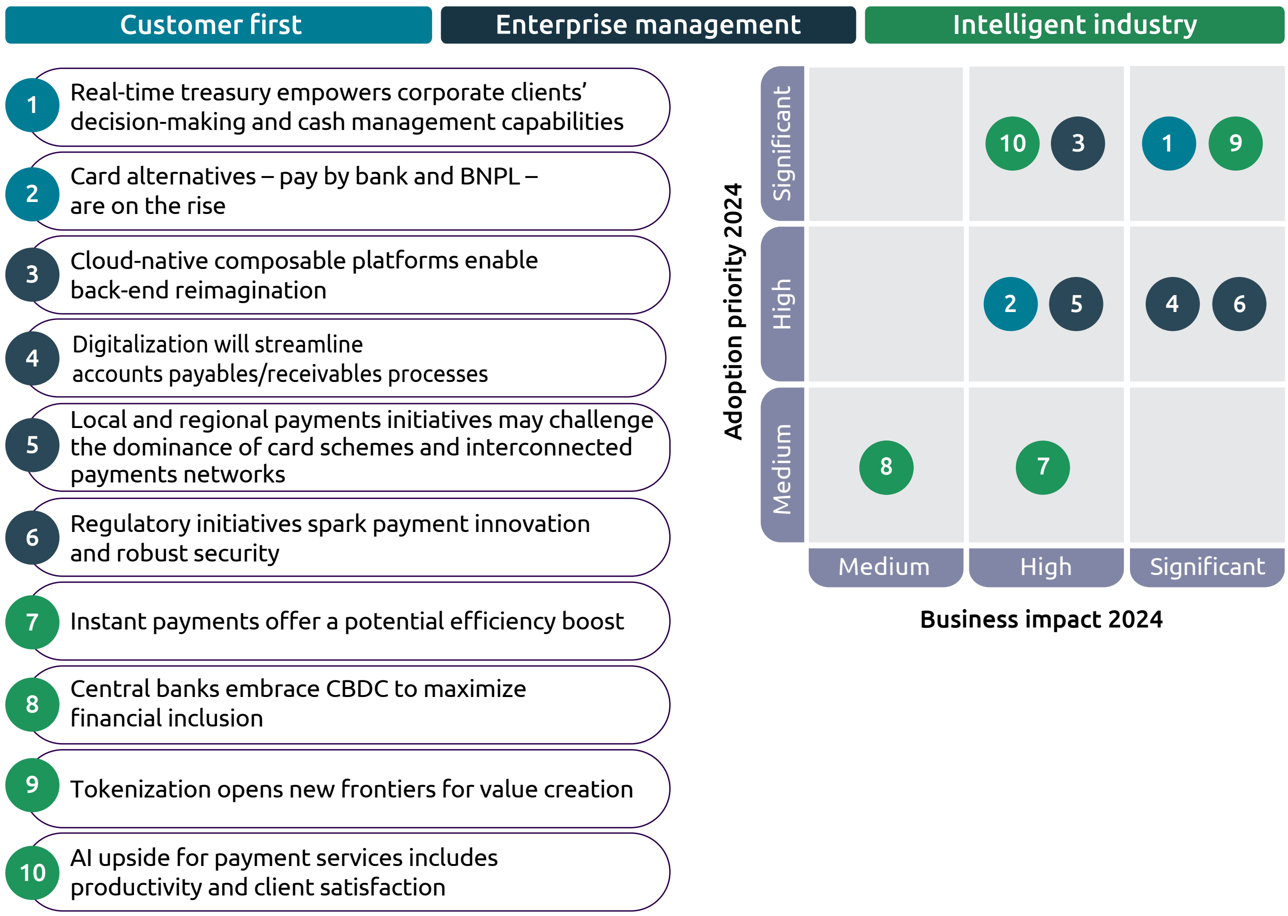
We discussed how composable architectures enable banks to transition to best-in-class IT systems and cloud-based models, how real-time cross-border payments improve liquidity and cashflows, and how business and payment hub modernization initiatives focus on real-time payments, interoperability, and API enablement. These latest trends shaped much of what we anticipate for 2024.

## TOP TRENDS FOR 2024

We based our 2024 payments trends on analysis across three broad themes:

- **Customer first** details how new payment instruments, like instant payments, can deliver a better customer experience and the growing acceptance of alternative payment methods, including pay by bank and BNPL. It also talks about the emergence of BigTech as a prominent player in the payments industry. Similarly, on the B2B side, emerging real-time treasury management services are making cash management more efficient for corporate clients.
- **Enterprise management** focuses on payments industry innovations, boosting efficiency by reimagining the back end through composable architecture, digitalizing accounts payables/receivables processes to reduce costs, creating a globally compatible network for faster cross-border payments, and compliance with evolving regulations that mandate changes worldwide.
- **Intelligent industry** describes how payment providers leverage new-age technologies at scale, including ISO 20022 for data harmonization, CBDC for interoperability, tokenization for data security, and AI for increased productivity.

**PAYMENTS TOP TRENDS 2024 - PRIORITY MATRIX**




Source: Capgemini Research Institute for Financial Services analysis, 2023

The priority matrix above presents Capgemini's 2024 trend prioritization in an operating environment that includes:

- Softening inflation and high interest rates, coupled with stagflation trends
- Geopolitical instability
- Dynamic regulatory activity
- Intense competition and increased focus on customer centricity due to the impact of new-age players
- Operational cost overruns and high capital lock-in

**Adoption priority -** The criticality of adopting a 2024 trend to maximize value creation because of its sector importance.

**Business impact -** The effects of a trend on the sector's 2024 business as it relates to customer experience, operational excellence, regulatory compliance, or profitability.

Circumstances will vary for each firm depending on business priorities, geographic location, and other factors. For more information, don't hesitate to contact us at payments@capgemini.com.

## FROM 2023 TO 2024, WHAT HAS CHANGED AND WHAT HAS NOT?

| | TRENDS 2024 | | TRENDS 2023 |
|---|---|---|---|
| 1 | Real-time treasury empowers corporate clients' decision-making and cash management capabilities | 1 | B2B buy now pay later (BNPL) picks up momentum amid post-pandemic macroeconomics |
| 2 | Card alternatives – pay by bank and BNPL – are on the rise | 2 | Embedded finance providers leverage customer data and actionable insights to unlock new use cases |
| 3 | Cloud-native composable platforms enable back-end reimagination | 3 | Global adoption of ISO 20022 opens doors to data monetization |
| 4 | Digitalization will streamline accounts payables/receivables processes | 4 | Central banks gear up to pilot and implement CBDCs |
| 5 | Local and regional payments initiatives may challenge the dominance of card schemes and interconnected payments networks | 5 | Composable architecture creates competitive advantage efficiencies |
| 6 | Regulatory initiatives spark payment innovation and robust security | 6 | Real-time cross-border payment rails will boost the speed and volume of regional trade |
| 7 | Instant payments offer a potential efficiency boost | 7 | An end-to-end ecosystem approach simplifies payment hub modernization |
| 8 | Central banks embrace CBDC to maximize financial inclusion | 8 | PayTech innovation and ecosystem partnerships focus on revamping SMB payments |
| 9 | Tokenization opens new frontiers for value creation | 9 | Tokenization – a multi-pronged approach for scalable and secure card payments infrastructure |
| 10 | AI upside for payment services includes productivity and client satisfaction | 10 | Eco-friendly cards, digital payments, and cloud-based payments hubs will boost sustainability |

**New trends**

- Real time treasury will be a great tool for efficient cash management and intelligent decision-making.
- Efficiency will be bolstered by the adoption of instant payments.
- Use of AI and digitization will improve client satisfaction and streamline back-end processes.
- Deglobalization will be a challenge for a global payment web tailored services.

**Trends evolution**

- New payment methods including BNPL and A2A continue to gain acceptance among consumers.
- CBDC continues to be an area of focus for central banks.
- Composable architectures are gaining acceptance among payment firms for their efficiencies.
- Transaction security continues to evolve with DeFi and tokenization.

**Deprioritized trends**

- Embedded finance has been fully adopted to gain customer insights.
- Real time cross border payments have been adopted by payments firms globally.
- Payments firms have successfully executed partnerships with Pay Techs for revamping SMB payments.
- Payment firm prioritized sustain ability with products offers.

Source: Capgemini Research Institute for Financial Services analysis, 2023.

## TREND 1

# Real-time treasury empowers clients' decision-making and cash management capabilities

Application programming interfaces (APIs) and connectivity are core enablers for real-time treasury – helping corporate clients reach faster decisions while optimizing cash management.

## CONTEXT

Real-time payment systems are rapidly replacing conventional methods of cash management and payment reconciliation. The transition from operational (static) to strategic (dynamic) treasury shifts focus from slow account management processes to dynamic balance sheet management and cash positioning.

- Global multinationals hold ~30% of their liquidity in idle cash that real-time treasury processes could free up, as per J.P. Morgan's 2023 report.[2]
- The financial services sector is moving toward real-time liquidity as corporate treasuries realize gains by analyzing their overall cash position and the positive impact of an extra day's interest on payments.
- Artificial intelligence (AI) improves cash-flow forecasts by collating datasets larger than rules-based logic systems. AI can help visualize data on the timing of payment runs, payer behavior, rebate schedules, and other historical patterns.
- Currency conversion and hedging will soon become real-time, thereby decreasing exposure to intraday rate fluctuations and increasing visibility into conversion rate changes. For example, Deutsche Bank's hedging solution, Maestro, responds to real-time exchange rate fluctuations. Maestro automates procedural FX such as share-class hedging, portfolio hedging, FX funding flows, and systematic FX spot transactions.[3]

## CATALYSTS

Legacy treasury management inefficiencies are propelling payment providers to implement real-time treasury management capabilities. Capgemini's World Payments Report 2023 revealed that more than 50% of corporate treasurers across multiple industries said that the rise in globalization and recent supply chain disruptions demand effective treasury management services.

- 70%+ of the corporate treasurers we surveyed face issues with collection and reconciliation processes.
- More than 70% said subpar treasury management services result in higher operating costs, delayed cash pooling, and high debt levels.

## IN A NUTSHELL

Banks and payment firms are leveraging real-time treasury capabilities to help corporate clients modernize and become more operationally efficient.

- In Germany, Deutsche Bank partnered with FinLync, an aggregator of global banking APIs, to deliver embedded real-time payments and cash management in 2022 to provide corporate clients with instant access to real-time treasury.[4]
- In 2023, U.S. Bank introduced an online third-party payment/treasury solution marketplace, Connected Partnership Network. US Bank aims to help corporate treasury teams identify and integrate services and functionalities offered by U.S. Bank.[5]

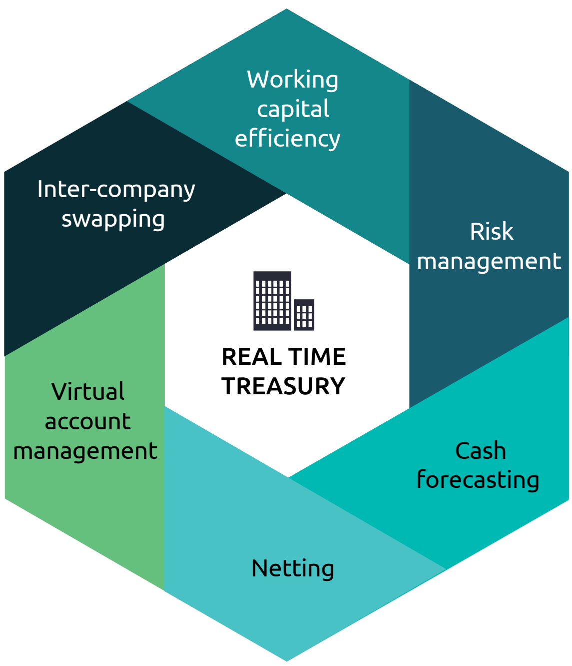
- In December 2021, German manufacturer Siemens partnered with JP Morgan Chase to develop a blockchain-based payment system that automatically transfers money between the Munich-based company's accounts. By Q1 2023, Siemens had issued a EUR 60 million (USD 63 million) one-year digital bond on the public Polygon blockchain to reduce paperwork and directly reach potential customers.[6]
- San Francisco-based PayTech Modern Treasury (a payment operations platform) and The Bank of Montreal (BMO), in Canada, partnered in 2023, to combine BMO's banking capabilities with Modern Treasury's money management operating system to enable faster and more flexible payments, frictionless automated reconciliation, real-time financial data, pre-built reporting capabilities, and bespoke operational support.[7]

**IMPACT**

Banks that offer real-time treasury services can substantially support corporate clients' decision-making speed while optimizing their cash management capabilities, risk mitigation, and liquidity. in the months ahead,  real-time treasury services will drive payments competition and growth.

- With immediate payment transfers, businesses can swiftly clear customer invoices – and save accounting time.
- Real-time netting could make cash management more efficient and less costly by offsetting receivables versus payments due. Organizations that consolidate cash flow obligations between two parties into a net payment can reduce invoices per transaction.
- Instant confirmation of payment execution and monitoring across the payment lifecycle will enhance customer experience because banks will be able to mitigate fraud, close high-priority settlements securely, and minimize reputational risk.

**Figure 1. Real-time treasury empowers clients' decision-making and cash management capabilities**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

TREND 2

# Card alternatives – pay by bank and BNPL– are on the rise

Payment services innovation expands the options for shoppers and merchants, giving competition to incumbent card issuers.

## CONTEXT

Long-dominant card payment schemes are facing newcomers leveraging new-age technologies that promise frictionless, more convenient, and fast payment transactions.

- The pay by bank model, also known as account to account payments, is also gaining traction based on convenience and comparatively low fraud risk. Users pay online purchases via their bank account without a debit or credit card.
- Account to account payments accounted for USD 525 billion in global e-commerce transaction value in 2022, up 13% from USD 463 billion in 2021.[8] Account to account payments are on a growth course, with a projected value of USD 850 billion by 2026, according to VoPay, a Canadian PayTech.[9]
- A form of short-term credit, buy now pay later, is increasingly popular among merchants and consumers. A GlobalData report valued the BNPL market at more than USD 309 billion in 2023 and predicts a 25.5% CAGR from 2019 to 2026.[10] Juniper Research says BNPL users will surpass 900 million globally by 2027, up from 360 million in 2022.[11]

## CATALYSTS

In 2023, Apple launched Apple Pay Later in the United States, allowing users to split purchases into four payments over six weeks with no interest or fees. Apple is joining other BigTechs in BNPL waters. Buy now pay later firms, including Australian FinTech Afterpay, have partnered with Google and Apple. And Amazon teamed up with Barclays and Citi to offer installment payments.[12] BNPL – as the credit alternative to credit cards and revolving credit – is becoming a fan favorite among merchants and consumers, especially for Gen Z and millennials.

- A September 2023 report from Statista estimates that BNPL transactions worldwide will increase by nearly USD 450 billion between 2021 and 2026. The hike represents a further acceleration of what happened between 2019 and 2021, when BNPL grew by almost 400%.[13]
- BigTechs are swiftly gaining market share in the payments processing space. In 2022, adoption rates of e-wallets were by far the largest in Chinese BigTech platforms (WeChat Pay of Tencent: 81%, Alipay: 69%) while US BigTechs only have 1% to 9% adoption rates.[14]
- Capgemini's World Payments Report 2023 revealed that the adoption of new payment services, including instant payments and e-money, is on the rise, going from 21% of global non-cash transaction volume in 2022 to a projected 28% in 2026. Our report also projects that between 2022 and 2027, non-cash transaction volume will grow at a CAGR of 15%, propelled by a sophisticated digital payments infrastructure and the adoption of new payment instruments.

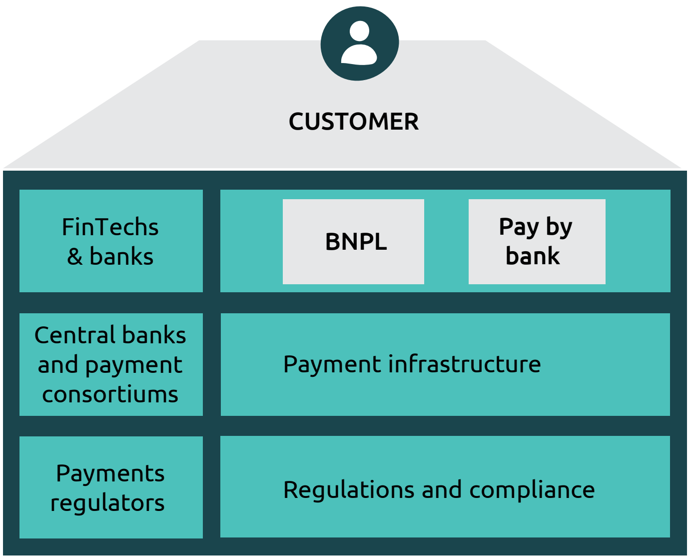
## IN A NUTSHELL

FinTechs are steadily gaining acceptance among consumers with innovative payment instruments:

- United Arab Emirates-based FinTech Dapi and Mastercard partnered in Q2 2023 to enable pay by bank payments in the UAE via Mastercard Payment Gateway Services – a white-label solution for payment processing and fraud prevention.[15]
- US-based online bank SoFi partnered with Mastercard in 2023 to develop a BNPL initiative that allows SoFi members to split a USD 500 purchase into four interest-free payments. Pay-in-4 lets SoFi customers make purchases at online and in-store merchants across the United States.[16]

- In 2023, the National Payments Corporation of India (NPCI) revealed several new features of the Unified Payments Interface (UPI) – a pay by bank service sponsored by the Reserve Bank of India (RBI). New offerings include a UPI credit line and Hello! UPI, a conversational payment feature.[17]
- In 2023, the European Payments Initiative (EPI) acquired the most famous Dutch payments solution iDEAL– as well as Luxembourg-based payment technology provider Payconiq International – to offer a pay by bank service to fuel its projected pan-European wallet, a regional alternative to global card schemes, global wallets, Apple Pay, and Google Pay.[18]

**Figure 2. FinTechs, card schemes, and payment regulators collaborate to enable alternative payments**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

**IMPACT**

With the rise of alternative payment instruments turning up the competitive heat industrywide, payment transactions will become faster and more convenient in 2024 and the years ahead:

- Pay-by-bank transfers will help reduce the risk of fraud, which remains a significant challenge for card payments.
- BNPL is on track to become aa strong payment instrument, especially among younger generations. Findings by Research FDI indicate that over half of BNPL users prefer this service over credit cards, and 38% of users say BNPL would eventually replace their credit cards.[19]

## TREND 3

# Cloud-native composable platforms enable back-end reimagination

Financial institutions are adopting cloud-based APIs for a composable payment hub infrastructure to ensure adaptability within the evolving industry.

## CONTEXT

A composable architecture can be used by payments firms to streamline processes by creating a modular and flexible back-end architecture. By using a composable architecture, payment firms can break down their back-end application into smaller, independent components that can be developed and deployed independently.

- A cloud-based composable architecture is built by combining several microservices that are independently develop and deployed, with the help of application programming interfaces (APIs). This integrated structure results in a streamlined payments back-end infrastructure that can be scaled easily. As the different services used in the composable architecture are developed independently, new features can be incorporated with relative ease.
- Gartner predicts that public cloud services spending will grow 21.7%, to nearly USD 597.3 billion, in 2023.[20]
- Software-as-a-service (SaaS) platforms provide an almost infinite level of scalability, accessibility, and insight, enabling businesses to scale their operations and add functionalities in a shorter period of time.
- By focusing on cutting-edge payment methods, cloud marketplaces let established payment service providers invest in new value propositions that anticipate customers' changing expectations. They can design payment processes that easily integrate into clients' product journeys at all touchpoints.

## CATALYSTS

Composable payment hub architecture is cost-efficient and enables the agility necessary to innovate even when paired with legacy systems.

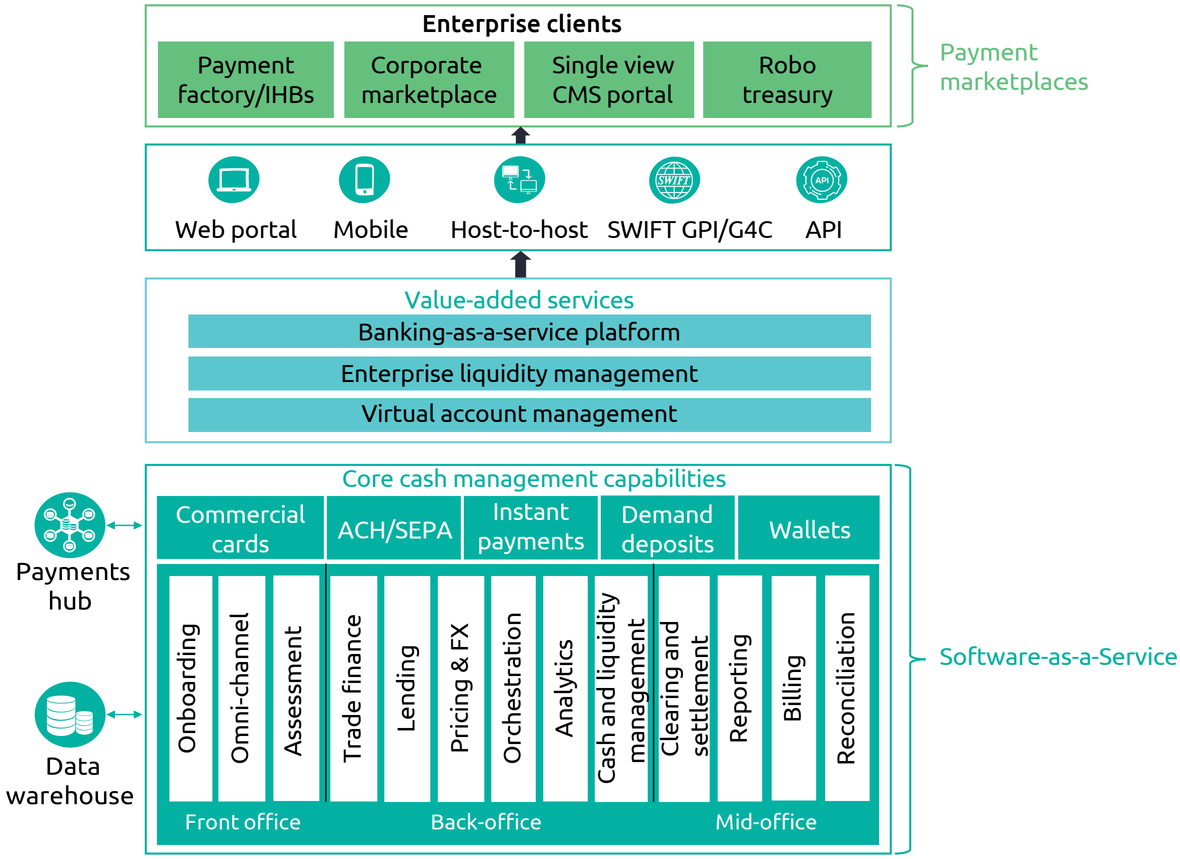
- Research firm IDC predicts the cost of running and maintaining legacy payment systems will climb from USD 36.7 billion in 2022 to more than USD 57 billion in 2028 – a 7.8% annual growth rate.[21]
- IDC added that payment firms operating within legacy constraints may be unable to compete for new payments-related income and risk missing 42% in incremental revenue, while losing up to 21% annually in cost savings, if they do not migrate to future-ready platforms.[22]
- Of the payments executives we interviewed as part of the World Payments Report 2023, 64% said that incompatible back-end systems are the most significant barrier to providing superior cash management services.
- Capgemini's World Cloud Report for Financial Services 2023 revealed that payment firms were the industry leaders in terms of cloud adoption, rapidly progressing from a 32% adoption total in August 2020 to 96% in August 2023.

## IN A NUTSHELL

Composable payment hub architecture is cost-efficient and enables the agility necessary to innovate even when paired with legacy systems.

- Deutsche Bank partnered with Google Cloud in late 2022 to move to the cloud and jointly develop a variety of cloud-based financial services.[23]
- After Temenos integrated its application on AWS, it began offering banking products as software as a service (SaaS) in May 2023.[24]
- CaixaBank in Sapin, partnered with Google Cloud in May of 2023 to deploy a cloud-based API to enable data analysis and promote customized product innovation.[25]
- Swiss multinational bank UBS expanded its Microsoft Azure partnership in 2022 to migrate more than half of its applications onto Azure's cloud network.[26]

**Figure 3. Composable architecture empowers payment infrastructures with agility and new capabilities**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

**IMPACT**

Composable structures enable providers to prepare for the next wave of payment technology innovation. The cloud marketplace trend will continue to allow merchants to quickly and efficiently scale their online payment options, and, as a result, we anticipate growth in transaction volumes.

Regulatory changes over the next decade will also incentivize the adoption of composable structures. Regulations on standardization, anti-money laundering, open banking, and cybersecurity will all push payment providers to consider cloud marketplaces and SaaS tools.

## TREND 4

# Digitalization will streamline accounts payables/receivables processes

AP and AR automation offer high-impact benefits to payments firms seeking better productivity and fewer errors.

## CONTEXT

Growing requirements for efficiency, cost reduction, and quick information access is encouraging payment firms to digitalize accounts payables (AP) and receivables (AR) processes. Early adopters are already seeing great benefits from digital scanning and optical character recognition (OCR) to process incoming invoices. Moreover, digitized workflow management solutions streamline tracking and approvals, vendor management, and sanctioned party filtering to detect, prevent, and disrupt financial crime. UK research firm Adroit anticipates that AR and AP automation market will grow at a 17.6% CAGR (2019 - 2029) to reach USD 7.8 billion.[27]

Automation in AP and AR processes provides a single integrated file that accelerates posting and onboarding of bank or third-party customers – all while pre-programmed bots log into accounts payables to retrieve payment credentials and outsourcing information. Global investment in digital transformation services and technology will have reached USD 2.3 trillion by end of 2023, says Texas-based FinTech Apty, a provider of a digital adoption platform for enterprises.[28]

## CATALYSTS

Process automation in accounts payables and accounts receivables is a significant hurdle for payment firms:

- 68% of the CFOs surveyed as part of a Q3 2023 report from PYMNTS Intelligence said payment delays were a significant problem for their firm.[29]
  - » According to the study, 45% of CFOs said invoicing errors and discrepancies caused payment disruptions.[30]
  - » The PYMNTS research data also indicates that 77% of CFOs ask for more AR process automation.[31]
- As part of Capgemini's World Payments Report 2023, 78% of corporate treasurers said that their firm does not have a fully developed payment factory for automating accounts payable, while 90% said their firm does not have a fully developed collection factory for automating accounts receivable.
- As part of Capgemini's World Payments Report 2023, 61% of payment executives said they believe FinTech collaboration in accounts payables/receivables automation is important for their firm, as it allows for aggregation and single view of their accounts across multiple banks.

## IN A NUTSHELL

Payment firms are steadily implementing automation and digital transformation for operational productivity.

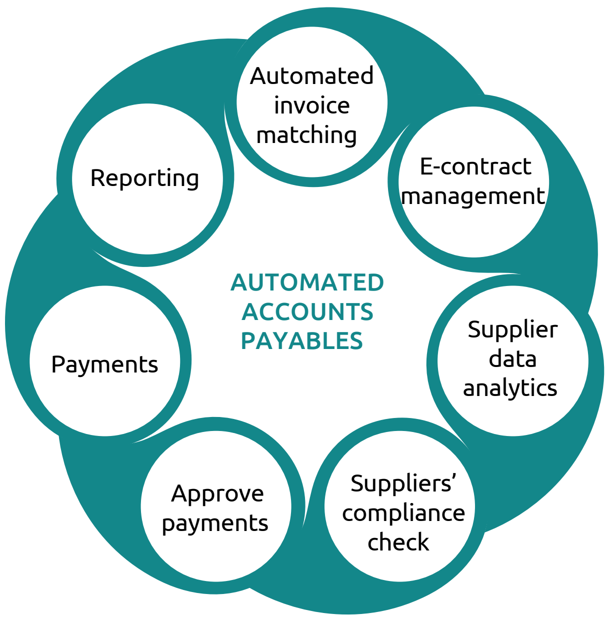
- HSBC in 2021 embedded international payments and expense management functionalities in Oracle NetSuite's banking platform to enable enterprise clients to automate accounts payables, receivables, and reconciliation processes.[32]
- Atlanta PayTech REPAY Holdings partnered with French automation provider Quadient in Q3 2023 to enhance Quadient's cloud-based AP automation solution with frictionless payments to vendors and suppliers via their preferred method and channel. The new process saves time, reduces costs, and increases visibility and control.[33]
- Corporate clients leveraging Citibank's VAM platform can access automated account receivables/payables, instant cash management capabilities like real time cash concentration, account segregation and instant reconciliations. In 2022, Citibank reported an 82% increase in virtual account balance growth thanks to 33% VAM platform adoption.[34]

**IMPACT**

Accounts payables automation significantly reduces the time required for invoice receipt and data capture. On average, this step can save up to 80% of the time typically spent in a manual process, according to a 2023 study by BlueCreek Software.[35]

Automated accounts payables and receivable solutions can improve cash flow forecasts, reduce banking fees, and speed up the processing of payments to key suppliers. It can also streamline core operations, improve accuracy with more straight-through processing, reduce operational costs, and enable faster decision making through more real-time information.

**Figure 4. Credit scoring and supplier data analytics are among the benefits of automated AP/AR processes**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

## TREND 5

# Local and regional payments initiatives may challenge the dominance of card schemes and interconnected payments networks

Regional payments initiatives in silos can hinder the development of a compatible cross-border global network that can streamline international trade.

## CONTEXT

The payments industry is undergoing rapid modernization to stay current with digitally transforming economies and address rising end-user expectations. Customers are now asking for real-time payments for daily domestic and cross border payments, such as bill payments, or cross-border payments involving different currencies.

Despite ongoing efforts by payment regulators and industry bodies across geographies to achieve payments speed and transparency, consumers still perceive a lag in the real-time payments promise.[36] Instant payments are now an area of focus for payment regulators in the western markets, after gaining acceptance among consumers in APAC.

## CATALYSTS

Regional initiatives are creating siloed blocs of payment systems as opposed to a globally compatible network.

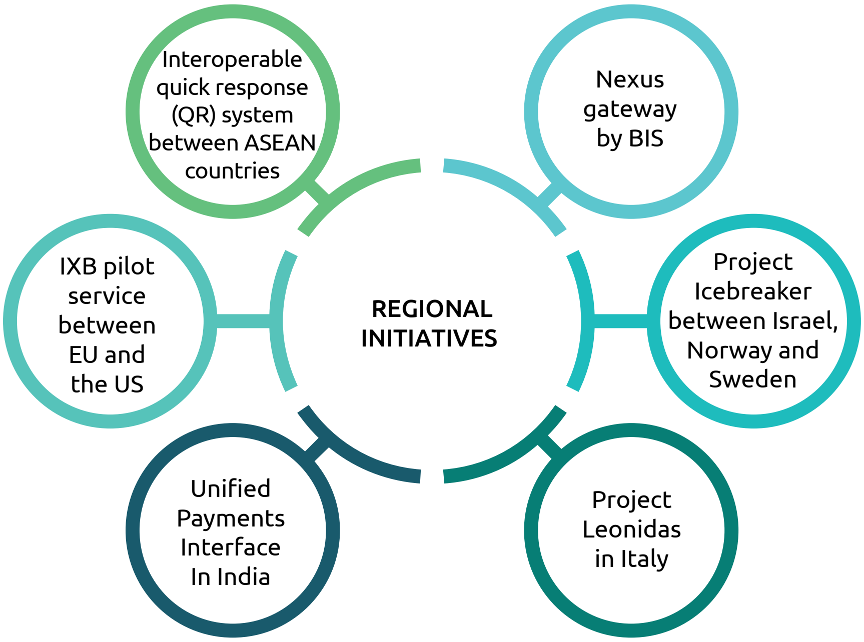
- The ASEAN interoperable QR ecosystem, expansion of Chinese firms toward quick response (QR) payments in overseas markets, India's Unified Payments Interface (UPI), and others are catering to a regional cluster of adopters. And developed markets are following the trend.
- The Unified Payments Interface (UPI), which is an instant payment system, is facilitating overseas merchant payments in several countries in addition to domestic account to account payments.
- The United States and European Union also support their regional initiatives: The envisioned IXB pilot service includes TCH's real-time payments service in the United States and EBA Clearing's pan-European RT1 service. The goal is predictable and fast cross-border payments in the EUR-USD corridor.[37]

## IN A NUTSHELL

Ongoing initiatives are in place to establish regional payment networks that connect countries within specific jurisdictions. Furthermore, there is a nascent effort to interconnect different regional networks facilitating linkage globally.

- In 2021, Thailand's PromptPay and Singapore's PayNow real-time payment infrastructure were linked. Customers of participating banks in Singapore and Thailand will be able to transfer funds of up to Singapore dollars 1,000 or THB 25,000 daily across the two countries, using just a mobile number.[38]
- In 2021, Singapore also connected its real-time payment infrastructure with Malaysia's DuitNow. Singapore, Indonesia, Malaysia, the Philippines, and Thailand have all announced plans to integrate regional QR payment systems.[39]
- Countries like France, Singapore, the UK, the UAE, Nepal, and Japan have inked agreements for cross-border rupee payments through UPI. Monthly transaction volumes on the UPI network have crossed 9.96 billion by July 2023.
- The Bank for the International Settlements (BIS) built a network prototype, Nexus Gateway, to standardize the multilateral linking of IP systems. The pilot was conducted in 2021 to connect the systems of Europe (TIPS), Malaysia (DuitNow), and Singapore (PayNow).[40]

**Figure 5. Examples of regionally focused payment system initiatives**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

**IMPACT**

As regional payment partnerships evolve, a common framework must develop to allow for compatibility between each of the regional payments networks. A globally compatible payments network allows businesses to trade with partners, suppliers, and customers across borders without dealing with complex payment processes.

In addition, businesses that can access global online payment processing can tap into new markets. Consumers now expect to be able to pay international merchants with ease, making it a competitive advantage. A global payments system also enables efficient cross-border transactions in multiple international currencies.

## TREND 6

# Regulatory initiatives spark payment innovation and robust security

Motivated by the move to cashless economies, regulators push for innovation that enhances customer experience and convenience.

## CONTEXT

With an eye on driving modernization and collaboration, payment regulators worldwide strategized and formulated directives, such as the European Commission's Payment Services Directives. The draft PSD3 will merge the existing PSD2 with the Electronic Money Directive (EMD2) and provide rules for the authorization and supervision of non-bank payment service providers in the EU.

- European Union regulators have balanced flexible directives to create a unified payments market throughout the European Economic Area (EEA)[a] and beyond – working to ensure strong customer authentication and a level playing field among incumbent financial institutions, FinTechs, and BigTechs.
- As some BigTechs blur traditional lines that have separated banking and payments from commercial activities. In late 2023, the US Consumer Financial Protection Bureau (CFPB), in late 2023, proposed federal oversight of BigTechs that offer digital wallets and payment apps.

## CATALYSTS

Emerging markets are a step ahead of developed economies with payment industry advancements. Regulators and industry bodies are championing low-cost, high-speed payments. Fundamental shifts in client expectations and available technology, coupled with a competitive proliferation of new payment providers and infrastructures, are fueling transformation.

A transformational climate and demand for instant payments encouraged the 2021 launch of SWIFT Go, which offers a seamless payment experience for low-value transactions. These transactions are typically initiated by small- and medium-sized enterprises (SMEs) for paying overseas suppliers, as well as by consumers sending money internationally to friends and family. SWIFT Go builds on the high-speed rails of SWIFT gpi, which augments high-value international payments predictability with speed, traceability, and transparency.

## IN A NUTSHELL

Ongoing regulatory efforts are fostering collaboration and innovation among payment firms and service providers.

- London-based bank NatWest adopted Icon Solutions' low-code Icon Payments Framework (IPF) in September 2023 to ensure alignment with ISO 20022 messaging standards. NatWest says the low-code framework allows it to create workflows and extend and create customizable integrations into existing bank systems.[41]
- San Diego-based Kyriba, a provider of treasury workstation software that runs on the cloud, and U.S. Bank partnered to offer new payment methods, including instant RTP network payments and Zelle payments, to clients.[42]
- Serving customers throughout France, independent Banque Delubac & Cie launched an instant payments service in Q3 2023 using Finastra's scalable end-to-end Payments To Go SaaS solution, which allows the bank to offer other institutions access to Europe's TARGET Instant Payments Settlements (TIPS).[43]
- In Q4 2023, Deutsche Bank and Standard Chartered carried out the first digital currency transfer and swap on the Universal Digital Payments Network (UDPN), which made its debut in Davos at the 2023 World Economic Forum. UBDN is a messaging infrastructure built on a distributed ledger that aims to provide interoperability between stablecoins and CBDC, to enable connectivity between business IT systems and regulated digital currencies.[44]

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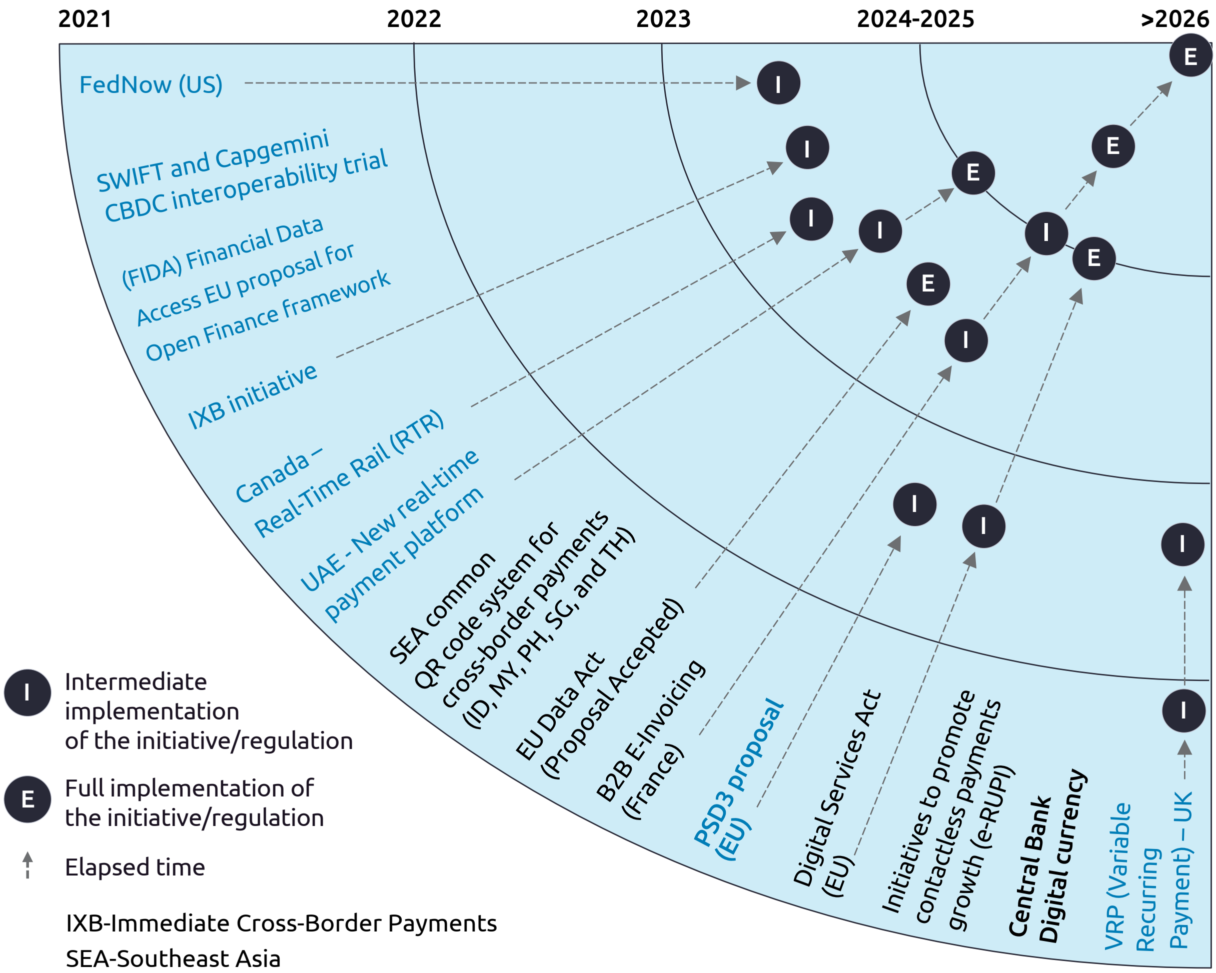
[a] The EEA includes EU countries and Iceland, Liechtenstein, and Norway. It allows them to be part of the EU's single market. The UK left the EEA in 2020, post-Brexit.

**Figure 6. A snapshot of key regulatory and industry initiatives in payments**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

**IMPACT**

In the European Union, the draft directive PSD3, advancements in payment system risk regulations (covering data protection, compliance, and anti-money laundering (AML) and countering financing of terrorism (CFT) requirements), and the much-anticipated financial data access (FIDA) proposal are shaping payments transformation. PSD3 will create a level playing field between banks and non-banks; it will enable non-bank payment service providers (PSPs) to access all EU payment systems while ensuring appropriate safeguards.

With exploration into Central Bank Digital Currency (CBDC) interoperability gaining momentum, the next two years are poised to witness innovation, particularly in public and private payment network interlinkage, as regulations across the globe pertaining to the utilization of digital currencies on blockchain-enabled platforms take shape.

TREND 7

# Instant payments offer a potential efficiency boost

Real-time payment networks operate 24/7 and provide numerous advantages, across flexibility, enhanced security, cost reduction and instantaneity.

## CONTEXT

Instant payments enable almost immediate money transfers between accounts, enhancing transaction speed, convenience, and efficiency, thereby reducing delays associated with traditional payment processing methods.

- With an anticipated 2023-2033 CAGR of 12.2%, instant payments are on track to increase global market position, according to a 2022 study from Future Market Insights (FMI). Market value was estimated at USD 28 billion in 2023 and predicted to reach up to USD 125.7 billion by 2033.[45]
- More than 79 countries across six continents had adopted real-time payment systems, representing 63% year-on-year growth and 195 billion transactions in March 2023, according to an ACI Worldwide and Global Data report.[46]
- Since 2016, India's rapidly expanding Unified Payments Interface (UPI) for real-time payments became the largest platform in terms of transaction volume, with 89.5 billion transactions. Following India, other prominent markets which have implemented QR-based payment systems include Brazil, China, Thailand, and South Korea.[47]

## CATALYSTS

Real-time payments are at the core of the swiftly evolving payment landscape across B2C and B2B payments.

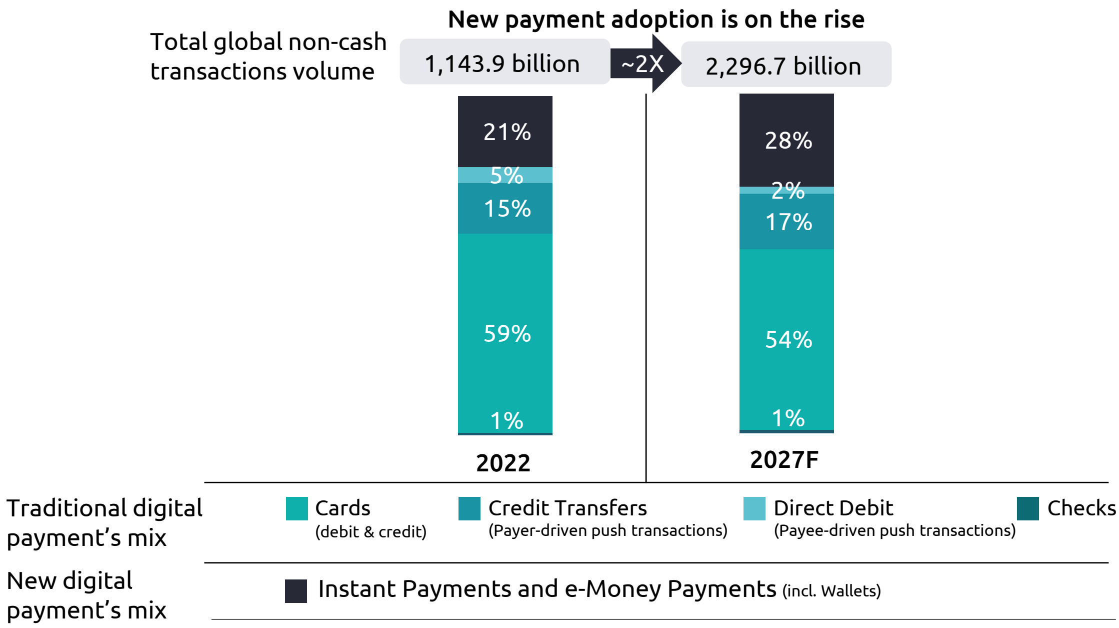
- The US Federal Reserve's June 2023 launch of the instant payments service FedNow® signaled a North American inroad into real-time payments adoption. According to an October 2023 update, 107 financial institutions and the US Department of the Treasury's Bureau of the Fiscal Service were actively using FedNow and offering its services to customers.[48]
- A Straits Research study valued the 2022 US B2B payments market at USD 186 billion and projected it would reach nearly USD 197 billion in 2023. At that rate, the US B2B payments market value could reach over USD 390 billion by 2031, for a 7.5% CAGR (2023-2031).[49]
- Survey results from our World Payments Report 2023 indicate that businesses seek streamlined and effective cash management, with 59% of respondents expressing a desire for continuous 24/7 access to their firm's liquidity position. 51% of business respondents said instant payment services could potentially reduce their organization's cash conversion cycles.

## IN A NUTSHELL

Instant payments are transforming the sector through quicker settlement times, heightened efficiency, enriched customer experiences, convenience, elevated security, and more effective financial management.

- In Q4 2023, Finnish asset manager, bank, and life insurer Aktia selected Swiss enterprise software specialist Temenos to upgrade its payment functions. Aktia Bank will implement the Temenos Payments Hub to introduce pan-European instant payments and centralize its payment rail processing onto a unified platform.[50]
- The European Payments Initiative (EPI), backed by Rabobank, BNP Paribas, Groupe BPCE, Credit Agricole, Deutsche Bank, Société Générale, and many other financial institutions across Europe, unveiled its digital wallet solution wero (we + euro) in October 2023. EPI aims to officially launch wero by mid-2024 in Belgium, France, and Germany, followed by the Netherlands.[51]

**Figure 7. The new digital payments mix features instant payments and e-money**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

**IMPACT**

The expansion of applications built on instant-payment use cases—such as bill payment, point of sale (POS), and e-commerce—will fuel an increase in transaction volume. Instant payments will build better customer experiences and help shift customers from more costly check accounts. For example, individuals can easily split a restaurant bill with friends and receive funds immediately. Businesses – especially small and medium-sized companies – can control cash flow more tightly.

Moreover, by using instant payments, merchants can provide services such as instant refunds, adding to the convenience. Instant payments will also enhance transparency and compliance, optimize working capital cycles, and disrupt traditional payment processors and intermediaries.

## TREND 8

# Central banks embrace CBDC to maximize financial inclusion

### Central bank digital currency will complement existing payment systems, allowing to increase financial inclusion, program payments and reduce transactions' cost.

## CONTEXT

By mid-2023, 130 countries representing 98% of the global economy were exploring digital versions of sovereign currencies, CBDC, with almost half in advanced development, pilot, or launch stages, according to research by the US-based Atlantic Council.[52] Although initiatives and enthusiasm vary by market, CBDC merits attention from commercial and central banks as economies become increasingly interconnected.

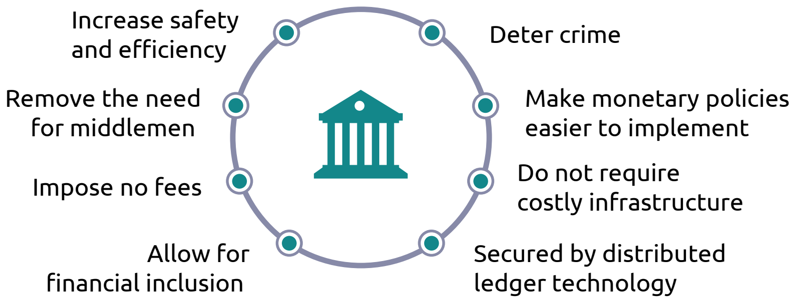
- Current central bank experimentation and development is looking at the development of two distinct kinds of CBDC: retail CBDC will enable digital money exchange between public/private institutions and individuals, or person to person. On the other hand, the launch of wholesale CBDC enables settlement of cash or other financial instruments between financial institutions (such as commercial banks, pension funds, insurers) and/or large corporations.
- The Official Monetary and Financial Institutions Forum – an independent global think tank – projected international cross-border payments to exceed USD 150 trillion in 2022, with B2B transactions comprising 96%.[53]
- Moreover, London-based payments data provider FXC Intelligence anticipates that the cross-border payments market size as a whole will reach more than USD 190 trillion in 2023 and will grow by 53% by the end of 2029.[54]
- Proofs of concept and prototypes are underway for payments based on distributed ledger technology (DLT), cross-border payment versus payment (PvP) transactions, and wholesale-market delivery versus payment (DvP) transactions.[55] PvP ensures that the final transfer of a payment in one currency occurs only when the last transfer of a payment in another currency (or currencies) takes place. DvP requires financial institutions to deliver securities to a recipient only after payment.

## CATALYSTS

Central banks' CBDC use cases may resolve some payment challenges. For instance, coordination of national wholesale CBDC designs could lead to more efficient cross-currency and cross-border payments.

- Capgemini's Building Central Bank Digital Currency point-of-view explored the motivations for a wholesale CBDC initiative - Reducing friction in international payments – including trade finance, cross-border payments, and remittances.
- 72% of payments executives surveyed as part of Capgemini's World Payments Report 2023 said they struggle to provide efficient cross-border payment systems for corporate clients.
- Capgemini's Building Central Bank Digital Currency point-of-view explored CBDC impact on private banks. Opponents say central banks that issue interest-bearing CBDCs may weaken commercial bank balance sheets, hindering lending; however, advocates outline several benefits for central and private banks (Figure 8).
- Retail CBDCs may lower barriers to inclusion for individuals and small businesses and serve as an entry point to the broader formal financial system.
- In addition to functional considerations, CBDC will support existing anti-money laundering and currency control goals. Moreover, governments could use CBDC to collect taxes, make benefit payments, and pay bills.

**Figure 8. What are the benefits of CBDC for central banks and payment providers**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

## IN A NUTSHELL

Central banks worldwide are investing in a range of CBDC use cases and pilots.

- The European Central Bank (ECB) Governing Council began a two-year preparation phase for the digital euro in Q4 2023, during which it will finalize rules, choose private-sector partners, and run tests and experiments leading to a 2025 launch decision.[56]
- The Swiss-based Bank of International Settlements (BIS) concluded Project Icebreaker in 2023 in partnership with the central banks of Israel, Norway, and Sweden to demonstrate the efficacies of a single-system cross-border CBDC. The hub-and-spoke model reduces settlement and counterparty risk by using coordinated payments in central bank money and completing cross-border transactions within seconds.[57]
- The Saudi Central Bank (SAMA) continues CBDC experimentation and is now focusing on domestic wholesale use cases in collaboration with local banks and PayTechs. Although SAMA has not officially announced a CBDC launch, it is actively exploring benefits and potential risks. SAMA successfully conducted Project Aber in 2019, an initiative in collaboration with the Central Bank of the United Arab Emirates (UAE), to examine whether DLT could contribute to seamless cross-border payments.[58] MIT Sloan reported that the UAE expects to complete the first phase of its Digital Dirham CBDC strategy around mid-2024.[59]
- Initiated in 2019 by the BIS Innovation Hub, Project mBridge is a multiple CBDC arrangement that directly connects jurisdictional digital currencies in a single common technical infrastructure. Today, it includes central and commercial banks from China, Hong Kong, Thailand, and the UAE.[60]
- The digital yuan is a significant CBDC pilot, and the People's Bank of China has made several deals with international companies and commercial banks to further its adoption. BNP Paribas China and DBS Bank China made digital yuan integration available to corporate clients in 2023.[61]

**IMPACT**

In addition to backing up other forms of payments, CBDC could complement cash and boost payment systems' resilience.

- With CBDC enabling financial institutions to settle central bank transactions directly, payment processors can eliminate intermediaries, and make near real-time transaction settlements possible.
- Issuance of internationally compatible CBDC would decrease reliance on costly and sluggish cross-border money transfer services and reduce dependence on interbank messaging services.
- Widespread CBDC use may also spark financial inclusion of unbanked and underbanked populations by enabling access to liquidity and credit offered via traditional finance systems.

## TREND 9

# Tokenization opens new frontiers for value creation

Payment providers are considering tokenization and blockchain-based decentralized finance systems to enhance transaction transparency, auditability and exploring various other use cases.

## CONTEXT

Financial institutions and intermediaries are increasingly embracing the adoption of card tokenization to ensure the security of transactions across their entire lifecycle. In 2022, the global tokenization market reached a valuation of USD 2.39 billion, and it is projected to reach USD 9.82 billion by 2030 at a CAGR of 19.6% during the forecast period, according to a report by market research firm Fortune Business Insights.

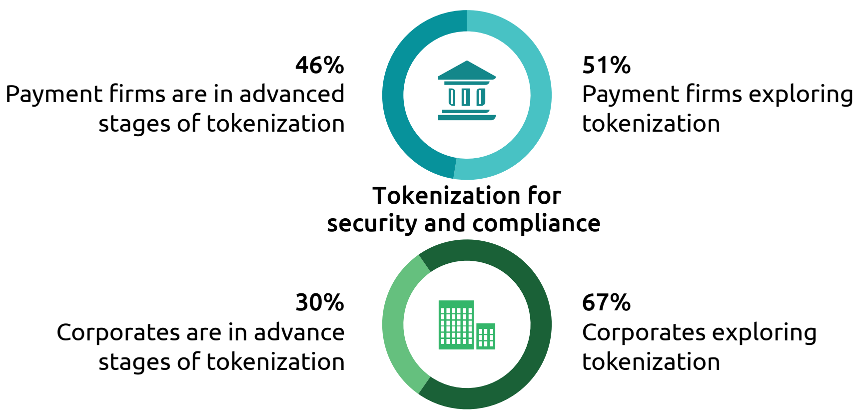
Blockchain-based decentralized finance (DeFi) uses open-source technology to eliminate costly payment processing fees by reducing intermediaries. The global blockchain market in banking and financial services is growing from 2022's USD 1.89 billion to USD 3.07 billion in 2023 showcasing YoY growth of over 62%. By 2027, it is projected to reach USD 19.27 billion at a (2023- 2027) CAGR of more than 58%, according to a 2023 study by The Business Research Company in London.[62]

## CATALYSTS

While an increasing number of firms continue to leverage tokenization to boost security, they are also starting to actively explore more real-life DeFi applications.

- Polling conducted for our World Payments Report 2023 revealed that 67% of corporations and 51% of payment firms are actively exploring tokenization for security and compliance.
- Juniper Research anticipates that between 2020 and 2025, global e-commerce fraud losses will increase by 18%. In 2021 alone, e-commerce businesses worldwide lost USD 20 billion to fraud. DeFi solutions like tokenization help make online payments secure and reliable.[63]
- A 2023 study by news and analysis provider PYMNTS revealed that 62% of consumers would forgo convenience for enhanced security of their sensitive information.[64]
- Commercial banks are actively developing deposit tokens, which are equivalent to existing deposits held by these banks. These tokens aim to facilitate diverse applications, such as domestic and cross-border payments, trading and settlement processes, as well as the provision of cash collateral.

**Figure 9. Tokenization is becoming a sought-after data security tool**




Source: Capgemini Research Institute for Financial Services analysis, 2023.

## IN A NUTSHELL

Tokenization has become the transaction security tool of choice for payment providers.

- Bluefin, the Atlanta-based data and payment security firm, integrated with Visa's card network to provide tokens across card brands in early 2023. Bluefin's vaultless network tokenization service protects payment and ACH account data – a feature that will enhance transaction security over the Visa network.[65]
- Discover Global Network, the payments brand of Discover, launched a cloud-based network tokenization platform in Q4 2023. This platform offers companies a scalable and flexible token solution to enhance payment process security and efficiency.[66]
- A subsidiary of Fortune 500 payments technology firm Global Payments, Global Payments Europe (GPE), and Netcetera, a digitization and software development services provider, joined forces in September 2023 to offer network tokenization to boost European online shopping security and consumer trust.[67]

The integration of tokenization with blockchain technology is unlocking new frontiers of value creation and innovation as diverse use cases emerge.

- HSBC has conducted successful tests on the use of tokenized deposits for intra-group treasury transactions, utilizing blockchain technology from China's Ant Group. The initiative seeks to examine the possibilities of deposit tokenization in facilitating continuous, real-time movement of treasury funds between corporate accounts within the HSBC network.[68]
- Onyx by J.P. Morgan launched programmable payments using its blockchain-based digital currency, JPM Coin. This programmability empowers clients to implement personalized rules for their payments. The introduction of programmable payments opens the door to real-time, automated, and customizable treasury operations.[69]
- The Reserve Bank of Australia (RBA) and Digital Finance Cooperative Research Centre (DFCRC) announced "tokenized bills" as one of 14 use cases for the CBDC Pilot Project. Unizon, an Australian blockchain startup, will create advanced digital invoices on the blockchain. These invoices will be transformed into automated payment tools and fractionable high-liquidity assets, benefiting small and medium-sized enterprises by enhancing supply chain finance efficiency, potentially lowering financing costs, and optimizing working capital.[70]

**IMPACT**

As payment providers start adopting decentralized finance in 2024 and beyond, expect significant implications for domestic and cross-border payment ecosystems globally. While most of today's payment infrastructure revolves around centralized institutions, DeFi will help move payment processing to a more hybrid system, enabling payment providers to be nimble and prepared to adapt to changing transaction volumes more efficiently.

Strengthened by automated smart contracts, payment processors will be able to reduce the scope of errors and misdirected payments. Payment transaction security and cyberattack prevention will evolve from an encryption key-based approach to a more robust tokenization.

## TREND 10

# AI upside for payment services includes productivity and client satisfaction

AI can help payment service providers boost customer personalization and grow revenue while reducing fraud and safety risks.

## CONTEXT

The emergence of AI in the payments sector led to a broad spectrum of advantages: AI-powered procedures streamline labor-intensive tasks, minimize errors, and expedite transactions. AI matches incoming payments with outstanding invoices and reduces manual efforts by automating payment reconciliation.

- AI can identify potential payment delays, such as disputes, and enable proactive resolution – a capability that accelerates payments and improves payment data accuracy, which fosters trusted business relationships.
- Automated systems powered by machine learning can rapidly sift through massive volumes of data to detect fraudulent transactions and identify potential risks.
- Companies are using chatbots to conduct digital commerce that offers users contextually relevant information and recommendations as well as quick responses to questions. Conversational payments fuse chatbots, voice assistants, and innovative payment gateways to conduct transactions through natural conversations using text or voice.
  - A September 2023 report by New York-based consumer data hub OnlineDasher.com says voice commerce grew by nearly 322% from 2021 to 2023; in 2024, conversational commerce is likely to expand by almost 55%, the report added.[71]
  - Juniper Research estimates the 2023 value of conversational commerce at USD 80 billion, with transactions made through smart home devices expected to reach USD 164 billion by 2025.[72]
- Greater access to consumer data enables payment providers to offer personalized experiences. Meanwhile, retail giants use AI to automate logistics, fulfillment, and fraud detection. A case study from London-based AI platform Kortical found that 83% of bad debt detected by an AI solution would otherwise go undetected by manually processed credit scores.[73]

## CATALYSTS

Payment providers' acceptance of AI and AI model efficiency gains are fueling adoption across the payments sector.

- As part of research conducted for the World Payments Report 2023, 51% of payment executives we surveyed said efficient and quick customer onboarding, KYC verification, and AML services are significant challenges. AI can optimize processes and reduce human errors, which can drive down processing costs of high-volume transactions.
- Our World Payments Report 2023 survey also revealed that 53% of payment firms are running multiple pilots to leverage AI across the cash-management value chain.
- Half of the surveyed payment executives surveyed told us their firm is running multiple pilots to automate processes in the cash management value chain, and 61% said collaboration with FinTechs is beneficial for actionable data analytics.

**Figure 10. AI can strengthen payments fraud-risk management**


Source: Capgemini Research Institute for Financial Services analysis, 2023.

## IN A NUTSHELL

Payment providers are benefitting from AI-led innovation that is enabling significant productivity gains.

- In October 2023, SAP unveiled an AI solution for enterprise spend management. SAP's Spend Control Tower includes advanced AI features and the ability to see across all spending to help customers uncover cost-saving opportunities and discover process improvements.[74]
- In Q3 2023, Visa launched RTP Prevent, an AI tool to manage and prevent fraud in real-time payments[75]. The card company also said it is investing USD 100 million in companies that are leveraging generative AI as part of its Visa Ventures initiative.[76]
- Global payment solutions provider Opus entered a Q4 2023 partnership with San Francisco-based enterprise software company Databricks; the collaboration aims to reshape and advance the payments landscape by offering intelligent payment routing, smart payment reconciliation, and real-time credit decisioning.[77]

**IMPACT**

As AI becomes more rooted within the end-to-end payments value chain in 2024 and the years ahead, we anticipate advances in fraud management, real-time transactions, customer experience, document management, and regulatory compliance.

- Juniper Research predicts that the market size for AI in financial fraud detection will exceed USD 10 billion globally in 2027 as criminal attacks become more sophisticated, and merchants and issuers elect to use advanced AI-enabled fraud detection methods.[78]
- Further, the increased pervasiveness of digital banking and peer-to-peer payments will drive AI momentum in payments.

# CONCLUSION

As the payments industry continues to transform, payment providers are looking to streamline processes, realize efficiencies, and leverage new-age technologies including DeFi, and AI. Legacy payments firms are swiftly catching up to regulatory changes and competition from alternative payment methods. With the rapid pace of adoption ISO 20022 guidelines, the drafting of PSD3 directives, and the emergence of BigTech companies as prominent payments players, there is no doubt that the pace of transformation in the ecosystem will continue to accelerate.

The economic uncertainty of 2023 has upended numerous global corporate operations, leading treasurers and other executives to seek active engagement with financial services partners – including business advice and technology-driven efficiency solutions. Yet, enterprise clients say their incumbent financial service providers' support is often underwhelming. Commercial payments are fast catching up with the digitalization trend, offering new value pools for payment providers to tap into.

The coming months will see new payment avenues offered to customers, with card alternatives gaining traction. Instant payments are gaining the acceptance by customers, and regulatory action will further advance its adoption. The adoption of real-time treasury management services will grant payment providers, banks, and financial institutions efficiencies in cash management and intelligent decision-making.

Advancements in technology will have a significant impact on the value chain of the payments industry, delivering gains in efficiency and productivity. The adoption of tokenization will boost the data security portfolio of payment providers. The use of AI and automation tools will revolutionize productivity. Central banks will also tap into new-age technologies, with pilots and programs to implement CBDC to unlock interoperability for faster cross-border payments. Payment firms will accelerate the adoption of cloud services, enabling the development of composable platforms to offer a suite of new payment solutions.

Rationalization and streamlining will be another area of focus in the coming year, with composable architectures for back-end processes, the compatibility of a myriad of regional initiatives to achieve a global payments network, and digital transformation of the accounts payable and accounts receivable processes. In 2024, the focus of the payments industry will be on the adoption of new-age technologies and reinvention of incumbents' business models to fulfill changing customer expectations.

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Abhishek leverages his experience to support thought leadership projects and the Payments practice in producing influential business insights.

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