

PAYMENTS

TOP TRENDS 2023



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FOREWORD

Payments is one of the most disrupted domains within the financial services industry. Technological innovations and shifts in customer behavior and expectations have fueled this disruption and the category's resulting trajectory. This offers opportunities and explosive growth for traditional players and newcomers alike.

Financial institutions will continue to implement initiatives to modernize payments hubs throughout 2023. B2B users' growing appetite for Buy Now, Pay Later (BNPL) solutions in 2023 is prompted by the traditional financing limitations and B2C volatility. On the other hand, financial institutions (FIs) are exploring new use cases of embedded finance.

Cross-border payments will continue gaining traction as central banks and payment infrastructure providers collaborate to build real-time systems. Growth in central bank digital currencies (CBDCs) will also play a role here, as they create an alternate payment mode and help in safeguarding central banks' roles in stabilizing the payments system. Further, payment service providers (PSPs), including banks, will focus on better serving small and midsize businesses (SMBs) by innovating payment technologies.

Importantly, ecosystem partnerships are generating enthusiasm for composable architecture to support personalization, content delivery, and on-demand integration of à la carte components into tech stacks. Banks and FinTechs are also working towards complying with ISO 20022, a data-rich standard for exchanging payment information.

Card tokenization is on track to become a robust data security safeguard in 2023. Also, the payments industry will prioritize environmentally-friendly payment methods and innovative eco-friendly offerings.

Overall, the payments industry is on the cusp of a new revolution and ready to reap the benefits of digitalization, innovation, regulation, and FinTech-led disruption in 2023.



Anirban Bose

Financial Services Strategic Business Unit CEO
& Group Executive Board Member, Capgemini

INTRODUCTION

The payments industry continuously reinvents itself to meet the ever-changing expectations and a confluence of geopolitical events and economic resets. As a result, payment service providers (PSPs), financial institutions (FIs), merchants, corporations, and PayTechs innovatively shapeshift to deliver stakeholder value through new customer loyalty methods, convenient and efficient solutions, initiatives to claim market share, and competitive landscape reconfigurations.

MARKET DYNAMICS

Cash will remain noteworthy in the point of sale (POS) mix, accounting for 17.9% of total transaction value (amounting to more than USD 8.3 trillion) in 2021, according to the FIS Global Payments Report 2022.¹ However, the report also projects that ongoing and rapid digitalization of the international economy will drive down physical cash use to a 9.8% share by 2025.

Capgemini's [World Payments Report 2022](#) noted that traditional payment methods (cards, credit transfers, and direct debits) accounted for more than 83% of overall non-cash transaction volume in 2021. However, CB Insights reported that business-to-business payment volumes in the United States – check/cash transactions and ACH transactions – will amount to USD 12 trillion each by the close of 2022. Meanwhile, card transactions will account for USD 2 trillion, and wire and other methods will be USD 3 trillion.²

In Q2 2022, the global payments industry experienced its most significant quarterly funding decline since 2020, CB Insights reported.³ The study added that international payments funding for the same period was USD 5.1 billion, the lowest since Q4 2020 and down 43% over Q1 2022. Deals declined by 18% to 256, quarter over quarter. However, India-based Acumen Research and Consulting projects that global B2B payments transactions will achieve a market size of USD 81,840 billion by 2030 – a 2022-2026 CAGR of 6%.⁴

FOCUS ON CUSTOMER CENTRICITY DRIVES DIGITALIZATION INITIATIVES

Momentum continued throughout 2022 in payments infrastructure modernization, including APIs, platforms, and advanced data analytics. One noteworthy supporting statistic is that a survey of international merchants with annual sales of USD 500 million, and with more than 50% of sales coming from online, ranked "quality of tech platform" as the number one attribute in selecting a payment processing partner.⁵

LOOKING BACK AT 2022

The trends of the past year helped to set the tone for what is coming up in 2023. For instance, we observed the traditional payments instrument mix – comprising cash, checks, direct debits, and credit transfers – steadily gravitating toward digital payments. We also noted the increasingly prominent role that digital IDs and other risk-mitigating tools would play in cybersecurity and, they are now at the forefront of the fight against cybercrime.

We also discussed the role of alternative players in lending to SMBs, and the significant role that BigTechs will play in financing SMBs. Further, we argued that open ecosystems could generate substantial synergies by driving cross-functional and cross-sectoral collaborations. Also, we analyzed how FinTechs use payment offerings to enter the market and then quickly diversify into other services to consolidate their market position.

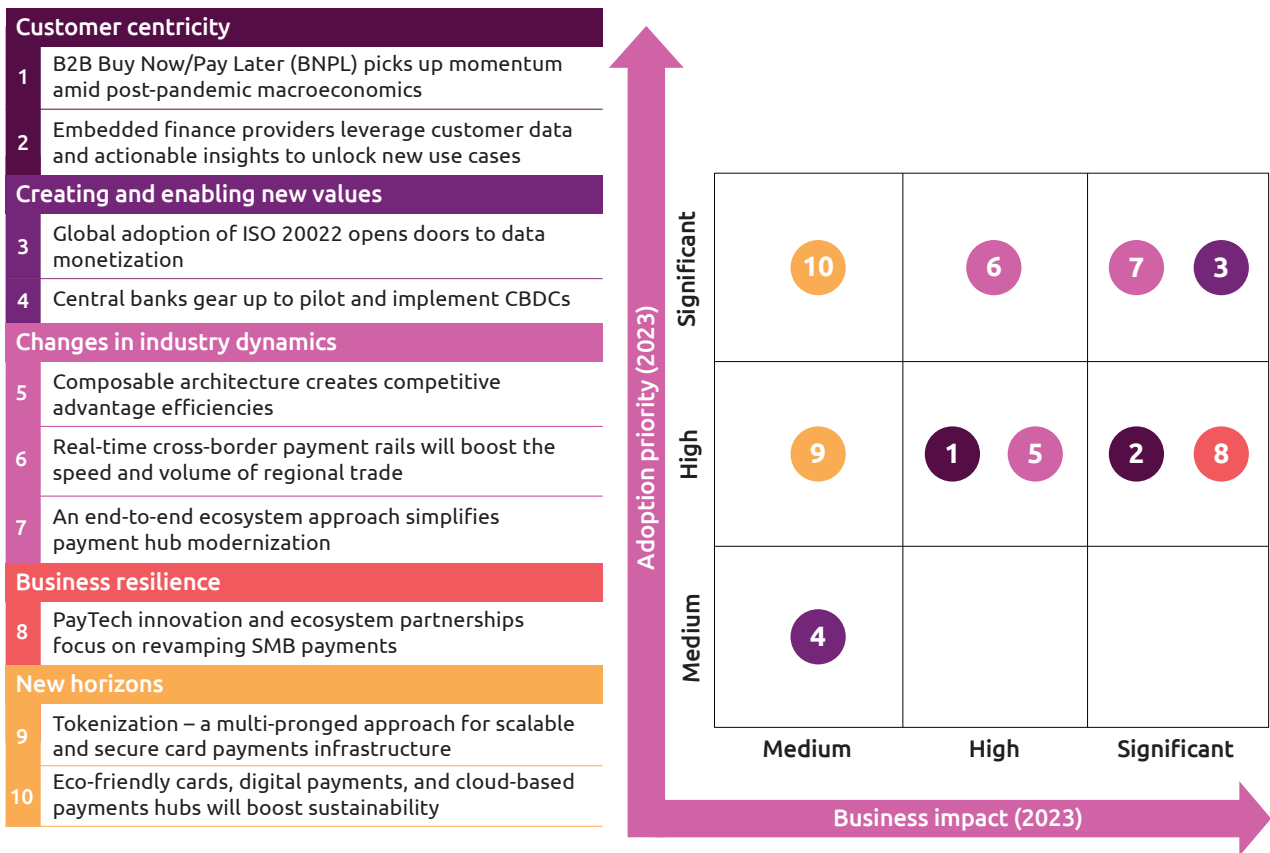
TOP TRENDS FOR 2023

We based our 2023 payments trends on analysis across five broad themes.

- **Customer centricity** explains how incumbent banks struggle to meet the B2B Buy Now/Pay Later supply chain financing needs of small and medium businesses and outlines embedded finance's new use cases.
- **Creating and enabling new values** emphasize how ISO 20022 can create value streams for clients and also discusses government initiatives to launch CBDC as a viable alternative to cryptocurrencies.
- **Changes in industry dynamics** discusses how composable architecture enables banks to transition to best-in-class IT systems and cloud-based models; real-time cross-border payments increase liquidity and improve cashflows; and the business and payments hub modernization initiatives focus on real-time payments, interoperability, and API enablement.

- **Business resilience** elucidates how FIs are striving to resolve the supply-chain finance issues of SMBs
- **New horizons** describe how card tokenization is emerging as a critical tool in securing payments against rising cybersecurity concerns and also highlight how eco-friendly card materials, digital payments, and cloud-based payments hubs will boost sustainability efforts.

Exhibit: Top trends in payments 2023 – Priority matrix



Source: Capgemini Research Institute for Financial Services Analysis, 2022

The matrix represents Capgemini’s view of 2023 trends prioritization in a payments industry operating environment that includes:

- High customer adoption of digital payments
- Increasing digital transformation initiatives by FIs
- Brisk competition and increased focus on customer centricity to hedge against advances from new-age players
- Rising inflation rates and fear of recessionary trends
- Dynamic regulatory and compliance mandates.

Adoption priority refers to the urgency of adopting a 2023 trend to maximize value creation because of its importance to the sector.

Business impact represents the influence of a trend on the 2023 payments industry in relation to customer experience (CX), operational excellence, regulatory compliance, or profitability.

Circumstances vary for each firm depending on business priorities, geographical locations, and other factors. For more information, don’t hesitate to contact us at banking@capgemini.com.

TREND 1

B2B BUY NOW/PAY LATER (BNPL) PICKS UP MOMENTUM AMID POST-PANDEMIC MACROECONOMICS

B2B BNPL is growing thanks to attractive terms, convenience versus traditional financing, and widespread digitalization in consumer and business segments.

CONTEXT

Much like its business-to-consumer (B2C) counterpart, B2B BNPL is a type of short-term lending offered to business buyers at the point of sale. It allows buyers to spread costs or delay payments while merchants are paid upfront, thereby improving cash flow for all parties.

- But unlike traditional credit instruments, BNPL offers attractive terms. B2B payments are essential financial services worldwide that enables local and cross-border transactions between retailers, wholesalers, and corporations – via paper check, credit card, electronic funds transfer (ETF), automated clearing house (ACH), payment gateways, and more.
- Term loans typically involve a lengthy application process, especially for large transactions. Conversely, BNPL is available as revolving credit with a relatively quick turnaround time and at lower interest rates.⁶
- The B2B BNPL model facilitates third-party credit and risk-management tools that improve cash-flow flexibility by accelerating credit approval while mitigating repayment risk. Typical use cases include thin-margin transactions in which even a one-day billing cycle delay leads to higher costs.⁷
- Moreover, for SMBs, a B2B BNPL solution can ensure instant payments and minimize cash-flow issues to free up working capital and ease any liquidity crunch. It also reduces nonpayment risks because the onus for collection is on the third party.

CATALYSTS

What's driving B2B BNPL? Contributing factors are the supply chain financing needs of SMBs, the burgeoning e-commerce market, and increasing digitalization.

- SMBs face macroeconomic challenges related to political disruption, inflation (particularly around the costs of energy and raw materials), financial market volatility, and upheaval in supply chains and cross-border trade.
- Surveys conducted by the intergovernmental forum, Organization for Economic Co-operation and Development, found that 70% of SMBs adopted digital technologies in the aftermath of the pandemic.⁸ FinTechs saw this opportunity and leveraged buyers' data to gain a market share of 10-15% in the supply chain finance market.⁹

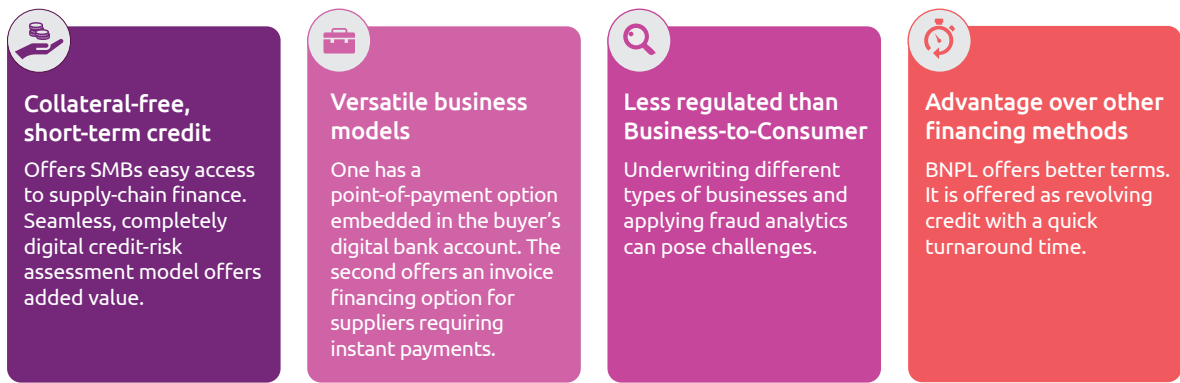
IN A NUTSHELL

While incumbent banks traditionally offer supply chain finance, they cannot dominate the B2B BNPL market without automated credit-decision tools and embedded finance offerings.

- As incumbent banks struggle to meet business-to-business challenges, they may lose their wallet share to FinTechs. Creditworthiness is critical to banks and is the reason why most focus on established corporations and big-ticket purchases, effectively filtering out SMBs.
- A new wave of BNPL providers uses data to extend B2B-focused loans, which can be less pricey than traditional funding. Risk models (such as those used by startup PlastiQ, a San Francisco bill-pay service for businesses) use advanced technologies and determine payback periods.¹⁰ FinTechs alleviate traditional finance challenges to penetrate the B2B BNPL market. For instance, they provide embedded finance options at the point of sale.¹¹
- However, traditional banks have an advantage over new-age players regarding access to low-cost capital and knowledge about regulatory infrastructure. For example, Barclays and HSBC in the UK and Frankfurt-based Deutsche Bank dominate the trade finance market.

- Some incumbents partner with FinTechs or launch offerings to gain a slice of the B2B BNPL pie. Deutsche Bank partnered with Credi2 to launch a white-label BNPL solution for e-commerce merchants in Germany. Frankfurt-based Raisin Bank collaborated with Berlin FinTech Mondu, a B2B payments specialist.¹² FinTechs also mitigate onboarding, underwriting, and payment complexities for businesses. For instance, Berlin-based Billie’s BNPL solutions allow buyers to check out using real-time verification.¹³

Figure 1. B2B BNPL has significant advantages over traditional credit methods



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

Business-to-business BNPL will continue its risk-constrained growth trajectory in 2023. We foresee many banks implementing one of two B2B BNPL capability models – a point of payment option embedded in the buyer’s digital bank account or an invoice financing option for suppliers seeking immediate payments.¹⁴

Moreover, B2B BNPL is less regulated than B2C models in many markets. Therefore, with little marketwide standardization, B2B BNPL players may face near-term challenges in underwriting different business types. Additionally, business identity theft will require a different set of fraud analysis tools from B2C services.

However, as more businesses turn to BNPL as a quick-turnaround, revolving credit option, we anticipate a steep trajectory for growth.

TREND 2

EMBEDDED FINANCE PROVIDERS LEVERAGE CUSTOMER DATA AND ACTIONABLE INSIGHTS TO UNLOCK NEW USE CASES

Embedded finance offers users contextual, seamless experiences thanks to platform ecosystems that leverage comprehensive customer data to develop relevant new products and services.

CONTEXT

Embedded finance began by blending software and commerce business models. Today, use cases are proliferating, from Canadian e-commerce company Shopify's Shopify Balance to a variety of Buy Now/Pay Later (BNPL) options. Embedded finance and API-driven banking enable enterprises to analyze customer data and offer turnkey, curated financial services to their end users. The standard product stack includes payments, lending, banking, and cards.

- Embedded finance will represent a massive opportunity for banks within the 2023 financial services value chain. In the United States in 2021, embedded finance accounted for USD 2.6 trillion (about 5% of total US financial transactions), and by 2026 will exceed USD 7 trillion, according to Bain & Company.¹⁵
- Customer demand for seamless and convenient financial services drives the embedded finance trend, and banks and their ecosystem partners collaborate to meet those expectations.
 - » Open architecture and API-powered data provide actionable customer insights, resulting in contextual products and services leading to better customer experience (CX).
 - » Embedded finance can help customers borrow efficiently to manage their finances better.

CATALYSTS

The burgeoning e-commerce market, increasing FinTech penetration, changing customer expectations, and emerging technologies are all critical embedded finance drivers.

- Many US SMBs are adopting digitalization initiatives.
 - » A Q2 2022 IDC study found that just 31% of Asia/Pacific (excluding Japan) SMBs proactively adopted digital initiatives, 44% took a reactive – wait-and-see – stance, and 25% lagged behind other small and midsize businesses.¹⁶
 - » A Eurostat study reported that only 1% of EU enterprises with 10 or more employees considered themselves highly digitally proficient in 2020, and 14% believed they were sufficiently knowledgeable. About 47% of the medium and 46% of small enterprises indicated minimal digital acumen.¹⁷
- Customer-experience-focused embedded finance is reaching critical mass as more customers opt to interact with non-financial partners – retailers and various third-party sellers.
- New technologies such as artificial intelligence (AI) and machine learning (ML) make it easier for consumers to compare products and services from different providers. Increasing cloud adoption and external APIs gives banks the flexibility to build composable architecture.

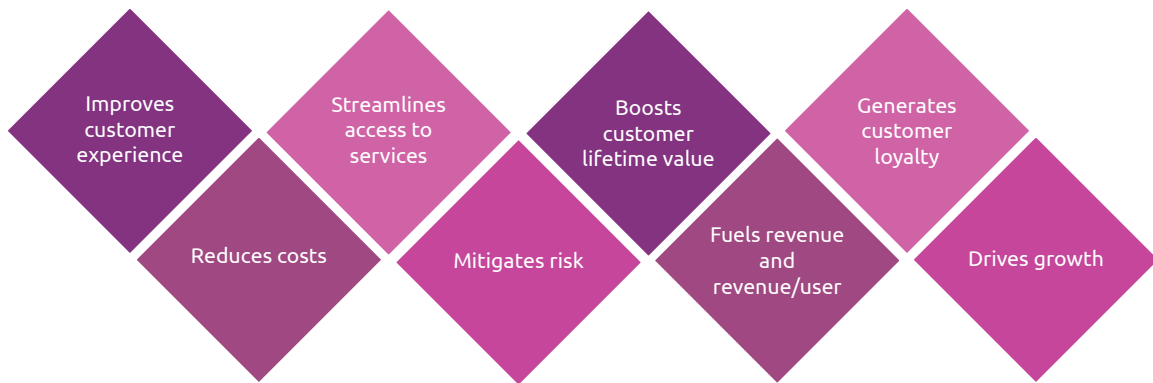
IN A NUTSHELL

Embedded finance can leverage customer data to offer the right products at the right time. Emerging technologies such as AI, distributed ledgers, augmented and virtual realities, 5G networks, and IoT can help banks analyze data to curate products that match customers' needs.

- Payments were the first embedded finance use cases. Embedding payments significantly reduces the time spent by the merchant in reconciling payments and invoices. New product stacks include customer loyalty apps, shopping-cart platforms, and digital wallets; scheduling employees' work shifts; HR-related software such as payroll and benefits; inventory management and procurement; embedded insurance and wealth; and tax and accounting compliance and accounting software.

- Innovative use cases are also emerging. Barclays offers a customized SmartBusiness Dashboard embedded with marketing effectiveness tools to help B2B clients monitor their marketing strategy effectiveness. Wells Fargo partnered with accounting software specialist Quickbooks to enable SMEs to issue automatic invoices. RBS and Chase offer collection solutions.¹⁸ Data management is critical for embedded finance providers. Data confidentiality compliance involves adopting safeguards and educating users about potential threats.

Figure 2. Embedded finance delivers substantial benefits to all stakeholders



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

The embedded finance trend shows no sign of slowing down. According to Barcelona-based startup, Platformable, 1,578 global banking APIs were available in Q2 2022, which led to the development of 5,564 open banking API products for consumers.¹⁹

Embedded finance boosts CX, reduces costs for customers and merchants while offering customers better access to services, lowers risk, bolsters customer lifetime value, strengthens average revenue per user, fosters stickiness and customer retention, and fuels growth. It also opens doors to innovative ways to leverage and monetize financial services.

Banks that adopt embedded finance can offer customers new, fast, and convenient experiences that add value to their services and encourage brand loyalty. For example, with embedded payments, customers and businesses can enable instant payment transactions and various time-saving conveniences. Goldman Sachs partnered with Apple Card and Stripe Treasury to expand across the value chain. And Fifth Third Bank acquired the Provide platform to offer specialized credit and payment services to the healthcare industry.²⁰

TREND 3

GLOBAL ADOPTION OF ISO 20022 OPENS DOORS TO DATA MONETIZATION

MX-ISO 20022 will prioritize structured data, traceability, and transaction processing speed across the value chain.

CONTEXT

The Society for Worldwide Interbank Financial Telecommunications ([SWIFT](#)) was founded in the 1970s to create a global financial messaging service and a common language for international financial messaging. Banks and other FIs rely on the SWIFT standard to quickly, accurately, and securely send and receive information, such as money transfer instructions.

- SWIFT introduced the ISO 20022 standard in 2004 as an international open messaging rulebook capable of simplifying and improving how financial information is processed and exchanged worldwide. But like many global initiatives, the adoption of ISO 20022 lagged.
- However, the pandemic – and widespread financial services digitalization – catalyzed renewed interest, and SWIFT extended its deadline for global migration to ISO 20022 for cross-border payments to November 2022.²¹
- Nevertheless, guided by public input, the US Federal Reserve Board announced a March 10, 2025, implementation date for the United States.²²

CATALYSTS

For decades, the payments industry relied on messaging standards developed during the 1970s-1990s. Most were rigid, inflexible, and incapable of carrying vast data sets. These legacy formats delay processing and spark unpredictability across the value chain.

- As the financial services industry, including payments, becomes more personalized and dedicated to superior CX, a streamlined customer journey is imperative.
- Growing vulnerabilities caused by the unstructured nature of payments data and inherent instability opened the door to cyber criminals. As a result, financial institutions had to invest in sophisticated transaction monitoring and screening solutions for false positives and potential fraud.

IN A NUTSHELL

ISO 20022 encourages banks to restructure their operations and monetize payment data to create value streams for clients and the business. According to Capgemini's [World Payments Report 2022](#), ISO 20022 lays the groundwork for harmonization, calibration, and new efficiencies because it enables transparency, accuracy, compliance, and relevance.²³

- SWIFT says 10% of international transactions undergo a compliance check.²⁴ Now, MX (the XML-based replacement for MT messages) will embed time-saving straight-through processing (STP) and automation. Its data-rich, structured formats can reduce turnaround time for payments dispute/case resolution and safe listing to mitigate risky transactions.
- ISO 20022 enables seamless and automated reconciliation, whereby message schema and rich information fields minimize errors and facilitate auto-matching, covering payments initiation, interbank settlement, and cash management.
- Cross-border payments incur high costs on correspondent banking mechanisms built on the backbone of unstructured data. As regulatory mandates increase, more resources are dedicated to monitoring, screening, and filtering cross-border transactions.
- As banks adopt ISO 20022, they can reduce control system set-up costs and take advantage of the rich, diverse, actionable data insights mined from MX message constructs. As one example, Citigroup is migrating to ISO 20022 to address legacy challenges associated with message structure limits requiring significant human effort and investment to repair and service cross-border payments.²⁵

Figure 3. ISO 20022 can help FIs boost productivity and security while developing new data-based revenue streams



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

Whether global implementation happens in 2023 or within the next few years, the ISO 20022 train has left the station: MX adoption will automate payment processes to drive STP and significantly reduce transaction costs. In addition, MX formats will enable end-to-end transparency and interoperability to improve settlement times and reduce payment delays. ISO 20022 will provide 360-degree customer views with rich, granular payments data and structured reference information so businesses can mine actionable insights and accurately predict customer behaviors. To remain competitive, banks must comply with ISO changes or risk business declines if they cannot receive and deliver statements and payments from other banks on behalf of their customers.



ISO 20022 is a key topic because it serves as the foundation for harmonization, standardization, and the utilization of new efficiency potentials."

Nikolaus Giesbert

Divisional Board Member, Commerzbank, Germany

TREND 4

CENTRAL BANKS GEAR UP TO PILOT AND IMPLEMENT CBDCs

Central Bank Digital Currency (CBDC) aims to work in tandem with traditional payment assets, offering real-time processing, amplified transparency, and broad societal reach.

CONTEXT

Digital, albeit private, currencies have garnered much interest as an alternative payment method. More recently, central banks have been exploring guaranteed digital currencies that are transparent, secure, easily accessible, and more stable than private cryptos.

- Based in Washington, DC, [Atlantic Council](#), a nonpartisan organization that galvanizes US leadership, sponsors a CBDC tracker that follows 112 countries; 100 of them are at various stages of CBDC research and implementation.²⁶
- While most central banks are currently undecided on CBDC underlying technology, a survey suggests that almost 70% of central banks are interested in using distributed ledger technology (DLT) as the enabling technology for CBDC.²⁷
- While each central bank may focus on domestic payments during initial phases, inter-governmental cooperation could foster international payments growth through CBDC.

CATALYSTS

Investors trade cryptocurrencies internationally, and some countries accept crypto as a mode of payment. Although unregulated, cryptocurrencies are widely exchanged globally, and many countries accept crypto as a payment mode.

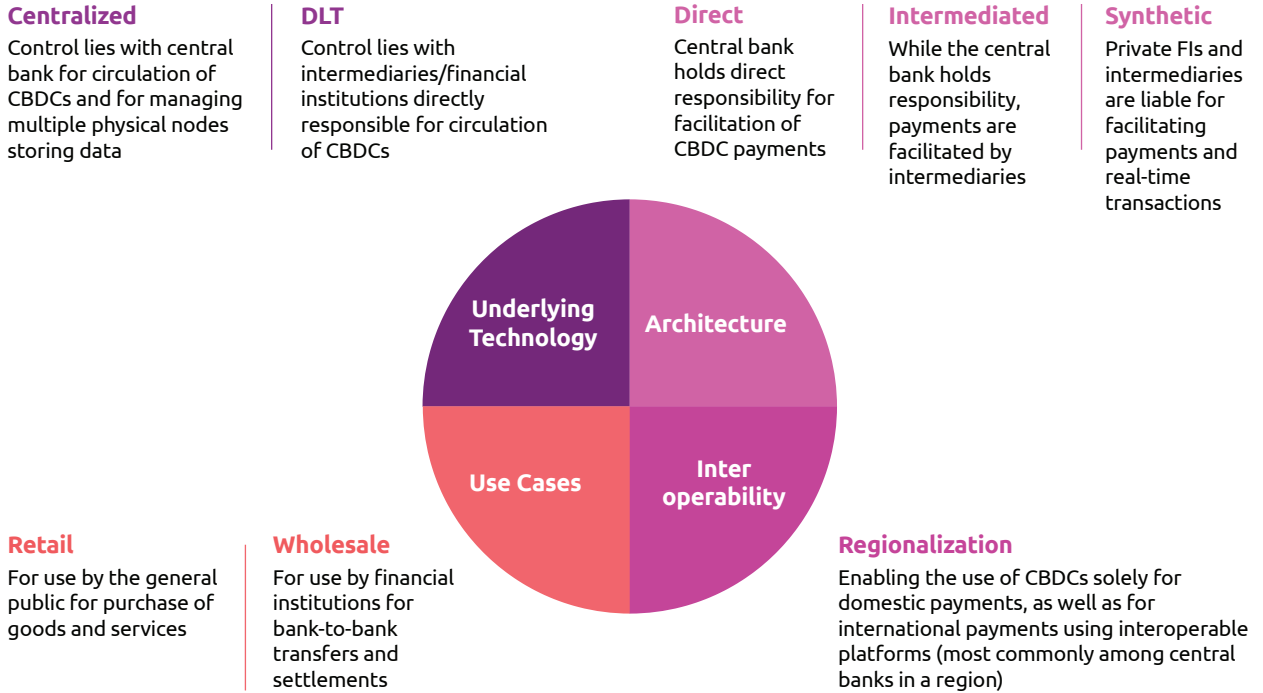
- In alignment with general crypto market sentiment, the total stablecoin market cap declined in 2022, although it totaled at least USD135 billion in Q4 2022, according to Boston-based Coin Metrics, an open-source project to determine the economic significance of public blockchains.²⁸
- With cash payments declining and digital payments (online and contactless) gaining ground since the pandemic, central banks have warmed to the idea of a digital alternative to fiat currency as a mode of payment – particularly during emergencies.
- However, unregulated cryptocurrency is susceptible to market volatility and so can be an unreliable storage option. By mid-2022, investors had lost more than USD1 trillion in cryptocurrency value since the 2021 high-water mark.²⁹
- According to a 2022 report on third-party security by the Ponemon Institute (a US research think tank dedicated to advancing privacy and data protection practices), 58% of FIS have experienced a data breach caused by a third-party vendor, the highest rate for any industry surveyed.³⁰

IN A NUTSHELL

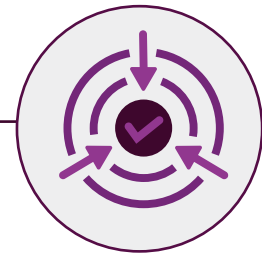
Central bank digital currency could provide access to safe, instant, and efficient digital payments for all population groups, including the underbanked and the unbanked.

- Governments design CBDC to be redeemable at par with sovereign money (bank notes) with payment guaranteed by the central bank. CBDC enhances the financial resilience of the national fiat and hedges against market volatility, while preserving the central bank's role as the stabilizing force of the payments system.
- CBDC is essentially public money, and central banks do not monetize payments data (as practiced by private banks and BigTechs). Therefore, transaction privacy and information are secure. Central bank digital currency based on DLT enhances transaction security and reduces settlement and counterparty risks. For instance, Banque de France's proprietary DLT DL3S, supports a multi-CBDC resulting in efficient delivery and settlement.³¹
- Among [World Payments Report 2022](#) Executive Survey respondents, roughly 80% acknowledge the potential of CBDC as a national fiat during emergencies and a regulated alternative to faster and more efficient cross-border payments.³²
- Countries worldwide seek to launch CBDC pilots to test use cases before official payments rollouts. For instance, the Reserve Bank of India is building the Digital Rupee. Big banks and global think tanks are collaborating through initiatives such as Project Helvetia and Project Dunbar. SWIFT and Cargemini collaborated to develop a ground-breaking solution interlinking CBDC networks and existing payment systems for cross-border transactions.³³

Figure 4. What central banks consider when ideating and implementing CBDC



Source: Atlantic Council CBDC Tracker, Accessed November 2022.



IMPACT

We anticipate the CBDC trend to continue in 2023 and beyond, with a significant central bank push to roll out retail and wholesale use cases. Supporters outline many benefits, including increased end-to-end traceability across the payments value chain and a reduction in net transactions costs, benefitting lower-income households. In addition, CBDC is touted as a means to improve payment processing and settlement time – to less than a few seconds using distributed ledgers from as much as an hour using conventional processing.

TREND 5

COMPOSABLE ARCHITECTURE CREATES COMPETITIVE ADVANTAGE EFFICIENCIES

Payments providers can create layers of services and capabilities on a composable, API-powered canvas.

CONTEXT

Think of the ubiquitous LEGO® construction toys. In payments, composable architecture allows firms to select and assemble building blocks in various combinations to satisfy customer requirements. Composable payments hubs enable payments firms to offer innovative services and products, even while tied to legacy systems. They can either leverage existing features, develop new features in-house, or use plug-and-play third-party services via composable architecture.

- Composable architecture accelerates the ability of banks and payments providers to implement change quickly based on customer response. Gartner forecasts that organizations adopting composable architecture will be able to implement new features 80% faster than the others to fuel go-to-market strategies.³⁴
- Only 4% of payments executives surveyed as part of the [World Payments Report 2022](#) said their firm has (or is exploring) composable architecture. Firms that leverage composable architecture can test, measure, and integrate SaaS turnkey services into their existing systems quickly and economically, reducing their IT footprint. Moreover, total cost of ownership remains significantly lower due to SaaS (pay-as-you-go) pricing models.³⁵

CATALYSTS

FinTech innovations, new and improved payments rails, and real-time process requirements are among the reasons that future-focused financial institutions are considering composable architecture platforms.

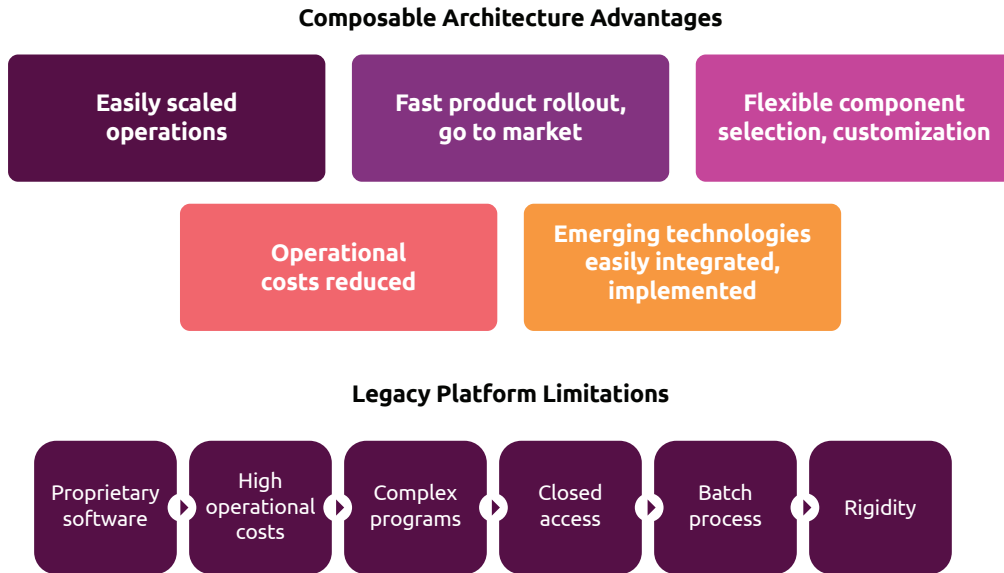
- Payment providers can use High-Productivity Fintech Infrastructure (HPFI) to modernize existing technology stacks and innovate at the speed and scale of FinTechs. A successful HPFI strategy includes composable architecture, a no-code/low-code interface, security, and scalability.
- Composable architecture will simplify the transition to real-time payments rails. Additionally, it will support the shift to ISO 20022. Composability will transcend payables and receivables to support transaction monitoring, client reporting services, and more.
- As real-time payments improve market efficiency, liquidity, cost economies, and speed, a composable platform will help banks integrate their systems, processes, and protocols with third parties to facilitate instant payments.

IN A NUTSHELL

Composable architecture can build applications by assembling pre-built software components to optimize time and costs. The resulting design is fluid, with new elements created or existing ones merged, replaced, escalated, reduced, eliminated, or reused. This facilitates personalization, content delivery, and on-demand integration of tech stack components.

- Overhauling an entire legacy system can be daunting. Conversely, a composable model reduces cost and response time thanks to surgical IT interventions. In addition, banks can opt for a dual-platform strategy running legacy platforms and cloud-based systems in parallel until they migrate all processes to the new platform. Finally, retaining critical elements of the existing IT stack mitigates risks associated with data migration.³⁶
- Composable architecture helps banks choose only necessary components and configure new processes and products with limited IT intervention, which reduces single-vendor dependence and operational costs. Further, firms can minimize transaction failure rates from as high as 20% to as low as 1%.³⁷
- FinTechs have been long-time composable platform proponents and have disrupted the industry and challenged incumbents with faster turnaround time and customer acquisition rates. Digital-only bank Flowe went live in five months instead of the usual years by adopting an open, composable banking platform. Within the first six months, the bank onboarded 600,000 customers.³⁸
- A composable platform allows payment firms to leverage APIs and actively curate new value propositions. As a result, firms can realize value without significant time lag and deliver hyper-personalized services. For instance, J.P. Morgan plans to pilot a digital payment platform to automate invoicing and receipt of rent payments. The bank aims to serve over 100 million Americans through its platform.³⁹

Figure 5. Composable architecture trounces legacy system limitations



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

Composable architecture enables banks to transition from legacy systems to independent and cost-efficient best-in-class IT systems. In addition, composability facilitates cloud migration and adoption of technologies that enhance innovation, agility, scalability, and freedom to choose products from multiple vendors.

We anticipate that more payment service providers will move from core centrality to composability in 2023 and beyond. Composable architecture allows financial institutions new freedom to make incremental moves to prioritize which products and digital journeys they need most, while continuing to nurture and develop offerings and reducing time to market. Incumbents will effectively hedge against newcomer competition, reduce costs, and augment revenues by adopting composable architecture.



Legacy infrastructure is a challenge for banks and corporates alike trying to balance modernization with transformation. The challenge for corporates is that we have added complexity by maintaining the old plus adding the new."

Lisa Vasic

Managing Director, Transaction Banking, ANZ
Australia

TREND 6

REAL-TIME, CROSS-BORDER PAYMENT RAILS WILL BOOST THE SPEED AND VOLUME OF REGIONAL TRADE

Improved fund liquidity and transparency will bolster trust in cross-border transactions.

CONTEXT

Ride-hailing apps. Instant food delivery. Voice-command musical and cinematic playlists. In 2023, customers – everywhere – expect real-time conveniences. Payment service providers (PSPs) are staying in the game by moving to real-time, cross-border payments after years of honing efficiencies in domestic payments processes.

- Cross-border payments typically require three to five days of end-to-end processing before reaching an intended recipient. Further, inefficiencies such as high costs, lengthy settlement times, and opaque processes are part of the status quo.
- Around 60 countries have implemented domestic real-time payments (RTP) initiatives and are building infrastructure to enable cross-border interoperability.⁴⁰ Retail consumers are looking for convenience in cross-border transactions similar to their domestic RTP experience.
- US real-time disbursements tripled between 2020 and 2021, accounting for 17% of all distributions, according to a study by PYMNTS.⁴¹ The increase was up from 5.7% in 2020. By contrast, the shares of consumers choosing cash and check dropped 35% and nearly 50%, respectively, from 2020 to 2012, the PYMNTS study found.

CATALYSTS

Real-time capability translates to a paradigm shift for cross-border payments.

- » However, several initiatives and technological developments around the globe are fast-tracking the real-time cross-border payments trend. As regional boundaries for trade and commerce shrink, globalization is becoming mainstream. In 2020, 43% of SMBs conducted business internationally, versus 34% in 2019.⁴² But cumbersome cross-border payment processes often put enterprises in a liquidity and cashflow bind.
- » In addition, the rise in borderless e-commerce, cross-border B2C payments, and web-centric transactions are boosting demand for cross-border RTP.
- As ISO 20022 messaging hurtles forward – with more than 70 countries expected to sign on – RTP remedies are on the horizon as interoperability between legacy and data-rich payment systems becomes standard.
- Distributed ledger technology (DLT) may also enhance cross-border payment networks. By leveraging DLT, central banks are exploring CBDC for real-time cross-border payments. For example, Project Jura, a collaboration between Banque de France, Swiss National Bank, and the Bank for International Settlements (BIS), is working to settle foreign exchange transactions in CBDC-based on the euro (€) and Swiss franc (F).

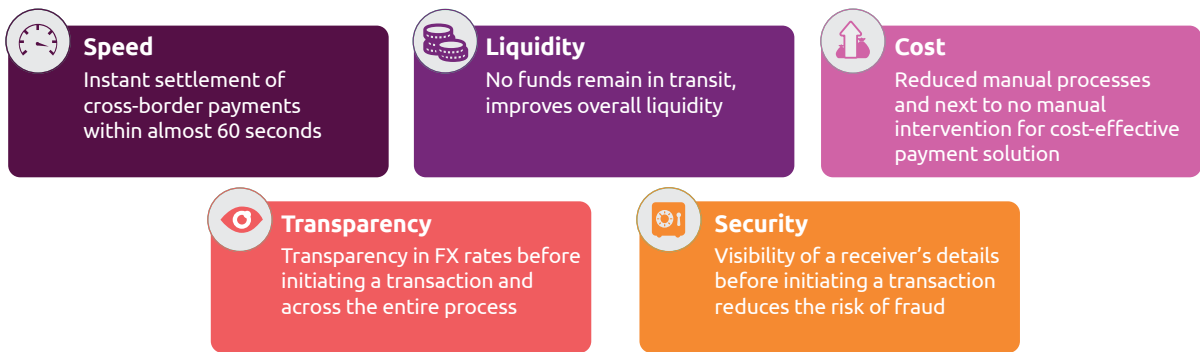
IN A NUTSHELL

Central banks and various payments infrastructure providers are simplifying cross-border payments infrastructure and building real-time, cross-border payment systems to streamline the process.

- The European Banking Authority's EBA Clearing, SWIFT, and The Clearing House (TCH) are developing a pilot service for Immediate Cross-Border (IXB) payments between US dollar and euro currencies with support from US and European banks.
- Following phased adoption, the Single Euro Payments Area (SEPA) instant payment service went into full effect in 2017, which enabled instant fund transfers of up to EUR100,000 to the 36 SEPA member states.⁴³ Despite its potential, SEPA Instant has yet to deliver super-fast euro transfers across the region. The European Payments Council says that after a 2019 surge, SEPA Instant use significantly slowed. By Q1 2022, SEPA Instant transactions accounted for <12% of all SEPA credit payments.⁴⁴
- P27 is a joint initiative backed by six Nordic banks, including Nordea, to establish a common clearing platform for payments in DKK (Danish krone), EUR, and SEK (Swedish krona). When P27 becomes fully operational, banks can offer customers standardized products and services across the Nordics.⁴⁵

- Five southeast Asian countries are developing a QR-code-based, cross-border payments system, enabling residents to make instant payments while traveling to a participating country. The banks aim to link their network to other regional clusters and widen connectivity to real-time bank transfers, and possibly CBDC. ⁴⁶

Figure 6. Speed and liquidity are among the benefits of real-time, cross-border payments



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

We anticipate RTP to make the big time in 2023 cross-border payments, with more active participation from global infrastructure providers, card network operators, and central banks. As a result, expect increased liquidity and improved cashflows in cross-border trade as banks disperse funds in real-time, unlike in the traditional process whereby funds linger in transit for three to five days. Cross-border RTP will also reduce costs associated with transaction fees and currency exchange rates, and will help SMBs improve their margins.



We live in a real-time world, so we need real-time systems that are available 24/7. For banks, this means they have to check whether their systems meet these requirements and adapt them if necessary. Corporates are faced with challenges as their systems operate according to the "d+1 principle" – data is only processed on the following day. As a result, both banks and corporates face similar challenges. If both sides work together, they can find a target-oriented solution together."

Gerhard Bystricky

Head of Product Development Payments, UniCredit Bank AG
Germany

TREND 7

AN END-TO-END ECOSYSTEM APPROACH SIMPLIFIES PAYMENT HUB MODERNIZATION

Cloud-based digital payment hubs optimize costs and customer experience while allowing new players to enter the ecosystem.

CONTEXT

Merchants worldwide are exploring payment modernization systems to enhance agility and optimize costs.

- As part of its Voice of the Enterprise: Customer Experience & Commerce, Merchant Study 2021, 451 Research found that more than one in three respondents (37%) said they would invest in payments processing over the next 12 months, positioning payment processing within merchants' top-four commerce technology investments.⁴⁷
- Large retailers with more than USD500 million in annual revenues – 50% coming from online-only sales – prioritize tech platform quality while selecting a payment processing partner. Big ticket retailers demand API-enabled platforms with built-in optimization and advanced analytics and reporting capabilities to improve CX and generate higher ROI.⁴⁸

CATALYSTS

Customer expectations, technical debt associated with legacy platforms, FinTech competition, and regulatory requirements are driving the payment hub modernization trend.

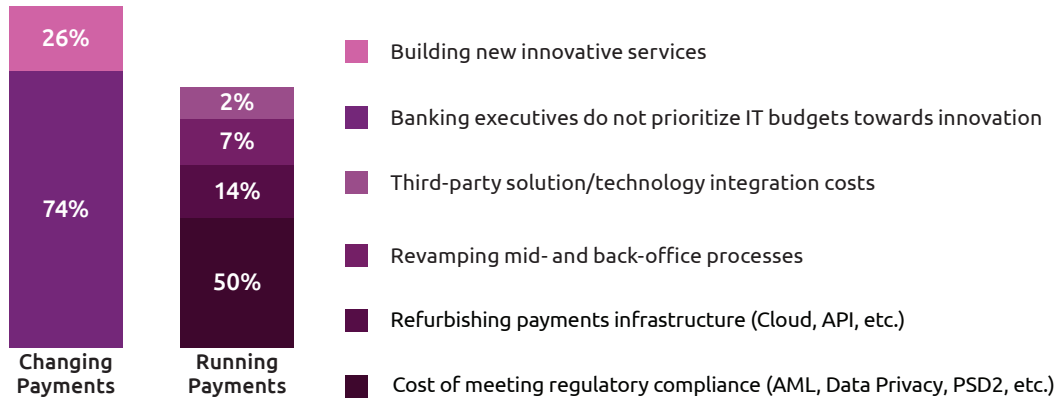
- Consumers want the convenience of seamless and secure real-time payments and multiple payment options such as card, online, mobile, and social media payments.
- Siloed and fragmented legacy payment systems drive up operational costs and result in inconsistent CX. On the other hand, API-led architecture optimizes costs and experience.⁴⁹
- Digital-first FinTechs are challenging banks in their traditional territory by offering superior CX and functional efficiency. Further, they tailor products to customers' needs and speed up approval processes

IN A NUTSHELL

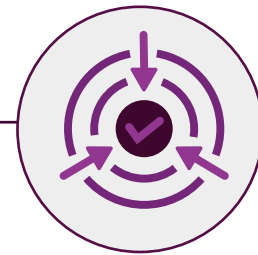
Payment hub modernization focuses on real-time payments, interoperability across diverse payment systems, and API enablement. The initiative helps banks unlock new value-added services while offering SaaS opportunities.

- A payments hub transformation includes software and network architecture upgrades coupled with innovations in cloud and service delivery models. API-led architecture and value-added solutions such as advanced data analytics, automation, enhanced security, and self-service are increasingly in demand. For example, US-based FinTech Fiserv offers a scalable, open-architecture payments hub that supports all payment types and clearing schemes, including real-time, low-value, high-value, SWIFT, and correspondent payments. It also offers innovative services such as Zelle Disbursements and Integrated Receivables.⁵⁰
- Following the lead of commercial banks, retail banks are leveraging open-API architecture to adopt digital payments hubs. However, there is still considerable progress to be made.
 - » A composable microservices-led hub can adapt at scale, keeping clients happy because the system can process multiple client formats and (in the United Kingdom) generate client-specific payment systems regulators. In addition, the payments hub accelerates new product launches and client onboarding to boost payments revenue.
 - » Cloud-native architecture enhances ease of integration with core/treasury/AML/limits platforms, and automated straight-through processing at lower operational costs and convenient client inquiry for rapid remediation. As a result, firms bolster interoperability and transaction success while sophisticated fraud monitoring and risk compliance mitigate risks.
 - » According to Capgemini's [World Payments Report 2022](#), only 34% of surveyed payments executives said their firm has nearly phased out legacy systems to deploy cloud-native open-platform architecture. Further, the report found that regarding IT budget priorities, only 26% of payment executives ranked innovation IT at the top of their list.⁵¹
- However, big banks are taking the lead in platform modernization. Bank of America integrated its payment hub with online payment solution Pay by Bank, which allows customers to make online purchases directly from their bank account without submitting credit or debit card details.⁵²

Figure 7. How are banks and payment service providers prioritizing their IT budget spend?



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

By leveraging their depth of experience and resources to foster complementary payments ecosystem partnerships, banks and payment service providers (PSPs) can boost speed to market, agility, and innovation – a win-win value proposition for all stakeholders: we anticipate payments modernization to take a holistic approach, including the overall end-to-end payments ecosystem in 2023 and beyond. Successful modernization will target middle- and back-office functions from client initiation to clearing and settlements, in order to enable innovation and facilitate connectivity to new networks and schemes. Future-proofing requires platform strategies and innovative business models in an era of ecosystem growth.

The payments ecosystem will continue to facilitate the entry of new-age players with the adoption of cloud-based SaaS models. The SaaS and PaaS trend will gain momentum for providing access to a broader range of products and services at lower costs. As banks and payments providers adopt, modernize, and integrate in 2023, payment processors will likely offer SaaS platforms for payments as various financial service providers diversify their product base and acquire more customers.

Expect payment hubs to enhance customer experience, drive growth, and create operational efficiencies throughout the years ahead. Financial institutions will agree upon clear-cut ROI targets for optimal results and map their capabilities to the business outcomes they seek.



Our firm developed an open ecosystem of connectivity solutions allowing clients to integrate third-party payment solutions. In addition, Credit Suisse partners with startups to provide services, including accounting, reporting, and other business requirements, which enhances the bank’s overall value proposition.”

Alain Schmid

Credit Suisse Head of Business Banking, Zürich

TREND 8

PAYTECH INNOVATION AND ECOSYSTEM PARTNERSHIPS FOCUS ON REVAMPING SMB PAYMENTS

Payment service providers, including banks, are betting big on innovative payment technologies with the right mix of ecosystem partners to boost SMB engagement and loyalty.

CONTEXT

As the business-to-business payments landscape evolves, SMBs are wielding more clout: these enterprises represent about 90% of global companies and contribute more than half of all employment, according to The World Bank.⁵³ Therefore, banks are beginning to acknowledge and address the significant challenges SMBs encounter in day-to-day operations and in their attempts to expand.

- COVID-19 compelled 82% of SMBs to change how they make and receive payments, according to a 2021 PYMNTS study.⁵⁴
- Capgemini's [World Payments Report 2022](#) found that SMBs are often dissatisfied with services from their traditional banking partners. Only 11% said they were happy with their banking relationships, 44% said they were dissatisfied, and 45% said they were indifferent. The result is that 89% of SMBs are reconsidering relationships with their primary banks across various product categories. Banks often struggle to meet SMB requirements because of their varying sizes, scale, and disparate maturity levels and geopolitical and financial instability.

CATALYSTS

For years B2B payments had been a cash/paper-based segment. But non-cash transactions have changed the B2B payments trajectory, with double-digit growth expected for the 2021-2026 period, according to Capgemini's [World Payments Report 2022](#). New-age payment players continue to attract SMBs, with PayTechs cashing in on 5% of the global B2B commercial spend in 2019.⁵⁵

- SMB payments continue to battle clearing and settlement delays, constrained provisional liquidity and cash management, operational inefficiency, and cybersecurity risks. To pick up the slack, new-age PayTechs are building one-stop-shop ecosystems that offer SMBs value-added services by bundling financial and non-financial services, such as B2B payments, with capital management and advisory services, insurance, and more.
- Digital technologies, including instant account-to-account cross-border payments and app-based and embedded payments, are democratizing SMB payments in some geographies. However, new technology adoption and digital landscape navigation are sluggish in other markets: in Europe, only 68% of SMBs leverage digital channels where possible; and of those, only 17% fully integrated digital technology, a Visa study found.⁵⁶

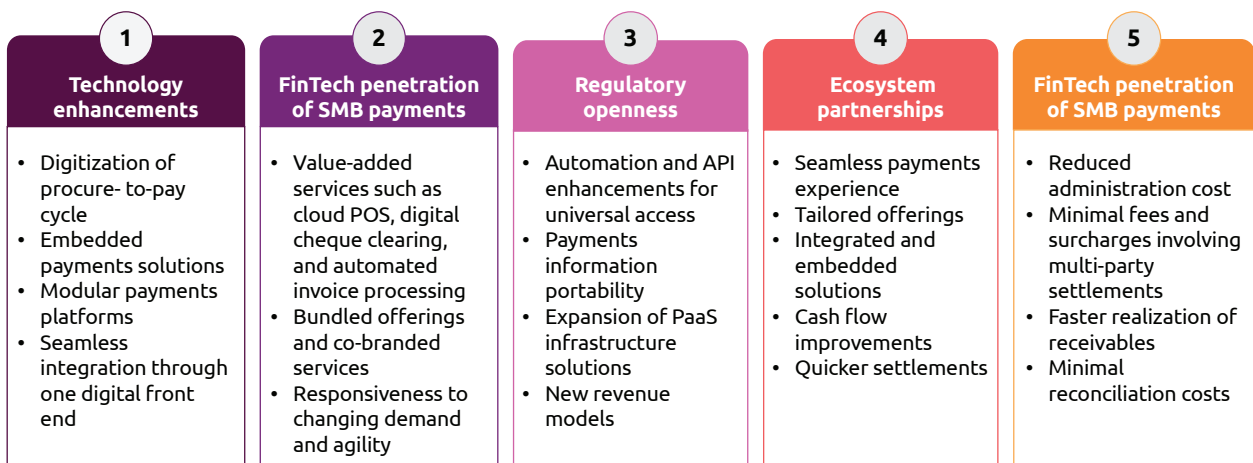
IN A NUTSHELL

Banks and PSPs are coming to realize that SMBs face supply-chain disruption as well as a cumbersome B2B payments value chain; they are also not offered the innovative payment choices made available to their B2C counterparts. As a result, SMBs are now vigorously expressing expectations and payment requirements.

- The deployment of digital banking solutions, virtual account services, and e-wallets in partnership with new-age payment providers (white-label or via APIs) streamlines B2B payment processes and generates new revenue streams for SMBs. For instance, Chennai-based M2P Solutions partnered with 30 banks and 500 FinTech startups in 20 markets across Asia and North Africa in a white-label arrangement that allows it to dominate the payments infrastructure space. They provide BNPL, neo banking, credit cards, and loyalty program services in partnership with DCB Bank, IIFL, and Niyox, among others.⁵⁷
- Banks and small businesses need customizable, off-the-shelf payment solutions that provide a unified proposition and meet vertical market needs. As one example, global B2B payment firm **TreviPay** partners with banks to accelerate SMBs' digitization efforts and, in turn, creates a sound structure for customer retention and scalable bank solutions.⁵⁸

- The fragmented and cumbersome B2B payments value chain spawns opacity and a proclivity for errors. In response, SWIFT, via its Global Payments Initiative (GPI), seeks to connect value-chain players through a cloud solution that remains open to payment providers in addition to traditional banks.⁵⁹ The next logical step is for banks and PayTech firms to partner within a PaaS ecosystem to transform SMB payments and provide scale, speed, and resilience.
- Market infrastructure providers Visa and Mastercard are ecosystem partnership frontrunners tapping into significant SMB credit flows. Visa has joined hands with banks, technology partners, and governments in Europe, and pledged to support eight million SMBs in digitizing and future-proofing their business models.⁶⁰

Figure 8. Critical indicators catalyze SMBs to restructure their payments value chains



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

Banks will leverage B2B partner networks to deepen existing customer relationships, strengthen client retention, and sustain growth by offering robust systems with quicker market time. Ecosystem-driven payments partnerships will be the value-creation trend of the future, with opportunities to generate platform revenues, monetize data, and offer new products and services at scale with straightforward implementation benefiting all stakeholders.

We foresee a more streamlined B2B cross-border payments value chain as intermediary correspondent banking networks are eliminated and global multi-currency payment solutions emerge. Leveling the bank/PayTech playing field will make payment information portability possible. Moreover, it will enable B2B payments architecture modularity and the bundling of various value-added services to enhance customer experience.

TREND 9

TOKENIZATION – A MULTI-PRONGED APPROACH FOR SCALABLE AND SECURE CARD PAYMENTS INFRASTRUCTURE

Tokenization involves all major payments ecosystem players – aiming to make card payments safer.

CONTEXT

The evolving payments landscape and expanding scope of non-cash payments necessitate securing all transactions throughout the lifecycle. As a result, card tokenization is gaining adoption momentum among financial institutions and intermediaries.

- A token can be associated with a card only at a single merchant or throughout the global payments ecosystem, depending on the tokenization point.
- Card tokenization is not new. The Payment Card Industry Data Security Standard (PCI DSS) 2011, laid out guidelines for tokenized payments.

CATALYSTS

The exponential increase in non-cash payments and the push toward digital payments has stoked a rise in fraudulent transactions that shows little sign of letting up.

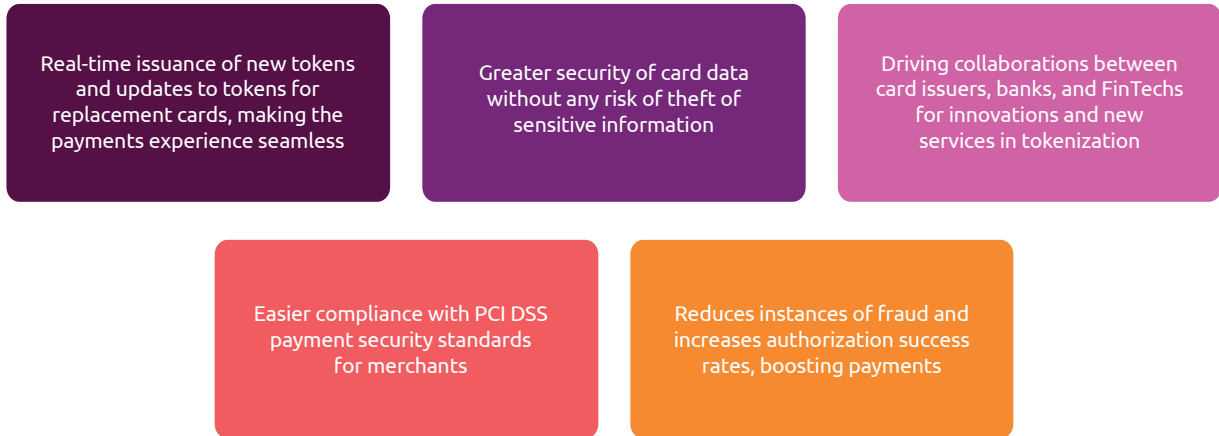
- In the UK, detected card fraud rose 42% in Q4 2021 compared with Q3.⁶¹ Moreover, a Nilssen study forecasts that globally, the industry will lose USD408.50 billion through 2030 from card fraud.⁶²
- Central banks across various geographies mandate card tokenization to secure card-based payments. As a result, regulatory frameworks are being set up for all involved entities – token generator, token mapper, and token data vault – to secure sensitive card information when stored as tokens.

IN A NUTSHELL

Card tokenization has been a critical theme in securing payments over the last few years. As digital payments popularity grows, safeguards are necessary to secure payment data. And as tokens show increasing promise, data security collaboration proliferates.

- Merchants no longer must save sensitive card information. Instead, they only need keep the unique token securely linked to the token vault, which reduces implementation efforts and costs associated with infrastructure compliance with PCI DSS tokenization standards.
- With a card token issued at the source, merchants do not require updating card details. However, when a card is reissued or replaced, updated information is directly linked to the unique token assigned to the issuer's vault. Visa and Mastercard have used tokenization services since 2014.
- The Reserve Bank of India imposed an October 2022 deadline for cards to be tokenized; the directive affected more than 200 million cards. FinTechs such as PayU and PayTM are frontrunners, with more than 50 million tokenized cards each across the Visa, Mastercard, and RuPay networks.⁶³
- Partnerships with 45,000 merchants, 34 issuing banks, 10 acquiring banks, and 30+ token aggregators enabled Mastercard to create 90 billion tokens in India within seven to eight months, beginning in December 2021.⁶⁴ Visa recently confirmed having issued four billion network tokens worldwide using VTS, surpassing the number of its physical cards in circulation and marking the second consecutive year it doubled network tokens in circulation (from 1 billion in 2020 to 2 billion in 2021).⁶⁵
- Card issuers and FinTechs are partnering to tokenize cards directly at the point of issuance. Skyflow, a Silicon Valley data privacy vault company, expanded its collaboration with Visa to tokenize cards directly with all major card brands. Leveraging Token ID, Skyflow enables merchants, payment facilitators, and payment gateways to build secure tokenized networks.⁶⁶
- Interoperability is critical aspect of card tokenization. Indian PayTech Cashfree Payments launched its Token Vault solution to support interoperability by reducing the need for businesses to integrate with multiple token service providers (Mastercard, Visa, RuPay) to tokenize cards and execute transactions.⁶⁷

Figure 9. How will card tokenization affect payments ecosystem partners?



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

The payment card tokenization trend will enhance digital payment security for issuers, merchants, acquirers, payment processors, and stakeholders. For example, Visa reports that card transaction fraud has shrunk by 28% thanks to tokenization and its overall transaction approval rates rose by 3%, signifying a reduction in false negatives – a boon for card payments customer experience.

In 2023 and beyond, we anticipate more to bulk tokenization, which assigns a single token to large quantities of cards stored en masse. PayPal has taken the bulk tokenization lead and gone live with Mastercard and Visa initiatives, while its in development phases with American Express and Discover.⁶⁸ Apart from ease of transactions, tokenization will ensure that customer data remains safe and cannot be accessed from merchant sites. Businesses will also be able to accept recurring payments and other payment options in a safe environment, simplifying subscription-based processes.



The main focus in the payments industry is on tokenization in the card space. This is accessible and will continue to prevail, and there are fascinating use cases here.

Kilian Thalhammer

Managing Director, Head of Merchant Solutions, Deutsche Bank AG
Germany

TREND 10

ECO-FRIENDLY CARDS, DIGITAL PAYMENTS, AND CLOUD-BASED PAYMENTS HUBS WILL BOOST SUSTAINABILITY

Consumers' sustainability awareness and payment firms' strategic net-zero business goals drive earth-friendly payments initiatives.

CONTEXT

Traditional payments transactions – involving cash, plastic cards, and checks – often come with environmental costs. Their production, transportation, and use take a toll on nature.

- Consumers discard six billion plastic cards made of non-biodegradable synthetic material each year.⁶⁹ A Nilson report asserts that the number of payment cards in circulation will surpass 31 billion by 2025.⁷⁰
- According to BNY Mellon, 2.3 billion checks are collected annually, with an environmental impact of 455,000 trees.⁷¹
- A study by the Dutch central bank (De Nederlandsche Bank NV) reported that an average cash payment has a global warming potential (GWP) of 5.0 grams of CO2 equivalent, and its GWP is 1.3 times that of a debit card payment.⁷²
- In the United States, receipts consume over three million trees and nine billion gallons of water, generating more than four billion pounds of CO2. That's equivalent to emissions from 450,000 cars and 302 million pounds of solid waste annually.⁷³

CATALYSTS

Sustainability is an integral element of every business transaction. According to a 2021 Mastercard survey, 85% of respondents globally are willing to take action to fight environmental and sustainability challenges.⁷⁴

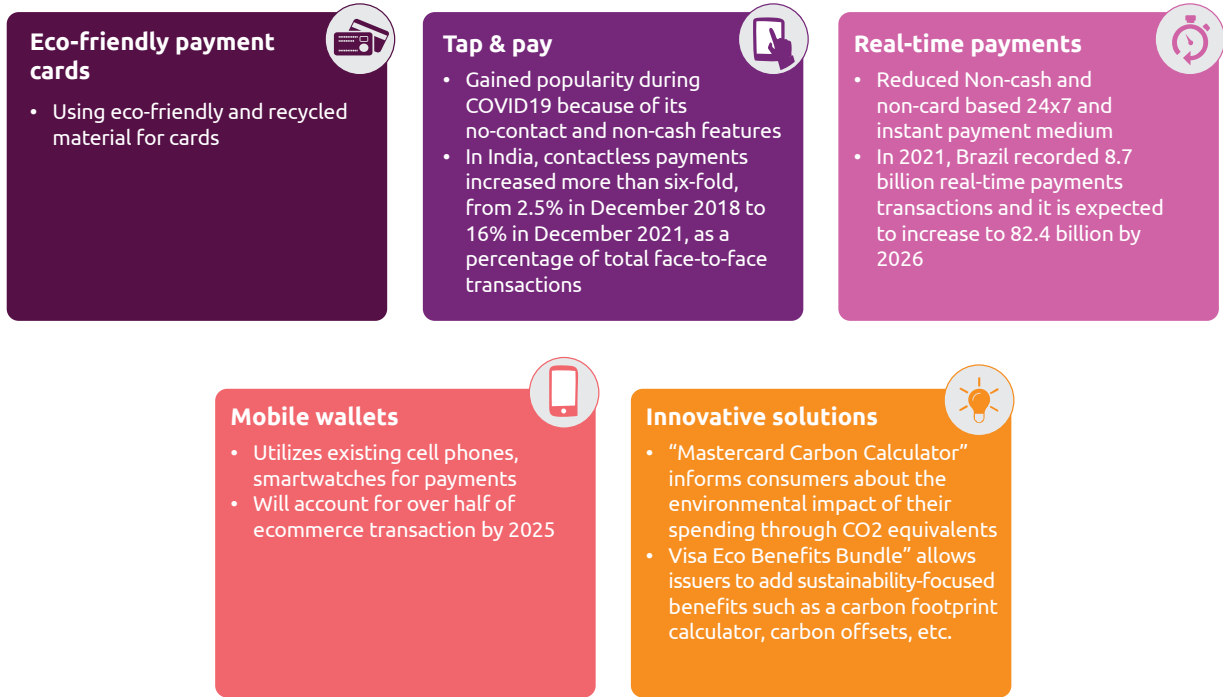
- During COVID-19, some worried that cash was a virus carrier, and so many consumers switched to digital payments. Even as the pandemic subsided, digital transactions remained the go-to method for many individuals. For example, digital payments in India may reach USD10 trillion by 2026, up from USD2 trillion in June 2022, contributing to 65% of total 2026 payments volume, according to a report by PhonePe in collaboration with Boston Consulting Group.⁷⁵
- Large multinational banks, payment processors, and corporations are promoting digital payments to reduce carbon footprints and move closer to achieving net zero by 2050, which supports international agreements inked in 2021 at the UN Climate Change Conference in Glasgow (COP26).
- Baby boomers will transfer more than USD68 trillion in intergenerational wealth to their children and heirs over the next 25 years.⁷⁶ The recipients of this wealth are more concerned about the environment than previous generations and may be willing to spend more on sustainable products and services.

IN A NUTSHELL

Sustainable practices will take center stage as the world transitions to a sustainable economy. Payment ecosystems will adopt sustainable protocols that focus on eco-friendly modes of payment and digital payments.

- HSBC pledged to eliminate single-use plastic cards by 2026 as part of its broader initiative to achieve net zero carbon emission in its operations and supply chain by 2030 or sooner. HSBC aims to reduce 161 tons of CO2 emissions and save 73 tons of plastic annually by switching from single-use plastic to recycled plastic cards. The bank has already introduced recycled plastic cards in Malaysia, Sri Lanka, and India, and plans a 2026 global rollout.⁷⁷
- Citi launched recycled plastic cards in its corporate card offering in Europe, the Middle East, and Africa in April 2022 before initiating a phased global rollout.⁷⁸
- BBVA says it is the first European bank to introduce cards made of recycled plastic and aims to offer all recycled-material cards by 2023.⁷⁹
- DBS Bank India launched a debit card made of 99% recycled material in collaboration with Indian online travel company EaseMyTrip; the card offers benefits to customers who adopt eco-friendly practices.
- Visa partnered with CPI Card Group to launch the Earthwise High Content Card with up to 98% of upcycled plastic.⁸⁰
- Mastercard launched cards made up of materials from recyclable, bio-sourced, chlorine-free, degradable, and ocean plastics. It has introduced a new badge to help customers find cards made up of sustainable material.

Figure 10. Non-cash transactions promote sustainability



Source: Capgemini Research Institute for Financial Services Analysis, 2022



IMPACT

Sustainable payments are pivotal to achieving net zero and building innovative eco-friendly offerings that retain and attract environmentally conscious consumers. In addition, as markets transition to cashless economies, payment transactions will be more sustainable. Banks will migrate their payments hub to cloud-based solutions as cloud infrastructure generates 95% fewer carbon emissions than on-premises systems.⁸¹ As CIOs of banks incorporate sustainability into their value chain, they will have an ESG agenda in place while choosing a technology provider and will be more alert about greenwashing.

To support the sustainability trend, we anticipate banks will introduce new products and services related to green cards, carbon footprint calculators, and green alternatives to attract and retain environmentally conscious next-generation customers.

CONCLUSION

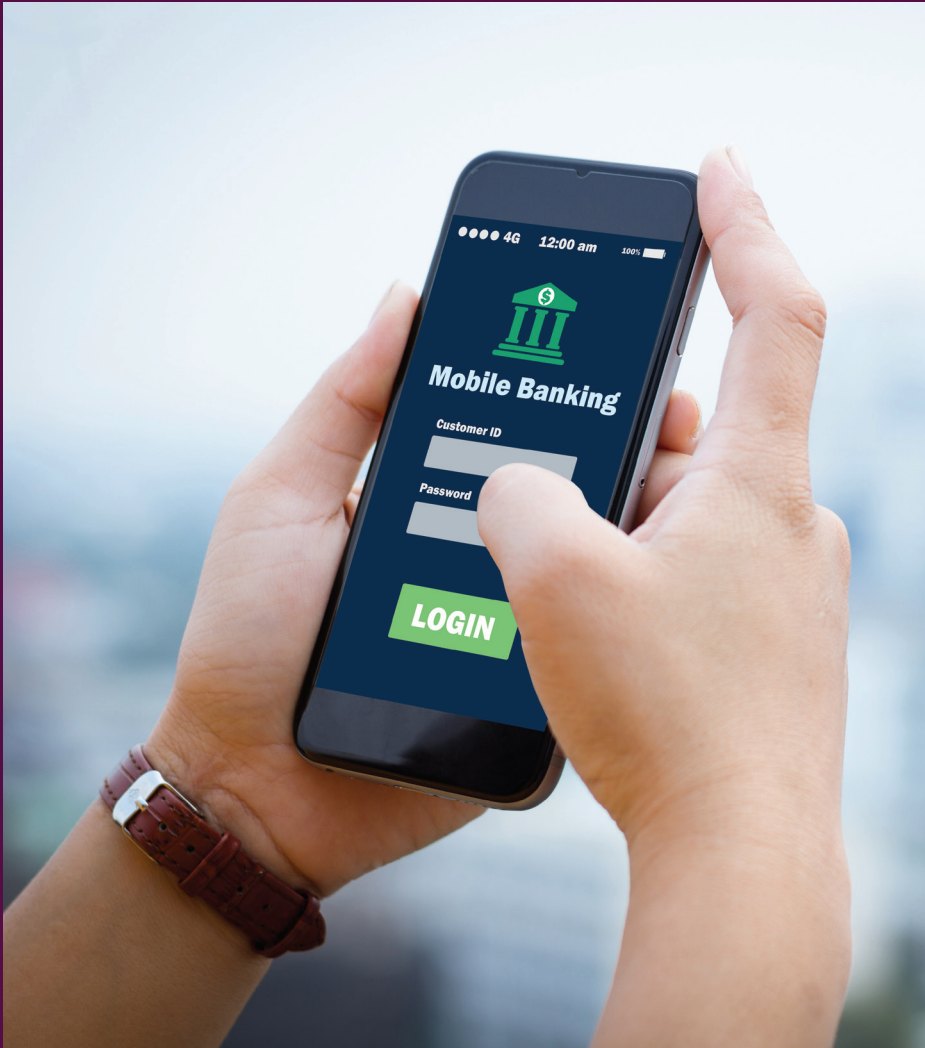
As the payments ecosystem continues to evolve, the onus will be on incumbent banks and payment service providers to adapt and to implement new digital technologies, industry and crypto initiatives, messaging standards, and regulatory and compliance directives. We anticipate the pace of change across the ecosystem to continue to accelerate.

While geopolitical and macroeconomic uncertainties in 2022 dampened investors' funding appetites, we believe this chill is temporary. Although transaction volumes will likely continue a short-term downward slide, the overall payments landscape is somewhat recession-proof because it helps bolster market functionality. But innovative PayTechs may struggle because the likely drop in transaction volumes will cause VC money to continue to be scarce.

However, most stakeholders remain bullish and are committed to modernization via IT budget prioritization. Forrester predicts that many investments destined for the metaverse or other blockchain and CBDC projects will be repurposed to baseline payments infrastructure and modernization projects.⁸²

The payments arena has long been a space for newcomers to test the waters and penetrate the market. Therefore, the heat is on incumbents to remain competitive, in part by delivering outstanding customer experience enabled by leveraging data, mining actionable insights, and hyper-personalizing products to expand into new services at scale. In 2023 and beyond, strategic business plans will include augmented, customer-centric payment services.

And although regulations have been a great enabler, they have also meant increasingly stringent and costly compliance procedures. Because banks have an inherent advantage in navigating the complex regulatory landscape, synergistic FinTech/bank collaborations will likely continue to proliferate in order to leverage mutual strengths. In 2023, our eyes will be on incumbents as they respond to these new and expanding market dynamics and trends.



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ENDNOTES

1. [FIS Global news release](#), "Global e-commerce Market Projected to Grow 55 Percent by 2025, FIS Study Finds," March 2, 2022.
2. [CB Insights](#), "State of Payments Q2'22 Report," August 9, 2022.
3. Ibid.
4. [Acumen Research and Consulting](#), "B2B Payments Transaction Market Size - Global Industry, Share, Analysis, Trends and Forecast 2022 – 2030," November 2022.
5. [S&P Global](#), "2022 payments industry outlook," February 24, 2022.
6. [Finbox](#), "Buy-Now, Pay-Later will revolutionize B2B E-Commerce payments," March 17, 2021.
7. Ibid.
8. [OECD](#), "The Digital Transformation of SMEs," 2021.
9. [Finextra](#), "B2B BNPL: Embedding Banks Within The Supply Chain," September 15, 2022.
10. [PYMNTS.com](#), "B2B BNPL Helps SMBs Create Runways to Growth," November 14, 2022.
11. [Payments Dive](#), "Resolve CEO touts benefits of BNPL in B2B," July 21, 2022.
12. [Finextra](#), "B2B BNPL: Embedding Banks Within The Supply Chain," September 15, 2022.
13. [Finextra](#), "B2B BNPL: Embedding Banks Within The Supply Chain," September 15, 2022.
14. Ibid.
15. [Bain & Company](#), "Embedded Finance: What It Takes to Prosper in the New Value Chain," September 12, 2022.
16. [IDC](#), "SMB Market Landscape and State of Digitalization Asia/Pacific (Excluding Japan) 2022," May 2022.
17. [Eurostat](#), "How digitalised are EU's enterprises?," October 29, 2021.
18. [The Paypers](#), "The evolution of embedded finance," November 2, 2022.
19. [Platformable](#), "Q3 2022 Open Banking/Open Finance Trends: new report released," July 21, 2022.
20. [Bain](#), "Embedded Finance: What It Takes to Prosper in the New Value Chain," September 12, 2022.
21. [The Paypers](#), "SWIFT ISO20022 and its impact on cross-border payments," April 8, 2022.
22. [Federal Reserve Board](#), "Federal Reserve Board announces final timeline and implementation details for adoption of new Fedwire Funds Service message format," June 27, 2022.
23. [Capgemini](#), "World Payments Report," October 6, 2022.
24. [SWIFT Toolkit](#), "Quality Data Means Quality Payments," Accessed October 2022.
25. [Citi](#), "The Importance of Data Structure: ISO 20022 and the Future of Payments," September 2021.
26. [Atlantic Council](#), "Atlantic Council CBDC Tracker," June 2022.
27. [Central Banking](#), "CBDCs unlikely to be based on blockchain – Central Banking survey," May 14, 2020.
28. [Finbold News](#), "Tether dominates centralized exchange stablecoin trade volumes despite market cap decline," October 18, 2022.
29. [CNBC](#), "Op-ed: The toughest challenges for cryptocurrency lie ahead, not in the rear-view mirror," July 12, 2022.
30. [ECB](#), "Central bank digital currencies: defining the problems, designing the solutions," February 18, 2022.
31. [Banque de France](#), "Central bank digital currency (CBDC) and bank intermediation in the digital age," July 12, 2022.
32. [Capgemini](#), "World Payments Report 2022," October 7, 2022.
33. [SWIFT](#), "New experiments pave way for international payments using CBDCs," May 19, 2022.
34. [Gartner](#), "Gartner Identifies the Top Strategic Technology Trends for 2022," October 18, 2021.
35. [Capgemini](#), "World Payments Report," October 6, 2022.
36. [Forbes](#), "Composable Tech: Why Boardrooms Should Pay Attention And How To Get Started," March 2, 2022.
37. [Solace](#), "Electronic Payment Processing Architecture and How It's Changing with EDA," August 12, 2022.
38. [International Banker](#), "Why Composability Is The Future Of Banking," May 30, 2022.
39. [CNBC](#), "JPMorgan Chase wants to disrupt the rent check with its payments platform for landlords and tenants," October 31, 2022.
40. [Worldpay FIS](#), "Global payments report: Powering the next payments frontier," March 23, 2022.
41. [Pymnts](#), "How consumers are driving demand for real-time payments," December 20, 2021.
42. [Visa](#), "Small business, big cross-border opportunity: As SMEs go global, so do their banking needs," July 7, 2022.
43. [European Payment Council](#), "SEPA Instant Credit Transfer," Accessed October 2022.
44. [PYMNTS](#), "What's the Holdup With SEPA Instant Payments?," June 28, 2022.
45. [Nordea](#), "P27 - Nordic payment platform," Accessed October 2022.
46. [Finextra](#), "Southeast Asian countries prep QR code payment interoperability," July 20, 2022.
47. [Forbes](#), "Three Trends Driving Payments Industry Transformation In 2022," February 9, 2022.
48. Ibid.
49. [Capgemini](#), "World Payments Report," October 6, 2022.
50. [Fiserv](#), "Enterprise Payments Platform," Accessed September 21, 2022.
51. [Capgemini](#), "World Payments Report 2022," October 6, 2022.
52. [Bank of America](#), "Bank of America Launches Online Payment Solution, "Pay by Bank," February 14, 2022.
53. [World Economic Forum](#), "Why we shouldn't overlook the impact of SMEs on local and global economies," August 29, 2022.
54. [PYMNTS](#), "Virtual Cards Improve B2B Processes As Employees Work Remotely," August 27, 2021.
55. [Capgemini](#), "World Payments Report 2022," October 6, 2022.
56. [VISA Navigate](#), "Unlocking The Untapped Potential of SMEs in Europe," July 2022.
57. [YourStory](#), "How Chennai-based M2P Solutions is doubling down on global expansion," March 24, 2022.
58. [PYMNTS](#), "FinTechs Offer Trade Credit Bridge Between Banks, SMBs," August 9, 2022.
59. [Finextra](#), "Fintechs are democratising access to a new era of payments visibility," May 13, 2021.
60. [Visa](#), "Visa's mission to digitally enable small businesses gains momentum across Europe," March 1, 2021.
61. [ExperianPLC](#), "UK credit card fraud rate jumps to five year high," February 24, 2022.
62. [Nilson Report](#), "Card Fraud Losses Reach \$28.65 Billion," December 2021.
63. [News18](#), "Debit Card, Credit Card Tokenisation: PayU Tokenises Over 50 Million Cards as Deadline Nears," September 23, 2022.
64. [BusinessStandard](#), "Mastercard enables 200,000 merchants for card-on-file tokenisation," July 27, 2022.
65. [Reuters](#), "Visa tokens overtake payments giant's physical cards in circulation," August 24, 2022.
66. [FintechFutures](#), "Skyflow Deepens Collaboration with Visa to Make Network Tokenization the Secure Payments Standard," August 24, 2022.
67. [EconomicTimes](#), "Cashfree launches interoperability in card tokens across payment gateways," June 29, 2022.
68. [PayPal](#), "How Network Tokenization Leads to Higher Authorization Rates and a Better Customer Experience," April 29, 2020.
69. [Nilson Report](#), "CPI and Visa promote plastic card sustainability," June 30, 2020.
70. [Nilson Report](#), "Cards projected worldwide," October 16, 2020.
71. [Finextra](#), "BNY Mellon drives reduction in paper cheques with carbon-tracking tool," April 29, 2022.
72. [Institute and Faculty of Actuaries](#), "A cashless society – benefits, risks and issues," October 2018.
73. [Climate Action](#), "Skip the slip - environmental costs & human health risks of paper receipts," August 5, 2019.
74. [Mastercard](#), "Consumer passion for the environment grows as a result of the pandemic," April 12, 2021.
75. [Mint](#), "India's digital payments industry may reach \$10 trillion by 2026," June 2, 2022.
76. [CNBC](#), "What the coming \$68 trillion Great Wealth Transfer means for financial advisors," October 21, 2019.
77. [IDEMIA](#), "HSBC switches to recycled plastic payment cards supplied by IDEMIA," April 20, 2021.
78. [Citigroup](#), "Citi introduces recycled plastic for corporate cards," April 21, 2022.
79. [BBVA](#), "All BBVA cards will be made of recycled materials by 2023," April 26, 2021.
80. [VISA](#), "Visa and CPI Card Group® Unveil an Industry-Leading Card Globally," June 06, 2020.
81. [Mastercard](#), "Rethinking paying with plastic," December 6, 2021.

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