

IDC InfoBrief
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Future Ready Payments Technology Reshapes the Playing Field for the Industry

Driving Over 70% of Payments to
Shift to Non-FSIs by 2030

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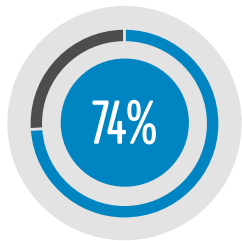
IDC Financial Insights

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Executive summary

Disruptive change in the payments industry is reshaping the landscape, including the participants and the roles each plays. The innovators in payments are creating new embedded customer experiences which are rapidly acquiring market share and leveraging the foundation they have built from payments to expand their product offerings.

The rise of innovators is hastening incumbents to reposition themselves in the payments ecosystem. They must now be able to compete creatively and rapidly by responding to marketing demands and evolving end-user behaviors. To achieve this, they must first seek ways to break free of legacy technology constraints which have been accumulated over the years and adopt future ready technology and infrastructure which can enable this.



IDC estimates that 74% of global consumer payments will be handled by non-financial services institutions (FSIs) by 2030. Incumbent FSIs, however, are far from being displaced from payments if they can reshape the role that they fulfil in the payments landscape of tomorrow. FSIs refer to banks and equivalent lending license holders, for example, building societies, credit unions, and more. Mobile wallets are not included.

This IDC InfoBrief examines the forces driving these changes and how new payments technologies enable any business with a digital front door, not only banks and fintechs, to create new value in the form of novel revenue streams and engaging customer experiences.



Disruptive change is fuelling a reformat of payments and competition

FSI processed payments are growing at 6% annually compared to 16% for non-FSIs. By 2030, non-FSIs are predicted to process 74% of global consumer digital payments.

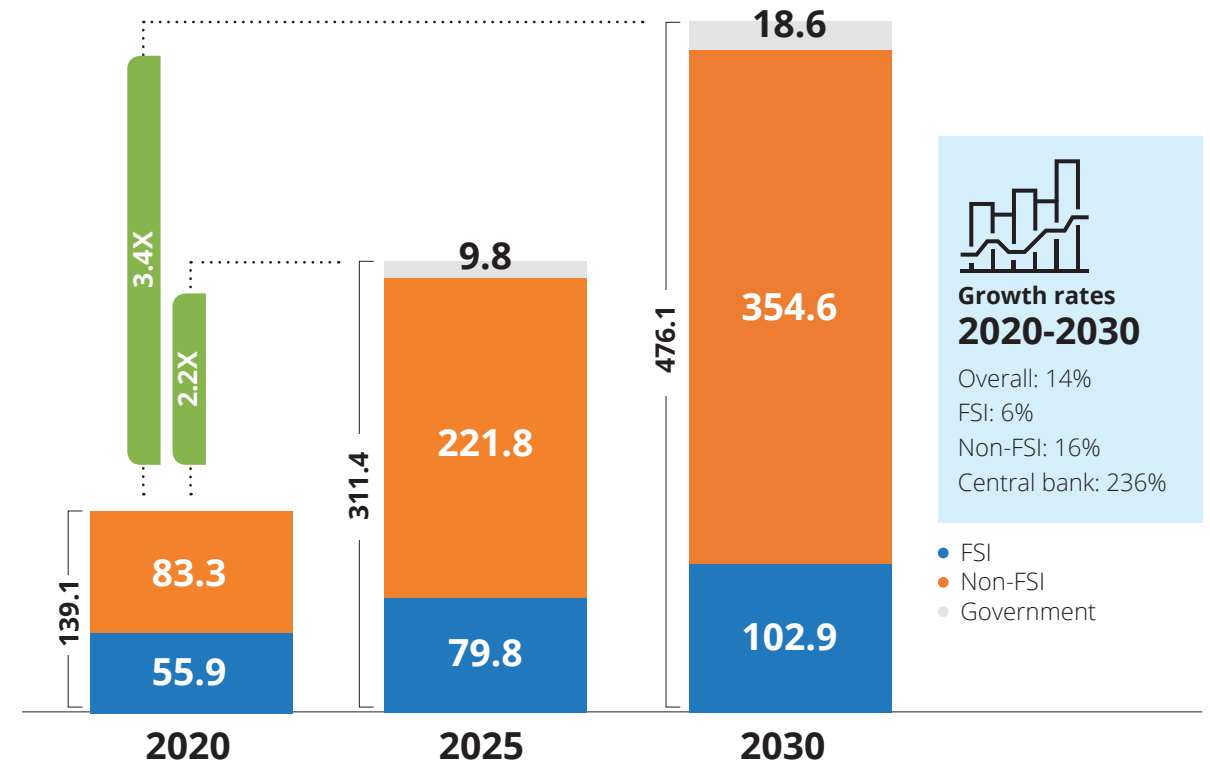
The structure of the payments industry is fast evolving, with global innovators in payments rapidly acquiring market share through superlative payments experiences that have driven incumbent FSIs to reposition themselves in the payments ecosystem.

- In 2020, 40% (US\$55.9 trillion) of global consumer payments were handled by FSIs and 60% (US\$83.3 trillion) were handled by non-FSIs.
- By 2030, the situation will tip even further in favor of non-FSIs (fintech disrupters, non-financial brands, emerging decentralized finance players), with only 22% (US\$102.9 trillion) processed by FSIs and 74% (US\$354.6 trillion) processed by non-FSIs. Digital payments value in 2030 is projected to soar to 3.4X its size in 2020, reaching US\$476.1 trillion.
- FSI processed payments will grow at only 6% from 2020 to 2030, compared to non-FSI payments at 16%; much of this growth is through mobile wallets and other digital online payments such as buy now pay later (BNPL), which are displacing cards in developed markets and displacing cash in emerging economies.
- The latest entrant is central bank digital currencies (CBDCs), with China being the global pioneer and other markets such as Norway and the United Kingdom also exploring this possibility. This segment is predicted to be the fastest growing, up from 0% of digital payments in 2020 to 4% (US\$18.6 trillion) by 2030.

While non-FSI payments will be dominant by 2030, FSIs are far from out of the payments space – they need to reshape the role they can play in payments of the future.

Global consumer digital payments processed by FSIs, non-FSIs, and central banks

Unit: US\$ Trillion



Note: Numbers may not add up exactly due to rounding.

Six major trends shaping the payments landscape



1

Real-time payments driving payments experience innovation

Payments experience innovation based on real-time payments delivering on-demand services have redefined expectations from consumers as to what their payments should deliver. Seamless, contactless, and instant payments built into fluid user interfaces and which can interact with ecosystem partners have become the standard which payments are held to. More will be delivered before, during, and after payments authorization due to better processing technologies.

IDC forecasts that by 2030, 95% of physical non-cash payments will be through contactless methods.



2

Growing multitude of payment asset classes

A growing number of asset classes such as digital currencies, CBDCs, and even brand loyalty points and vouchers are driving new digital commerce.

IDC forecasts that by 2030, 60% of global consumers will have made a transaction using an asset class other than fiat currency.



3

Increased competition and margin pressure from new entrants

Increased competition and margin pressure from new entrants such as cloud-native virtual banks and non-FSIs are pressuring incumbents to find new value propositions for their payments products to remain relevant.

IDC forecasts that by 2030, 80% of consumer payments will be handled by non-FSIs through mobile and connected devices.



4

Technology advancements creating new roles in the payments industry

Financial advancements made possible through modern cloud-native core technology platforms, software-as-a-service or platform-as-a-service platforms, application programming interfaces (APIs), banking-as-a-service, and the Internet of Payments are spurring mass innovation within payments and creating new roles within the industry value chain. These new roles and the companies that play in them have redefined and will continue to drive new trends in the experiences that customers receive.

IDC forecasts that by 2030, over 60% of business-to-consumer (B2C) payments for ecommerce will be processed by a payments facilitator (built on cloud- and mobile-native technologies).



5

Regulatory moves shaking up incumbents

Regulatory moves such as open banking mandates, domestic real-time payments schemes, and CBDCs are shaking up traditionally safe revenue streams for incumbents and reshaping the playing field.

IDC estimates that by 2030, open banking derived revenue for FSIs will make up the largest portion of services income.



6

Push for integration and interoperability

Integration and interoperability are a significant focus now as payments systems have become more diverse and more international. This has forced payments players to be adept at working in these integrated ecosystems.

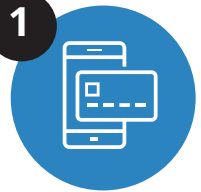
IDC estimates that by 2030, over 90% of global real-time payments schemes will have been linked to at least one other country's network.

These six trends are exerting significant transformational forces on the payments industry

Impacts and challenges on payments players

Current bottlenecks to meet challenges

1



Real-time payments driving payments experience innovation

- Digital front-ends are no longer sufficient to create a superlative experience; innovation in the shaping of payments products to embed lifestyle needs and seamless transaction capability are needed.
- Speed in delivering transactions as well as speed to market for innovation are essential; platforms are needed to support this acceleration of the market.

- Digital innovation means “UI/UX” to many and stops there. Middleware and backend processes still rely heavily on legacy and hard-coded setups, hindering the ability for truly flexible products to be configured and launched.
- Technical debt incurred over the years creates an inability to easily implement optionality and data rich processes before and after transactions. It is difficult to differentiate customer segments and deliver products tuned to their needs.

2



Growing multitude of payment asset classes

- Payments infrastructure must be upgraded to process new asset classes such as digital currencies and central bank currencies.
- Payment workflows need reengineering to be much more data driven. Know your customer (KYC) requires know your transaction (KYT) and know your data (KYD) additions – units of value currently the sole IP of brands will be democratized.
- Flexible risk mitigation is needed to react to quick changes in regulatory requirements over non-fiat currencies and other asset classes.

- Current payments infrastructure struggles to deal with the management and processing of different asset classes and is not able to manage data requirements for re-engineering of processes.
- In-house skill sets to address risk mitigation, regulatory issues, and business potential are not yet developed. Risk adversity also leads to lost opportunities.

3



Increased competition and margin pressure from new entrants

- New operating models for both FSIs and non-FSIs need to be created to prevent a “race to the bottom” in the payments industry; new joint models can leverage respective strengths.
- Legacy systems handling legacy payments need to be reduced, freeing up investments in new platforms to enable new products and services.

- Payments departments in FSIs have accumulated huge amounts of legacy technology over the past decade which must be maintained and iteratively upgraded, making it difficult to launch new products and experiences.
- Current mindsets are not aligned to find joint opportunities and ventures.

These six trends are exerting significant transformational forces on the payments industry (Cont'd)

4



Technology advancements creating new roles in the payments industry

Impacts and challenges on payments players

- Agile development models are needed to transform payments to suit new market realities and pace of innovation.
- FSIs need to embrace cloud and open API technologies or vendors which provide specialized solutions allowing for product development at a quicker pace and with less cost than self-developed tools.
- Re-architecting of payments infrastructure is needed to accommodate modern technologies more responsively.

Current bottlenecks to meet challenges

- Payments technologies used in FSIs are currently unable to deliver the transformation speed needed to create fast new products.
- Legacy mass makes rapid changes much more difficult to implement and opportunities are lost due to lack of rapid and flexible development cycles.

5



Regulatory moves shaking up incumbents

- Both FSIs and non-FSIs need to create new value for their payments products, on top of transaction revenue. They need to work with potential partners either internally or externally through APIs.
- There is a need to invest in technology which can create differentiated payment experiences which can bring new value to customers beyond convenience.
- Data sharing and other regulatory issues on partnerships need to be quickly established.

- Payments infrastructure used in most FSIs today is not flexible enough to create the linkages and layers needed for new streams of revenue through different routes to market.
- Payments developments are still largely focused on front-end interfaces while the engines driving and processing transactions remain steeped in legacy.

6



Push for integration and interoperability

- FSIs and non-FSIs need to find ways to ensure that their systems can handle interoperability advances and that they can manage the connections from various channels today and in the future.
- Systems connected to international counterpart systems will be the norm.
- The role the ecosystem plays in linking various players will be key to success.

- Integration and interoperability require significant retooling of payments technologies with a multitude of different platforms of varying age and formats typically being used for different asset classes.
- Overcautious risk mitigation may put the brakes on potentially lucrative new streams of revenue which require new business models.

Relationships between FSIs and fintechs are becoming increasingly symbiotic and converged

Payments are transforming at the fastest pace in decades. FSIs and fintechs are becoming increasingly intertwined in the new financial ecosystem, both necessary to overcome the bottlenecks preventing them from reaping rewards from transformative change.

Previously distinct lines between FSIs, fintechs, governments, and other brands are being blurred as new innovations spring up and payments become increasingly embedded into cross-industry commerce.



While the FSI and fintech convergence gathers pace, the bottlenecks of the financial industry remain in place. To maximize the potential of both FSIs and fintechs in payments, **new technology platforms are needed to enable this convergence of domains.** Platforms that deliver a **data-anchored, flexible approach to payments optimization across a huge range of existing and future asset classes.**

Key examples of FSI and fintech convergence



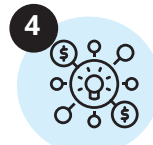
1 Decentralized finance: Cryptocurrencies and other decentralized finance (DeFi) platforms and asset classes are becoming key payments tools globally. FSIs are now exploring how they can benefit from this boom through a variety of different operating models. The underlying technology at the heart of cryptocurrency – blockchain – also forms the core underpinning of many CBDC projects across the world, highlighting the importance that fintech now plays in the future of global finance.



2 API interoperability: The open API revolution has opened up the entire financial ecosystem to interoperability with external partners. FSIs, fintechs, governments (through CBDCs), and brands are now interdependent. Fintechs now have access to key banking channels including customer data and are leveraging this access to build new services and propositions on top of this layer. FSIs can use their connections with partners to broaden their reach and to enhance their services using plug-ins and services which they were not able to provide previously. Delivery of payments is now far more likely to be a joint FSI-fintech effort.



3 Embedded finance: New technology platforms and other similar technologies mean that payments can be managed by a host of ecosystem partners vis-à-vis APIs. Payments have become far more intertwined into the full chain of transactional customer flows and the definition of payments itself has now been enlarged to include customer-facing platforms such as ecommerce marketplaces. Payments players must now be adept at working within these expanded platforms and understand the role that they can play to add value.



4 The Internet of Payments: The Internet of Payments enables millions of connected devices across the world from mobile phones to home appliances to be able to process payments. Universal access to payments processing capabilities through this technology platform will create the potential for huge new revenue streams derived from granular insights into customer behavior that can aid in KYC, KYD, and KYT decisioning. Both FSIs and non-FSIs can play key roles in enabling this Internet of Payments infrastructure such as in the provisioning of tokenization technologies to secure transactions.



5 Mergers and acquisitions: FSIs acquiring fintechs, fintechs acquiring FSIs, and joint ventures between the domains have made it harder to distinguish where the two boundaries between them lie. FSIs benefit from the new technology, fresh ideas, and new product propositions, while fintechs benefit from the expanded customer bases and funding available. These mergers bring the potential for much larger reach and product innovation than would be possible if the domains were kept separate and signal the converged future of finance that is being shaped.

Significant new opportunities arise from this FSI and fintech convergence

This convergence of FSIs and fintech brings significant benefits to both domains, enabling new shared value creation.

FSI and fintech convergence opportunities	
 Shared skills	<ul style="list-style-type: none"> Pooling together of resources with multiple talents from the traditional finance and technology fields allows for amplification of ideas and projects. Direct insight into strengths from other domains which can be leveraged for joint efforts.
 Technology design	<ul style="list-style-type: none"> FSIs can benefit hugely from fintechs that do not have the burden of legacy technology stacks and are able to use cutting-edge technology not considered by FSIs. Fintechs will need to understand how FSI technology stacks have been built up over time, as well as the bottlenecks and silos which have formed as they grow their businesses.
 Scalability	<ul style="list-style-type: none"> FSIs can tap on fintechs that use cloud- and platform-based approaches to quickly onboard new customers and release multiple new products quickly. Fintechs conversely can make use of the already significant customer bases which many FSIs already have, allowing them to quickly acquire a core group of customers as well as access to data.
 Regulatory foundations	<ul style="list-style-type: none"> FSIs spend significant amounts of their budget (up to 5% of revenue for some) on compliance costs alone. In return, they gain expertise and experience in regulatory matters. This knowledge can help fintechs navigate the regulatory maze much quicker, allowing them to launch and scale compliant products and services at pace.
 Risk mitigation	<ul style="list-style-type: none"> Similar to regulation, FSIs have decades of experience in risk mitigation in transactions as well as different asset classes across different markets. Their expertise could be offered to fintechs as a service to help create improved risk mitigation frameworks for products and services.
 Licensing	<ul style="list-style-type: none"> Depending on market regulations, fintechs may be tightly restricted as to what services and products they may offer, according to regulation. FSIs can offer their licensing for areas such as payments in return for revenue shares, allowing fintechs to expand their business and for FSIs to generate new revenue streams.
 Funding	<ul style="list-style-type: none"> Few fintechs can compete with the funding that FSIs can provide, so collaborations with FSIs can help fintechs develop their products and services with some degree of reduced pressure from the investment cycle. This brings focus on product creation and delivery rather than investment activities.
 Branding and trust	<ul style="list-style-type: none"> FSIs still have high degrees of trust with customers, above many other industries including tech which has come under fire recently due to privacy issues. Co-branding with FSIs from fintechs allows them to tap into the goodwill and value that customers place on FSI brands that have been built up over many decades.

Examples of finance and fintech convergence





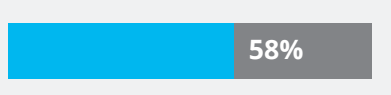
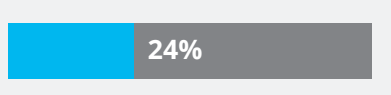





Stripe Treasury: Launched in 2020, Stripe Treasury gives Stripe's business customers the ability to use APIs to embed financial services in their own products. Stripe enabled access to banking capabilities through its partnerships with banks including Goldman Sachs and Evolve Bank & Trust. Stripe partners can directly access their finances from the platform that drives their business, allowing for a seamless experience.

U.S. Bank and NYDIG: U.S. Bank, through its collaboration with fintech NYDIG, launched its crypto custodian service in late 2021 to help investment managers store private crypto keys for their clients. The aim is to use the bank's brand to boost clients' trust in the custodian services. This marks an important shift in thinking from major banks about the value of different asset classes and their potential.

Mastercard creates BNPL network: Mastercard will enable both FSIs and non-FSIs to offer BNPL options for payments by plugging directly into the Mastercard network from the first quarter of 2022. IDC estimates that BNPL payments will be a US\$770 billion market by 2030. The Mastercard network offers easy access to BNPL capabilities for new and incumbent players.





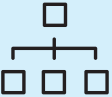


Evolution and future of payments technology

73% of FSIs globally have technology infrastructures for payments that are ill-equipped to handle payments for 2023 and beyond.







	Legacy		Digital native	Future ready
	Early	Modern		
 Period of build	1970s until 2000s	2000s until 2012	2013-2022	2023 and beyond
 Technology era	Mainframe era	Internet era	API and open era	Internet of Payments era
 IDC estimation of global FSIs with technology at this stage*				
 Architecture	Monolithic and siloed	Infrastructure managed through definition files instead of hardware configurations	Open architecture using containers for financial functions and API calls	Fluid architecture enabling rapid configuration of payments programs and processing of any asset class
 IT mission	Designed to service first generation of payments such as cards	Designed to meet new digital needs while maintaining continuity with legacy infrastructure	Breaking free of legacy using cloud and other platforms	Enabling payments anywhere through the Internet of Payments through any possible value unit
 Friction level	High – Mostly hard coded execution	Moderate – Coding languages more flexible but legacy still causing bottlenecks	Low – Barriers broken down by use of new technology platforms	Seamless – Integration between payments systems handled in fully fluid manner
 Integration/ interoperability	Minimal – Proprietary systems	Limited – Requires significant middleware	More – Platform-based approaches improve integration	High – Any system can be integrated quickly and seamlessly

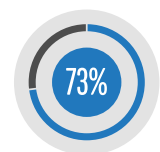
* Derived from IDC vertical markets survey 2020

Evolution and future of payments technology (Cont'd)

	Legacy		Digital native	Future ready
	Early	Modern		
 Speed to market	Slow – Manual creation of payments offerings	Moderate – Software built on legacy	Faster – New tools using cloud and APIs to hasten development time	Rapid – New payments engines which allow for quick creation of new payments products
 Extensibility	Almost none	Performed through heavy usage of middleware	Use of platforms to allow for flexible extensibility	Universal engine that can allow for any future extension road map
 Configurability	Almost none – Hard coding	Moderate – Legacy mass impeding easy configurability	High – Cloud and technology platforms allowing for quicker configurability	Fully flexible – Ability to configure any payments system free of interdependencies
 Payments era designed for	Cards	Online payments	Non-fiat, BNPL	Any present or future asset class
 Infrastructure model	Servers and mainframes	Server and cloud mix	Cloud and platforms	Fully platformized
 Embedded data capability	Almost none	Basic transactional IDs	Higher levels of data	Connected data – Able to interact with ecosystem connections
 Capex/opex	High	High – Both legacy and modern systems in use	Moderate – Reduction in costs due to cloud and less physical	Lowered – High reduction in costs as minimal physical infrastructure

The six trends are redefining the needs of payments technologies now and in the future

Six major payments trends	Effect on today's (2022) payments technologies	Effect on tomorrow's (2023 and beyond) payments technologies
 <p>1 Real-time payments driving payments experience innovation</p>	<ul style="list-style-type: none"> The need to be able to rapidly innovate and create superior payments products which fit in with customer lifestyle needs and deliver in real-time. 	<ul style="list-style-type: none"> Move to new payments engines which give payments players the tools to be able to innovate beyond just the front-end and rework the value which payments can deliver to customers.
 <p>2 Growing multitude of payment asset classes</p>	<ul style="list-style-type: none"> The need to support emerging asset classes such as non-fiat (including crypto) and other classes such as loyalty points which are being used by brands. 	<ul style="list-style-type: none"> The need to support not just current asset classes but future asset classes through a rethink of how value is accounted for in systems.
 <p>3 Increased competition and margin pressure from new entrants</p>	<ul style="list-style-type: none"> The need to break free from legacy systems to reduce opex and move to platforms which can enable agile and rapid development of new products to compete. 	<ul style="list-style-type: none"> Move to highly fluid and customizable payments platforms which have unlimited capability to create payments products based on API calls and both internal and external modules. Reduced costs through reduction of much of the current middleware.
 <p>4 Technology advancements creating new roles in the payments industry</p>	<ul style="list-style-type: none"> Re-architecting to new cloud and BaaS platforms which can enable quick customization and launching of new products and services. 	<ul style="list-style-type: none"> Platform technology that can enable payments to be performed and processed anywhere throughout the payments ecosystem such as smart devices and partner websites.
 <p>5 Regulatory moves shaking up incumbents</p>	<ul style="list-style-type: none"> Move to platform-based approaches which can improve integration with external partners. The need for more data in transactions to allow for more opportunities to be identified. 	<ul style="list-style-type: none"> Fully platformized infrastructure that enables seamless integration with data partners and allows for "smart" data-driven decisioning to occur at the point of transaction.
 <p>6 Push for integration and interoperability</p>	<ul style="list-style-type: none"> The need to find flexible payments platforms which can quickly integrate payments from different channels and across different asset classes. 	<ul style="list-style-type: none"> The need for payments platforms which can create seamless connections across any payment type or asset with quick configurability.



In order for the 73% of FSIs at the legacy and modern stages to move their technology capabilities beyond their current stages in preparation for the future, the bottlenecks of their present payments technologies need to be resolved.

Bottlenecks from legacy technology are impeding the payments industry

Three common issues stop much of the payments industry from being able to modernize payments products and offerings.

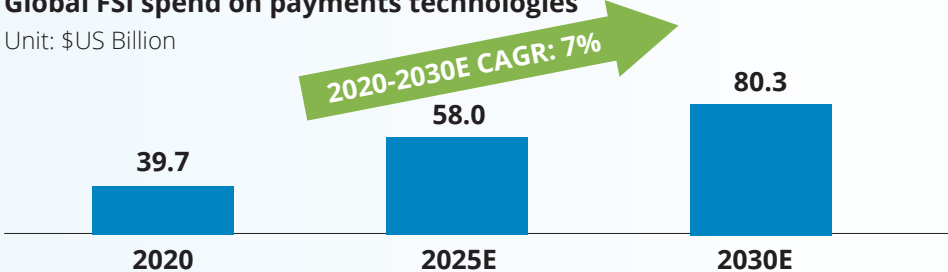


1 Too many legacy expenses and constraints

FSIs are still grappling with too much legacy mass which continue to rise. **Global FSI spending on existing payments technology is predicted to double to US\$80.3 billion in 2030, up from 2020's US\$39.7 billion.** This spend on legacy is constricting the growth and available budget for payments innovation, making it hard for them to be viable in an increasingly competitive industry.

Global FSI spend on payments technologies

Unit: \$US Billion

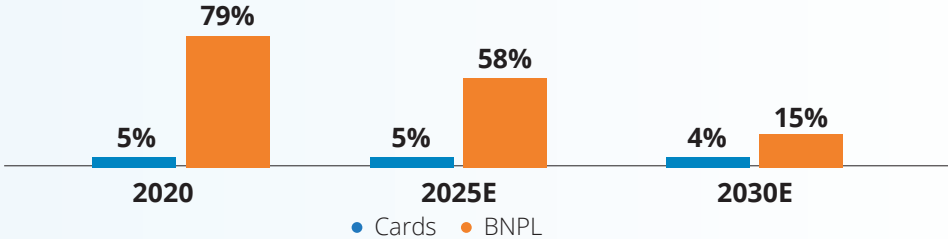


2 Technology silos are preventing innovation

Silos and hard-coded setups in payments infrastructure are impeding the ability to create innovative new payments products. New digitally native payments such as BNPL are outpacing credit card growth raising the question of whether legacy processing platforms for payments are equipped to facilitate the creation of new product concepts. **BNPL grew 79% in 2020, compared to 5% for cards, and will continue growing at a rate of 15% annually in 2030 compared to cards at just 4%.**

Global card versus BNPL transaction value growth rate

Unit: Growth rate versus previous year

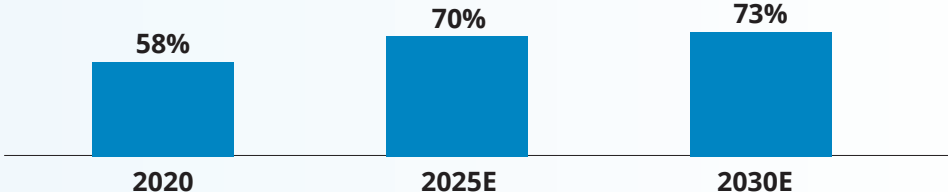


3 Lack of configurability is constricting go-to-market speed and the ability to evolve products over time as is needed to be competitive and profitable

Too much middleware is impeding innovation and agility in payments products. **IDC forecasts that by 2030, 73% of global consumer payments will be processed by non-FSIs on the Internet of Payments (mobile, smart, and connected devices).** Being unable to configure new payments models and revenues from data and partnerships, FSIs will surrender much of this payments revenue to more innovative and agile players.

Global consumer payments processed by non-FSIs on Internet of Payments devices

Unit: %



The payments industry needs to transform its approach to payments

Current bottlenecks in payments technology (especially for incumbent FSIs) need to be broken through to realize future revenue opportunities.



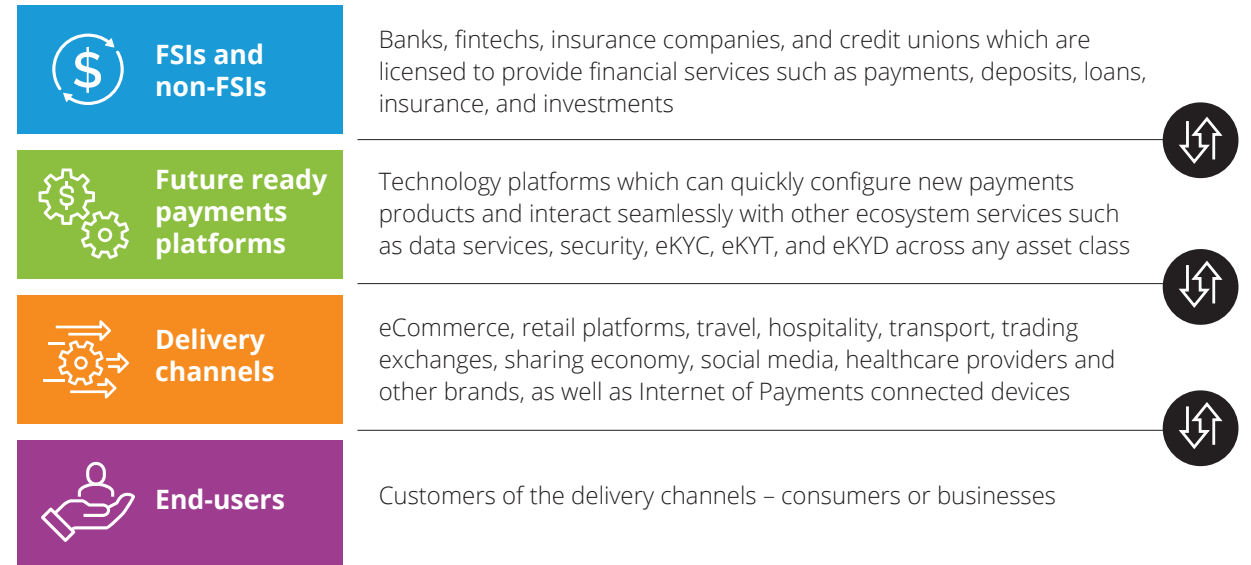
The rapid growth of non-FSIs in the payments services is a warning for the payments industry to change its approach to payments products.

It is no longer about owning payments, but in being able to find collaborative ways to work together on inclusive platforms. FSIs and non-FSIs are part of a payments ecosystem where each can excel if they find a way to create new value.

The future is moving toward payments everywhere and anywhere. Embedded finance and containers have been enabled by new technologies such as cloud computing and other development tools. Payments capabilities are now available to almost any organization and the industry needs new tools and platforms that allow them to plug into payments ecosystems seamlessly and rapidly configure enticing payments and products.

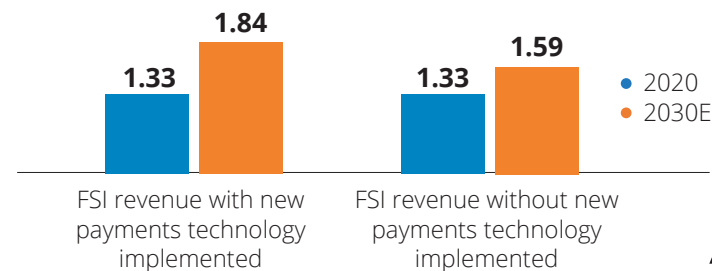
Payments functions and infrastructure will need to be more fluid and much more modularized to enable any institution to quickly create new payments propositions and integrate with a whole host of different payments systems across an expanding range of asset classes. The reduction in effort in dealing with backend middleware and integration with legacy will leave institutions in a much better position, allowing them to focus on driving payments products through differentiation in customer experience.

Future payments ecosystems



Global FSI payments revenue

Unit: \$US Trillion



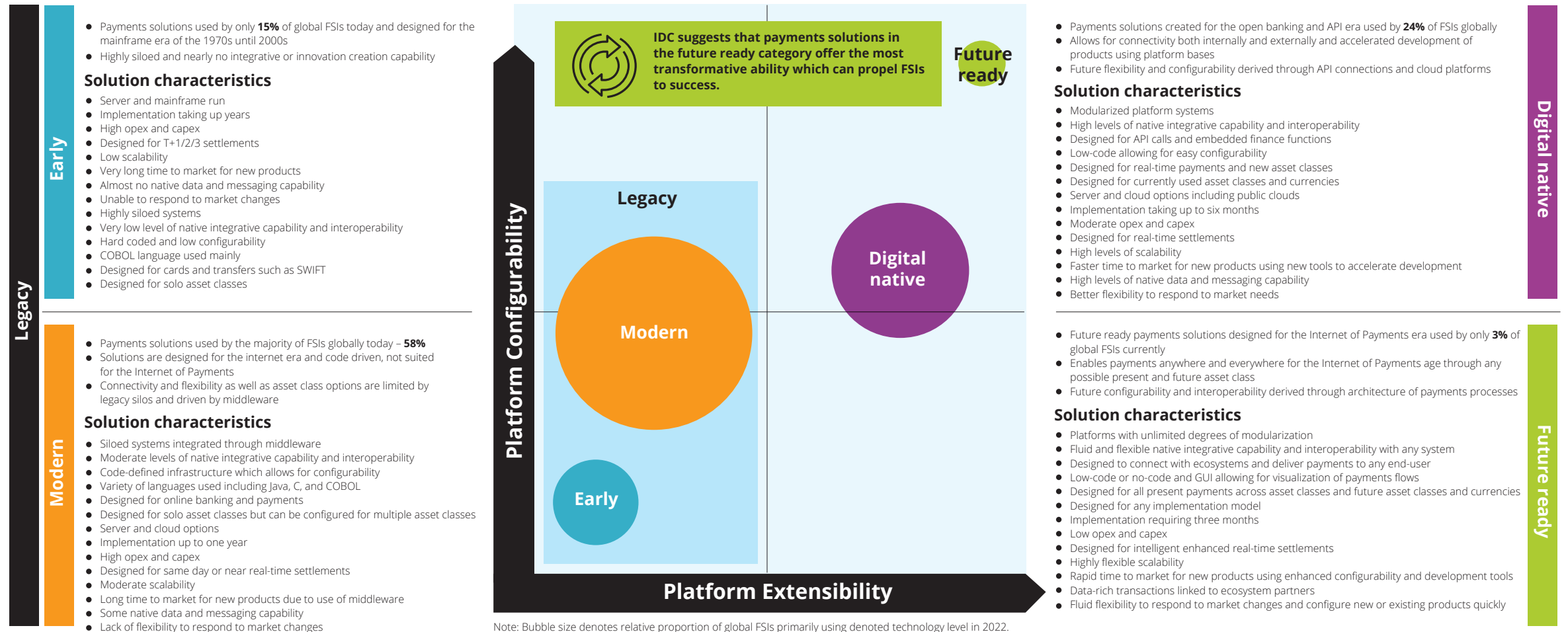
US\$250 Billion Displaced revenue

IDC estimates that the global FSI industry stands to lose US\$250 billion in payments revenue if it fails to adapt to the need for new payments platforms to create this transformation.

Source: Visa, Mastercard, American Express, central banks data, IDC Banking Spending Guide 2020

Future ready payments technology enables this payments transformation

For payments players looking to advance their payments propositions with technology solutions, they will need to look at the key dimensions of their solutions in: 1) platform configurability and 2) platform extensibility.





Value-agnostic platforms are key to enabling payments flexibility

Payments workflows and technology design in legacy platforms are steeped in traditional value definitions for asset classes which create significant problems for interoperability, integration, and the creation of new products.

The current silos around values for asset classes require extensive use of middleware for simple processes such as the conversion of debit payments to credit payments, or post-transaction migration from one currency to another. The 73% of FSIs globally which have technology infrastructure ill-suited for 2023's payments and beyond will continue to struggle with these processes unless they re-architect their channels to bring these silos down.

With tomorrow's payments platforms, platforms that are value-agnostic to processing any payment asset class can break down these silos created over many years of legacy. They can bridge the gaps between payments and asset classes such as between cards and bank accounts and create interoperability and integrative capabilities which are key to the development of flexible payments products and an efficient payments infrastructure for FSIs.

Common payment types and asset classes dealt with through the different eras of payments technology

	Legacy		Digital native	Future ready
	Early	Modern		
 <p>Common payment types</p>	<ul style="list-style-type: none"> ● Credit cards ● Debit cards ● Bank wires 	<ul style="list-style-type: none"> ● Credit cards ● Debit cards ● Bank wires ● Online payments ● Mobile ● QR code ● Contactless 	<ul style="list-style-type: none"> ● Credit cards ● Debit cards ● Bank wires ● Online payments ● Mobile ● QR code ● Contactless ● Domestic real-time payments ● BNPL ● Multi-currency cards ● Multi account cards 	<ul style="list-style-type: none"> ● Credit cards ● Debit cards ● Bank wires ● Online payments ● Mobile ● QR code ● Contactless ● Domestic real-time payments ● BNPL ● Multi-currency cards ● Multi account cards ● Cross-border real-time payments ● Internet of Payments ● And more
 <p>Common asset classes</p>	<ul style="list-style-type: none"> ● Domestic fiat currency ● Foreign fiat currency ● Gold ● Silver 	<ul style="list-style-type: none"> ● Domestic fiat currency ● Foreign fiat currency ● Gold ● Silver 	<ul style="list-style-type: none"> ● Domestic fiat currency ● Foreign fiat currency ● Gold ● Silver ● Cryptocurrencies ● Stablecoins ● Bonds ● Stocks 	<ul style="list-style-type: none"> ● Domestic fiat currency ● Foreign fiat currency ● Gold ● Silver ● Digital currencies ● Stablecoins ● Bonds ● Stocks ● CBDCs ● NFTs ● Brand loyalty points ● Digital rights ● And more



Example 1: Payments issuer configurability

A payments issuer such as a merchant bank using a platform that can deal with any asset class could configure payments made by either debit or credit cards to be converted in real-time to any other class of payment such as BNPL using extreme configurability. Instant smart decisioning may also suggest a potentially more suitable payment option to the customer at the point of sale. Transactions made on one issuer's card may even be transferred to another issuer's card if prior agreements with other issuers have been made. A range of plug-in APIs either prior to transaction or post transaction could run a variety of processes including identity verification, security, and AML checks before transaction authentication.





Example 2: Loyalty earning processes

A brand conducting online or offline business using value-agnostic platforms could configure their payments platform to directly accrue points to previously identified and verified payments tools such as cards. Instead of loyalty points being accrued on a separate loyalty system, the points can be treated like any other asset class such as fiat currency, by assigning them a value and identifier. When loyalty points are redeemed, discounts can be applied directly to the product through native conversion of value. This could also improve loyalty points exchanges with other brands that are also within the ecosystem. This means easier and instant conversion of points, reduction in the manual work at the backend to complete such transfers, and the economies of not requiring the implementation of a separate loyalty system in tandem.

How organizations can reimagine their payments propositions with new technology



New payments platforms that reshape payments workflows enable responsive and customized payments propositions, growing the value of players in an emerging market.

Key traits of future ready payments platforms

	Key benefit	New platform trait	How payments players can leverage	Key business improvements
1	 Revenue driver	Designed to connect with ecosystems and deliver payments to any end-user	<ul style="list-style-type: none"> Place payments products anywhere within the payments ecosystem value chain, without compounding complexity 	<ul style="list-style-type: none"> Derive new revenue from new payments opportunities with ecosystem partners
2		Designed for all present payments across asset classes and future asset classes and currencies	<ul style="list-style-type: none"> Create unique products which allow for value transfer across any asset class such as just-in-time funding solutions Future-proof the payments business 	<ul style="list-style-type: none"> Expand business to be able to cater to new customer segments and new revenue streams Allows for one-time implementation to cater to future needs
3		Designed for intelligent real-time settlements	<ul style="list-style-type: none"> Leverage data for instant decisioning and optionality on transactions 	<ul style="list-style-type: none"> Use data to refine and create new products to expand market share
4		Data-rich transactions linked to ecosystem partners	<ul style="list-style-type: none"> Connect with partners at point of sale to increase value of transaction 	<ul style="list-style-type: none"> Derive new revenue streams from partners and reposition organizational value in new complex ecosystems
5	 Cost reduction	Thinking beyond single payments product propositions, fluid and flexible native integrative capability, and universal interoperability	<ul style="list-style-type: none"> Integrate existing and future payments systems seamlessly, reduce existing middleware Create new multi-asset class payments propositions 	<ul style="list-style-type: none"> Reduce legacy burden and associated costs and complexity Service new markets and new customers through support of multiple asset classes including new classes
6		Designed for any deployment model including hybrid structures	<ul style="list-style-type: none"> Meet any regulatory requirement for payments systems, regardless of jurisdiction 	<ul style="list-style-type: none"> Reduce time and cost spent on compliance matters
7		Low opex and capex	<ul style="list-style-type: none"> Free up funds and lower internal costs of payments programs 	<ul style="list-style-type: none"> Redirect budgets to innovation projects in payments rather than legacy maintenance
8		Unlimited platform extensibility	<ul style="list-style-type: none"> Upgrade easily and add new functionality and capabilities easily as new needs emerge without changing platforms 	<ul style="list-style-type: none"> Maintain same platform for current and future needs, reduce the need for total platform overhauls, and ensure platform does not become a bottleneck in innovation

How organizations can reimagine their payments propositions with new technology (Cont'd)

Key traits of future ready payments platforms (Cont'd)

	Key benefit	New platform trait	How payments players can leverage	Key business improvements
9	 <p>Product innovation</p>	Platforms with high degrees of modularization/ configurability	<ul style="list-style-type: none"> • Create unique payments products which can service unique needs of various segments and sub-segments of markets by using multiple configurations 	<ul style="list-style-type: none"> • Create highly customized products for different customers which are highly attuned to their needs and capture market share
10		Rapid configurability and accelerated ability to evolve existing payments products as well as create new ones	<ul style="list-style-type: none"> • Respond quickly to market changes and dynamics • Reconfigure payments offerings to compete or launch new ones to lead the market 	<ul style="list-style-type: none"> • Quickly respond to shifts in customer demands and capture market share with new and flexible products
11		Flexible platform which allows for pick and choose selection of desired modules	<ul style="list-style-type: none"> • Configure fully modularized payments products which have functions and features independent of each other • Mix and match any module to create unique products 	<ul style="list-style-type: none"> • Create unique products which can use the best-of-breed modules throughout and reduce reliance on legacy technology relationships
12	 <p>Create scale</p>	Low-code or no-code and GUI, allowing for visualization of payments flows	<ul style="list-style-type: none"> • Faster time to market for payments products and ability to visualize transaction flows 	<ul style="list-style-type: none"> • Reduced development time and costs • More competitive footing in payments market
13		Rapid implementation and ability to customize – implementation requiring three months	<ul style="list-style-type: none"> • Quicker launch of new products and less expense on implementation 	<ul style="list-style-type: none"> • Reduced downtime and implementation period • Configure platform to meet any payments needs
14		Easy scalability as workloads and customer demands increase	<ul style="list-style-type: none"> • Quickly expand product bases without bottlenecks • Maintain consistent service quality as channels grow while minimizing downtime and crashes 	<ul style="list-style-type: none"> • Quickly acquire new customers and revenue without technology limitations or expansion related setbacks, maintain consistent service levels, and maintain customer satisfaction

Case study:

ARYZE universal banking platform – breaking down the barriers of payments

ARYZE is a Danish fintech which aims to create a full reserve digital bank with cloud-native banking software. This **cloud-native banking solution** was created with its partners Episode Six and IBM and is at the heart of its developments in banking, wallet platforms, and Digital Cash. The fintech's innovative solutions in payments and banking point the way to the **creation of new value for customers**.

ARYZE's **Digital Cash** serves as the digital equivalent of existing fiat currencies issued by governments across the world and is fully backed by central bank assets and deposits. However, it **can be sent anywhere around the world through blockchain networks**. ARYZE's interoperability to blockchain will make money programmable, lowering the cost of money transfers to the minimum, boosting financial inclusion and participation.

ARYZE is able to achieve interoperability of any government currency in digital form with different blockchain networks using Episode Six's Tritium payments platform, which enables the architecting of payments into value-agnostic streams. This **new approach to processing payments** enables ARYZE's Digital Cash to be issued across not just blockchains but to any other exchange or delivery channel such as FSI and other brands.

On the end-user side, ARYZE is developing a wallet which forms the primary interface for consumers and allows for **cheap, real-time remittance across any currency and location**. It can also connect to existing banking and payments rails.

Key to this success is interoperability across the globe. Instead of new payments networks, it acts much like a universal conversion engine, allowing for any currency or asset to be sent anywhere.

“

ARYZE is able to achieve interoperability of any government currency in digital form with different blockchain networks using Episode Six's Tritium payments platform, which enables the architecting of payments into value-agnostic streams.

”

Enabling technologies: Amazon Web Services

With the emergence of future ready payments platforms to drive new growth in the payments industry, the required technology infrastructure to deliver this innovation becomes a critical part of the transformation process.

Flexible and scalable infrastructure designed for transformation in payments



Amazon Web Services' (AWS) deep experience in the payments industry, and its mature cloud platforms and tools, position the company well to enable customers with their future ready payments innovation. AWS helps payments organizations pioneer new products, improve operational resiliency, and scale rapidly.

Enhanced conceptualization, development, and release of innovative new products



AWS's global infrastructure network means the company can enable rapid payments platform deployments and drive new offerings across multiple geographies. By using AWS services, customers are able to release new services quickly, initiate updates to platforms in real-time, and use the flexibility and scalability of AWS infrastructure to innovate with experimental and conceptual products and services – without requiring prohibitive physical infrastructure or software investments.

Removing the legacy boundaries and creating new efficiencies that transform business performance

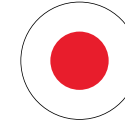


For payments organizations in particular, legacy technology hampers both innovation and transformation. AWS infrastructure provides a fully cloud-native platform that offers an optimal environment for massive scale real-time operations required from new payments initiatives. This shift away from legacy technology to cloud can also deliver significant potential cost savings.

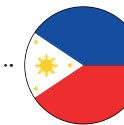
In conjunction with its global partner network, of which Episode Six is a member, AWS has positioned itself as a key business and technology enabler for innovative payments organizations. The company offers organizations access to a significant number of cloud services that can deliver new payments solutions and experiences, solve real customer problems, and scale rapidly – while reducing operational costs.



A Brazilian digital banking challenger created and launched a new mobile credit card platform in only seven months using the AWS platform, leveraging cloud infrastructure to accelerate development, testing, and rollout.



A large financial services provider in Japan expects to realize US\$33 million of IT cost reductions over a decade by migrating 80% of its core systems to AWS infrastructure.



A major financial services provider in the Philippines is scaling through AWS to run nearly 400 mission-critical applications in the cloud, allowing them to reach more customers in difficult-to-service segments.

Beyond financial services, industries can leverage such payments platforms to create unique offerings

The advent of new payments platforms will have a transformative effect on any organization that deals with payments and is not limited to financial services. A huge range of industries can transform their payments functions into in-house banking units, creating opportunities not possible with legacy technology.

Multi-industry opportunities from payments platform transformation



FSIs

Banks, neo banks, credit unions, insurance

- Utilize new payments platforms to break free of legacy constraints and create dynamic new payments products.
- Reposition themselves in the payments value chain.
- Create new value and utility for payments and capture market share.



Non-FSIs

Payment aggregators, money transfer, crypto exchanges

- Leverage new payments platforms to further increase the reach and utility of their payments products.
- Create unique propositions for the market by offering embedded payments capability throughout the ecosystem.



Travel and hospitality

Hotels, airlines, travel aggregators

- Use new payments platforms to transform loyalty and customer experience.
- Form ecosystem partnerships in insurance, commerce, and other industries which can boost revenue.
- Reduce manual work needed in loyalty scheme management.



Healthcare

Healthcare providers, hospitals, online health portals

- Use new payments platforms to cut through the inefficiencies of healthcare payments.
- Connect directly and seamlessly with insurers and other parties in the healthcare ecosystem for verification on patient status.
- Create wallets and other payments tools to increase efficiency.



Commerce

eCommerce, retail, food & beverage, sharing economy services

- Revamp payments experience for customers, allowing for any currency or asset class to be accepted as payments.
- Create specific payments propositions to meet customer needs and reach wider audience.
- Integrate payments directly with loyalty and transform experience.



Social media and entertainment

Social media apps, theme parks, gaming

- Process payments from any currency or asset class and transform online platforms into in-house banks.
- Handle fiduciary currencies such as game coins or platform currencies in same manner as fiat and create unique payments products aimed at demographics.



Telecommunications

Cellphone networks, mobile money services

- Create unique payments propositions from huge telco user base.
- Quickly create ecosystem partnerships with partners such as fintechs for loans or credit bureaus.
- Generate new revenue streams through collaboration with other partners.

How ready are you for the future of payments?

The payments technology landscape is fast-evolving to meet the reimagined future of payments. How quickly businesses overcome inertia and embrace it will determine tomorrow's winners and losers.

Self-assessment questions to reflect on your requirements

- 1 Is current legacy technology creating constraints on the development of payments products in areas such as scalability and customization?
- 2 Are payments-related budgets continuously increasing each year?
- 3 Are your payments products losing market share against new digital competition?
- 4 Are your competitors already taking advantage of extensive customizability and integration to accelerate their digital transformation?
- 5 Are you looking for a payments solution which offers more flexibility in creating payments products?
- 6 Is the looming ISO 20022 deadline a major concern?
- 7 Do you need help to build a business case around ROI justification for payments revenues?



If these questions are relevant to your situation, you need to consider this guidance

Essential guidance

IDC suggests the following guidance for those looking to advance their payments propositions:



Payments are changing quickly and platforms need to offer more: Seek payments platforms with true levels of innovation that enable you to leverage those properties and create your own differentiated payments products and solutions.



Prepare for the future: Understand the speed that new payment types are appearing at and seek platforms that are flexible enough to allow you to handle both current and future channels.



Understand the benefits of value-agnostic payments propositions: Much of the work in payments technologies today focuses on integration of payments systems originally designed for silos. Value-agnostic platforms can help break free of much of the legacy burden.



Understand the value of the ecosystem: There are multiple points in payments ecosystems where payments players can fulfill potentially lucrative roles. Be creative in forming partnerships and seek platforms which can enable this creativity.



Prepare for the age of intelligent payments: Equip existing systems with the ability to retrieve and analyze data from initiatives such as ISO 20022. Look to cooperate with partners that can provide platforms to do so.

Message from the Sponsor

There are new ways to pay. E6 is building them.

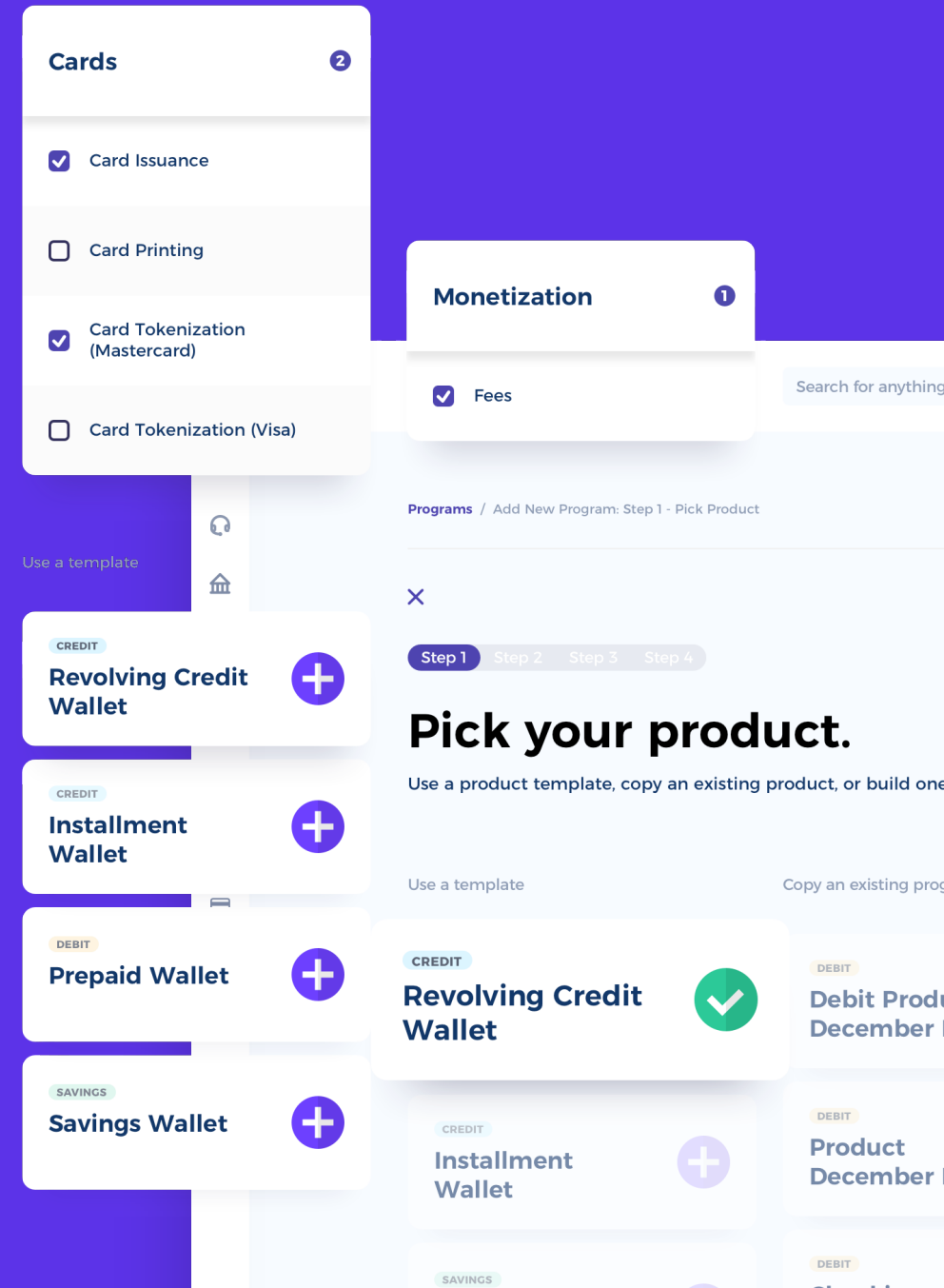
In any form, in any way, and between anyone.

Episode Six powers market-leading payment propositions across the globe by giving banks, fintechs, and brands the freedom to design and launch digital payments products with incredible speed and across any imaginable value unit. E6 offers:

- An adaptable and extensible global-ready platform
- Market leading product configurability
- A native multi-asset ledger for transfer of any value unit
- Seamless integration into global and local systems and networks
- Configurable issuer processing and card products
- UI for fast, on-demand product design via a ready-to-launch product catalog
- Digital wallet management across deposit, credit, savings, and loyalty rewards

Learn more about e6Designer, the first-of-its-kind UI that allows you to design and launch new payments products extremely quickly and right from your laptop. pages.episodesix.com/e6designer

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