

WORLD PAYMENTS REPORT 2020



TABLE OF CONTENTS

Preface	3
Executive summary	4
Digital mastery is table stakes, as payments champions play a strategic hand	6
Combined with other pressures, COVID-19 compels alignment with the Next Normal	6
Evolving retail and B2B customer expectations drive innovative digital offerings/solutions	7
Rivalry and market consolidation topple paradigms, threaten traditional business models	13
Risky business...disruption and COVID-19 add unforeseen complications	15
The stakes have never been higher, and banks are wagering on payments modernization and a new take on technology	17
Curate and collaborate incrementally to gain capabilities and expedite go to market	21
Despite COVID-19 obstacles, growth fosters new methods and rails, as regulators prioritize trust, risk reduction	23
Until 2019, growth and customer adoption spurred opportunities for payments players	23
Regulatory and industry stakeholders will navigate uncertainty through collaboration	28
Payments landscape vista: A new take on who, where, and what	31
Methodology	33
Partner with Capgemini	34
For more information	35
Ask the experts	36
About Us	38
Acknowledgements	39

Preface

The payments industry is in full transition due to multiple disruptions, including the COVID-19 pandemic. Impact on digital payments volume is just one aspect of it, while the crisis has had a cataclysmic effect on industry dynamics. Welcome to the sixteenth edition of the World Payments Report.

Customer experience continues to be the focal point for both regulatory and industry stakeholders, with a growing emphasis on systemic stability and customer risk mitigation. Fraud levels tend to increase whenever payment networks are open, data is shareable, and new-age players foray with novel payment methods. While regulators remain focused on fraud and risk mitigation measures, a unified industry framework to combat fraud, including digital identity and authentication, is needed, especially in open networks.

The payments horizon is continually expanding, as traditional and new players strive to monetize new business models within a dynamically operating environment. Acquiring digital capabilities is necessary for firms – not just to ensure and maintain customer stickiness – but to build end-to-end customer engagement expertise. This is especially true in the wholesale/B2B payments space, where corporate treasurers increasingly embrace digital and innovative ways to tackle deep-rooted inefficiencies.

Ineffective internal architecture and pressure from external modernization initiatives are driving the need to align the legacy core with the leaner front end to help seamless engagement. Visionary banks are diligently prioritizing technology transformation and early-adopter firms are adopting a curate-and-collaborate approach to emerge as ecosystem players.

On behalf of Capgemini's subject matter experts across the globe and the payments' industry leaders who contributed to the report, we hope you find the World Payments Report 2020 to be insightful.



Anirban Bose

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

Executive summary

Digital mastery is now essential for players grappling with deep-rooted complexities aggravated by COVID-19.

- Amid disruption, the payments industry is coming to grips with the digital shift of retail and B2B customers. The 2020 holy grail for payments firms lies in providing differentiated offerings that feature speed, convenience, and end-to-end customer experience (CX).
- Abundant options and innovation are sparking competition, and as the market consolidates, revenue models and cost structures are being affected.
- As the payments horizon broadens, players move digital capabilities to the front burner to cook up engagement-led services and tasty ecosystem propositions, leaving undifferentiated incumbents with a bland diet.
- Disruption opened the door to the return of risk across business, regulation, and operations. Payments firms (75%) and corporates (67%) say risk and compliance are priorities as the digital revolution redefines data, hyper-connectivity amplifies impact, and black swans, such as COVID-19, create uncertainty.
- Ineffective internal architecture and pressure from external modernization initiatives are lighting a technology fire under traditional players. Visionary banks are diligently prioritizing technology transformation, as 68% say that the loss of existing clients and prospects is the most significant threat to their plan.
- Banks are actively adopting a curate-and-collaborate approach – developing in-house capabilities by partnering with agile new players – to achieve a lean, agile back end that keeps pace with a digital front end. In addition to developing in-house capabilities, 60% of bank executives believe that working with partners/third parties throughout the value chain will help them augment portfolios with ecosystem-based propositions.

COVID-19 interrupted otherwise steady growth of global non-cash transaction volumes, although enthusiasm for digital payments may offset the decline.

- Global non-cash transaction volumes grew 14% (2018–19) to reach 708.5 billion – the highest surge in the past decade.
- Surpassing Europe and North America, the Asia-Pacific (APAC) region grew nearly 25% (2019) to become the non-cash transaction leader (243.6 billion), driven by the widespread adoption of mobile payments and digital wallets.
- COVID-19 aftershocks will tamp down global non-cash volumes, as 2019–2023 growth expectedly shrinks to 11.5%, compared with our previous 16.4% projection.
- Despite long COVID-19 shadows, heightened adoption of digital payment methods is likely to offset declines, especially in growing markets such as APAC and MEA. However, it is highly unlikely that growth levels match pre-pandemic estimates before the mid-2020s.
- We anticipate that e-commerce growth, enthusiastic adoption of transparent payment experiences, and alternative payment methods will drive non-cash transaction momentum, which is on course to reach 1.1 trillion by 2023.

Regulators work to instill trust, address non-cash payments risk amid unparalleled growth, as players collaborate to quell COVID-19 uncertainty.

- COVID-19 has triggered security awareness and safety efforts: Anti-Money Laundering Directive V (AMLD V), data protection, and cybersecurity are focused on payment ecosystem resilience.
- A unified industry framework to combat fraud, including digital identity and authentication, is needed, especially in open networks.
- COVID-19 has encouraged innovation and digitalization. Open banking, the FinTech ecosystem (with shiny successes and noisy failures), and digital and cryptocurrencies are now on the regulatory agenda to support payments sector modernization.
- Regulators are driving standardization and interoperability to boost trust and allow collaboration among countries. Global and regional standards are now being implemented to foster trust in e-payment systems and encourage digital payment adoption.
- Initiatives such as P27 (Nordics real-time payments system) and EPI (European Payments Initiative) are gaining industry acceptance or interest in response to a potential quasi-duopoly of consolidated global card schemes and technology giants.



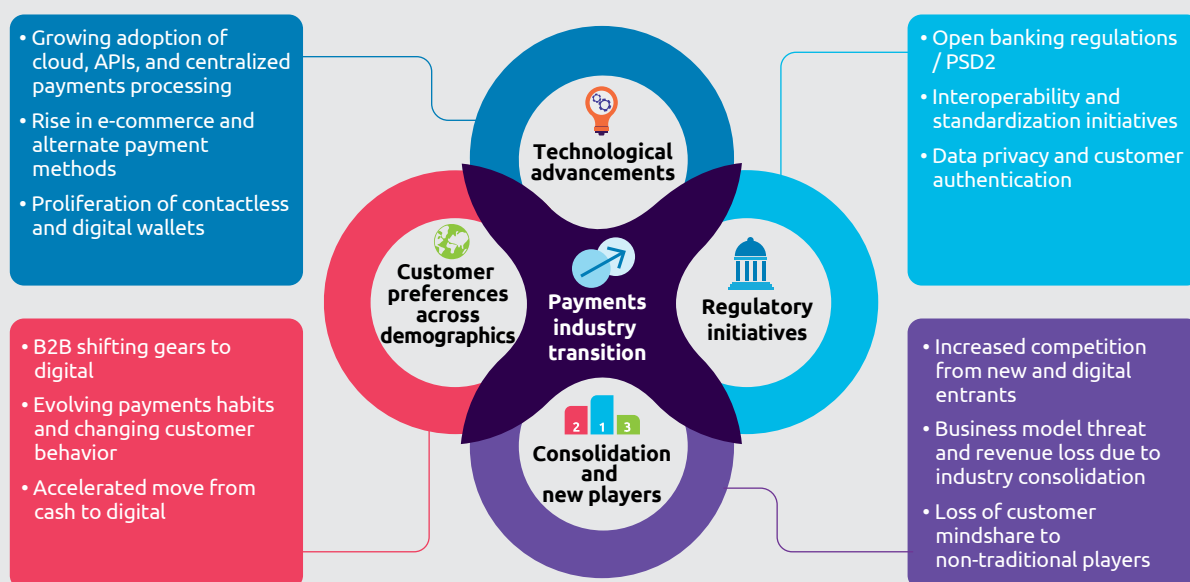
Digital mastery is table stakes, as payments champions play a strategic hand

Combined with other pressures, COVID-19 compels alignment with the *Next Normal*

regulatory initiatives, and behavioral shifts across customer demographics are sparking a new landscape.

The payments industry is no stranger to disruption. And, now, a surge in technology, sector dynamics,

Figure 1. The industry transitions as disruption shows no sign of letting up



Source: Capgemini Financial Services Analysis, 2020.

COVID-19 aftershocks on the global economy affect the payments industry across multiple dimensions, pushing firms to adapt¹

With business models already challenged, black swan pandemic shockwaves adversely impacted revenue as economic activity tanked. Expectations are that COVID-19 will spark more than a 5% contraction of global GDP, as many markets slip into recession. World trade volumes may dip by more than 13% in 2020, according to World Bank estimates, and then

rebound to 5.3% in 2021, at a very optimistic estimate.² Disruptions hurt economic activity, which led to a decrease in per capita incomes and the inability of corporates/businesses to remain in operation and service debt.

The pandemic occurred against a backdrop of an already weak global economy. Now, segments such as airlines, transportation, automotive, non-essential retail, and hotels face potential longer-term disruption effects, which could impede recovery. Other sectors, such as pharmaceuticals, telecom, and essential retail, are much less affected.³

¹ Based on excerpts from 45 interviews conducted globally with executives from banks and FinTech firms, as well as card schemes, processors, payment scheme operators, and retailers.

² World Bank, "Global Economic Prospects," June 2020

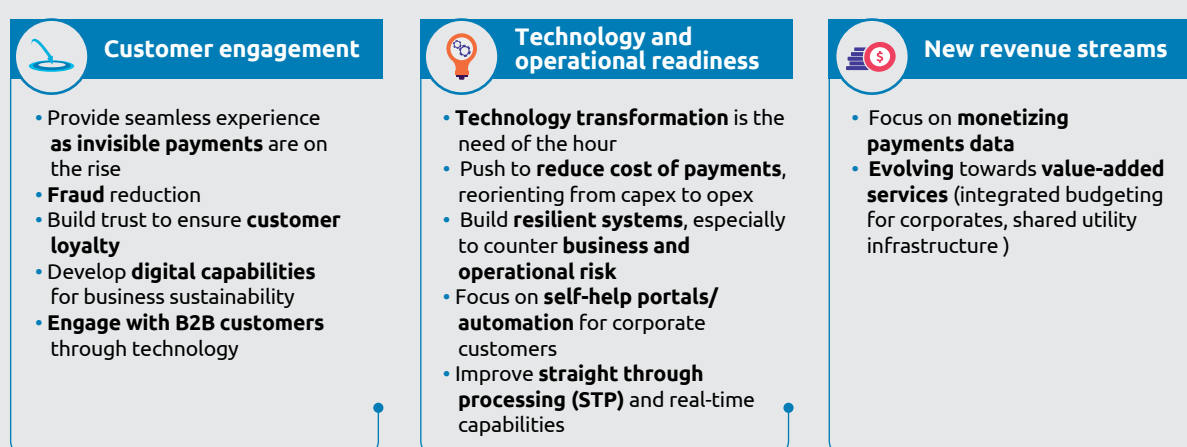
³ S&P Global COVID-19 impact articles, Sept. 3, 2020.

For payments firms, opportunities to swiftly meet customers' digital expectations are arising. However, requirements for operational and technology readiness are becoming apparent, as well as the need to explore new business models and revenue streams.

Banks need to take a hard look at payments P&L, specifically on revenue allocation model. Fee impacts may drive certain product fee propositions to zero. Transfer pricing can help sustain a healthy product catalog"

– **Jacek Kurantowicz**, Head,
Cash Management, Abu Dhabi Commercial Bank

Priority areas for payments firms



Sources: Capgemini Financial Services Analysis, 2020; Inputs from executive interviews.

Evolving retail and B2B customer expectations drive innovative digital offerings/solutions

Dynamic consumer expectations challenge retail players struggling to maintain customer stickiness

Customers are migrating from cash as the affinity for digital payments grows. New players are becoming more popular, with 30% of consumers using a BigTech for payment services, and 50% already using a challenger bank for some payments. Even further, as of April, more than 38% of consumers said they discovered a new payment provider during the lockdown, and they may make a switch.⁴

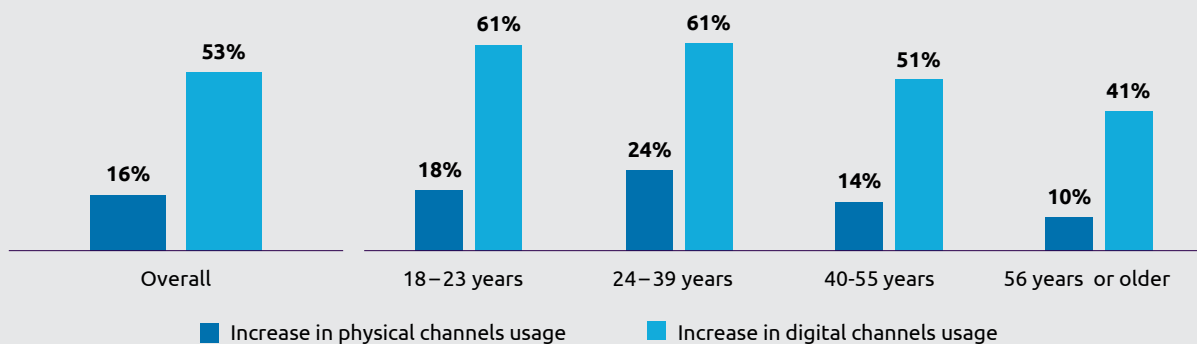
Moreover, the prevailing COVID 19 environment catalyzed a cross-generational shift toward digital channels and digital payment methods. Even baby boomers (aged 56 and over) said they made payments through digital channels a lot more during the lockdown, emerging as late majority adopters.

*The '3Ds' will fuel Europe's short- and mid-term post-pandemic recovery: **debit-driven** because consumers are conservative and concerned about their finances; powered by **digital**, as growth in e-commerce and new behaviors are here to stay; and **domestic** consumption in the near term while people navigate evolving travel restrictions to avoid risks. Digitally enabling our clients and ensuring that they can provide a secure, safe, and frictionless experience to their own customers across the entire lifecycle are key imperatives in the post-pandemic world."*

– **Claudio Di Nella**
Head,
Visa Consulting and Analytics Europe

⁴ World Payments Report 2020 Voice of Consumer survey, N=8,604.

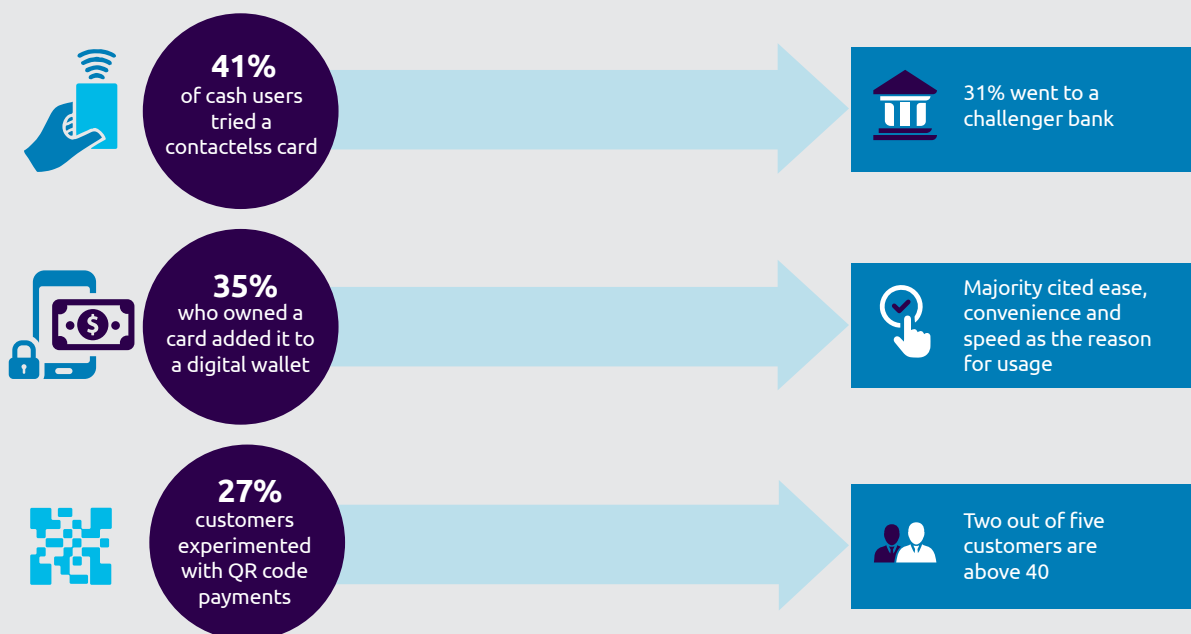
Figure 2. The COVID effect? A cross-generational shift to digital channels



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 voice of customer survey, N=8,604.

Question asked: If we classify payment channels into digital (online banking + mobile payments) vs physical (cash, check, PoS), how did your payment habits change within the COVID-19 environment? Figure represents responses from participants who selected Increased slightly or Increased considerably.

Figure 3. Users drift from traditional modes of payment – Rise of contactless, QR code, and digital wallets



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 voice of customer survey, N=8,604.

Question asked: Did you begin using any of the following new payment methods during the COVID-19 crisis?

COVID-19 environment sparks new consumer behavior:

- **41%** of respondents to our Voice of Customer survey who said their use of cash was high, tried a contactless card during the pandemic, and **31%** of these customers went to a challenger bank
- Similarly, **35%** of survey participants whose card use was high, tried a digital wallet
- And, **27%** experimented with QR code based payments

COVID-19 encouraged digitally non-savvy retail customers to consider new ways to pay

Internet banking/direct account transfers were the preferred payment method throughout the global health crisis, according to 68% of our consumer survey respondents. Contactless (tap-to-pay) cards came in second, with 64% of saying they used them often. Digital wallets (including QR code based payments) were the preferred choice of 48% of respondents.

The crisis is forcing a testing ground for users to move beyond traditional payment methods.

Corporate treasurers look to digital as an antidote to B2B payments challenges and inefficiencies

B2B payments have inherently suffered process inefficiencies in cash and liquidity management, which – without manual intervention – have led to significant errors, fraud, and slow transaction processing. Digital payment methods and other technology innovations are being strongly adopted by corporate treasurers to mitigate wide-ranging challenges, including:

- Geopolitical uncertainty that is sparking trade tensions and volatility in financial markets and impacting revenues

- Escalating cyber and phishing attacks, e.g., fraudulent practices such as fake vendor payment forms
- Interconnected supply chains that threaten the sustainability of existing models
- Inadequate treasury infrastructure and a lack of automation that hinder efficiency



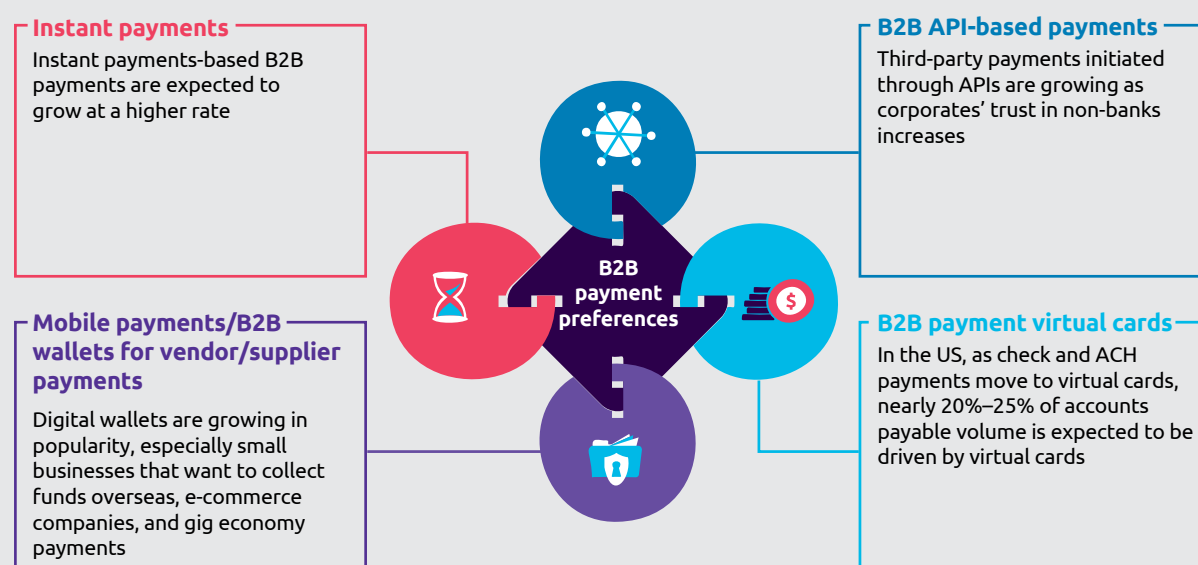
In B2B payments, payment execution is not the real problem. Most of the friction is in pre-validation and after execution of the payment itself. End-to-end payments handling and turnaround time are far more important.

– Sumit Aggarwal

EVP, Head of Transactional Banking Services,
Emirates NBD

Treasurers are exploring digital payment methods and technology innovations to mitigate these inefficiencies and challenges. API-based payments, B2B virtual cards, mobile payments/B2B wallets, and instant payments are on a growth trajectory.

Figure 4. Treasurers shift to new and digital payment methods



Source: Capgemini Financial Services Analysis, 2020.



Instant payments API initiation and credit information triggered by a business event has become a reality. This makes payments transparent and embedded for new service propositions."

– **Bruno Mellado**

Head of Payments and Collections,
BNP Paribas

Other B2B payments:

Virtual card payments: With **22% CAGR** (2018–2025), virtual cards are on track to reach a hefty USD740 billion.⁷ B2B payments will likely make up nearly 80% of this value. COVID-19 drove B2B virtual card use as businesses authorized remote transactions.

Mobile payments/digital wallets: Corporate executives said that over the next two to three years, mobile payments/digital wallets would be their No. 2 digital payments initiative, behind virtual cards.⁸

Corporates' trust and loyalty to banks contingent upon value-added offerings

As a result of COVID-19, treasurers are focusing on counterparty risk, connectivity solutions, payments automation, and cybersecurity. Therefore, they expect their bank partners to deliver better API integration with ERP systems, risk management, and real-time payments and tracking.

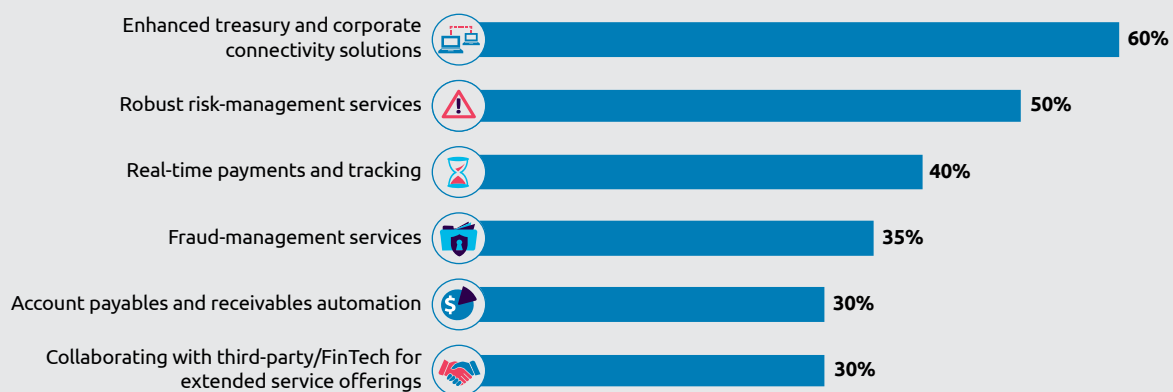
Treasury and corporate connectivity: Increasingly, treasurers are embracing the cloud to achieve partner integration, scalability, resilience, and automation. The current uncertainty in cross-border trade and FX volatility is reinforcing the importance of in-house banks. The solution, coupled with cloud technology, offers multifold benefits.

Supply chain/vendor payments:

API-based payments: While **65%** of the bank executives we polled said they accept transaction API requests, only **38%** said they receive requests for API-based payment initiation in the areas of liquidity management and supply chain financing.⁵

Instant payments-based methods: Faster, or real-time processing, is the next innovation frontier, improving working capital, reducing supply chain credit risk, and impacting cash-flow management and suppliers. In the Netherlands, almost **30%** of B2B payments are transacted via iDEAL, an instant-payments-based account transfer scheme.⁶

Figure 5. What do treasurers expect from their banks?



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 industry stakeholders survey, N=20 corporates.

Question asked: What do you expect your banks/payments provider as part of their service/product offerings? Rank your response on a scale of 1–7, with 7 being highly important and 1 being the least or not at all important. Responses above 5 have been provided in the figure. Percentages do not total 100.

⁵ Question: Have any of your corporate clients already requested payment services using APIs? In which of the areas listed below are you providing or plan to provide payment services using APIs for corporate clients? N=75 banks.

⁶ [The Paypers](#), "Payment methods report 2019," Jun 2019.

⁷ [Industry Stats Report](#), "Virtual Cards Market 2020 Forecast to 2025," May 2020.

⁸ Question: Over the next 2–3 years, how do you prioritize these non-cash payments initiatives? (Rank on a scale of 1–7, with 7 being the highest priority and 1 the lowest priority. To analyze the degree of priority, responses higher than 5 were considered; N=20 corporates.

Deutsche Bank offers a scalable in-house banking-as-a-service (IHBAas) solution to streamline payments for large-scale/multinational corporates with operations spanning multiple countries and currencies. (See the case study on page 12.)



As corporate treasurers have become more digitally aware, they have started extending the collaborative scope of their liquidity management function to their wider ecosystem of partners and clients."

– **Joshua Cohen**

Co-head liquidity products, iGTB

Real-time treasury: Instant data exchange and API connectivity have become treasurers' technology priorities. In the United States, nearly 83% of companies with USD1 billion or more in annual revenues report high awareness of real-time payments, which can be interpreted as readiness to adopt in 2020.⁹



EBA Clearing's request to pay infrastructure service, R2P, is being delivered with the support of 27 PSPs from 11 European countries. It is currently in testing and is expected to go live in November 2020. R2P will be a key enabler for participants to build new and efficient payment value propositions leveraging instant payments that will unleash a new chapter in the European payments landscape."

– **Hays Littlejohn**, CEO, EBA Clearing

Emerging technologies: The use of robotic process automation (RPA)/artificial intelligence (AI) for B2B payments and short-term repetitive tasks – including payments, collections, and reconciliation – is growing.

Corporates are turning to emerging technologies for risk management. And in response, banks are beefing up collaboration with FinTechs so they can provide risk management services quickly.

- In 2019, BNP Paribas and UK FinTech Kantox partnered to offer the bank's EMEA clients Dynamic Hedging (a flexible micro-hedging solution that automates foreign exchange risk management).¹⁰

Retailers add payments to their value propositions as a strategic advantage

- **Conversational commerce:** About 47% of shoppers are interested in using voice-based assistants such as Amazon Echo and Google Home to make e-commerce purchases.¹¹
- **Integrated digital wallets:** Merchant mobile wallets – such as those from Starbucks and Uber – are leaner and do not require the gradual refresh cycle employed by universal wallets. Features such as integrated incentives and contextual recommendations may boost merchant wallets to regional scalability.
- **Extended NFC-based solutions:** The NFC market is on course to reach almost USD50-billion by 2024, led by increased demand for NFC-based payment solutions, anti-counterfeit technology, and wearables.¹²

Retailers seek to control more of the payments value chain to enable their autonomy and drive their customers' value proposition journey.



Instant payments are accelerating in the B2B space as treasurers consider them a differentiator. We worked with a large retailer in the Netherlands for QR-code payment based on instant payments for grocery delivery. The solution witnessed massive uptake as it solved reconciliation issues for the client and retailer."

– **Mark Buitenhok**, Head Transaction Services, Commercial Banking, ING

⁹ Pymnts, "The Rapid Rise of Real-Time Payments," Jan. 17, 2020.

¹⁰ Treasury Management, "A Dynamic Partnership: Bank-Fintech Collaboration Improves FX Risk Management," Jan. 2020.

¹¹ Question: How interested are you in using conversational commerce for the following payments and banking transactions? Rank your response on a scale of 1–7, with 7 being highly interested and 1 being the least or not at all interested. Voice of customer survey responses; N=8,604.

¹² Verifir, "Analysts predict NFC market size will reach almost \$50 Billion by 2024," Oct. 10, 2019.corporates.

Deutsche Bank leverages VLM technology to offer corporates in-house banking-as-a-service

Business challenge and objective: Corporate treasuries face account rationalization and corporate-to-bank process consolidation challenges – not to mention intercompany transactions, FX liquidity management requirements, interest rate volatility, centralized payments, and investment management. In-house banking-as-a-service (IHBaaS) can bridge technology gaps to harmonize and consolidate processes across organizations, especially when multiple entities, countries, and disparate internal systems are involved.

Implementation for corporates with subsidiaries and multinational companies: Virtual ledger management (VLM) and virtual accounts can mitigate on-behalf-of (OBO) accounting and subsidiary payment challenges. VLM can serve as a cloud-based backbone, effectively an in-house bank provided as a service. VLM technology may be used for both internal and external transactions processed by the in-house bank to the correct subsidiary account, making business more seamless.

Implementation for multinational companies: In addition to consolidating payments and collection activities across affiliated group companies, virtual

ledger management facilitates intercompany loan management and interest and margin posting and can also feed into cash forecasting and FX management activities. A VLM cash management function can also handle fiscal and legal requirements, monitor FX exposure, and provide OBO capabilities in a multi-banked global environment. What's more, VLM may help highly acquisitive corporations integrate business divisions and entities after a merger or acquisition.

Benefits: Deutsche Bank's Virtual Ledger Management platform helps corporate treasurers become better strategic partners to their clients. How? By leveraging centrally available data to deliver near-real-time liquidity, and real-time risk management capabilities. Together, virtual accounts and VLM offer treasurers new liquidity management possibilities and help address challenges while preparing for future headwinds. As a result, it will offer next-gen cost-savings, simplicity and working capital optimization, and straightforward account structure – combined with real-time information to support treasurers' risk management activity.

Rivalry and market consolidation topple paradigms, threaten traditional business models

Intense competition is adding fuel to the payments' scene fire. And now, FinTechs are blazing a B2B path by leveraging their proven retail payments success formula. What's more, they are venturing into infrastructure to gain a toehold in new payment methods and business models. Challenger banks are storming the B2B payments front as well. And as platform-based delivery models gain traction, the lucrative merchant/retail segment becomes even more attractive. For now, BigTechs are focused on the retail side of the value chain, and their attempts to penetrate the B2B market may be delayed, in light of recent anti-trust charges. But they have always been full of surprises, so keep your eyes on this space.

FinTechs

New-wave FinTechs are eager to take on more B2B functions

First-generation FinTechs disrupted the front-end of the retail payments value chain and assertively stepped into cross-border payments, invoice discounting, and SMB financing. Now, they are targeting pivotal B2B middle- and back-office functions.

Cross-border payments: The sector is on a growth path to reach around USD16 trillion by 2025.¹³ It is attracting new players such as Melbourne-based Airwallex, a specialist in cross-border transactions. As of April 2020, the company (founded in 2015) had raised USD362 million at a reported USD1 billion valuation.¹⁴

Invoice discounting and SMB financing: The sector is on course to a nearly 15% 2015–2025 CAGR.¹⁵ Entering this segment are FinTechs such as London-based Iwoca, which uses a lending API to help SMBs seek financing through its website and enable partner integrations. Since launching in 2012, Iwoca has lent more than GBP1 billion (USD 1.3billion) to 50,000 small businesses.¹⁶

Vertical payment solutions: Interactions with end users can be monetized by embedding payments as part of a specific business, especially across a range of different payment methods, such as monthly recurring billings or subscriptions. Several firms offer payments solutions in areas such as travel, fleet management, and hospitality.

New FinTech delivery models support merchants' end-to-end requirements

Platform-enabled delivery: Merchants' No. 1 request? Omnichannel integration.

- Dutch firm Adyen enables merchants to accept payments in-app, online, and in-store while offering a unified customer experience.
- San Francisco-based Stripe's payments-processing platform handles complex marketplace transactions through Stripe Connect, which also offers programmable e-commerce APIs.
- With a full-stack integrated payment solution, FinTech-as-a-Service, Rapyd, debuted an all-in-one platform that enables merchants to accept integrated local payments in the UK market via a single API.



Platforms and marketplaces that facilitate the onboarding of sellers, bringing payments into their offering, will thrive."

– **Brian Dammeir**
President (North America), Adyen

Challenger banks

Newcomers set their GPS to payments destinations

Challenger banks are leveraging their technology acumen and the power of cloud to make banking/payments processes leaner and more agile. Their unique service proposition is a combination of branch-free banking, convenient customer service, hyper-personalization, and various ancillary services to attract and retain customers. It's no surprise that challenger banks are garnering significant VC funding.

- Brazil's NuBank had reached 25 million customers on its seventh anniversary in summer 2020, making it the largest independent digital bank in the world.¹⁷
- San Francisco-based Chime had amassed USD1billion in funding over seven rounds as of December 2019.¹⁸
- Revolut had raised a total of USD836 million by July 2020 to put the firm's value at USD 5.5billion.¹⁹

¹³ CB Insights data.

¹⁴ [Craft](#), Airwallex funding, accessed Aug. 2020.

¹⁵ [ADROIT Market research](#), Apr. 22, 2019.

¹⁶ [FinExtra](#), "Iwoca taps UK's Future Fund scheme," Aug. 24, 2020.

¹⁷ [AltFi](#), "Brazil's Nubank reaches 25m customers across Latin America," June 2, 2020.

¹⁸ [Crunchbase](#), "Chime company financials," accessed Aug. 2020.

¹⁹ [TechCrunch](#), "Revolut extends Series D round to \$580 million with \$80 million in new funding," July 24, 2020.

Figure 6. CX is the winning proposition for challenger banks



Source: Capgemini Financial Services Analysis, 2020.

BigTechs

Difficult to ignore – the tech elephants in the payments room

Google and Facebook have made no secret that they see payments as a means to gain a foothold into growing and large markets such as India and Brazil.

- After two years of testing, WhatsApp Pay launched in India in June 2020.²⁰ And in August, Facebook formed a separate group, Facebook Financials (F2), to pursue payments and commerce opportunities. F2 aims to build a digital wallet to hold *Libra*, Facebook's cryptocurrency, and drive WhatsApp Pay in countries such as India and Brazil.²¹
- In the United States, Google now offers personal checking through Google Pay, in partnership with Citi and Stanford Federal.²²
- Launched in summer 2020, Samsung Money is a digital banking offering with a fee-free money management account and Mastercard debit card (in partnership with SoFi). In the UK, Samsung partnered with EU banking platform Curve in June 2020 to launch the Samsung Pay Card.²³

Amid political and anti-trust scrutiny in the United States, will BigTechs face regulatory compliance soon? If that happens, will they remain on the payments periphery?

Card schemes

Unique value propositions offer client convenience

Mastercard and Visa are also targeting the B2B segment with unique platform services Mastercard Track Business Payment Service and Visa B2B Connect.

- The Mastercard platform supports ACH/account-to-account and card-based payments. Through a platform directory, firms can discover suppliers and select their preferred payment types.²⁴
- Blockchain-powered Visa B2B Connect is a non-card payment network to facilitate cross-border B2B payments.²⁵

²⁰ [Economic Times](#), "WhatsApp launches payments service, 2 yrs after it began testing in India," June 2020.

²¹ [The Paypers](#), "Facebook forms a group to pursue payments opportunities," Aug. 13, 2020.

²² [Reuters](#), "Google Pay to offer checking accounts through Citi, Stanford Federal," Nov. 13, 2019.

²³ [Fintech Futures](#), "Samsung chooses Curve to power its new Samsung Pay Card in UK," June 25, 2020.

²⁴ [Forbes](#), "Mastercard Launches A New B2B Effort To Displace Checks," Sept. 16, 2019.

²⁵ [Visa](#), "Powering the future of global business payments," accessed Aug. 2020.

Ongoing industry consolidation in 2020 drives infrastructure play

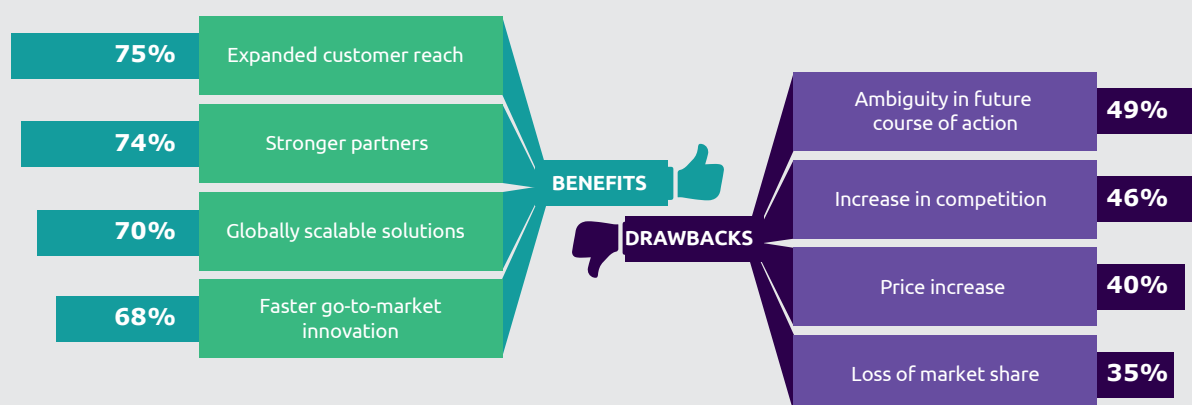
In 2019, payment service providers such as FIS, Fiserv, Global Payments, and Worldline acquired World Pay, First Data, TSYS, and Ingenico, respectively, to boost their processing capabilities, market reach, and revenue models. Cards schemes Visa and Mastercard also augmented their financial infrastructure and data sharing (networks) capabilities.

FinTechs, in data aggregation categories, are gaining more market share, pushed by open banking adoption.²⁶ Recent acquisitions of Plaid and Fincity by Visa and Mastercard, respectively, illustrate the

trend. As demand increases for non-card payments schemes, such as instant payments rails and DLT-based networks, the new firms' capabilities emerge as a revenue lever for the card giants.

Incumbents believe that trend's benefits include expanded customer reach and more influential processing partners. During our interviews, industry stakeholders said that through consolidation, firms emerge as clients/providers/competitors at the same time, which may be challenging to manage. Moreover, as the new *bigger and better* entities focus entirely on payments and channel their investments and strategies into the segment, smaller banks may be put at risk because they cannot venture in.

Figure 7. Supplier view on industry consolidation – A mixed bag for the future landscape



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 industry stakeholders survey, N=235.

Question asked: The payments industry continues to undergo consolidation with mergers and acquisitions. Which benefits do you anticipate your firm will gain from this trend? Rank your response on a scale of 1–7, with 7 being highly beneficial and 1 being the least or not at all beneficial. On the flip side, are you experiencing any drawbacks due to market consolidation as listed below?

Risky business...disruption and COVID-19 add unforeseen complications

Because of digital evolution (redefined data), hyper-connectivity (amplified impact), and an era of unprecedented black swan scenarios (COVID-19, catastrophic environmental events), risk has resurfaced on multiple fronts – operational, geopolitical, compliance, and business.

FS firms (75%) and corporations (67%) perceive risk and compliance as their most crucial focus areas, which underscores the importance of identifying threats,

ensuring business continuity, and mitigating the impact on growth.²⁷ Payments executives told us their businesses are significantly vulnerable to cybersecurity, regulatory, and operational risks (Figure 8).

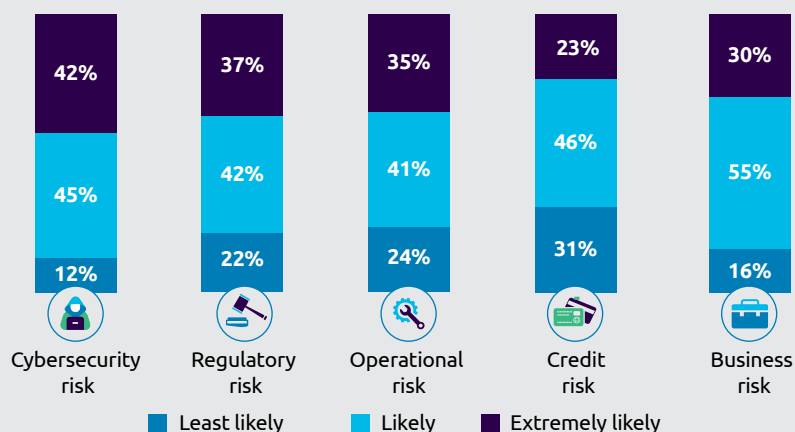
Cybersecurity risk: 87% of executives said they face a high likelihood of cyber vulnerabilities. Criminals are exploiting exposure opened by the COVID-19 lockdown, which increases the risk of cyberattacks, money laundering (ML), and terrorist financing (TF). Between March and April 2020, attacks targeting the financial sector grew by 238%, according to VMware Carbon Black threat data.²⁸

²⁶ CB Insights, "Fintech Infrastructure market map," Apr. 20, 2019.

²⁷ Question: What will be your key focus areas for sustainable business growth post COVID-19? Rank your response on a scale of 1–7, with 7 being highly important and 1 being the least or not at all important. N=186 for FIs; N=50 for Corporates.

²⁸ VMware Carbon Black, "Modern Bank Heists' Threat Report Finds Dramatic Increase in Cyberattacks Against Financial Institutions Amid COVID-19," May 14, 2020.

Figure 8. The pandemic effect: Risk keeps payments executives up at night



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 industry stakeholders survey, N=235.

Question asked: Apart from the pandemic, payment business is hit by multiple risks. How likely is your business exposed to the following? Please respond on a scale of 1–7, with 7 being extremely likely and 1 being least likely. Percentages may not total 100 due to rounding.

Regulatory risk: Worldwide, companies that maintained full compliance with regulations (such as PCI DSS) dropped from 53% in 2018 to 37% in 2019.²⁹ In the aftermath of Wirecard’s noisy bankruptcy, stringent regulatory scrutiny is being sought for non-banks’ participation and licensing.³⁰

Operational risk: As per the Operational Risk Best Practice Forum, information security, recordkeeping, and cyber-related fraud are firms’ top-three controls weakened by the pandemic.³¹ There is much focus on improving operational efficiency because the offshoring model took a hit, which impacted most banking and payments related processes.

Business risk: The global trade tension, accentuated by COVID-19, the revenue pool is shrinking across segments. Falling volumes in trade resulting in a dip in payments volumes. What’s more, today’s global-scale negative interest rates are forcing firms to move from lending to fee-based business.



Payments operational risk management is moving to predictive models, which requires strong governance and end-to-end control.”

– **Nigel Dobson**

Portfolio Lead, Banking Services, ANZ

– **Peter Reynolds**

Technology Domain Lead, Banking Services, ANZ

²⁹ [Computer Weekly](#), “PCI DSS payment security compliance drops again,” Nov. 12, 2019.

³⁰ [CNBC](#), “The Enron of Germany: Wirecard scandal casts a shadow on corporate governance,” June 29, 2020.

³¹ [Thompson Reuters](#), “COVID-19: Op risk forum identifies top-three controls weakened by home working, notes shift to crisis management, March 31, 2020.

In the aftermath of COVID-19, fraud takes on a new dimension fanned by uncertainty and changing consumer behavior

As payments are transacted digitally and infrastructures transition to open systems, vulnerability increases. All this as firms are under pressure to provide friction-free experiences.

What factors can make an environment vulnerable to fraud?

- Customers feel compelled to trust third parties for new payment methods because of uncertain circumstances, and they become exposed.
- Some regulatory measures may increase exposure to fraud (e.g., as contactless limits are relaxed, consumers might be lured by scams to exploit government

benefits). In the UK, crisis rip-offs led to a loss of close to GBP 1million (more than USD 1.3million).³²

- Phishing attacks are also up, as consumers become susceptible to social engineering (psychological manipulation) that can jeopardize their personal information.
- Fake invoicing scenarios are leading to more authorized push payments (APPs).

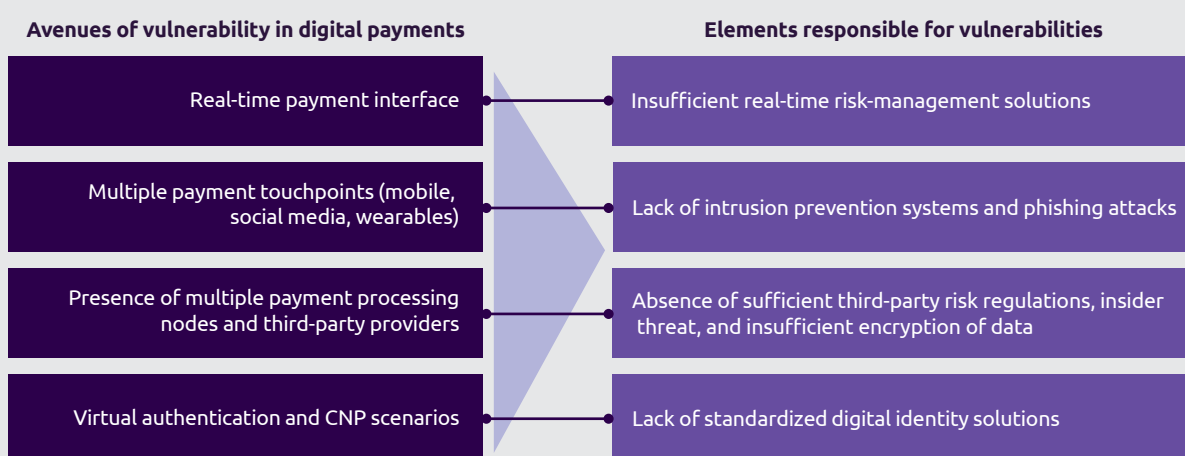


Security is a key element of trust in payments and needs to be addressed collectively. The existing and potential threats are a call to action for market collaborative initiatives to fight crime and combat fraud."

– Etienne Goosse

Director General, European Payments Council

Figure 9. Vulnerability and risk – The cause and effect archetype



Source: Capgemini Financial Services Analysis, 2020.

The stakes have never been higher, and banks are wagering on payments modernization and a new take on technology

While bank executives ranked client-visible innovation and digital transformation as the top drivers of their strategic initiatives for 2020 and beyond, the monolithic legacy back-end technology architecture upon which so many firms rely does not align with

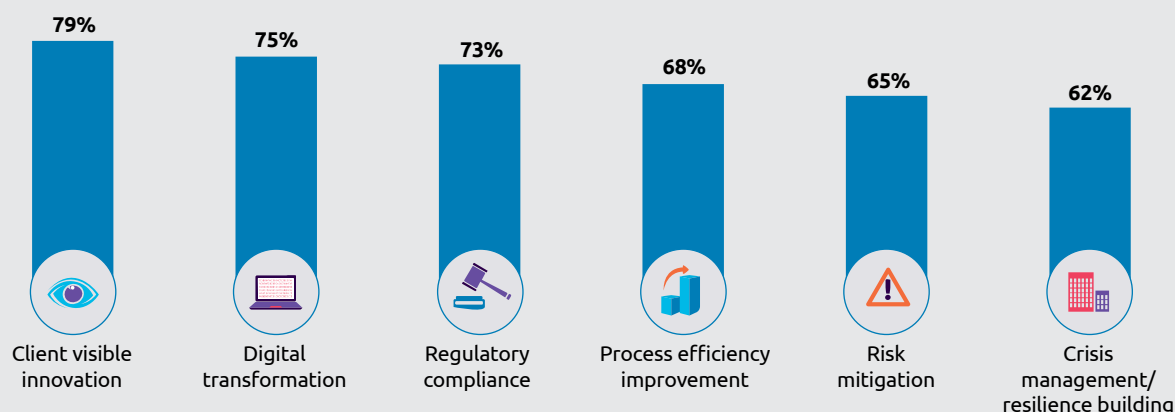
the digital front end – and that is why payments transformation is inevitable. COVID-19 has accelerated the urgency of digital transformation.

If they do not transform, nearly **68%** of bank executives said the most significant impact would be the loss of existing clients and prospects – and **50%** of banks cited legacy infrastructure as the biggest challenge to open banking adoption.³³

³² [Independent](#), "Coronavirus: Warning over rise of fraud scams exploiting outbreak as UK losses near £1m," March 20, 2020.

³³ Question: What is the biggest threat banks face by not executing a payments transformation plan? Respond on a scale of 1–7, with 7 being the highest threat and 1 being the lowest or not a threat at all; N=75.

Figure 10. Drivers for banks' strategic initiatives for the next 2–3 years



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 industry stakeholders survey, N=75 banks.

Question asked: Prioritize the listed factors driving your organization's transformation over the next 2–3 years. Rank on a 1–7 scale, with 7 being the highest priority and 1 being the least priority.

A significant share of discretionary spend should be on payments platform transformation. There are clear benefits of getting our platforms future ready, even if the return on investment time frames may get elongated in the current economic environment. If we do not invest in becoming future-ready, there may be no impact on near-term revenues; but we will run the risk of not being able to access new, fast-growing, and material revenue pools from payments in the future."

– **Shirish Wadivkar**

Global Head, Correspondent Banking Products, Standard Chartered

Modernization is needed to align with a transforming industry

The inability to scale and to respond to market changes can constrain legacy payments architecture – and pain points are numerous:

- The cost of ownership is high, inefficient
- Response to cybersecurity risks and other threats is sluggish
- Drawn out time to market hurts competitive edge
- Dependence on multiple vendors.

Modernization initiatives will open a world of opportunities from an enabling side. Product simplification is the need of the hour. This effort will help reap significant benefits by removing the current complexity and giving access to everything else that is important like innovation and APIs."

– **Paula DaSilva**

Head of Transaction Banking, SEB, Sweden

Moreover, industrywide transformation initiatives are rendering financial institutions' legacy systems obsolete. The surge in faster payment systems is forcing banks to explore technology that supports speedy payments. The need to embed ISO 20022 messaging into the payments' lifecycle, and new developments in cross-border clearing and settlement, also require updates to existing infrastructure.

ISO 20022: Currently, 30% of banks (125 out of the original onboarded 450 banks) have implemented ISO 20022. The deadline, which was originally in November 2021, has now been pushed to the end of 2022, on SWIFT cross-border payments and cash management functions.³⁴

³⁴ SWIFT, "New approach to ISO 20022 adoption, March 2020.

- **Implications:** The expectation is that most global high-value payments volumes will be done via SWIFT standards by 2025, after which SWIFT MT messages will be decommissioned. In the event of not being able to migrate, the impact on a vast range of bank functions, from payments processing systems to foreign exchange, treasury, billing, screening, trade finance, and other operational areas, will be significant.

The world of payments is transitioning to global standards such as ISO 20022 and investment in the back-office systems of banks is thus essential. Furthermore, adoption of cloud and product portfolio standardization are the need of the hour, which forces banks and financial institutions to rethink their payments strategy – including how they design and build central payment infrastructures."

– **Edgars Bremze**
Strategic Product Manager, TietoEVRY

The delay in the SWIFT and TARGET2 ISO deadlines has given our customers some breathing space to be more strategic in their approach, thus enabling them to look at modernizing their capabilities from order intake to distribution. While few larger organizations are pushing ahead, recognizing the opportunity and urgency, many smaller firms still have not defined their journey."

– **Mick Fennell**
Business Line Director, Payments, Temenos

Instant payments: Globally, over 46 countries have already implemented or are in the process of implementing instant payment schemes, and as use cases increase, adoption will grow.

- **Implications:** Instant payments business cases will become more significant in the post-COVID-19 scenario. Benefits from use cases such as request-to-pay, smart contracts execution, and connection to regional systems such as P27³⁵ may be lost if payments do not become a top priority.

In Europe, instant payments implementation is a success. While the market is still nascent, over 80% of European accounts are already reachable in less than 10 seconds."

– **José Beltrán**
Director, Business Development, STET, and President, EACHA

Open banking: Payments are the highest priority domain for banks to monetize their API propositions. Currently, about 35% are deriving value from data exchange APIs, 25% from transaction APIs, but only 10% from ecosystem-based propositions.³⁶ Although some banks have leveraged open banking to help meet the dynamic customer needs, the progress is sluggish.

- **Implications:** To create a more modular environment, the bank will require integration across the entire legacy network, as well as integration with partner systems, networks, and other external services – those offered as “as-a-service” solutions. When constructed as an open platform, APIs become interchangeable components that can link to existing offers, enhance services, and even become new products.

We should tackle specific use cases that help address the main objectives of open banking where both FinTechs and banks are provided with the platform to cooperate with the target to improve the overall financial services provided to the customers."

– **Abdulaziz Abanmi**
Vice President, Technology, Saudi Payments

³⁴ SWIFT, “New approach to ISO 20022 adoption, March 2020.

³⁵ P27 is a Nordics payments platform owned by six of the largest banks in the Nordics, Danske Bank, Handelsbanken, Nordea, OP Financial Group, SEB and Swedbank. The aim is to create one common state of the art payment platform in the Nordic countries covering 27 million individuals. The work started in late 2017 with the ambition to go live in 2021.

³⁶ Question: Which of these API-based initiatives have benefited your firm? Respond on a scale of 1–7 scale, with 7 being highly beneficial and 1 being the least beneficial; N=75.

Real-time gross settlement (RTGS) upgrades:

Multiple cross-border and regional RTGS systems are being implemented, such as pan-GCC (Gulf Cooperation Council), SADC RTGS (South African Development Community), and ASEAN RTGS. Pan-regional initiatives such as the Nordic P27 and European Payments Initiative (EPI) are fueling the need for back-end rationalization. The P27 system, expected to launch in 2021, will replace eight national legacy systems to handle multi-currency payments.

Other modernization initiatives: The UK and Canada have rolled out national payments infrastructure modernization programs. While the UK's New Payment Architecture (NPA) is on course to be entirely live by 2030, the ISO 2022 migration of NPA aligns with SWIFT's 2021 deadline.



Our transformation investments are progressing and delivering tangible customer enhancements. However, payment scheme change (e.g., ISO 2022) and regulatory compliance still constitute a major portion of budgets, which hinder our ambition to further shift the focus to client benefits, whereas FinTechs are investing in value adds leveraging banks' rails."

– **Vincent Brennan**

Head of Group payments & BCM,
Bank of Ireland

Modernization will support ecosystem-based business models that will shape the future state of play

Banks are changing roles from traditional suppliers to ecosystem players in a bid to defend market share from existing ecosystem players (e.g., BigTechs and challenger banks) and ward off competition from vertical specialists (e.g., FinTechs leveraging platform models). With the right strategy, banks can emerge as an engaged partner for customers, versus a pure player with incremental innovation and a lack of scale to cross-sell.

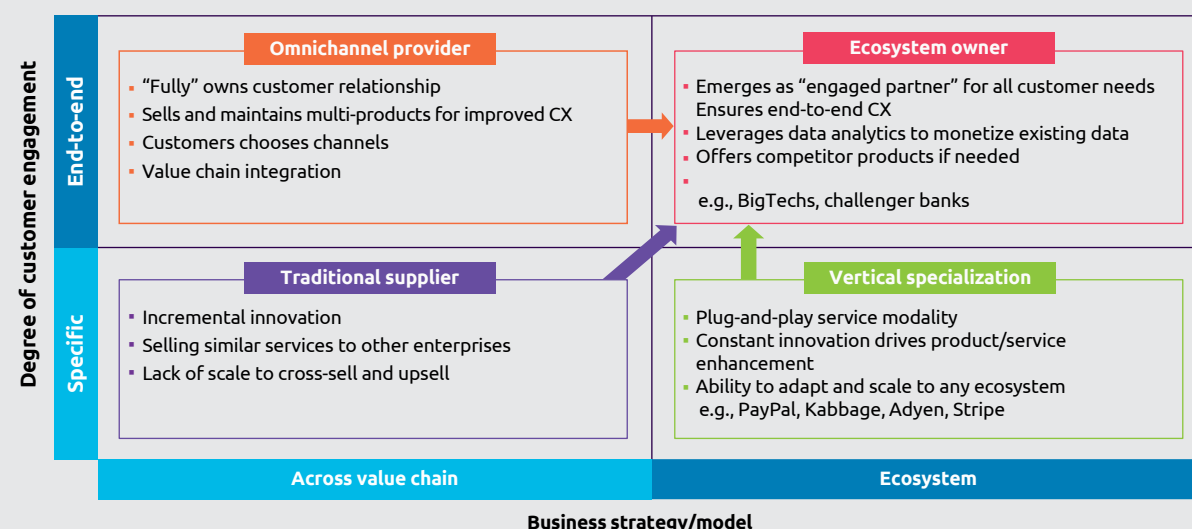


A unified payments infrastructure providing frictionless real-time experience for clients across B2B, C2B, B2C, C2C / P2P flows is the way forward to emerge as a digital ecosystem leader. The key to success is making payments intuitive and embedding them as part of customers' lifestyles. For corporates and FIs, scale and interoperability will be essential for creating a connected environment powered by Open banking/ API economy."

– **Natarajan Sriram**

Global Head Technology & Innovation,
Cash Management, Standard Chartered

Figure 11. A swift journey to ecosystem-based models is necessary for customer engagement



Source: Capgemini Financial Services Analysis, 2020.

Curate and collaborate incrementally to gain capabilities and expedite go to market

Ideally, a modern payments platform/system will support open banking interaction through APIs. It will process both consumer and corporate payment requests 24/7. It is cloud-ready and capable of handling every accessible function as a service/microservice. It can orchestrate payments to meet omnichannel client service requirements.

Successful modernization begins with a holistic look at the end-to-end payments value chain, from client initiation to clearing and settlement. It targets middle- and back-office functions to enable innovation and connection with new networks and schemes.

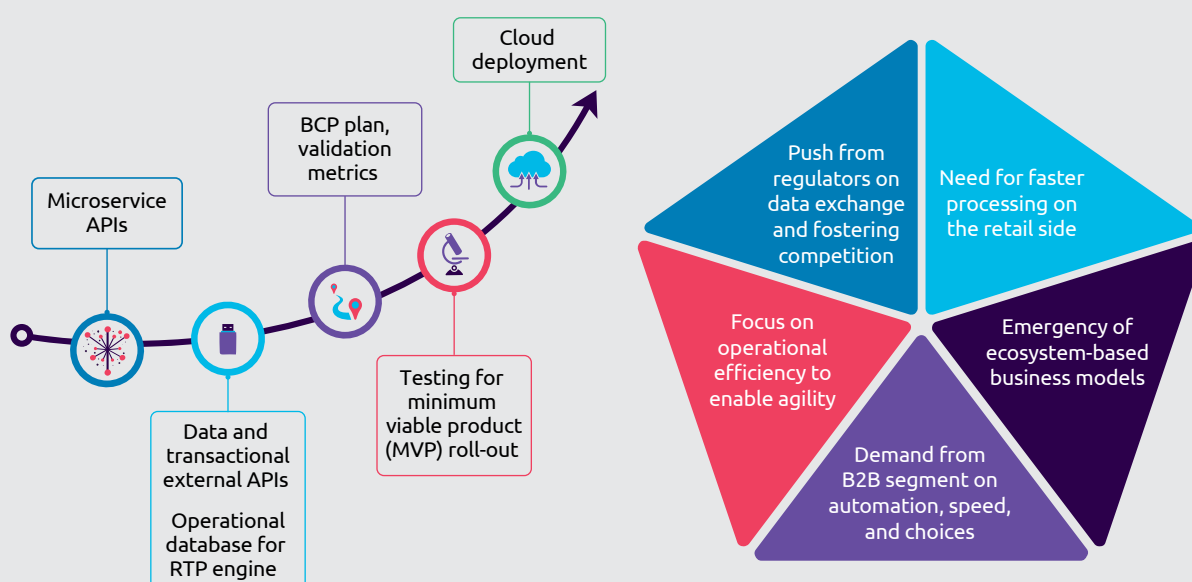
A structured approach can drive timely benefits

- Determining the technology stack is extremely important to ensuring technology platform uniformity. Transaction processing through payment messages facilitated via a **microservices API** will support future capability enhancement and will speed up innovation.

- A **robust data strategy** is a must to accommodate real-time data processing, storage, and sharing. It can also help to tighten data coupling between transactions.
- A **test-early, fail-fast** approach with fool-proof testing mechanisms will ensure the identification of data and transaction anomalies during the iterative Minimum Viable Product (MVP) development phases. A robust automation framework will facilitate **continuous integration and deployment** for rapid development and industrialization of the most viable products.
- The right **cloud strategy** will help build resilience, scalability, and availability and will reduce the new system's total cost of ownership (TCO). A cloud-native application will be the foundation for platform-as-a-service models, which can help to generate new ecosystem propositions.

Among market right-sizing efforts, some banks are implementing a core payments engine refresh in the back-end to align with the digital front-end. An enterprise payments platform/payments hub that can fit within the bank's reference architecture can be highly cost-effective. A structured approach based on the target customer and market strategy will help to achieve faster results with manifold benefits as banks move progressively to a rationalized infrastructure setup.

Figure 12. Call to action for payments modernization



Source: Capgemini Financial Services Analysis, 2020.

In-house new developments supplemented with an effective collaboration strategy will drive expedited and cost-effective implementation. Banks are collaborating with FinTechs to boost their B2B payments portfolios. Almost **60%** of banks that participated in our survey said that leveraging partnerships to speed up innovation is crucial to fortifying their ecosystem propositions.

Firms are designing strategies that enable end-to-end CX best suited to their unique customer segments. As identified in the World Payments Report 2019, most firms embrace a role as an aggregator of services in an ecosystem or as a single orchestrator of an ecosystem.

Aggregator model: The State Bank of India (SBI) supports a digital ecosystem via its smartphone app YONO, a B2C platform linked to 75 international e-commerce players (Amazon, Uber, Airbnb, Booking.com, and Expedia) across various categories (fashion, electronics, home furnishings, travel, holidays) to cater to customer lifestyles. Launched in 2018, YONO (You Only Need One) broke even in two years and according to the bank's announcement helped boost SBI revenue by 40%.^{37 38}

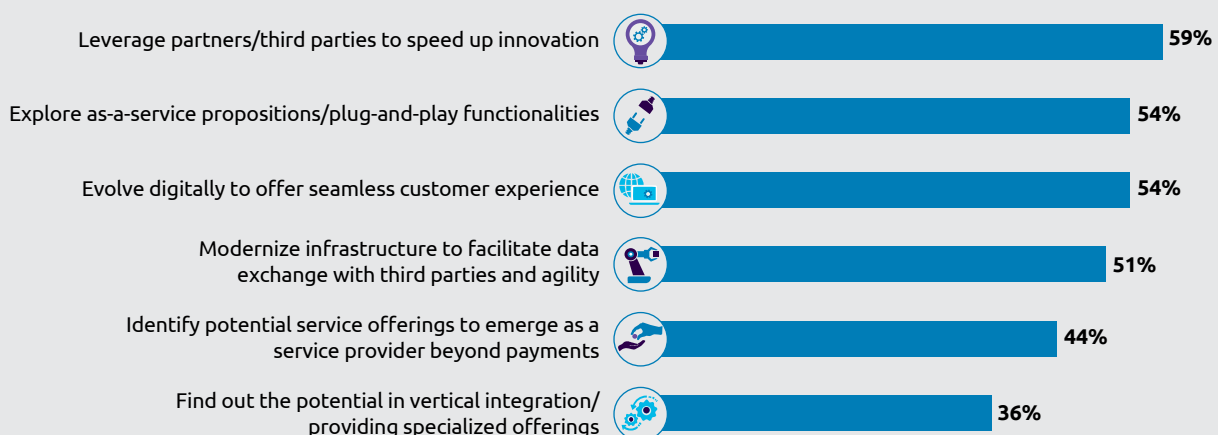
Orchestrator model: Standard Chartered's as-a-service platform, Nexus, represents the bank's strategic orchestrator approach to opportunities

through non-FS offerings (e-commerce, ride-hailing, and social media) and their end-users' extended networks. Through Nexus, the bank can plug into a customer-facing platform. Nexus is on track to go live in 2021, and the British multinational bank has already partnered with an Indonesian e-commerce firm. Similar to Ping An's OneConnect technology-as-a-service platform, Nexus acts as the front end to Standard Chartered's banking technology stack.³⁹ Moreover, SCPay, the bank's flagship global payment platform, is designed to provide frictionless real-time payments experience and on-demand scalability on a secure foundation. The platform is unique in its ability to unify fragmented legacy systems across client segments, countries, and products to a single pan-bank payments utility with a lower cost of ownership.

Agility is one of the key words for mid-tier banks that want to become future-proof. Curated, easy to deploy solutions are essential to remaining competitive and relevant — apart from being compliant."

— **Paul Thomalla**, Managing Director, Finastra

Figure 13. Collaborating with third parties and partners is a key element of banks' ecosystem strategy



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 industry stakeholders survey, N=75 banks.

Question asked: Which of the below steps do you think will help fortify your ecosystem propositions. Respond on a scale of 1–7, with 7 being highly effective and 1 being the least effective.

³⁷ SBI, "YONO by SBI," accessed Aug. 2020.

³⁸ DIGFIN, "Invisible banking? No way, says SBI," Jan 16, 2020.

³⁹ Fintech Futures "What 'Nexus' means for Standard Chartered," March 31, 2020.

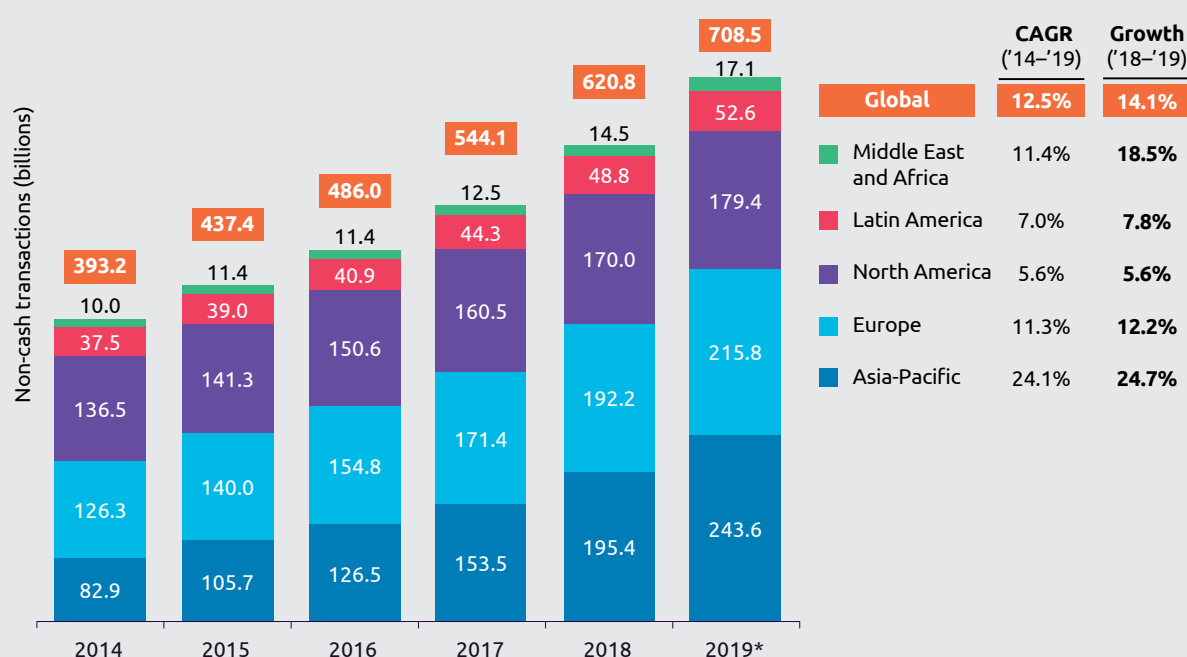
Despite COVID-19 obstacles, growth fosters new methods and rails, as regulators prioritize trust, risk reduction

Until 2019, growth and customer adoption spurred opportunities for payments players

Payment is becoming transparent, as invisible payments, instant payments, and biometric authentication become engrained in consumer lifestyles, and social media platforms (e.g., Facebook, WeChat) add more payment

features. Digital wallets have become the preferred choice for online spending as well as for in-person transactions. Demand for frictionless transactions grows, as the providers respond with a more seamless payment experience. This perfect match of demand-supply helped non-cash transaction volumes in 2019 rally by more than 14% to reach 708.5 billion transactions – the highest growth rate within the past decade.

Figure 14. Asia-Pacific leads the global non-cash transactions growth driven by the soaring internet economy (billions), 2014–2019



Note: *Non-cash transactions data for 2019 is sourced from the countries' central banks. In case of data unavailability, forecasted figures are used.

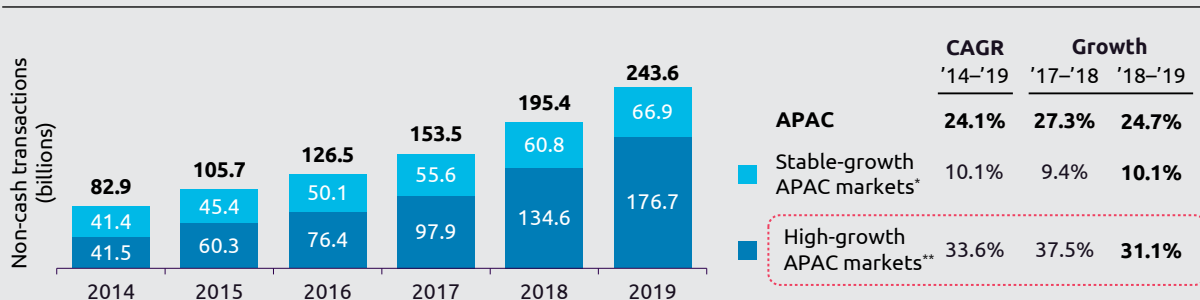
Sources: Capgemini Financial Services Analysis, 2020; ECB Statistical Data Warehouse, 2018 figures released November 2019; BIS Statistics Explorer, 2018 figures released December 2019; countries' central bank annual reports, 2019.

With a growth rate of nearly 25%, Asia-Pacific (APAC) led the global non-cash transactions space (APAC's non-cash transactions reached 243.6 billion in 2019), as we predicted in last year's World Payments Report. What's driving the APAC surge? Rapidly increasing smartphone penetration, a booming e-commerce segment, flourishing adoption of digital wallets, and innovations – primarily mobile–and QR-code payments.

China, India, Hong Kong, and other Southeast Asian economies are on the cusp of a non-cash payment revolution, steered by the enormous success of mobile payment adoption. In China – the global leader in mobile payment penetration – more than a billion

people are expected to pay with their phones in 2020.⁴⁰ India and Vietnam are experiencing a leapfrog effect in which consumers and businesses moved directly from cash to mobile payments for their last-mile payment needs.

Figure 15. China, India, and other Southeast Asian markets are playing a pivotal role in APAC's glaring non-cash payments landscape (billions), 2014–2019



Notes: * Stable-growth APAC markets: Japan, Australia, Singapore, South Korea.

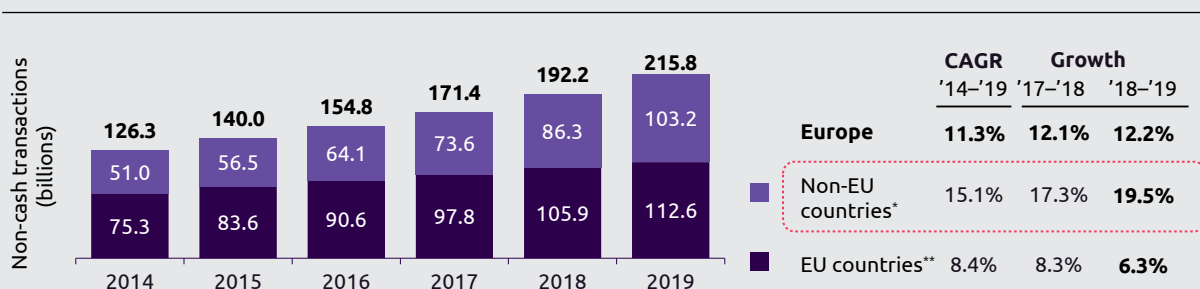
** High-growth APAC markets: China, India, Hong Kong, and other Southeast Asian markets.

Sources: Capgemini Financial Services Analysis, 2020; ECB Statistical Data Warehouse, 2018 figures released November 2019; BIS Statistics Explorer, 2018 figures released December 2019; countries' central bank annual reports, 2019.

Europe's non-cash transaction volumes grew more than 12% from 2018–2019. Non-European Union (non-EU) countries were up by more than 19%, to steer regional non-cash transaction growth. The upswing

was powered by developing economies, including Russia (nearly 42%) and Turkey (nearly 14%). The increasing popularity of e-wallets in Russia boosted cashless transactions.^{41,42}

Figure 16. European markets outside the EU recorded double-digit non-cash transaction growth (billions), 2014–2019



Notes: * Non-EU countries within Europe: UK, Switzerland, Norway, Russia, Turkey, and other CE countries.

** EU countries: The 27 member countries within the European Union (EU).

Sources: Capgemini Financial Services Analysis, 2020; ECB Statistical Data Warehouse, 2018 figures released November 2019; BIS Statistics Explorer, 2018 figures released December 2019; countries' central bank annual reports, 2019.

⁴⁰ Statista, "China's Mobile Payment Adoption Beats All Others," Aug. 4, 2020.

⁴¹ Computer Weekly, "Russians using less cash after accelerated use of electronic payments," Oct. 19, 2018.

⁴² Ingenico, "Cracking the Russian market," Dec. 14, 2018.

Among the top-15 non-cash transaction markets, the United States dominated the list, with China, India, and Russia closing in fast.

The established US non-cash payment landscape, which features maturity in bank account penetration and use of payment instruments (4.45 cards per capita), helped the market retain its leading position.⁴³ China, followed by the EU, maintained the second spot, driven mostly by enthusiasm for mobile payments.⁴⁴ Russia's non-cash payments volume surpassed that of Brazil in 2019, with a growth rate of nearly **42%**, driven mostly by the adoption of domestic payment system (Mir).⁴⁵ India registered the highest growth (nearly **51%**) in non-cash payments volume in 2019 to overtake France and Germany.

Expect COVID-19 to decelerate global non-cash volumes; 2019–2023 growth now slated for 11.5%, down nearly 5% from previous projections

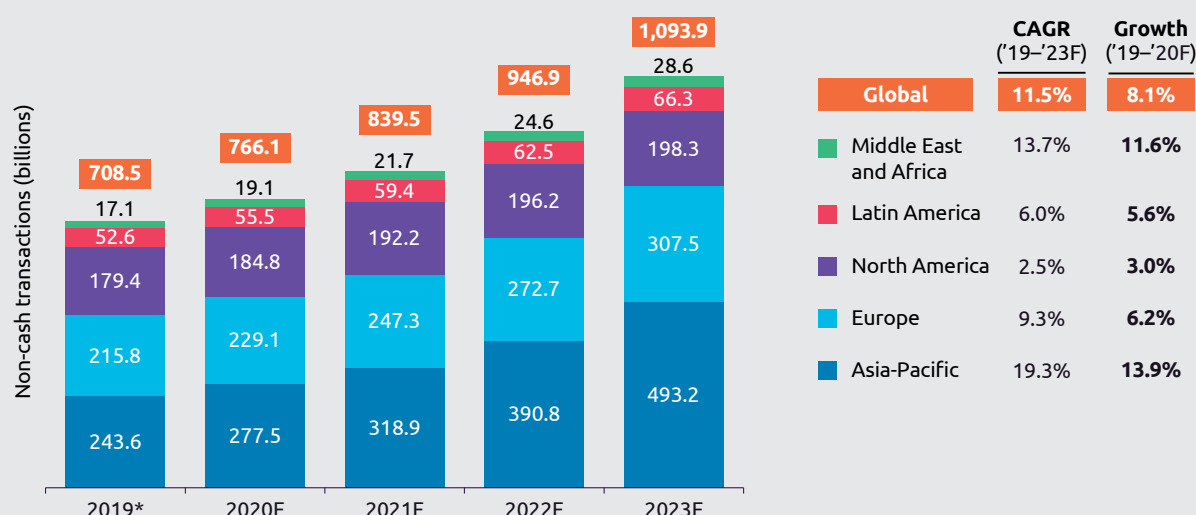
With trade activity falling sharply and consumption hindered because of lockdowns and other restrictions, the global economic outlook appears bleak. Several

countries may slip into recession with visible signs of rebound not likely until late 2021. The impact of the recession on GDP will continue to be felt for years, with GDP levels in the largest advanced economies expected to remain around **3% to 4% below their pre-virus trend** path by the middle of this decade.⁴⁶

Latin America was affected the most by the COVID-19 recession, and GDP growth rate is expected to fall by more than **7%**, followed by advanced economies, including the United States, Eurozone, and Japan at negative **7%**. Southeast Asia and sub-Saharan Africa remained relatively less affected by the virus, with a nearly **3%** estimated dip in growth. Although the decline is offset, to an extent, by increasing adoption of contactless technology, QR code payments, and instant payments-based transfers, it is highly unlikely that growth levels will match pre-COVID-19 levels/estimates.

Despite the pandemic's long shadow, increased adoption of digital payment methods is expected, especially in growing markets such as APAC and MEA. Look for a whopping 19% 2019–23 CAGR driven by high growth markets (India and China). Also, on track for growth are MEA (**14%**) and Europe (**9%**). Developing CEE countries (Romania, Poland, the Czech Republic) and non-Euro Zone (Russia, Turkey) will play critical roles in Europe.

Figure 17. Mobile payments will propel non-cash transaction growth in the coming years (billions), 2019–2023F



Note: *Non-cash transactions data for 2019 is sourced from countries' central banks. In case of data unavailability, forecasted figures are used.

Sources: Capgemini Financial Services Analysis, 2020; ECB Statistical Data Warehouse, 2018 figures released November 2019; BIS Statistics Explorer, 2018 figures released December 2019; countries' central bank annual reports, 2019.

⁴³ J.P. Morgan, "E-commerce Payments Trends: United States," accessed Aug. 2020.

⁴⁴ China Banking News, "China and WeChat Pay Lead the World in Mobile Payments," Dec. 3, 2018.

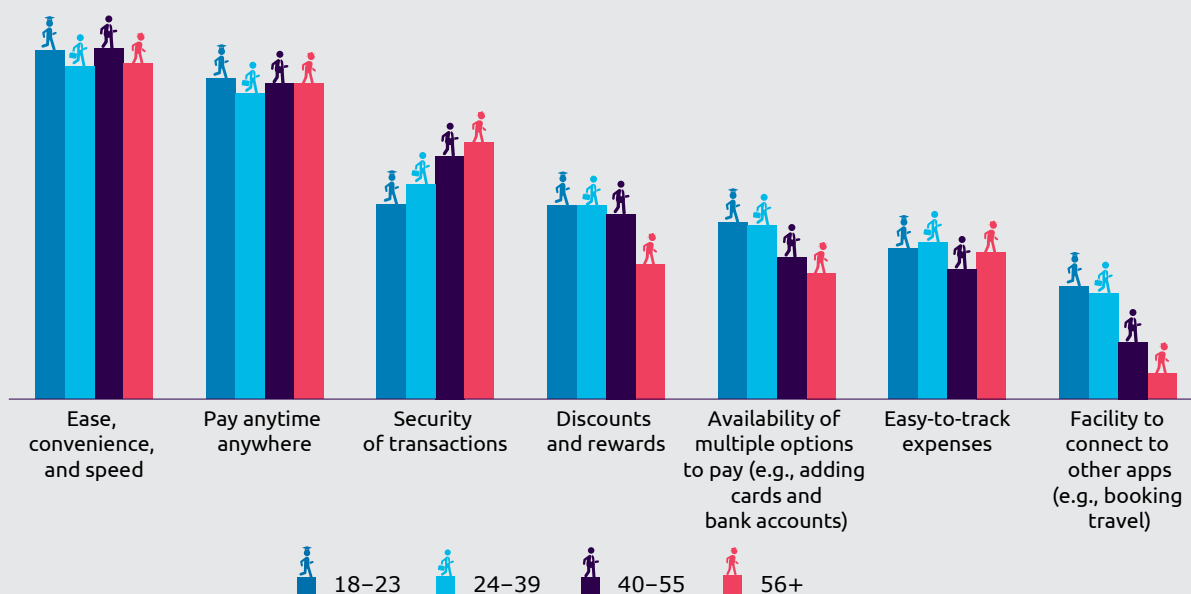
⁴⁵ Business Wire, "Ingenico Breaks New Ground with Domestic Processing and Cross-Border Settlement for International Payments in Russia," Dec. 11, 2018.

⁴⁶ Business World, "Coronavirus Impact on GDP will be Felt for Years to Come: Fitch," July 31, 2020.

Alternative payments could boost the non-cash payments' growth trajectory, although the impact may vary across regions

1. As part of Capgemini's August 2020 consumer survey, **64%** of respondents said they used contactless cards during the COVID-19 crisis (versus QR-code payments or digital wallets). In fact, **41% of consumers said they used contactless cards for the first time** during the crisis. More than 50 markets expanded contactless payment limits at the height of the COVID-19 crisis, which also fueled its adoption.⁴⁷
2. **Digital wallets' and QR-code payments** are expected to peddle the next growth story of non-cash transactions. The number of digital wallet users is on a trajectory to increase from 2.3 billion in 2019 to nearly 4 billion by 2024 – 50% of the world's population. As per our Voice of Consumer Survey, **"Transaction speed" and "pay anytime-anywhere convenience" were the top two factors that motivated users to make payments through digital wallets or QR code-based mobile apps.**
3. The automated payment processes made famous in Amazon Go stores and Uber are examples of *invisible* payments, which analysts say are on pace to a mind-boggling 51% CAGR (2017–22) and USD 78 billion in transactions.^{48,49}
4. According to our survey, e-commerce is likely to be the next growth engine for digital payments. **The number of consumers who make 51–100% of monthly purchases via e-commerce nearly doubled during the pandemic, and the transition from retail to e-commerce will continue even after the virus has been contained.**

Figure 18. What motivates consumers to use digital wallets/QR code-based mobile apps?



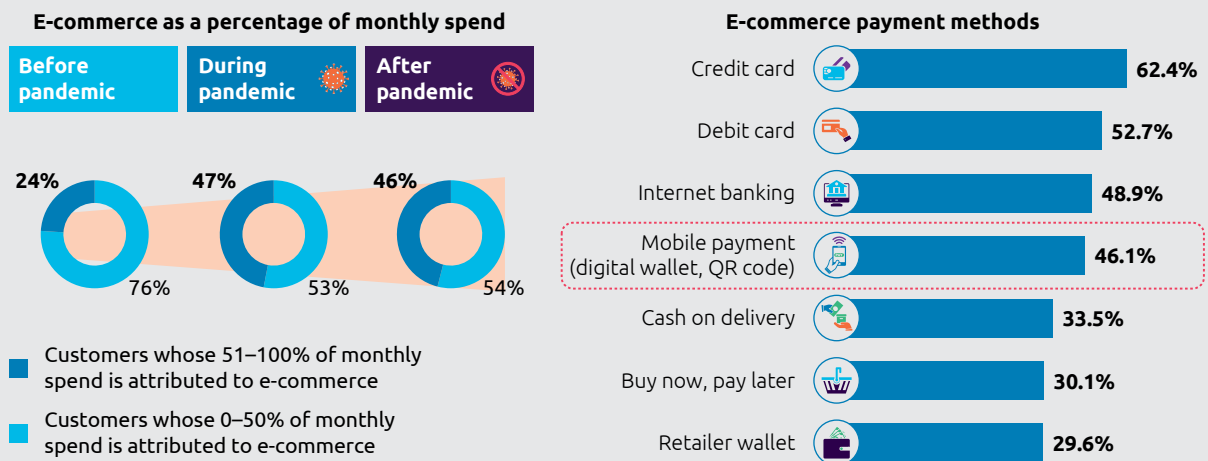
Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 voice of customer survey, N=8,604.

⁴⁷ [Livemint](#), "Pandemic propels adoption of contactless payments," May 11, 2020.

⁴⁸ [Pymnts](#), "Why Invisible Will Make 2020's Payments Innovation Roar," Sept. 3, 2019.

⁴⁹ [The Fast Mode](#), "'Invisible Payment' Technologies to Process \$78 Billion by 2022, says Juniper Research," Oct. 13, 2017.

Figure 19. As shoppers turn to e-commerce post-pandemic, many explore mobile payments



Sources: Capgemini Financial Services Analysis, 2020; World Payments Report 2020 voice of customer survey, N=8,604.

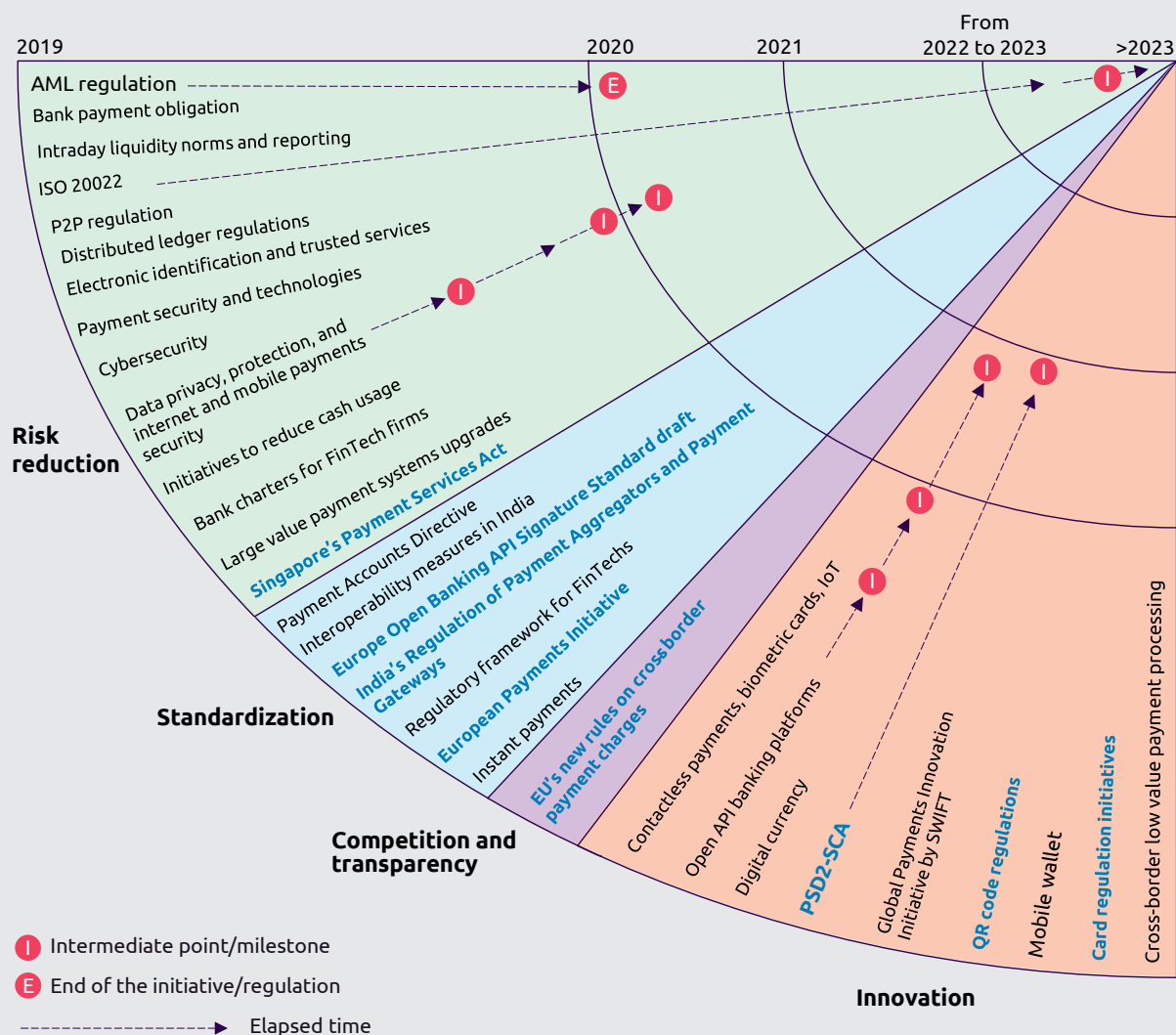
Regulatory and industry stakeholders will navigate uncertainty through collaboration

Risk reduction and standardization have been regulatory focus areas in 2020 as systemic risk portends imminent threat, and the health crisis continues⁵⁰.

AML and cybersecurity threats force regulators to prioritize risk mitigation

Anti-money laundering (AML): Several countries are taking steps to fortify the regulation/directive. The **EU's** fifth AML Directive (AMLD V) required member countries to transpose (implement into national legislation) the regulation by January 2020.

Figure 20. Key regulatory and industry initiatives (KRIs) clustered by regulators' primary objectives, 2020



New KRIs introduced in World Payments Report 2020

Note: Timelines are provided for regulations where specified. No timelines are specified for industry-trend KRIs. For 2020, we merged Data Privacy and Protection, Internet Payments Security, and Mobile Payments Security into a single KRI.

Source: Capgemini Financial Services Analysis, 2020.

⁵⁰ Figure 20 note: Timelines are provided for regulations where specified. No timelines are specified for industry-trend KRIs. For 2020, we merged Data Privacy and Protection, Internet Payments Security, and Mobile Payments Security into a single KRI.

AMLD V emphasizes the transparency of an entity's real owner. AMLD V, together with eIDAS regulation, supports the EU's Digital Single Market concept that allows immediate homogenous electronic identification in Europe and remotely.⁵¹ **New Zealand** implemented phase 2 of its Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) amendment.⁵² The **Swiss Federal Council** published a draft on the amendment of the Anti-Money Laundering Act (AMLA) expected to go into force in early 2021.⁵³

Cybersecurity: Over the past year, 17% of cybersecurity-related issues were the result of third-party system breaches, according to an April 2020 survey by the UK's Financial Conduct Authority, which underscores the need for fool-proof counterparty risk mitigation policies.⁵⁴ The **Bank of England** (BoE) and the **Financial Conduct Authority** (FCA) will collaborate with The **Monetary Authority of Singapore** (MAS) to strengthen cybersecurity.⁵⁵ In the United States, Washington state passed legislation allowing facial recognition to be used by state and local government agencies, with certain limitations, by July 2021.⁵⁶

Standardization and interoperability are high on the regulatory agenda to create a seamless and friction-free landscape

Global initiatives: ISO 20022 messages for cross-border payments, the standard for electronic data interchange between financial institutions, will now begin in late 2022 instead of November 2021, as SWIFT had initially planned.⁵⁷ Also, in 2019, SWIFT announced plans to integrate its real-time, cross-border global payments innovation (GPI) into domestic instant payments systems around the world.⁵⁸

Regional initiatives: The Nordics' P27 and the European Payments Initiative (EPI) aim to provide banks with critical mass and efficiency against global competition.⁵⁹ P27, launched in late 2017, allows for payments across the Nordic countries by making

payments more efficient and transparent, including across borders.⁶⁰ EPI is in the development stage and is slated to go live in 2022. EPI, with support from 16 major European banks and backed by ECB, is paving the way to a digital payment solution for use anywhere in Europe that will supersede the current fragmented landscape.⁶¹



P27 is looking to add to its core CSM focus by also addressing bigger, non-competitive parts of value chain such as bill payments and financial crime reduction."

– **Claus Richter**, COO, P27

Harmonization emerges as a critical success factor for the digital payments market to thrive

There is no doubt that regulators are working to build trust in the market, but a critical first step must be building harmony among disparate regional protocols and rollouts. For example, in Europe, PSP and third-party provider (TPP) licensing and control vary across countries even though the same regulations bind them. It is becoming increasingly clear that the lack of harmonization may significantly hinder European interoperability and innovation.

As part of **PSD2**, Europe introduced Strong Customer Authentication (SCA) requirements last year to authenticate online payments.⁶² However, the compliance rate is still below acceptable levels.

Nearly 60% of banks are fully compliant with SCA standards, while 35% are either halfway to full compliance or are in the planning stage, according to our survey.

⁵¹ eIDAS is an EU regulation for electronic identification and trust services that help verify the identity of individuals and businesses online or the authenticity of electronic documents.

⁵² [Justice.gov.nz](https://www.justice.gov.nz), "Tackling money laundering and terrorist financing," accessed Aug. 2020.

⁵³ [Swiss Federal Council](https://www.sfc.gov.hk), "Federal Council adopts dispatch on amending Anti-Money Laundering Act," June 26, 2019.

⁵⁴ [FCA](https://www.fca.org.uk), "Our Business Plan 2020/21," Apr. 9, 2020.

⁵⁵ [The Global Treasurer](https://www.mas.gov.sg), "BoE, FCA, and MAS to collaborate on cybersecurity," June 17, 2019.

⁵⁶ [JDSupra](https://www.wa.gov), "Washington State Legalizes Use of Facial Recognition by Government Agencies," Apr. 13, 2020.

⁵⁷ [SWIFT](https://www.swift.com), "New approach to ISO 20022 adoption," accessed Aug. 15, 2020.

⁵⁸ [SWIFT](https://www.swift.com), "SWIFT enables payments to be executed in seconds," Sept. 23, 2020.

⁵⁹ [NFCW](https://www.nfcw.com), "European banks to create cross-border instant payments system," July. 3, 2020.

⁶⁰ [Danske bank](https://www.danskebank.com), "P27: A payment initiative that connects the Nordic region," July. 15, 2020.

⁶¹ [BBVA](https://www.bbva.com), "Major Eurozone banks start implementation of new unified payment scheme and solution, European Payment Initiative (EPI)," July 5, 2020.

⁶² [Sysnet](https://www.sysnet.com), "Payment Services Directive (EU) 2015/2366 (PSD2) & Strong Customer Authentication," Jan. 22, 2020.

Regulators back FinTech ecosystem growth, instant payments, and other innovations to stimulate payments sector modernization

As COVID-19 encourages global digital consumption, regulatory and industry initiatives foster innovation and solution deployment

Open banking is gaining global traction as regulators/central banks laser focus on solutions and operational transformation. Australia's phased open banking implementation – July through November 2020 – kicked off with participation from Australia's Big-4 – ANZ, NAB, Westpac, and Commonwealth Bank.⁶³ South Korea launched an open banking platform in late 2019, while Brazil is planning to make open banking APIs fully operational by October 2021.^{64,65} QR-based payments are also gaining ground thanks to firms such as PayPal and others that appeal to the transaction needs of small and informal merchants. Health-related initiatives mandated by central banks and advocated by institutions such as the World Health Organization are also sparking the use of contactless solutions. Around the world, regulators are backing the FinTech ecosystem as the path to payments enhancement. The European Commission's digital finance strategy/FinTech action plan outlines public policy through 2025.⁶⁶

Global markets implement digital currency regulations

The EU, India, South Korea, and Russia have all drafted digital currency regulations to guide cryptocurrencies and launch pilot programs. South Korea's central bank (BOK) launched a pilot program in April 2020 to test digital won, which will run through December 2021.

In other markets

- **People's Bank of China** is piloting a CBDC.⁶⁷ China's four largest state-owned commercial banks have been developing and testing a wallet application to store, send, and receive Digital Currency Electronic Payment (DCEP).
- The **Italian Banks Association (ABI)** is considering a digital-euro pilot plan.⁶⁸
- **Sweden's** e-krona testing brings it closer to the release of a CBDC. The pilot runs through February 2021.⁶⁹
- In March 2020, the **Central Bank of France** announced an experimental program to test the integration of a CBDC for interbank settlements, inviting participant applications.⁷⁰

Regulators and payment service providers (PSPs) boost CX through convenience and security. Multiple initiatives to improve convenience and checkout experience from regulators, card networks, and industry collaboration initiatives are in the works. The introduction of EMV contactless specifications for payment systems is one example.⁷¹ Expansion of Click-to-Pay online checkout (based on EMV/SRC specifications) is in development in Australia, Brazil, Canada, Hong Kong, Ireland, Malaysia, Mexico, New Zealand, Saudi Arabia, Singapore, the UAE, and the UK.⁷²

⁶³ [Dentons](#), "Australian Government delays implementation of Open Banking," Jan. 13, 2020.

⁶⁴ [Pag Brasil](#), "Central Bank of Brazil announces open banking regulations," May 7, 2020.

⁶⁵ [The Korea Herald](#), "S. Korea formally launches 'open banking' service," Dec. 18, 2019.

⁶⁶ [European Commission](#), "FinTech action Plan," Apr. 3, 2020.

⁶⁷ [Carnegie India](#), "China's Central Bank Unveils Digital Currency, in Challenge to U.S. Dollar," June 4, 2020.

⁶⁸ [Coin Desk](#), "Italian Banks Are Ready to Trial a Digital Euro," June 22, 2020.

⁶⁹ [Technology Review](#), "Sweden is now testing its digital version of cash," Feb. 20, 2020.

⁷⁰ [Cointelegraph](#), "Bank of France Launches Experiment Program on Central Bank Digital Currency," March 30, 2020.

⁷¹ [Emvco](#), "EMV Contactless Specifications for Payment Systems," March 2019.

⁷² [Financial Post](#), "American Express, Discover, Mastercard and Visa to Power Global Expansion of Simple, Consistent Digital Checkout Experience," July 8, 2020.

Payments landscape vista: A new take on who, where, and what

The payments landscape horizon is continuously expanding – as existing players evolve customer engagement and service offerings, new entrants add innovative propositions and novel business models, and dynamics shift. This evolution could be described within a framework that applies to both the B2C (retail) and B2B (wholesale) environments.

Digitally savvy end users ask for more

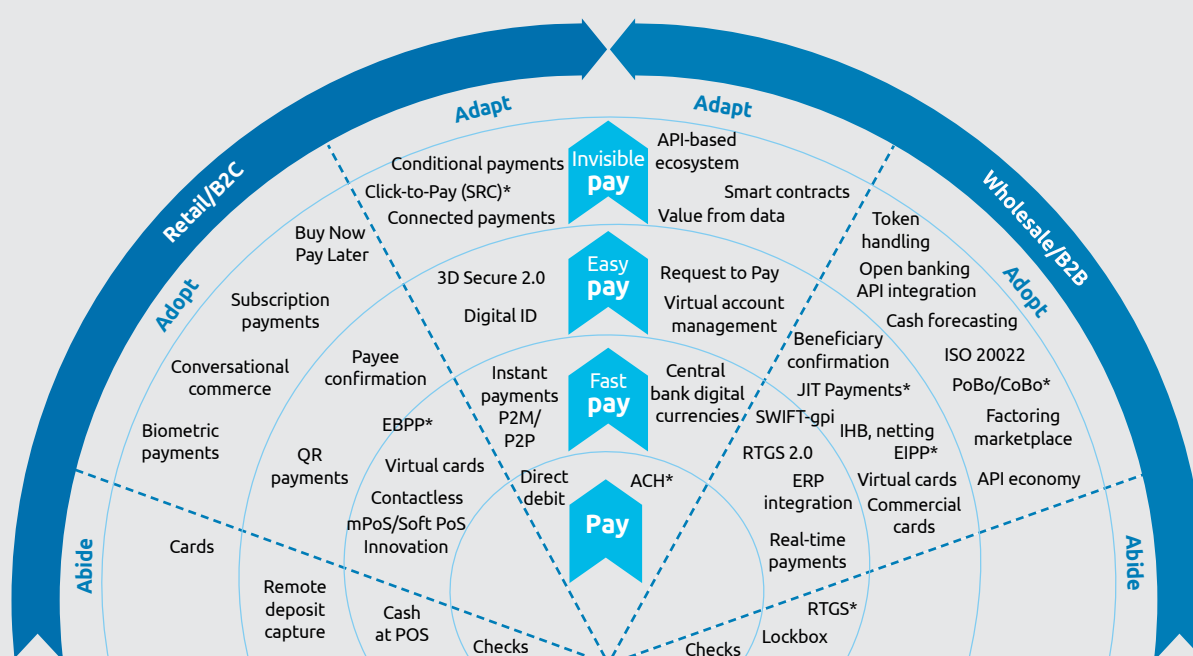
Convenience, speed, and seamlessness define the requirements of today's digital end users. The payments proposition is changing from a standalone product to becoming part of customers' end-to-end experience journey, in which the payment enables a bigger agenda for both retail and wholesale customers.

Technology has transformed the act of paying to, ultimately, make it invisible, as end users' expectations evolve from Pay to Invisible Pay.

Within the evolving payments' framework:

- **Pay** represents the traditional dimension in which conventional methods are used to complete transactions.
- **Fast Pay** offers technology-enabled payments processed instantly with immediate confirmation and account transfers.
- **Easy Pay** delivers robust transactional security based on improved identification and authentication to make it simpler for customers to make digital payments.
- **Invisible Pay** is the aspirational end state in which payments are transacted in the back-end without direct customer involvement – for seamless authorization and a friction-free experience.

Figure 21. Expanding horizon of the payments landscape



EBPP – Electronic bill presentment and payment
SRC – Secure remote commerce

RTGS – Real-time gross settlement
EIPP – Electronic invoicing presentment and payment
ACH – Automated clearing house
JIT – Just in time
PoBo – Payments on-behalf-of
CoBo – Collections on-Behalf-of

Source: Capgemini Financial Services Analysis, 2020.

Digitally savvy end users ask for more

As customers evolve, service providers transcend three transformative stages – Abide, Adopt, and Adapt – to bolster their customer engagement.

1. **Abide** describes business-as-usual payment players that offer traditional methods using off-the-shelf instruments.
2. **Adopt** is a growth stage when firms take on technology, regulatory, and efficiency initiatives to meet compliance parameters, become agile, and open the door to third-party partnerships that bring new market opportunities and customer segments within reach.
3. **Adapt** is the phase in which firms enthusiastically embrace processes and activities to bring themselves in full alignment with customers/end users. Adaptive firms engage fully within their customers' payments journey and offer value propositions beyond payments.

As firms explore competitive advantages, digital transformation offers a direct route to the **invisible pay** end state. However, for each transaction type, engagement model reinvention is the essence of transformation versus mere digital execution of the transaction.

Acting as a lynchpin, regulators nurture the dynamic landscape for success

Policymaking and implementation also play a role in the evolution of the industry. As players innovate and new entrants disrupt the market, multiple standards, payment systems, and methods may lead to fragmentation. Harmonization and standard-setting are more critical than ever as regulators strive to maintain optimal balance and not stifle innovation.

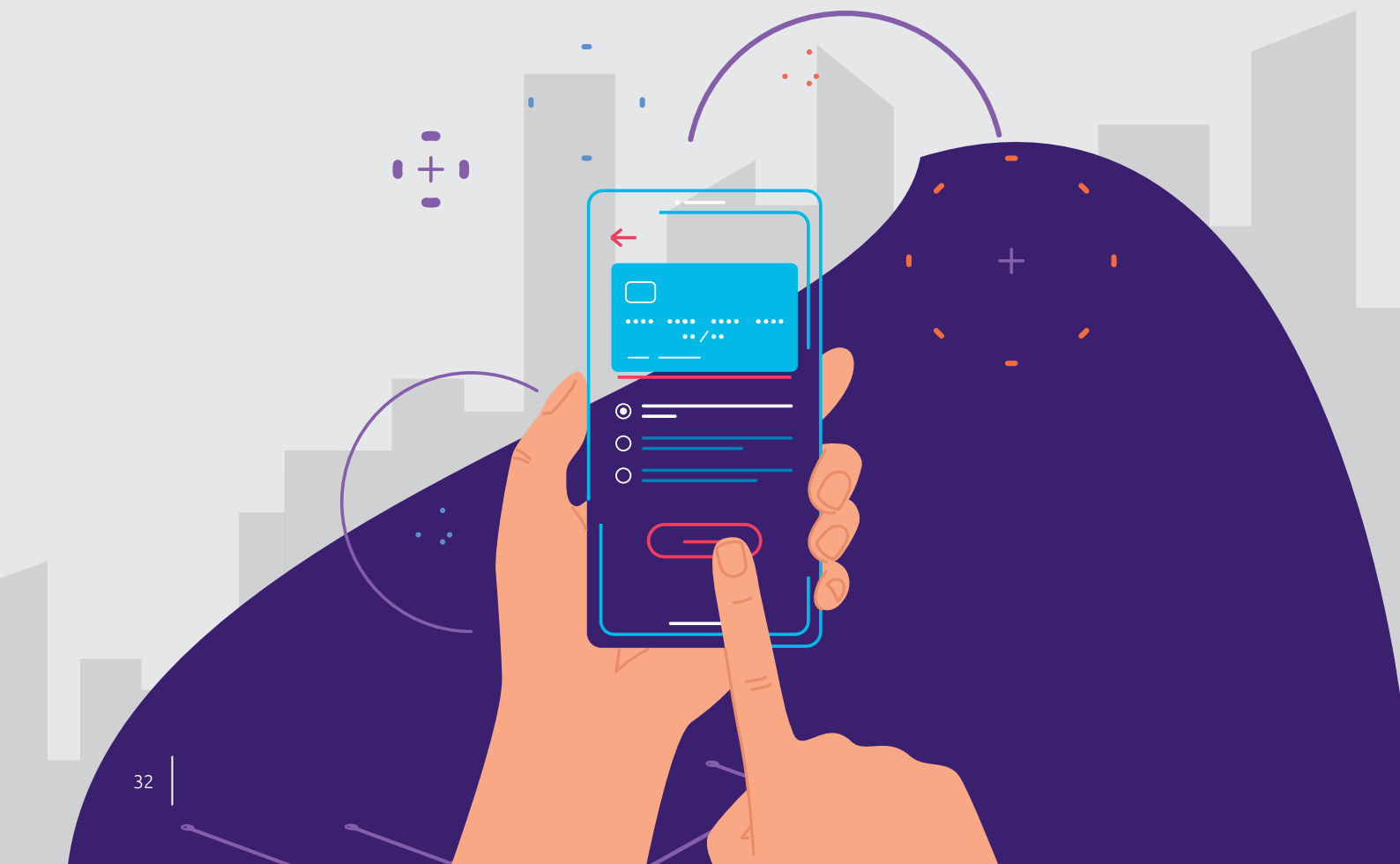
As payments stakeholders accept their best-fit roles, the evolving landscape is rich with opportunities. Novel and innovative players that prioritize digital mastery and align with customers' expectations are poised to become frontrunners within the ecosystem of tomorrow.



Customer needs and willingness to pay varies by segment. Addressing this asymmetry in payment economics requires targeted proposition development and an intense focus on operating efficiency."

– **Shane Conway,**

Member of the Corporate & Institutional
Banking Leadership Team,
National Australia Bank



Methodology

Non-cash transactions volume analysis

The *World Payments Report 2020* offers insights across 44 payments markets within various geographical regions. For worldwide macro descriptive graphs, we defined six regions: Europe, North America, Mature Asia-Pacific, Emerging Asia, Latin America, and Middle East and Africa, grouped by geographic, economic, and non-cash payment market maturity criteria.

Country coverage

North America: Canada and the United States.

Europe: 31 markets: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and other CE markets.

Mature Asia-Pacific: Australia, Japan, Singapore, and South Korea.

Emerging Asia: China, Hong Kong, India, and other Asian markets.

Latin America: Brazil, Mexico, and other Latin American markets.

Middle East and Africa: South Africa, Saudi Arabia, and other MEA markets.

Because of a lack of reliable historical trend information, the data for some countries were estimated and grouped under the appropriate regional heading: other Asian markets, other Latin American markets, or other MEA markets.

Data sources

Latest Bank for International Settlements (BIS) statistics explorer (2018 data released December 2019); European Central Bank (ECB) Statistical Data Warehouse (2018 data released November 2019); central bank publications and websites; macroeconomic indicators (gross domestic product (GDP) and population) collected from the World Bank.

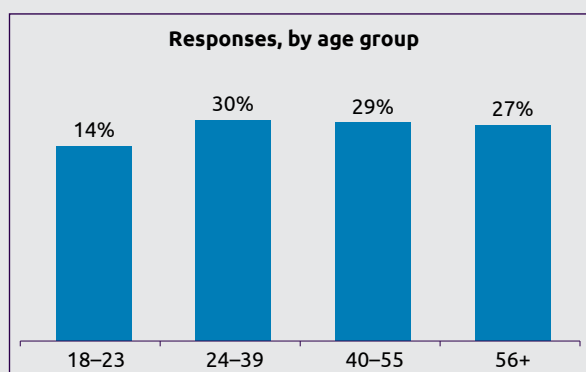
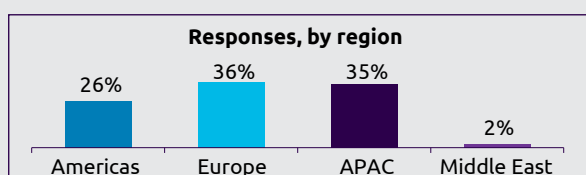
Primary research details



Voice of customer survey: 8,604 customers



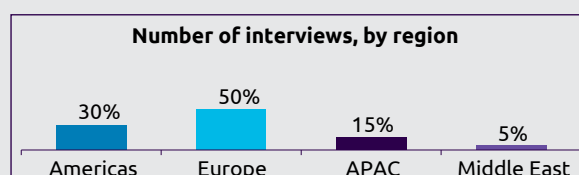
July–August 2020



Executive interviews: 45 payments executives



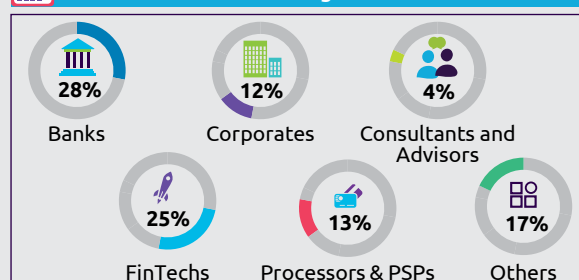
June–August 2020



Industry survey: 235 respondents



June–August 2020



Partner with Capgemini

Payments hub transformation

Existing monolithic, hard-to-replace payment solutions are hindering the full potential of emerging payments. Long cycles are required to make meaningful business changes. What's more, legacy complexities inhibit the integration of new partners and market infrastructure. The result? High change-and-run costs in people, processes, and platforms, which slow the realization of value from payments. COVID-19 has crystalized the criticality of payment systems modernization.

Capgemini's payments hub solution is an end-to-end transformation framework, including advisory services, implementation, and support for product solutions from leading commercial off-the-shelf (COTS) partners for core real-time as well as traditional payments schemes. Our Smart Payments integration framework is an API-based integration framework based on open source technology that comes with an interface connection component that enables 30+ interfaces across the payments lifecycle, along with interface- and static data matrix. The framework facilitates a faster and more complete payments hub fit within a bank's payments landscape.

Cloud-based data platform and microservices architecture

Digital is leading to exponential growth in customer expectations. FinTechs are redefining the way organizations, businesses, and customers interact and transact. The emergence of mobile wallets, third-party payment platforms, and cryptocurrency is revolutionizing payments. All these new business models require a modern data platform that helps to power new capabilities.

Capgemini's cloud data solution supports data-centric, data-driven decisioning for organizations and helps to embed data, analytics, and AI across

all business functions. The solution can help to democratize payments data and support monetization propositions while aiding the exploration of new business models, products, and services.

Microservice architecture: Capgemini can help clients implement microservices architecture through cloud migration – re-platforming with semi PaaS/full PaaS, build cloud-native (API, micro-services, and serverless) applications, and modernization strategy.

Instant payments

Instant payments caters to digital and non-cash payments that are becoming a financial industry standard. The key is for banks to support a reliable payments platform and data-driven approach to decision making, funding, and risk management. Banks can seek to align their payments back-office technology to a standalone instant payments solution or combine with a payments hub.

Capgemini's instant payments offerings include payments strategy, impact analysis, program management, platform selection, architecture redefinition, and end-to-end implementation (including quality assurance) in line with local scheme requirements.

Cash and liquidity management

Cash and liquidity management has emerged as a critical focus area in the post-pandemic environment.

Capgemini's cash and liquidity transformation offerings include end-to-end implementation of virtual account management (VAM), multi-currency management solutions from leading COTS solution partners.

World Payments Report 2020

For more information

Global

Nilesh Vaidya

nilesh.vaidya@capgemini.com

Jeroen Hölscher

jeroen.holscher@capgemini.com

Stanislas de Roys de Ledignan

stanislas.deroy@capgemini.com

Asia

(Hong Kong, Singapore, Japan)

Makiko Takahashi

makiko.takahashi@capgemini.com

Samuel Levy-Basse

samuel.levy-basse@capgemini.com

Australia

Vasant Gore

vasant.gore@capgemini.com

Belgium

Robert van der Eijk

robert.van.der.eijk@capgemini.com

France

Christophe Vergne

christophe.vergne@capgemini.com

Marwan Farah

marwan.farah@capgemini.com

Olivier Jamault

oliver.jamault@capgemini.com

Germany

Christian Drevenstedt

christian.drevenstedt@capgemini.com

Stefan Huch

stefan.huch@capgemini.com

India

Sriram Kannan

sriram.kannan@capgemini.com

Anuj Singh

anuj.singh@capgemini.com

Italy

Francesco Fantazzini

francesco.fantazzini@capgemini.com

Middle East

PSV Venugopal

venugopal.psv@capgemini.com

Richard van den Engel

richard.vanden.engel@capgemini.com

The Netherlands

Gerold Tjon Sack Kie

gerold.tjonsackkie@capgemini.com

Marco de Jong

marco.de.jong@capgemini.com

Alexander Eerdmans

alexander.eerdmans@capgemini.com

Nordics

(Finland, Denmark, Norway, Sweden)

Johan Bergstrom

johan.bergstrom@capgemini.com

Sairam Srinivasan

sairam.srinivasan@capgemini.com

Thierry Morin

thierry.morin@capgemini.com

Spain

M^a Carmen Castellvi Cervello

carmen.castellvi@capgemini.com

Mireia Hernandez Navarro

mireia.hernandez-navarro@capgemini.com

United Kingdom and Ireland

Alan Gregory

alan.gregory@capgemini.com

United States and Canada

Sankar Krishnan

sankar.krishnan@capgemini.com

Ravi Vikram

ravi.vikram@capgemini.com

Christopher Tapley

christopher.tapley@capgemini.com

Ask the experts



Elias Ghanem

Global Head of FS Market Intelligence

elias.ghanem@capgemini.com

Elias is responsible for Capgemini's global portfolio of financial services thought leadership. He has more than 20 years of experience in FS with a focus on effective collaboration between banks and the startup ecosystem.



Nilesh Vaidya

Global Head, Banking and Capital Markets

nilesh.vaidya@capgemini.com

Nilesh has been with Capgemini for 20 years and is an expert in managing digital journeys for clients in the areas of core banking transformation, payments, and wealth management. He works with clients to help them launch new banking products and their underlying technology.



Jeroen Hölscher

Global Head of Cards and Payments practice

jeroen.holscher@capgemini.com

Jeroen is an expert in transformation programs in the cards and payments domain. He has been with Capgemini for 23 years and helps clients to improve their payment products and their underlying technology.



Christophe Vergne

Cards & Payments SME (Europe)

christophe.vergne@capgemini.com

Christophe played a critical role in building Capgemini's global payments transformation capability, enabling major institutions to transform their leadership across market segments and services. He has co-authored the World Payments Report for the past decade.



Venugopal PSV

Cards & Payments SME (APAC)

venugopal.psv@capgemini.com

Venu has been with Capgemini for nine years and leads advisory and client solutions in payments, cards and transaction banking.



Ravi Vikram

Cards & Payments SME (US & Canada)

ravi.vikram@capgemini.com

Ravi has 18 years experience in the Global Cards & Payments Practice at Capgemini. He supports consulting, solutioning, and thought leadership aspects in retail payments and risk/fraud areas.



Thierry Morin

Payments expert, Capgemini Invent

thierry.morin@capgemini.com

Thierry has extensive consulting and payment experience across Europe, and has been supporting banks, payment service providers and retailers to redesign their payment strategy, operating model and service offerings over the past 11 years.



Kalpesh Kothari

BCM Leader, Global FS Market Intelligence

kalpesh.kothari@capgemini.com

Kalpesh has more than 13 years of experience in industry research, business consulting, digital advisory, and expanding market share by business development initiatives, leadership and building client relationships.



Srividya M

Project Manager, World Payments Report 2020

srividya.manchiraju@capgemini.com

Srividya has eight years of experience in handling strategic consulting projects involving insights on competition, industry trends, market sizing, and regional analysis. She has led the development of the 2018 and 2019 editions of the World Payments Report.

About Us



Capgemini is a global leader in consulting, digital transformation, technology and engineering services. The Group is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year+ heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. Today, it is a multicultural company of 270,000 team members in almost 50 countries. With Altran, the Group reported 2019 combined revenues of €17billion.

Visit us at www.capgemini.com.

Learn more about us at www.capgemini.com/financialservices

Disclaimer

The information contained herein is general in nature and is not intended and should not be construed as professional advice or opinion provided to the user. This document does not purport to be a complete statement of the approaches or steps, which may vary according to individual factors and circumstances necessary for a business to accomplish any particular business goal. This document is provided for informational purposes only; it is meant solely to provide helpful information to the user. This document is not a recommendation of any particular approach and should not be relied upon to address or solve any particular matter. The text of this document was originally written in English. Translation to languages other than English is provided as a convenience to our users. Capgemini disclaims any responsibility for translation inaccuracies. The information provided herein is on an "as-is" basis. Capgemini disclaims any and all representations and warranties of any kind concerning any information provided in this report and will not be liable for any direct, indirect, special, incidental, consequential loss or loss of profits arising in any way from the information contained herein.

This message contains information that may be privileged or confidential and is the property of the Capgemini Group.

Copyright © 2020 Capgemini. All rights reserved.

Acknowledgements

We would like to extend special thanks to all of the financial institutions and individuals who participated in our Executive Interviews.

The following firms agreed to be publicly named:

Abu Dhabi Commercial Bank, UAE; Adyen, US; ANZ Bank, Australia; Barclays, UK; BNP Paribas, France; Bank of Ireland; BRED, France; Crédit Agricole CIB, France; Caixa Bank, Spain; Coop Norge SA, Norway; Cora AFM, France; DKB, Germany; Deutsche Bank, Germany; Emirates NBD, UAE; European Payment Council; Finastra, UK; HSBC, UK; ING, the Netherlands; iGTB, UK; Kantox, France; La Banque Postale, France; ME Bank, Australia; National Australia Bank, Australia; Mastercard, US; Nordea, Europe; Payments Canada, Canada; P27, Nordics; Saudi Payments, Saudi Arabia; SEB, Sweden; Standard Chartered Bank, Singapore; STET, France; TietoEvry, Finland; Visa Europe (Consulting and Analytics), UK; WEX, US; Worldline, France.

We would also like to thank the following teams and individuals for helping to compile this report:

Jeroen Hölscher, Christophe Vergne, Elias Ghanem, Jerome Buvat, Kalpesh Kothari, Srividya Manchiraju for overall leadership; and Tamara McKinney Berry, Swaroop Francis, Shanmugapriya M, for researching, compiling, and drafting the findings, as well as providing in-depth market analysis.

Capgemini's Global Payments Network for providing insights, industry expertise, and overall guidance: PSV Venugopal, Marwan Farah, Thierry Morin, Olivier Jamault, Stefan Huch, Johan Bergstrom, Gerold Tjon Sack Kie, Marco de Jong, Rushikesh Tole, Ravi Vikram, Sriram Kannan, Subhabrata Sanyal, Saskia Stekelenburg, Rajesh Hegde, Richard van den Engel, Rishabh Shah, Alan Gregory, Benjamin Gosset, Jean-François Biragnet, Edouard Morio de l'Isle, Matthijs Delen, Joost van Putten, Alexander Eerdmans, John Conlon, Andre Parduhn, Erik Alders, Daniel Fuente Montes De Oca, Bartholome Hannemann.

Ken Kundis, Marion Lecorbeiller, Mary-Ellen Harn, Aparna Tantri, Brent Mauch, Jyoti Goyal, Martine Maître, and Sai Bobba for their overall marketing leadership for the report, and the Creative Services Team for producing the report: Suresh Chedarada, Pravin Kimbahune, Sushmitha Kunaparaju, Sourav Mookherjee, and Dinesh Dhandapani Dhesigan.

Visit

www.worldpaymentsreport.com



For more information, please contact:

Capgemini

payments@capgemini.com

For press inquiries, please contact:

Mary Sacchi (North America and the Rest of the World)

WE Communications for Capgemini

Tel.: +1 (212) 551- 4818

msacchi@we-worldwide.com

Bartu Sezer (EMEA)

WE Communications for Capgemini

Tel.: +44 (0) 20 7632 3861

bsezer@we-worldwide.com

Mary-Ellen Harn (Capgemini)

Tel.: +1 704 356 7996

mary-ellen.harn@capgemini.com