DISRUPTIVE INNOVATION, DRIVEN BY DIGITAL TECHNOLOGY, IS TRANSFORMING FINANCIAL SERVICES.
BY MERRILL DOUGLAS
Having redefined the way we shop, communicate, enjoy music and more, digital technology is now getting ready to shake up our relationship to money.

If you want proof that financial technology (fintech) has launched a campaign to flip the finance industry upside down, just ask the 1,500 people who gathered in Manhattan last September for a conference devoted to that subject, Finovate 2015.

Or ask Simon Yoo, MBA ’98, founder and managing partner of Green Visor Capital, a San Francisco-based venture firm that invests exclusively in fintech startups. “The digitization of content, broadly defined, has fundamentally altered the world forever,” Yoo says. “Combined with the proliferation of smartphones, that changes the dynamic for all financial institutions.”

The term “fintech” describes a variety of ventures taking aim to disrupt the financial services industry. Among other things, fintech firms are trying to change the way we: make payments, borrow and lend money, evaluate credit risk, transfer funds, finance purchases, invest, manage wealth, and conduct bank transactions. Examples of well-known fintech entities include Square, Stripe, Kickstarter, Lending Club, Apple Pay, and Bitcoin.

Interest in fintech is accelerating fast. According to a 2015 report from Accenture, global investments in fintech firms totaled $4.05 billion in 2013 but tripled to $12.2 billion in 2014. A paper published by MarketResearch.com and Banking Reports predicts that this figure will reach $19.7 billion in 2015.

And according to a Goldman Sachs report in March 2015, technology-enabled startups could grab more than $4.7 trillion in revenue that would otherwise have gone to traditional financial services.

One big factor in the rise of fintech is a desire to make finance more democratic, says Rich Marin, clinical professor of management at Johnson and a general partner in Green Visor Capital. “People ask, ‘Why do the credit card companies get such huge fees? Why rely on banks for loans, when banks take forever to say yes or no and charge high margins? And why go to an investment banker on Wall Street to raise money for a startup, when you could do it on the Internet through a crowdfunding platform?’”

Technology gives more people access to financial services, faster and more simply, and often at a lower cost.

Digital innovations in other industries have created expectations that are now prompting similar changes in finance, notes Savneet Singh ’05 (Applied Economics and Management). Singh is president and founder of the fintech startup Gold Bullion International (GBI) and an angel investor who focuses on fintech.

“Consumers today are much more comfortable going directly to a service provider rather than always having to go through their bank, financial advisor, or other middleman,” Singh says. And people who work in financial institutions want access to technology tools that are just as advanced as the ones they use in their personal lives.

Another force behind fintech is the unprecedented volume, variety, and quality of data that companies can tap to gauge consumer needs and understand credit risk, says Wesley Sine, professor of management and organizations at Johnson. “This is allowing banks and non-banks to create new kinds of services and deliver those services in ways that were not possible before.”

For example, in the past you might open a savings account to earn a few interest points on money that the bank then lent out for several points more. If you needed a loan, you might borrow from a bank at a moderate rate, use a credit card at a higher rate, or turn to a payday lender at an exorbitant rate.

Today, an online peer-to-peer lending platform such as Lending Club or Prosper gives both depositor and lender an alternative. “It provides an opportunity

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MACHINE-MADE STOCK TIPS
Along with banks, financial advisors are also seeing tech-driven services move in on their turf. One of the invaders is TipRanks, a startup that uses natural language processing to scrape data from the writings of professional stock analysts and then ranks those advisors by how well their predictions pan out. The results help investors decide whose advice to follow.

Roni Michaely, Rudd Family Professor of Management and professor of finance at Johnson, serves on TipRanks’ board.

Besides marketing its service directly, TipRanks collaborates with the online trading platform E-Trade, helping investors choose which stocks to buy, Michaely says. “If an analyst gives a recommendation, you can also see what the other top analysts are saying about that stock.” Within the past year, TipRanks has started ranking financial bloggers and ranking corporate insiders by the success of their trades, so investors can decide to follow the insiders who demonstrate the best timing.

Some aspects of fintech have made headlines but have not yet made serious inroads into business as usual. Notable among those are digital currencies, including Bitcoin, an open-source payment system that enables peer-to-peer transfers.

Bitcoin is considered a “cryptocurrency” in that it operates without a central bank or other authority to mediate transactions. But Bitcoin isn’t as decentralized in practice as it is in theory, says Ari Juels, a professor at the Joan & Irwin Jacobs Technion–Cornell Institute at Cornell Tech whose interests include computer security, financial cryptography, and cybersecurity. “The code is maintained by just a handful of coders. The vast majority of coins in the system are held by a small group of users, and most of the mining power [the process for creating new coins] resides in a few big mining pools.”

In the future, Bitcoin’s main impact might not be in currency but in other applications of the underlying blockchain technology. Juels says.

One intriguing possibility is the “smart contract.” Juels cites a new platform called Ethereum, which lets users place contracts on the blockchain — the distributed database used to process transactions in payment networks such as Bitcoin.

“People can create autonomous contracts, programs that can do whatever you like and can manipulate money,” Juels says. A smart contract might automatically sell stock when it reaches a certain price or issue an insurance payout when temperatures in Florida drop low enough to ruin an orange crop.

Blockchain technology also interests Susan Joseph ’81, an attorney and consultant who has done work for several fintech firms. Joseph blogs about fintech, has founded two fintech groups on LinkedIn and, as co-founder of the fintech startup Leverage LLC, is working to modernize the process of transforming assets into securities.

Because the blockchain lets people make transfers in a trusted manner without an intermediary, it eliminates inefficiencies and reduces costs, Joseph says. Systems based on the blockchain won’t gain millions of users overnight, but the technology offers exciting prospects, she says. “If you look at emerging markets, the non-banked are going to benefit from blockchain-based transactions almost immediately, and this should help improve their access to financial services.”

Companies that now spend as much as 40 percent of their budgets on complying with financial regulations will benefit as well, Joseph says. The blockchain simplifies compliance because its transactions are inherently transparent. “Regulators will be happier, because they’ll be able to see what’s going on,” she says. And transfers made in near real-time will make trade more efficient. “Cross-border transactions might settle in a day, or ten minutes, versus 30 or 45 days.”

FINTECH HERE AND NOW
While much of the potential of cryptocurrency lies in the future, many fintech entrepreneurs promise benefits today. They say their services provide efficiency, simplicity, economy, and — in some cases — access for people who have been shut out of traditional financial services.

One example is Finexkap, a Paris-based factoring service co-founded by Cédric Teissier, LLM ’03.

A factor is a party that purchases accounts receivable, at a discount, from companies
that need quick cash. In Europe, where most factors are large banks, such services impose onerous terms on their customers, with fee schedules that are almost impossible to interpret, says Teissier, Finexkap’s CEO.

Finexkap eliminates the paperwork, delays, and constraints that businesses encounter when they work with institutional factors. “You can submit your invoice for financing 24/7 with your iPad on your couch,” Teissier says. “It takes just five minutes to create an account and less than one minute to submit a funding request.” CEOs don’t become personally liable for the invoices they sell if Finexkap can’t collect. Businesses don’t have to commit to selling a set number of invoices over a specific period. And the fee structure is simple.

Finexkap uses publicly available data to qualify its customers. “When the company enters its tax ID, we automatically get all of its financial information,” Teissier says. Algorithms also define the risk associated with individual invoices.

As a champion of fintech, and a FinTech Advisory Group Member at the World Economic Forum, Teissier has called for new regulations to cover this nascent industry. Regulations would create standards of quality, plus guideposts to tell fintech firms what they may and may not do, he says. “Our biggest challenge is making sure our clients trust us and know that we are credible and worthy of their membership.”

Many proponents look to fintech for services that traditional financial institutions simply don’t offer. That’s Yoo’s focus at Green Visor Capital, whose partners include Joe Saunders, the former CEO and chairman of Visa. Green Visor seeks out not just tech innovations with financial applications, but startups focused on substantive and currently unfilled needs. “We also want to make sure we’re always backing socially responsible entrepreneurs,” Yoo adds.

Those values have prompted Green Visor, for example, to back CreditShop, an online service that makes loans to working people with non-prime or scant credit histories. “Their product is more expensive than a credit card, but these people could not get traditional credit cards,” Yoo says. CreditShop offers a far more attractive alternative to predatory payday lenders, with no hidden fees, he says. “It gives people a chance to get back on their feet and meet emergency liquidity needs.”

Like CreditShop, the point-of-sale financing service Zibby targets people who don’t qualify for traditional credit. Zibby is a service of the fintech company Cognical, founded while still at Johnson by Brandon Wright, MBA ’12, together with Chinedu Eleanya ’12. Cognical won the Cornell Venture Challenge, the university’s prestigious business plan competition, in 2013.

Zibby is designed for non-prime consumers — people with low FICO scores. Cognical markets the service to e-commerce and brick-and-mortar merchants, who use it to offer a lease-to-own option and qualify consumers on the spot. Zibby targets merchants selling durable goods such as furniture, electronics, appliances, musical instruments, and noncustom medical devices.

The approval process is faster and less burdensome than methods that in-store credit programs have used in the past, says Wright, Cognical’s CEO. And customers don’t need to provide pay stubs, utility bills, or other documentation. Using a birth date, social security number, cell phone number, and email and physical addresses, Zibby goes online to access thousands of data points that hint at a customer’s ability to make monthly payments. It then instantly determines whether to underwrite the purchase.

Non-prime consumers make up nearly half the U.S. population, Wright says. Many
lack conventional credit simply because they haven’t generated the kind of data FICO takes into account. “Serving the non-prime consumer is a data problem, not a creditworthiness problem,” he says.

Extending credit to people who couldn’t secure it in the past is also the mission of ProducePay (see story on page 32), a fintech service for growers of fresh produce that emerged from the fall 2014 Fintech Hackathon, an annual Johnson event held at Cornell Tech in New York City.

VALUE-ADDED PAYMENT PROCESSING

While some fintech services focus on unmet consumer needs, Merchant Service Group, run by CEO Jason Thanh La, MBA ’14, targets the needs of businesses. Based in Huntington Beach, Calif., Merchant Service Group, LLC, provides payment-processing solutions and technology to merchants who serve a diverse population. Delivering service in more than a dozen languages, it uses technologies such as imaging, mobile payment, and data analysis to offer speed, plus extra value on the front and back ends of a transaction.

For instance, while it normally takes a merchant 24 hours or more to get approved to accept credit cards, a customer of Merchant Service Group can gain that approval in less than two hours, La says. And it uses data from merchants’ transactions to provide extra services. “We provide analytics that help our customers understand their customers,” he says. “That helps them conduct better marketing campaigns and provide superior customer service.”

La also backs fintech startups as a partner in the early-stage investment fund K5 Ventures. Among the companies K5 supports, one particularly interesting one, he says, is Coin, which allows customers to load multiple credit, debit, and loyalty cards onto a single card. Others include Wonder Technologies, which lets consumers purchase electronic gift cards for local businesses and national brands, and Ivy Pitch, a platform whereby Ivy League alumni connect with and invest in other Ivy League alumni. “Many investors would like to fund startups but don’t have the opportunity to do so,” he says. Companies such as Ivy Pitch give them that chance.

For Singh’s New York-based fintech business, GBI, the focus is buying, selling, and arranging to store precious metals. GBI brings digital technology to a marketplace that, until now, has relied mainly on face-to-face transactions and phone calls.

“If you want to buy a position in gold or silver, we take your order, we bid it out to the dealers who participate in our exchange, and whoever gives the best price gets the transaction,” Singh says. “That creates transparency, much lower pricing, and, maybe most importantly, ease of use, since you can do it from your computer or phone.”

As an investor, Singh — whom Forbes named to its “30 Under 30 in Finance” list in 2012 — targets fintech ventures that remove the middleman and those that use new data sets to reinvent old industries. One example of using a new data set, he says, might involve deploying a sensor to track how many people enter and leave a coffee shop. “Based on that data, you could probably create a better insurance product than exists now. You’d know exactly how much traffic is coming in and out of that shop and hence could price the insurance better.”

Online lending is an especially exciting area for fintech, because it generates entirely new models for business and credit, Singh says. “No one ever dreamed a bank could face competition, but now that it’s here, it’s coming fast.”

ARE BANKS HISTORY?

That competition raises an obvious question: Will traditional financial institutions fall to the same rude shocks as print newspapers and video stores?

While talk about fintech often highlights its potential for disruption, fintech entrepreneurs should view traditional financial services not just as rivals to overthrow but also as potential partners, says Yoo, a former investment banker who provided strategic advice for 15 years to traditional financial institutions and served briefly as chief financial officer of a fintech startup before launching Green Visor. “The operation you’re trying to build may require
licensing, and you might have to adhere to a regulatory framework.” A partner with an infrastructure in place for meeting those needs can prove invaluable.

Nevertheless, the old guard clearly needs to change with the times — and change isn’t always easy for banks and their brethren, Michaely observes. “When you go to a bank, you want something you can trust, something with zero tolerance for failure. While by definition, you cannot have a startup if you have zero tolerance for failure.”

Some banks are embracing fintech, says Marin. “They find ways to start or buy small businesses.” They’re also adding services based on new technologies, such as mobile apps that let customers make deposits by scanning checks.

“Others run and hide,” he adds. “They get caught in the tsunami, and eventually they’re out of business.”

Many financial giants are clearly banking on fintech. Investors in the payment-processing startup Stripe include Visa and AmEx. Citigroup’s Citi Ventures division has invested in Square.

Banks have established laboratories to develop their own innovations and accelerators and incubators to nurture potential partners. “The Capital Ones of the world are setting up labs in New York City,” says Sine. “They’re trying to attract great digital talent — computer programmers and MBAs who think about how to create value for consumers.”

Laura Wang, MBA ’12, is one of the innovators leading fintech efforts at JPMorgan Chase in New York. As vice president, digital products and strategy, Wang is overseeing the end-to-end product development of a new omnichannel payments product, Chase Pay, while also strategizing about digital payments for the future. “We’re figuring out what types of solutions we want to bring to market and how we want to partner — if we want to partner — to develop those types of experiences,” she says.

Chase already collaborates with other major banks in initiatives, such as ClearXChange, that provide peer-to-peer payment transfers. “You just type your payment request in your mobile app or online, and that connects through the back end between the sender’s and recipient’s banks so you can see those funds delivered right away,” Wang says.

Among the many varieties of fintech, digital systems for making payments are especially interesting, Wang says. “We’re trying to find how to bring the most frictionless experience to both customers and merchants, whether that involves digital wallets or easier ways to go through online checkout securely.” Chase’s credit card customers are largely embracing the current innovations in digital payment systems, she says. “There are more Chase customers who have provisioned their cards to Apple Pay than customers of any other bank.”

To engage digital-native millennials, banks can’t rely on old models such as brick-and-mortar branches, says Ben Weiss ’03 (Engineering). Weiss worked with fintech startups at several consulting and venture capital firms and is now involved in a fintech project currently in stealth mode. In his venture capital work, Weiss worked with startups such as StockTwits, a platform for social investing, and Opera Solutions, which focuses on data analytics.

“The likelihood of a young person just out of college going to a bank branch more than once a year is shockingly low,” Weiss observes. “Many of those folks don’t even have a signature, let alone an understanding of why they would write a check.”

Along with obsolete business models, banks today struggle beneath decades’ worth of legacy technology, Weiss says. As they’ve added ATMs, interactive voice response systems, Web services, and mobile services, banks have continued to bolt new technology onto old, creating customer service nightmares such as the call center rep who can’t view a customer’s mobile transactions.

“Startups obviously have a huge advantage, because none of us have legacy customers, or we have only a few,” Weiss says. So they can forego outmoded business models. “And startups are building the technology from scratch in a modern way that is designed to scale.”

Whoever emerges triumphant from the fintech revolution, technology will surely reshape the financial landscape in ways we have not yet imagined. “We’re just at the Netscape phase,” says Teissier. “Our Google has not even appeared.”