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Embracing the Revenue-Generating Opportunities of a Modern Payment Hub

Modernizing payments infrastructure is about more than just back-office efficiencies



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Summary

Abstract

The payments sector is evolving rapidly with, for example, the emergence of real-time payment rails, ISO 20022 adoption, cryptocurrencies, generative AI applications, and modern messaging technologies. Financial institutions need a common approach to support payment innovation with a shift to central platforms that can support multiple payment types and away from siloed engines. The demand for instant payments is growing: both consumers and businesses expect settlement to occur in real time.

The vast increase in payment methods being demanded by consumers and businesses has created the need for a modern payment hub platform to ensure seamless routing and processing. In fact, 58% of banks will increase their spend on payment orchestration / payment hubs in 2024, including 25% of respondents that will be increasing spend by 6% or more, according to Omdia's 2024 IT Enterprise Insights (ITEI) survey.

A modular microservices-based architecture is therefore critical to ensure the payment hub can be adaptable at scale without affecting performance and will integrate efficiently with internal systems. Increasingly, automation capabilities are fundamental to the end-to-end process of handling payments, whether in relation to the straight-through processing rate, increased operational efficiency, interoperability, or the provision of actionable analytics.

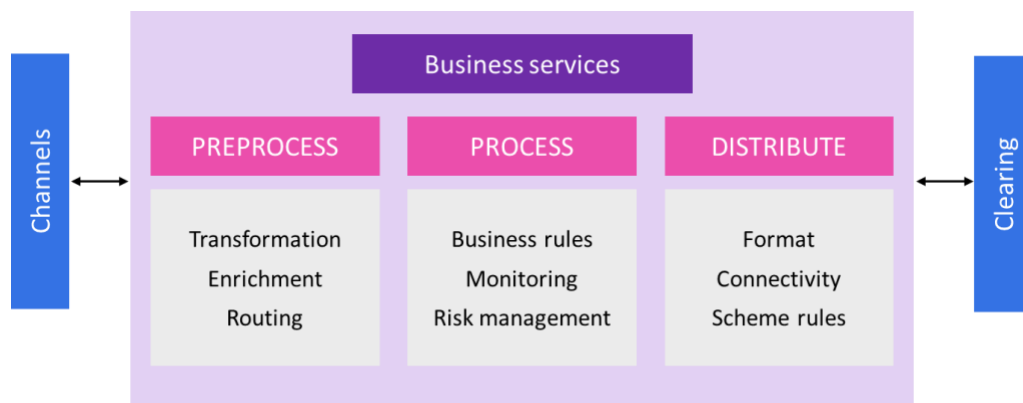
Deployment on cloud is now the default implementation method because it enables banks to manage their infrastructure costs more efficiently (than with on-premises deployment) and ensures developers can focus on building value-added services on top of the cloud infrastructure. Though it is important for payment hubs to provide customization beyond the packaged features, this should be both minimized (e.g., through the use of standardized best-practice workflows) and rules based, so where it is necessary, it can be achieved through configuration rather than code changes.

Market context

The evolving role of payment hubs

In the early 2000s, most large banks shifted payment functions that used to be highly disparate to centralized payment factory divisions to better serve the needs of their corporate clients, and these became early iterations of payment hubs. This change was predominately business organization led, and many banks had to manage thin veneers over a fragmentation of payment systems. The role of payment hubs has since shifted from creating middle- and back-office efficiency gains to becoming a platform that is central to creating value-generating products and services for end-user customers for both retail and corporate banks, and this has led to a surge of new payment hub products entering the marketplace. **Figure 1** shows how payment hubs have become an ecosystem of business services for end-to-end multitrail payment processing.

Figure 1: Typical business functionality of a payment hub



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Source: Omdia

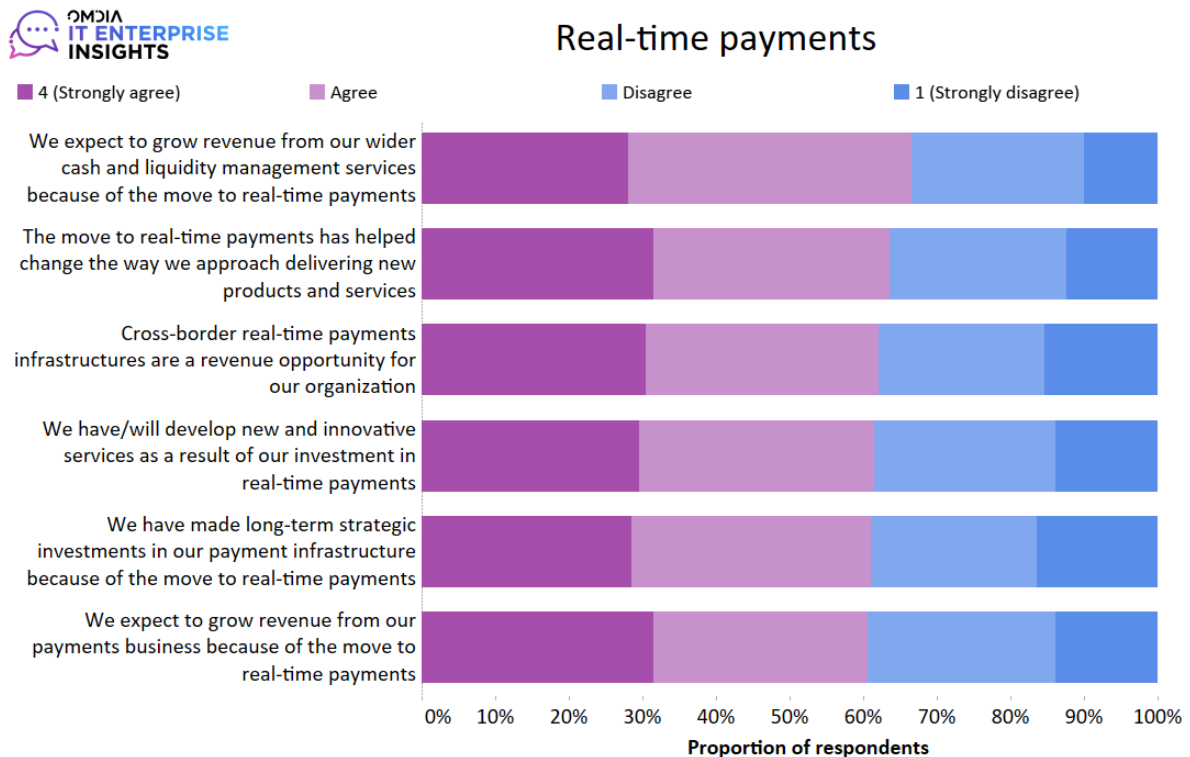
The entire payment lifecycle comprises payment initiation through preprocessing, processing, distribution and clearing, and settlement connectivity (gateways). There are additional key building blocks that underpin the framework, including an integration layer that simplifies the numerous integration activities required and an orchestration layer—built using highly concurrent, distributed, and resilient technology—to seamlessly orchestrate the different payments process and subprocess flows. Payment hub platforms need to be cloud and ISO20022 native, highly cost-effective, and collaborative and to combine the use of open source technology with lightweight integration. Payment hubs are ultimately designed to accelerate the adoption of new payment schemes, deliver

new value-added services to customers, significantly lower the total cost of ownership of payments processing, and help make payments more accessible and inclusive.

Rise of instant payments necessitates investment in payment systems

Regulatory initiatives are driving major change in the payment industry with the development of real-time/instant payment infrastructures (for both retail and, increasingly, corporate use) in many markets pushing banks to invest in new systems. At the same time, there have been significant changes to payment traffic composition, particularly in Europe, as the expansion of open banking and cloud-based technology makes the sending and receiving of money more accessible for businesses and consumers alike.

Figure 2: 62% of corporate banks believe the move to real-time payments has helped change the way they approach delivering new products and services



Sample size: 200

Question: Please indicate your level of agreement with each of the above statements.

Real-time payments refers to infrastructure that enables the almost immediate clearing of payments.

Vertical: Corporate banking. Country: All. Enterprise size: All.

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With the implementation of ISO 20022, real-time payments will evolve into a global system that facilitates not only domestic but cross-border payments. More than 60% of corporate banks agree that cross-border real-time payments infrastructure brings a revenue opportunity (**Figure 2**). Making payments and remittances more accessible will improve efficiency and deliver a significant unrealized part of the UN Sustainable Development Goals to the underbanked. Payment leaders in the commercial space, therefore, need to have a clear vision of what the future of payments will look like as they also begin to harness the possibilities of interconnecting APIs, open banking, big data, and emerging technologies such as smart and connected devices with real-time payments, paving the way to embedded finance.

The regulatory drive behind real-time payments, the implementation of the ISO 20022 standard, and open banking maturity mean that banks are increasingly being pushed to upgrade payment systems to fit with the new market infrastructure. They are also aware that because of continued growth in online commerce and cashless transactions, offline payment systems must scale up to accommodate an increasing volume of digital payments. Coupled with the expansion of cloud solutions, this move will mark a very big step forward in how efficient payment systems must be overall in an increasingly digitized economy.

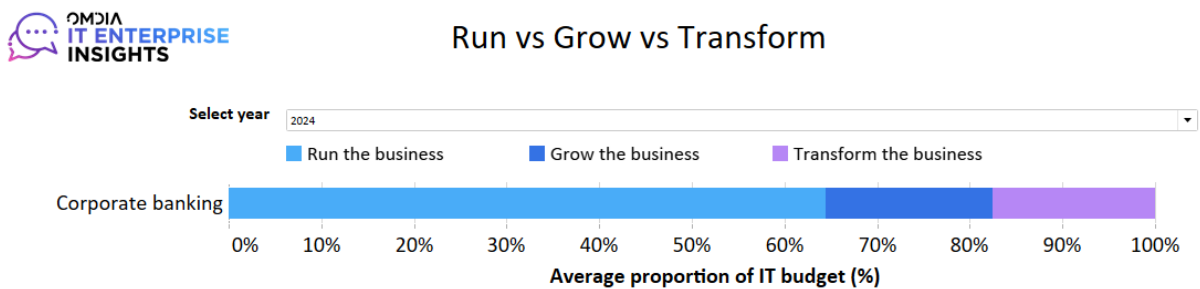
Modernization of payments is critical as legacy debt continues to rise

Nearly two-thirds of banks' IT budget is spent on "keeping the lights on"

Many banks are investing heavily in new technologies to drive their digital transformation despite the tough environmental outlook. From a technology perspective, cost management pressures will remain strong. This has had an impact on overall technology spending (and will continue to do so), but it is balanced to some extent by the role technology plays in increasing automation and customer self-service.

Although incumbent banks want to transition to the cloud, a combination of technical debt and regulatory restrictions (in certain regions) means that, globally, banks are still heavily reliant on their on-premises infrastructure and applications. In fact **Figure 3** shows that in 2024, more than 64% of corporate banks' global technology budget is spent on maintaining existing legacy technology (63% in 2023), and just 36% is allocated to either growing or transforming their technology.

Figure 3: 64% of corporate banking IT budgets are spent on "keeping the lights on"



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Sample size: 368

Question: How is your organization's total IT budget split between the above for 2023 and what is your expectation for 2024?

Year: 2024. Vertical: Corporate banking. Country: All. Enterprise size: All.

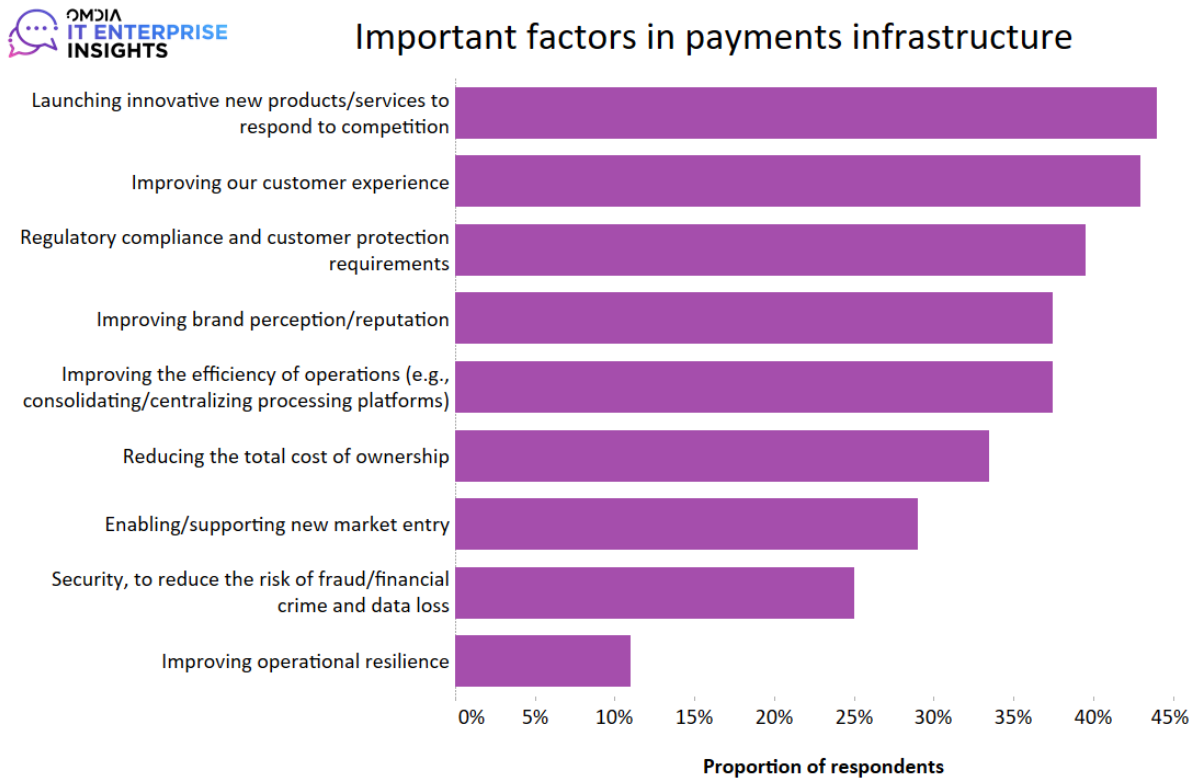
Source: Omdia

Many banks have been reluctant to modernize their payments infrastructure because of complexity, cost, and risk. When they had to comply with new compliance or regulatory changes or support some enhancement of their existing services, they usually updated and patched their existing system, making sacrifices, taking shortcuts, or using workarounds to meet delivery deadlines and budget constraints. These sacrifices eventually mounted up and caused a technical debt within their payments infrastructure, hampering their ability not only to innovate and respond to the dynamic market requirements but also to efficiently operate and deliver payment services and accommodate volume increases.

Globally, the adoption of digital payments is rapid but arguably nowhere more so than in Vietnam, where the State Bank of Vietnam recorded 7 billion transactions in 2023, a 10-fold increase on 2019 (700 million transactions). Recognizing this rapid shift to a digitalized economy, Vietcombank, one of the country's largest commercial banks, embarked on a digital transformation in 2019 by migrating to a new modernized payments architecture and implementing Finastra's payment hub solution, Finastra Global PAYplus. By adopting Finastra's solution, the bank was able to retire its payments programs and consolidate several domestic and cross-border payment types into a single, highly configurable payment hub solution. Vietcombank was the first Vietnamese bank to implement a modern payment hub solution, and by leveraging modern APIs and an ISO 20022–native data model, the bank was able to easily integrate with its existing technology infrastructure, enabling it to simplify its payments ecosystem architecture and reduce its operational complexities and costs.

Thanks to the ever-increasing volume of payments that banks are required to process, payment hubs have become essential functions in which to manage the complexity and critical nature of orchestrating payments. **Figure 4** illustrates that the number one priority for investing in payment infrastructure is to “launch innovative new products in response to the competition,” selected by 44% of respondents to Omdia's Corporate Banking survey. Payment hub platforms are therefore required to possess resilience and scalability at the very minimum but also need to incorporate flexibility, innovation, and the ability to drive a strong user experience while being cost-effective to deploy. The payments sector must contend with an ever-increasing emergence of alternative payment methods, and a payment hub platform should enable easy connectivity to these new payment methods as well as interoperability between legacy payment rails. Increasingly, automation capabilities are fundamental to the end-to-end process of handling payments.

Figure 4: Launching innovative new products, enhancing customer experience, and improving brand perception are the key factors for payment infrastructure investment



Sample size: 200

Question: What are the most important factors driving your investments in your payments infrastructure?

Vertical: Corporate banking. Country: All. Enterprise size: All.

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Source: Omdia

The resilience of infrastructure is increasingly important, and 40% of respondents indicated that “regulatory compliance and customer protection requirements” is also a key reason to invest in payment infrastructure. Payment hubs with extensive features and functionality built in are less of a factor for banks when they are deciding who to partner with. The agility, resilience, and flexibility of the platform and the reliability of the vendor in supporting its customers are the most important criteria.

Leading payment processing solutions now come with preconfigured workflows derived from industry best practices and accumulated insights, presenting several benefits. Primarily, these workflows and settings can be adjusted via a user-friendly interface that requires minimal to no coding expertise, allowing financial institutions to employ operations personnel without programming backgrounds. More importantly, improvements in the frequency and ease of system upgrades have led to significant cost savings and quicker deployment of new services or compliance-

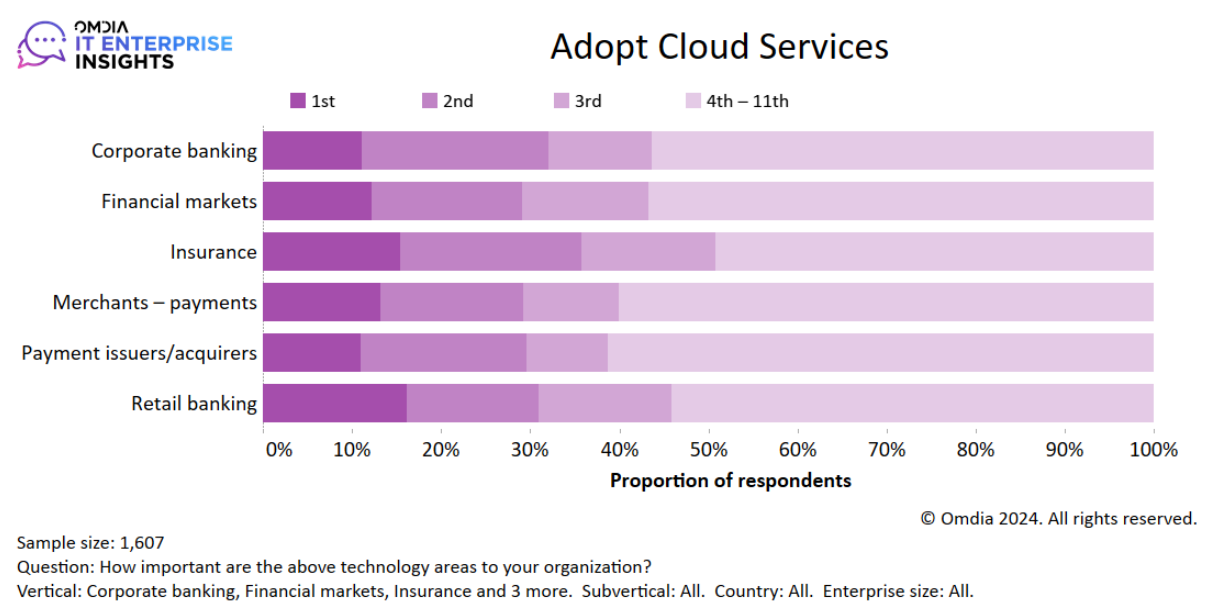
related updates. Opting for configurable solutions with business rules empowers banks with enhanced control and the flexibility to modify their operational frameworks. Consequently, banks are no longer at risk of being stuck with outdated software versions as the concept of versioning becomes increasingly obsolete.

Utilizing a DevOps approach is a vital component in the approach to modernization because it emphasizes collaboration, automation, and continuous improvement throughout the software development lifecycle. Using principles of automation, continuous integration and continuous delivery (CI/CD), and monitoring and feedback, this approach has a major impact on software upgradability and agility, enabling faster deployment, reduced downtime, version control and rollbacks, continuous feedback, and automated inclusion of security and compliance features.

Corporate banking slow to adopt cloud services, but cloud-native applications should be the goal

Scalability is important when upgrading payment systems, not just in the ability to handle high-payment volumes (in particular 24/7 instant payments) but also in terms of infrastructure costs as cloud deployment and software as a service become increasingly important. It is therefore surprising that just 11% of corporate banks see adopting cloud services as their number one IT priority, behind 12% of financial markets respondents, 15% of insurers, and 16% of retail banks (Figure 5).

Figure 5: Corporate banking lags behind other financial services segments in adoption of cloud services



Source: Omdia

Deployment on cloud should be the default, because it enables banks to future-proof their services and manage their infrastructure costs more efficiently than is the case with on-premises deployment. Rehosting, often referred to as “lift and shift,” simply moves an existing monolithic application to a public cloud and in most cases will not provide real cloud benefits.

Future-proofing services that leverage cloud-agnostic container technology should be the primary objective of financial institutions investing in their payments infrastructure as was the case for a major Tier 1 financial institution in the Asia & Oceania region. The financial institution selected Finastra’s Global PAYplus payment hub to consolidate several payment types in one future-proof platform. The system handles the domestic RTGS, traditional correspondent international payments, and an alternative real-time cross-border payment service. Finastra Global PAYplus runs on virtually any environment in the cloud (e.g., Azure, AWS) or on premises by leveraging Kubernetes clusters. The financial institution opted for a hybrid deployment model, running most of the system components on the AWS cloud while using its existing Oracle database on-premises deployment for the time being with a plan to use the system’s Postgres database on AWS in the near future.

Nevertheless, to fully utilize the cloud capabilities, applications need to be cloud native and to support elasticity (automated scale out and in). In the payments sector, fault tolerance and resilience is also paramount. This can be achieved by refactoring an application using cloud-native principles. For example, when managing applications (such as Finastra’s Global PAYplus) on AWS, IT departments of financial institutions could use Amazon Elastic Kubernetes Service (Amazon EKS), which provides robust managed Kubernetes services on AWS and is designed to optimize containerized applications. Using Amazon EKS enables the financial institution to take advantage of all the performance, scale, reliability, and availability of the AWS infrastructure and of integrations with AWS networking and security services, such as application load balancers and access management.

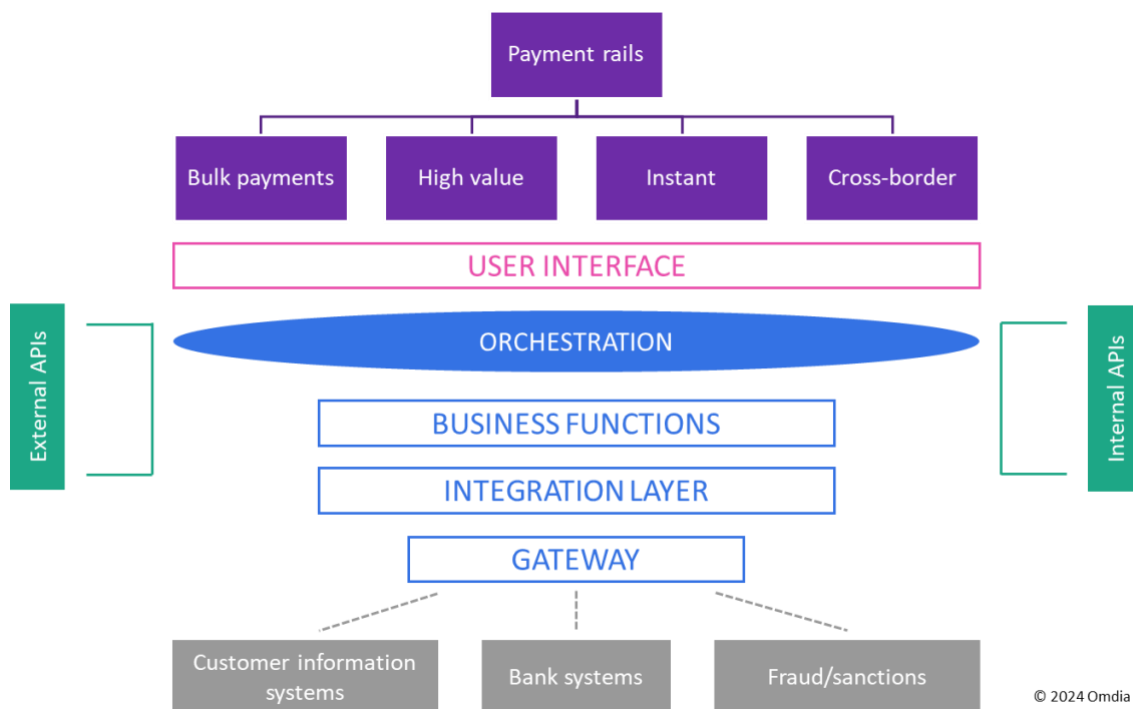
Resilience and high availability are achieved by running the payment system Kubernetes clusters across multiple AWS Availability Zones. The financial institution gains full end-to-end visibility of the payment applications (i.e., Finastra Global PAYplus), services, and infrastructure using a single monitoring solution across both cloud and on-premises environments of its hybrid cloud landscape.

The platform architecture should be designed using a modular, microservices-based approach to provide the ability to easily add new payment rails and create new orchestration flows while enabling scalability across the institution. A modular microservices-based architecture is therefore critical to ensure the payment hub can be adaptable at scale without affecting performance and can integrate efficiently with internal systems.

Building a future-proof architecture is vital to embrace emerging payment trends

Making use of open APIs will enable composable payment systems

Architecturally, payment hubs should be increasingly transparent in comparison with the “black box monoliths” typical of legacy systems. **Figure 6** illustrates the typical technical architecture of a modern payment hub platform. It should be customizable and extensible—meaning that financial institutions can leverage the framework and tools to suit their specific needs and that of their customers—while using a growing catalog of functional components and scheme capabilities. Payment hub platforms should be built on an open architecture and fully configuration driven, delivering high performance, business agility, and speed to market for banks.

Figure 6: Typical technical architecture of a payment hub platform


Source: Omdia

The platform architecture should be designed using a modular, microservices-based approach to provide the ability to easily add new payment rails and create new orchestration flows while enabling scalability across the institution. A modular microservices-based architecture is therefore critical to ensure the payment hub can be adaptable at scale without affecting performance and will integrate efficiently with internal systems.

Although traditionally middle/back office in nature, payment hubs will increasingly drive end-user experience through a series of smart rules that improve engagement. Advanced functionality should include a contextual payments engine that uses business rules and AI/ML to look at the business context of a payment and give intelligent recommendations on the least-cost routing / fastest payment rail. These techniques can also be applied to payment enrichment to maximize automation and minimize fail rates.

By adopting cloud-native composable payments capabilities for building future-proof payment systems, banks will gain greater agility, efficiency, and faster innovation. Composable banking paves the way for the “open economy,” allowing for the creation of flexible and customer-centric banking solutions. By breaking down banking services into their component parts, banks can reassemble them in a way that best serves their customers and their own operational and business needs. Composable banking helps make financial services more accessible and inclusive by enabling the creation of personalized financial products and services that can be easily adapted to meet the changing needs and preferences of customers.

Separating the business domains into microservices while adding all necessary testing automations makes it easier and faster to deliver new functions. In addition, the move to the cloud reduces the cost of ownership by using CI/CD pipelines and cloud services. The cloud provides the facilities (infrastructure and software) to maintain a highly available system across several availability zones, which is a basic requirement to support instant payments 24/7. Applying an API-first design approach ensures that services have the agility to adapt to evolving business needs. According to Omdia's IT 2024 ITEI survey (**Figure 7**), more than 60% of corporate banks believe open APIs will lead to better products and services for customers. Using APIs to expose the features of business domains opens opportunities for other systems/channels to utilize the same service or to deploy it separately for a different purpose.

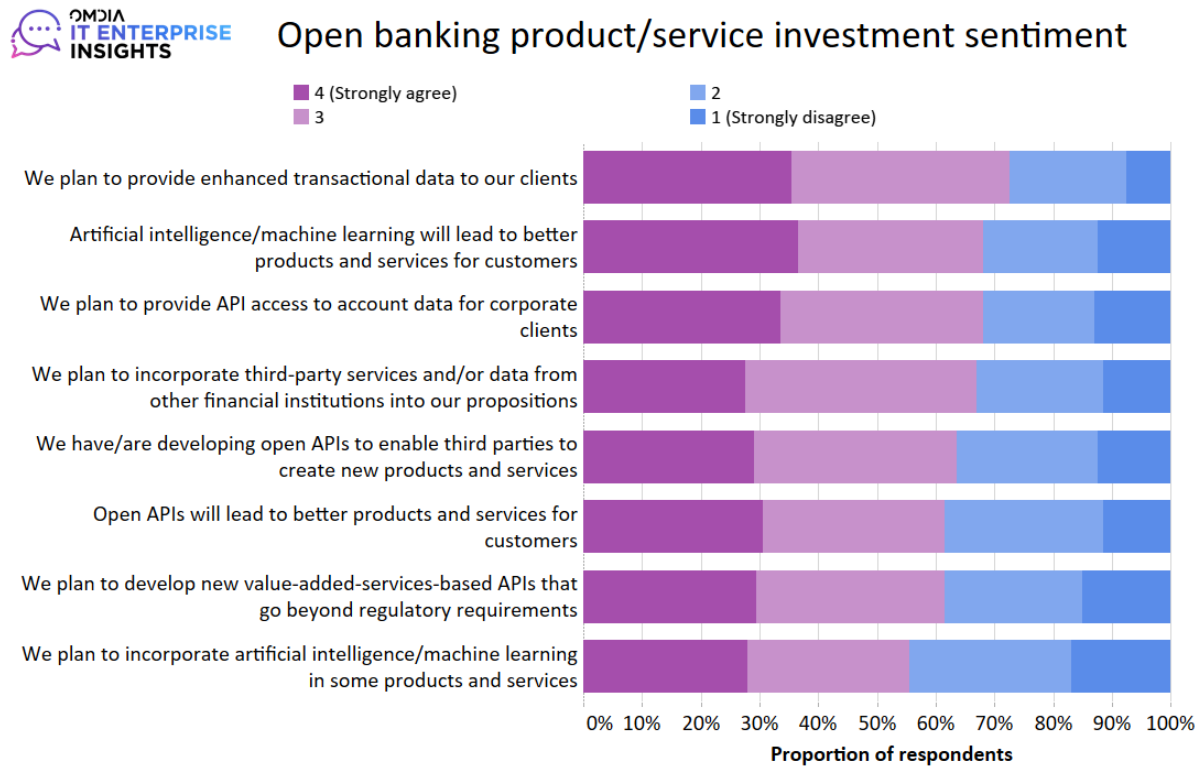
A distributed microservices-based architecture must also provide a wealth of metrics that can be monitored to understand the system's health and performance to increase observability, enabling better insights, agility, and the efficient management of payment systems. An event-based design is essential for a distributed environment to achieve full decoupling of services, functional activities/services that are based on events, observability, and data streaming to AI/ML engines. Use of modern data-streaming tools, such as Kafka distributed data-streaming platform, allows for the real-time tracking of data streams, which is crucial for observing the payment system's behavior and performance. Leading modern payment hub system vendors use Kafka to ensure reliable system performance metrics and events collection in addition to seamless integration with observability tools, which is essential for maintaining a robust, resilient, and scalable payment system.

Rise of the open economy signifies the importance of modern payment hubs

Banks require a platform that has a modern technology architecture and can adapt to emerging payment trends such as open banking and open finance and can scale in line with the demand for the new business functionality being developed at a rapid rate. Open banking has been at the top of the industry agenda for the last few years and continues to drive the innovation and technology conversation for banks worldwide, so payment hub platforms need to be built with an API-as-a-product mindset. It is essential that payment hub platforms should adopt CMA UK Open Banking and Berlin Group standards to ensure their internal APIs are standardized and that external APIs are integrated into the platform.

Corporate banks have the appetite to embrace open banking: more than 70% of respondents in Omdia's 2024 ITEI survey have plans to provide their clients with enhanced transactional data (**Figure 7**). Additionally, at least 60% of banks plan to provide their corporate clients with API access to account data, incorporate third-party services and/or data from other financial institutions into their propositions, and develop APIs to enable third parties to create new products and services. Small and medium-sized enterprises and large corporate clients typically need more flexibility with payment options than individual consumers, such as the ability to accept partial payments. Integrating payments with invoices and other systems would enhance their liquidity management processes and automation and improve customer experience.

Figure 7: Corporate banks plan to utilize open banking to provide enhance transactional data



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Sample size: 200
 Question: Please indicate your level of agreement with each of the above statements.
 Vertical: Corporate banking. Country: All. Enterprise size: All.

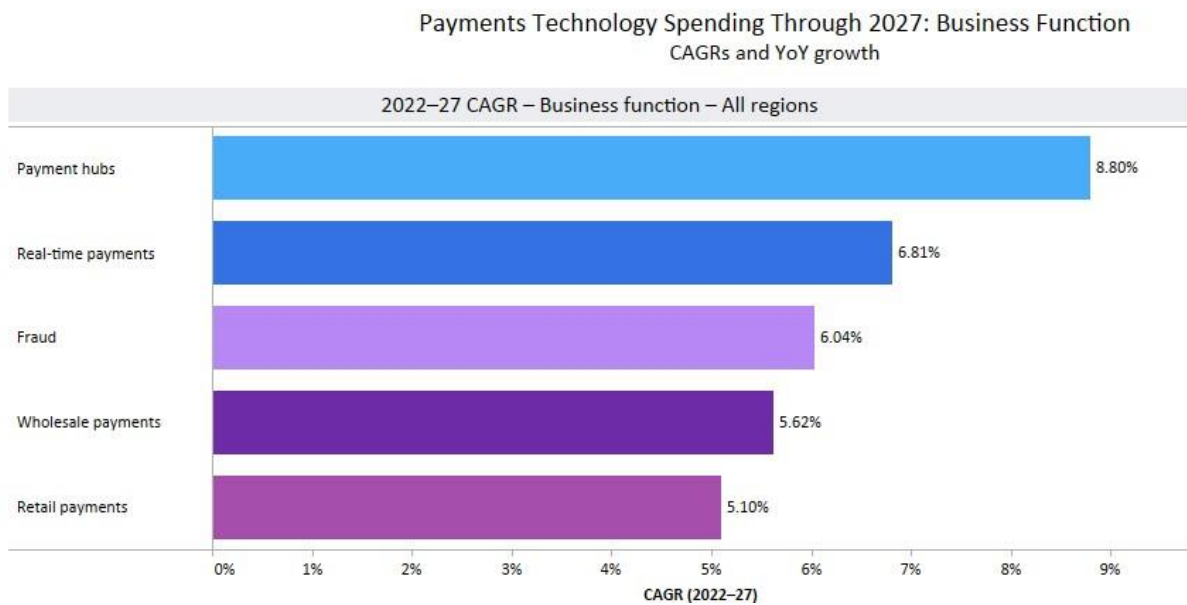
Source: Omdia

In June 2023, the European Commission published the first draft of the Payment Services Directive 3 (PSD3), which identifies barriers, such as API quality, that must be overcome if the industry is to transition from open banking to open finance. This proposal could be a stepping stone toward open finance and could ultimately pave the way to an open data economy. Making use of open APIs, payment hub platforms should proactively drive open finance and embedded finance use cases to ensure banks can effectively diversify their revenue streams.

Market outlook

Managing payments through a hub solution is fast becoming the default approach to help banks navigate the disruption of how payments will be processed in the future: more than 58% of banks expect to increase their spend on payment orchestration / payment hubs in 2024, including 25% of respondents that will be increasing spend by 6% or more, according to Omdia’s 2024 ITEI survey. Consequently, global spend on payment hubs is expected to grow at a CAGR of 9% to reach \$3.1bn in 2027, compared with \$2.0bn in 2022 (**Figure 8**).

Figure 8: Payment hubs technology spend expected to have strongest growth in forecast period



Source: Omdia

As new models such as open finance become the norm, payment solutions will need to transition to smaller, composable, microservices-based standalone components that can be easily integrated through APIs, enabling co-innovation with the growing ecosystem of specialist fintech services; this will create the flexibility that banks need to respond to rapidly changing market demand. Modern payment hubs must enable this shift and support the needs of customers beyond the immediate remit of the institution, thus enabling banks to focus on delivering new overlay services such as request-to-pay, cross-border real-time payments, and processing emerging cryptocurrencies. By adopting a modern payment hub solution, leveraging cloud technologies, DevOps practices, and open APIs, banks can embrace the new world of payments, drive innovation, and focus on service excellence.

Appendix

Methodology

This report, commissioned by Finastra, is largely based on Omdia's proprietary global ITEI 2023/24 survey, a study comprising more than 6,800 interviews with CIOs and other senior IT decision makers across financial services and adjacent vertical industries. It also incorporates data from Omdia's Financial Services Technology Spending Forecasts and publicly sourced desk research where applicable.

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Finastra delivers vitally important technology to more than 8,600 financial institutions around the world—including 90 of the world's top 100 banks and more than 5,000 small banks and credit unions—and is enabling the future of banking through apps, marketplaces, and an open innovation platform.

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