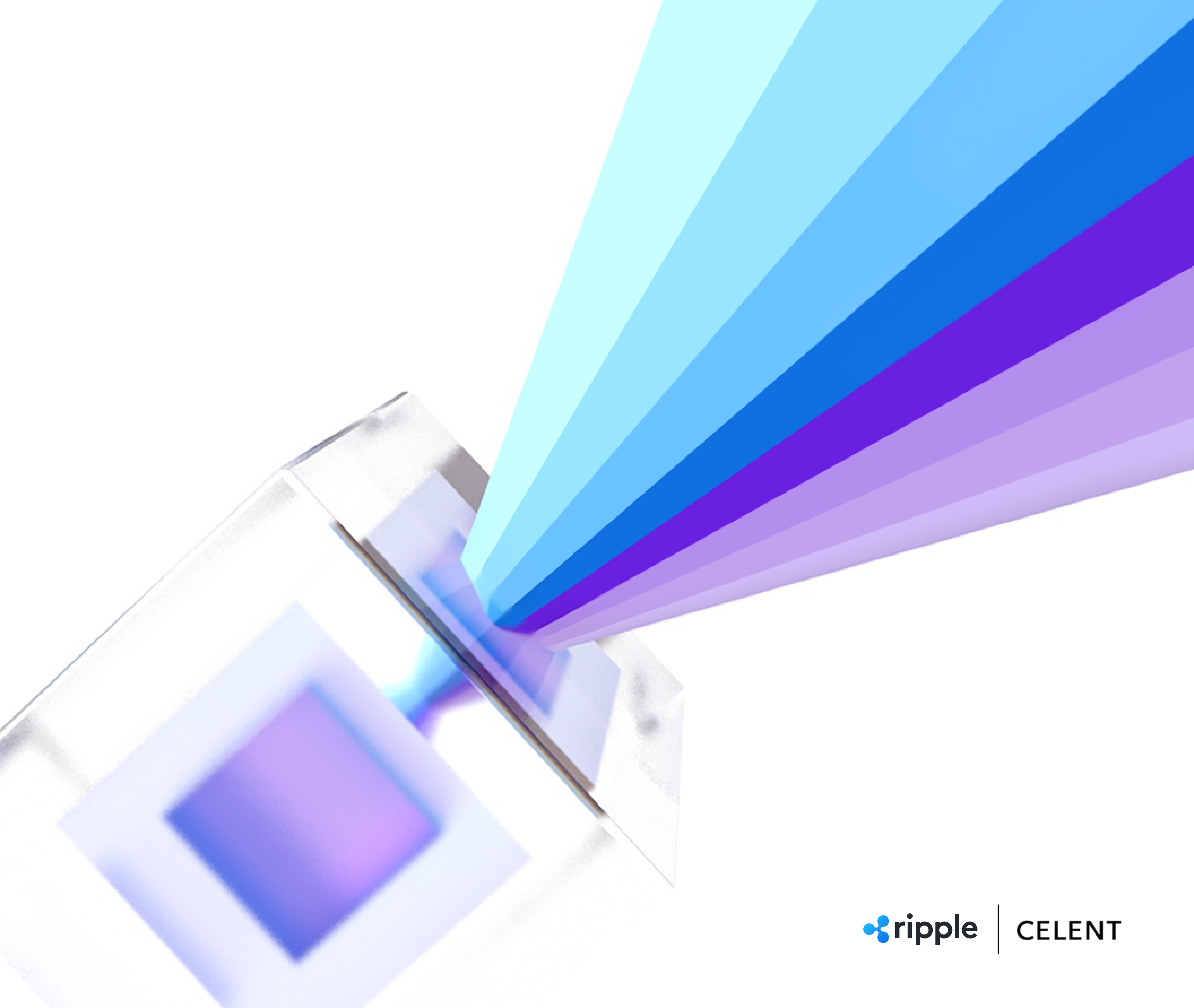
Findings from

Ripple's Blockchain in Payments Report 2020

From Adoption To Growth



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Abstract

The third annual Blockchain in Payments Report reveals that blockchain adoption is key to a successful growth strategy for financial institutions. In the past 12 months, early blockchain adopters were more likely to report strong growth compared to other respondents.

The survey also found that adoption has crossed the chasm and the majority of respondents are using blockchain in production, signaling that both end users and payments services providers have proven the value and reliability of the technology. To further fuel adoption and grow payments-related revenue, simplified implementation and regulatory clarity are necessary. Globally, policy makers have been increasingly speaking about the benefits of blockchain and digital asset technology. At the same time, a variety of blockchain technology providers are facilitating easier implementation through APIs, hosted services and standardization.

Key Findings

The majority of businesses today are adopting blockchain for production use:

59%
of respondents are in production or near production for payments-related use cases. Emerging markets are leading adoption with 37% in production.

Adopters view blockchain as the fuel to business growth:

44%
of respondents in production have recorded strong business growth in the past 12 months—while 45% of respondents that reported processing mostly digital transactions, recorded a large amount of growth.

Blockchain solutions are being implemented across different lines of business:

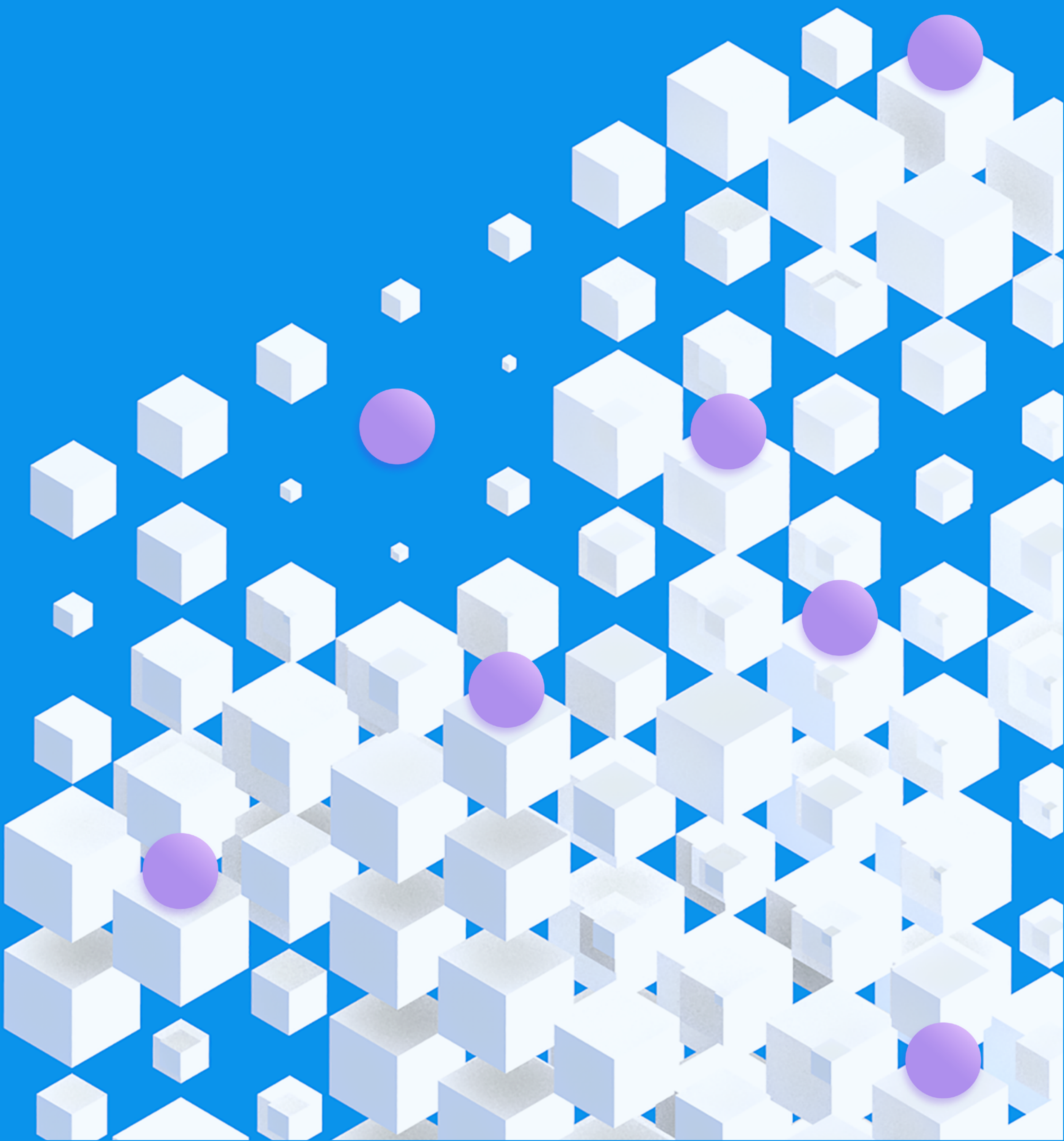
98%
of respondents running at least a payments blockchain POC have also deployed the technology for non-payments use cases. Of those, supply chain management is the most common (62% in production), followed closely by trade finance (51% in production).

Interest in using digital assets for faster cross-border payments has dramatically increased:

99%
of respondenits state that their organization would consider using a digital asset, either as a currency itself or as a means to instantly process cross-border payments. This is up from 94% in 2018.

SECTION I

Introduction



Business survival requires adoption of digital solutions.

Industries, both large and small, are facing one of the century's greatest economic disruptions. The impact of COVID-19 has underscored the importance of speed and business agility, while magnifying the world's reliance on digital experiences. None, more so, than in the payments industry.

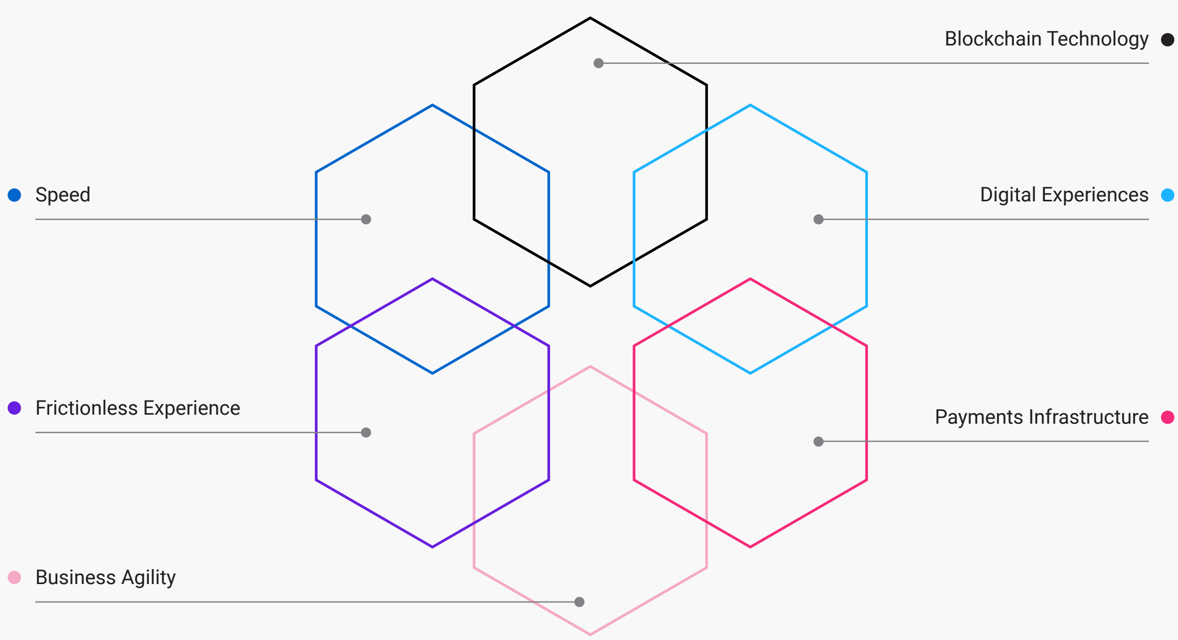
The economic shutdown has underscored the vital role played by payments-related infrastructure. It put in stark light the frictions faced by both consumers and businesses. In response, payments services providers are taking a deeper look into how innovations like blockchain technology and digital assets could help solve today's pain points.

This year's Blockchain in Payments Report examines how these innovations translate into growth opportunities for payments services providers.Despite the impact of COVID-19, 79% of respondents realized growth this year by enhancing products and services and entering new markets. Innovation in payment technology—cited by 44% of respondents—played an important role.

Many short-term uncertainties remain, but several systemic trends are becoming clear. Leveraging innovative technologies early-on improves the odds of continued business growth, even during times of crisis.

Digital transformation is no longer a long game, but a short-run imperative. The rapid migration and accelerated adoption of digital technology is only expected to continue. Consequently, payments players are relying on digital technologies to meet rapidly changing consumer and business needs. They strongly believe that customers expect them to continually innovate.

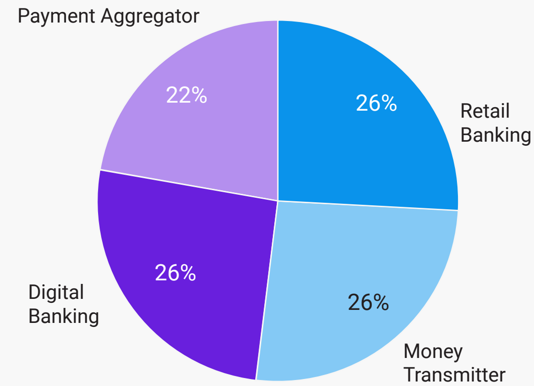
Figure 1: Key Area of Digital Transformation in Payments



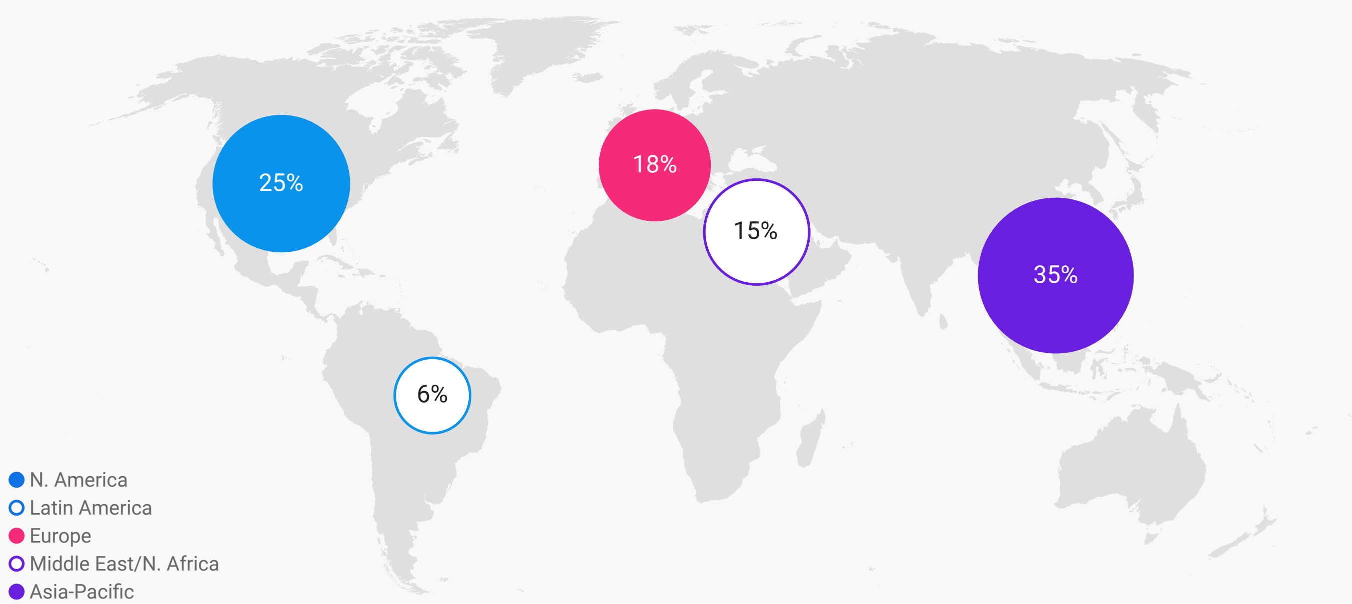
Survey Respondents

Conducted in August and September of 2020, the Blockchain in Payments Report analyzed data from 854 respondents across 22 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 inflow 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

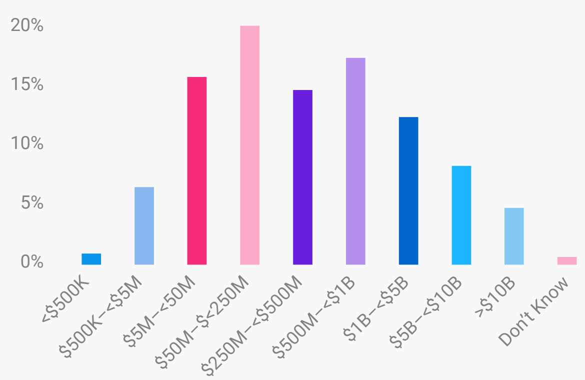


Company Locations

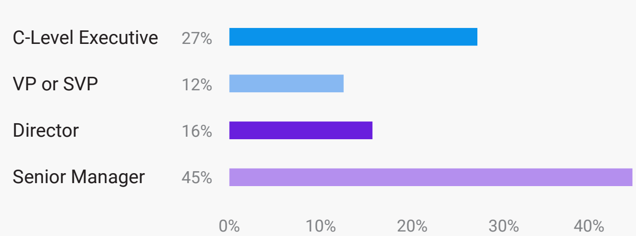


*Sums do not total to 100% due to rounding

Company Size (in Revenue)



Respondent Title



Innovation Begets Growth, Growth Begets Innovation

Last year's Blockchain in Payments Report leveraged the flywheel effect as an analogy to describe the pace of blockchain and digital asset adoption. Flywheels used in heavy industry require significant energy to start spinning, but once they gain momentum, they continue spinning. 2019 revealed that adoption of blockchain and digital asset technology proved value to the end customer and provider—the "energy" to start the flywheel.

This year, findings point to the final stage of growth—blockchain and digital asset adoption are accelerating market share and are critical to business success.

The 2020 results show increased trust in the technology as it is battle tested in production. Thanks to the positive experience of early movers, a steadily increasing share of respondents are confidently moving into production.

Business interest in digital assets, when paired with blockchain technology for payments, has grown sharply as early adopters look to increase the speed in payment settlements. But expediting implementation for financial institutions and securing regulatory clarity are still key challenges to reach mainstream adoption.

Figure 2: Blockchain Adoption at Scale

Growth 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

Blockchain Adoption at Scale

Adoption of Digital Solutions: A Question of How Fast

Blockchain in payments has reached the proverbial flywheel effect of innovation. The building of trust and mainstream demand are evidenced in the 2020 survey. Adoption is moving from the early adopters phase to the early majority phase—known as "crossing the chasm"—proving that the technology can scale across all types of payments services providers.

Usage at Scale: It's Make or Break for Payments Innovation

Businesses across the globe are seeing the value that comes from blockchain technology. With 34% of respondents in production, adoption has crossed the "chasm" between early adopters and early majority.

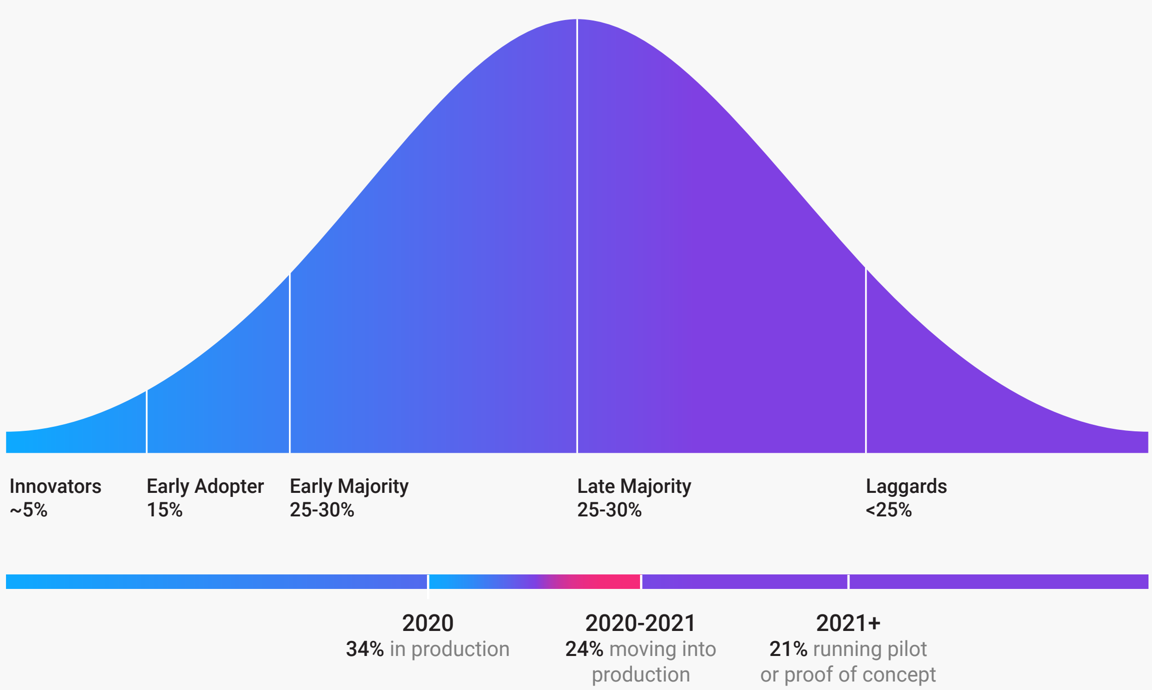
As businesses move to a primarily digital experience, these companies must tap innovative solutions to remain competitive. With 24% of respondents stating that they are nearing production, adoption could reach the next phase, late majority, over the next two years. Businesses are realizing the increased efficiency blockchain provides and the competitive advantage it offers.

Around the world, emerging markets are leapfrogging mature markets in terms of adoption and use of blockchain in payments. Across emerging markets, 37% of respondents are in production—with the leading region being Asia Pacific (APAC) with 41%. Latin America (LATAM) realized a nearly six fold increase in share in production between 2018 and 2020.

This growth through technical innovation in LATAM is likely a result of demand as millions of migrant workers in the United States consistently send money back home to Mexico and other LATAM countries. The international remittance market is significantly growing in this region and companies looking to provide a competitive advantage need to offer real-time, low-cost payment solutions.

The report also shows that respondents in the Middle East and Africa (MEA) are in catch up mode with 24% in production and 29% moving into production. The second big wave of adoption is coming from providers with services in MEA. This is not surprising given more international than domestic payments are made by people based in the region.

Figure 3: The Blockchain Adoption Curve



Positive sentiment, perceived customer value and improved payments services are key factors driving today's mainstream adoption. Nearly two-thirds of respondents expressed somewhat to very positive feelings about blockchain and half believe that it definitely delivers value to customers. Experience with blockchain heightens these views. 80% of those in production have somewhat to very positive feelings and 62% see definite customer value.

The Need for Speed

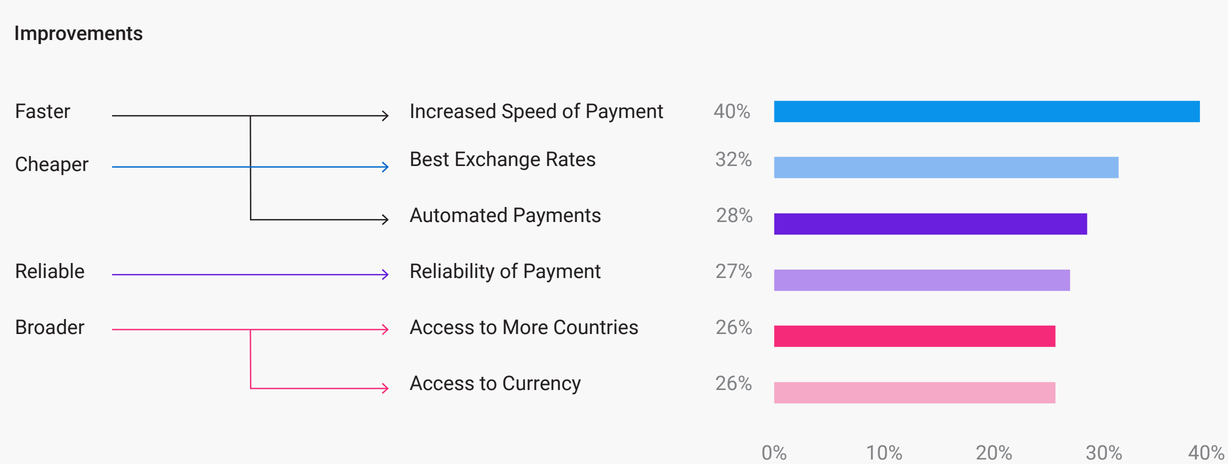
40%

of respondents rank speed as a top three strength of blockchain technology in cross-border payments. Speed ranked highest on average by respondents in APAC.

Speed remains a benefit for cross-border transactions year over year in the Blockchain in Payments Report since 2018; transparency, FX and automation are also priorities.

Figure 4: Blockchain Strengths Drive Improved Payment Services

% Respondents Ranking Strength in Top 3



Four Key Benefits Drive Blockchain Adoption

Data transparency is key to emerging markets. Cost savings is an important benefit for LATAM and APAC while MEA prioritizes management support.

Further building on the key adoption drivers, the report reveals that businesses that have leveraged blockchain technology in cross-border payments point to four benefits: improved data quality, increased data security, cost savings and business growth. Perceptions regarding the growth benefit have been increasing as evidenced by the 28% rise in share of respondents citing “the ability to compete for market share” between 2019 and 2020.

At the regional level, the report reveals unique benefits—but results prove the clear benefit of blockchain technology is improved data quality and transparency.

In mature markets, while cost savings are crucial, improved data transparency is also an important driver. These markets are seeking real-time data to improve customer experience. LATAM respondents stand out by ranking growth related benefits as the highest benefit, followed by cost savings—suggesting that, thanks to the implementation of blockchain in payments, they are overcoming growth hurdles.

Adoption has made great progress in the last few years, but barriers to mainstream adoption still remain across all regions. The lack of regulations is a main barrier to adoption globally. Costs of making the changes also feature as a barrier in many markets, along with security.

Figure 5: Blockchain Experience Points To Four Benefits

Emerging Markets				Mature Markets		
Overall	APAC	LATAM	MEA	Europe	NAM	Ranking
Process Transparency	**Process** Improved Data Quality	**Growth** Networking	**Security** Customer Authentication	**Security** Increased Data Security	**Process** Transparency	1
Process Improved Data Quality	**Process** Transparency	**Growth** New Revenue	**Growth** Market Share	**Security** Fraud Reduction	**Cost Savings**	2
Security Increased Data Security	**Security** Increased Data Security	**Cost Savings**	**Process** Transparency	**Process** Instant Settlement	**Security** Customer Authentication	3
Cost Savings	**Cost Savings**	**Process** Transparency	**Cost Savings**	**Process** Transparency	**Process** Fewer Delays	4

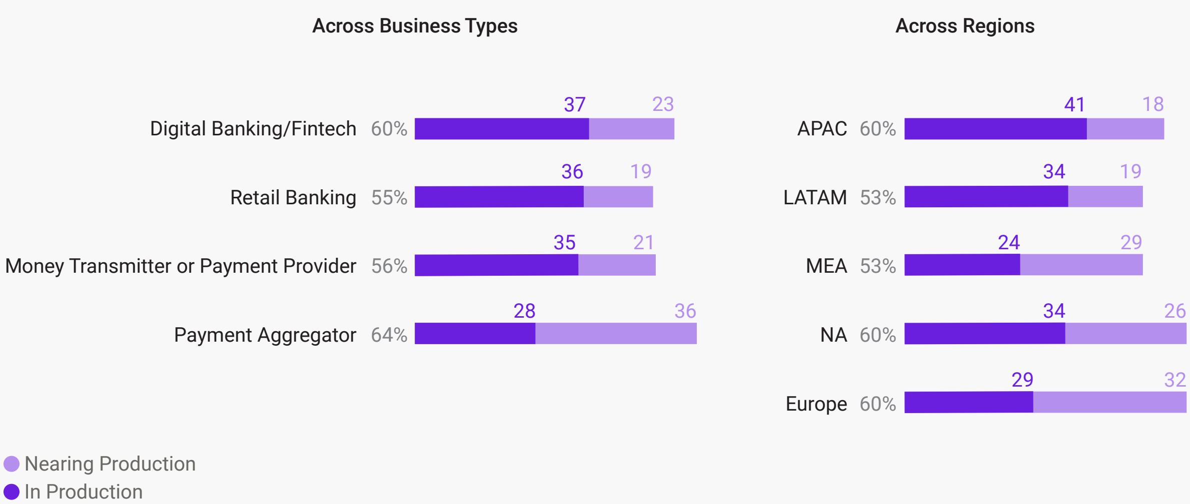
The diversity seen in the early majority adopters signals that blockchain in payments is proving scalability. Adoption levels across business types—digital banks, retail banks and money transmitters—are within two percentage points of each other.

The report reveals regional variances, signaling different adoption speeds. When respondents nearing production are added, however, regional differences diminish, signaling that adoption rates are converging. As the proven value, feasibility and scalability from blockchain technology in payments continue to be realized, the technology is being implemented across different business verticals.

> **Payment aggregators are lagging behind all survey respondents at 28%—likely due to their investment in legacy payment rails.**

Figure 6: Diversity in the Early Majority

% Respondents

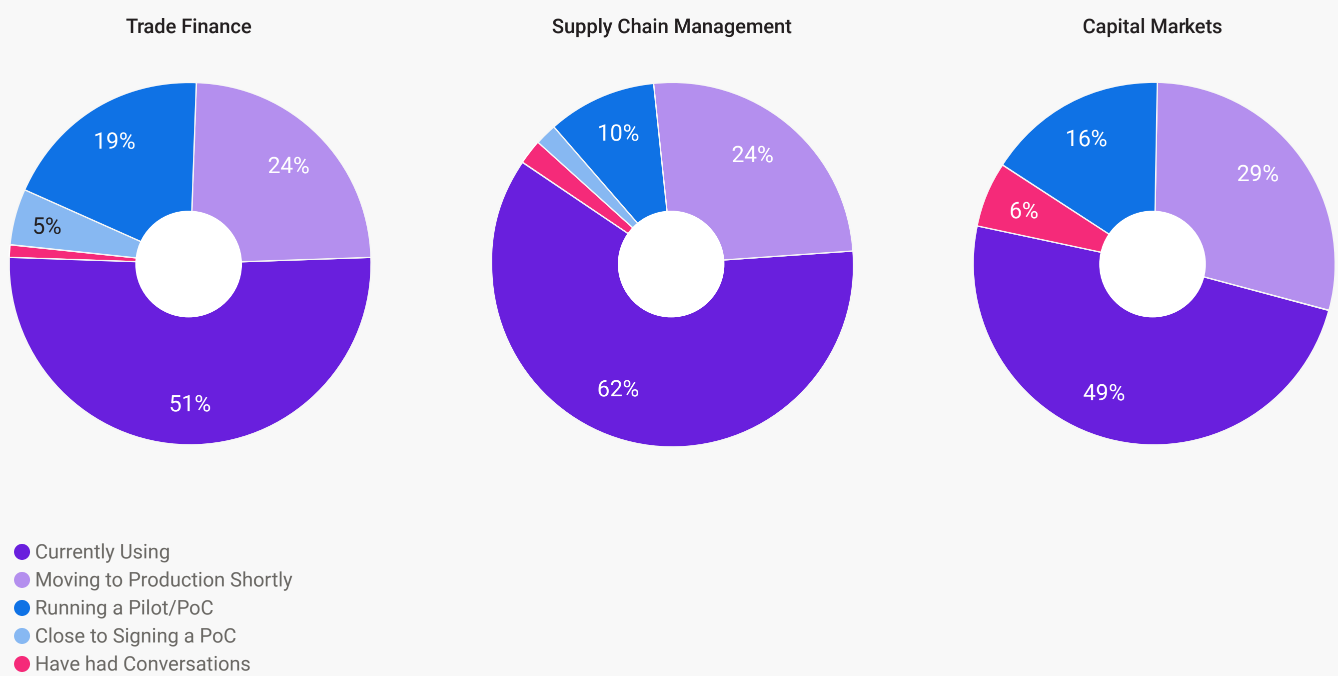


Blockchain is proving value and feasibility across lines of business, making it a truly enterprise technology. The Blockchain in Payments Report shows that 98% of respondents running at least a payments blockchain POC have also deployed the technology for non-payments use cases.

The use of blockchain cuts across lines of business. Of those use cases, supply chain management is the most common (62% in production), followed closely by trade finance (51% in production). Adoption is accelerating for businesses making domestic and e-commerce payments.

Respondents, particularly in APAC, show that regardless of which business line moves first into blockchain, there is a positive ripple effect. Early movers tend to have their own internal flywheel effect. The use of blockchain technology in trade finance and supply chain management leads with over half of respondents. As the figure below shows, in terms of respondents in production, non-payments use cases are ahead of payments use cases. Customers looking to innovate early in these fields can look to these use cases as benchmarks.

Figure 7: Other Financial Services Use Cases Are Growing Adoption



SECTION III

Digital Assets: A Question of When, Not If

Digital Asset Adoption Increasing for Domestic and Cross-Border Payments

Over the past five years, enterprise comfort level with digital assets has grown sharply. The Blockchain in Payments Report found that at a company level, digital assets are viewed as a viable option—when paired with blockchain technology—to increase the speed and efficiency of sending cross-border payments.

The report reveals that nearly 100% of respondents state that their company would consider using digital assets as a currency and/or payment settlement means, an increase of five percentage points since 2018. This near unanimous view signals that both comfort in and understanding of digital assets have been achieved.

Increase in education and blockchain experience has been boosting both provider and customer confidence in digital assets paired with blockchain technology. Early adopters of blockchain in payments see the benefits that digital assets provide in terms of faster settlement, better foreign exchange rates and the ability to provide new services, like automated payments for the underbanked populations.

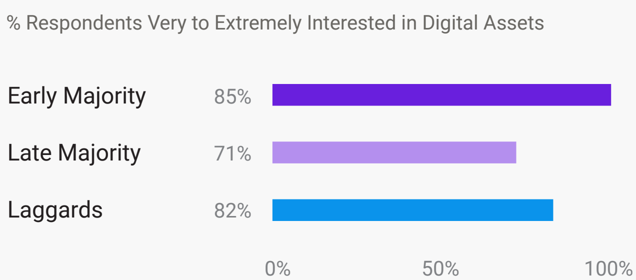
Companies view digital assets as a means to accelerate expansion to other countries and currencies. Interestingly, 82% of respondents not yet in pilot or proof-of-concept responded with the second highest interest in leveraging digital assets in cross border payments. Early adopters recorded the highest interest. Respondents are seeing the success of early adopters and looking to kick start their own adoption—with a large majority open to leveraging more digital forms of currency.

The Blockchain in Payments Report shows that nearly half of the respondents are confident that digital assets deliver value to their customers. The more experience with blockchain and/or digital-first customer engagement, the more respondents believe customers benefit from digital assets.

To speed up mainstream adoption though, respondents making cross-border payments describe the availability of liquidity as an important feature in the use and implementation of digital assets.

Figure 8: Early Adopters Are Seeking Speed and Show Greatest Interest in Digital Assets

Early majority 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 Majority (Respondents in Production)	**Rest of Respondents**
1. Speed	1. Speed
2. Best Exchange Rates	2. Greater Access to More Countries / Access Currency (tie)
3. Options for Unbanked / Automated Payments (tie)	3. Transparency

*Early majority includes respondents in production and those nearing production, 59% of respondents. Late majority includes those that are close to running a PoC and/or pilot and those running one.

Realizing the Potential for CBDCs

As awareness and comfort level grow, an increasing share of respondents is interested in using digital assets other than bitcoin. Interest in central bank digital currencies (CBDCs) and bank-issued stablecoins has spiked between 2018 and 2020.

Concurrent with market interest, central banks have been increasingly evaluating and testing the potential of CBDCs. According to a BIS survey, central banks are interested in the opportunity to improve first and foremost payment security and efficiency, followed by financial stability.

Interestingly, respondents from the Blockchain in Payment Report hold similar views consistently across regions—citing speed and security either as the number one or two most important features to growth. Central banks in emerging markets ranked financial inclusion as the second most important benefit, after efficiency.

Interoperability, regulatory clarity and low volatility exposure are the cornerstones of long-term success for CBDCs. It will be critical to bridge the gaps between the various CBDC initiatives with existing domestic and international systems, as well as other digital currencies, to ensure CBDCs are successful on a global scale. Neutral bridge assets will play a critical role in frictionless value movement between CBDCs, as well as other digital assets.

To realize the true impact of digital assets though, regulatory clarity is needed. Year over year, the Blockchain in Payments Report reveals that a key barrier to adoption of digital assets as a medium of exchange is confusion and unclear policy rulings and frameworks.

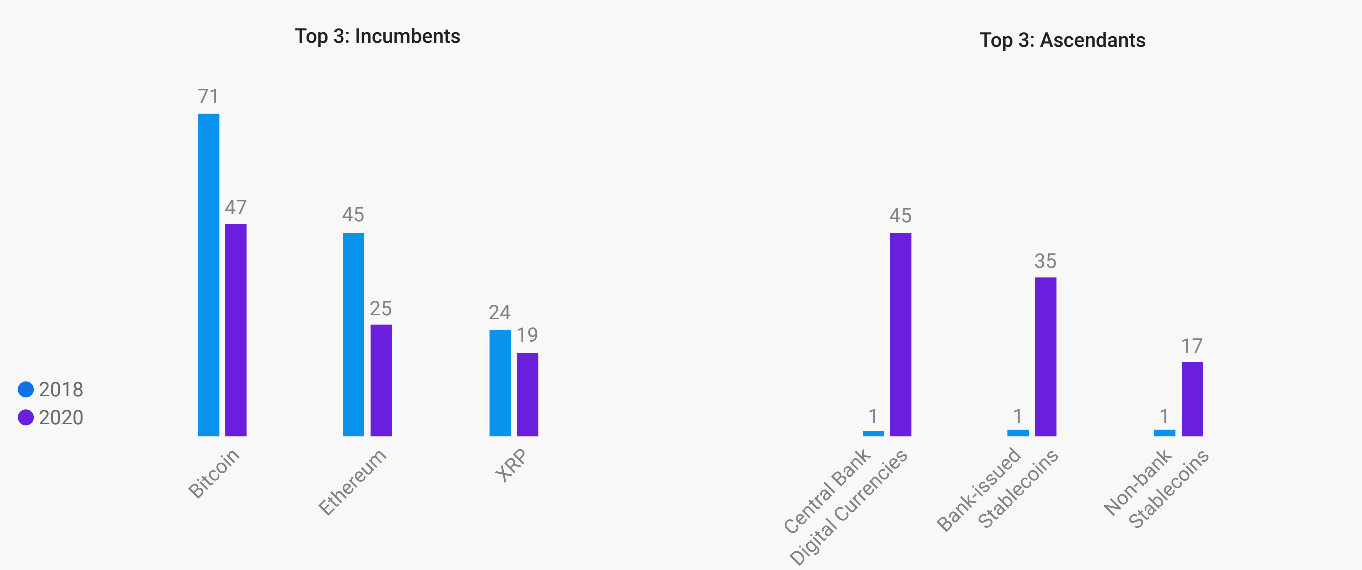
This year, the report revealed that price swings experienced by the top two digital assets and arguably the most well-known—bitcoin and ether—influence respondents' perception of volatility and pose a problem.

The majority of respondents state that they have confidence in digital assets' reliability, but have concerns regarding their volatility. Respondents in mature markets have the strongest concerns, with 61% stating they were very to extremely concerned. In contrast, less than half the respondents in LATAM and APAC show concern.

One reason for this is that these regions include countries with a relatively volatile domestic currency—and one that devalued during the first six months of the COVID-19 pandemic e.g. Argentina and Mexico. As a result, respondents in these regions are more likely to have examined the volatility of digital assets individually as they consider how to hedge against domestic currency risk and manage foreign exchange-related taxes and capital controls.

Figure 9: Diverse Interest in Digital Assets

% Respondents



SECTION IV

Growth Is Possible Amid COVID-19 and Beyond

Despite economic slowdowns, the demand for payment services has grown above average for respondents. A vast majority of respondents, 80%, stated that they have experienced growth year-over-year, with 30% recording a significant amount in July.

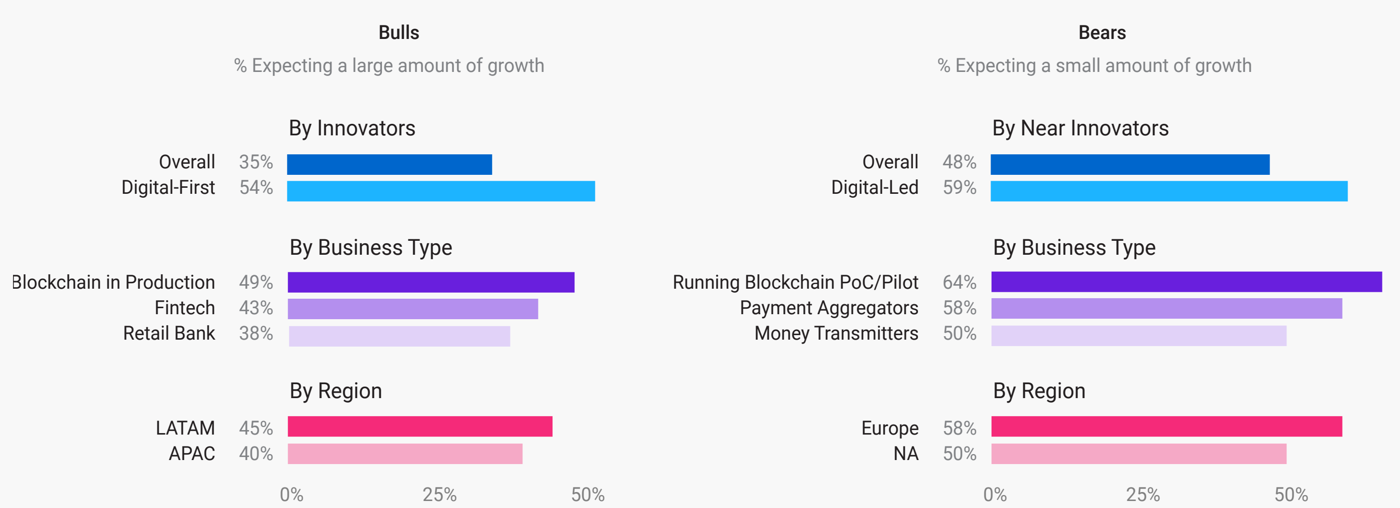
Being an innovator and adopting emerging technologies early on has likely contributed to above average growth. The standout performers have been digital-first players and those in production with blockchain in payments. Respondents point to regional expansion, introduction of new services and innovation in payment technology as the top three reasons for their significant growth.

Though results reveal respondents expect growth to taper over the next twelve months. Nearly half of the respondents anticipate a small amount of growth and slightly more than a third expect a large amount of growth. **Survey results reveal innovators in fintech or retail banks and those located in emerging markets are poised to succeed with expectation of strong, continued growth.**

Those expecting a small amount are near innovators, payment aggregators or money transmitters located in mature markets. A majority expects growth from selling current services to new customers in current and/or new regions.

The Blockchain in Payments report strongly shows that those respondents who tested, implemented and adopted blockchain solutions in payments early on are better weathering the impact from COVID-19—and are well positioned to thrive long-term.

Figure 10: The Bulls and the Bears, Who Sees Longer Term Growth?



Blockchain Unlocks Business Growth

Achieving growth is paramount to payments services providers. Outside of credit cards, payments services tend to be a low margin business with relatively high fixed costs. As a result, when growth slows, margins fall under pressure and cost-related pain points—especially regarding liquidity constraints—are exacerbated.

Achieving growth is challenging during normal times. Payments players with ambitions to expand into new markets face a variety of impediments. Respondents cite four top pain points with traditional cross-border payment rails: high costs, slow speed, expensive liquidity requirements and lack of standardization.

Realizing any level of growth during the current extraordinary times is an order of magnitude more challenging. Respondents cite four dominant challenges: finding international partnerships, pre-funding accounts, accessing working capital and building payment technology. Onerous liquidity requirements are prevalent across regions, in particular in MEA and APAC markets.

As evidenced by the significant growth of early adopters, blockchain enables payment providers to overcome these challenges to growth.

Reducing Dependency on Pre-Funding International Accounts

59%
of respondents find real-time settlement (RTS) of cross-border payments key to business growth in the industry

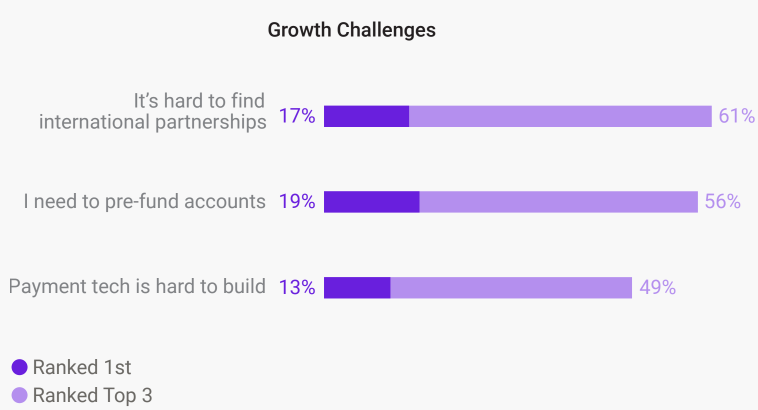
70%
of respondents believe RTS can drive business expansion and 68% believe RTS can help win market share

Realizing One To Many Cost Savings

59%
view a blockchain network that has one API connection to many international partners as the key benefit to delivering cost savings. Compared to 56% respondents that see the key benefits as faster time to market and greater standardization

Figure 11: Blockchain Solutions Unlock Growth Potential

Blockchain technology breaks down barriers and unlocks growth potential by enabling providers to overcome the top 4 challenges to growth.



Unlock the Growth Potential

- Blockchain networks facilitate international partnerships
- Blockchain coupled with digital assets used for settlement or as a base currency eliminates prefunding.
- Blockchain made available via APIs and the cloud lowers integration barriers.

SECTION V

Conclusion

To fully harness the power of blockchain for growth, barriers to blockchain adoption must be reduced. Inroads have been made, but work remains. Overall, respondents cite concerns regarding lack of regulatory clarity, implementation costs and security.

Regulations governing blockchain and digital assets are gradually coming into focus. Recent news and developments this past year signal that the industry is maturing—with sophisticated financial institutions, central banks and global standard setting bodies all leaning into the discussion.

Emerging markets are leading the charge, recognizing that responsible usage of blockchain and digital assets can unleash tremendous potential for their economy. Without a doubt, both will drive greater financial inclusion and economic growth not unlike the Internet's impact. Mature markets stand to benefit as well.

As it did with the internet, the U.S. has the chance to lead the way. With regulatory clarity, the U.S., as well as Europe, will encourage further innovation, which in turn generates tax revenue and jobs. Without clarity, mature markets will fall behind and be challenged to catch up. China's intention to launch a CBDC is a rallying cry.

Implementation barriers are being overcome. Integration costs are being lowered by standard APIs and cloud-based services. Increasing adoption within payments and across other lines of business translates into lessons to draw upon and the ability to develop best practice playbooks.

On the security front, inroads are being made by both networks and individual participants. Blockchain networks recognize that while their network is inherently relatively secure, they must be vigilant in terms of vetting participants and preventing bad actors from gaining access.

Participants are applying lessons learned and becoming highly adept at spotting and investigating suspicious transactions and accounts, rejecting and deactivating, respectively, as relevant. They are also, importantly, investing in customer education regarding threats and fraud mitigation.

The COVID-19 pandemic has laid bare the pain points in global payments systems. The growth ambitions of respondents bodes well for reducing the pain and realizing innovation. The fact that innovators have realized above average growth and anticipate future growth should be inspiration for followers to digitize.

Governments are increasingly committed to encouraging technological advancements that contribute to financial inclusion through regulations that encourage competition and provide clarity. In their pursuit of financial inclusion and competition, governments should also be inspired to accelerate their development and implementation of regulation governing blockchain and digital assets.

COVID-19 is triggering positive change in the global payments industry. Modernization and streamlining are no longer nice to have but rather are now imperatives. It's unfortunate that it took an extraordinary crisis to realize innovation step change.

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.

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