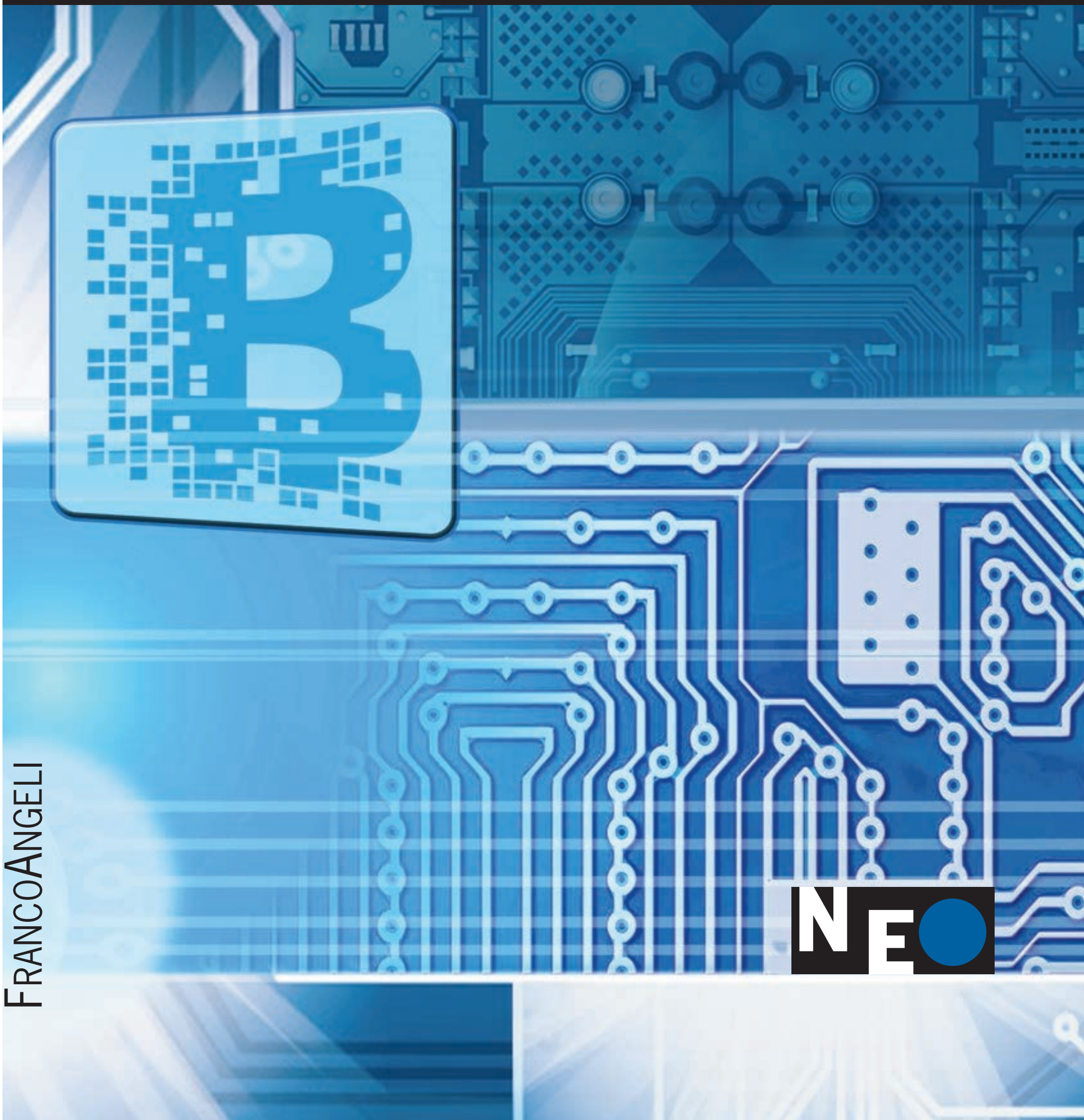
Roberto Ferrari

FINTECH ERA

Digital Revolution in Financial Services



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Digital Revolution in Financial Services

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Preface

The oval table was reasonably large; large enough for twenty people to sit around it comfortably. The wood shone. A folder at each place contained a sheet of paper listing the names and roles of those present: presidents of trade associations, CEOs of successful companies, founders of promising startups. All important in their own way, creators of wealth and jobs. "The ruling class" you might once have said. And seated directly in front of me was the most important one of all, the master of the house. A banker. A great banker. He had listened to us debate innovation and digitalization for a good hour without once losing interest, and God only knows how dull, and therefore useless, conferences on innovation and digitalization in Italy are. We constantly tell ourselves that that we should be innovative and digital but woe betide anyone who needs to connect to the wifi, which never works – although nobody knows this as nobody actually uses it, to turn on their computer to look for something in real time or to use their smartphone to tweet the theme of the meeting.

We tell ourselves constantly, in a serious, even solemn, tone, that we should be innovative and digital and in the meantime we are increasingly analogical. We are analogical at conferences because we are, unfortunately, analogical in the real world – in our companies: it is not a question of digital platforms which we may indeed have bought, but a question of mentality. In short, in some cases yawning is the least of it, the more polite alternative being to get up and leave; and yet the banker had not missed a beat of that prestigious round, well, oval, table discussion. He listened and he took notes (on a piece of paper, but we'll let that go). He listened and he took notes. He took notes and he listened. When an assistant told us our time was almost up, the banker finally took the floor and said what you might least have expected to hear from a banker of his calibre, the head of such an important bank. He said, and I quote, "over the last few years we have slept, all of us. We have slept while the world has been changing, while the world was running we turned away thinking, "yes, it is true that digital is revolutionizing the world of books, but we take care of money, what has this got to do with us?". But then digital changed everything else as well, newspapers, cinema, transport, science, commerce and still we said "what does this have to do with us? We are safe in our strongholds, who will ever reach us here? Until we realized that someone was trying to change, indeed to destroy, even the world of money". No, the banker immediately explained before panic caught us unawares, none have been as naïve as to try to create another bank like ours – made of bricks, with counters, their headquarters in grand historical buildings and branches that have grown enormous, because these banks are now empty. Firstly lacking in sense and then lacking in customers. None have tried because if they had we would have won. What actually happened, he said, was that an army, yes, an army of innovators around the world decided to minutely change our way of banking. Someone took payments, someone took credit, someone else took loans and someone else consultancy. And together they are besieging us said the banker, his expression all of a sudden making even the sturdy walls of the stately room we were sitting in seem as fragile as cardboard. To cut a long story short, according to the banker there were "four or five thousand startups" attacking the banking world aiming to lead them to the same fate as that of book and newspaper publishers. They are the FinTech startups. Now, "four or five thousand" seems a little extreme compared to the information in the reports going round brandishing this new word from one event to another: FinTech, the marriage between digital technology and finance. But the essence is the same. And the essence is that the revolution which began twenty years ago with the world wide web has reached its final level. The penultimate was the change in politics, not only in terms of communication – politicians who tweet without passing by the newspapers, but in terms of the very fundamental nature of politics – the opportunity for citizens to participate, to make themselves heard and to keep an eye on everything, starting with public spending. The digital democracy yearned for by some remains a mirage, but there is no doubt that politics has undergone considerable changes over the last twenty years in ways that no one could have imagined.

Now it is the turn of the banks, and the opinion of anyone who has recently been in a bank is very clear: it is about time. Because if there is one sector of our lives which has been stuck in the previous century with its endless delays, unacceptable inefficiencies, stacks of paper to be signed with one's eyes closed as if in surrender, commissions taking on the proportions of heavy taxation, it is the banking sector. How will this end? In the same way as it did in other sectors: some will fail, yes they will indeed fail; someone will emerge and take over a large portion of the market; new hierarchies will be created, new business models will be born and customer service will improve. But here we are not talking about buying a paperback or an e-book. We are talking about our money. It is not the place to romanticize. Is there anything more important than our security and that of our families? That is why this ongoing revolution concerns us all.

Foreword

*Riccardo Luna**

This book is an excellent instrument to help to escape, not as winners, but at least unharmed, from an extremely rapid transitional phase. Roberto Ferrari has written a sound and dense manual, rich in detail and data, with zero story-telling, fundamental as it is driven by an unbeatable force – curiosity about the future. He focuses on opportunities rather than on fears. I have known Roberto for three years and each time that we speak I am amazed by his passion for change and his knowledge of the sector. It is as if he were born a banker as opposed to that being his second occupation. Every now and then I point this out to him and he replies "the truth is that I am passionate about understanding this revolution". It is his profession of course, and it helps him to ensure that the bank of which he is general manager ends up on the right side as one of those who gains from change. But his profession is also our duty: that of account holders, savers and investors. In our country which has the lowest level of financial literacy in Europe (yes, even Greece is above us), understanding what is going on around us is a duty. It is called self-protection.

Wake up Italy, your sleep is over. Happy reading.

* Riccardo Luna, journalist, writer, businessman. He has been an advisor to the Prime Minister in the role of Digital Champion from September 2014 to September 2016. In this capacity he promoted and coordinated the first ever Internet Day on 29th April 2016 with approximately two thousand events held throughout Italy. Founder of the Italian edition of Wired magazine he is currently Editor in Chief of AGI (Agenzia Giornalistica Italiana). Since 2013 he has been curator of the European Maker Faire in Rome.

Introduction

I shall be honest and get straight to the point. When I was asked whether I would be interested in writing a book about FinTech I underestimated the matter and allowed myself to be carried away by my enthusiasm. It is part of my job, I thought, I know the subject, it interests me, it will be easy. A classic case of an erroneous prediction. It is most certainly not easy to write about something that is developing before one's eyes, that is evolving while one is writing about it. Reconstructing its links with the past, its origins, is even more difficult than predicting its future trends. There is a risk of ending up like Cassandra. However, the topic is too stimulating to be let go. I have therefore tried to write something which is at the same time simple to read for those who are not experts in the field and interesting for university students, for example, who are currently drawn to the topic and find little or nothing written in Italian; but also useful for those who are proficient and wish to have an overview of the situation, to compare and confirm their own ideas and knowledge. In order to enrich my contribution I asked ten international opinion leaders, digital bankers, founders of FinTech startups and venture capitalists of the sector to share their ideas regarding what is occurring and what will occur. People who are building the future firsthand. A remarkable group of minds whom I warmly thank for their sincere and honest contributions. This is, in short, a little book which I hope is lively and useful, with something for everyone.

I have divided the book into three time phases. From the post-war period to the internet, from the internet to FinTech, the most substantial section, and what will happen after 2020 (what a risk…). It is not trickery, FinTech did not appear from nothing. This book intends to tell the story of how following WWII the increasing need to globalize the economy, and with it, finance, acted as the main driving force for technological change and therefore development in the banking sector after centuries of significant immobility. Shortening time and distance until they are all but abolished and including everyone, are the initial steps. FinTech is nothing more than a vitally important piece of this story, a stage which now appears destructive and revolutionary but which is really part of a journey, a broader plan which will lead the banking and financial sector to become completely FinTech, omnipresent, fluid, hyperconnected, real-time, contextual and one-to-one. The FinTech that we see today – separate, still under development – will be no more, just as the banking models which we are used to will be no more.

Thanks to FinTech, IoT, blockchains, etc., banking will be transformed into *everywhere banking, marketplace banking, one-to-one banking*. And innovation will not only come from the West or from FinTech startups. There will be several new actors from Silicon Valley and Chinese multinationals with different models who will all want to have a role.

Warning to readers.

I have concentrated on the things that I know best, and therefore I will not look at FinTech for insurance (the so-called “InsurTech”) or for capital markets and investment and corporate banking. I have focused on the world of FinTech relating to retail banking services and the aspects most closely digitally linked to it such as alternative finance and blockchains. The book’s focus is the following: from bitcoin to digital payments, from P2P lending to crowdfunding, from robot advisors to social trading, from neobanks to FinTech for small businesses. This world is much more complex than one might think, with multiple rivulets reaching all areas of the banking supply chain. There are currently more than two thousand FinTech startups throughout the world which will profoundly change our models of business. I have outlined the state of this world on an international level, its most important protagonists, the directions in which it is heading and its cross-section in Italy. In the third chapter I have attempted to provide a broad vision of what awaits us. This is only the beginning.

The book uses footnotes to refer to various papers: they are practically and inevitably all in English as there is very little to be found in Italian. They are recent, some very recent, but change is so rapid that we must keep our curiosity alive and continue to enquire. This is my advice. Do not stop here. Maybe this very book will be contradicted by new developments.

I can only conclude by thanking those who have given me the opportunity to try my hand at banking, my colleagues at CheBanca! with whom I have been able to exchange thoughts and opinions, Matteo Rossanigo who offered to help me with the glossary even at the weekend, my family for whom I have ruined several weekends and evenings by hiding myself away to write this book – I promise I will make it up to you, the ten experts who greatly honoured me by participating in my interviews with passion, friendship and expertise.

Happy reading.

1 1950-2000. From the first credit card to internet banking: the transformation of financial services begins

The digitalization of financial services is moving at great speed: in Italy more than 17 million people use online current accounts each month and this figure is growing at the rate of almost 100,000 per month. Between 2010 and 2015 approximately $160 billion was invested worldwide in the development of Startup FinTech in the form of venture capitalist funds, IPOs, takeovers and funding[1]. On the back of this success new companies are being created every day with the openly declared aim of entirely redesigning financial services throughout the world and completing their total digital renewal on a global scale.

Let's stop, pause and rewind. Flash back to the recent past. Understanding the starting point enables us to understand the direction of the future, and therefore to foresee and describe this future which is already forming before our eyes.

Let's jump head first into the origins of our finance and currency system, remembering that the modern concept of banking was born in Italy in the thirteenth and fourteenth centuries. The first bankers were from Tuscany, the first letters of credit, cheques and treasury bills were Italian and the first bank, in the modern sense of the word, was the Bank of Saint George, officially founded in 1407, then named the *Casa delle compere e dei banchi di San Giorgio* [House of purchases and banks of Saint George].

If we look closely we can see that not all that much has changed since then: banks are there, they exist to connect supply with demand, they enable exchanges between economic subjects and speed up trade and transactions, they transform money into investments and loans and they run the economy. It is only very recently that to do all this we no longer need to actually "go to the bank", as many things can now be done from home or when we are out

1. See http://www.americanbanker.com/news/bank-technology/is-the-fintech-sector-over-heating-1076982-1.html, source: William Garrity Associates.

and about by connecting to the bank with a computer, tablet or smartphone. The real change is still very very recent.

The context and scenario of reference have undoubtedly changed and the way in which we use banks is also radically changing much more rapidly than before and in a much more global sense. The manner and direction in which we are moving will change banking and financial services forever, fulfilling the **prediction Bill Gates made in 1994, "the world needs banking, not banks**'[2].

Let's look at the post-way period and see if we can begin to understand what, why and how things have changed.

The end of the Second World War marked the establishment of a new world order and, as far as we are concerned, the conflict made globalization indispensable, with the obvious exception of the Soviet bloc and its affiliated areas. This was also true for the economy. It became necessary to incentivize the growth of international commercial trade and therefore of international financial transactions through a new order and common system of supranational rules.

The Bretton Woods Agreement was, in fact, signed before the end of the Second World War in July 1944. This agreement was an answer to this very need and formed the basis of a new economic, financial and monetary order of a global nature which is still a point of reference for today's system, though the latter has more modern characteristics. Nevertheless, the first stone was laid in 1944.

Bretton Woods was the answer of the 44 participating nations to the lesson learned the hard way that the economic and monetary chaos which ensued in the interwar period was one of the causes of the Second World War. The agreement led to the creation of the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development which was tasked with financing global development, encouraging investment and supporting the growth of international trade.

The IMF had the specific mission of guaranteeing monetary stability by overseeing a exchange system based around the dollar, the only currency which could be converted into gold, in order to rebuild and relaunch open and multilateral trade, stability in exchange rates and international economic development; in practice this meant ensuring the hegemony of a *global currency*, the dollar.

The Bretton Woods Agreement therefore promoted a free market system, the beginning of the globalization of markets and the broadening of financial inclusion by demolishing as many barriers as possible.

Why was Bretton Woods so important? Because in addition to the linchpin solution identified at the time – a fixed exchange rate and convertibility into

2. http://www.azquotes.com/quote/850668.

gold – it established a point of no return; a globalizing and inclusive order and objective which are still very relevant in the development of FinTech. It is also from these points, as we will see, that the FinTech movement derives in both origin and strength but which it will also have to confront when it proposes new, breakthrough, solutions: the creation of a single financial, economic and monetary system.

Notwithstanding the fact that neither technology nor the economic and political scenario were up to dealing with the objective, the vision was very clear; so clear that it was present before the end of the war, taking for granted what would have happened and focusing on what would be required to start anew.

This goal, a single and inclusive financial, economic and monetary system fostering political stability is the same goal that we have today and the great force which is behind a significant part of the technological and financial services revolution which we are witnessing and will continue to observe in the years to come.

Following on from Bretton Woods, the beginning of the 1950s saw the birth of new powers governing the world's economy: the IMF, the World Bank and also the GATT (General Agreement on Tariffs and Trade) to which Italy adhered in 1950 and which was the forefather of the current WTO (World Trade Organization) which oversees 97% of world trade in goods and services[3].

Bretton Woods thus began that which we can define the internationalization of banking, which really began to develop in the 1970s, just when the Bretton Woods Agreement was modified in order to cope with this new phase of globalization.

Returning briefly to the agreements, the objective of the GATT was to contribute to the progressive development of economies by reaching reciprocal agreements aiming to substantially reduce tariffs and other obstacles to international trade as well as the elimination of discriminatory practices.

Therefore, under this new world order following the Second World War the first signs of parallel developments soon arrived from the banking and financial system, now suited to the economic, social and monetary objectives.

There are several key moments which mark the birth of the current system and which created its foundations and nature which today seem obvious and eternal. We can examine the most important, those which have greatest meaning to us and which are most closely linked with current technological development, without claiming to be exhaustive in our observations.

3. On Italy's adhesion to the GATT see A. Cova, *Il dilemma dell'integrazione: l'inserimento dell'economia italiana nel sistema occidentale (1945-57)*, FrancoAngeli, 2008.

We can provide some initial information in a **table of reference** relating to the most significant moments which will enable us to chronologically map the path which over the past fifty years has led to the birth of Pre-FinTech and FinTech.

The technological evolution in the financial sector to the arrival of the internet

1950s	Birth of the credit card
1960s	ATMs appear
1970s	Development of electronic trading (stocks, Forex)
1980s	Evolution of mainframe computers and the computerization of industry
1990s	The arrival of the web and internet banking

The 1950s saw the birth of the credit card – the first plastic method of payment, the Diners' Club Card, created in 1950 by Frank McNamara. This event was just as important as the invention of the first cheques in Italy in the twelfth century and the introduction of paper money in the 1600s.

Fig. 1 – The Diners' Club card. The credit card is born (1950)

Soon after the giants of today were born: American Express came out in 1958 as another outside competitor of the banking system which rapidly established itself in North America creating the leaders of the sector we know today: from the bank of America, the largest bank in the USA, which in 1958 created the BankAmericard and which in 1970 opened up to cooperation with other banks taking the name Visa; MasterCard arrived in 1966, also formed by an association of banks.

As we know, history loves to repeat itself. If today we think about Apple Pay, Google Pay or other specialized FinTech competitors in the world of payments from PayPal and so on, we can see a parallel with the Diners' and Amex of that time. Unexpected competitors coming from outside the banking system. Diners' was founded by what today would be called a startupper which created a new standard of payment which still dominates the world today. American Express was one of the rapid delivery service companies founded as long ago as 1850 later expanding into financial services and creating the first traveller's cheque. The current global leader of the Money Transfer sector, Western Union, was also a delivery company which introduced a metal card enabling their customers to defer payment as early as 1914.

Similar sectors invaded the field with their different view of the market and a greater speed, with no legacy, with fewer fears and fewer things to defend. On the other side the banks created alliances with each other and attempted to respond and react as in the case of Visa and MasterCard, still the biggest joint venture in the world, and an example of what today we call *coopetition.* This is still one of the most popular and successful ways of competitively combating threats from outside the sector. The other option is to simply give in, as in the case of Money Transfers which, as we said, is a sector dominated by non-banking players such as Western Union and Money Gram, amongst others, and as is likely to happen with PayPal.

The "plastic card revolution" has led to the transformation into electronic payments, though if we remember that in Italy physical money accounts for over 85% of transactions we can see that it is still a long way from being completed. In Europe this figure is around 60% whereas in Scandinavia the vast majority of payments are *cashless*.

In the early period technology was, of course, mostly manual, and knuckle busters or *stiratori* [pressers] as they are known in Italian, were used to record and conserve credit card data. Authorizations were made by telephone.

Although at that time processing was usually a manual activity, and therefore particularly time-consuming, the credit card was created in order to fulfil a precise need which is extremely relevant today and which has not yet been met after almost 70 years: a cashless economy where transactions are managed by a flow of information, by bits and bytes.

Today we talk of Apple Pay, NFC, *wallet* and mobile payments, but the starting point of this modern journey was in the 1950s and is inextricably linked to the goal of developing and speeding up the economy through