

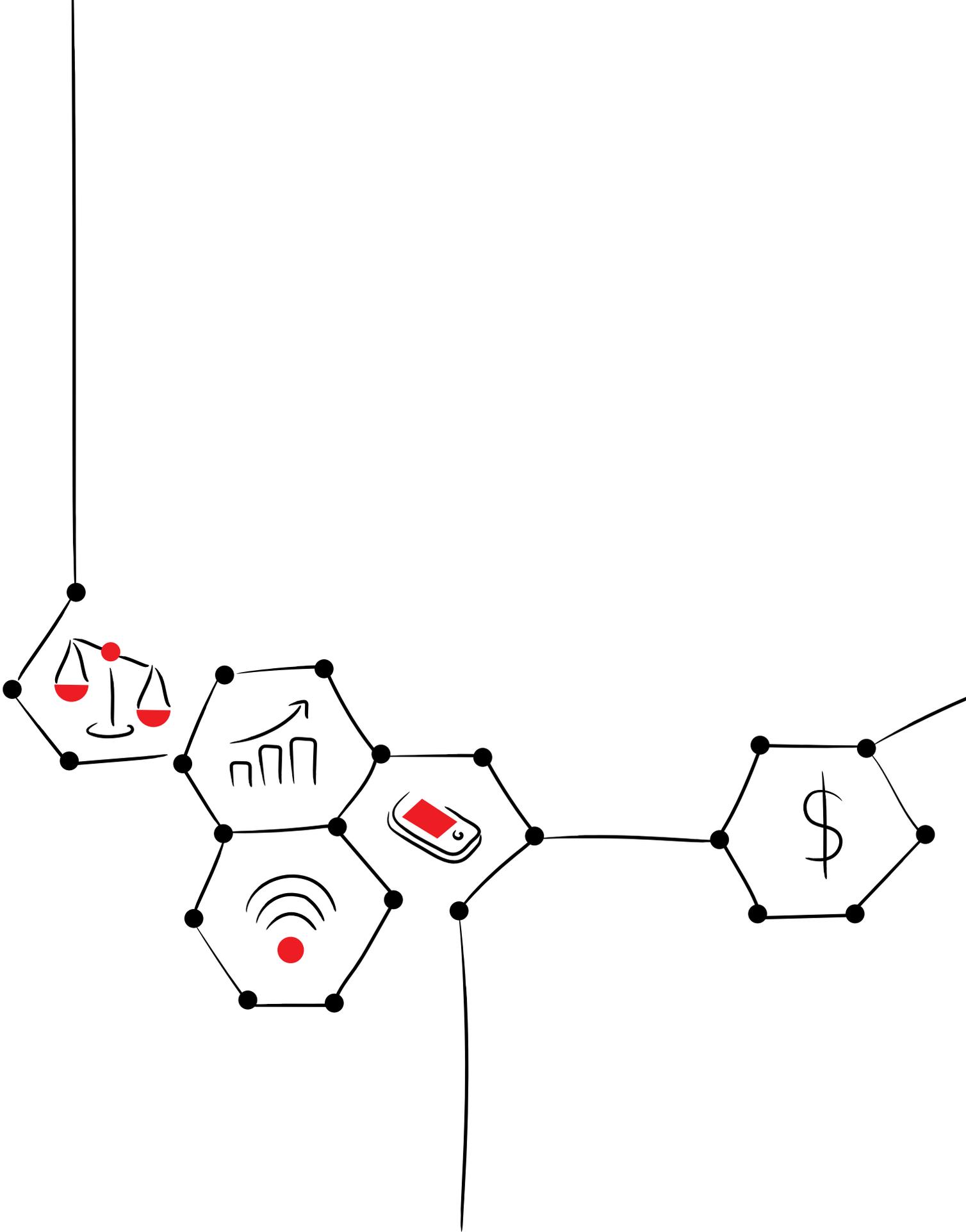
# Delegatus

Lawyers Collective

# FinTech & Banks

Review of a Revolution

By David Tournier  
Lawyer



# SUMMARY

FinTech is the sector of the economy that applies information and communication technologies to the financial world. Venture capital investments in FinTech are estimated to have grown from US\$1.89 billion in 2010 to US\$53.3 billion in 2019. Contemplating the impact of this ever-growing influx on the future of the banking and financial sectors is a fascinating exercise.

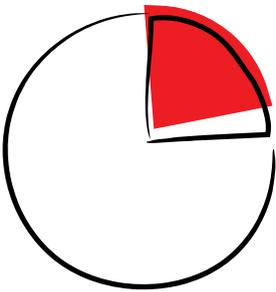
FinTech has already contributed to add billions of new banking service users through phone applications, including in developing countries. This increased ability to save, insure and obtain funding can dramatically improve the living standards of affected populations. By connecting new lenders to new borrowers in a simplified and affordable way, FinTech also allowed the emergence of new means of financing (crowdfunding, peer-to-peer) in response to a demand that could not be satisfied by traditional banking.

Ongoing changes include the development of artificial intelligence solutions to analyze a growing volume of cloud information for the development of customized financing and asset management solutions. There is also significant investment in the use of distributed ledgers for smart contracts or instant money transfers around the world. It is estimated that a quarter of international transfers involving American banks will be made using cryptocurrencies by 2022!

These examples merely constitute the early stages of that revolution, while the current pandemic is expected to further accelerate the digitization of financial services and the opening of the banking system that began over the past two decades. Whether you are a finance professional, consumer, investor, or lawyer, it is therefore essential to understand FinTech's opportunities and challenges to better anticipate the future of financing, an essential part of the economic engine.

In particular:

- The development of an appropriate regulatory framework is essential to secure and streamline the integration of FinTech into the routine operations of financial institutions.
- The growth of financial institutions will require innovation, the integration and management of digital assets, the analysis and application of an exponential volume of data obtained from their customers, and the protection of this data against the increasing threat of cybercrime.
- To meet these considerable investment needs, the banking sector could experience consolidations in the coming years and undertake a vast automation of its internal processes.
- The greatest potential for market development is found in countries where traditional banks do not have branch networks, which are connected to the technologies on which the future of financing depends, and where North American and European venture capitalists have invested little so far.
- The most profound changes to be brought about by FinTech will follow the current phase of innovations when we start rethinking financing activities from the ground up.



# INTRODUCTION

The world of finance is austere. Banks are conservative. This preconception was embodied in popular imagery by the aptly named Mr. Banks, the conformist banker and employer of Mary Poppins, whose career is ruined by an anachronistic work-life balance initiative. Yet, one may argue that the highflying nanny is a better reflection of the financial world's true nature: austere in appearance, creative in essence. A contagious creativity that led Mr. Banks to swap the feather and inkwell for a colored kite.

This metaphor, while unorthodox, has the merit of illustrating how strong a wind of change blew over the financial industry in recent years. For the last decade, the world of venture capital has focused on FinTech, a set of new solutions applying information and communications technologies to the financial sector. In the third quarter of 2019, an estimated US\$24.6 billion was invested in companies in the field, surpassing the annual total for 2017<sup>1</sup>. Although the coronavirus pandemic may have slowed investment in 2020, this economic tornado should eventually turn into a favorable breeze blowing in the sails of FinTech and accelerating the transformations underway in the industry. It is fascinating to contemplate the future impact of this trend on the banking and financial sector, for which regulated conservatism is a pillar, because while financial institutions have evolved greatly over the course of History, the pace and depth of the changes they are now facing are unprecedented.

Financing as a mechanism for creating value through access to other people's goods in return for payment seems as old as mankind. The lending of grain or money with interest was already regulated by the Hammurabi Code governing Babylon around 1750 B.C. In this era preceding the Bank as we know it, merchants would lend valuable goods to farmers and entrepreneurs (such as seeds for agriculture), while the code determined how the wealth thus created should be shared (in this example, the harvest permitted by the loan of seeds), how collateral could be offered in guarantee, and what recourse the lender had against his borrower.

The monetary use of coins minted with the effigy of a given authority around the VIIth century BC is a major technological innovation that notably enabled the development of trade around the Mediterranean basin. Money can be defined by the three functions that Aristotle attributed to it: unit of account, medium of exchange, and store of value. It was to store this money that banking institutions developed, thus concentrating more wealth in their vaults, which in turn allowed them to provide more financing. The French term "banque" (bank), derived from the benches on which merchants traded their loans, appeared in the French language in the XV<sup>th</sup> century before the invention of the printing press that made banknotes safer and easier to carry. From then on, the industry accelerated its growth with more sophisticated practices and developed its network to lead to the modern bank that we know, which traditionally relies on a network of branches.

These patient evolutions of a wise tortoise have taken a hare's pace over the last ten years. Venture capital investment in the FinTech sector is estimated to have increased from US \$1.89 billion in 2010 to US \$53.3 billion in 2019<sup>2</sup>. The resulting technological innovations have already revolutionized current practices in financing, payment, and cash management, yet we have barely scratched the surface of this revolution's potential. The first applications of these new technologies are indeed merely iterative: accessing our account and making certain payments via a telephone interface, obtaining information on investment returns in real time, or even allowing a greater number of lenders and potential borrowers to meet without barriers. In the long run, let's bet that financing will be completely redesigned. It is inevitable as this essential cog in the economy will continue to drive innovation and undergo fundamental changes in the medium and long term, hence the interest of this overview, more or less distant.

1 [https://www.cbinsights.com/reports/CB-Insights\\_Fintech-Report-Q3-2019.pdf](https://www.cbinsights.com/reports/CB-Insights_Fintech-Report-Q3-2019.pdf)

2 <https://www.statista.com/statistics/412642/value-of-global-vc-investment-in-fintech/>

# WHAT HAS ALREADY CHANGED

## A NEW CLIENTELE

Access to telephone banking through third parties is probably the event of the last few years that will have the greatest long-term impact on the future of financing. The development of telephone applications has added billions of new banking users, most of whom had never had a credit card or a bank account or even set foot in a banking establishment. This trend is expected to continue, with 7 billion people anticipated to own a mobile phone by 2021<sup>3</sup>.

But let's get back to the origin of this explosion caused by the M-Pesa corporate grenade. Launched in 2007 by Safaricom, Kenyan subsidiary of the Vodafone Group, this initiative aimed to enable the repayment of micro-loans by reducing the costs associated with the handling of cash. With the only prerequisite being the possession of a cell phone, the success of the pilot project was instantaneous. The operation of this service is particularly simple: customers register with an authorized agent (often a local mobile phone shop or other retailer acting as a banking intermediary) and then deposit currency in exchange for electronic money, which they can then send to any recipient. Once registered, all transactions are carried out using a personal identification code, and the parties involved receive an SMS confirming completion. The recipient is credited with the e-money in real time and then converts it to cash by visiting another agent or spends it at an M-Pesa merchant. The service has since been expanded and users can now make deposits (including for savings purposes), withdrawals and loans, and even pay salaries. In 2019, 37 million users carried out 11 billion transactions via nearly 400,000 agents<sup>4</sup>.

The impact of such solutions on the financing industry, and on the economy in general, is substantial. First, because the growth in potential consumers of financial products now parallels the growth in cell phone users. The spread of this communication tool is faster and less costly than a network of branches could ever have been, particularly among consumers with lower incomes than traditional users of banking services. This new clientele has different needs and is not accessible to financial institutions in the same way as the clients of their historical network.

Second, because access to affordable and reliable financing and means of payment significantly improves the standard of living of a vast portion of the world's population, whose needs had not been met to date. Such a mobile payment and financing service allows insurers, for example, to transfer to policyholders the money needed to travel to a hospital providing required care. Credit solutions can also finance the acquisition by M-Pesa customers of power generation equipment used to supply off-grid communities. As for the risks associated with the physical transportation of money, they have been greatly reduced in regions of the world where banking branches can be far removed from their customers. The access to such services permitted by a reduction in the cost of transfers makes it possible to channel financial assistance more efficiently to areas affected by a crisis, or more routinely to other members of the same family who can thus be supported remotely. This increased capacity to save and to secure financing also increases resilience in difficult times, as well as the ability to carry out entrepreneurial projects. It is indeed estimated that the rapid expansion of mobile financial services has lifted about 2% of Kenyan households out of extreme poverty and enabled 185,000 women to access business activities<sup>5</sup>. This is a virtuous circle with an international and continuous effect.

For the industry, these changes mean, on the one hand, that the growth of financial institutions must involve the integration and management of digital assets and, on the other hand, that the financing of the future will meet new needs from a multitude of customers. The appearance of this new clientele, in addition to the potential consumers that social networks have connected, has already encouraged the development of new financing methods.

<sup>3</sup> <https://dataprot.net/statistics/mobile-banking-statistics/>

<sup>4</sup> <https://www.vodafone.com/what-we-do/services/m-pesa>

<sup>5</sup> <https://www.cnbcfrfrica.com/east-africa/2017/01/04/mpesa-economic-impact-on-kenya/>

## NEW WAYS OF FINANCING

Originally conceived as a network facilitating the exchange of information, the Internet rapidly evolved to optimize the exchange of goods and services between users. A direct exchange, "from peer to peer", and a human one, made playful by the advent of social networks. This multiplication of possible combinations carried with it a potential that keeps on delivering in new areas. Though the cultural industry was the most quickly affected, financing was not far behind.

The practice of *peer-to-peer* (P2P) lending in the United Kingdom, which originated some 15 years ago, has been part of this trend by further broadening the consumer base for financing. This practice has since evolved into a mature industry that is expected to generate approximately US\$312 billion in loans this year, 70% of which will finance businesses<sup>6</sup>. Its principle is simple: a service provider puts lenders and borrowers in contact via an online platform. Said intermediary verifies information about borrowers and their repayment capacity before offering the requested loan to a community of users of the service. These users are generally interested in a higher return than the fixed interest investments available in the market, while borrowers benefit from a more affordable rate than those offered by traditional banks due to the cost savings associated with operating an internet platform rather than a network of physical institutions. The P2P intermediary provides ancillary services such as collecting and remitting payments to lenders, ensuring regulatory compliance, and developing models for approving and pricing a loan application. It is remunerated by fees paid on transfers between parties.

The entire amount of the loan may be granted by a single lender, in which case the candidates will make competing offers to the borrower. But it can also be shared between several lenders, potentially in large numbers, which is then referred to as *crowdfunding*.

Simplicity, transparency, competition between lenders, diversification of borrowers and of associated risks for investors, are all advantages cited to explain the success of this method of financing, which was unthinkable at the beginning of our young century. But for it to find its place in our ecosystem, interesting legal questions had to be asked. By reaching out to web users to raise investments, are these platforms not publicly traded? And since the intermediary remits the funds to the user-borrower, who holds the loan? How are their rights transferred to user-lenders?

The dazzling success of crowdfunding has forced lawyers to find quick answers to these unprecedented questions, as illustrated by the *Lending Club's odyssey*. The company, founded in San Francisco in 2006 by French entrepreneur Renaud Laplanche, was launched as one of the first Facebook applications before obtaining an investment in August 2007 that allowed it to address the entire market. In April 2008, however, the flourishing start-up had to suspend its activities in order to obtain a license from the *US Securities Exchange Commission (SEC)*<sup>7</sup>, which was issued in October of the same year. The reason was that the intermediation of the *Lending Club* implied that its claims against the borrowers were assigned in favour of the lenders. From a legal point of view, these rights to payment so transferred were securities, and their investment is governed by securities regulations. As a result, the Lending Club adjusted its practice and now registers promissory notes with the SEC, which it then resells to its member-lenders.

In Québec, the *Autorité des marchés financiers (AMF)* makes a distinction between participatory financing in the form of donations or presales on the one hand, and participatory capital financing on the other. The first is to collect donations in exchange for a potential product or service resulting from the financing thus raised. This form of funding is not regulated: it is now regularly used for artistic, humanitarian or otherwise personal projects. This is a great opportunity that is being seized, in particular by non-profit organizations. La Ruche is a good local example. This NPO was established in 2013 to foster the emergence of projects that stimulate the influence and vitality of a region, such as the recording of a local artist, start-up costs for a small farm or the solicitation of charitable assistance for seniors affected by the COVID-19 pandemic.

Equity financing, on the other hand, is the issue of debt securities or rights to a share in profits, the purchase price of which is used to fund the borrower. This form of financing falls under securities regulation. Filing a prospectus prior to the issue of securities to unqualified investors is cumbersome and costly and could have nipped this nascent industry in the bud. How can one justify the use of this alternative financing method, which is mainly aimed at a segment of the market that is poorly served by traditional banks, if one applies to it the same constraints that have encouraged its development?

6 *P2P Lending Market Outlook 2020*, by P. Shumsky, Finextra, 27 February 2020 (<https://www.finextra.com/blogposting/18485/p2p-lending-market-outlook-2020>).

7 <https://techcrunch.com/2008/04/08/lending-club-puts-moratorium-on-lending-activity/>

Two exemptions from the prospectus requirement have therefore been designed for equity financings<sup>8</sup>. The first allows for investments of up to \$1,500 in start-up companies, which can raise up to \$250,000 per financing round, for a maximum of two rounds of financing per year. The second exemption allows for an investment of up to \$2,500 in any business: the borrower must then publish its financial statements and can obtain up to \$1,500,000 in financing cumulatively over any twelve-month period. For their part, P2P lenders, referred to as "financing portals" by the AMF, can operate as registered dealers (registration is mandatory in order to offer financing covered by the second prospectus exemption) or under an exemption from registration for the equity financing of start-ups<sup>9</sup>. Dealers operating the registered portals are subject to the obligations arising from applicable securities legislation and regulations, including the duty to ensure that the products offered are appropriate to the needs and financial profiles of the portal's clients. On the other hand, the obligations of non-registered portals are very limited, and in return they must refrain from providing any investment advice.

While crowdfunding is a good example of the flexibility and adjustments required of governments to accommodate industry developments, it is only one interesting detail of the huge regulatory patchwork required to define a new operational framework: the open banking system.

## A NEW OPERATIONAL FRAMEWORK: THE OPEN BANKING SYSTEM

The multiplication of data related to Internet users and social networks is both a security challenge and a tremendous financial opportunity. Industry players and governments understand it and are working productively to provide a framework for the new modes of intervention by financial institutions. However, the questions are numerous, the needs diverse, and the project daunting. In January 2019, Finance Canada launched a consultation on *open banking*, defined as a "framework where consumers and businesses can authorize third party financial service providers to access their financial transaction data, using secure online channels<sup>10</sup>." The consultation sought to determine the best approaches to some of the issues raised by the open banking system, such as access to personal financial data, privacy, cybersecurity, and the risks posed to financial institutions. In June of that year, the Standing Committee of the Senate on Banking, Trade and Commerce published a report entitled: *Open Banking: What it means for you*<sup>11</sup>.

Based on the premise that the use of applications accessing their financial data could expose Canadians to risks of theft and fraud, the report makes several recommendations for secure access to the open banking system. These recommendations illustrate the complexity and diversity of the issues at stake, and include the following:

- the development by the federal government of a framework that would integrate the existing provisions applicable to the financial sector and the protection of personal information, include a code of practice developed in consultation with the industry, determine the data accessible to service providers, eventually cover providers of payment solutions, and encourage the development of application programming interface standards for an open banking system that is technologically neutral;
- the harmonization of the *Personal Information Protection and Electronic Documents Act* with international law, in particular the General Data Protection Regulation adopted by the European Union;
- the establishment of a register of accredited third-party suppliers for the open banking system;
- a ban on using consumers' banking data for insurance underwriting purposes (to prevent financial institutions from using such information to cross-sell insurance products to customers); and
- the designation of the Office of the Privacy Commissioner and the Office of the Commissioner of Competition of Canada as the regulatory and enforcement bodies for open data.

These recommendations illustrate the security concerns of regulators. In the age of cyber-attacks threatening data privacy, it is crucial that strong technological locks and appropriate consent mechanisms be put in place by the industry to ensure that the open banking system can deliver on its promises.

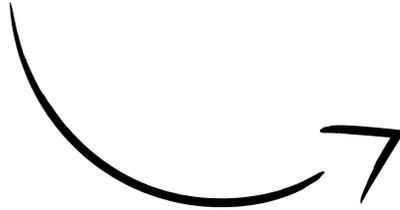
8 <https://lautorite.qc.ca/grand-public/investissements/investisseurs-avertis/financement-participatif-crowdfunding/>

9 <https://lautorite.qc.ca/grand-public/registres/portails-de-financement-participatif-crowdfunding/>

10 <https://www.canada.ca/en/departement-finance/programs/consultations/2019/open-banking.html>

11 [https://www.sencanada.ca/content/sen/committee/421/BANC/reports/BANC\\_SS-11\\_Report\\_Final\\_E.pdf](https://www.sencanada.ca/content/sen/committee/421/BANC/reports/BANC_SS-11_Report_Final_E.pdf)

Within this new framework, financial institutions that want to stand out will need to possess a few characteristics, such as a customer approach aiming at creating customized solutions for their loyalty. An important part of this positioning will be to master analytical capabilities required to use available information and offer the right range of products and services at the right time. Financial institutions will also have to differentiate through the intelligent use of data. They will need to ensure that their databases are ready to be queried upon request. In that respect, a fundamental step in the integration of the open banking system is the "mapping" of available data to determine where it is housed in the different systems in order to respond to, among other things, requests for access, modification and deletion in accordance with privacy provisions. It is in this user data, including its proliferation, analysis, protection and application to creative solutions, that lies the future of financing.



# WHAT WILL CHANGE

## THE PANDEMIC'S IMPACT

In the short term, the coronavirus pandemic favoured the safest investments, which may negatively affect venture capital investments for FinTech to the point of forcing the youngest of them to go out of business<sup>12</sup>. In addition, the overall decrease in the volume of transactions reduces the revenues received by start-up companies specializing in the payment sector even more.

Conversely, many consumers should discover the benefits of online financial services in this age of remote interactions, thus accelerating the digitization of banks beyond the pandemic. Rather than developing in-house solutions for these new services, financial institutions should then encourage immediate recourse to existing companies, offering a source of revenue for the FinTech industry that could compensate for the drying up of venture capital sources<sup>13</sup>. The World Health Organization's favourable recommendation for contactless payment solutions and the subsequent increase in transaction limits for this type of payment has also allowed some users to become accustomed to paying for purchases with their phones. Finally, financial technologies could become an investment sector favoured by governments for economic recovery. At least that is the path taken by South Korea, which announced in February 2020 that the sector would be deregulated.

With the current pandemic being a source of great uncertainty for all sectors of the economy, the digitization of financial services and the opening of the banking system, which begun over the last two decades, can be expected to intensify. This would contribute to an accelerated revolution in the financing industry.

## A CHANGING FINANCIAL LANDSCAPE

Given the magnitude of the changes underway, it is reasonable to anticipate that not all of today's banks will survive, and the financial landscape will be significantly transformed over the next twenty years. Banks have consistently relied on the competitive advantage of their branch network to maintain a privileged relationship with their customers. As this advantage melts like snow under the warm rays of an open banking system, their essential functions of storing value and transferring money will become mere commodities. Banks that do not want to run the risk of being supplanted in their role as a key financial partner will have to integrate financial technologies and embark on a race to innovate in order to adapt their service and product offering and preserve their relevance. According to Montrealer Gabrielle Inzirillo, FinTech Director at the Plug and Play Tech Center:

Network effects are changing the world and the banking industry with it. We predict that the league table of top banks will change dramatically over the next few years, with the top spots taken by those players that heavily invested in their infrastructure and embraced partnership models as part of a revenue-generating open banking strategy.<sup>14</sup>

To avoid obsolescence, financial institutions can develop their own technology solutions in-house. Others will prefer to partner with start-up companies that have developed a product that can be brought to market more quickly. In this type of partnership, start-ups benefit from the credibility and existing market share of their banking partner, which can in turn build loyalty among traditional customers who are increasingly demanding these technologies. Through such partnerships, banks can also access new customers from small and medium-sized enterprises and previously unserved consumers, particularly in developing countries that have invested in their communications infrastructure. These partnerships between traditional banks and FinTech start-ups may be invisible to the consumer when the products developed are offered under the banner of the financial institution. However, this acquisition or investment can also

<sup>12</sup> *How will the coronavirus impact the banking ecosystem*, by J. Marous, The Financial Brand, 12 March 2020 (<https://thefinancialbrand.com/93679/digital-banking-fintech-finance-investment-coronavirus-impact-trends/>).

<sup>13</sup> Same.

<sup>14</sup> <https://www.plugandplaytechcenter.com/resources/whats-future-finance-2020/>

result in its target remaining independent and opening the door to these new markets for its shareholders. The opposite is even beginning to happen: the first acquisition of an existing bank (Mid Central National Bank) by an American FinTech company (Jiko) was completed in September 2020<sup>15</sup>.

Banks embracing this change will need to evolve to absorb the significant technology investments required. In particular, the benefit of artificial intelligence solutions, which are still in their infancy and have considerable potential for the industry, will be proportional to the volume of data that banks will have access to. An increasing volume of available data will generate as many incentives for cybercrime, which also requires its share of considerable investment. Some institutions are already joining forces to meet these challenges. The non-profit organization CyberEco was founded in September 2018 to fight cybercrime by pooling the resources of Desjardins, National Bank, Deloitte and the engineers of the HREA Group<sup>16</sup>. Other institutions have since joined this Canadian initiative.

The banking sector will likely consolidate in the coming years, both to inject the funds required to combat these threats and to develop the financing innovations of tomorrow, and to ensure substantial access to the volume of data needed to feed new financial applications. However, the future giants of the financing industry that will be shaped on FinTech's workshops could come from jurisdictions other than those that have historically dominated this sector. Indeed, the greatest potential for market development lies in countries where banks are traditionally less present, connected to the technologies that carry the future of financing, and where European and North American venture capitalists have invested little so far.

## TECHNOLOGIES THAT SHAPE THE FINANCING OF TOMORROW

It is impossible to discuss the future of any industry without taking a trip into the world of artificial intelligence. Financing is no exception to the rule. This technology, with its multiple promises (and perceived threats), is the subject of significant investment by many financial institutions. In Canada, for example, TD announced at the end of October 2019 the launch of MyTD, a concept still being tested, which aims to use artificial intelligence to provide customers with a more personalized experience. The program will combine data on monthly spending patterns and bank account balances with machine learning to give clients the knowledge they need to make informed financial decisions. An example of the capabilities being tested is the development of a balance prediction tool using artificial intelligence to alert customers when they have upcoming bills and proactively offer personalized advice and financing options designed to help them cover their expenses. There are, of course, many promising projects in this area, but the vagueness through which we still perceive the contours of this new universe does not allow us to consider the full impact of artificial intelligence with the pragmatism inherent to this industry.

In contrast, the relatively simple, secure, and automating technology of distributed ledgers, or Blockchain, has a more immediate appeal. The world of finance is investing heavily in this tool, originally developed for the operation of Bitcoin, the first cryptocurrency greeted with skepticism in 2009 and whose cumulative worldwide value reached more than US\$300 billion in 2018<sup>17</sup>. This first application is currently being scrutinized by many banks, which have embarked on the creation of cryptocurrencies for internal use or via a network of partner banks. Unlike Bitcoin, these cryptocurrencies are isolated from market fluctuations, hence their name *stablecoin*. Wells Fargo has announced a pilot project, *Wells Fargo Digital Cash*, which was launched in 2020 to make international transfers between internal customer accounts, as well as between its various international locations<sup>18</sup>. The aim here is to reduce friction by eliminating all intermediaries, and to allow quasi-instantaneous transfers at reduced costs. The relevant national currency is first converted into *stablecoins*, which are then instantly transferred to the receiving account where they are ultimately converted back into the target currency using smart contracts (an application of the Blockchain technology). Similarly, but in a collaborative approach, JP Morgan has developed a *stablecoin*, the JPM Coin, for use within a network that already included 415 partner institutions as of June 10, 2020 (the *Interbank Information Network*)<sup>19</sup>. These initiatives are taken very

<sup>15</sup> <https://www.cbc.com/2020/09/03/start-up-founded-by-ex-goldman-trader-becomes-first-fintech-to-complete-takeover-of-a-national-bank.html>

<sup>16</sup> <https://cybereco.ca/a-propos>

<sup>17</sup> <https://www.blockchain.com/charts/market-cap>

<sup>18</sup> <https://www.reuters.com/article/us-wells-fargo-blockchain/wells-fargo-tests-cryptocurrency-for-internal-transactions-idUSKBN1W22D3>

<sup>19</sup> <https://www.lesaffaires.com/techno/produits-electroniques/jpm-coin-la-premiere-cryptomonnaie-d-une-grande-banque/608226>

seriously, as it is estimated that a quarter of international transfers involving US banks should be made using such *stablecoins* by 2022<sup>20</sup>! To simplify their management and reduce their cost, it is therefore foreseeable that the disbursement of loans and other forms of cross-border financing will in the future be carried out using such *stablecoins*.

Yet these instant value transfer solutions are far from being the only application of the Blockchain technology to the financial sector that is under development. As early as 2014, the R3 banking consortium was founded to develop an open source distributed ledger platform. The platform, called Corda, was launched in 2016: R3 has since grown into a software development company that works with approximately 300 partners, including many financial institutions, to create financial services applications that are compatible with each other, because they are all based on Corda. Also in 2016, Wells Fargo, in collaboration with Commonwealth Bank, conducted a Blockchain transaction test on cotton. The transaction could be tracked in real time, from purchase to delivery, and this technology is therefore of particular interest to banks for its potential in the fight against fraud.

Finally, smart contracts hold great promise for the financial industry in terms of transparency, reliability, and cost savings. The principle is, first of all, to transcribe into computer code the terms of a contract accessible on a distributed ledger (but whose parties may remain anonymous). Then, a coded triggering event occurs, and its consequences are automatically enforced. Examples include the advent of a specific date for adjusting the rate of a given financing, or the fall of a reference rate below a certain threshold, resulting in an increase in the amount of a letter of credit pledged as security to the lender. In addition to automating the management of the smart contract between the parties involved, the use of a distributed ledger allows the regulator to track these transactions in detail while preserving the confidentiality of the parties. Although this technology still raises many questions and will require many regulatory adjustments, its promise has already caught the eye of the financing industry and is shaping its future.

## THE DAY AFTER TOMORROW: FINANCING AND FUTUROLOGY

Applying the technologies under development to the financing industry we know allows us to project ourselves into the near future. For example, extreme automation in financial institutions and corporate finance departments can be anticipated through the application of artificial intelligence solutions, automation of repetitive tasks and the exploitation of other technologies, such as Blockchain and cloud computing. These technologies provide real-time access to an unprecedented volume of information, analyzed without delay to support decision making. Surprisingly, a KPMG study indicated in 2019 that 67% of business leaders admit to giving priority to their instincts rather than statistical data when making decisions<sup>21</sup>. In addition to increasing productivity and reducing the need for human resources, this transformation of financial institutions should therefore generate a more objective, analytical, and informed decision-making process in the future.

However, it is when one tries to project beyond these ongoing iterations and towards a profound rethinking of the industry that the exercise becomes uncertain... and fascinating. Until now, the world of Finance, and the entrepreneurs who aspire to revolutionize it, have focused on a process of innovation by analogy. The most profound changes that Fintech can generate will only appear once this first phase has been completed, and financing will be rethought *ab initio*, according to the "first principles design" method. Australian futurologist Brett King offers an interesting perspective on the subject. Author of several books on the transformations of the Bank, influential blogger, host of the *Breaking Banks* podcast and founder of Moven, a mobile financial services company, Mr. King is a leader in financial futurology. While he has devoted his career to the innovations of this industry, whether he was the instigator or the witness, the futurist is convinced that the real revolution is yet to come, and its contours are yet to be defined. Any truly disruptive innovation must challenge the status quo, not just improve it at the margins. He cites the examples of the automobile, SpaceX or the iPhone, which have in common the application of first principles design. While his contemporaries were working on the efficiency of horse carriages, Carl Benz took horses out of the equation completely when he created his first motor vehicle in 1885. While the aerospace industry had been marginally improving the same technology for the past 50 years, Elon Musk and his team completely rethought the daunting task of sending a payload into space: with its reusable rocket, SpaceX is estimated to have already reduced the cost of putting a payload into orbit by at least 90%.

<sup>20</sup> <https://www.jpmorgan.com/solutions/treasury-payments/payments-and-cross-currency-solutions/iin>

<sup>21</sup> <https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/05/growing-pains.pdf>

And instead of trying to improve Nokia's foldable cell phones or BlackBerry's mini-keypads, Steve Jobs rethought the phone as a reality enhancement tool, a personal assistant, or a potential toy to play with, with the consequences we know.

Considering the magnitude of the changes the financial industry has undergone in recent years, any budding futurist can only be excited that the most spectacular is yet to come. Will our regulators become virtual entities adjusting the texts according to the conclusions of an artificial intelligence engine? Will personalized financing be offered to companies and individuals based on an analysis of their behaviour before the need even arises? Will the financing of illicit activities be automatically detected by analyzing data in a distributed ledger?

And what about the promise of the quantum computer, the super-processor of the future? Its technology is based on *quantum bits*, or *qubits*, which can store the binary language used by modern computers, but simultaneously rather than

successively, thus multiplying computing power. For example, Google confirmed in the fall of 2019 that it has developed a quantum processor. Charged with a task that would have required 10,000 years of computation by the most powerful computers on the planet, the quantum processor is said to have completed the task in only three minutes and twenty seconds! The impact that this innovation will have on financing over the next few decades is barely discernible to date. It can only be argued that the banks will not have their own quantum computers, and that these formidable and expensive machines will have to be accessed remotely using cloud computing. Whatever the result, however, we can be certain that this formidable computing power, applied to the ever-increasing volume of data that will be analyzed by an artificial intelligence superior to ours, will allow the banker of the future to soar to the highest layers of the financial atmosphere. And it would be very comforting to see one day, in these imaginary heights, the kite of a liberated Mr. Banks.



#### **About the author**

David is passionate about new technologies, industrial and infrastructure projects and the financing transactions that make them possible. He relies on a diverse expertise acquired within top-tier law firms and in-house as a C-level executive to support entrepreneurs, investors, boards of directors and legal departments on a broad range of matters.