Finance and the challenge of digital technology

Foreword

Jean-Bernard Mateu, Arenium Consulting

Technology and disruptive uses in finance

Finance and artificial Intelligence: From an industrial to a human revolution – Rethinking everything

Jean-Philippe Desbiolles, IBM Watson Group

Industrial revolutions have followed one another, while finance is staid. For what changes must it prepare as artificial intelligence rings in a new era? To gauge the scope of the changes under way, we need to ask questions about the origins of this new revolution ("industrial" in name only). From the customer experience through machine learning to human capital, new paradigms are forming; and finance must understand, control and assimilate them. Out of this upheaval will crop up new opportunities for finance to seize like an investment. Are we ready? We are heading in the right direction, and the remaining obstacles are being lifted one by one. Artificial intelligence will be whatever we make of it – only through action can we make the best of it. It is up to the financial industry to leverage AI so as to place human concerns at its center of its processes and to reinvent meaning, confidence and transparency.

Data in the banking sector

Laurence Le Buzullier, founding partner of Arenium Consulting

The Web giants have introduced revolutionary changes in the uses and storage of (big) data. Everything is now being recorded in enormous data lakes, which, filled with structured and "unstructured" data (such as videos and texts), replace the erstwhile data warehouses. Thanks to the cloud, firms can have access to big data while trimming costs. However this financial blessing is nothing without human intelligence: to have value, data must be made intelligible and properly processed. Data take on value by circulating and being of good quality and up to date. In banks, data have to be governed at the highest level if new forms of technology, such as artificial intelligence, are to be used optimally. Regulations about data must be tightened. Those parties who know how to use data efficiently will sharpen their competitive edge.

Cryptocurrencies: What are they good for? How do they work?

Arthur Breitman, Tezos

Cryptocurrencies have two lines of kin, political and technological. To better understand their purpose and value, this dual lineage, starting out from its ideological ancestry, is described by outlining the cryptographic and computer techniques used to roll out blockchains.

The impact of the Interet of things on financial services: The case of insurance

Patrick Durand and **Laurent Félix**, Wavestone

The Internet of things (IoT) has advanced potently during the last ten years. It now compels recognition as a phenomenon disrupting many a sector. Manufacturers, the first to realize this, were soon joined by financial services. In finance, the majority of IoT projects are being conducted in the insurance industry (in particular: use cases in insurance for automobiles, homes and personal protection). The revolution of connected devices threatens some insurers, since it might substantially reduce the activities to be insured at a time when newcomers are moving into the market. For sure however, the IoT will provide undeniable leverage for growth, since it will orient consumption patterns more toward use than ownership. This will be an opportunity for those players who design offers turned toward more customization and after-sales followup.

The viewpoint of traditional players

Digital technology: What risks and opportunities for insurers?

Thierry Martel, general manager of Groupe Groupama

Digital technology is disrupting the value chain in insurance. The client/insurer relationship is changing all along the line; but the moment of truth arrives whenever an accident occurs, a situation that digital technology helps us manage much better. The previous barriers to market entry have often become a competitive disadvantage, since they force insurers to devote substantial effort to data, technology, physical networks, the back office and regulatory matters. As the bounds between sectors gradually vanish, the insurance of tangible goods is, little by little, becoming an insurance at the service of people in a context of closer cooperation and coopetition.

Digital agility in financial firms

Emmanuel Yoo, Orange

The banking industry is buzzing with talk about agility. To take the word of most banking organizations, everything is now a matter of agility. The proclaimed benefits of agility are used to justify using this buzzword not only for in-house communications but also to attract new talents. However adopting this concept implies changing operations, a change not without risk for traditional organizations. Even for newcomers who were born agile, it is a daunting task to "access" employees' qualifications and behaviors in an ever more competitive market.

Banks in the throes of change

Nicolas Denis, Crédit Agricole Normandie-Seine

Plunged into an era of transformation, attacked in the market and its historical havens, banks now have to anticipate events and reinvent their activities around their status as a trusted third party. In the era of commodities and of distrust, banks (more broadly, bankers) must molt in reaction to the violent acceleration of digital technology but while placing the human factor at the center of the services they propose. New services, new offers, new solutions are, for banks, challenges to be taken up in order to stave off the perils and risks of extinction. Proximity, commitment and confidence are solid, fundamental values that banks must promote in the market and to their customers.

Investment banking: New paradigms and new forms of technology

Laurent-Olivier Valigny, Groupe HSBC

The Nora-Minc report on the computerization of French society – now more than forty years old – prophetically compared banks to "tomorrow's iron and steel industry" as it discussed a saturated market, production overruns, insufficient equity, production costs and disruption due to telematics and computers. The current digital revolution has overtaken investment banking – a strange echo of the diagnosis made so long ago despite the fundamentally different contexts. Investment banking has undergone three shocks during the past decade. It had to cope with the 2007-2008 meltdown. The response to this first catastrophe was a massive regulatory shock; and now, investment banks are, after ordinary banks, facing the digital transition. Stemming from several technological innovations (or even revolutions), this transition is a potential source of growth and increasing productivity; but it inevitably entails a cultural change and the adaptation of organizations – processes to be controlled.

The viewpoint of new players

The digital economy is storming finance

Alain Clot, founding president of France FinTech and senior advisor at EY

Till recently, the "universal bank" was the dominant model, long protected by regulations and shielded by customer loyalty. In a challenge to this model, a new category of players, fintechs, have introduced innovations and are gradually becoming service platforms. Operators in telecommunications and big retail chains, as they try to lessen the attrition of their business, are joining them. However the major danger comes from the giants of the Internet, which are fully conscious of the exceptional value of the data garnered by financial services. The technological revolution – artificial intelligence, blockchains and the Internet of things – and new EU regulations are speeding up the trend toward a hybridization of models and cultures. In this moving context, France has a few major advantages: its world rank in the cognitive sciences and its privileged access to the single European market.

Fintechs and banks: Cooperation and coopetition

Dominique Chesneau, Tresorisk Conseil

Between fintechs and banks, the die has not yet been cast. Some observers think that the days of the "banking mammoths" are numbered; others, that fintechs will be disruptive enough to become the dominant player in finance. However the future of finance implies cooperation between players on this market, even though competition will exist as long as market positions are not stable. Fintech strategies of innovation clearly stem from a perception of trends in demand, but innovations are not an exclusivity of these newcomers. Forms of cooperation (shareholding or partnerships) in R&D and distribution have already taken shape in the banking and insurance industries. The ACPR, the French regulatory authority, is examining the viability of the business models of some "new" banks and the limits of cooperation (or coopetition) between players. The new paradigm is not yet stable.

Crowdfinancing, a new way to finance small and medium-sized companies

Olivier Goy, October

Crowdfinancing is an unbelievable chance for companies and entrepreneurs. After a rapid takeoff in English-speaking lands, it has reached continental Europe. Popularized in relation to donations, it has gradually grown by providing equity financing or loans. Crowdlending, the most active field in this new financial trend, was born, unstructured and anarchical, in 2005. After growing pains, it is now capable of making credible offers that compete with traditional banks. Thanks to technology and to clear (strict but considerate) regulations, several crowdlending platforms have been set up in France, Germany, Spain and the Netherlands. These newcomers have several advantages for reaching a significant level of funding; but they will have to manage their growth and successfully spread the good word among entrepreneurs and people with savings.

Margo Bank, a European bank devoted to a new generation of small and medium-sized businesses

Jean-Daniel Guyot, CEO de Margo Bank

Margo Bank has the ambition of being reactive and human, of placing technology at the service of customer relations. To better respond to the problems of small and medium-sized businesses in Europe as they cope with the digital transition, three entrepreneurs have chosen to build a new bank from ground level up. By building its own technology and redesigning its organization and business processes, this bank can follow up on the new uses and expectations of bankers and customers. Contrary to the "100%-digital" trend, Margo Bank has placed the human factor at the core of its plans and equipped its local teams for more contacts with customers. Besides banking products, it will offer small and medium-sized businesses the tools necessary for processing their own data. The objective is to help them improve their productivity and decision-making.

Risks and regulations

Personal finance management programs, a new stimulus to banks

Rémi Steiner, Conseil Général de l'Économie

Payment services are the playing field of numerous fintechs. The European Commission has been attentive to the growth of these start-ups in the financial sector for two reasons. First of all, the immediate interest of consumers is to have cheaper, more innovative financial services. Secondly, the Commission is convinced that the harmonization of payment services is a prerequisite for a single European market. Owing to what is called "open banking", public authorities in Great Britain have made it easy for people to open their banking data (in the hands of big British banks) to third-party financial service-providers. Generalizing this practice in Europe has set off an intense battle. Its outcome might significantly alter the offer of banking services and soften the relations of consumers with traditional banks.

Applying artificial intelligence to finance: Contractual issues and liability

Marie Danis, associate attorney, Cabinet August Debouzy, **Charles Bouffier**, senior attorney, Cabinet August Debouzy, and **Thomas Feigean**, Cabinet August Debouzy

Artificial intelligence (AI) has a place in all branches of the economy, especially in finance. This technology holds out a promise of new services but is also a source of legal risks when the findings drawn from its data-processing are uncertain. The fintechs that are developing tools based on AI and the banks that acquire the rights to use AI have to settle, in contracts, questions about property rights to the wealth thus produced and about the liabilities and safeguards of the parties concerned. The banks that propose AI tools to their customers should assess their level of liability in cases of damages and tort.

Technology at the service of market oversight

Iris Lucas, Autorité des Marchés Financiers (AMF)

Several changes during the past few years have left marks on the financial markets: fragmentation, digitization, algorithmic high-frequency trading. Concomitant with a considerable increase in the volume of market data, these phenomena have pushed regulatory authorities to overhaul and modernize their systems for detecting violations. Technology, undeniably now at the core of market oversight, is still an instrument requiring human expertise, at all levels ranging from the design of algorithms to the analysis of potential violations.

Regulation and supervision in relation to fintechs and the digital revolution

Pierre Bienvenu, Fintech-Innovation at ACPR – Banque de France

The digital revolution is disrupting the financial sector: competition is increasing while uses and practices, as represented by fintechs, are changing fast. All stakeholders in finance must adapt to a market in the throes of change. New uses are diffusing faster. The lowering of technological barriers is stimulating competition, while changes in regulations are making it easier for innovative newcomers to enter the market. To keep up on these changes while upholding high standards for security, stability and consumer protection, more agile and proportional forms of regulation must be established through closer cooperation among public authorities. Given the changing financial sector, the new technology will be a lever of innovation for regulatory authorities, too.

Miscellany

Regulating finance in the 21st *century*

François Valérian, engineer from the Corps des Mines, Conseil Général de l'Économie

Finance, a global field that is evolving fast, is hard to regulate. Regulation is, however, necessary since finance irrigates the whole economy. The 2008 meltdown opened new areas to regulation and has made us keenly aware of how difficult it is to try to control this global field from within a disjointed political space.

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