



Digital payments and online banking services

FinTech: finance goes digital!

FinTech represents the digital transformation of the financial world, which is shifting from traditional methods to increasingly technology-driven solutions. Today, digital payments are at the heart of this revolution: it is possible to pay using smartphones, smartwatches, apps, or cryptocurrencies, reducing the use of cash and checks.

This growth has been driven by the widespread use of smartphones, the increase in online shopping, and a greater demand for payment traceability. After COVID, the use of cash declined even further.

In response to these changes, Europe has updated its regulations, introducing rules such as **PSD2** to make payments more secure and competitive, and the **GDPR** to protect personal data.

And what about the money? In 2020, despite the chaos of the pandemic, **FinTech funding reached 42.3 billion dollars**. That's astonishing.

According to financial leaders, the real turning point is digital payments: fast, smart, and increasingly widespread. Think about it—when was the last time you paid for something in cash?

In short, together we will discover:

- **What FinTech is** and why it's revolutionizing everything;
- **How mobile payments, instant payments, and cryptocurrencies work;**
- And finally, **three real-life stories** in which digital technologies became the main characters (and sometimes... even accomplices in a bit of trouble).

Ready to dive into a world where money travels at the speed of a click?



How to recognize safe apps and reliable payment websites

Secure apps:

- Download only from official app stores
- Many reviews and recent updates
- Protected login (PIN, fingerprint, Face ID)
- Verifiable developer

Secure websites:

- HTTPS enabled
- Padlock icon in the browser
- Protected payment methods
- Clear privacy policy



Enable two-factor authentication

How to enable it:

- Go to your account settings
- Select **Security**
- Enable **two-factor authentication**
- Choose **SMS** or an **authentication app**
- Enter the code you receive

Why use it:

- It protects your account even if your password is stolen
- It reduces the risk of online fraud



How does a payment actually work?

A payment is the transfer of money to settle a debt, but behind this simple action there are complex systems made up of rules, technologies, and procedures that ensure secure and fast transactions.

Today, these systems are changing rapidly thanks to FinTech. We can distinguish between **wholesale payments**, used between banks and large companies, and **retail payments**, used every day by citizens and businesses.

New technologies are shifting payments toward digital solutions such as smartphones, apps, and cryptocurrencies.

WHAT REALLY HAPPENS WHEN YOU PAY FOR A SANDWICH?



FinTech differs from traditional models because it is centered on customer needs and uses digital technologies to make services faster, more efficient, and more competitive.

The main technologies include artificial intelligence, blockchain, big data, machine learning, and open APIs, which enable real-time, personalized services.

Often, technological development is also managed by specialized IT companies (TechFin), which are essential for cybersecurity and data management.



FinTech and business

Over time, **FinTech** has evolved into numerous business areas. Despite the heterogeneity of the sector, it can be divided into **seven main macro-areas**, each with specific sub-segments:

- **1. Neobanks**

Companies that provide banking services exclusively through apps. They are divided into:

- **Retail neobanks** (private customers)
- **Business neobanks** (services for SMEs)
- **Hybrid neobanks** (both targets)

Not all of these entities are registered as banks with supervisory authorities, resulting in potential risks for consumers, such as the lack of deposit protection and less stringent regulation.

- **2. Digital payments and electronic wallets**

These include:

- **International payment and remittance services**
- **Digital wallets** for in-store payments via smartphone (NFC, QR code)
- **Online and P2P payment services**
- **Instant payments** in-store or online

3. Cryptocurrencies

This includes companies that provide services for managing and exchanging cryptocurrencies, such as wallets and exchanges.

4. Alternative lending

They offer alternative credit solutions, including:

- **Peer-to-peer lending (P2P)**
- **Invoice advance and factoring**
- **Creditworthiness assessment using big data**

5. Alternative finance

This includes all forms of crowdfunding:

- **Donation-based**
- **Reward-based** (e.g., prototypes, prizes)
- **Equity-based** (shareholdings)
- **Lending-based** (loans with interest)
- **Real estate crowdfunding** (equity and property loans)

6. Personal finance

This area covers investment and savings management services, including:

- **Online trading platforms**
- **Robo-advisors for retail clients**
- **Tools supporting financial advisors**
- **Market monitoring and analytics**

7. InsurTech

This includes:

- **Online comparison websites for insurance policies**
- **Digital insurance services**

FinTech is therefore reshaping the entire financial ecosystem by lowering entry barriers, increasing competition, and improving the quality of the end-user experience through the smart and targeted use of technology.

Positive aspects and critical issues of FinTech

FinTech has brought many advantages, such as greater financial inclusion and more accessible, faster, and more efficient services. Today, more and more people and businesses can access digital financial services, even in countries where access to traditional banking was limited.

However, the rapid spread of digital services and the increase in online users have also raised security risks, encouraging the growth of digital fraud and cyberattacks.

👉 For this reason, it is essential to understand the main risks and how to protect yourself.



Digital fraud

Tom receives an email that appears to come from his bank. Believing it to be an official message, he clicks on the link and enters his personal and banking details. Shortly afterward, he discovers that his account has been emptied because the email was actually a scam.

What are the warning signs?

- Urgent emails
- Suspicious links
- Requests for personal data

How could it have been avoided?

- Contact the bank directly
- Never click on suspicious links



Regulatory requirements



The growth of FinTech has highlighted some regulatory differences: while traditional banks are subject to very strict controls, many FinTech companies operate under less stringent rules. For this reason, the European Union and its Member States have updated regulations to adapt them to the new digital financial system. In Europe, regulations such as PSD2 (to make payments more secure and competitive) and GDPR (to protect personal data) have had a very significant impact.

Cybersecurity

Cybersecurity is a key issue for FinTech. The protection of data and transactions is ensured through systems such as:

- Data encryption
- Biometrics and multi-factor authentication
- Blockchain for transaction authentication

Despite this, the increase in digital users—especially during the pandemic—has led to a rise in cyber fraud, particularly through phishing (PwC, 2020).



Anti-money laundering regulations

The rise of digital finance and FinTech has opened new doors not only to innovation, but also to illicit financial activities. Criminals increasingly exploit cryptocurrencies, peer-to-peer platforms, and digital wallets to move money anonymously and across borders, challenging traditional anti-money laundering (AML) systems.

In response, both the EU and the United States are strengthening their regulatory frameworks by introducing stricter rules on Know Your Customer (KYC) requirements and transaction reporting, particularly for crypto-related services (Spiaggia, Faruqi, & Shirakami, 2020). These efforts aim to close regulatory gaps and improve oversight.

However, the global and decentralized nature of FinTech makes regulation especially difficult. Criminals can easily shift their activities to jurisdictions with weaker laws, creating a “whack-a-mole” effect. This is why international coordination, through bodies such as the FATF, is essential to ensure consistent standards and effective cross-border enforcement.

In short, as financial innovation grows, so does the need for agile and collaborative regulation that can keep pace.


FinTech around the world: who is really driving innovation?

At an international level, the United States is the country with the largest number of FinTech companies, but China is the true leader in the use of these services. In China, digital payments are made more often via smartphones than with cash. This success is mainly due to two major companies: WeChat Pay and Alipay. Alipay is part of Ant Group, the world's largest FinTech company, linked to the e-commerce giant Alibaba. Ant Group also operates MYbank, a digital bank, Yu'e Bao for personal finance, and Huabei, which offers online loans. Alipay's main competitor outside China is PayPal, which is widely used in the United States and Europe. However, PayPal operates in more highly regulated markets, where cash usage is still significant and banking systems are more developed. This helps explain the gap in revenue and number of users between the two companies. Another sign of the growing importance of FinTech is the increase in investment in sector startups. Despite a decline in the first months of 2020 due to the pandemic, investments more than doubled in the second half of the year, reaching a total of 105.3 billion dollars in 2020. Nevertheless, this figure remains lower than the peak reached in 2019, when investments amounted to 168 billion dollars.

Europa un po' indietro, ma qualcosa si muove!

In Europe, FinTech has developed more slowly compared to the United States and China, with lower investment levels and a limited number of large startups. However, in recent years the sector has been growing rapidly thanks to technological innovation, the spread of digital services, and the support of European regulations.

More and more people are using digital financial solutions, while banks are reducing physical branches to offer faster, more mobile, and more personalized services. At the same time, European FinTech startups are expanding their services across multiple countries thanks to EU rules that facilitate access to the market.

 Europe, although starting later, is becoming an increasingly competitive and innovation-friendly environment for FinTech.

Some of the most well-known and successful FinTech companies in Europe today include:

- **Satispay** – A leading app for fast, commission-free digital payments, particularly popular in Italy.
- **Moneyfarm** – A robo-advisory platform that helps users invest their savings based on individual risk profiles.
- **Prima Assicurazioni** – A fully online insurance provider offering customizable digital insurance policies.
- **N26** – A digital bank that combines current accounts, budgeting tools, and payment features in a single app.
- **Scalapay** – A platform offering digital loans and “buy now, pay later” services with a strong focus on transparency.
- **CrowdFundMe** – A crowdfunding platform that connects investors with startups and small businesses.
- **Conio** – A digital wallet solution for securely managing and storing cryptocurrencies.

In short, Europe is evolving rapidly. Although it started a bit later, it is now building a collaborative ecosystem of banks, regulators, and startups that is increasingly integrated, user-centered, and supportive of innovation.

Payment systems

New digital payment systems are transforming the way we pay, reshaping both traditional and digital habits.

Classic methods such as cash and checks are rapidly disappearing—especially among younger generations—while cards and bank transfers are also being redesigned to meet new expectations of speed, simplicity, and mobility.

1. Mobile payments

Smartphones have become digital wallets. Apps such as Apple Pay, Google Pay, and Satispay allow users to pay in stores, online, or even split bills with friends—all with a tap or a scan. Mobile payments are fast, secure, and do not require physical cards or cash, making them ideal for everyday use.

2. Instant payments

It is no longer necessary to wait 1 to 3 business days for a bank transfer. Thanks to instant payment systems, money can be sent and received in real time, even between different banks. In the EU, the SEPA Instant Credit Transfer system is making this possible, and many banks now offer instant transfers 24/7. For both consumers and businesses, speed is becoming the norm.

3. Cryptocurrencies and blockchain payments

Cryptocurrencies such as Bitcoin, Ethereum, and stablecoins introduce a completely new infrastructure for payments, outside the traditional banking system. Although they are still volatile and not yet widely used for everyday transactions, they are already influencing how we think about cross-border payments, decentralization, and financial independence.

Mobile payments: the future in your pocket

Mobile payments refer to any transaction carried out through electronic devices such as smartphones, smartwatches, or tablets. These systems rely on digital wallets (such as Apple Pay, Google Pay, and Samsung Pay) and dedicated apps (such as PayPal, Satispay, or Alipay), which allow users to pay in stores, online, or even in person, all without the need for physical cards or cash. What makes mobile payments so attractive? They are fast, secure, and intuitive. Many services use biometric authentication (such as fingerprint or facial recognition), while Near Field Communication (NFC) technology enables contactless payments with a simple tap.

DISCOVER MORE ABOUT MONEY—SAFELY!

You can find educational games and online simulations to learn how digital payments and money management work. For example, you can visit:

 <https://kids.usmint.gov/games>

Here you can explore interactive activities about money, from calculating change to managing a business.

Remember, though: whenever you use online websites, it's important to always check that they are secure before entering any personal information.

 Now let's see how to recognize whether a website is safe



How to check if a website is safe before paying

Before entering personal data, check:

- Correct URL
- HTTPS enabled
- No suspicious urgent requests
- Online reviews of the website



Digital commerce: the engine of online payments

The expansion of e-commerce has made digital payments increasingly necessary to shop online quickly and securely.

Payment systems operate through **open circuits** (connected to banks and cards, such as PayPal or Stripe) or **closed circuits** (within a single ecosystem, such as Amazon Pay or Alipay).

Thanks to the growth of online shopping, digital payments are now the most widely used and continue to evolve toward solutions integrated across apps, websites, and physical stores.

👉 Today, digital payments are an essential foundation of the digital economy.



Digital remittances: a lifeline, now faster and fairer

Digital remittances are money transfers made by migrants to support their families in their countries of origin. Traditionally slow, expensive, and lacking transparency, these transfers are now undergoing a transformation thanks to FinTech.

Thanks to platforms such as **Wise** (formerly TransferWise) and **Xoom** (via PayPal), remittances have become:

- **Faster** (often in real time)
- **Cheaper** (lower fees, better exchange rates)
- **More transparent and easier to access**

In 2020, global digital remittances reached a total of **87.9 billion dollars**, with over **8.5 million active users**, a number that continues to grow. These improvements have a particularly significant impact in developing countries, where remittances are vital for daily needs and financial stability.

Digital tools are making it easier and fairer to stay connected through money.

Cryptocurrencies and Blockchain

- Bitcoin is the first cryptocurrency, based on a technology called **blockchain**, a decentralized network in which users verify transactions without a central authority.
- Blockchain is a chain of data blocks validated by miners through the solving of mathematical problems (**Proof of Work**), but this process requires a large amount of energy. To reduce consumption, **Proof of Stake** also exists.
- Blockchain is secure thanks to distributed control and cryptography using public and private keys.
- There are **public** (open to everyone), **permissioned** (with access controls), and **private** (restricted access) blockchains.
- In addition to Bitcoin, there are many other cryptocurrencies called **altcoins**, some with different functions, such as smart contracts or fast payments (for example, **Ethereum** and **Ripple**).
- Cryptocurrencies are highly volatile, which makes them difficult to use as real money. This is why **stablecoins** (pegged to stable currencies) and **CBDCs** (central bank digital currencies) have been created to reduce volatility and make them easier to use as money.

The future of payments is already here, and it is digital, fast, and increasingly smart. Say goodbye to long lines at the bank and wallets full of coins: today, all it takes is a smartphone, a card, or even a cryptocurrency to manage money and make purchases with a click.

Of course, not everything is perfect—security, privacy, and volatility are challenges that still need to be addressed—but every innovation opens the door to incredible opportunities. Whether it's apps, digital wallets, or blockchain, we are living through a revolution that is transforming how we use and think about money.

The future of payments is in our hands, and the road ahead is smooth... all it takes is a tap, a click, a gesture—and it's done!



Manage digital money



Reflect on these questions after watching:

<https://urly.it/3Idwy>

💡 How can you monitor your expenses with banking apps?

Many finance apps show your transactions in categories—this makes it easier to see where your money goes each month and identify patterns (e.g., eating out or subscriptions).

📅 How can you create a monthly budget?

Start by listing your income and your expenses. A budget app or spreadsheet can help you set spending limits for needs (bills, food), wants (entertainment), and savings.

🛑 How can you avoid impulsive online spending?

Tracking what you spend regularly makes you more aware of habits, so you're less likely to spend on impulse purchases. Setting limits or reviewing your expense summary at the end of the week helps too.

Bonus tip: Many personal finance apps let you set alerts for overspending or savings goals, providing real-time nudges to stay on track



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