# Payment hubs - Facilitating future-ready banking

September 2025

# Foreword

Dear readers,

It is my pleasure to bring to you the latest edition of PwC's payments newsletter. This edition of the newsletter includes:

- a deep dive into payment hubs
- modern trends in payment hubs
- navigating associated complexities and the way forward

We take a closer look at payment hub technology, analyse key benefits and the critical factors to consider for a successful implementation.

I hope you find this newsletter to be an insightful read.

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# Background

In today's fast-changing financial environment, payment systems are no longer back-end utilities – they are now at the core of frictionless customer experience, operational excellence and digital innovation. However, for a few banks, the underlying payment infrastructure remains rooted in legacy systems.

As volumes of existing payment products (UPI, cards, NEFT, RTGS, IMPS, wallets) surge, banks struggle to keep pace with relentless demands, and institutions are increasingly constrained by outdated systems built around fragmented, inflexible processes.

Separate business units tend to operate independent payment engines, supported by isolated back-office systems, resulting in an ecosystem that's inflexible, expensive and hard to scale. The fragmented workflow, file formats, reconciliation errors require manual intervention across multiple channels and delay the overall processing window. This complexity slows down business processes and hinders innovation and compliance as well as the ability to fulfil customer expectations in real time. Therefore, organisations are reconsidering their payments processing capabilities and switching to a more integrated, intelligent alternative i.e. payment hubs.
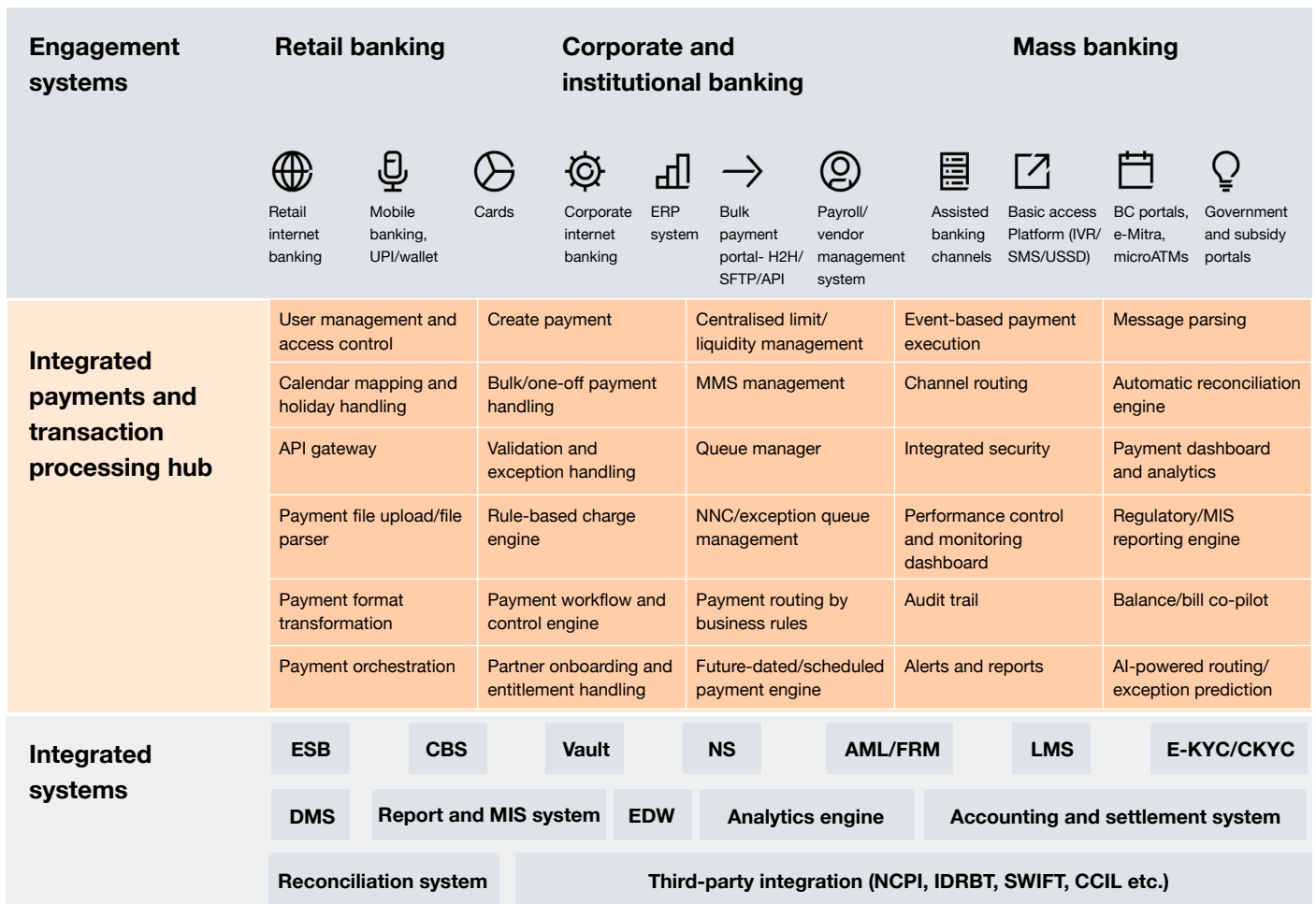
# What is a payment hub?

At its core, a payment hub is a centralised platform that orchestrates and simplifies the entire lifecycle of payments processing within a bank. From initiation to authorisation – primarily validation, routing, execution and reporting – it's the control tower for every payment flow within a bank.

Whether linking up with banks, third-party providers or internal systems, these hubs deliver consistency and transparency and automate payment workflows. Their modular design enables financial institutions to orchestrate multiple payment types and channels via a single interface, making it the digital nerve centre for real-time, scalable transaction management.

## Payment hub functional architecture

**Figure 1:** A unified system for seamless transaction management across multiple platforms

| Engagement systems | Retail banking | | | Corporate and institutional banking | | | | Mass banking | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Retail internet banking | Mobile banking, UPI/wallet | Cards | Corporate internet banking | ERP system | Bulk payment portal- H2H/ SFTP/API | Payroll/ vendor management system | Assisted banking channels | Basic access Platform (IVR/ SMS/USSD) | BC portals, e-Mitra, microATMs | Government and subsidy portals |
| **Integrated payments and transaction processing hub** | User management and access control | Create payment | | Centralised limit/ liquidity management | | Event-based payment execution | | Message parsing | | | |
| | Calendar mapping and holiday handling | Bulk/one-off payment handling | | MMS management | | Channel routing | | Automatic reconciliation engine | | | |
| | API gateway | Validation and exception handling | | Queue manager | | Integrated security | | Payment dashboard and analytics | | | |
| | Payment file upload/file parser | Rule-based charge engine | | NNC/exception queue management | | Performance control and monitoring dashboard | | Regulatory/MIS reporting engine | | | |
| | Payment format transformation | Payment workflow and control engine | | Payment routing by business rules | | Audit trail | | Balance/bill co-pilot | | | |
| | Payment orchestration | Partner onboarding and entitlement handling | | Future-dated/scheduled payment engine | | Alerts and reports | | AI-powered routing/ exception prediction | | | |
| **Integrated systems** | ESB | CBS | Vault | NS | | AML/FRM | LMS | | E-KYC/CKYC | | |
| | DMS | Report and MIS system | EDW | Analytics engine | | Accounting and settlement system | | | | | |
| | Reconciliation system | | Third-party integration (NCPI, IDRBT, SWIFT, CCIL etc.) | | | | | | | | |

# Integrating payment hubs in banks

With today's dynamic payments landscape, financial institutions operate an increasingly diverse set of domestic and international payment products which operate in batch and real time. Couple this with the complexity of dealing with core banking system (CBS), treasury platforms, fraud and risk management (FRM), reconciliation engines, etc. – each having its own file format – it's understandable how organisations get stuck when it comes to payment fragmentation.

A payment hub addresses these issues by providing a centralised, smart layer that unites all these pieces into one unified platform. It normalises formats, maps workflows and facilitates end-to-end payment processing so all transactions go through a single, automated process – regardless of the channel or mode.

As banks introduce new channels, or expand geographically, payment hubs enable institutions to adapt to latest changes without impacting the core by integrating new channels with the backend with ease. Not only is this easier to manage, but it brings consistency, compliance and agility to payment servicing throughout the system.

**A payment hub has built-in support for essential payment operations and:**

- supports multi-instrument compatibility

- facilitates cross-scheme interoperability

- has channel-neutral infrastructure

- is designed for all customer segments

- enables end-to-end transaction coverage.

# Evolution of payment hubs

Payment hubs have come a long way over the last 20 years. They've adapted through three major stages to meet the growing demand for quicker, more integrated and scalable ways to transact money.

## Payment hub transformation journey

**Figure 2:** Transformation phases of payment hubs

| | Characteristic | Key innovation | Challenges |
|---|---|---|---|
| **Phase 1**<br>**Siloed systems** | Fragmented platforms for ACH, wire, card and cross-border payments | Independent systems for each payment type | • High operational costs due to redundancy<br>• Difficult to achieve end-to-end visibility<br>• Difficult to scale or innovate |
| **Phase 2**<br>**Integration of payment silos** | Centralised payment operations through a unified hub | Consolidated system architecture | • Integration complexity across legacy systems<br>• Limited flexibility in adapting to new payment types<br>• Not always real-time; latency still exists |
| **Phase 3**<br>**API-driven platforms** | Open, real-time connectivity across internal and external systems | API-based architecture | • Governance and API security become critical<br>• Complex migration from legacy infrastructure<br>• Ongoing need for performance monitoring and scalability planning |

## 1.  Siloed systems (Phase 1)

In the initial phase, payment operations were scattered across multiple systems. Different payment types – such as NEFT, RTGS, ACH, wire transfers, card payments and international transactions – ran separately on their own platforms. This scattered setup caused slowdowns, made it tough to see how everything fit together, and led to extra work and multiple systems doing the same tasks.

## 2. Integration of payment silos (Phase 2)

This phase focused on merging separate payments systems into one centralised hub. Instead of juggling multiple platforms, everything was executed on a single platform, making the process smoother and much more efficient.
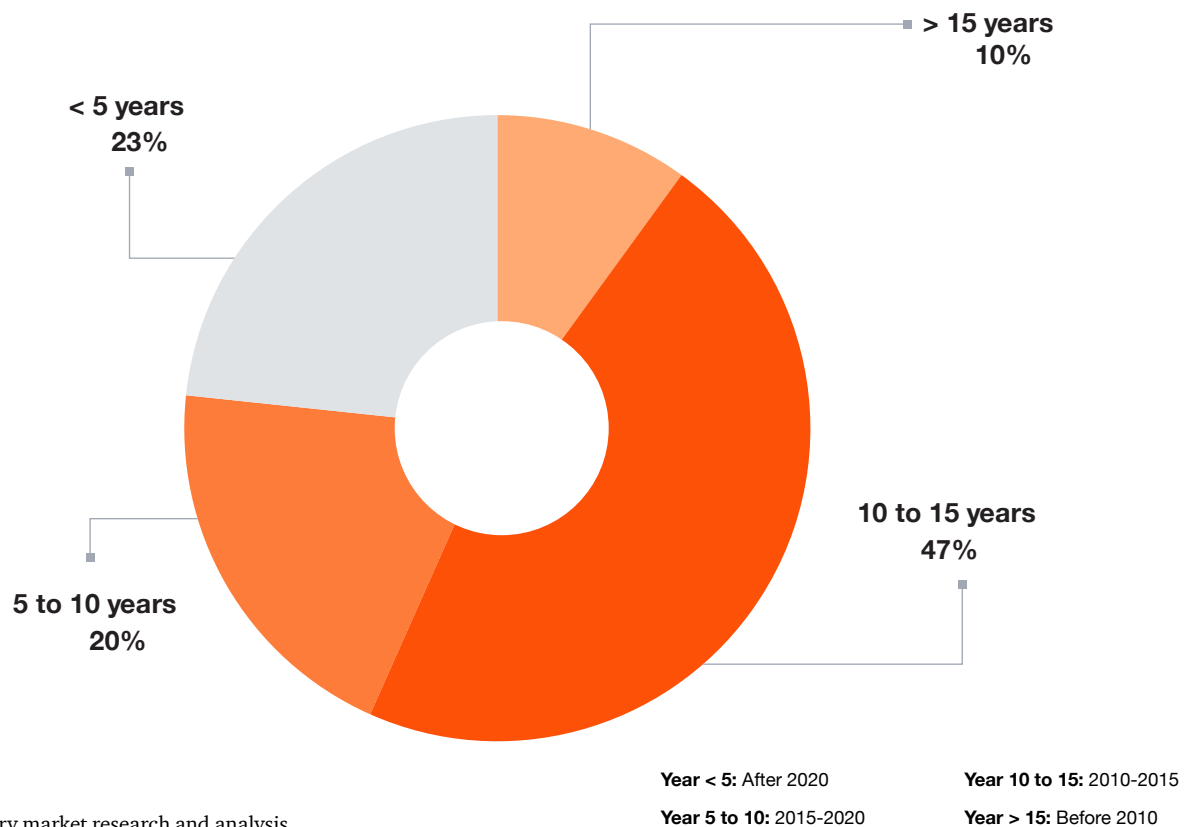
This helped cut down on duplication, streamlined reconciliation and strengthened compliance. Furthermore, it facilitated better control and visibility across all payment operations.

## 3. API-driven platforms (Phase 3)

The third phase introduced API-driven architectures, making it easier and faster to connect with both internal systems and external partners. This opened the door to more automation, greater flexibility and real-time capabilities. It also helped create smoother customer experiences and set the stage for open banking and closer collaboration with FinTechs.

The payment hub landscape has evolved rapidly over the past two decades and many leading providers offer full-suite platform implementation, supporting banks and FinTechs in modernising legacy infrastructure which is fragmented and monolithic in nature.

**Figure 3:** Market maturity and ageing of payment hubs



> 15 years
10%

< 5 years
23%

10 to 15 years
47%

5 to 10 years
20%

Year < 5: After 2020      Year 10 to 15: 2010-2015

Year 5 to 10: 2015-2020      Year > 15: Before 2010

**Source:** Secondary market research and analysis

# Challenges and resolution

While the journey towards integrating an efficient payment hub is challenging, strategic planning can help banks steer through it effectively. With payment hubs becoming easily accessible due to the rapid evolution of the financial ecosystem, banks/institutions of all scales can now easily adapt to modernised payment methods.

However, this integration comes with its share of challenges.

## Challenges

### Inconsistent file/data formats

Aligning new-age payment hubs with longstanding core systems, without compromising system performance or data consistency, is a challenge. Each payment rail – domestic or cross-border – has different payment file formats, connection endpoints and data structures.

## Real-time processing bottlenecks

Real-time processing remains a significant challenge for payment hubs, requiring high system performance, low latency architecture, and seamless coordination across multiple internal and external systems. Any delay or disruption in this flow can compromise customer experience and operational efficiency.

## Manual dependency for payment processing

Automation gaps and manual dependencies hinder the potential of payment hubs, affecting speed, accuracy and consistency. These not only slow down transaction processing but also increase the risk of human error and operational barriers. As payment volume continues to grow and real-time expectations rise, the inability to automate end-to-end workflows limits scalability and weakens the strategic value of payment hubs.

## Poor customer experience

Ensuring a seamless customer experience remains a significant challenge for payment hubs, as users now expect fast, transparent and consistent interactions across all digital channels. However, legacy system constraints, limited integration, front-end platforms and poor error-handling mechanisms often result in transaction delays, failed payments or inconsistent messaging – directly impacting user satisfaction and trust. Without end-to-end visibility and real-time responsiveness, risks across customer trust, financial integrity, operations and compliance intensify and become challenging to mitigate.

## Compliance and regulatory rigidity

Maintaining regulatory compliance in a payment hub is increasingly complex, given the integration of diverse systems and shifting global and local regulatory landscapes. Financial institutions need to invest considerable resources to manage updates, data privacy and jurisdictional mandates – particularly when real-time, multi-channel transactions are involved.

The challenge lies in the adoption of interfaces that are compliant with established standards such as Payment Card Industry Data Security Standards (PCI DSS), ISO 20022 and open banking. Digital Personal Data Protection (DPDP) Act adds another level of challenge by obligating banks to integrate consent management systems, supporting real-time API validation, purpose-based data management and audit-ready logging – without causing delays or disrupting real time processing.

## High upfront investment for payment hubs

Implementing and maintaining a payment hub requires substantial investment in technology, infrastructure, operations and personnel. Initial setups such as licensing, infrastructure updates, maintaining systems, integrating legacy infrastructure and adapting to new technologies, and addressing evolving cybersecurity threats strain the budget.

**Resolutions**

## API-first payment hubs: Powering seamless, real-time transactions

An API-first approach prioritises the creation of APIs as the initial step in system development, enabling seamless integration with various platforms. API-first payment hubs use this design to connect with core systems and multiple payment channels, allowing for real-time, high-volume transaction processing. They offer benefits like robust compliance, centralised governance, scalability for handling large transaction volumes and enhanced customer experiences. These hubs support real-time API monitoring for strategic decision-making. With their adaptable architecture, they are well-positioned to integrate future technologies, ensuring organisations remain competitive and innovative.

## Enhancing operational efficiency through automation

Modern payment hubs enhance operational efficiency by automating workflows such as initiation, routing, reducing manual errors and interventions. Technologies like robotic process automation (RPA), artificial intelligence (AI), machine learning play a major role here. These technologies collectively increase transaction throughput and accuracy, improve visibility and control, enhance operational agility, and boost staff efficiency, allowing them to focus on strategic activities.

## Effective compliance/regulatory management

Keeping up with regulatory demands requires a dynamic, flexible and reliable solution. A modern payment hub integrates compliance checks directly within the transaction flow at the API level. With centralised governance, banks can uniformly enforce access controls, versioning and policy updates, which minimises regulatory risk. This regulation-ready architecture ensures all transactions are aligned with both domestic and international standards, supporting secure and fully compliant operations at scale.

## Modular cost-effective solution

Modern payments hubs address the challenge of high upfront investment through a modular and cloud-native approach. Instead of committing to a full-scale deployment, banks can adopt only the required functional modules based on their business needs. These banks can always opt for newer modules and functionalities later, which can be easily integrated with the core payment hub solution. Cloud scalability allows banks to quickly scale up during peak transaction volumes or new service rollouts, ensuring operational flexibility without the burden of excessive investment.

**A payment hub must:**

- scale efficiently to meet 10x+ growth in transaction volumes

- embed compliance-by-design (ISO 20022, DPDP, PCI DSS, open banking)

- automate end-to-end workflows to reduce errors and operational drag

- orchestrate across all payment rails to support customer demands

- support agile deployment via modular APIs and cloud-native infrastructure.

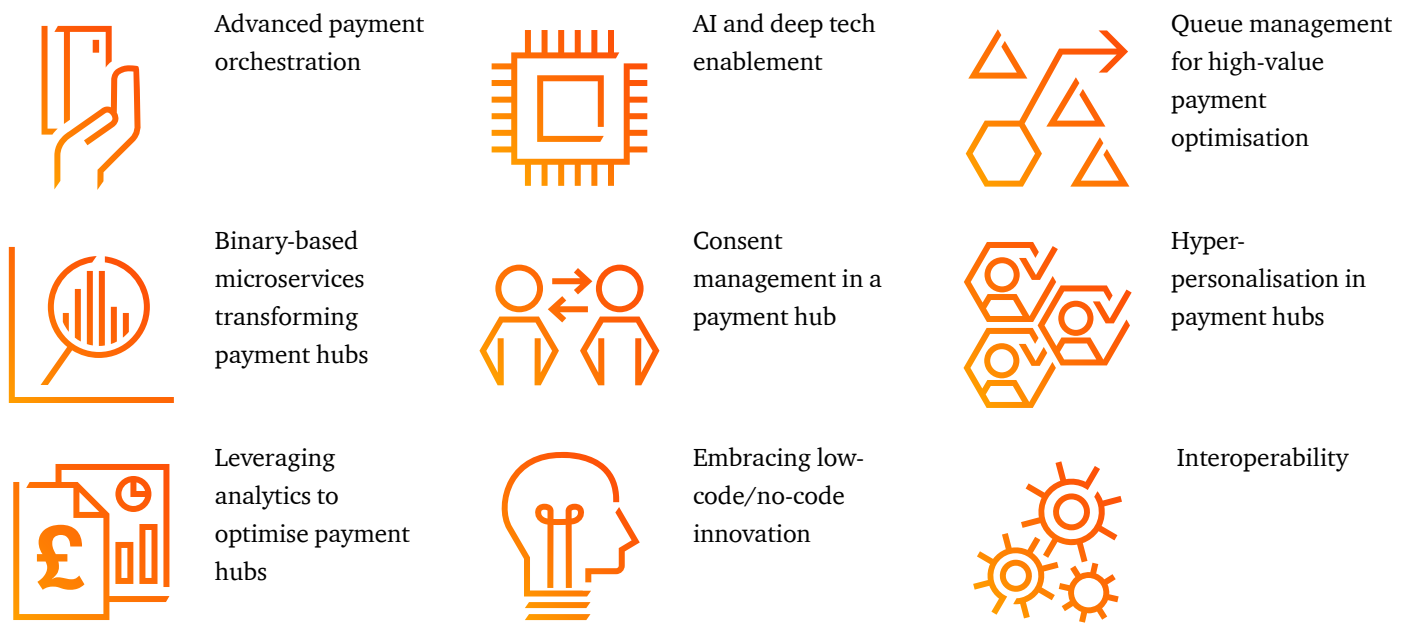The transformation isn't optional anymore – it's foundational for scaling of digital banking.

# Modernising the payment hub

Some of the most forward-looking global initiatives driving this evolution and shaping the next frontier of payment innovation have been outlined in Figure 4.

## Initiatives to modernise payment hubs

**Figure 4:** Initiatives to modernise payment hubs

Advanced payment orchestration

AI and deep tech enablement

Queue management for high-value payment optimisation

Binary-based microservices transforming payment hubs

Consent management in a payment hub

Hyper-personalisation in payment hubs

Leveraging analytics to optimise payment hubs

Embracing low-code/no-code innovation

Interoperability

## Advanced payment orchestration

Payment modes like NEFT, RTGS, IMPS or UPI are often selected manually by businesses in enterprise resource planning (ERP) systems or by retail users during transactions. This can introduce delays, human errors and inefficiencies.

With AI-driven smart payment orchestration, systems can automatically pick the best method based on the amount, timing at which the transaction is made, and urgency of the same. Businesses benefit from faster, AI-based routing, while retail apps increasingly offer smart suggestions or auto-retries if a payment fails, thereby improving speed, success rates and user experience.

A business initiating a INR 1.8 lakh payment at 7pm can have it auto routed via IMPS for real-time processing, with a fallback to NEFT if IMPS isn't available.

Traditional bank payment systems typically rely on predefined routing rules, often forwarding transactions without evaluating the most optimal path. While dependable, this approach may lead to operational inefficiencies such as increased manual intervention and slower adaptation to new payment methods.

This is where payment orchestration comes in. It's a smart layer that works with the payment hub's current system to improve it. Using APIs to connect, it helps the system to make better decisions, manage payments more smoothly and quickly adapt to new ways of paying. Overall, a basic payment system operates as a smart control centre.

## Key outcomes

- Each payment is automatically sent through the most efficient route, based on factors like cost, speed, currency and local regulations.

- Banks can quickly adjust payment paths when factors such as cut-off times, liquidity, exchange rates or compliance rules change, without needing manual updates.

- New payment methods or partners can be added easily due to standardised systems that avoid complex tech setups.

Payment orchestration unlocks the full potential of the banks' payment hubs, enabling them to process as well as strategically manage payments. It bridges the gap between legacy infrastructure and modern demands of a real-time, multi-rail financial ecosystem.

## Queue management for high-value payment optimisation

Some banks are now using a smarter way to manage payment queues. Instead of processing transactions in the order they arrive (first-in, first-out approach), systems can now prioritise payments that are high in value or time sensitive. This means urgent or important transactions do not get stuck behind smaller, less critical ones.

This approach is particularly impactful in today's environment, where banks are experiencing a surge in high-volume, low-value UPI transactions. These retail-heavy flows, while individually small, significantly strain core banking systems (CBS) and infrastructure, often creating delays and performance issues across the board.

In a scenario where a customer is making a large corporate payment that needs to be settled immediately while thousands of small retail UPI payments are also being processed, smart queue management fast-tracks the large payment without waiting for all the smaller transactions to clear first.

On the other hand, these low-value payments are moved into separate processing lanes. That way, they do not block the flow of large or urgent transactions, helping banks keep things running smoothly and efficiently.

## Key outcomes

- High-value transactions are processed quickly, helping avoid delays and keeping critical funds flowing smoothly.

- Banks can manage their money more efficiently throughout the day, freeing up capital when and where it's needed.

- By prioritising large and urgent payments, banks reduce the chances of missing key settlement deadlines – protecting themselves and their partners.

- CBS run more smoothly by shifting the flood of small UPI payments to separate processing lanes, thus easing the pressure.

- Banks can serve both everyday users and big institutions without sacrificing speed or reliability for either group.

This intelligent queuing model has proven to be a strategic enabler in places that handle large volumes of transactions like corporate treasuries, clearing houses and central banks. By keeping payment flows efficient and organised, this system helps these institutions operate faster, smoother and with fewer delays.

## Microservices transforming payment hubs

Forward-thinking banks are moving away from bulky, old-style systems and embracing a smarter, modular approach called microservices. Instead of relying on one big platform to manage everything, they now use small, independent services – each focused on a specific task.

The payment hub is broken down into independent, self-contained microservices, each managing a specific function. These services are deployed as binaries, making them lightweight, efficient and highly portable.

For small finance banks, payment banks could start with the core modules and gradually add on additional modules essential to their business. Further, they could gradually add more as needed, giving them a flexible and easy-to-adopt payment hub solution. Instead of spending heavily on a full-scale payment hub, they can pick and choose just the services they need.

## Key outcomes

- If one microservice fails, it does not impact the entire payment hub. Other services continue to function, ensuring minimal disruption and higher availability.

- Each microservice can be scaled independently based on demand, ideal for handling high-volume peaks or specific workloads.

- Teams can deploy updates or new services without risking downtime across the whole platform.

- APIs allow easy integration with partners, FinTechs and external platforms – accelerating ecosystem connectivity.

These microservices can work on their own or be accessed through the cloud, often offered by FinTech providers. They offer a flexible, cost-effective way to tap into advanced payment tools without making large investments, giving smaller players access to the same high-quality capabilities used by large banks.

### Consent management in payment hub

A payment hub in a bank can effectively manage customer consents as part of its transaction processing capabilities, ensuring compliance with data protection regulations such as GDPR and DPDP. Payment hub serves as a centralised platform for capturing, storing and verifying consents related to payment services and data sharing. By integrating consent management directly into payment workflows, banks can automate consent checks, maintain audit trails and provide real-time updates, thereby reducing manual workloads and ensuring consistent application of consent across all processes. Banks can leverage these capabilities to provide personalised consent management services while ensuring regulatory compliance.

A customer consents via their bank app to share account balance and 90 days of transactions with a mutual fund platform. The payment hub stores this consent and, upon receiving a data request, validates it through the consent management module. If valid, the authorised data is securely shared via APIs, with all actions logged for compliance.

## Key outcomes

- Adherence to data protection laws through clear and traceable consent mechanisms

- Stronger safeguards against unauthorised access or misuse of sensitive customer data

- Transparent and user-controlled data sharing builds customer confidence in digital payment services.

- Facilitates secure and consent-based data sharing with FinTech and ecosystem partners

- Customers have granular control over their data, with the flexibility to manage consent anytime.

## Hyper-personalisation in payment hubs

Hyper-personalisation enables payment hubs to personalise functionality at scale, knowing intuitively what each user prefers, where they are and their risk profile. It focuses on delivering uniquely tailored payment experiences by leveraging intelligent, adaptive technologies.

Complementing this is real-time behavioural intelligence, which continuously evaluates user activity across channels to assess intent and context, enabling proactive engagement through timely reminders such as auto-pay prompts or balance alerts. For example, if a user frequently misses bill payments near the due date, the system can proactively send a reminder or offer to reschedule payments before penalties apply.

Additionally, users are empowered with contextual control settings that are granular, personalised controls which allow them to manage payment behaviour through time-bound usage windows, transaction amount caps and merchant-category restrictions. For instance, a user who wants to control spending on entertainment might set a daily transaction limit on restaurant or movie tickets, preventing overspending during weekends.

Data on transaction frequency, merchant preferences and purchase categories enables the delivery of targeted discounts, exclusive deals and reward incentives, enabling banks to personalise loyalty programmes. A frequent traveller who spends heavily on airline tickets might receive exclusive offers for airline lounge access or discounted travel insurance.

Customer behaviour analytics leverages AI/ML models to analyse transaction patterns, timing and frequency across all segments. This enables highly personalised product recommendations. By identifying emerging needs and habits, financial institutions can engage users with the right cross-sell products at the right time – e.g. suggesting instant personal loan to a customer whose transaction failed due to insufficient balance.

## Key outcomes

- Enhanced user engagement through real-time, context-aware communication

- Higher customer satisfaction via tailored payment controls and experiences

- By understanding patterns and preferences, banks can strategically position their products and services.

- Developing a loyal customer base through exclusive rewards and intelligent personalisation

- Targeted offers lead to more successful sales and service uptake.

- Customised experiences reduce churn by meeting individual needs.

### Leveraging analytics to optimise payment hubs

Analytics has become a foundational pillar enabling banks to monitor performance, enhance customer understanding and make data-driven decisions. Integrating analytics into the core of a payment hub allows institutions to shift from reactive operations to proactive optimisation.

### Operational analytics

Real-time dashboards and event-driven architecture help to monitor multi-rail payment flows while tracking processing times, failure rates and STP ratios to boost operational efficiency and ensure end-to-end transaction visibility. Immediate visibility on sudden spike in failure rate of specific transaction rail allows the operations team to quickly investigate and resolve an API timeout issue before it impacts more transactions.

### Predictive and prescriptive analytics

Forecasting models predict transaction volumes and peak periods, while dynamic rules engines optimise payment routing and queuing in real time for efficient and timely execution. This could provide an advance alert for additional infrastructure provisioning to process the anticipated transaction volume. For example, if a forecasting model predicts a transaction surge of 40% in an upcoming holiday weekend, dynamic routing is triggered to balance the load and extra infrastructure to avoid delays or system crashes.

### Exception and root cause analysis

ML techniques classify failed or delayed transactions, while automated detection with feedback loops drives intelligent remediation and iterative improvements to maintain high service reliability and operational accuracy. When ML classification detects that a batch of failed transactions share a common error code related to mismatched account details, it automates alerts with remedies which are sent to the team and suggests fixes to prevent similar errors in future.

## Key outcomes

- Enhanced real-time visibility into payment operations across all channels
- Faster detection and resolution of processing issues and exception
- Higher STP rates and improved operational efficiency
- Proactive customer servicing with personalised engagement
- Optimised resource allocation during volume spikes and peak periods
- Reduced manual intervention and improved root cause identification
- Greater resilience and scalability of the payment ecosystem

**Interoperability**

Interoperability is achieved through standardised communication protocols, such as ISO 20022, and the use of open APIs that ensure smooth data exchange between different financial platforms. The payment hub acts as an API hub for internal and external systems, rather than individually integrating them with each of the banks' backend system in their own message format.

Payment hubs integrate robust middleware and translation layers for sophisticated data transformation module to translate and map incoming and outgoing payment messages to the required formats to route transactions across various networks effectively. They enhance interoperability by standardising diverse message formats (XML, proprietary, flat files) for different payment products like NEFT, RTGS, UPI and IMPS to enable smooth integration across varied systems and convert domestic payment messages into the SWIFT ISO 20022 format to route the transaction through an international payment network, enabling smooth cross-border settlement between different banking systems.

Connectivity to multiple domestic and international payment systems including clearing houses and real-time payment rails broadens the reach and flexibility of the payment hub.

## Key outcomes

- Seamless transactions across multiple networks and geographies, expanding customer reach and revenue opportunities

- Faster and more reliable payments for end users, regardless of currency or channel

- Reduced operational friction through streamlined processing and minimised manual effort

- Accelerated integration of new FinTechs and payment innovations, fostering continuous growth

- Lower infrastructure and operational costs through centralised, unified payment processing

### Embracing low-code/no-code innovation

Banks are taking a pragmatic, low-risk approach to modernisation by starting with non-core payment modules that are easier to decouple from legacy systems. These include areas like payment routing, workflow orchestration, business validation rules, compliance customisation and customer-facing interfaces. Bank could use a low-code/no-code (LCNC) platform to quickly launch a customised payment notification system via APIs, without altering code and deployment downtime.

LCNC platforms give business and product teams greater control over rules and payment workflows, shortening development cycles and increasing adaptability across channels. This modular approach allows them to quickly build and test new services, while also enabling the integration of advanced technologies without committing to large-scale code rewrites.

## Key outcomes

- Payment workflows and rule changes can be rolled out in days instead of months.

- Business teams can customise rules and workflows without deep IT intervention.

- Interfaces are more responsive, intuitive and tailored to user needs.

- Core platforms remain stable and secure, while innovation happens around them.

- Emerging technologies can be tested and integrated without committing to full rewrites.

Low-code and no-code platforms aren't just a startup trend – they're a practical pathway for legacy banks to modernise with lower risk and higher speed. With a smart, incremental approach, institutions can unlock innovation without the cost and complexity of a full rebuild.

### AI and deep tech enablement

Modern payment systems need to do more than just move money quickly. They must be smart, flexible and focused on customer needs.

This involves embedding intelligent assistants into every layer of the payment ecosystem.

#### Payment assistant

An AI-driven assistant can help users make faster, smarter and safer decisions. A payment assistant supports everything from transaction initiation and route optimisation to real-time compliance checks and exception resolution – i.e. chat-based support, compliance guidance, smarter payment routing and instant issue resolution. For example, consider that a finance manager sends a payment to a new supplier in Brazil. The payment assistant checks cross-border compliance, documentation, suggests the cheapest and fastest route, and flags a formatting error in the account number – offering a quick fix via chat.

#### Operation assistant

Operation assistants help boost back-office efficiency by using AI and NLP to extract key data from emails, forms and chats, automating entry and resolving exceptions via learned insights. Integrated assistants review transaction details based on historic data, reducing manual effort and speeding up workflows. They also detect anomalies to drive continuous improvement and accuracy.

#### Virtual account assistant

As virtual accounts become more common, managing them can be tricky. A virtual account assistant plays a key role in simplifying management. It enables easy account configuration, self-service tools, and smart reconciliation capabilities. For instance, an e-commerce firm creates virtual accounts for each seller, enabling fast setup and automatic matching of payments to orders, which speeds up reconciliation and improves oversight of virtual structures.

AI assistance in payment hub deployment: A payment hub needs to be integrated with many bank APIs – AI is simplifying this by auto-discovering existing APIs in the bank to identify and dock them. Additionally, data mapping to translate any incoming or outgoing payment message in different formats (e.g. MT to MX conversion) can now be done using AI to reduce the manual effort and TAT for incorporating new message formats.

## Key outcomes

- Payments move faster and more efficiently with intelligent routing and automation.
- Real-time insights and compliance checks reduce manual work and associated risks.

- Predictive tools help finance teams stay ahead of short-term funding needs.

- Self-service and conversational interfaces empower users while easing the burden on operations teams.

- Smart virtual account management helps untangle complex cash flows and improves accuracy.

**Modern payment hubs are no longer simply transactional processors – they are becoming real-time, insight-driven control towers that deliver superior customer experiences, optimise cost and manage risk dynamically.**

**To realise the full potential of these innovations, institutions should build a next-generation payment hub enabled by:**

- advanced orchestration for smarter, real-time routing

- AI and analytics to drive accuracy and automation

- microservices architecture for scalable, agile operations

- real-time consent and hyper-personalisation to enhance trust and user experience

- low-code tools and interoperability for faster innovation and seamless global reach.

# Case studies

A global financial group was struggling with growing operational burdens due to fragmented legacy payment infrastructures scattered across its international presence. To modernise its payments environment and keep pace with changing compliance requirements, the bank implemented a payments hub – a centralised, ISO 20022-compatible solution. The phased implementation started with lower-risk payment types and evolved to high-value and cross-border transactions. By using native ISO XML adapters, the bank obtained smooth integration with SWIFT and other regulators, as well as a robust governance model across business units to align efforts across Europe, Asia and North America.

The transformation achieved quantifiable business results – higher STP rates, lowered operational expense and real-time payment processing in strategic markets. Consolidating several legacy platforms into a single scalable architecture, the bank raised visibility, removed process duplication and improved compliance preparedness. The new platform further positioned the bank to rapidly embrace new payment rails and connect with FinTech ecosystems, ensuring it remained competitive with an increasingly dynamic global payments landscape.

A leading multinational bank in the Asia-Pacific region was experiencing mounting operational inefficiencies because of dispersed payments systems and diverse regional formats. In response to these challenges, the bank initiated a phased deployment of a centralised enterprise payment hub, compliant with ISO 20022 service-oriented architecture (SOA). The new architecture incorporated a strong payment services hub that could process high-value, bulk and immediate payments supported by adaptable integration layers for internal and external systems, along with format translation. This strategic redesign consolidated all payment processing onto one platform, allowing real-time reconciliation, smart message repair and dynamic routing, while considerably enhancing visibility across all channels and payment types. Consequently, the bank attained a significant improvement in STP rates in the important geographies, lowered the cost of operations, compressed time-to-market for new offerings from 4–5 months to a matter of weeks, and significantly improved customer experience geographically.

# Conclusion

The evolution of payment hubs marks a pivotal transformation in the banking industry's agenda towards becoming future-ready. As traditional banking systems struggle with growing transaction volumes and scattered processes, payment hubs offer a smarter, more efficient way forward. They help banks run smoother by bringing all payment activities into one place, making it easier to manage different payment methods, simplify complex tasks and stay on top of changing regulations.

What makes modern payment hubs even more powerful is the use of new technologies like AI, APIs and microservices.

To unlock the full potential of these new systems, banks need to build next-generation payment hubs that include:

- smarter orchestration for real-time, intelligent routing of payments

- AI and analytics to boost accuracy and automate decision-making

- microservices architecture for flexible, scalable operations

- real-time consent and hyper-personalisation to build trust and tailor experiences

- low-code tools and interoperability to speed up innovation and connect globally.

These tools will allow banks to make quicker decisions, route payments intelligently and manage risks more effectively.

With these features, payment hubs will be more than just back-end systems – they will become strategic assets. They'll help banks respond faster to customer needs, operate more efficiently and stay ahead in a fast-changing financial world.

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