

Chapter 2

Fin Tech Innovation and the Disruption of the Global Financial System

Abstract In this chapter, a more structured analysis of the wave of financial innovation—driven mainly by digitization and new technologies—but also by shadow banking players acting just outside the boundaries of regulations, is presented as it applies and impacts on the industry of financial services—with a number of potential disruptors acting across the value chain and with a different set of competitive advantages. The discussion develops therefore on the topic of the potential changes impacting across the main fundamental functions of the global financial system—from payments to lending, from investment banking to insurance and so on. A number of potential taxonomies of emerging winners are introduced and a discussion is developed on the potential strategies that could be adopted by incumbents—that could either fall victim of the innovation, or reap most of its benefits, embracing this wholeheartedly and considering also alliances with new digital players. All of this is also considered as the potential engine of the many restructuring and resolution cases that could happen because of the inability (or outright unwillingness) of some of the incumbent players to change and adapt.

2.1 The Wave of Fin Tech Innovation

Innovation is, by definition, mostly unpredictable and very often, hopefully, disruptive, as greater value creation (and migration, from incumbents unable to follow through) is usually associated with quantum leaps, and not with marginal steps. However, the current fin tech wave now unfolding in banking is really as much disruptive as it has been incremental—in the last 15 years, since the first hype related to the so called “new economy”, and the subsequent burst of the DotCom financial bubble, the digital progress has been relentless even if at times subdued and low profile. The current wave of innovation, built as it is on the progressive digitization of the society and by the incremental technology now available and pushed forward by “fin tech” new players, has a number of clearly identifiable features:

- It has become now more deliberate and targeted, often at the harm of traditional banks, as incumbents are perceived more and more as inefficient, overregulated and mostly unable to react in a prompt way. True, some of the new competitors have also been developing alliances and partnerships with traditional players, but where they see the opportunity to take them away entire businesses they increasingly do so;
- The focus of the competitive attack from digital players has become mostly associated with the greatest sources of clients' friction and pain in their relationship with existing incumbents (e.g. see the time to answer in lending, ranging from many weeks to few months for the incumbents and approaching real time for some of the new web based digital lenders, using sophisticated psychometric analysis, as well as all kind of applied analytics techniques to mine unstructured sources of data, both "formal" and "social");
- It has the greatest impact where the new digital challengers can employ business models that are platform based, data intensive and capital light, or capital less. For this competitive plays, it has become obvious how the "scarce resources" to win big is really good data and information, and smarter intelligent ways to use this information to create superior technology to serve better the clients, eventually with third party products (hence the capital light) and avoiding as much as possible any regulatory and compliance burden. As technology is mostly providing the transformation of information into intelligence, it has also become clear that long dated banks' trust (significantly tarnished after the global financial crisis and the many scandals related to misconduct—from misspelling to market rates manipulation to money laundering etc.) can be eventually replaced by the brand value of new digital players—new names and logos not even present few years ago, as it has happened in other historical industries (think at Tesla in car manufacturing);
- It has most immediate effects on very specific processes, whilst impacting significantly the global functions performed by the financial system at large—it is therefore starting in a very vertical, surgical way, to then expand horizontally, across the overall financial services value chain, to reach and get hold of the client;
- It needs to change almost continuously, as incumbents naturally try to react with similar strategies—leveraging their legacy assets, often ending up providing to the very digital challengers the infrastructure and the services they require to compete under new ways and forms—think at the payments systems and at the global infrastructure—the "plumbing"—developed by traditional players and by their consortium, and then now often managed by private equity firms and open to the new services and products of fin techs;
- It has potential implications (positive and negative—as they create new sources of capital gathering and risk diversification and transfer, but often in very opaque and less monitored ways and therefore open to frauds, cyber security issues and conduct risk) on the overall riskiness of the GFS, still not well understood, that will require new skills for the Regulators, usually slow to react and not as tech savvy as required (and sometimes not even aware of what is happening just across the traditional definition of financial services);

- It follows a development curve characterized by the continuous pressure to innovate—e.g. not a big bang event, but a chain of smaller changes driving the final disruption and with an end state that, as of now, it is really hard to predict, with a lot of uncertainty further introduced by regulatory constraints, past legacies of banks and the usual political interference (greater in financial services than in many other industries).

The important thing is however to understand how the current fin tech wave of innovation is potentially disrupting the GFS not as a Moloch per se, but as a consequence of its changing our very same style of living, from managing our job and investments, to our consumption and leisure time. Let’s for example consider how the digital realm can change a consumer journey across all aspects of life—say, starting from our recurring shopping for clothes. As shown in Fig. 2.1, a number of new digital information provider are already influencing in novel ways the search and discovery part of our journey, until we almost reach the decision to buy something; then digital coupons are already driving the promotions and discounts available both on the digital and physical channels; and new digital payment options are now also allowing us to share information with our friends and with other suppliers, and the activation of digital loyalty programs will make us repeat buyers of some, and premium switchers for others ... and then our feed backs and the reporting of our past transactions will be made available for future use in the

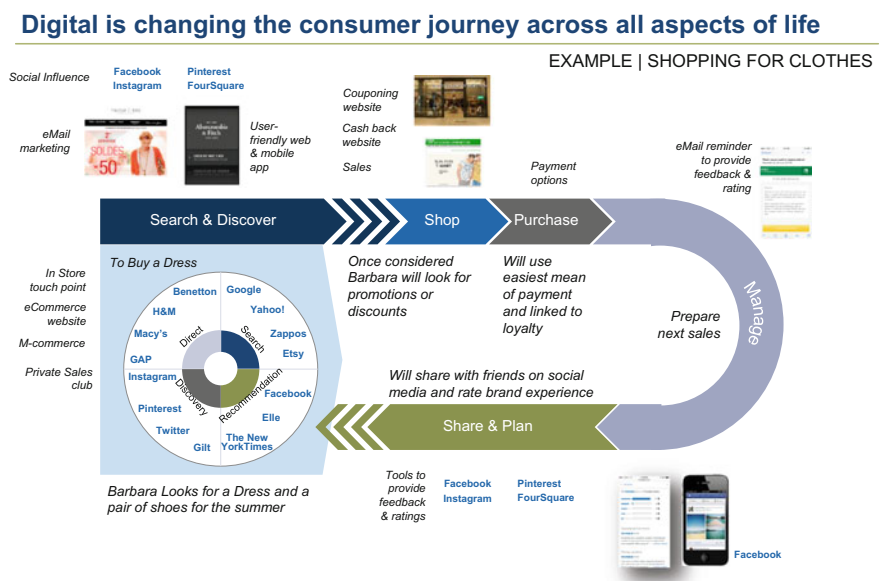


Fig. 2.1 Digital journey is changing across all aspects of life

cloud ... for us and friends and—at a cost—for other business partners acting in this ecosystem, and with the almost unavoidable digital advice on the next best product soon to follow.

A new digital journey is then exemplified as changing across all aspects of life in Fig. 2.1.

2.2 New Entrants and Disruptive Technologies

New entrants are then entering the competitive field of financial services and targeting a number of the fundamental functions traditionally performed by the likes of banks, insurance companies, asset managers, payments and credit cards companies. This promises to be a competitive war field for years to come, potentially challenging the very existence of the traditional players, often sand bagged by their non performing loans—still heritage of the last financial crisis and of the low growth environment of many developed Countries—by their quite high and rigid cost structures—nurtured and develop in the happy days when bankers were “buying money at 3 %, selling it at 6 % and playing golf from 3 p.m.”, and still had a reputation, because being a banker was really good and not something almost to be excused—the last sand bag, coming from the too many scandals of the last years. The digital innovation effect, compounded by the NPLs, the high cost structure, the bad reputation... and indirectly supported by the new wave of regulation are posing the basis of the restructuring and turnaround of the banking sector to come—something that Lehman did not even had the chance to see.

In Fig. 2.2, examples of new digital players (usually also “shadow” players in their regulatory definition, as they tend to perform certain banking functions without being regulated and being short of a banking license—actually paying attention to stay away from it) are shown for the gathering and management of deposits and savings, lending, payments and settlements etc. and in the following chapters a more structured analysis across global functions will be provided. It is important to notice that the taxonomy being presented is very far from being completed and very likely to get outdated very soon, as changes are happening rapidly and with an increasing pace—lots of “fin tech” players opening up for business almost daily, with new business models and novel solutions to very old problems, such as the one of gathering and lending money—even if, sure enough one thing stand, that is that the 3–6–3 rule of old good boring banking has gone away, forever.

For the time being, and given the scope of our analysis, it is however useful to consider how these new challengers are positioning vis a vis traditional banks, and on the basis of which kind of competitive advantage:

- Most of the new challengers are in fact positioning themselves as infrastructure/ service providers, therefore potentially developing, complementing or substituting tout court certain parts of the global financial “plumbing”—with economies of scale and scalability mostly attainable with shared IT platforms;

New entrants, or digital challengers, are cherry-picking profitable lines of business in financial services

Illustrative and not exhaustive

Examples of New Non-Bank Players			Potential substitute of banks as			Main competitive advantages		
			Producer	Distributor	Infrastructure	Tech/Innovation	Avoidance of regulation	Clients needs
Demand Deposits & Savings	Ally	• Online/mobile-only bank with competitive rates on checking & savings, auto loans; 900k bank customers, 4.4M auto loans	☐	☒	☐	☐	☐	☐
Lending	LendingClub	• Online credit marketplace; over \$1.6B loans ('15 Q1)	☒	☒	☐	☐	☐	☐
	OnDeck	• SMB loans platform; over 30k customers ('15 Q1)	☒	☒	☐	☐	☐	☐
Payment/Settlement System	PayPal	• 10 Million payments per day, in 203 markets, 100 currencies and 157million wallets	☐	☐	☒	☐	☐	☐
Bill Pay	PayTrust	• Online, paperless bill pay	☐	☐	☒	☐	☐	☐
Merchant Processing	Square	• In-store card payments via mobile/tables; \$20B trx ('14)	☐	☐	☒	☐	☐	☐
	Stripe	• Online & mobile payments; worldwide in 135 currencies	☐	☐	☒	☐	☐	☐

Fig. 2.2 Digital entrants across main FS business lines

- Many others are positioning as distributors, or originators of new sales opportunities for businesses to customers, counting on a first mover's advantage to build a unique proposition and new "brand equity";
- Finally, a more limited, residual component is positioning as superior "product factory", leveraging on a specific know how ideally protected by a patent or copyright to produce some gadget better, that will then be sold by other digital distributors, or even by traditional "brick and mortar" banking players.

In Fig. 2.2—digital entrants across main financial services business lines are shown by way of examples as entering and cutting across all the main functions of the GFS, and impacting as potential producer, distributor and infrastructure provider and on the basis of different competitive advantages.

Whatever the positioning of these digital challengers along the value chain, they all share (with different weight) a number of distinctive advantages built on digital technology innovation, avoidance of regulation and a superior understanding of client needs, usually born out of their analytical capabilities used to gather, mine and interpret "big data"—structured and not, quantitative and qualitative, formal and social—coming for example from the analysis and monitoring of our reputation in the web, to discriminate on our somehow related creditworthiness; or from the information available from all kind of sources that offers new lead and lag indicators on the state of health of a business (what about monitoring, via satellite systems and the web, the occupancy of the parking lots of a supermarket during the working ours, as an indication of business flow?).

The post-crisis years have seen a new wave of innovation, with Financial Services at the forefront

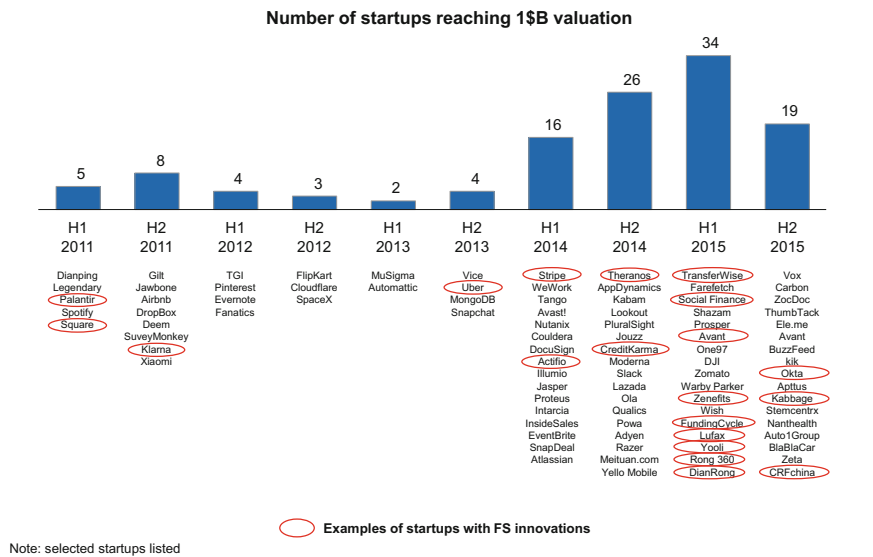


Fig. 2.3 The one billion club for start up: a fin tech business? Source Elaborated from CBInsight

And the returns of these digital challengers—even discounting for the hype usually surrounding any new wave of pioneers in an industry, have been in some instances impressive, with an exponentially growing number of new fin tech players reaching a 1+ USD Bln valuation (the “unicorns”), as shown in Fig. 2.3—the one billion club for start ups: a fin tech business? The figure shows all kind of start-ups across all sectors, with FS at the forefront.

This significant “digital threat” for banks—leading potentially to their restructuring, turnaround, transformation (or resolution, liquidation and demise) is compounded by the impacts coming from new, disruptive technologies getting rapidly ground at the global infrastructure level—something acting at an even larger scale and with potentially much deeper and dramatic consequences as the challenge the very “global plumbing” of the system.

Let’s take for example the block chains/distributed ledgers technology (as shown conceptually in Fig. 2.4) and let’s consider its potential implications over a medium-long term time horizon (5–15 years):

- Block chain technology is already being applied to a wide range of electronic payments, albeit mostly in a preliminary, testing phase (e.g. crypto currencies, with Bitcoin being the best known one) that include: payment networks for the settlement of credit card transactions; international money transfers; inter-banks settlements. There are even derivatives contracts being written in the new language, potentially allowing the running of complex derivatives on the

Disruptive technology can change banking as we know it: the example of distributed ledgers

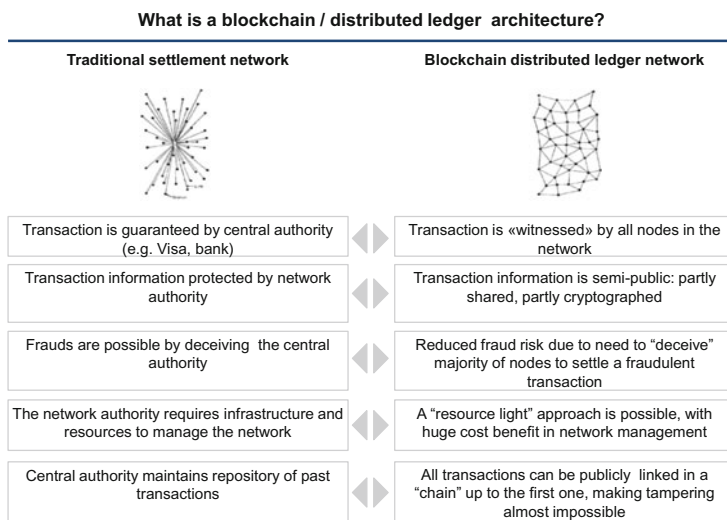


Fig. 2.4 Disruptive technologies and the “block chain”

distributed ledgers technology, potentially safer, more extensively distributed (albeit in an almost anarchic way) and embedding rules of Law and conduct in its code;

- More importantly, the impact of the block-chain technology in the future could truly prove disruptive: with significant cost savings, estimated by Santander in 20 USD Bln/year for the US banking system, due to reduced back office thanks to real time, automated transaction settlement, reduced data storage needs as information is not stored behind the bank’s firewalls; and reduced operational and compliance risks—because, as mentioned, the rules of Law and conduct can be written directly into the new standard code.

The potential emergence of global standards for distributed ledger settlement networks would then make a full scale, global adoption possible and welcome (a consortium with UBS, Barclays, Citi, Goldman Sachs, RBS and other major banks is already developing such a standard). Or, alternatively, bank-specific distributed ledger networks may become the norm—as anticipated in Fig. 2.4—disruptive technologies and the “block chain”, forcing each bank to develop their own system (as Barclays and Santander are already doing), forcing many other out of the business covered. Or, finally, other non-banks owned distributed ledgers solutions and platforms could be developed to dominate the market and be operated and controlled by the Facebook or Google or Apple of this world, or by a new player whose name is still almost unknown.

Whatever the prevailing scenario regarding the development of digital entrants and of the new infrastructure disrupting technologies, we may reasonably expect a good number of future trends:

- Traditional banks will most likely not be able to react as quickly and effectively to the digital innovation. As global and regional banks start perceiving the real threats from disruptors, they are incapable (or less capable) to act, as their decision making and organizational set up is just ill suited for that, and as their prevailing focus is right now on implementing new regulatory requirements, and fully exiting the heavy burden of their global crisis legacies: from NPLs to decrepit IT systems to rigid cost structures. In fact, an industry—the financial services one—where regulations is mentioned a number of times as the top of mind issue of CEOs (see for example the World Economic Forum survey of global heads of strategy, 2014 and 2015) there is not great room for reaction, nor proactive planning, not to mention creative thinking;
- Regulators, on their side, may most likely not be able to see and address new risks building into the digital system that will, for sure, pop up at some point in time, as they are not trained and ready for these new rules of the game—also, the new digital realm really requires new skills and some technical prowess—not necessarily the “forte” or current regulators across the globe. Also, innovation is happening very fast, with increasing pools of talents and capital being deployed, now attracting the best talents: somebody in a garage is working to reinvent, not just steal, most of the key businesses of the GS. And, as shown by the surveys made by many MBA programs, the future employment dream of best students are not anymore investment banks, but digital start-ups and fin tech ones specifically. New risks could then be generated and go undetected and uncontrolled in the system also because of this fast paced innovation: you cannot control what is moving very fast, and cannot monitor things if they change shape continuously;
- Finally, the unprecedented pace of change and disruption could however be good news for customers, with transaction costs approaching zero and real time settlement at global level—just to mention an example applied to the payments systems. Also, they could get greater access to credit, with better transparency and even cheaper rates, with lower commission costs and a speedier response time; and they could even get equity capital and risk hedging and insurance; and cheaper, better available financial structured products. Of course, as the experience of the digital development and innovation in the other, earlier challenged industries show, a number of risks will also need to be managed by customers, including a greater risk of fraud, the cyber security of personal and privileged information and the creation of new, quasi monopolistic competitive positions able to corner the market and to almost force the customer to behave in certain ways.

2.3 Breaking up the Banking Value Chain

New digital entrants are increasingly entering the competitive field in the financial services industry and in doing so they drive the break-up of the traditionally almost fully integrated value chain. Fin tech players, in particular, are attacking valuable specific components of such value chain and with “fit-for-single-purpose” solutions. Their efficacy is then magnified, as they focus just on a single, tiny component (a service, or product), to make it much more valuable and competitive with what currently offered, and then using this single attack point to disaggregate further the original banks’ service proposition and gain larger shares of it towards the end customer. A graphical representation of this is then shown in Fig. 2.5, as developed by CBInsights.

As these new fin tech players can assume different forms and shapes, it can be useful to segment them according to a two dimensional matrix, as shown in Fig. 2.6, and defined by:

- Their level of “discontinuity” brought into the financial services ecosystem (e.g. if they are just marginally improving its working, or trying to change it in a disruptive way);
- The number of “fit-for-purpose” solutions used for their entry strategy, as they may tackle single or multiple financial services functions, therefore challenging in a more or less radical way the incumbents.

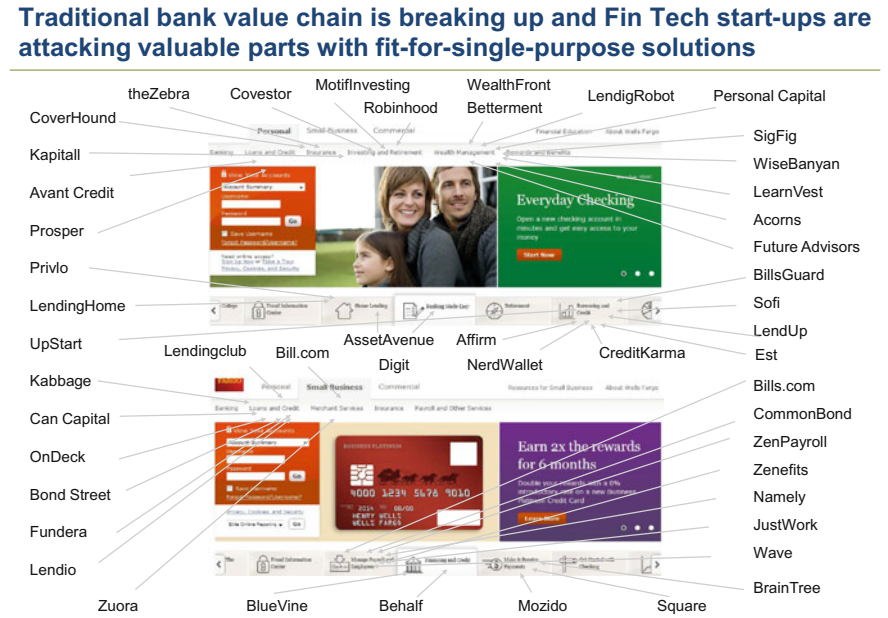


Fig. 2.5 Breaking up the banking value chain. Source Elaborated from CBInsight

The new entrants — Non traditional financial players segmentation

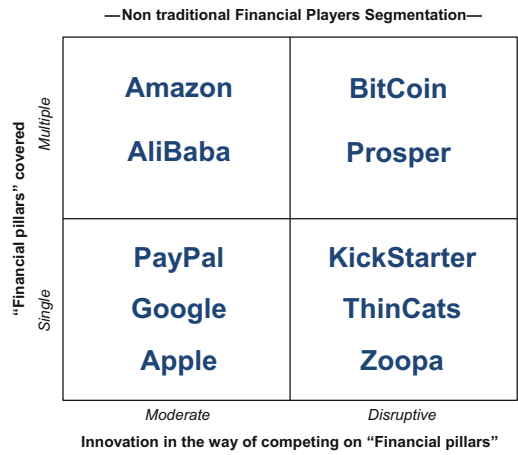


Fig. 2.6 New entrants, a dangerous lot

As identified in the figure, we could define “shedding skin” new entrants, that are trying to replace banking groups’ offerings by providing incremental new services that span across newly reformulated distribution value chains (e.g. Alibaba, a search engine now offering money market funds investing primarily in the Chinese interbank market, providing interesting yield and almost instant liquidity); and “hydras”, whose more disruptive value proposition tries to substitute almost completely banking players addressing some fundamental component of multiple financial services functions (e.g. Bitcoin, used as an open source online payment system, operated on a peer to peer basis, de facto working as a decentralized virtual currency); and “chameleons”, that are focusing on single components of the value chain and in an incremental way—e.g. targeting “old” services with “newly improved” offers (e.g. PayPal, offering on line transactions to transfer funds electronically, and available on mobile payment instruments as well as on the web); and then, finally, “cobras” that in a more discontinuous way challenge incumbents with innovative solutions able to address pent up demand and rapidly evolving market needs (e.g. Kickstarter, a crowd funding platform for projects financed by the “backers”—individuals, mostly—in exchange of their pledges—that could either be financial or non-financial).

The segmentation proposed is shown in Fig. 2.6—new entrants, a dangerous lot. New entrants are thus breaking up in a number of ways the different banking value chains and with relevant implications on most (if not all) of the fundamental functions of the global financial system, including:

- Payments and settlements, where electronic payments and digital currencies are now changing how consumers pay for their consumptions, and where new technologies such as the “distributed ledgers” one offers potentially a radical disruption of the system, with almost unlimited savings on cost structures;
- Funding, where new direct lending opportunities, and even equity raises opportunities via crowd funding initiatives, are now operated through digital channels and available almost real time because of the mining and analysis of a multitude of structured and unstructured data, that can now connect borrowers and savers directly, allowing a better matching of demand and supply complementary risk/return profiles;
- Asset management, where robot-advisers (based on artificial intelligence—AI—techniques and software) are now making sophisticated financial consulting on asset allocation available to almost anyone at a marginal cost approaching zero—allowing also faster responses and continuous monitoring;
- Investment banking, where frequency trading is now almost completely operated by AI systems, and new B2B platforms (e.g. dark pools, usually operated by consortia of global investment banks) allow now a direct and more efficient (if not less regulated and supervised) link between buyers and sellers;
- Insurance, where new technologies (e.g. self-driving cars, internet of things, shared economy applied to durable goods and fixed assets such as apartments and offices) are progressively revolutionizing the traditional risk underwriting, insurance and re-insurance activities, not to mention the brokerage ones.

The above mentioned five fundamental functions (or core banking areas), whilst not fully exhaustive, are at the center of the digital transformation happening right now and are worth the more detailed discussion to follow.

2.4 Innovation and Disruption in Payments

The first one to be analyzed is one of the most critical “utility” functions performed by the GFS as it allow the ordinate and timely execution of commercial trades—anything from international import-export to the most simple consumption choices done every day by consumers. Without an effective/efficient and secure payments and settlements system, we would in fact had to resort to bartering, in order to exchange things across the borders, and event to have a coffee and pastry in the morning, maybe in exchange of few fresh chicken’s eggs.

A number of disrupting factors are already at play in the global payments and settlements systems, as depicted in Fig. 2.7—as new intermediaries are entering this market, and new payments rails (the infrastructure and its global “plumbing”) are being developed and tested. In this new digital world, clients use these intermediaries and rails for new use cases, from NFC (near field communication) applications to MFO/CLO (merchant funded/card linked offers), and radically new technologies get tested and, if successful, increasingly adopted by both new comers

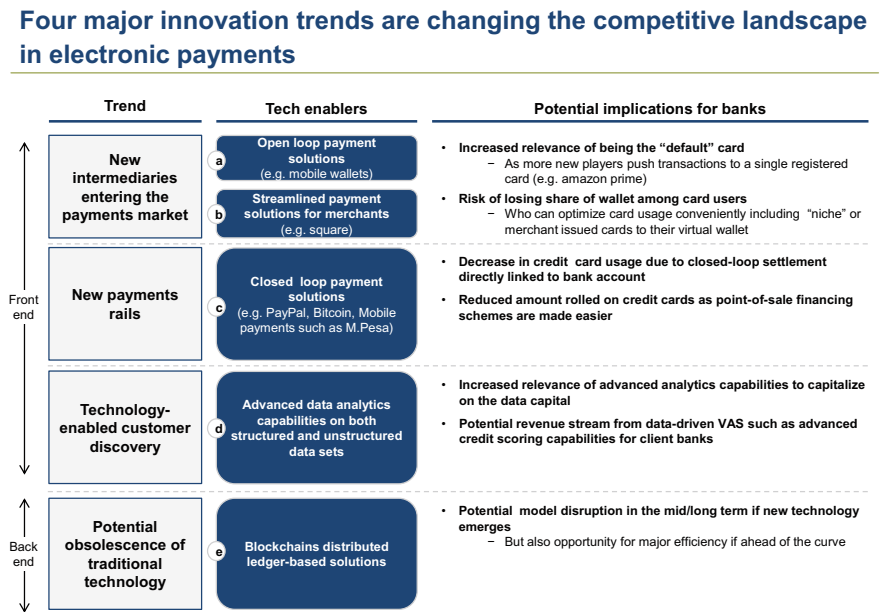


Fig. 2.7 Four main innovation trends in payments. *Source* Elaborated from World Economic Forum

and incumbents with potentially revolutionary implications. All of these dynamic factors are changing the competitive landscape in payments in a number of ways, starting from the diminishing use of cash, to the use of credit cards as stores of information, intelligence and shopping and lifestyle advice.

The summary of the four main innovation trends in payments is then represented in the following Fig. 2.7.

Starting from cash, the decrease in usage of paper and coin payments is a consolidated phenomenon in most developed Countries, where credit cards have been growing their usage for decades now. But while credit card companies and networks are still looking for ways to increase their penetration as preferred form of payment, it appears now that the general public is ready to move on from plastic and, in the name of convenience, adopt new technologies that make credit cards potentially an obsolete thing of the past, potentially leading to their disappearance, in favor of other digital means (starting from smartphones, which can already embed crypto keys that allow for fast, NCF based, payments—with connected reporting, information storage and exchanges).

New solutions are then becoming available. Most of them have as an end game the streamlining of the payment process for consumers and merchants, both in-store and online—less of a bother, quicker and more transparent and information reach, and even more secure. Both are likely to impact and disrupt in a major way the competitive environment, and the working and the economics of this fundamental

function played by the global financial system and by its traditional banking players—already harmed by the significant shrinkage of the inter-banking commissions. One of the earliest examples was Amazon’s 1-click payment option where, after a client have chosen a default credit card, all following purchases can be processed on that same card, without further input needed and with one simple click. Uber’s payments are today already processed in the same way.

Examples of similar “open loop” payment solutions that leverage existing payment networks and improve the user experience are also available for in-store purchases and offered in connection with digital wallets as already offered by the likes of Android Pay, Apple Pay or Samsung Pay (with few incumbents trying to catch up). The threat that these payment methods constitute to traditional credit cards players is twofold:

- They intermediate the buyer and the payment provider, who loses its direct relationship with the final end user. In this way, all the card’s additional services, benefits and marketing offers become more complicated to communicate for the card issuer and some of their value get intermediated by others. The new payment intermediary (i.e. the provider of the digital wallet) has instead an easy and direct access to the consumer and can offer its own “value added services” (e.g. reporting) to grow and consolidate the relationship;
- The new system increases the relevance of being the default card, creating a “winner takes it all” environment—the master card will connect to a number of slave cards, but will clearly control most of the flows and manage the direct relationship and ownership of the final customer. This reduces the impact of differentiation factors such as card design or brand and can marginalize niche or merchant-issued cards.

In addition to the above mentioned “open loop” payment systems that rely on existing networks, new “closed loop” payment solutions are also gaining traction in everyday purchases, but are obviously more controlled. More specifically, the closed loop solutions integrate in a single entity the acquirer and the payment network.

Both open loops and closed loops payments solutions (and the streamlined payments solutions available for merchants) are aiming at improving the overall experience and usability for both customers and merchants and have major impacts front-to-back, e.g. from the front-end customer part of the value chain to the back office part—as shown in Fig. 2.8—open and closed loop innovation in payments.

The best known example of closed loop system is PayPal that allows the use of funds from a “PayPal account” to make payments both online and in-store through the PayPal digital wallet. Closed loop solutions potentially eliminate credit cards networks from the payments equation—even though most of them allow consumers to fund transactions via the traditional payment network ecosystem too. In theory, and in practice as well, in the case of PayPal, these new closed loop systems can follow the entire customer journey, progressively leveraging different capabilities (built or bought, as PayPal did over time to extend aggressively along the most

Front-end innovations in electronic payments are improving processes for clients and merchants

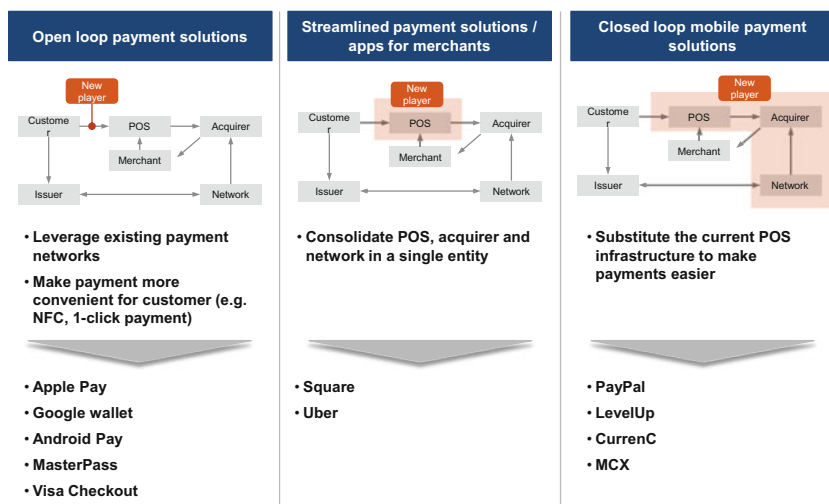


Fig. 2.8 Open and closed loop innovation in payments. *Source* Elaborated from World Economic Forum

juicy part of the value chain) to get hold of the client and of most of the value adding phases of his shopping journey—as shown graphically in Fig. 2.9—PayPal investment strategy: following the consumer journey.

The new intermediaries in payments may then be adopting different models and have the backing from a very heterogeneous range of mixed hardware-software (Samsung, Apple), software (Google) or e-commerce (Ebay/PayPal) companies, and have one critical element in common: their data applied analytics capabilities.

On one side, digital wallet services launched by new digital players, can aggregate different payment methodologies, such as cards from different issuers and payments linked to e-banking platforms, and as such they can gather more information on consumers' behavior than any of the individual traditional payment providers. Thanks to world-class big data management capabilities, new payment players can then take a data-driven approach to understanding customers and businesses and are eager to use this information to offer new services and grab market share from other, often non related business (acting as brokers, they can gain a share of the revenue pools of other business as intermediation/origination fee).

On the other side, traditional financial institutions (or “incumbents”) can also benefit from the rise of digital payments that, albeit intermediated, increase the data availability and richness compared to cash transaction. So far the main applications of payment data analysis were on marketing and advertising, but it is easy to see how an increased visibility into individuals' and businesses' cash flow and

PayPal investing aggressively to build out capabilities across the full consumer journey



Fig. 2.9 PayPal investment strategy: following the consumer journey

spending patterns will improve the data owner's ability to extend loans to customers previously less understood and therefore underserved.

Switching the focus of our discussion from new digital players to traditional financial institution, there may be three main consequences for banks from the ongoing transformation in the world of payments:

- They may be losing control over their customers experience and therefore ultimate fidelization. Incumbents may therefore end up losing some or most of their control over their customers' transaction experience as digital wallets consolidate digital payment platforms and keep adding high value added services;
- They may however react by develop more accurate customer targeting to "defend their turf". Leveraging data—that banks has in excess, also from past history—on specific customer segments will become an essential component of any commercial strategy to gain a dominant share of the digital wallet of the targets clients and to encourage or drive more frequent usage of specific payment means in a competitive market;
- They may also counterattack by developing a stronger and more prominent relationship with merchants. Incumbents' ability to partner with merchants will become a critical component of their strategies to drive merchant-specific usage, enabling merchant-issued credit cards, or becoming a preferred partner for cards and payments on their platforms and offering them MFO-CLO (merchant/card linked offers) services.

2.5 The Distributed Ledger Technology and Challenge

Credit cards are not the only payment product being threatened by new technologies anyway. The rise of the “Bitcoin” and of other cyber-securities and of other cryptography-based forms of payments (the so-called crypto-currencies) has now focused the incumbents’ attention on the technology that is enabling it, e.g. the distributed ledgers one, whose potential applications are much more relevant and extensive than the crypto currencies themselves, and is now getting the attention (and the invested money) of both venture capital funds and banks.

A “distributed ledger” technology is based on a system that, following a very basic interpretation, is a record of data that allows verifying and certifying who is the final and definitive owner of a certain value, or asset. Unlike other traditional payment schemes, distributed ledgers do not have a central administrator or a central data storage—e.g. they are born as distributed and, in a way “anarchic” as they are ruled by the web following rules that are kind of an unmanaged democracy (if most of the participants believe this asset is your, your it is).

The “ledger” is then distributed because it is de facto replicated among many different nodes in a peer-to-peer network, and a consensus algorithm ensures that each node’s copy of the ledger is identical to every other node’s copy. The recognition of the owners of assets happens thanks to a cryptographic signature that is apparently really difficult to break. Besides, all new operations are linked to previous events in an uninterrupted chain that is then reproduced in each copy of the ledger. In this way, it is virtually impossible to tamper with the rightful ownership of an asset, as one would need to alter the ledger in all (or at least the majority) of its instances, that are, as we said, distributed across the network and are therefore difficult to break or pollute and manipulate.

The advantages that such a technology offers are significant: first of all, it allows for a very “infrastructure light” system, as the network is based on a peer-to-peer architecture. Then, it is applicable easily in contexts where traditional networks are more complicated to manage, such as in the case of international payments systems—where there isn’t a single central institution overseeing the market. And finally, it is more reliable and less easy to deceive and break compared to a traditional centralized network management scheme.

It all then promises to bring a true revolution in payments, as shown in Fig. 2.10.

Distributed ledgers are not however immune to shortcomings: while individual transactions are safer, they are also more subject to large scale hacking, and the anonymity of accounts makes approved transfers irreversible. Besides, the value of cryptocurrencies is not linked to any underlying instrument or to the credibility of a central institution (that’s why we have referred the system as “anarchic” or as “unmanaged democracy”), and as a result they tend to have a much higher volatility compared to traditional currencies, and being less transparent, publicly monitored and regulated (if at all). It follows therefore that they are more at risk of being used as a mean for illicit business (they have been named overtime as the currency for drug dealers). Bitcoin is the best known cryptocurrency and the most widely

Distributed ledger payment solutions will force traditional banks to evolve their payments offer

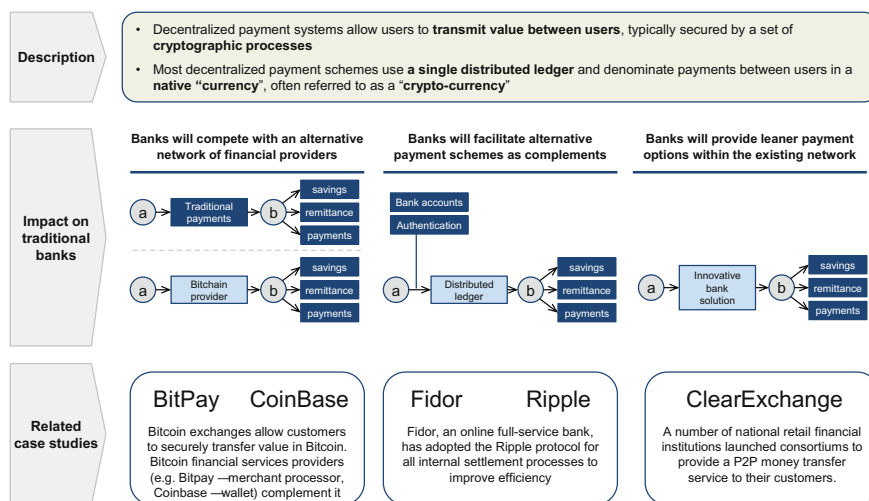


Fig. 2.10 Distributed ledgers, a new revolution in payments. *Source* Elaborated from World Economic Forum

accepted, but there is a large number of such crypto-currency being created by the day, including for instance Ripple and Litecoin, both built for very low cost instant exchanges of value.

Whilst at the moment the practical applications of distributed ledgers, other than for minting crypto-currencies, are modest, the incumbent banks themselves are investing heavily to create the future reference system for shared, distributed ledgers technology, with the purpose to drive costs down and potentially reduce their operational (regulatory, conduct, fraud etc.) risks. The main areas of applications would then be the payment networks for the settlement of credit cards transactions, the international money transfers, the inter-bank settlements, the syndicated lending settlement but potentially, all kind of financial instruments, spot or forward.

2.6 Innovation and Disruption in Lending

Among the consequence of the sub-prime mortgages crisis of 2008 and of the subsequent credit crunch, there was the exposure of one of the limitations of the traditional lending model: the imperfect matching of savers and borrowers from a risk appetite standpoint (not to mention their duration mismatch). Traditional intermediaries hold savings from a wide range of retail, corporate and institutional clients, who receive a remuneration that reflects the level of risk of the intermediary

itself. Using the funds received, intermediaries originate loans to extend to borrowers and earn interest to remunerate the credit risk—thus profiting from the net interest margin originated by the spread between the yield obtain on the loans and the yield paid on the deposits, but they offer they equity capital as a buffer (or protection of first resort) to ensure the savings gathered are safe, no matter what is happening with the loan portfolio (as we know, this equity is going to cover just a fraction—usually a 3–6 %—of this savings, and then the protection of last resort is then offered by the insurance protection schemes that, on a Country basis so far, are protecting the clients’ savings up to circa Euro 100k in continental Europe).

This is a traditional “pool” model, where all savers share the risk of all borrowers (net of the equity buffer of the bank and of the deposit insurance scheme) and individual savers cannot control who receives their funds—as this is really done at the sole discretion of the bank. Savers can then choose the desired level of risk and return by giving their funds to a different intermediary, but it is in most cases a loose matching. After the crisis, this has had the effect of excluding higher risk borrowers form the lending market, as no major financial intermediary has then been dealing with these segments. The net effect has been a decrease of the lending available.

This lending gap was fertile ground for the rise of alternative lending platform, based on a “peer to peer” (P2P) model—essentially a radically different business model, as depicted in Fig. 2.11, where alternative lending platforms match directly the lending needs of borrowers with willing lenders, and the contractual obligations

New alternative lending models differ significantly in their flexibility and allocation of risk vs. traditional models

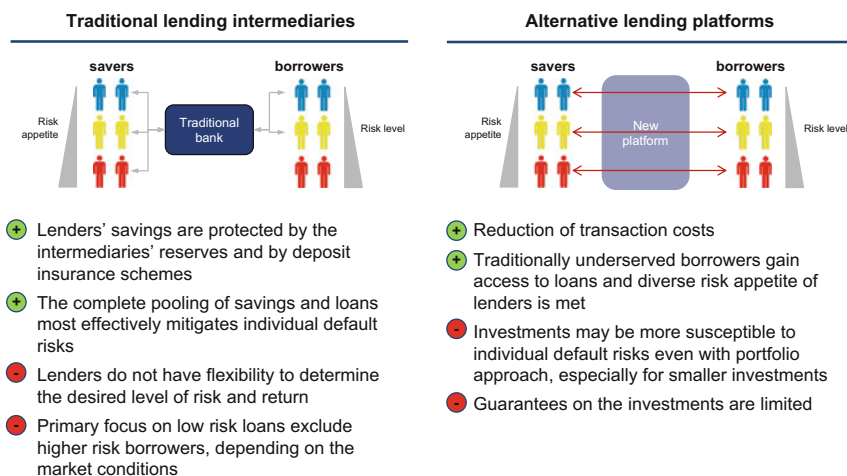


Fig. 2.11 New P2P lending models. *Source* Elaborated from World Economic Forum

exist directly between the borrowers and the lenders as the platform provide just mere intermediation services (on top, they can offer risk analysis and related advisory services, as reporting and asset allocation planning and monitoring, but the risk underwriting remains at sole discretion of the lenders). As a consequence, their profit and loss model is also different, as it is not based on a net interest rate margin (or spread), but on originating commissions for the match making, and further ones for the risk advisory component.

The main taxonomies of P2P new lending models is then represented in Fig. 2.11.

These new platforms started emerging both in Europe and in the US and quickly overcame their initial focus on less served markets like the subprime one, and started offering a broader value proposition, with better client service and improved funds adjudication processes compared to traditional lenders. For instance, Zoopa, one of the first P2P lenders to emerge, today targets only prime lenders with a seamless, very quick to answer, origination process and very low interest rates, made possible by a world class loan adjudication model.

Another relevant example is Amplify Capital, a startup with focus on data applied analytics that offers small unsecured loans to micro and small firms, leveraging merchant acquiring data for adjudication. This information is an accurate indication of a company's cash flow, is readily accessible and helps to calculate micro daily instalments for loan repayment. The company does not only try to disintermediate current lenders, but also offers the same service to third party banks, thus driving change within traditional intermediaries. Other models, such as the Lending Club, are instead just complementing the traditional intermediaries lending offering, as in the case of its partnership with Union Bank to address its subprime borrowing needs.

2.7 Innovation and Disruption in Asset Management

The consequences of the financial crisis have been far-reaching for the asset gathering and investment management industry as well. Few asset classes all but disappeared, and some large institutions went out of business, with regulations becoming significantly tighter. However, another often overlooked effect may be the one with the deepest impact on money management for the years to come: private investors, and in particular younger individuals, either “professionals” and “non-professionals”, who experienced two significant recessions over the last 15 years, have growth to be wary of active, alpha seeking (but high commissions charged) investment strategy and in particular of the investment managers themselves.

The old mantra of “beating the market” does not attract younger investors (in particular Millennials) any more; not at least not as much as “balanced portfolio” and “market-following, low-fee” beta tracking investment strategies—not to

mention long term institutional, that have started to compare the absolute returns—net of fees—generated by hedge funds and private equity firms—with the ones easily gotten by replicating the market.

This newly developed investor preference has found a perfect match in the Fin-Tech innovations being introduced in asset management, first and foremost automated investment management advisory platforms (the so called “robo-advisors”). These platforms are pairing the reliability and consistency of data-driven, automated investment decisions with a lower cost-to-serve per client—with marginal costs potentially approaching zero, once the technology has been built and is running above a certain minimal scale threshold. While robo-advisors today still manage a small share of world’s wealth, their rise to prominence has been much quicker than initially expected: in 2014, the most optimistic forecasts projected USD 250 Bln of AUM circa by 2020, while today that figure seems to be fairly reachable by the end of 2016, with more than USD 2 Tnl projected for 2020.¹

Another threat for asset managers, besides automation and passive trading strategies, is the increasing empowerment of private investors, who have access to an unprecedented amount of market information, often coming from social sources, and can perform trades independently from other financial intermediaries and through convenient, full service online trading solutions. Private investors are more and more looking for opinions and insights from their peers for what has been called “social trading”, and are crowd-sourcing investing ideas as well, often in newly dedicated platforms such as Estimote, Covestor or StockTwits.

Luckily enough, not all Fin-Tech innovations seem to work against traditional asset and investment management firms: from a technological standpoint, for asset managers it has actually never been easier or cheaper to deliver state-of-the-art services to wealth management clients, thanks to a number of digital startups that specialize in small parts of the investing value chain, making them cheaper and more efficient. As a matter of example:

- In data collection and analysis, firms such as Novus and Kensho make it easy to consolidate data from a number of sources, also for regulatory purposes, and they allow to analyze different investment scenarios with real-time performance projections, at affordable prices and without any investment required;
- In trade strategy and execution, managers can analyze large amounts of public data collected by firms such as Ayasdi, to develop independently their own analysis and draw out correlations and outliers;
- For transaction monitoring and risk management, RedKite offers an intelligent algorithm that detects transactions not compliant with internal policies, thus allowing lower costs of risks at low operating costs;
- Finally, for regulatory and compliance, a number of new players such as FundApps make it easy to manage disclosures to shareholders of supervisory entities with automated, cloud-based services.

¹AT Kerneay, 2015.

Speaking more broadly, external market trends are also pushing global and regional asset managers towards a more radical business transformation, with an active role played by digital innovation:

- The competition for wealthy clients could be further supported and increased by the availability of cheaper and faster online tools and automated services—potentially offering the opportunity to deliver really good services (“value for money”) to affluent and mass market clients as well;
- The commoditization of the services being offered is also promoted by the automated investment management platforms that are able to standardize traditionally highly personalized, value added services at a fraction of costs, given their embedded digital innovation;
- Finally, the higher financial literacy of the client base is further spurred by the availability of easy to use digital data analytics tools, for getting information, elaborating investment intelligence and executing structured investment strategies and asset allocations.

2.8 Innovation and Disruption in Investment Banking

Much like in asset management, recent innovations in global investment banking have also taken a twofold direction, being guided either by the new “social” side of doing business, or by the availability of new disruptive technologies. Starting from the latter, in the global wholesale markets we have recently observed the emergence of a number of new platforms able to connect multiple intermediaries of buyers and sellers to facilitate the discovery of counterparts and realize therefore a better match making and overall market liquidity. The new platforms can cover most of the products spectrum, from fixed income, currency and commodities, to equity-like products and both spot and forward positions, for primary and secondary markets, as shown below—see Fig. 2.12—new platforms connecting multi-intermediaries.

Whilst traditional capital raising intermediaries have been traditionally directly structuring products for their customers, emerging, alternative platforms can now act as marketplaces—playing de facto as facilitators and providing an easy to use “discovery process” to close the deals—where contractual obligations exists directly between individual investors and investments opportunities (with usually no role at all for financial intermediaries and with no “clearing house” role played by the company managing the web-based digital market, as it does not act as counterpart of the deal). These new platforms can then act by disintermediating the main financial intermediaries, as shown in Fig. 2.13.

Going back to the former element, the new “social” side of the business, the most relevant among recent applications of “capitalism for everybody” principle to investment banking is probably the crowdfunding phenomenon, where alternative

New platforms are also emerging to connect intermediaries of buyers and sellers to facilitate the discovery of counterparts

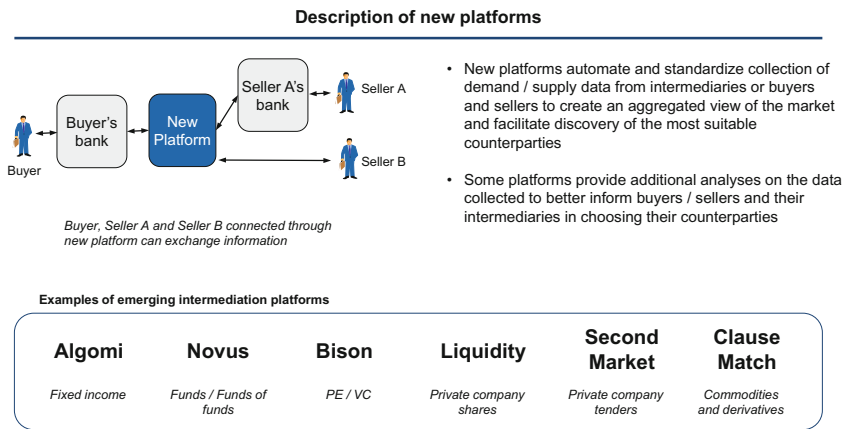


Fig. 2.12 New platforms connecting multi-intermediaries. Source Elaborated from World Economic Forum

While traditional capital raising intermediaries directly structure products for their customers, alternative platforms act as a marketplace

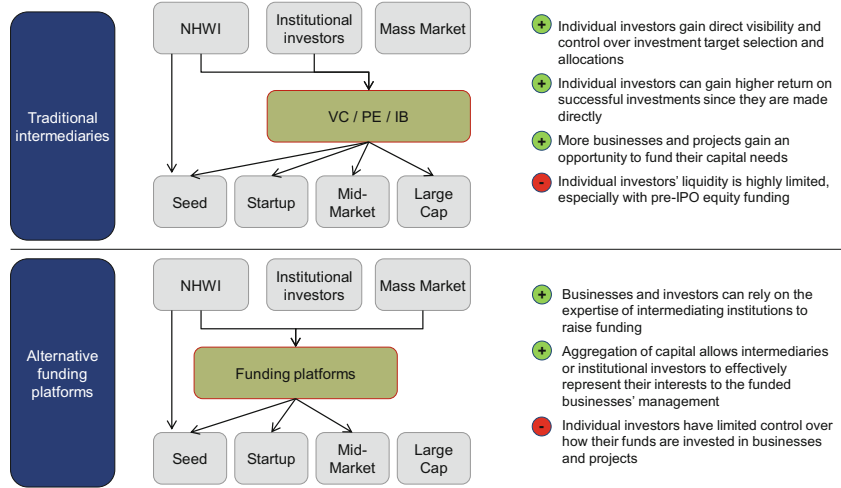


Fig. 2.13 New platforms disintermediating financial intermediaries. Source Elaborated from World Economic Forum

funding platforms offer a “match-making” service for investors to discover businesses and projects, relying on the “wisdom of the crowd” or of other more seasoned investors. In these crowd-funding platforms, private investors contract directly with the owner/entrepreneur/promoter of the investment opportunity—based on its related business plan, without the structuring, origination and distribution services provided by investment banks.

Dedicated crowdfunding platforms cover then the whole spectrum of investing purposes, from seed-stage funding (Seedr), to social/“capitalism for everybody” investing—offering relatively low risk/return profiles (Abundance), to low-cost capital increases for larger companies (CrowdCube).

Finally, on the technological end of innovation we can also find automated trading. Algorithm-driven trading itself is not new: it became popular in the 90s, and it has been focused for a long time on identifying and exploiting arbitrage opportunities by leveraging the “delays” in market adjustments. Algorithmic trading has been hugely profitable for many years already, but it appears to have peaked around the turn of the decade, and is today decreasing in utilization and profitability—also driven by the collapsing costs of hyper fast connections and transactions. The TABB group estimates that total revenues of high frequency trades decreased from 7.2 Bnl USD in 2009 to 1.3 Bnl USD in 2014. Recent technological development could then become the trigger for a second wave of automated trading strategies, more complex and sophisticated than the first one. Automated, event-driven trading for instance is becoming a reality thanks to firms like SemLab and SNTMNT. They have developed technologies able to analyze news, social media and internet traffic in real time and identify autonomously events capable of influencing the stock price and thus offer stock pick advice.

The focus of automated trading can thus move from the mere offering of market information only (i.e. movements in the price of securities) to real-life events risk analysis to investment advice. New trading algorithms will then most probably benefit from larger data sets and deeper analytics capabilities, and they will allow the discovery and utilization of new, unexpected factors relevant to securities performance. The data analytics market is therefore getting more and more crowded, and both large incumbents (SAS, IBM) and upcoming startups (Palantir, Ayasdi) are working to offer access to “big data” aggregation from a large number of sources, and remote analysis capabilities.

As a conclusion, it is worthwhile to note that so far automated trading almost entirely relied on the human factor as far as the trading strategy was concerned. Machines were the fastest and most powerful executors of a strategy decided by market experts with business, economics and mathematics degrees. Today, there is a large number of startups that are working to change this, introducing self-learning and self-adapting “machine intelligence” (or “leaning machines”) capable to ask questions, test hypotheses, come up with the most profitable trading strategy and adapt it when markets change, all without human intervention. Examples of firms working on this field are Sentient, Rebellior Research and Ayasdi.

2.9 Innovation and Disruption in Insurance

In insurance, a large number of forces is putting pressure on incumbents at all stages of the value chain—from reinsurance/insurance production to distribution to post sales, as graphically shown in the following Fig. 2.14—disrupting the insurance value chain.

Starting from the origination and distribution of insurance policies (both life and P&C), online aggregators that allow customers to compare prices and purchase insurance products directly online are already gaining significant traction and may be displacing in the short run traditional distribution channels as customer preferences change (getting more and more price sensitive and seeking the transparency that will allow them to get a better deal—an insurance product is something you need to have, not that you want to have, and products are sold, not bought) and insurance products gest more and more commoditized and thus comparable.

What's more, large tech firms showed interest in joining this market—it is often commented as the one, within financial services, that is going to be easily disrupted and challenged by digital innovators. For instance, Google acquired Beat ThatQuote, a UK e-aggregator, charging insurers up to \$54 per click. Examples of other insurance aggregators are Gocompare, Money supermarket, and BizInsure (for businesses), with many more popping up by the day. As a reference point,

A number of emerging forces is putting pressure on the insurance industry across the value chain

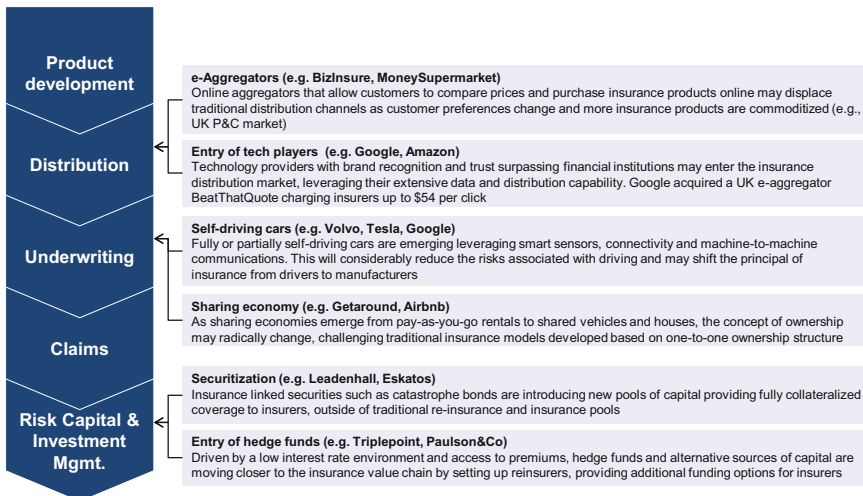


Fig. 2.14 Disrupting the insurance value chain. *Source* Elaborated from World Economic Forum

Alibaba (a Chinese version of Ebay, born out of the eCommerce opportunity) has become by far the main distributor of insurance policies in mainland China, with a dominant market share versus traditional insurance and banking incumbents, and it is becoming supervised by the relevant regulators as it could pose systemic risks of its own, should something go wrong in its (albeit indirect) risk underwriting.

In insurance underwriting, it is then the underlying market that is changing at a fast pace: as the “internet of things” is already spreading at large scale, with a number of products being connected over the web and sharing continuously information and data, and as sharing economies emerge from pay-as-you-go rentals to shared vehicles and houses, the very concepts of real time risk monitoring and of property’s ownership may end up radically changing, challenging traditional insurance models developed based on one-to-one ownership structure.

In the coming years, self-driving cars may further revolutionize the insurance market, reducing the risks associated with driving and shifting the principal risk of insurance from drivers to manufacturers (Volvo has already announced that it will take responsibility of damages caused by its future self-driving cars). All this will create more standardized and commoditized and thus “transparent” risks, thus putting further pressure on insurers’ margins. As the disruptive forces here are coming from outside the insurance world, we should also mention the increasing role of “shadow insurance underwriting”, similarly to what we said for shadow banking—as risks are shifted very quickly across the system, they tend to end up being owned by non-regulated, or less regulated entities, thus increasing the risks of misconduct, fraud, embezzlement and mismanagement.

In the management of risks and investments, insurance linked securities are then introducing new pools of capital for insurers, providing fully collateralized coverage, outside of traditional re-insurance and insurance pools. Leaders in this market are financial firms such as Leadenhall and Eskatos. At the same time, as insurers are divesting from hedge funds (also because of the new, higher regulatory capital requirements), hedge funds are setting up reinsurers, further increasing their funding and risk transfer options. Examples of funds that entered the reinsurance industry are Triplepoint and Paulson & Co., with many more following this trend.

Viewed from a more high level perspective, we can identify three trends as having a potentially significant long term impact—we can also see them as answers to the emerging forces in the global insurance business:

- The consolidation of the market by mega insurers will bring about new economies of scale and scope. But it could also prove a short lived competitive reply to the disruptive forces of innovation. No consolidation play can in fact stop short the new business models now revolutionizing the market that can actually mimic and replicate the M&A game in a virtual way, e.g. pooling together multiple resources through a web based system, linking in a more efficient and effective way insurance holders and providers;
- The rise of multi-line policies could also address few adverse selection and moral hazard problems, whilst offering further economies of scale and scope and

- helping in the diversification of the risks being underwritten, by spreading them out to an even broader and more international market of final holders. However, the aggregation offered by incumbent multi-line insurers can be easily replicated by new digital players, again leveraging their virtual presence on the web and their ability to pool together multiple actors and in a fairly efficient and effective way—in a virtually real time, borderless way;
- Finally, the shifting focus to niche markets and commercial lines is also a rational answer to the threats posed by digital players, as it allows the further efficiencies that can be gained by focalization and increased dominance in a specific business line. However this strategy is also fairly replicable by digital players, which are actually less encumbered by multiple layered legacy systems and therefore can afford to invest in few things and with a state of the art technological solution. In all these cases, we see how the “logical reaction” is then followed and copied by “smart digital competitors” that keep getting new ground and promising to further disrupt the insurance industry, for their shareholders but also their clients’ benefit.

The secular trends impacting the insurance market are then summarized in Fig. 2.15.

Three trends can be identified as a response to the emerging forces in the insurance industry

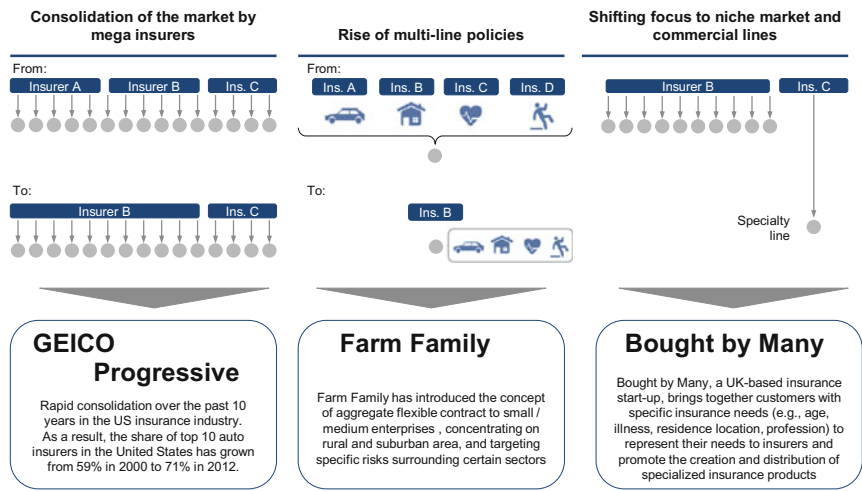


Fig. 2.15 Secular trends impacting the insurance market. Source Elaborated from World Economic Forum

2.10 Transform or Die (The Quick and the Dead)

Despite a number of big headlines and high resounding announcements, with investments for hundreds of millions announced, most of the incumbent “traditional” banks are still at their infancy stage of the journey to digitization—or are just planning a faulted one that is likely to cause them even more pain and financial losses. As we have argued that the digital transformation theme will be more and more crucial for the financial services industry, and we have also suggested how a new and more long lasting, structural wave of banks bankruptcies could be fostered by the emergence of the new digital disruptors, it almost logical to wonder why global and regional banks, with their still big pockets, recognized brand and sizable business have been so far so incapable to react in a proper and effective way—this should be top of their CEO’s agenda after all!

Still incapable they have proved to be so far, and for a number of reasons, including significant organizational and technological constraints and, most importantly, cultural issues that drive in turn the unwillingness to change on the side of some of the key, historical constituencies of the bank (as any change entails some power struggle and many losers). As this is going to impact on the likelihood of the banking organizations to transform and survive in the evolving competitive markets, it becomes more and more important to understand what blocks them to change and consider the most reasonable options to overcome these constraints:

- Most of the new digital applications and systems are built anew by digital players, whilst have to be built on existing legacy systems (“spaghetti wrangles”) on the side of the incumbents, with higher costs and complexity (as there are also many legacies, not usually well interconnected) and execution risks, and typically with a less compelling end-game (in the best scenario, they will likely end up cannibalizing most of the existing business of the “brick and mortar” bank). The obvious solution would be to consider a full legacy system overhaul—but that is going to be a very complex, costly and lengthy exercise for the ones who dare. Or the development, in a more lean and less capital intensive way, of the new digital services as completely outside the boundaries and the systems and even the physical premises of the “old bank”, with the risk of inconsistencies, regulatory constraints and multiple checks to be cleared, but with the flexibility of an easier spin off/carve out, should the competitive strategy suggest this is the best way to go;
- Many branches are already under-utilized and therefore the further development of new digital channels would imply that the migration of clients to the new channels is just making more of them redundant (as long as the people working in them). Despite a drastic network reduction and several attempts to re-invent the “branch of the future”, the scope and magnitude of the change required is still something strongly resisted internally—with big transition and redundancy costs making things even more difficult. The most effective solution would then need to address governance and organizational issues, and find a proper balance with the branches as help desks/advisory points—without forgetting that

everything at the end is done by people and that culture is playing a big role—as intangible and difficult to change it always is;

- Many skills and roles today still present in banking are also likely to be “traditional” in nature and content, and with significant gaps versus the skills and competencies that would be required to run a truly new digital offering—and these gaps in the competencies could prove even harder to address, particularly if the change required needs to be operated inside-out, with internally lead innovation processes that revolutionize the way the bank engages with customers front to back. An HR policy based on aggressive targets of external hires would contribute in overcoming these gaps, whilst on the other end introducing a number of other risks—and requiring the bank’s capability to attract, integrate and retain the new key employees.

Notwithstanding these many difficulties, incumbent financial institutions—if able to address these shortcomings in the most effective way—have still ample opportunities and financial and commercial resources to try and defend old business, and capture new ones, and grow revenues coming from the digital transformation challenge, with a number of potential roles to be played along the journey:

- As participants, they could actively utilize third-party services to enhance their current businesses via digital capabilities. As an example, they could start distributing merchant funded offers to progressively substitute their internally managed, bank funded loyalty program and develop an adjacent business (as a digital to store match maker, helping buyers in their buying choices and merchants in their sales effort);
- As business builders, they could actively invest in digital capabilities as a core competence and in other critical assets to expand beyond their current businesses. As an example, they could build smart data applied analytics capabilities, able to analyze data and create new intelligence, to grow new businesses in the information services area and sell them to SME/corporate clients;
- As market creator/makers, they could build entirely new businesses by pursuing new market opportunities created or just potentially supported by digital transformation—e.g. re-inventing brick and mortar payments systems and then building integrated offerings around them.

From an execution perspective, the transformation of the banks’ operating model—as required to pursue these more and more ambitious goals and improve their productivity, but also to reinvent in novel ways their business model—would also entail different steps, in a potentially sequential way:

- As practitioners, banks could start actively utilizing digital capabilities to streamline their internal processes to capture cost savings—e.g. using digital signatures would allow them to reduce transaction costs and reduce the service time to client; or using remote deposit capture would help them in offering to clients a new value added service—improving their overall customer experience;

Several opportunities to enhance the operating model: key to assess the current level and set the ambition

Opportunity Areas	Best-in-Class		
	Practitioner	Advanced	
Transforming Customer Interfaces and Processes <i>End-to-End Customer Experience</i>	Simplify and improve customer/user interfaces Reduce branch footprint	Develop new mechanisms and tools for customer engagement (e.g., in-app messages, automation)	Adopt digital as the primary means for interacting with customers that enhances satisfaction & loyalty Spin-off/outsource non-critical manual processes
Realigning and Integrating Critical Decision-Making Engines <i>Internal Processes</i>	Straight-thru processing of key data — eliminating manual processing	Handling of complex algorithms efficiently and consistently	Access to real-time targeted information (data) in an easy-to-use format/interface
Re-Architecting Databases and Applications <i>Enterprise Architecture</i>	Eliminate redundant and desolate infrastructure Rationalize vendors and suppliers Active information management to reduce data stored	Consistent application stack with common integration layer — reducing maintenance, speeding new development, driving innovation Rationalize applications, possibly outsource some	Integrated data management — integrated customer master, consistent data structures across brands, service lines, and channels Co-opetition — joint platforms with competitors for non-competitive processes

Fig. 2.16 Moving targets along the road to banks’ digitization

- As advanced, banks would invest in digital platforms to introduce new tools and eliminate costly, redundant processes. As an example, in-app messages could replace traditional customer communications tools and allow new forms of consumption by collaboration; or new digital platforms for payroll and benefits could change the way the company interacts and communicates with its own employees;
- As best in class, banks would start using digital capabilities to transform all aspects of the work, front to back, achieving a step gain in efficiency and productivity and in service experience. As an example, real time easy to use, social-encompassing information across all aspects of business would drive better and faster decision making, at all levels of the organization.

To make sure that most of the opportunities to enhance the operating model are exploited, consistently with the overall strategic goal pursued, banks will also need to consider which level of readiness they have at the moment, and which kind of ambition could be realistically considered given their starting point. In Fig. 2.16 few key examples are given, including the transformation of the customer’s journey, the internal decision making and the use and leverage of data and related applications, with indications of what “practitioner”, “advanced” or “best in class” would mean—to be considered of course as a moving target as shown in Fig. 2.16—moving targets along the road to banks’.

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