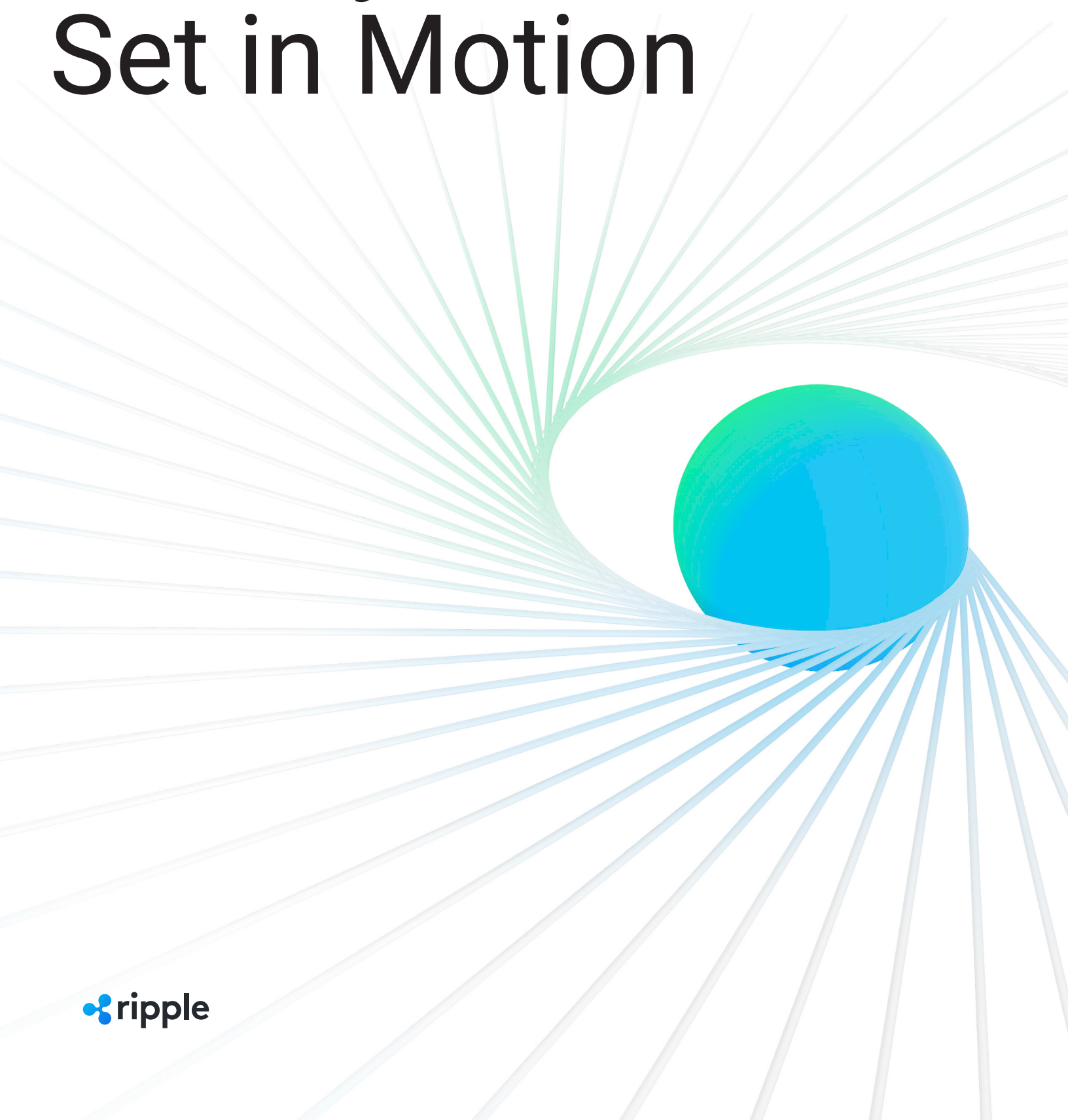


Findings from

Ripple's Blockchain in Payments Report 2019

The Flywheel Set in Motion



The second annual Blockchain in Payments Report reveals widespread adoption of blockchain-based payments by financial service providers. Strong adoption signals that both customers and providers have proven the value and feasibility of blockchain. Moreover, trust has been won.

To further fuel innovation and increase adoption speed, factors including simplified implementation and regulatory clarity are necessary. These factors are highly likely to be met over the next two years given the competitive drive exhibited by survey respondents and the collaborative efforts of providers and regulators.

Blockchain implementation became mainstream the past two years:

35%

of respondents are in production and 27% are nearing implementation. Of those in production, 68% state they have deployed during the past two years.

More respondents view blockchain as means to fuel growth ambitions:

31%

of respondents see opportunity in using blockchain to both expand existing services into new regions and introduce new services in existing regions. This is up from 21% in 2018. 67% recognize the cost efficiency of a blockchain network offering one API connection to many payout partners.

Payments providers with market expansion goals dominate early adopters:

41%

of respondents in production with blockchain are seeking to expand geographically while 33% have product scope expansion goals and 26% have both.

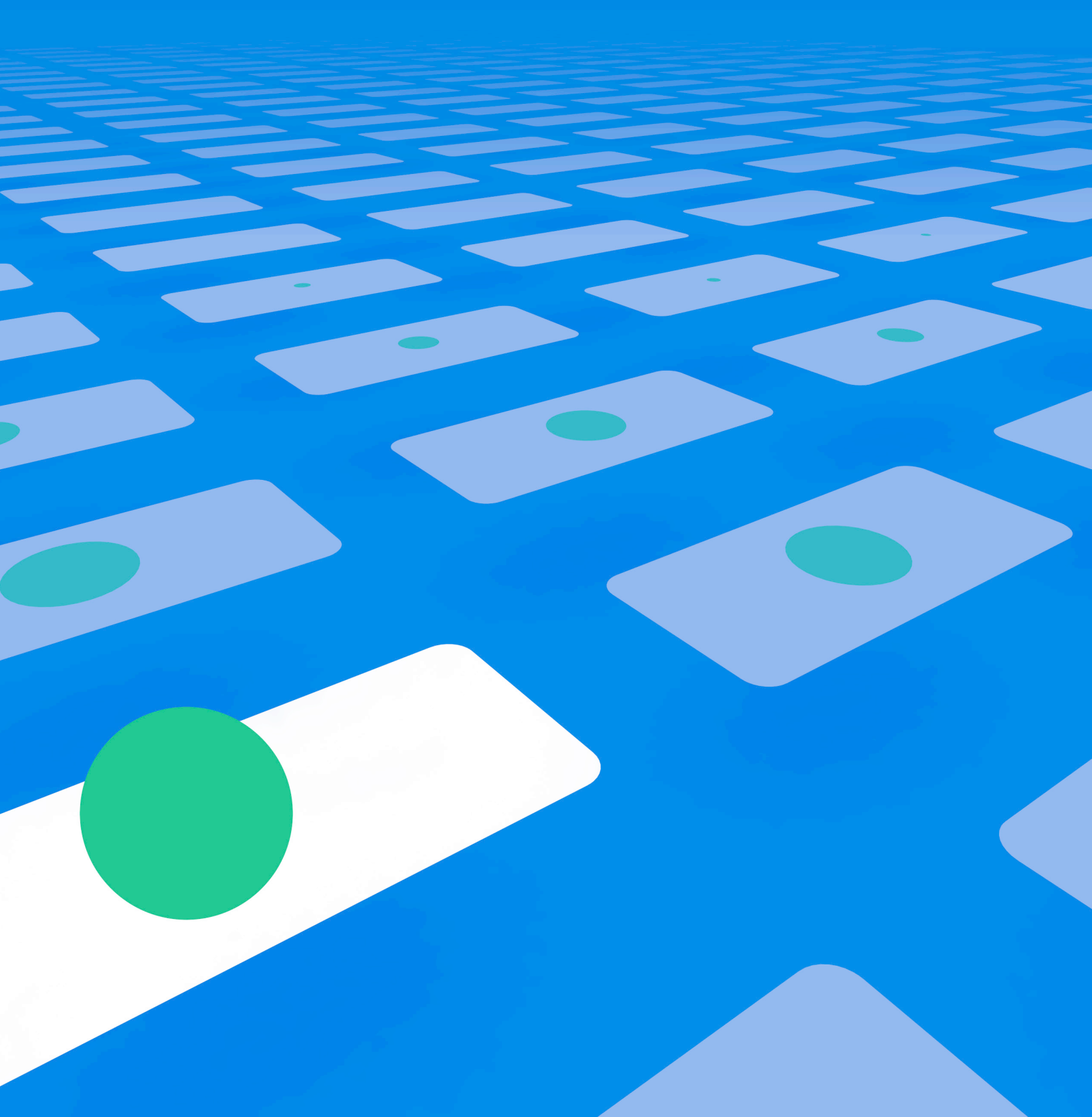
Interest in digital assets is strong:

75%

of respondents are very to extremely interested in digital assets. Interest jumps to 85% for those who are already using blockchain in production.

SECTION I

Introduction



The world today is hyperconnected.

With nearly 55% of the world's population online, it's never been easier for people to connect, engage with one another and share what's on their mind. Most of these people access the Internet on their phone instantly and from anywhere in the world. In fact, recent research shows that 60% of people worldwide have Smartphones¹ and approximately 87% have mobile phone coverage across the globe.² With the click of a button, people exchange information in an instant and tap into resources never thought imaginable a decade ago.

Yet, while this ability to exchange information has become commonplace, the ability to exchange value remains complex, unreliable and expensive to many. This year's Blockchain in Payments Report examines how payments service providers use or plan to use blockchain technology and digital assets to overcome these challenges and change the way the world moves money.

To innovate in payments requires building trust. The report shows that this trust in payments is not only a paramount concern but also is inextricably linked with transparency, reliability and a positive user experience. In addition, responses show that fair pricing is a capstone of this trust, and that a foundation of security underpins these critical building blocks.

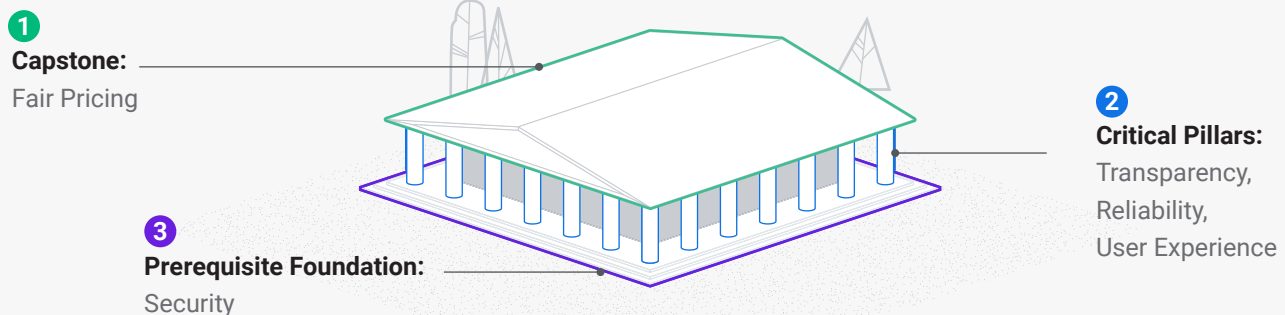
The top factor eroding consumer trust in financial services companies is the lack of product and cost transparency.³

Because building and maintaining trust are vital to payments service providers' growth and sustainability, new technology, like blockchain and digital assets, offers an opportunity to expand their services and address the attributes that help earn trust. Moreover, consumers show increasing comfort using innovative global payment solutions and interfaces. In fact, they expect their financial services providers to innovate on their behalf.

73% of consumers worldwide expect their financial services provider to "lead on creating and using emerging technologies that make doing my business with them easier."⁴

The global payments service providers that outperform in earning trust will differentiate themselves and win market share. But today, customer confidence is on shaky ground. According to the 2019 Edelman Trust Barometer,⁴ financial services is the least trusted sector and the technology sector also ranked low in consumer confidence. The time is now for financial service providers to adopt new technology and address lack of transparency, high fees, payment failures, fraud and breaches in payments.

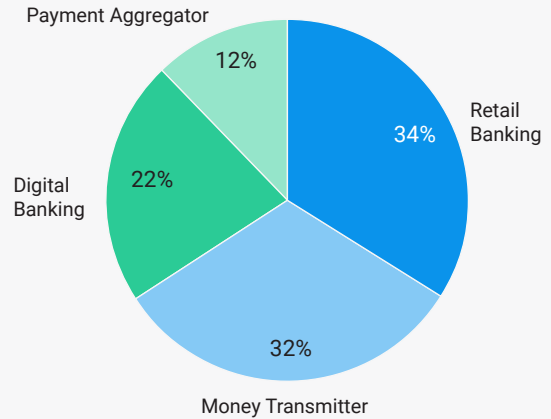
Building Blocks of Trust in Payments



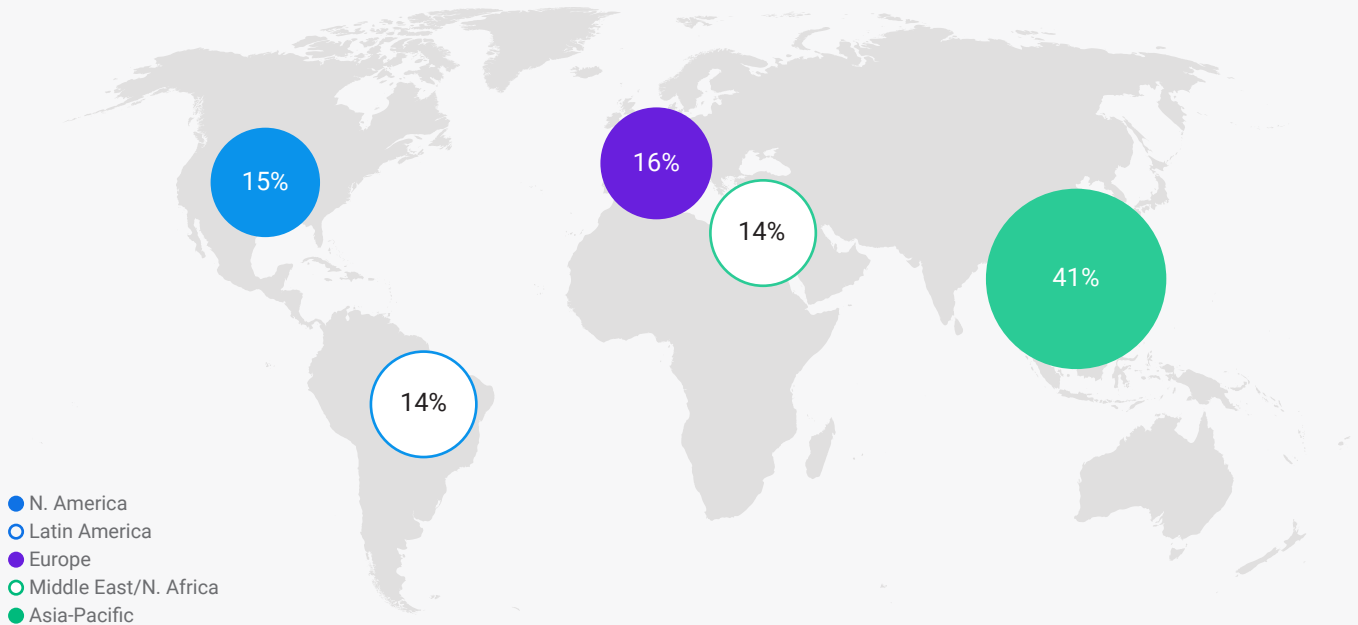
Survey Respondents

Conducted in August and September of 2019, the Blockchain in Payments Report analyzed data from 1,053 respondents across 21 countries who are directly involved with payment services at their organization. In order to have a country mix that represented the addressable market for blockchain in payments, the responses were weighted based on total in and outflow of remittances at the country level. The survey was conducted by a third-party and did not target Ripple customers. The analysis was carried out jointly by Ripple and Celent.

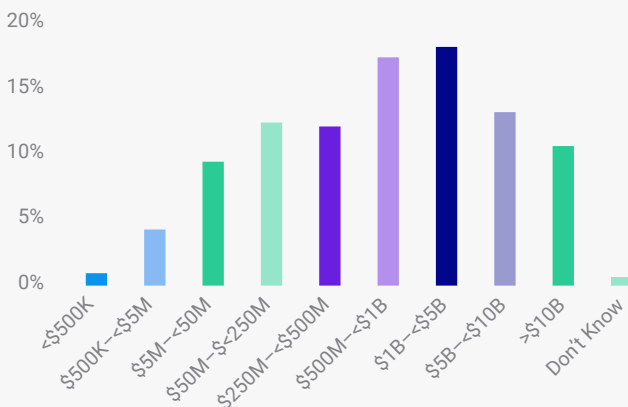
Company Industry



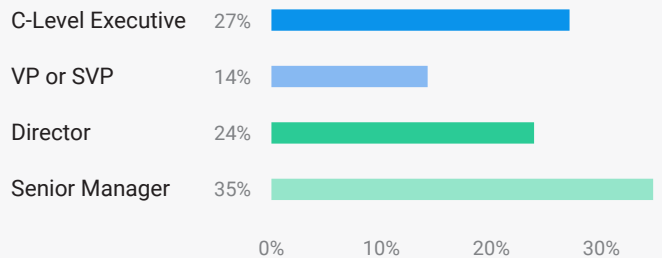
Company Headquarters



Company Size (in Revenue)



Respondent Title



The Flywheel Effect

The spinning flywheel is a good analogy for the pace of blockchain and digital asset adoption. Flywheels used in heavy industry require significant energy to start spinning, but once they gain momentum, tend to continue spinning. The flywheel is spinning for blockchain and digital asset adoption, but the industry must still overcome key challenges to move the wheel for adoption faster.

In blockchain and digital asset adoption, the “energy” lies in proving business and customer value and technical feasibility—in the 2018 Blockchain in Payments Report, early adopters proved value and technical feasibility.

The “spinning” trigger is proving viability by scaling this technology across the majority of respondents. For the flywheel to spin faster, it requires expediting implementation for financial institutions, gaining regulatory clarity and the boost that digital assets offer when paired with blockchain technology for cross-border payments.

The Flywheel for Blockchain in Payments

- **Value and Feasibility**

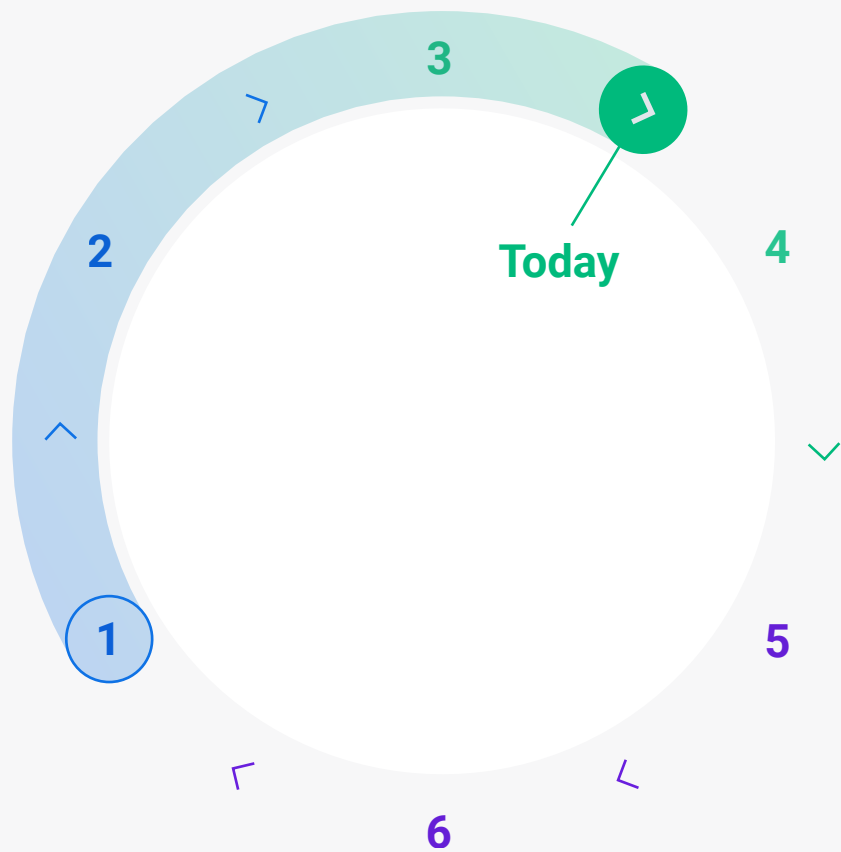
- 1 Proving value
- 2 Proving feasibility

- **Scalability**

- 3 Moving to production
- 4 Building trust and demand

- **Flywheel Effect**

- 5 Expediting move to “go live”
- 6 Boosting with digital assets



SECTION II

Proven Value and Feasibility



In blockchain and digital asset adoption, the “energy” to generate the flywheel effect is proving value and feasibility: value to the end customer and provider, which ranges from reliability and speed to greater market access, and feasibility to the provider, essentially, that the technology works.

Value: Demand and Market Opportunities

Last year’s Blockchain in Payments Report found that respondents had strong ambitions to expand their offerings in terms of both product scope and geographic distribution. The vast majority, 87% of these respondents, were considering implementation of blockchain technology to realize their ambition. In addition, only 18% had already deployed or were near deployment.

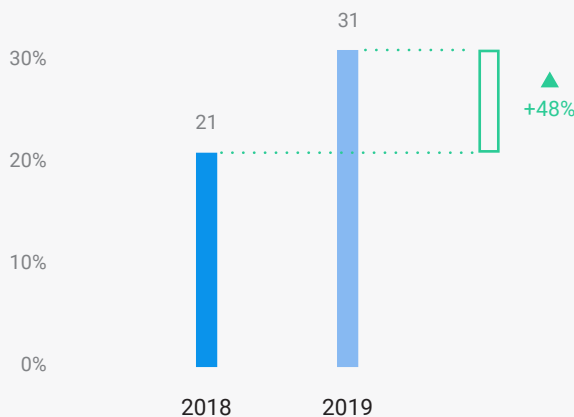
Not only do this year’s respondents see greater market opportunities, the majority of them (97%) are either implementing or evaluating blockchain technology to capture these opportunities. They also express a stronger understanding of blockchain’s strengths than last year’s respondents:

- Respondents see opportunity to double down in cross-border payments by both expanding existing services into new regions and introducing new services in existing regions.
- They perceive stronger demand in three of the top four cross-border payments services: digital payments for goods and services, mass disbursements and remittances. Of the three, remittances show the strongest jump in perceived demand, especially by respondents who are in or near production with blockchain technology for payments.

This dramatic increase in exploration and adoption can be attributed to broader education in the market about the benefits blockchain offers and heightened competition is driving more innovation industry-wide.

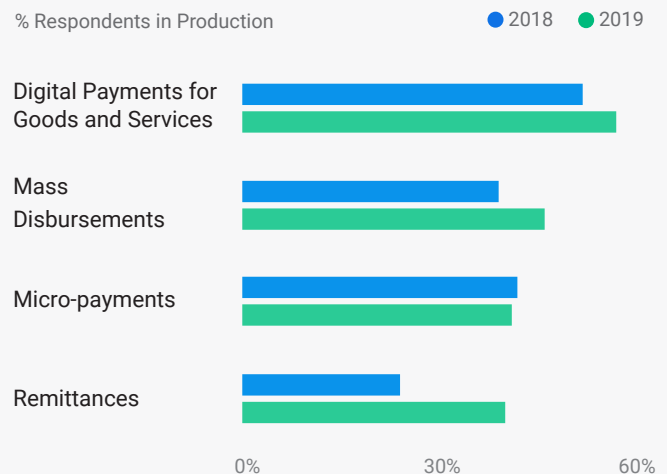
Opportunity to Double Down in Cross-Border Payments

31% of respondents see cross-border payments market opportunities in terms of both expanding existing services into new regions and introducing new services in existing regions.



Stronger Demand in Remittance

Spike in demand for remittances is followed by mass disbursements.



Value: Strong Recognition of the Benefits of Blockchain

Reliability, greater market access and speed rank in the top four benefits for both early adopters (respondents in production) and late adopters (respondents in conversation).

Value at Both Ends of the Adoption Spectrum:

Top Four Blockchain Strengths for Cross-Border Payments

Early Adopters

1. Reliability
2. Greater Market Access
3. Better Exchange
4. Speed

Late Adopters

1. Reliability
2. Speed
3. Greater Market Access
4. Transparency

99% of respondents see at least technology for payments (up from 88% in the 2018 report).

97% are either implementing or evaluating blockchain to capture new market opportunities in payments (up from 82% in 2018).

Greater market access is of top importance to two types of respondents in this year's survey: those in advanced markets (based on = Classifications⁵) and those that lead with digital channels (meaning that half of business occurs through digital channels).

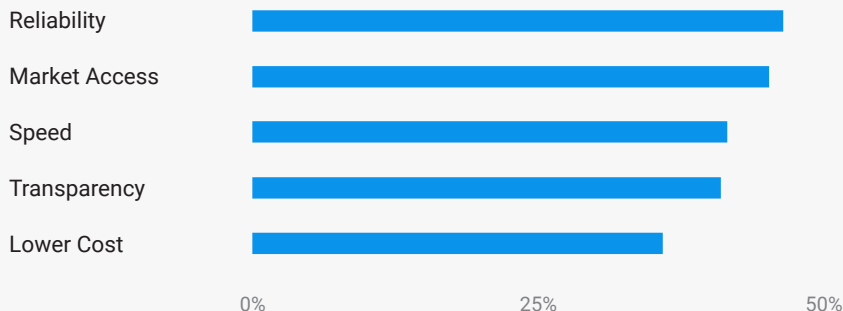
In particular, as respondents' experience with blockchain grows, so does their recognition of its benefits. This is evidenced by the sharp increase in the share of responses for those who fall in the early adopter category compared to the percentage who fell into this category last year—identifying reliability and market access as immediate benefits of implementing blockchain technology in cross-border payments.

Blockchain Experience Drives Greater Perceived Value

Respondents in production recognize blockchain benefits.

% Respondents in Production

● 2019



Feasibility Proven by Rise in Adoption Rates

Early movers prove that the technology is working. The growth surge in blockchain adoption for payments over the past two years offers the most profound support for this statement, with 35% of this year's respondents in production and 27% nearing production. Of those in production, 68% say they deployed during the past two years.

A second wave of adopters is visible: 23% of respondents in production have made the move during the past year while 45% moved two years ago.

Most of these early movers deploy blockchain incrementally, in the strongest use case. For example in remittances, they typically begin with one or two corridors, perhaps corridors in which they historically had difficulty pre-funding; and then based on their learnings and results, extend to additional corridors and use cases. As more results driven benefits are seen in remittances, some respondents are considering launching services for small-to-medium enterprise, leveraging the same infrastructure but allowing for higher value payments.

Competitive Heat Driving Adoption

In addition to market validation of blockchain's business value and technical feasibility, the increasing competition in cross-border payments is driving adoption. Pressure to launch enhanced payment services is high across provider types, from traditional banks to digital-first payment providers. Critical differentiators include price, geographic coverage and user experience. In particular, the "challengers," that is, those competitors striving to expand product and geographic scope and/or boost the share of their business that is done digitally, reach above average adoption rates.

Digital Challengers:

69%
in or moving into
production

Respondents whose
business is 51%-75%
digital

Product Challengers:

65%
in or moving into
production

Respondents offering
over six services*, a
third of the sample,
and those seeing
opportunities in offering
new services

*This includes messaging applications enabling payments, business accounting software, e-commerce gateway / payment services, digital wallet, payment processing, SME cross-border payments and banking services.

SECTION III

Broaden Adoption: Trust and Economics



For the blockchain adoption flywheel to build momentum, it requires two critical elements: trust and attractive economics.

The mainstream adoption of blockchain is further dependent on building trust among both end customers and global payments service providers. It takes time to develop and maintain confidence across these critical paths, like those in payments.

The Building Blocks of Trust

For the end customer, trust is built upon a foundation of security with pillars of transparency, reliability and positive customer experience. The capstone is fair pricing. In fact, the top factor eroding consumer trust in financial services companies is the lack of product and cost transparency.³

For survey respondents, security ranks first in terms of blockchain’s operational benefits, slightly ahead of transparency. Security includes fraud mitigation, hacking

prevention and robust compliance. In particular, early adopters and digital-first payment service providers value security more than others, including late adopters and providers with less than 25% of their business being digital. Regarding transparency, respondents in production are more likely to state it as an operating benefit.

Attractive Economics

It is early days to quantify the economic benefits of blockchain implementation. Respondents point to new revenue generation and cost savings. On the revenue side of the equation, 41% of respondents see blockchain providing greater market access, allowing them to extend their services to new geographic areas. The percent jumps to 47% for early adopters of blockchain.

66% of respondents stated that one API yields operational cost savings.

Additionally, two-thirds recognize the cost efficiency of having one standard API connection to many payout partners. Respondents also attribute faster time to market (62%) and greater internal standardization (60%), both of which yield cost savings, with more streamlined integrations.

Building Blocks of Trust in Payments

Capstone

Fair Pricing

- Customer perception
- Price breakdown

Critical Pillars

Transparency

- Payment timing
- Payment status
- Upfront information on total transaction cost

Reliability

- Zero down time
- Minimization and correction of errors
- Confirmation of payment receipt

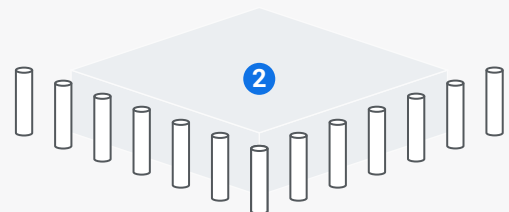
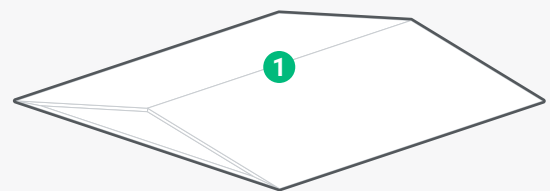
User Experience

- Easy access
- Simple, short workflow

Prerequisite Foundation

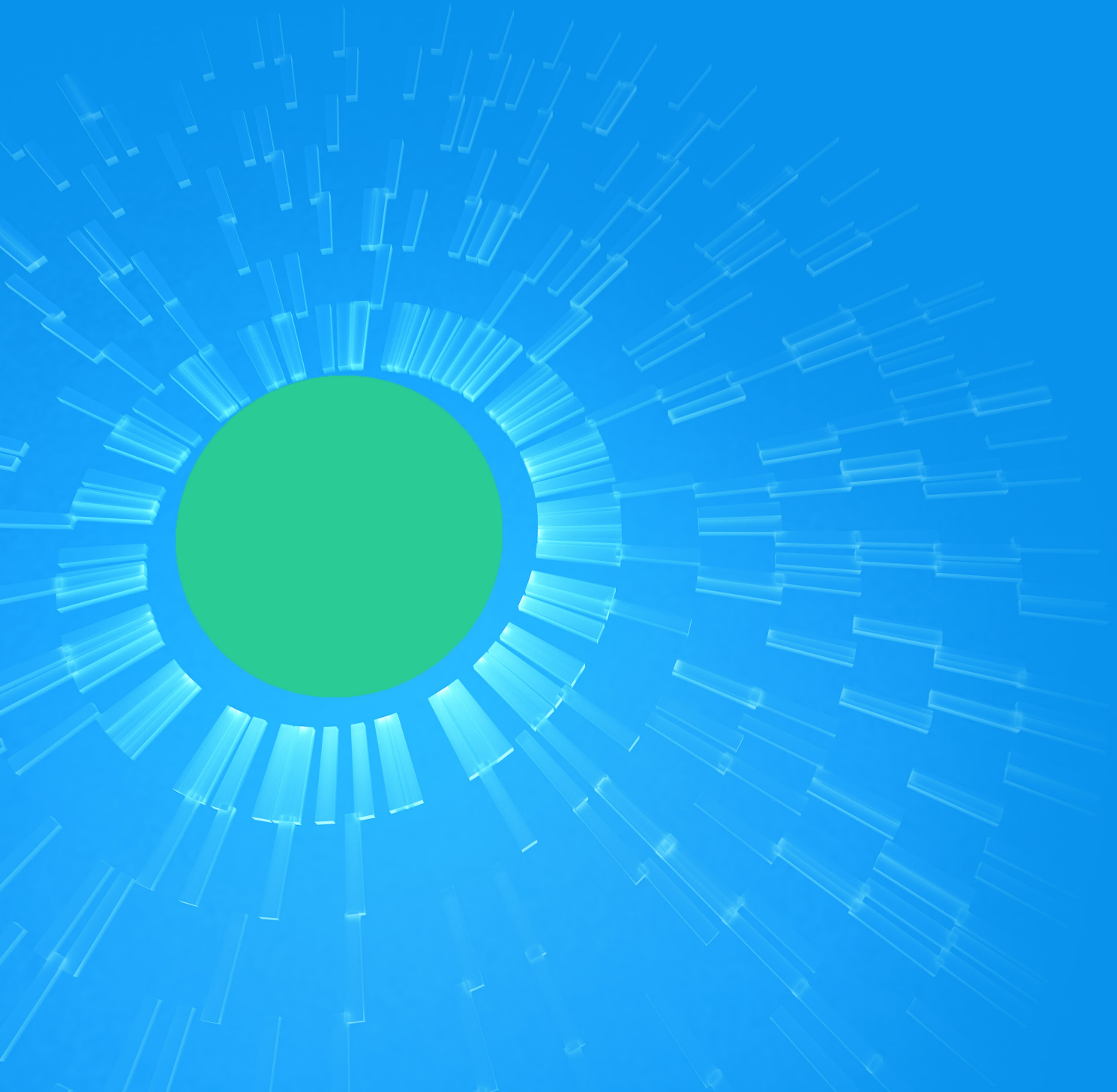
Security

- Fraud mitigation
- Hacking prevention
- Robust compliance



SECTION IV

Spinning the Flywheel



The flywheel has been set in motion.

Several drivers including faster implementation, regulatory clarity and digital assets can generate more momentum and increase the speed of the flywheel effect for blockchain adoption.



The flywheel, when properly conceived and executed, creates both continuity and change. On the one hand, you need to stay with a flywheel long enough to get its full compounding effect. On the other hand, to keep the flywheel spinning, you need to continually renew, and improve each and every component.

Jim Collins, author of *Turning the Flywheel: A Monograph to Accompany Good to Great*

The Blockchain in Payments Flywheel

- **Value and Feasibility**

- 1 Proving value
- 2 Proving feasibility

- **Scalability**

- 3 Moving to production
- 4 Building trust and demand

- **Flywheel Effect**

- 5 Expediting move to “go live”
- 6 Boosting with digital assets



Fast Implementation

Expediting implementation is imperative to “mainstreaming” adoption.

Slightly over a third of respondents are concerned about blockchain and the use of digital assets as “difficult to integrate” (35%). A smaller percent view integration as being “too expensive” as well (28%).

Given the growth in migrations from pilot to production over the past two years, blockchain technology providers now have lessons to draw upon and sufficient experience to develop playbooks. Best practices speed up implementation times, helping financial institutions overcome hurdles in integrating with legacy systems, ensure regulatory compliance and more. Technology that once could take over a year to plan, design and move into production, can now be deployed in just a few months.

Regulatory Issues

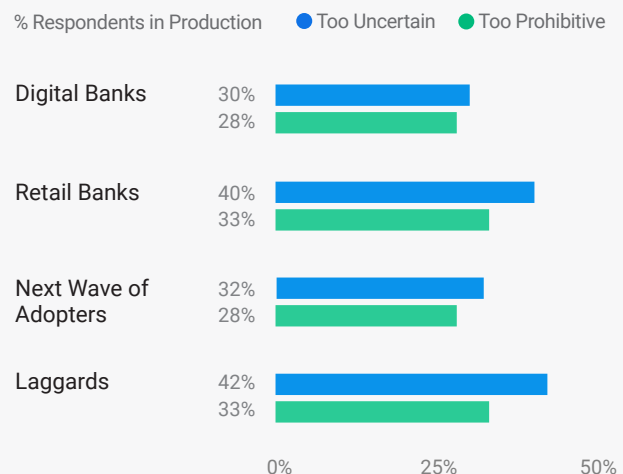
Around a third of respondents state regulatory concerns in their evaluation of blockchain and digital assets: 35% state that regulations are too uncertain, while 32% believe that regulations are prohibitive. These regulatory concerns, however, vary notably by a payment service providers’ adoption stage, level of digital channel usage and location.

Not surprisingly, the next wave of adopters (those nearing implementation) are less concerned about regulation than the late adopters (those in conversation). Similarly, digital banks that have already transformed the bank model are less concerned than traditional retail banks. Respondents in emerging markets have even stronger concerns about regulations being prohibitive, and advanced markets are the most concerned about uncertain regulations.

However, in markets where regulators have made public their regulatory framework for blockchain-based initiatives, respondents are notably less concerned about regulation being too prohibitive (only 28% are concerned versus 34% of respondents in countries where regulators have either sent negative signals or have established stringent regulations).

Regulatory Concerns Vary Across Provider Types

Digital banks and the next wave of blockchain adopters are relatively less concerned compared to traditional providers and late adopters.



The Need for Speed: Digital Assets

Changing public sentiment by fintechs, banks and regulators regarding digital assets signals an increasingly vibrant market for this technology. A few global banks are exploring the potential of stablecoins and digital currencies, and some central banks are evaluating the potential of central bank digital currencies. For all of these examples, the primary use cases center around cross-border payments and trade settlement, in particular bond and commodity trades.

The 2019 survey mirrors this positive trend. The data shows that the cross-border payments use case is generating strong interest. Three-fourths of respondents are very to extremely interested in digital assets for cross-border payments. The share jumps to 85% for early adopters of blockchain technology. These respondents are eager to differentiate themselves and recognize the competitive edge that adopting digital assets in conjunction with blockchain technology offers. The use of digital assets in settlement and/or as a base currency is a game-changer: instant payment with nearly zero counterparty and settlement risk, lower capital requirements and no pre-funding.

Pre-funding is still largely considered a necessary evil to expediting funds transfer. Nearly all respondents use pre-funding, citing speed-related benefits as the top two reasons. Despite this, the vast majority of respondents recognize the advantage that real-time settlement offers as an alternative to pre-funding. 89% of total respondents and 95% of early adopters are very to extremely interested in real-time settlement.

The Need for Speed

Nearly all respondents (95%) use pre-funding with the top two reasons being speed related. Speed is most important to respondents that have implemented blockchain.

Top Reasons for Using Pre-Funding

1. Funds immediately sent to destination country
2. Faster payout to recipient
3. Better exchange rate

A Better Way: Real-Time Settlement

Yet, the vast majority of respondents also recognize that there is a better way to achieve speed in the form of a real-time settlement system.

89%

of all respondents are very to extremely interested in real-time settlement (up from 81% in 2018)

95%

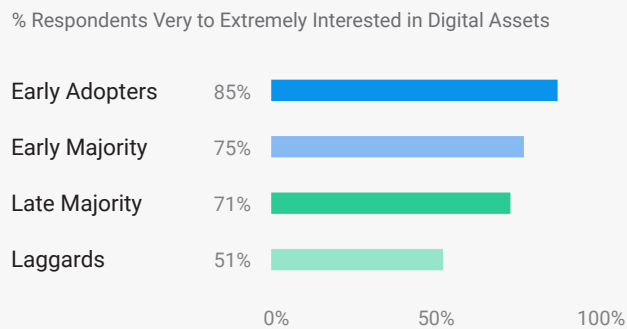
of respondents who have already implemented blockchain are very to extremely interested in real-time settlement

Yet despite this inclination toward pre-funding, it's clear that respondents' perspective on how digital assets can deliver speed is evolving. Two striking findings of the survey are: first, early adopters are the most interested in using digital assets; and second, they rank speed of payment as the top benefit of digital assets.

In contrast, respondents who are not yet in production perceive reliability and cost to be the most interesting attributes of digital assets. For them, speed ranks fifth by a large margin. The likely reason is that they anticipate blockchain will accelerate speed and have not yet considered the possibility that they could accelerate speed further with digital assets.

Early Adopters Are Seeking Speed and Show Greatest Interest in Digital Assets

Early adopters are the most interested in using digital assets as a settlement or base currency.



Respondents at all stages of adoption see strengths for blockchain in payments.

Early Adopters (Respondents in Production)	Rest of Respondents
1. Speed	1. Reliability
2. Transparency	2. Lower Cost
3. Lower Cost	3. Transparency

*Early adopters have implemented blockchain. Early majority are moving into production. Late majority are running or close to running PoCs or pilots. Laggards are having conversations regarding blockchain in payments.

SECTION IV

Conclusion



The flywheel for blockchain in payments is set to spin faster.

The extensive energy put into proof of concepts and pilots, and the steady building of networks over the past two years, has resulted in a clear understanding of blockchain's value and feasibility. With value comes usage and the wheel makes its first rotation, and trust is won.

Getting the wheel to spin faster requires proving viability by scaling, which is highly likely given the strong adoption exhibited by respondents.

A faster spinning flywheel will be contingent on blockchain providers' ability to simplify and expedite implementation by sharing best practices. It is also critical that the industry continue to educate regulators about the positive attributes of blockchain and digital asset technology so that they can develop well-informed regulatory frameworks worldwide.

But perhaps the biggest catalyst for a fast spinning flywheel, is the boost that digital assets offer when paired with blockchain technology for cross-border payments.



We're on the cusp of another breakthrough innovation, including the poorest, in a financial system that increases instead of limiting the value of their assets. Transforming the underlined economics and financial services through digital currency will help those who live in poverty directly.

Bill Gates, Co-chairman of the Bill & Melinda Gates Foundation

References

- 1 The Economist Intelligence Unit and GSMA Intelligence, respectively.
- 2 GSMA
- 3 2018 Edelman Trust Barometer Financial Services edition
- 4 2019 Edelman Trust Barometer Financial Services edition
- 5 <https://unctadstat.unctad.org/EN/Classifications.html>

About Ripple

Ripple provides one frictionless experience to send money globally using the power of blockchain technology.

By joining Ripple's growing global network, financial institutions can process their customers' payments anywhere in the world instantly, reliably and cost-effectively.

Banks and payment providers can use the digital asset XRP to further reduce their costs and access new markets.

Join the Conversation

twitter.com/ripple

linkedin.com/company/ripple-labs

ripple.com/insights

facebook.com/ripplepay

Contact Us

For more information about how RippleNet can offer faster, cheaper and more transparent global payments, please visit us at ripple.com/contact.

Contributor

Alenka Grealish
Senior Analyst, Corporate Banking
Celent Banking Practice
celent.com/analysts/alenka-grealish

