FinTech – the time is now

We asked a number of leading industry and technology experts for their views on how new technology might revolutionise the syndicated loan market

James Quinn
CEO
Clarilis

How are FinTech and LegalTech being used in banking and finance transactions today?

There is an abundance of LegalTech and FinTech in the market today and an incredible number of start-ups at various stages of development. The range of choice is both impressive and bewildering, so it's important not only to categorise this technology by functionality, but also to identify those technologies which are actually being used by banks and law firms day-to-day – on real transactions, to solve real problems and to deliver real benefits – and isolate them from those that are nascent, in development or at pilot stage.

Using intelligent document automation for transactions in banking and finance is a great example of LegalTech bringing efficiency to a grossly inefficient, document heavy, process whilst mitigating risk. At Clarilis, we are seeing a renewed interest in automation in the context of syndicated lending (and all forms of LMA based lending); the technology can handle extremely intricate scenarios and draft complex inter-related suites of documents with ease and all within a risk-controlled environment, leading to huge efficiencies in terms of time saved.

Another practical application is the use of expert systems, i.e. taking the knowledge out of lawyers' and bankers' heads together with the relevant legislation and turning that into a process so users can be guided by an intelligent system to a desired outcome. Take the example of drafting a legal opinion: we can gain greater efficiencies whilst eliminating risk throughout the process by using an expert system to guide the user toward what should (and should not) be set out in the final opinion letter in a given scenario. Think of it as interactive drafting notes on steroids.

There are numerous other technologies out there, such as workflow and AI, being used in practice. Very interesting times if you have a passion for technology and law.

Where will this adoption of new tech lead us?

What we have in the market today, mostly, are point solutions – solving a particular problem in a process but not handling the entire process end-to-end. Technology enables or assists the process but is not crucial to the operation of the whole transaction. This will change over time, as we move towards a technology-driven process with seamless integration between different technologies. Demand is increasing for end-to-end solutions to transform the way we work.

The ultimate goal here is a transaction management process or workflow that covers all of the communication, deal parameters, negotiation and execution of the terms of the transaction for the life of the loan – from the initial intention to borrow to final repayment and release of security. There is some progress here, but the market is not ready for such a "big bang" transformation. Progress will be more gradual.

There is no doubt that the role of the lawyers and bankers will evolve alongside the technology, and that the shape of banks and law firms will change. In place of a pyramid with lots of juniors at the bottom, you will have a narrower pyramid or rocket shape with each individual lawyer or banker within the organisation up-skilling. If you take all of the routine, mechanical aspects and any communication friction out of the process, transactions will be more efficient, enjoyable and intellectually stimulating – good news for all of us. As a consequence, deal costs will tumble and so will deal timelines. End-to-end solutions are definitely the goal here, and there are lots of technologies incrementing in the right direction. It won't happen overnight, but it is coming, and there are increasing numbers of prototypes and examples appearing in the market to demonstrate the potential here.

Charles Kerrigan
Partner
CMS

What areas of commercial lending can benefit from technology?

Commercial lending has always been about information technology.

Banks are doing two things in lending:

- The first is payments
- The second is intermediation of capital

Both these things are about dealing with information in the most effective way.

So the question now is what has changed that makes the FinTech market so large and interesting?

The answer is: quite a few things together that add up to a big thing. For example:

- First, more data and more computing power – that's the one that we hear about in every technology context, not at all limited to FinTech.
- Second, there are new firms in the market – they focus on specifics – so their model is about doing a small number of things really well. If you're a bank, you have 10,000 things to do. If you're just focused on one corner of a bank's business you have ten things to do, and you can put all your efforts and all your energies into just those things. So of course you end up being really good at them.
- Third, there are new approaches to IT. New FinTechs, if they are good, can learn faster from businesses in the technology sector then banks

can, in part because of the previous reason. If we take credit assessment as an example of this: there is the old way, which is manual. There's the new way, which is using digital technologies to assess and analyse unstructured information and use multiple data sources. Then there is the way that FinTech businesses are working on now, which is using predictive analytics to score credit. The traditional way of looking at credit using three year historic financial information is obviously biased to the past. That was its value: it was based on real data. The problem with it is that businesses fail far quicker now than they used to. So what we really want is to use real data to see what it can say about the future. We see FinTech businesses training AI models to look for characteristics that might predict success or failure in a customer's business model, its sector, its people, in the economy, to take a few examples. Which of these matters most and what are the indicators?

Where does blockchain really come in?

We should start by noting that there are various types of blockchain and distributed ledger technology (DLT) terminologies. Some are multi-purpose and some do one specific thing. This isn't a problem for users, but it is worth knowing.

It might help to take an example. In commercial lending, a good example is the problem that everyone is always working on: how do we get it faster and cheaper to go from a signed term sheet to a signed set of finance documents and funds flow?

Breaking this down, let's say there are (at least) five parts to this problem.

- First, onboarding.
- Second, documentation.
- Third, loan administration.
- Fourth, information sharing.
- Fifth, secondary trading.

One quick point on each of these:

- To manage onboarding, a number of businesses now store verified KYC documents on blockchain-based platforms that provide security and traceability as part of their functionality.
- Documentation managed on a blockchain is behind the idea of smart contracts. This is a big area, so for now the main point is probably just to say that developments here will lead to more efficient and automated document production and operation. Templates in syndicated lending are being built by multiple parties.
- Payments, particularly cross-border payments, are complicated and expensive. This is primarily an information problem. To successfully make payments you need to know the different standards and regulations and processes in any jurisdiction. Using blockchain technology, i.e. a security system used by multiple transaction parties, promotes efficiency because each local jurisdiction can apply its own rules and control its own part of the process but still in an integrated system.
- Blockchain is very well-suited to multi-party information sharing in a secure environment. Information on a blockchain is securely updated in real time so finance parties can receive, review, update, and respond to information posted by an agent or a borrower.
- A trading platform using blockchain technology can be programmed to respond in real time to the regulatory environment. So in practice, if, say, a French lender is not permitted to make a transfer to an Italian lender, any trade that those parties try to effect on the platform will simply not be actioned by the platform – so there is no delay or error caused by checking or missing a relevant rule, it is automatic as a feature of the platform.

So, what it adds up to is a better overall process:

- Quicker
- More tailored
- A better customer experience

Blockchain and DLT aren't the answer to everything. But considering the use of these technologies can lead to improvements in how databases are built and information is handled. Financial services suit the use cases because they are time and information intensive. It is an area where there are multiple trusted parties and requirements for clarity and finality in relation to updating of records. The fact that central banks and policymakers are working with the technology supports the view that it is viable and will continue to evolve.

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In five years it will be part of the furniture, like word processing – if you're old enough to remember getting a work computer, you already know that it is possible for something to be obvious but still revolutionary.

David Jesson
Executive Director,
Loans Platform
IHS Markit

How does the loan industry need to adapt to make best use of the existing technology in the market?

Over the past five years, the loan industry has seen unprecedented growth globally, and loan trading over this period has more than doubled in volume. Institutions which scaled back resourcing post-2008 have increasingly leaned on technology to keep pace with growth.

The most efficient and nimble institutions adopted approaches that allowed them to be flexible in their resourcing in order to keep pace with growth. We saw institutions look for "quick wins" where they could install tech with the minimum of disruption that allowed them to create capacity.

Let's look at a simple example of this – Loan Reconciliation. Is reconciliation the buzziest of technology stories in the market? No, but automating how Agents match their books with lenders eliminates virtually all the operational white noise resulting from the Lenders' need to confirm their commitment positions. In our experience, an Agent

adopting electronic Loan Reconciliation goes from manually processing 100% of position queries to handling only the 5% that are true exceptions requiring a skilled intervention. This shift enables Agents to focus their resources on more valuable activities such as KYC, trade settlement or other client services.

Custodian messaging is another area where automation is replacing manual processes, saving time and reducing errors and risk. Straightforward integration is available today to automate payment instructions. Rather than lenders having to send emails to custodians, the trade settlement platform can now generate electronic messages for custodians, covering notice of settlement date and settlement amounts, and wire over instructions when its clients complete trades.

What are the next generation transformative technologies coming to the loan market?

Much is spoken of "transformative technology" – some of it applicable and some speculative. How this is interpreted will also differ greatly from institution to institution. So let's stick to the facts as we see them: inefficiency in the loan market, especially inefficiencies particular to loans, are unsustainable for a healthy market that aims to self-regulate. This is true in the best of times, but will come into high relief when dislocations happen or when the credit cycle inevitably turns.

With greater credit risk comes greater need to have settlement certainty. For loans, this means moving away from the de-coupled trade settlement practices we have today, where assets transfer independently of payments. To remedy this, IHS Markit is developing Stax, a new solution combining the automation of smart contracts, the efficiency of tokenizing cash and the immutability of a distributed ledger. Stax not only creates complete settlement certainty by coupling asset transfer with cash transfer, but it also enables settlement to occur at any time of day on any day of the year because the ledger never sleeps. Netting of payments will become a reality and gone will be the days of sending and reconciling multiple wires.

Beyond this, over the next five years, we can expect vanilla processes to be administered by technology. Reconciliation of both cash and positions will be something of the past as tools (existing or future) are used to perform these actions.

More broadly, work will become much more collaborative. Email will be phased out and workflow tools will be embedded with better, more task specific communication methods, like chat. People want the ability to discuss and solve in groups without hefty cumbersome email chains. Email isn't the place to resolve trade breaks – the trade settlement platform is. Email isn't the place to raise questions about reconciliation – the portfolio accounting platform is. As collaboration becomes more integrated, workflow becomes more seamless and the market more efficient.

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In summary, there will be changes in the way we operate and the technology used. However, we also expect a greater demand from the market to ensure the technology that exists today collaborates and integrates seamlessly, irrespective of the underlying provider. Tools such as Loan Processor, which provides two-way messaging and workflow between all of our Loan Platform products, and downstream lender of record platforms (WSO, ACBS, LIQ) are likely to become common place across the industry.

Lucy Shurwood
Partner
Pinsent Masons

What steps do market participants need to take to ensure that they can benefit from AI/ML capabilities?

As technology becomes increasingly sophisticated and we look to leverage "artificial intelligence", it is tempting to see technology as a magic bullet – a shiny black box that will solve all our problems.

This myth of "AI as panacea" conceals two basic truths. The first is that, unless the information architecture[1] is sound, no amount of shiny technology is going to work well (or even at all). Secondly, the better the information architecture, the less complex the shiny technology needs to be.

To benefit from the full potential of technology such as AI or ML, market participants should therefore focus on their information architecture first and their cutting-edge AI second.

Good hygiene around record keeping and relatively straightforward principles around who "owns" records will help to ensure that the underlying information is optimised for the use of AI. This can be particularly challenging for large financial institutions, where several teams or divisions will share ownership of customer, transaction and portfolio data.

If the underlying data is poorly structured and disorganised it can be difficult, or even impossible, to use AI to gather useful information. Imagine trying to make out a single voice in the crowd at a Beyonce concert.....

Well-organised and structured data is easier to interrogate – now imagine that everyone (including Beyonce) is speaking normally at that concert and the single voice is shouting. It becomes much easier and quicker to find what you need.

The "AI" then becomes the tool that helps to find the really difficult information, when nothing else can – to continue the concert analogy, it turns off the microphone and tunes all the voices to whispers, except the one you are looking for.

What are the implications for humans, as computer systems become capable of performing more complex tasks?

It can be tempting to join the prophets of doom who claim that in a short time we'll be kept as slaves by a race of robot overlords....in reality the impact of "the rise of the machines" is likely to be more gradual – and hopefully more benevolent.

The most likely implications for humans in the short to medium term will be repurposing, rather than redundancy. Although computers are becoming capable of performing more complex tasks, there are still many areas in which human skills are critical. To give an example from my own work as a lawyer, I will use technology to find a clause across a set of several hundred documents, but I will think about what that means for the transaction.

Advances in computer technology can also enhance human skills,

1. Information architecture is how data is structured and organised, particularly in shared information systems (such as those used by market participants).

making previously unthinkable tasks possible – like having information about thousands of transactions at your fingertips and being able to spot trends emerging within minutes.

Repurposing will mean that human work will move from routine, repetitive tasks to telling machines how to do those tasks and/or doing the more complex, unique work that cannot be undertaken by machines.

The fact that we won't be immediately replaced doesn't mean that we can rest on our laurels. There are many steps that humans need to take now to prepare for greater automation, at work and at home. Thinking about things like the skills humans will need, areas where we want to retain human involvement (even if something is capable of being done by a machine) and issues such as ethics and law relating to artificial intelligence are too important to ignore. I for one would prefer to embrace the opportunities offered by AI (there may be something in those robot overlord stories, after all....).

What form will the LMA Facility Agreement and secondary trading documents of the future take?

Faizal Khan
Partner
Clifford Chance

How technology, and in particular blockchain and smart contracts, will impact the syndicated lending market is a current hot topic. Will we soon see loan agreements written in smart contract form (i.e. entirely in computer code) rather than a 100 page-plus facility agreement?

For the syndicated loan market, this is unlikely for the foreseeable future. There's a practical question of how much it is possible to code. There is a spectrum of automatability, i.e. the more complex a provision is the more difficult it is to code. Higher industry standardisation makes for more effective automation. LMA forms, while standardised, are dynamic and typically negotiated, particularly in the leveraged space. Many provisions have qualifications of reasonableness and/or materiality that would be very challenging to code appropriately.

Crucially, the syndicated loan market is still a relationship driven market and there will be key provisions that parties will not want automated, or, if automated, will want the right to suspend or override. Take a default scenario – even if it were possible for all events of default to be automatically identified by a smart contract (which is unlikely), it would not necessarily be in the interests of any party for predetermined enforcement action to be taken.

What this means is that we are most likely to end up with a combination "natural language" and coded agreement, partly automating the loans process but still requiring some human intervention. This would see a set of negotiated terms in document form, supplemented by smart code sitting alongside the written agreement and which automates specific provisions such as drawdown, interest rate setting, and interest and repayment and information flows.

I expect that we will see greater digitalisation much faster in the secondary loan trading market, where significant operational gains stand to be made and the documentation is much simpler and more suited to being coded.

What are some of the key legal, regulatory and practical hurdles for the adoption of technology solutions to the current challenges in the syndicated loan market?

Peter Chapman
Partner
Clifford Chance

The syndicated loan market is the perfect candidate for a technology upgrade. However, there are challenges which need to be identified and navigated.

There are questions that need to be considered irrespective of the technology being implemented – does the use give rise to a material outsourcing? Are new risks being introduced to the business or are existing risks increasing? What obligations does the business have with respect to the data being used? What happens if the technology or the vendor fails?

There are also challenges specific to particular technologies. Take AI for pricing of loans as an example: a key challenge will be to ensure the decision-making process is transparent and explicable to the customer, senior management and compliance within the bank and, if asked, regulators. Algorithms can also collude with competitors or take unexpected decisions exposing the bank to risks and liability.

Blockchain and smart contract are also key technologies for the syndicated loan market.

Blockchain and smart contracts are also key technologies for the syndicated loan market – particularly for secondary trading - and raise questions of legal and regulatory characterisation of the platform and "tokens", as well as licensing, liability for bugs in the code, settlement finality and so on. All these considerations are made more complex in a decentralised, cross-border environment.

There are also practical challenges such as scalability – blockchain platforms need a critical mass of adoption, otherwise it is like being the only person with a fax machine. Inter-operability is also key. Realistically we won't see a single technology platform that all financial institutions use across the entire loan lifecycle. Instead we will see a multitude of solutions adopted, and ensuring each is able to converse with the other will be paramount.

With all these challenges, our role is to find those creative solutions that mean new technologies can work within the existing legal and regulatory frameworks and the benefits can be unlocked.