

MX[®]

50 YEARS

Since We Landed on
the Moon





How Financial Technology Has Evolved in the 50 Years Since We Landed on the Moon

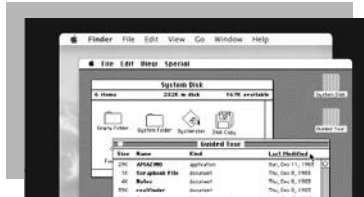
In 1969 surgeons implanted the first artificial heart, Dorothy Hodgkin determined the structure of insulin, the beginning of Bluetooth transmissions was born, and Neil Armstrong landed on the moon. It's been 50 years since then—50 years of technological advancements and cultural development. And the financial industry is no different. There have been a lot of advancements in the banking sector in the last 50 years or so, thanks to technology. Let's take a look back through a brief history of banking technology to see just how far we've come.

Technology in Banking Timeline



1973- First E Payment

The international SWIFT payment network was established and domestic payment systems were developed around the world by banks working with governments.



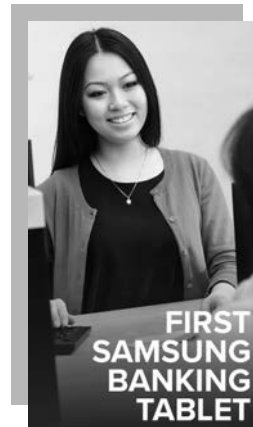
1984-Apple GUI

The Macintosh revolutionized the windows and mouse format pioneered by Xerox by introducing a graphical user interface.



1977

The Apple II was introduced and it ushered in a new age of personal computing.



1989

The first commercially available computer tablet. Bank employees were able to move “around and beyond the branch”. The teller could now serve customers needs “from a mobile tablet as opposed to a tethered device.”

1969

1979

1989

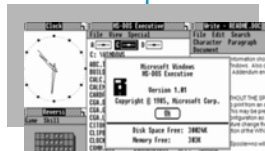
1990

In Geneva, Switzerland, Tim Berners-Lee develops a new technique for distributing information on the internet, eventually called the World Wide Web.



1971

The first general purpose programmable processor on the market—a “building block” for engineers.



1985- Windows OS

Microsoft subsequently creates a GUI and ships it around the world under the name “Windows.”



2000- Broadband Internet

The first general purpose programmable processor on the market—a “building block” for engineers.

2015- EMV Chips

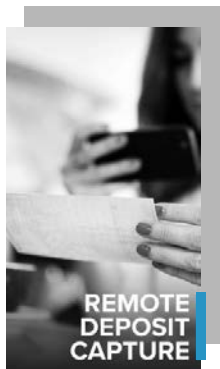
FiNet’s Brent says EMV chips make cards far more secure because the information transmitted is encrypted and tokenized. Additional security is critical as payments become more integrated, he notes.



QUANTUM COMPUTING

1998- First P2P Transfer

Paypal was the 1st P2P money transfer service introduced to consumers. P2P services have made it more convenient for people to pay for services or earn money as online sellers.



2004

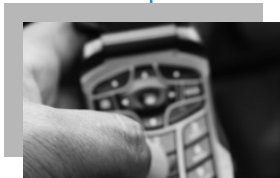
“The Check 21 Act of 2004” was passed. The Act made it so that “a check” recipient could make a digital copy of a check electronically.” The move to remote check deposit capture cut down the waiting period for check processing, making it possible for people to pay for bills and other purchases in real time.

2019

Quantum computing is the use of subatomic Qubits for computing as opposed to the standard bits. This leads to exponentially faster processing speeds. IBM has hit a milestone in Quantum computing. It’s a latest system has doubled the quantum volume of its predecessor. If this doubling continues annually, we could see practical “quantum advantage within the next decade.”

2009

1999



1999- Mobile Banking

Some European banks began implementing mobile banking processes as early as 1999 through the use of SMS text messaging, although most US banks to begin implement mobile banking until the advent



2007- iPhone

The iPhone began the smartphone revolution. The friction between digital tech and digital tech use was virtually erased by the app store.

2019

2011- Google Wallet

Introduced as a mobile payment technology that “is vying to replace credit cards.” For the first time people could use their phones directly for purchases.



A man with short dark hair, a beard, and glasses is smiling broadly. He is wearing a grey blazer over a dark blue t-shirt. He is holding a credit card in his right hand. The background is blurred, showing what appears to be an outdoor setting with a building and some greenery.

The Introduction of the Credit Card

The first most notable technological advancement in the financial industry was the advent of the credit card in 1950. “Diners Club introduced the first universal credit card, a portable payment solution that could be used at numerous member establishments.”¹

The introduction of the credit card fundamentally changed how consumers thought about their finances. They no longer had to carry or spend cash for every purchase. They now had the freedom to borrow against a line of credit that they could pay off at a future date. In general, credit cards allow consumers to make bigger purchases, without having to dip too deep into their savings.

1950

1960

ATMs, Computers, and Much More

Fastforward, a little over a decade later to the 1960s, when the world was introduced to the first ATM. “A Scottish inventor named John Shepherd-Barron [thought] if vending machines could dispense chocolate bars, why couldn’t they dispense cash?”² Barclays Bank fell in love with the idea and the first ATM was created. With the invention of the ATM, customers were no longer constrained by bank hours and locations when they wanted to access their money.

The use of computers in banking was also introduced in the 1960s when the then-Bank of New South Wales announced it would purchase its first-ever computer for the sum of £1 million. That’s about \$26 million in today’s dollars.

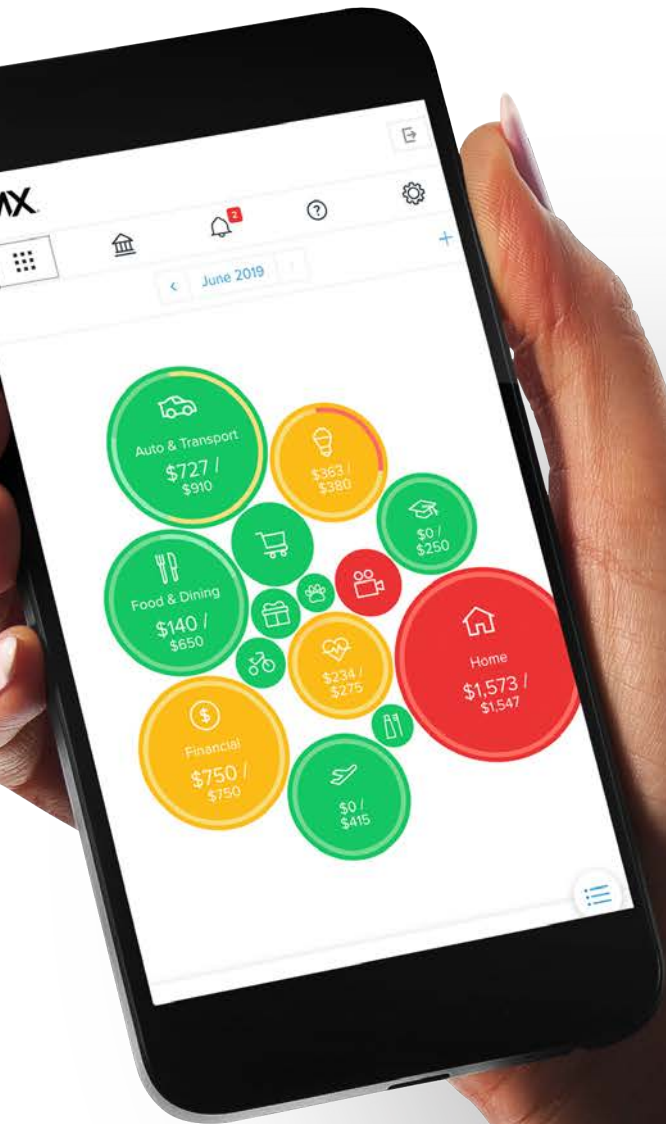
The use of computers sparked the first digital [banking] revolution.

The computer centrali[zed] the bank’s trading accounts by replacing the machine accounting operations used in each individual branch.”² The hope was that a centralized place for accounts would streamline processes and allow financial institutions to place a stronger focus on customer service.

The use of computers sparked the first digital

revolution. “Banks started to invest heavily in computer technology to automate manual processing. By the 1970s, the first electronic payment systems for both international and domestic transactions were developed. The international SWIFT payment network was established in 1973 and domestic payment systems were developed around the world by banks working with governments.”²





The Convenience of Online Banking

In the 1980s, with digital technology well underway, the “term ‘online’ which referred to the use of a terminal, keyboard and TV to access the banking system using a phone line” gained popularity. With online banking came the benefits of lower transaction costs, easier integration of services, and more targeted marketing capabilities.²

As online banking gained momentum, the first commercially available computer tablet, manufactured by Samsung in 1989, brought a new wave of convenience in retail banking. For the first time bank employees were allowed to “move within and even beyond the branch. Instead of waiting in line for the teller to become available, the teller might come to the door, greet a customer, sit on the couch with them and serve their needs from a mobile tablet as opposed to a tethered device.”³

Late in the 1990s, consumers were introduced to PayPal, a P2P money service, enabling wireless transfers. The creation of PayPal spawned a myriad of like businesses from Venmo and Popmoney to Zelle. These services made it more convenient for people to pay for services wirelessly.⁴



The Mobile Banking Revolution

The early 2000s, with the advent of wireless technology and the wide adoption of smartphones, brought the next major shift in the financial industry—mobile banking. Mobile banking made it possible for people to manage their financial lives from virtually anywhere and at any time. Now people could pay bills, check balances, transfer funds, or add new accounts all from their mobile devices. For the first time, the branch experience started to become secondary, as people flocked to the convenience and ease of their mobile devices.

In 2004, as mobile banking continued to grow in popularity, “the Check Clearing for the 21st Century Act”³ was passed. The Act made it so “a check recipient could make a digital copy of a check and then process that check electronically.”³ The move to remote check deposit capture reduced the waiting

period for check processing, adding convenience and making it possible for people to pay for bills and purchases faster than ever before.

About seven years later in 2011, Google introduced Google Wallet, a mobile payment technology meant to rival credit cards. For the first time people could use their phones directly for purchases. This opened up a whole new level of freedom, taking technology in the financial industry to a whole new level. Similar to Google Wallet, in 2014, Apple launched Apple Pay.

Heading the charge in 2015, “Bank of America... introduced fingerprint authentication and Touch ID,”⁵ making it easier and safer for people to log into their mobile banking apps. In the same year, the EMV chip technology became a standard among card issuers. The “EMV chips make cards far more secure because the information transmitted is encrypted and tokenized.”⁵ And it adds more security, which is “critical as payments become more integrated.”⁵

A New Era in Banking

Today we're seeing another major shift in the financial industry, largely brought about by consumers' expectations for convenience, relevance, and ease. As technology continues to advance in the banking industry, it's fundamentally changing the banking model. Consumers expect hyper-personalized and relevant communication from all of their online and offline interactions. And they don't want to initiate the conversation. They want their financial institutions to keep them in the know about their finances and notify them if something needs their attention. In essence, they're looking for a self-guided financial wellness solution.

But what exactly does self-guided financial wellness mean? In short, it means proactive financial advice at the right moment and time—helping people stay on top of all of their financial matters in real-time. People no longer simply want to trust their financial institution with their money. They want to trust that their financial institution understands them and has their best interest in mind when it comes to financial matters.

Luckily, financial institutions are well positioned to take advantage of everything technology has to offer. It's now easier than ever before for financial institutions to access and act on their wealth of data to help customers make well-informed financial decisions. Whether it's mobile apps enabling budgeting, notifications encouraging better spending habits, or ads informing customers on where to go for a better mortgage loan—there's a lot that financial institutions can do to help their customers.

And the best part is that financial institutions can do

People no longer simply want to trust their financial institution with their money. They want to trust that their financial institution understands them and has their best interest in mind when it comes to financial matters.

all this without having to fundamentally change their customers' behavior towards finances. At MX, we're ushering a new age of personal financial wellness with a tool that does all the heavy lifting—from proactive notifications to guided financial advice, so everyone has access to the financial information they need to lead happier and healthier financial lives.

MoneyMap with Pulse combines the ease and convenience of online and mobile banking with proactive financial advice and insights. Now financial institutions can actively help guide their customers to financial wellness throughout every stage of their financial journey by ensuring they're always in the know. It's time to move past reactive, transactional communication to proactive and meaningful relationships that help instill trust in customers' hearts and minds. Consumers want to know that their financial institution understands them and is actively working to help them improve their financial lives. And now, with MoneyMap with Pulse, you can be there to deliver.

What's Next?

Consumers expect hyper-personalized and relevant communication from all of their online and offline interactions. They want their financial institutions to keep them in the know about their finances and notify them if something needs their attention. In essence, they're looking for a **self-guided financial wellness solution**.



See How MX Can Help.

visit **MX.com** or call us at **801-669-5500**.

1. <https://independentbanker.org/2017/10/timeline-180-years-of-banking-technology/>
2. <http://blog.rxpsservices.com/a-timeline-of-digital-innovation-in-banking>
3. <https://independentbanker.org/2017/10/timeline-180-years-of-banking-technology/>
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