

Automation for the people: Fintech in the real world

FRANKLIN TEMPLETON THINKS™

DISRUPTION

MAY 2019

From Business to Consumer:
The Democratization of Fintech

Long-Term Disruption or
Short-Term Distraction?

Right Here, Right Now:
Automation Is Spreading
through Financial Services



The convergence of demographic and technological trends in financial services

It used to be that people stuffed money under their mattresses because they were not able to—or chose not to—have a bank oversee their savings. Today's youth share this mindset as some of them have never stepped foot inside a bank—and have no intention of doing so. Thanks to the prevalence of online transactions and the use of mobile phone technology, these people have a whole new set of options for how to conduct their finances.

Technology is already playing an outsized role in the evolution of traditional financial services as enterprises attempt to adapt to evolving consumer expectations, reduce costs, prevent competitive losses from nimbler startups and find novel ways to grow revenues in the digital age.

Overall investment in fintech leapt ahead in 2018, reaching US\$55 billion worldwide, or roughly double the year before.¹ We expect that trend to continue as demographic and technological trends converge and the value proposition differential between winning, technology-enabled companies (versus those who've been left behind) becomes evident.

In this article, we explore the new consumer mindset and needs initiated by millennials and how certain technology trends are driving new offerings. We explore the areas we see for the biggest disruption over the long term and summarize the impacts we are seeing across a variety of financial services companies.

WHAT IS FINTECH?

FinTech—a portmanteau word derived from “financial technology”—began life as a term referring to technology employed at the back-end systems of established financial institutions. More recently its meaning has expanded to include any technological innovation in—and automation of—the financial sector.

1. Source: Accenture.



Key takeaways

- 1** We believe advancements in digital experiences, artificial intelligence and distributed ledger technology are the catalysts to new fintech services, enabling companies to better meet consumers' specific demands for service and support.
- 2** Startups will likely take different approaches to enter financial services, but we expect the lines between financial services and Big Technology companies such as Amazon, Apple and Google to continue to blur. We believe payment services hold the key—helping consumers simplify and streamline their lives while offering companies data about where and when consumers spend their money.
- 3** Financial services business need to build relationships with their customers that are service-oriented, subscription-oriented and recurring and ultimately have data at their core. For most segments of the financial services sector, fintech is already playing a significant role. We see interesting developments taking shape across a broad range companies in the financial services sector.

From business to consumer: The democratization of fintech

The Global Financial Crisis (GFC) and subsequent “Great Recession” influenced the younger generation of millennials—those born between 1982 and 2004—almost as much as the Great Depression changed their great-grandparents’ habits. Not only did those events lead many millennials to develop a negative view of the job market just as many of them were entering the workplace in their early 20s, but the GFC also highlighted the failures and shortcomings of some of the world’s largest and most venerated banks and financial institutions.

And they haven’t gained ground since then. According to various surveys, banks and insurance companies have generally retained their negative

connotation with millennials since the global stock market crashed more than a decade ago, a generational perception that is likely to last a lifetime.

That lingering skepticism has fed into other considerations that have helped millennial sensibilities drive the development of fintech and will continue to help shape the financial services landscape of the future. Fintech companies are aiming to provide them with a clear alternative to the old-line, business-as-usual institutions.

As those imperatives intensify, we believe the future of finance will be shaped by three main megatrends.

Digital Transformation

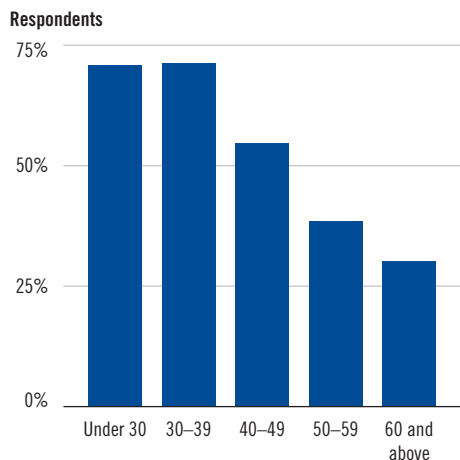
Legacy financial infrastructure requires significant investment in people, physical locations, aging technology systems and even older paper-based processes. This dated foundation places incumbents at a disadvantage in terms of both cost structure and user experience. In contrast, new companies have a clean slate and can begin with a state-of-the-art template from the outset. This dynamic is playing out in virtually every vertical integration within financial services, including banking, capital markets, real estate, insurance, payments, asset management and wealth management.

Artificial Intelligence (AI)

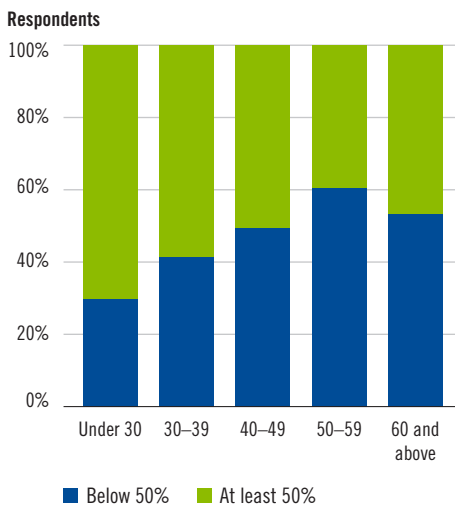
The ability to deduce actionable insights from data is driving the financial industry to an inflection point in terms of its ability to create frictionless and personalized consumer experiences that are predictive, personally relevant and useful. Taking a page from the playbooks of Amazon and Netflix, incumbent financial firms are seeking to move from a “search-and-browse” to “curate-and-deliver” model, where they anticipate client needs utilizing data and machine learning. Emerging fintech companies are making a genuine impact in areas that consumers care about, such as access to small business loans and home mortgages, “intelligent” automated savings plans based on a customer’s profile, investing more wisely

YOUNGER HIGH-NET-WORTH INDIVIDUALS (HNWIS) WELCOME ROBO-ADVISORS

Willingness to use automated advisory services



Proportion of wealth HNWIs are willing to transfer to automated advisory services



Source: Capgemini, Evolution of the Automated Advisors, 2016

THE FUTURE OF FINANCE WILL BE AUTOMATED, INTELLIGENT AND REAL-TIME

	AUTOMATED	INTELLIGENT	REAL-TIME
Megatrends	Digital transformation	Artificial Intelligence (AI) / Machine Learning (ML)	Block chain / Distributed Ledger Technology (DLT)
Impact	Cheaper	Better	Faster
Timeframe	Near term	Medium term	Long term

for college and retirement, or obtaining better value from their health, home and vehicle insurance coverage.

Distributed Ledger Technology (DLT)

Within financial services, DLT holds promise because it offers tamper-proof, transparent tracking of transactions. Operational processes can be streamlined and settlement times can be shortened. Not only does this help to reduce costs for financial services firms, but it also frees up capital, which is increasingly important given the decline in returns, the competitive tightening of fee structures and increased regulatory burden

since the financial crisis. Distributed ledgers can be used to tokenize assets, which opens up new possibilities for financial products. DLT-driven “smart contracts” can also help automate many aspects of financial services.

Our research tells us that with deeper, data-driven insights, financial institutions should be able to better identify what customers need and want in their financial engagements, prioritize investments into customer experience enhancements, redesign outdated processes and create innovative, intuitive digital experiences.

YOUNGER GENERATIONS BRING NEW ATTITUDES SHAPED BY THE GFC

- Unlike their forebears, millennials seem to prefer technology more than face-to-face relationships, and the traditional brick-and-mortar user experience that takes place inside a physical location is now seen as inconvenient and outdated.
- They want entirely new digital products that are relevant to their daily lives. However, there is a fine line between trust in technology and over-reliance on it, and information and identity security is an area of risk that needs to be managed.
- Millennials demonstrate a stronger likelihood to buy a product from—or work for—a company with a defined social or environmental advocacy mission. They trust companies with socially or environmentally responsible objectives more than those that are perceived as operating solely for profit.

“The ability to deduce actionable insights from data is driving the financial industry to an inflection point in terms of its ability to create frictionless and personalized consumer experiences that are predictive, personally relevant and useful.”

WHAT IS TOKENIZATION?

Tokenization describes the conversion of assets with economic value such as property, art or wine into digital tokens that can be stored and managed on a DLT such as blockchain. Each token would represent participation rights in the underlying asset—for example a painting—and those tokens can then be traded.

Long-Term Disruption or Short-Term Distraction?

In China, Ant Financial (part of the giant Alibaba conglomerate) and Tencent are thoroughly integrated into many individuals' financial lives, offering banking, insurance and payment services. We can see why that might be appealing for other global technology giants.

But we're conscious that from a regulatory standpoint, Chinese fintech has emerged from a very different breeding ground. It does, however, offer a glimpse of how fintech can reach into people's everyday lives.

For example, many of the technologies that we think could come to dominate in a fintech world are already being widely used in Shenzhen, a Chinese city with 13 million people.

Cash is largely a thing of the past in Shenzhen. So are credit cards. Purchases are made by scanning QR (quick response) codes with a smartphone. This extends to groceries, bike rentals and even making payments to street performers and buskers.

These transactions occur over two dominant payment systems—Alipay and WeChat—which the Chinese government can access. The government uses the data from these payment systems to track behavior.

While we don't necessarily see the dominance of Ant Financial and Tencent as a sign of things to come globally, so-called "Big Tech" companies clearly have an interest in having a presence in financial services.

The area we are seeing this the most is in payments. Google, Apple, Amazon, Samsung and Facebook all have bespoke e-payment initiatives as this is an area that drives high consumer engagement and generates massive amounts of data.

These companies already have data that can indicate who our friends are, what our exact location is, and what we search for on the internet. We believe they are after payments data, because it lets them know how we spend our money.

By acquiring an established fintech player in the payments arena, a Big Tech company could instantly establish a platform with millions of users that it could leverage to make a disruptive push into financial services.

"BIG TECH MARKETPLACES" EXIST IN CHINA

	UNITED STATES				CHINA	
	Amazon	Google	Apple	Facebook	Ant Financial	Tencent
Beachhead	E-Commerce	Search, Mobile OS	Apple Pay Cash	Social Network	E-Commerce	Messaging, Gaming
Transfers	—	Google Wallet	Apple Pay Cash	Group Payments	Alipay	WeChat Pay
Payments	Amazon Pay	Google Pay	Apple Pay	—	Alipay	WeChat Pay
Lending	Amazon Lending	—	—	—	Ant Micro Loans	Li Cai Tong
Wealth Management	—	—	—	—	Ant Fortune	Weilidai
Personal Finance	—	—	—	—	Zhima Credit	Tencent Credit Bureau
Insurance	—	—	—	—	ZhongAn Insurance	ZhongAn Insurance
Banking	—	—	—	—	MyBank	WeBank

Source: Kleiner Perkins, Franklin Research

Startups will likely take different approaches to enter financial services, but we expect the lines between financial services and Big Tech to continue to blur.

Big Finance Fights Back

The need to invest in technology to improve the customer experience, reduce costs and grow revenues is as strong as it has ever been. Our conversations with executives and IT professionals at other large and small banks suggest that banks' investment in technology will continue to be healthy.

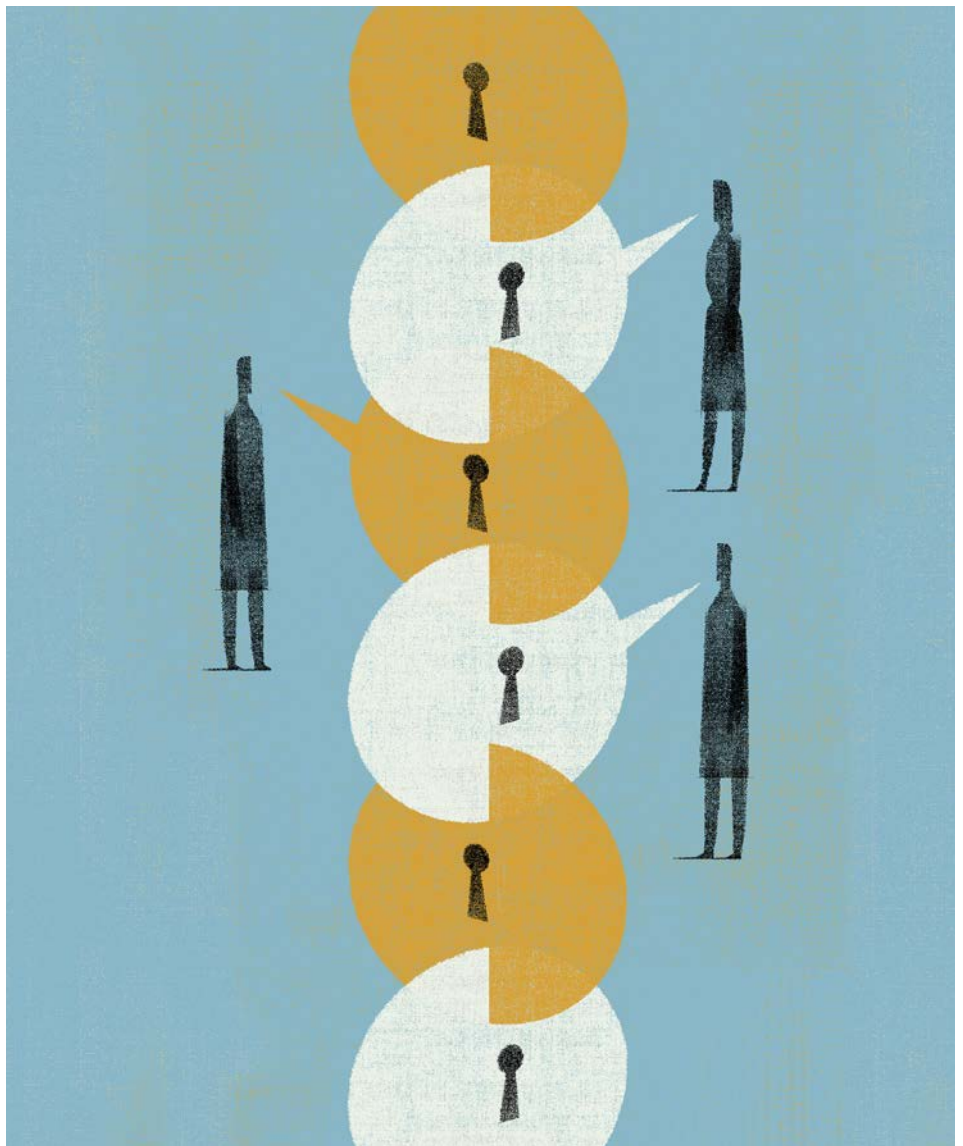
That said, traditional financial service firms are not sitting idly by as new entrants eat their lunch. Mobile apps such as PayPal and Venmo have fueled the explosion of person-to-person payments, replacing cash and checks. Banks are now making a run at taking significant market share from those apps driven by significant spending on advertising campaigns to showcase their peer-to-peer payment services.

Chase Bank, Bank of America and other large US banks have integrated the payment tool Zelle into their mobile banking applications. Similarly, traditional names are at the forefront of intellectual property developments around virtual currencies using blockchain and DLT.

Protocols are being developed not only to handle the complexity and volume of these groundbreaking transactions, but also to comply with existing and future regulatory constraints placed on banks and securities exchanges.

Patent holdings in these areas may help drive technology adoption, distinguish proprietary platform features or ward off lawsuits. Bank of America is a leader in terms of seeking blockchain patents. Other companies with blockchain patents include Amazon, IBM, VISA, Goldman Sachs Group, eBay, American Express and Western Union.²

“By acquiring an established player in the payment arena, a Big Tech company could instantly establish a platform with millions of users that it could leverage to make a disruptive push into financial services.”



2. Source: Envision IP, January 2018.

Right here, right now: automation is spreading through financial services

We believe there are substantial opportunities for fintech companies to capture larger portions of the global financial services revenue pool. Fintech's influence is already apparent throughout the sector by the following examples.

Investing

- Today, human brokers conduct just 25% of US stock-market trading; the rest is driven by automated systems, such as computerized high-speed trading programs. Humans write the code and sometimes oversee the trades, but machines are increasingly taking on even those roles.³

- Regulators estimate that computers are now generating 50% to 70% of trading in equity markets and 60% of the trading of financial futures contracts, with AI and machine learning being applied to huge amounts of data to produce investment advice.⁴

- Robo-advisory services are on the rise. These accounts are designed to rebalance allocations among asset classes when preset thresholds are hit. They have yet to be tested by a full boom-and-bust market cycle, but recent market volatility has revealed their efficacy in client service models.

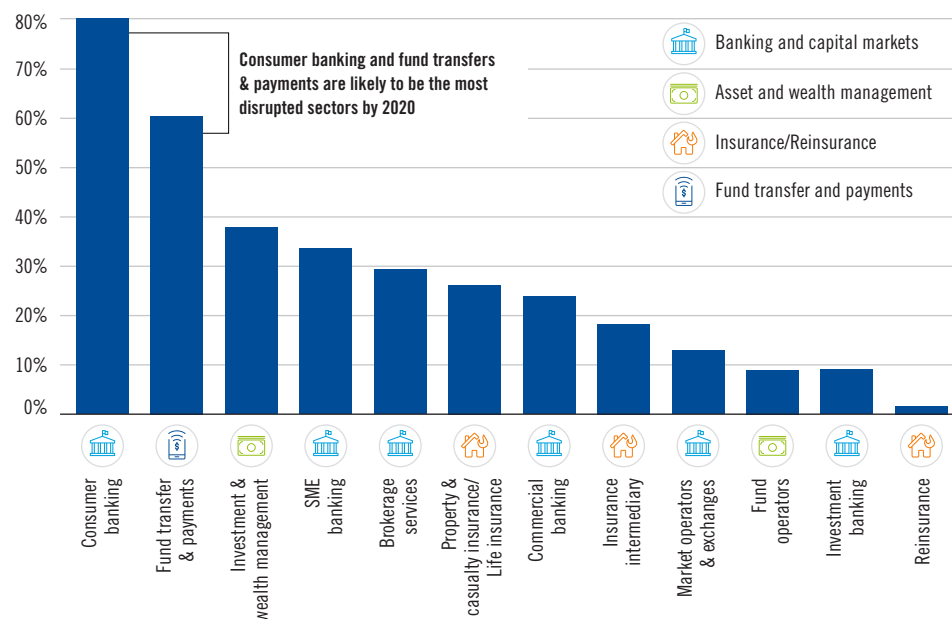
Payment Systems

- Today, new digital payment systems stand poised to eliminate the use of credit and debit cards and change the nature of online banking. And, there is a whole generation of young people who are quite comfortable with the idea of never having to carry cash or even a credit card for their daily needs.

- Fintech startups such as Plaid are becoming important connection points in the financial services ecosystem. Plaid provides a technology platform that helps developers build financial apps that can interact with bank accounts and execute payments. They are partnering with banks such as JPMorgan Chase to support the massive shift of consumers using their bank accounts for an ever-increasing number of electronic payments. As the financial services sector's data-sharing infrastructure continues to gather strength, it will be easier for startups to launch new products, which could weaken the data moat that has protected banks until now.

- We see the growing prevalence of digital payment apps in emerging markets extending the consumer universe to include individuals that don't currently have bank accounts. That's a huge potential source of clients—and client data. And it presents a challenge to the traditional banking sector.

PARTS OF THE FINANCIAL SECTOR MOST LIKELY TO BE DISRUPTED BY FINTECH



Source: PwC Global FinTech Survey 2016

3. Source: CFA Institute: Algorithmic Trading and High-Frequency Trading, 2019.

4. Source: Tabb Group estimate.

Lending

- Low interest rates and steady US economic growth have encouraged more small businesses to seek affordable credit and more consumers to borrow or refinance high-interest debt. LendingClub, SoFi and other online-lending upstarts have a competitive advantage over banks saddled with legacy technology. However, these companies lack access to the stable, low-cost funding sources that regulated banks enjoy. Rather than build the technology and process from scratch, banks may increasingly choose to partner with online-lending platforms.
- Toward the end of 2018, we saw a wave of alternative lending startups seeking to raise funding. Alternative lending encompasses bank-independent loan provision for businesses and individuals. Platforms put would-be lenders (often private or institutional investors) in touch with potential borrowers. The growth in this area is telling because lending had been one of the hottest segments in fintech several years ago but saw investor interest wane after several high-profile companies experienced post-IPO difficulties. A new generation of alternative lending startups is attempting to use machine learning to improve underwriting and trying to innovate around point-of-sale financing to provide alternatives to traditional credit cards.

Insurance

- The insurance sector is ripe for disruption. Funding to insurtech companies—those applying new technologies, behavioral finance and data analytics—reached record levels in 2018, driven by large investments. Funding across all stages totalled US\$4.15 billion in 2018, up 87% from the previous

year according to a Willis Towers Watson analysis.⁵ The new companies are focusing on keeping costs and premium rates low by processing most everything via mobile applications.

Real Estate

- The real estate sector has lagged other areas of financial services in its adoption of technology. That is changing. More data are being produced and consumed to make better decisions on how to underwrite and invest in real estate transactions. More technology-based tools are being created to streamline workflow for brokers, agents and loan officers. More innovation is happening around these business models, with several well-funded fintech companies buying and selling houses from their own balance sheets. Given the massive size of the real estate market, we expect to see many innovative fintech startups address the challenges that this market faces in undergoing a digital transformation.

Business Payments

- While the market for consumer payments seems to get the most attention, more transaction volume is actually done on the system's business-to-business (B2B) payments side. The problem is that the vast majority of B2B payments are done via checks, which are costly to process given the number of people and amount of paperwork involved. We are seeing a significant amount of innovation occurring in the B2B payments space, from accounts payable automation solutions, to business expense management and cross-border transactions. Given this is an extremely large market, we think there is ample opportunity for fintechs to make headway in this area.

Gamification

- We believe the gamification of finance is an emerging and underappreciated trend. Incorporating gaming dynamics into financial services has the potential to change how, what and when consumers spend, save, invest, repay and insure.
- We believe that gamified finance will become an important new category that helps motivate people to change financial behaviors and should result in a more engaged, sticky customer base. This could be disruptive to existing banks as users link their existing bank account with gamified finance apps and are incentivized to switch their direct deposit from their existing provider. These apps are adding social games that are helping them go viral. Once a company owns the primary checking account relationship, it can cross-sell other products such as investments, insurance and debt refinancing. We have recently met with the startups we believe are leaders in this space.

WHAT IS GAMIFICATION?

Gamification is a method that can be used to drive user engagement or behavior to achieve a particular goal by using game-like concepts. The idea is people have natural human interests (including competition and games) and firms can utilize those interests to engage clients and would-be clients.

Gamification can also help firms gather crucial data on end customers. And it can help financial services firms sell their products, but it also connects them directly to end consumers to offer deeper value, and help customers make decisions.

5. Source: Willis Towers Watson Quarterly InsurTech Briefing Q4 2018, February 2019.

Democratization of Alternative Investing

- Access to alternative investments such as venture capital, commercial real estate and hedge funds has historically been restricted to institutional investors and high-net-worth individuals. We are seeing a confluence of factors breaking down the demographic barriers to retail investors and expect access to become much easier. On the regulatory side, in the United States, the Securities and Exchange Commission (SEC) indicated that it is open to exploring ways to increase access for retail investors to private markets and other alternatives.
- On the technology side, we are seeing fintech platforms being built to facilitate investing in alternative assets such as property, private companies, collectible cars and fine art. While the portfolios of retail investors today tend to be a mix of equities and bonds, we believe the retail portfolios of the future will be much more diverse and include more alternative assets. Several fintechs are also exploring ways to utilize blockchain tokenization techniques to make investing in alternative assets more liquid, which we believe has a lot of potential.

Streamlining Debt Collection and Servicing

- Debt collection and servicing is a very important industry, particularly for

banks, yet is one that lags other financial services niches in terms of technology adoption. We believe this is changing. We recently met with several startups that are utilizing modern technology stacks and machine learning to improve debt collection rates while also providing a better experience for customers. We expect this industry to do particularly well if the global economy goes into a recession and demand for debt collection services grows.

TECHNOLOGY STACK

A technology stack, also called a solutions stack, is a list of all the technology services used to build and run one single application.

Solutions for Small Businesses

- Small businesses have historically underutilized technology since their small size makes it difficult for technology vendors to sell to and serve them profitably. What we are seeing now is that startups which build on modern technology stacks and find the right distribution channels are finding ways to serve small- and medium-sized businesses (SMBs) in previously impossible ways. We are meeting with management of several exciting startups who are seeing tremendous traction selling custom software to

SMBs in areas such as employer-sponsored retirement plans, accounts payable automation, payroll and human capital management.

Our belief is that the financial services sector is going to need to go on a digital transformation journey, and ultimately each business will need to build relationships with their customers that are service-oriented, subscription-oriented and recurring and ultimately to have data at their core. And then, they need to operationalize that data to extract more value out of their customers.

If businesses don't do that, they are at the risk of being disrupted by either a digital native entering their market or an incumbent who makes the technology investments deemed crucial to becoming digitally relevant.

Conclusion

Fintech encompasses many verticals and segments, such as AI, machine learning, data sciences, digital wealth management, personal finance, robo-advisory, portfolio and risk analytics, blockchain, financial research and others.

Technology disruption can be both a challenge and opportunity, so it's important to have both the agility and speed to make thoughtful tech investments, while navigating highly regulated industries.



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All investments involve risks, including possible loss of principal. Investing in fast-growing industries, including the technology sector (which has historically been volatile) could result in increased price fluctuation, especially over the short term, due to short product cycles, falling prices and profits, competition from new market entrants and development and changes in government regulation of companies emphasizing scientific or technological advancement as well as general economic conditions. Growth stock prices reflect projections of future earnings or revenues, and can, therefore, fall dramatically if the company fails to meet those projections. Buying and using a blockchain-enabled cryptocurrency, such as bitcoin, carries risks. Speculative trading in cryptocurrencies, many of which have exhibited extreme price volatility, carries significant risks. Among other risks, interactions with companies claiming to offer cryptocurrency payment platforms and other related products and services may expose users to fraud. Blockchain technology is a new and relatively untested technology and may never be implemented to a scale that provides identifiable benefits. Investing in cryptocurrencies and ICOs is highly speculative, and an investor can lose the entire amount of their investment. If a cryptocurrency is deemed a security, it may be deemed to violate federal securities laws. There may be a limited or no secondary market for cryptocurrencies.



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