

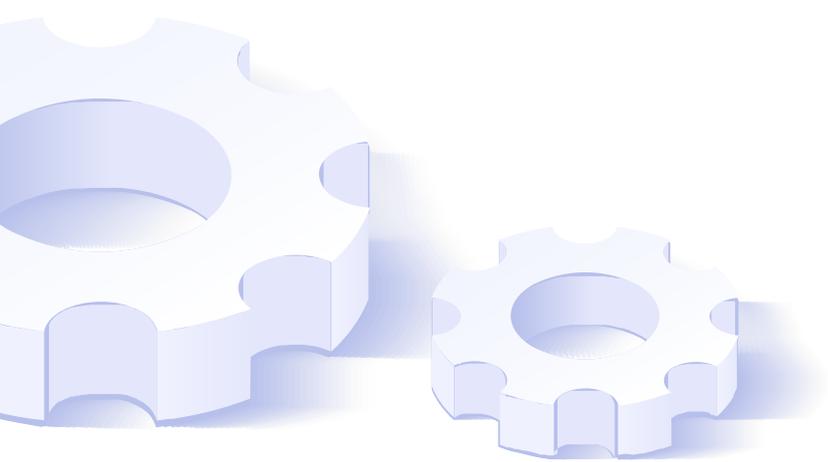


Payment as a service

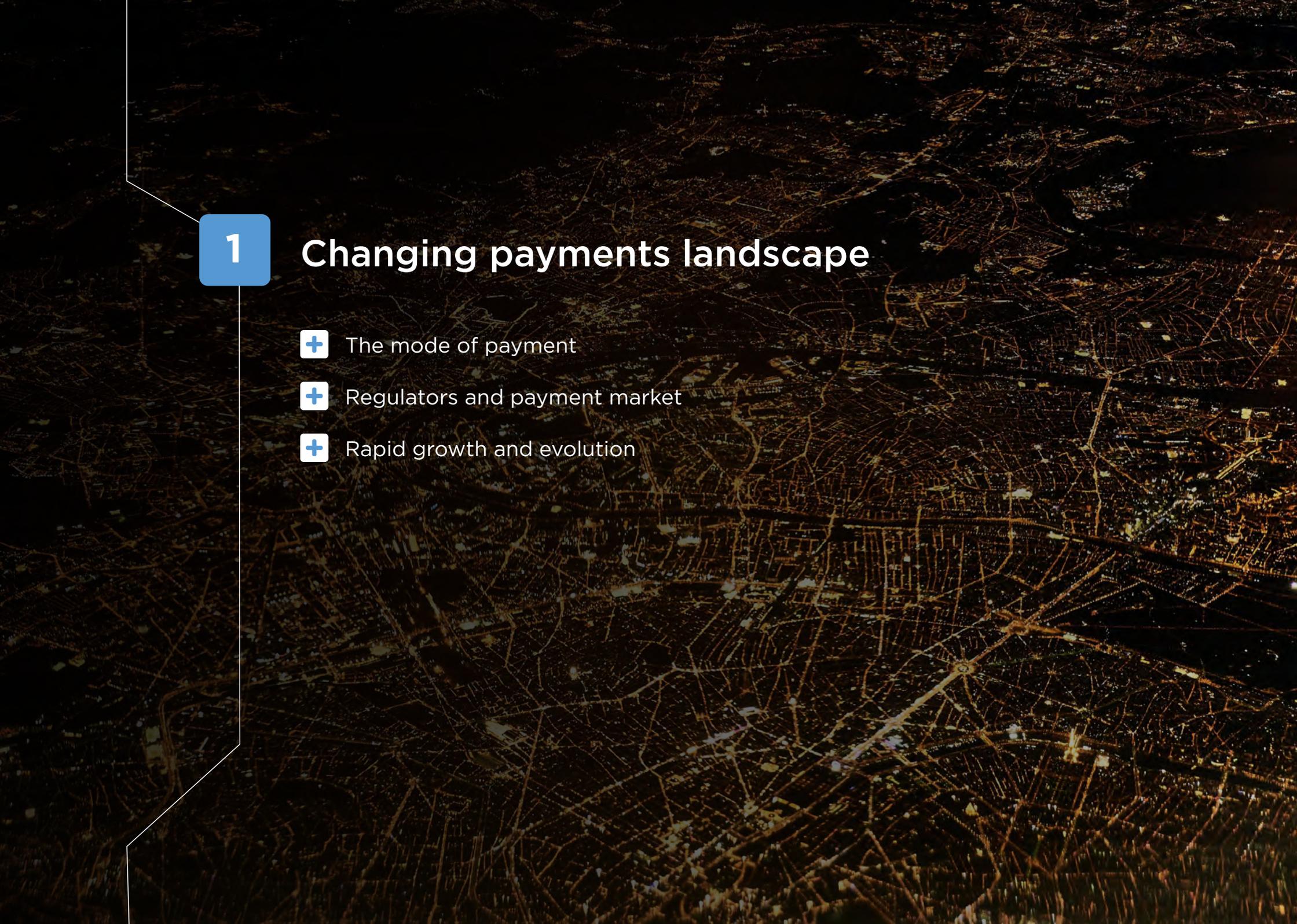
The next wave of payment services



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An aerial night view of a city, showing a dense grid of streets illuminated by streetlights, creating a complex pattern of light and shadow. The overall color palette is dark with warm, golden-yellow highlights from the lights.

1

Changing payments landscape

- + The mode of payment
- + Regulators and payment market
- + Rapid growth and evolution

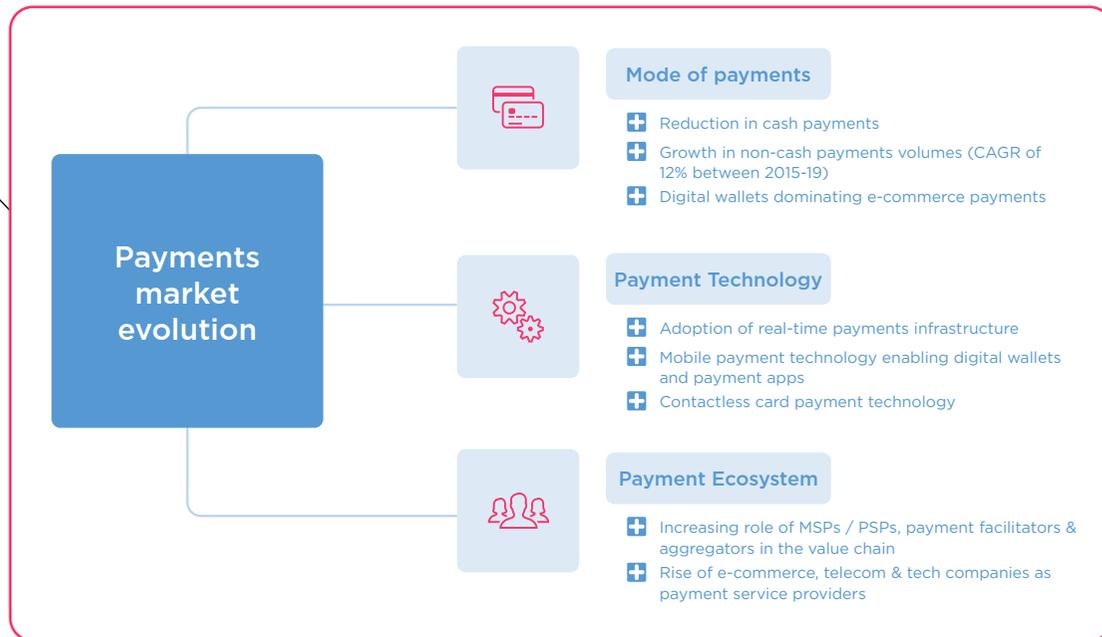
+ THE MODE OF PAYMENT

To say that the global payments business is changing might be an understatement. In the past few years, the global market has seen a significant transformation in the modes of payment transactions, payments technology and the payment services ecosystem, all driven by the evolving customer and their expectations from payment services.

The mode of payment is rapidly moving from cash to non-cash across global markets. While cash

continues to be the dominant form of payments globally, the use of cash for payments has seen a significant reduction in the last five years and more so during the past six months of the global pandemic driven lock-down. Non-cash transactions, on the other hand, reportedly grew at a CAGR of 12% between 2015 and 2019. Interestingly, the trends in non-cash payment modes vary across markets. In the US, card payments are the dominant form with demand for contactless cards picking up. Big tech, fintech and e-commerce and social media

owned digital wallets are becoming the dominant mode of payments in Asia, especially in China, India and Southeast Asian markets. Even in the cash-heavy economies such as Thailand, the nation's real-time digital payment system, Promptpay, witnessed a surge in transactions to 11 million per day in March 2020, up from 5.7 million a year earlier. The adoption of digital wallets is picking up in Europe. However, the current non-cash payment volumes are still dominated by card payments which accounted for 48% of total payment transactions in 2019. In African markets, where a large part of the population is unbanked, telcos dominate with mobile banking and wallet-based payment services offered to consumers.



"There is significant potential in payments-as-a-service models as the evolution towards digital continues and the world of open banking develops and matures. On the 'acceptance' side, we are seeing payments becoming more and more integrated into services - almost becoming 'subliminal'. We are accelerating away from a plastic card-based world to a credentials-based one, where account details are tokenised and securely stored either on devices or in apps. These software-enabled payments already encompass a sizable portion of the market and are expected to grow significantly."

- Jeremy Nicholds, CEO at Judopay

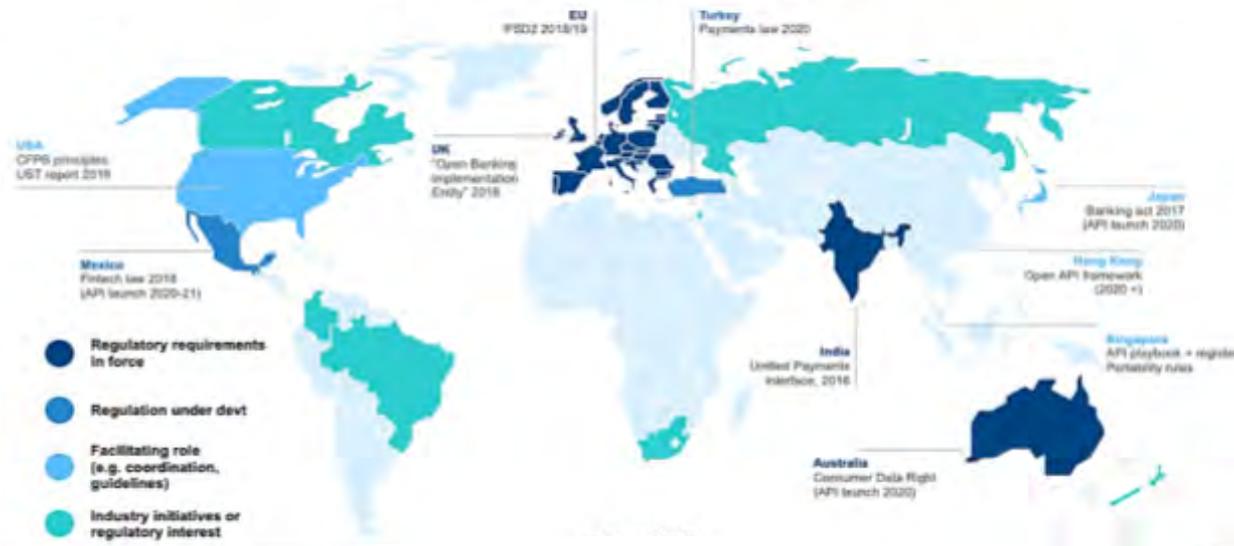


REGULATORS AND PAYMENT MARKET

Regulators and payment market infrastructures world over have also been advocating digitalization of payments to improve the experience for the customers. Over 70 countries have moved to real-time payment infrastructure in the last ten years resulting in an explosion in digital payment volumes.

The most significant regulatory development related to the modernization of the payments market is Open Banking related regulations that started in the EU and the UK markets and are now being actively adopted across other markets. The adoption of Open Banking has paved the way for FinTechs, big tech and non-finance companies such as Telcos to enter the payments market, that has historically been the mainstay of banks and financial institutions. This, in turn, has made the payments market highly competitive for all the participants in the payment service ecosystem.

Open Banking Adoption trends | Worldwide



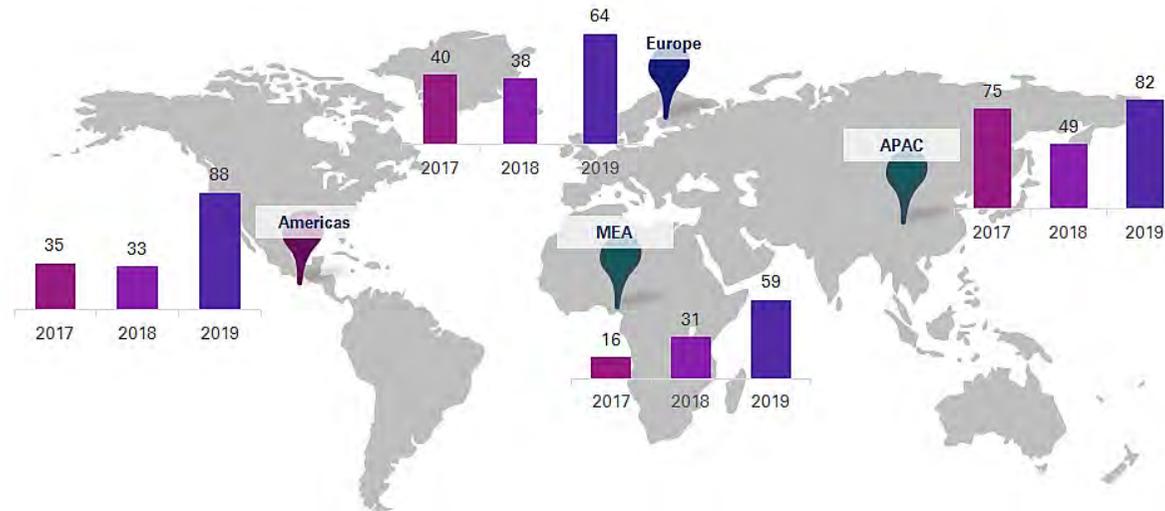


RAPID GROWTH AND EVOLUTION

Rapid growth and evolution in the payments business bring with it its share of challenges. These challenges are not only restricted to banks but also other payment service providers in the ecosystem, including acquirers, ISOs, payment facilitators and other FinTech service providers. The biggest challenge that all face is competition from each other and new entrants in an already crowded payments ecosystem. The fact that an average credit card transaction process can involve around 10-15 participants is testament to how specialized and complex the ecosystem has become.

The democratization of the payments industry due to initiatives such as Open Banking and digitalization have enabled big tech players such as e-commerce platforms & social media platforms to enter the market. These platforms, with their extensive customer base, have started to integrate payments within their service model. With this development, participants have been forced to change their business models with many consolidating multiple services within the payments value chain as part of their offering.

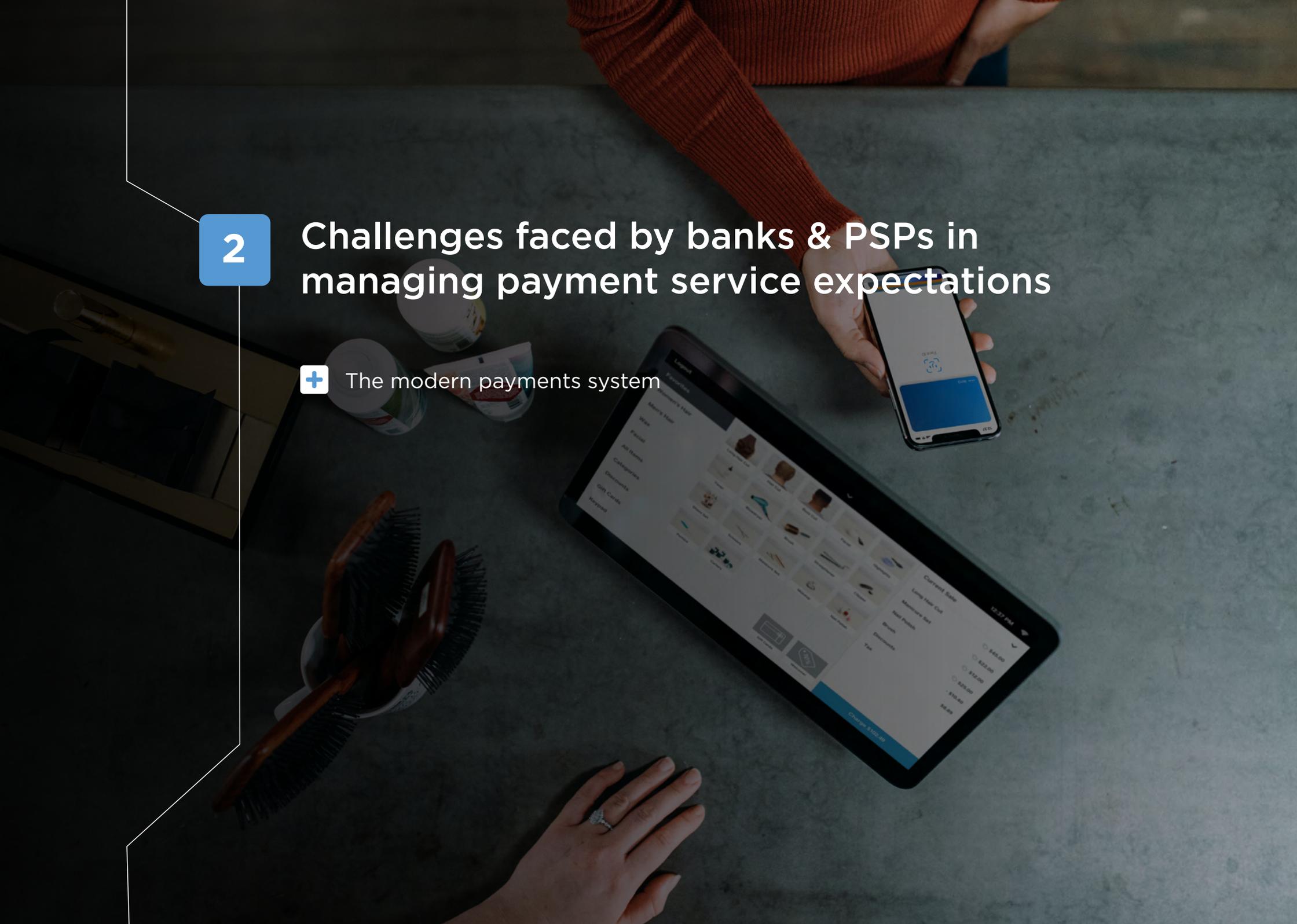
The pressure to adapt to the changing payments landscape has forced banks and PSPs to modernize their payments infrastructure. A look at the payment system deals recorded by IBS Intelligence's SalesVision over the last three years indicates a spike in payment technology system purchases. In 2019 alone over 300 new payment systems purchases were reported by IBSI. Notably, over 30% of the deals were cloud-based deployments indicating that banks are looking for a more agile and cost-effective payment technology solution.



2

Challenges faced by banks & PSPs in managing payment service expectations

+ The modern payments system





THE MODERN PAYMENTS SYSTEM

Payment transaction has historically been a volume game and survival in the market requires participants, including banks and payment service providers, to ensure both, retention of existing customers, as well as the acquisition of new customers. However, in order to manage the payment service expectations of customers, these participants are faced with multiple challenges.

Keeping up with Technology: The modern payments system is built using a myriad of sophisticated technologies such as APIs, big data analytics, AI, cloud computing, contactless

technology and biometrics amongst others. Banks and payment service providers often struggle to keep up with these evolving technologies. For banks and financial institutions, the struggle to transform their traditional payment system into a digital ecosystem has been due to the underlying complex legacy infrastructure. Modernizing the infrastructure can be an expensive and resource-intensive affair, and often banks are faced with the dilemma of prioritizing payment systems modernization over other technology modernization initiatives running parallelly. Even for FinTechs and new age payment service providers that operate with a modern infrastructure, adapting to new technologies can be a challenge considering their limited capital and constraints therein.



“Traditional Banks are struggling with legacy platforms and services, banks operations are the biggest expenditure, and the main focus is on finding the fine balance between operations, innovation and reducing Capex. Payments is a major function of the banks and looking payment services to address challenges like infrastructure, operations, regional regulatory and compliances, fraud, AML etc. and Payment as a Service is the answer not only for SME but also for large financial institutions.”

- Ritesh Jain, ex-COO, HSBC

THE MODERN PAYMENTS SYSTEM

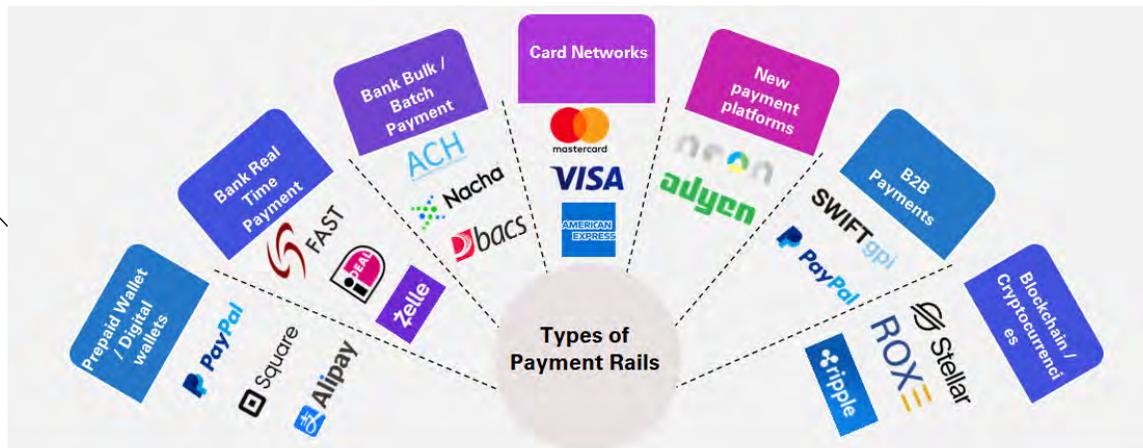
Managing Regulatory Compliance: Central Banks across the globe have been working to improve the payment system and move towards a cashless economy. Consequently, the markets have been subject to multiple regulatory reforms around open banking (E.g. PSD2), data protection, payment security, new payment schemes and standards (E.g. ISO 20022) amongst others. Banks and payment service providers struggle to navigate the complexities of different laws and regulations to ensure they are compliant to local compliance requirements across their markets of operation. For example, merchants expanding their operations

into new territories expect their PSPs to be able to process payments in that region as well as support the preferred payment method of their customers.

Digital Security & Fraud Mitigation: Growing volume of digital payments brings with it an increased risk of payments fraud. The process of running KYC checks, anti-money laundering checks, sanctions screening, payment anomaly detection; all this while maintaining a seamless customer experience can be highly resource-intensive. Banks and PSPs that don't have a sophisticated and scalable payment technology infrastructure struggle to maintain

service levels in today's high volume real-time payments transaction environment.

Managing payment Volumes and new payment rails: Scaling up a payment processing platform to manage the rapidly growing payment transaction volumes is often an expensive affair. In addition, payments technology evolution across markets has also resulted in multiple payment standards and new payment rails that financial institutions need to contend with. Banks struggle with facilitating transfers through new payment rails and also with interoperability across payment rails.

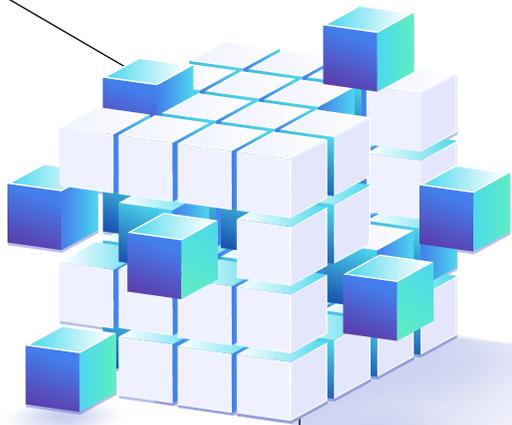


"Another ever-present challenge for banks and PSPs is managing risk and remaining compliant. As fraud trends and tactics change, so too must the response to them. Businesses must make sure they are up to date with the latest regulatory changes such as Strong Customer Authentication (SCA) and of course stay PCI compliant if they are going to remain safe service providers."

- Jeremy Nicholds, CEO at Judopay.



THE MODERN PAYMENTS SYSTEM



Value-added Services (VAS): The spectrum of value-added service offered has become one of the critical factors in retaining and winning new customers. For banks, value-added services to its retail customers include fraud protection, integration with credit providers (E.g. buy now pay later options), integration of loyalty rewards into transactions, integration with Personal Finance Management apps, amongst others. For merchants, VAS offered by PSPs can include transaction reconciliation solutions, Payment Card Industry Data Security Standard (PCI) compliance, multi-currency processing, language translation services, flexible 3D secure options, amongst others. Banks and PSPs often face operational as well as technological constraints in integrating with various partners for VAS and manage profitable revenue margins.

Cost Conundrum: One of the biggest struggles that organizations face is to control cost and maintain their bottom-line margins. In a world where digitalization and technology upgrades are inevitable, the flexibility afforded by a Payments-as-a-Service platform becomes an important consideration for financial institutions and PSPs. The flexibility of investing in a modern payments platform through a OPEX model is the prima facie benefit offered by PaaS. However, on close inspection, the real benefits of a PaaS platform are the core expertise, scalability, resilience and security of the platform that when compared to the cost of investing in additional servers, its maintenance and the downtime impact of an on-premise installation. A quick comparison of the TCO considering all these elements results in much lower per transaction cost for a PaaS platform.

"Value-added services is like a black box. There are many services that can be provided in addition to the few that are already provided. If one can break down all the banking processes that have existed, there are a lot of challenges that can be addressed with a technology solution. Someone needs to tap into this black box and develop all the value-added service that banks require."

- Sally Asaad, Innovation Manager, Commercial International Bank, Egypt

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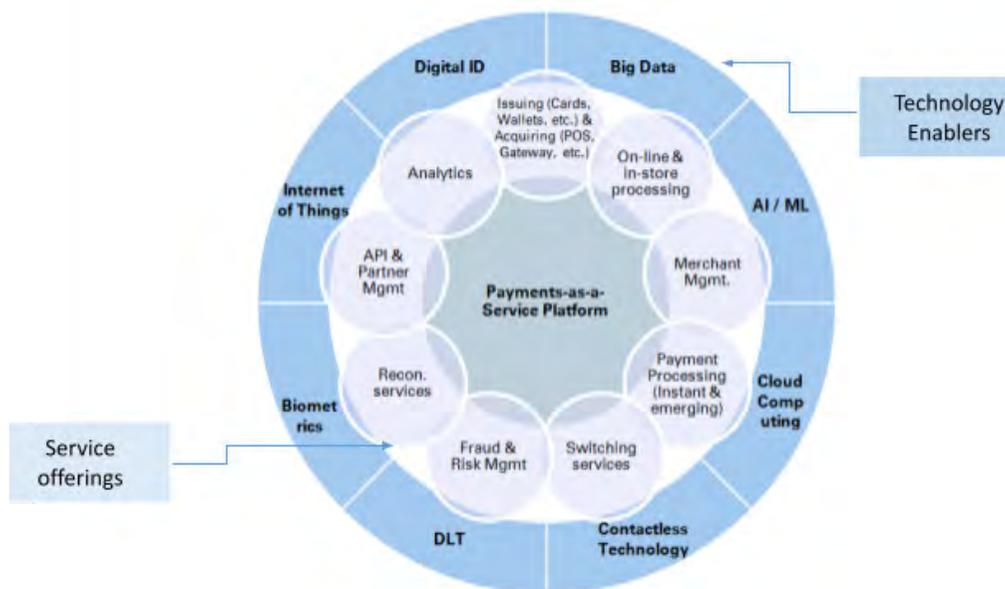
Emergence of payment-as-a-service

- + Future-ready payments systems





FUTURE-READY PAYMENTS SYSTEMS



Technology has become the critical enabler for any financial institution or FinTech to remain competitive in today's payments business. While having a new age future-ready payments system is the need of the hour; it is often easier said than done to implement such a solution. Keeping in mind the challenges discussed in the previous section, the use of a one-stop-shop cloud-native platform that manages all the payment processing and servicing requirements is seen as the ideal solution.

A Payment-as-a-Service platform or PaaS takes care of the operational and technology requirements related to payment processing for a bank or a PSP, thus, allowing them to focus their time and resources on more strategic endeavors such as building partnerships, marketing activities, and develop a distribution strategy.

PaaS models are either developed and offered to the end customers or developed as a white-labelled solution and sold to financial institutions who use the platform to design wrap-around services for their consumer and business customers.

While banks and PSPs are able to outsource their entire payment processing operations to a PaaS platform, the adoption and use of PaaS platform vary depending on the strategic requirements of the organization.



FUTURE-READY PAYMENTS SYSTEMS

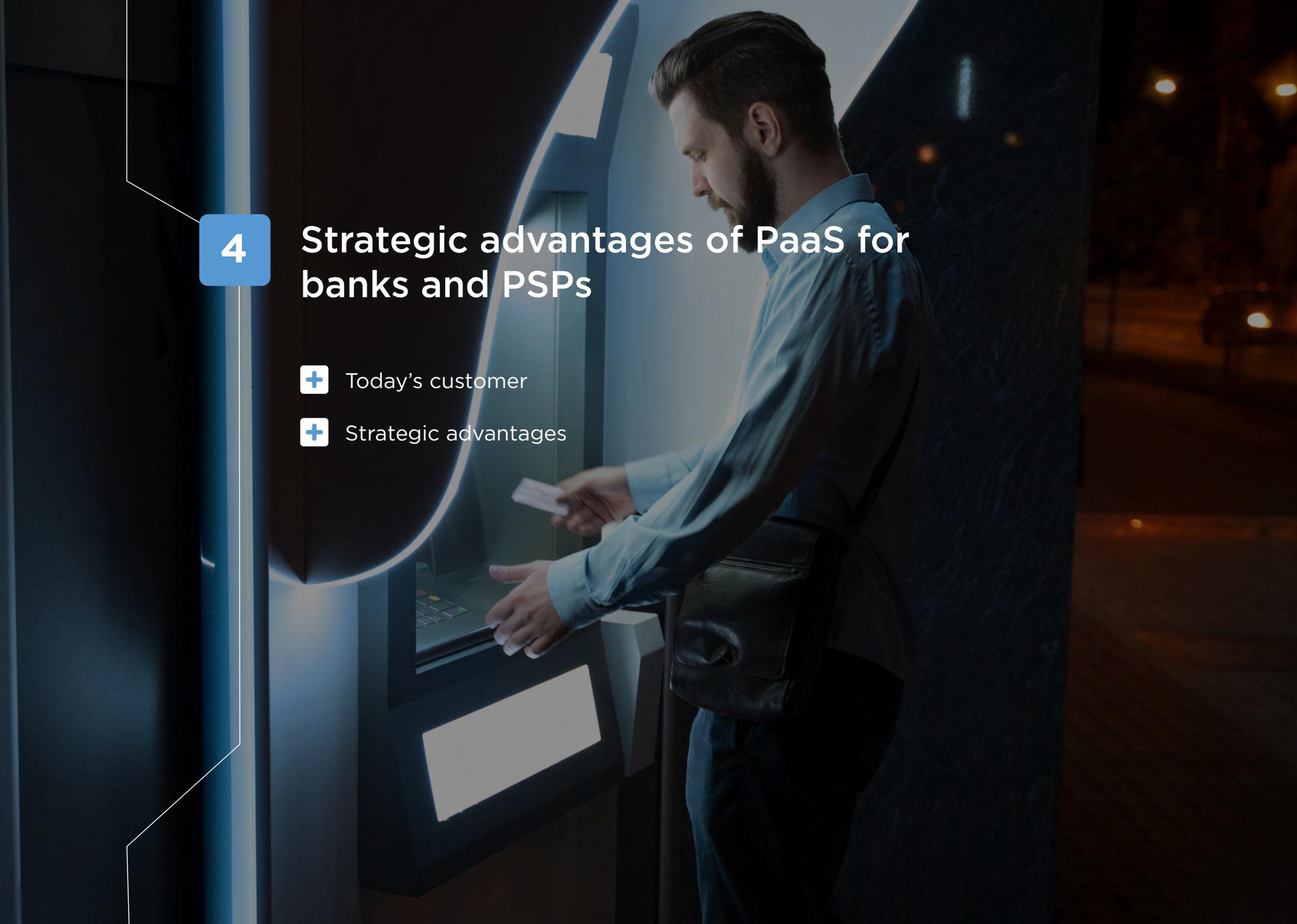
Large banks: Most large banks choose to build their payment system in-house and is customized to meet their business requirements. Such banks leverage the PaaS platform for specific functionalities that complement their own infrastructure. A common service used by large banks is the API and Partner Management service, which allows the bank to connect with the fintech ecosystem without investing in an integration infrastructure in-house. In addition, banks also choose to work with a specialist PaaS provider to enable new payment channels for their customers, instead of building the capability in-house.

Small and mid-sized banks: A PaaS platform is well suited for small and mid-sized banks that seek to modernize their payment system infrastructure but lack the resources, skill set and budgets to do so. The PaaS platform becomes a cost-effective solution for such banks to outsource their entire payment processing and servicing operations and offer competitive payment service to their customers.

PSPs and Neo banks: PSPs and Neo Banks are amongst the early adopters of a PaaS platform. These organizations operate with a nimble and agile business model with a modern technology core and strong API integration capabilities. A PaaS platform is the ideal solution for such organizations that operate with limited capital and would rather invest it in customer acquisition, retention and

marketing activities than spend on implementing capital heavy technology systems in-house. In line with their agile business model, these organizations choose to plug into a developer-friendly best-of-breed payment platform API that offers bank-grade security processes and norms as well as compliance to ISO as well as regulatory requirements.

One-Stop shop	Support for end-to-end payments value chain.
Modular	Flexible microservices-based platform that allows organizations to pick and choose the services they require.
Cloud-first	Cloud based agnostic configurable platform scalable to handle high transaction volumes.
Price transparency & flexibility	Transparent pay-as-you-go subscription model allowing clients to only pay for the services they choose and the usage of those services
Access to emerging technologies	AI / ML, analytics blockchain, etc. that help in optimizing the payments journey and helps businesses improve product offerings.
Open technology	Open APIs that enable easy integration with the client's existing as well as future technology infrastructure and external ecosystem.
Secure	Compliance to data security and regulatory requirements.
Future ready	Flexibility to include existing and upcoming payment channels and currencies formats.
24/7 availability	System support and availability all round the clock incl. complaint resolution and maintenance.



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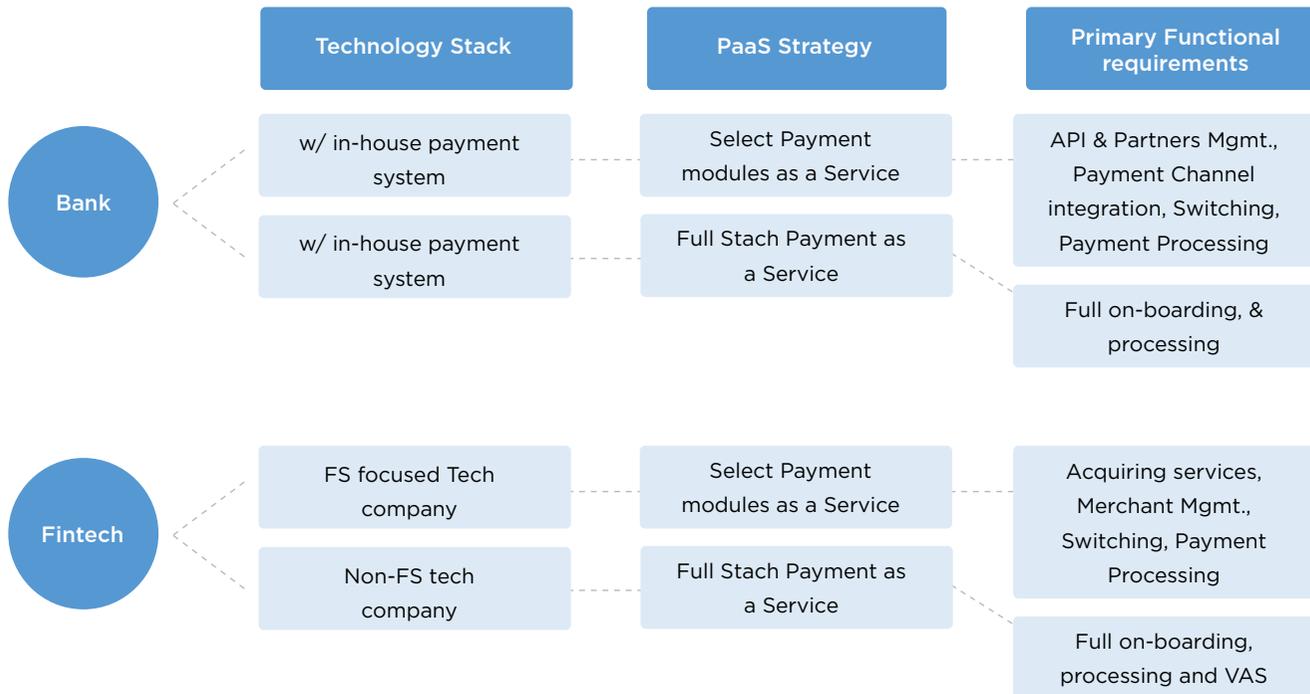
Strategic advantages of PaaS for banks and PSPs

- + Today's customer
- + Strategic advantages

+ TODAY'S CUSTOMER

At a market level, a PaaS platform model enables access to technology for traditional banks and Payment Service Providers irrespective of their sizes and fosters innovation in payments and associated services for customers. Due to the

lower investment requirement, it also lowers market entry barriers for new providers. For the individual banks and PSPs, a PaaS platform becomes an essential component of their payments strategy.



“Today’s customer will have various issuing instruments such as a debit card, a digital wallet and a UPI, all linked to the same bank account. The risks associated with swiping a card with a pin with a tap, or via NFC, or using a UPI handle is different regulatory limits are different and charges are different. If a bank has to build these interfaces and workflows on their own, instead of relying on core banking system providers, they would rather work with an agile specialist payment system provider.”

- Ashish Desai, CEO, JUMO.WORLD, India



STRATEGIC ADVANTAGES

Some of the strategic advantages offered by a PaaS platform are as follows:

Higher processing capacity & STP rates: PaaS platforms are designed to reduce manual intervention and provide near to complete automation of the payment process. Straight-through processing tends to be a challenge for many financial institutions due to the complexities in integration of all the systems. A cloud-based PaaS platform is designed to remain stable even during heavy transaction volumes, seamlessly responding to the activity changes and ensuring twenty-four-seven system availability with minimal or no down-time.

Pricing flexibility: The multiple subscription-based pricing models offered by a PaaS platform adds to the flexibility and efficiency for various company sizes. Greenfield operations with fewer customers can opt for the pay-per-use model, thus freeing up scarce funds for innovation. For larger institutions such as the tradition banks, a subscription model provides transparency and predictability for its technology expenses.

Lower costs: Outsourcing of the hardware and software requirements as well as the IT resources, need to maintain a payments platform can result in significant cost savings for a bank or a PSP. A PaaS platform manages the technical burden of regulatory updates as well as security requirements and alleviates the bank / PSP from the risk of fines and penalties. This has direct impact on the cost per transaction incurred by the bank / PSP and achieving positive unit economics.

Faster go to market: A PaaS platform is quick to deploy and provides a bank or a PSP with all the payment service requirements under one platform. The flexibility to design new payment services and also quickly adhere to compliance requirements and payment schemes results in faster go-to-market and provides the organization with a competitive edge over others.

Future Readiness: A PaaS platform alleviates the burden of a bank / PSP's need to build infrastructure and capability to accept new payment channels as well as to incorporate new technologies. As a specialist payments-focused provider, PaaS platforms keep a tab on new developments in the market and focus on continuous innovation to improve its services for its customers.

"No bank by themselves is going to be a price maker. Every single one is a price taker in the market. And therefore, you have to choose what kind of model (Build/Buy/Outsource) is going to work. Also, Financial technology is no longer the competency of banks alone. Owning the customer experience, monetizing the transactions with the customer are the primary themes. All other aspects, such as technology investments, are costs to the bank. Therefore the decision of either investing in building technology competency in-house or outsourcing to a payment-as-a-service will always be driven by economics. At the end of the day, it is the scale of satisfied customers that gives an organization the distinct advantage and not the technical competency."

- Balaji Natarajan, Head, Payments and Cash Management, ANZ Bank

5

Case Studies - Payment-as-a-service model adoption

- + Meezan Bank
- + TONIK Digital Bank Inc.



MEEZAN BANK

Problem Statement: Meezan Bank, based in Pakistan, has over 800 branches with presence in more than 240 cities. The COVID-19 pandemic has driven rapid adoption of digital services and the speedy growth of e-commerce in Pakistan; with this Meezan Bank is expected to foresee a rise in transaction volumes and channels. The bank is investing in its digital payment infrastructure as a part of its strategy that supports both consumers and businesses during these challenging times.

Solution: BPC's SmartVista platform has been selected by Meezan Bank to deliver issuing and acquiring services. BPC's SmartVista Switch solution would be used by Meezan Bank to manage the authorization of payment transactions in real-time, across all channels.

Benefits Achieved: Using BPC's SmartVista Card Management and Issuing solution, Meezan Bank will strengthen the delivery of new payment instruments to its customers mainly used upon account opening, while also offering a more secure e-commerce experience. The bank will also rely on the solution's instant routing of payment transactions to provide frictionless digital banking and payment experience for its customers.

BPC partnered with Meezan Bank to deliver a digital transformation strategy by upgrading the bank's payments infrastructure.





TONIK DIGITAL BANK INC.



Statement: TONIK Digital Bank Inc. received its banking license from Philippines' Central Bank in January 2020. The population of the Philippines is above 100 million, with 70% of that population being unbanked. TONIK estimates to cater to the untapped market of \$140 billion for retail deposits to boost financial inclusion.

Solution: TONIK has chosen BPC with its PayTech Radar Payments as its partner for payments processing activities, which is delivered through a Software as a Service model. The payments activities such as payment switching, fraud management and card lifecycle management, amongst others, would be managed from BPC's global payment processing centre powered by its SmartVista range of digital banking solutions.

Benefits Achieved: Given the market opportunity, TONIK would focus on its retail banking products ranging from consumer loans and deposits. The benefit realized by leveraging Radar Payments by BPC's solution is that TONIK would route its transactions efficiently and deliver a secure

environment for its customers while gaining in speed to market and performance. Radar Payments by BPC will help TONIK operate efficiently and realize economies of scale, in line with its objective to bring fair banking to Filipinos. Within the year, the bank would launch using various blocks of best-of-breed solutions to focus solely on delivering a hyper-compelling offer and experience to customers.

TONIK ready to launch the first digital-only bank in the Philippines - powered by Radar Payments and BPC.

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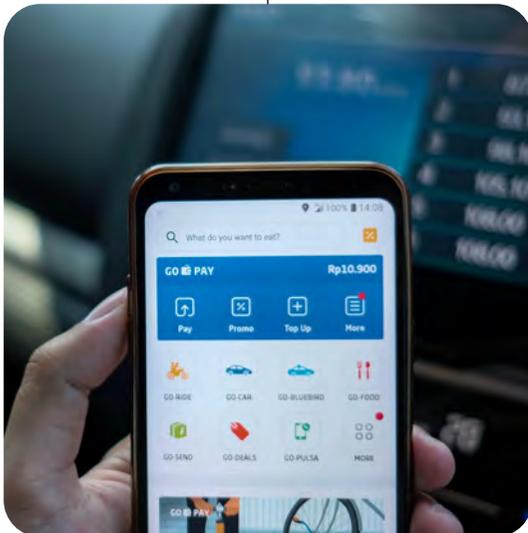
Future of Payment-as-a-service

- + Payments as a Service model
- + About IBSI
- + About Radar Payments

PAYMENTS AS A SERVICE MODEL

“The future for PaaS models worldwide looks promising and is being driven by the regulatory requirements of Open Banking. Over the next five years, there should be an ample amount of time to exploit its benefits. As a result, there will be a higher adoption rate for PaaS models.”

- Alex Kelly, Vice President of Customer Success, Tribe Payments



Payments as a Service model is becoming a more viable option for banks as it offers a one-stop-shop cloud solution that can address legacy complexity. PaaS offers connectivity via a single API interface, wherein the solution, in turn, connects to all the domestic payment schemes. This minimizes the time taken to add various new functionality or procedures. It also offers real-time analysis of data and cash flows. It enables organizations to develop and deploy custom cloud applications without the need to invest in hardware and development tools. In the outlook for PaaS, organizations can also leverage PaaS to re-architect or extend their existing applications in the cloud. Furthermore, the ongoing COVID-19 pandemic and the increasing complexity of regulatory requirements has further accelerated the growth of PaaS.

The ideal payments as a service model has various value-added services attached to it. And one of the most important one is customer satisfaction. It is important for both the immediate users such as banks and financial institutions and the end users to be able to experience a seamless journey. For payments service providers it is imperative to have a smooth customer experience from the point of purchase itself. Another key expectation of a good platform is to maintain a user-friendly app that has access to all the functions that a Google Pay and Apple Pay has. The app must have access to all the

current and past payment transactions for better ease. For payment service providers it is important that instead of coming up with large number of payment options, they can come up with a smaller set of options as suitable to each geography.

The PaaS model can be offered either full on cloud or as a hybrid cloud model. Financial institutions consider cost as one of the defining factors to choose their preferred model. Financial institutions need to gain an understanding on whether it is expensive to maintain their own data centers and if the infrastructure cost is more expensive than outsourcing. A lot of the modern banks prefer to outsource a large part or the entire model and instead focus on their expertise in delivering front-end solutions.

The future for PaaS models worldwide looks promising as with the PSD2 regulations in place, in the next five years there would be a higher adoption rate for PaaS models. Banks and financial institutions would also be able to access data easily and from various third parties find solutions to problems with respect to payment initiations. Furthermore, banks are increasingly realizing the importance of low development costs, rapid time-to-deployment, and on-cloud services; PaaS offers all these advantages over on-premises developments.



ABOUT

ABOUT IBSI

Established in 1991, UK headquartered [IBS Intelligence](http://www.ibsintelligence.com) is the leading global pure play Financial Technology research, news analysis, and advisory firm. IBSI's Sales League Table is considered the global industry barometer ranking leading banking technology suppliers. Its research reports comprehensively cover global suppliers across all Banking Technology & Financial Technology systems, is also distributed by Thomson Reuters, Bloomberg and S&P Capital IQ. Its Innovation Lab at Dubai brings banks and suppliers together with an opportunity to access the Middle East market and to test & experience global Financial Technology products within the region. The group company, Cedar is a global management consulting firm with deep expertise in formulating & executing business strategy for financial services clients worldwide with a significant focus on leading their technology and digital transformation.

www.ibsintelligence.com

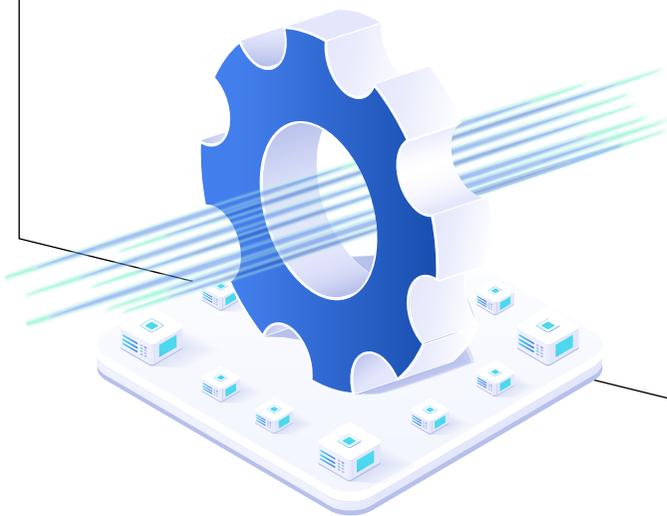
ABOUT RADAR PAYMENTS

Radar Payments is a leading innovative payment processing provider dedicated to financial institutions, including payment service providers (PSPs), banks, acquirers, issuers, and fintechs.

It offers advisory services and a one-stop platform for end-to-end omnichannel processing, enabling the acceptance of most of the widely adopted payment methods, delivered on a PaaS, SaaS, or fully managed service model. Built using BPC's SmartVista, an industry-recognised payment solution, the Radar Payments platform delivers scalability, resilience, performance, and unparalleled security.

Radar Payments is fully owned by BPC and blends BPC's 25 years of expertise in payments with the fintech world - using the latest digital technologies to create innovative customer payment experiences.

www.radarpayments.com





CONTACT



WANT TO FIND OUT MORE?

The world of payments leaves no room for improvisation! Beyond using state-of-the-art technology, Radar Payments is about its people: a team of payment and banking experts with decades of experience between them; a team that can guide you through the complex and fast-moving payment landscape.

Should you wish to know more about how to set up a PSP, don't know which model to choose from, want to improve your existing payment process, thinking of launch a new digital banking proposition, our experts at Radar Payments are here to support you along the journey.

Contact us for a one to one meeting or workshop at info@radarpayments.com

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