# The technological new frontier
# Digitisation in the mortgage market

December 2018

## Executive summary

- Digitisation and advances in computing power are reshaping numerous industries. In travel, entertainment and retail the structure of the industry and the key providers have been fundamentally altered by the digital revolution. Retail financial services has also seen transformation in products such as current accounts and insurance. In mortgages change has been slower to come but both back office processes and distribution are in the process of being dramatically reshaped.

- Until the 1990s the overwhelming majority of mortgage customers approached lenders directly and transacted through a branch. This model has already been transformed as over 70% of customers now source their loan through an intermediary when changing lenders. But now, lenders, established intermediaries and new types of firm such as comparison sites and online brokers are all investing in technologies to reach and serve borrowers electronically. 35% of IMLA members expect to be able to provide a paperless mortgage by 2020. For the time being however, traditional brokers continue to gain share in mortgage distribution.

- The house buying process also faces enormous changes as the firms involved (lenders, conveyancers, estate agents, valuers and brokers) re-engineer back office processes using new technologies and improve communications between each other by shifting to online portals. Online estate agents have established a strong market presence. Digitisation has the potential to greatly speed up the house buying process but as the slowest party in a housing transaction typically determines the pace, change could be slower than elsewhere.

- The industry regulator has responded to the changes being brought about by digitisation. In the Mortgages Market Study Interim Report published in May 2018 the Financial Conduct Authority (FCA) suggested that digital tools could make it easier for consumers to find the right mortgage product. The FCA has even asked lenders if they think its advice standards may be inhibiting innovation.

- It is possible that at some point in the future artificial intelligence (AI) could replicate the role of a mortgage broker, asking borrowers all the right questions that would allow them to make informed choices about the most suitable mortgages available. But robo-advice is some way off and some aspects of the broker’s role are hard to replicate, for example, knowing in which situations to appeal a lender’s decision to decline a customer. 80% of IMLA members expect that web based robo-advisers will provide less than 5% of business by 2020.

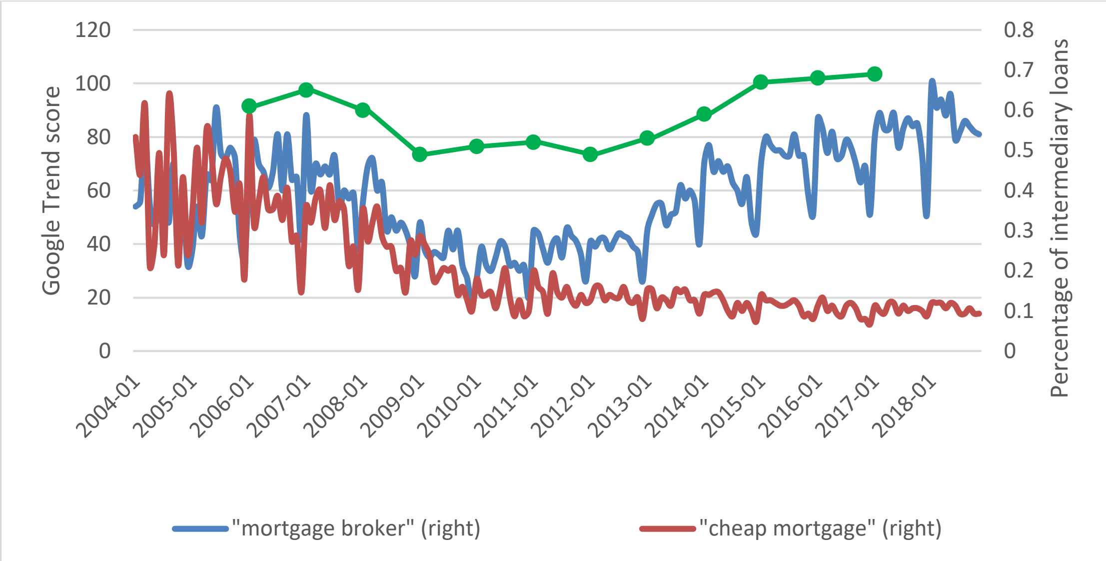
- The ultimate outcome that technological innovation offers in the mortgage market is a cheaper, quicker and smoother mortgage application process for the borrower. Providers that can harness technology to deliver these outcomes are likely to gain a competitive advantage so we can expect plenty of further innovation by both new and existing players.

# 1. Digitisation in mortgage distribution

## 1.1 Consumer information gathering online

One of the greatest strengths of the internet is its ability to provide real time information to consumers on products and services they are interested in buying. So unsurprisingly it is at the information gathering stage that the internet has had the greatest impact on consumer behaviour, and the house buying and mortgage borrowing processes are no exception. But how are consumers going about their mortgage search?

**Chart 1 – Google searches for "mortgage broker"**

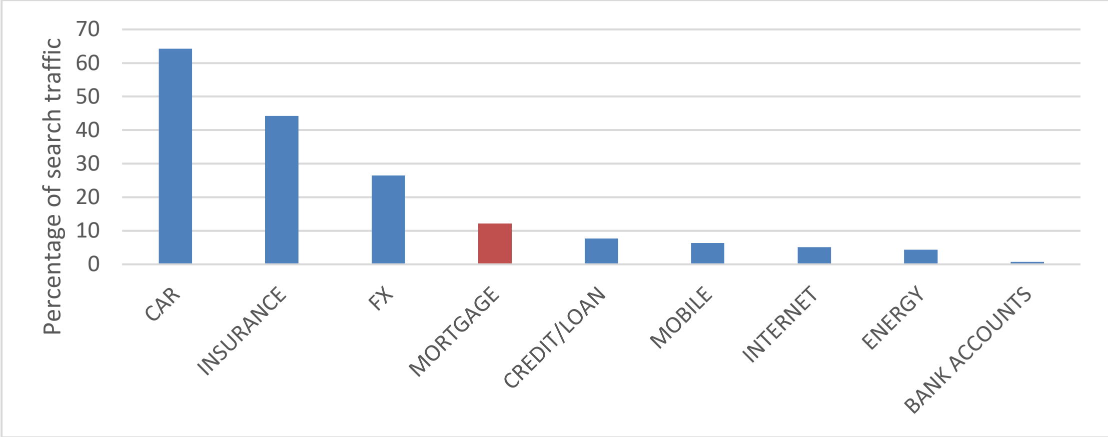



An examination of Google searches (see Chart 1) shows that fewer consumers are searching directly for the best mortgage deal while more people are looking for a broker, mirroring brokers' rising share of mortgage completions. However, many consumers are now going directly to comparison websites. Just as consumers who are thinking about buying a house typically go to one of the property websites such as rightmove, Zoopla or OnTheMarket, the first thing many consumers do when they start to think about how to finance that house purchase is to go on a comparison website and look at mortgage rates for the size of mortgage and LTV they will require.

## 1.2 Comparison websites

Thus the comparison website might at first sight seem to occupy a key position in today's mortgage market, often being the first place where consumers go when shopping for a mortgage. Yet, comparison websites have made limited inroads in the mortgage market, in contrast to other financial products such as car and home insurance, where they have taken a large share of transactions.

**Chart 2 - Search queries leading traffic to top five UK price comparison websites**




While we cannot see how much mortgage-related activity happens within these websites, evidence from Chart 2 suggests that other financial products are being compared and sourced more successfully through comparison websites than mortgages.

The problem is that comparison websites provide customers with a list of mortgage products from different lenders based on a very limited range of criteria such as LTV and borrower type. Consumers who select a product click through to the lender's website if they want to explore a deal in more detail or to apply. Some lenders offer an online application option on an execution-only basis. But there is no certainty that the customer will qualify for the loan they have selected. This is one reason why comparison websites have not made significant inroads in the mortgage arena but most consumers also lack the confidence to pick loans without some professional assistance.

## 1.3 Automation of the broker function

Another great strength of the internet is its ability to capture and store information inputted by the customer. While the comparison websites provide a selection of mortgages based on very limited criteria, new firms have emerged that ask the customer to provide the information needed to get a decision in principle from lenders, with these firms then searching the market for mortgage deals that the customer should qualify for. This can speed up the process by which consumers find out which mortgage deals they actually qualify for.

Four firms have positioned themselves as online brokers: Trussle, Habito, Burrow and MortgageGym. All work in broadly the same way, getting the consumer to input information about things such as income, expenditure and deposit. They can then offer the customer a selection of loans that they should be eligible for but if the customer wishes to proceed the application will still be assessed by a human adviser. So these online brokers are not radically different from traditional brokers, who can themselves add an online front end. Nor can they be considered to offer full so-called robo-advice as an element of human involvement is always present.

The regulatory emphasis on advice for most customers has worked against the early adoption of digital distribution in the UK mortgage market. Customers who are confident in making their own choices can use the execution-only route which is much easier to provide on a fully digitalised basis but this remains a small part of the market other than with product transfers (see Section 3 for a fuller discussion of the regulator's view as digital offerings emerge).

## 1.4 Robo-advice

How real is the prospect of full robo-advice (a fully automated system where an algorithm can select the most appropriate mortgage for a customer with no human involvement)?

It seems that brokers are taking the threat seriously. According to research by Legal & General Mortgage Club (Value of a broker, November 2017), 38% of brokers see the rise of robo-advice as the biggest threat to their business in the next three years. However, there are a number of concerns that confront firms seeking to implement a full robo-advice model and IMLA's own winter 2018 survey showed that 80% of members expect less than 5% of their mortgage business will be served by web-based robo-advisers by 2020.

Alongside the hard factual information that populates a mortgage application, such as income, are softer factors such as customer's underlying life goals. A good broker will seek to understand these softer factors and consider loan suitability in this broader context, with regard for example to early repayment charges (ERCs) or the balance of initial charges and interest rate.

Moreover, customers must understand the options on offer to be able to make an informed choice. Where they find product features confusing, such as the choice between fixed and variable rate, length of term or around initial charges or ERCs, a human broker should be able to understand the customer's circumstances well enough to know what is likely to be the most suitable approach. It is much harder for a computer to appreciate that a customer is confused by the features on offer.

Research seems to support the view that customers want a professional who can explain things - a survey conducted by Accenture for the Council of Mortgage Lenders (Digital Change and Mortgage Borrowers, June 2017) found that "*three in five customers today would prefer to speak with an adviser about complex products, such as mortgages, because it means they can ask direct questions and receive a personalised service*." It is likely to be particularly true for borrowers with complex requirements as these have proved challenging for mortgage sourcing software, so it is unsurprising that robo-advice firms might also find them difficult to accommodate.

Brokers also often successfully challenge cases that are initially turned down by the lender for falling outside its criteria. And a broker will know which lenders usually offer attractive product transfers at the end of an initial deal. On the other hand, an algorithm will provide highly consistent advice.

Regulators need to consider the wider market implications that a fully digitalised advice process would bring as well. The emphasis that is often placed on a single comparable price can force providers to change their pricing structure. For example, in the airline industry the single fare covering all costs of the pre-internet age has given way increasingly to a low basic fare (which appears on the comparison sites), coupled with a series of add-on costs for baggage, food and preferential seating.

Whether such a pricing structure would be replicated in the mortgage market depends on how price information is presented to the customer as well as the regulator's requirements. Comparison websites currently order mortgage search results by the initial interest rate, which could encourage lenders to raise other costs such as up-front charges or ERCs to minimize the initial interest rate that will rank their product on the website.

## 1.5 Improved communication between lender and broker

For some time, communication between lenders and brokers has been predominantly digitised through mortgage sourcing systems and lenders' broker portals. Sourcing systems allow brokers to search for products that clients could qualify for while lender portals facilitate the online application process. But where an application is rejected, the process needs to be restarted, with the broker re-keying the same information through another lender's portal. Clearly, this process is time-consuming for the broker which adds to costs and slows the process for the customer.

A key area of innovation in the market today relates to the attempt to join up systems used by brokers and lenders to reduce the need for brokers to re-key information and to provide more certain answers as to which loans customers qualify for. Using application programming interfaces (APIs), which allowing different computer systems to talk to each other, technology firms are seeking to eliminate the need for brokers to re-type data and improve the certainty that customers will qualify for loans identified by sourcing systems.

In Australia, NextGen.Net's ApplyOnline offers a standardised data format that integrates lenders' customer relationship management (CRM) systems with sourcing systems to allow brokers to make multiple applications without re-keying. Lenders and aggregators work together with NextGen.Net to make sure that all APIs are up to date and valid. IRESS is launching a similar system in the UK called Lender Connect. HD Decisions, part of Experian, has also introduced a system that connects with lenders' loan underwriting systems to determine eligibility. It transmits the information about eligibility back to the broker, thereby reducing the risk that any given application will be rejected.

Credit scores can be sourced automatically and, where bank account data is available, systems can automate the process of determining borrower income and expenditure. With open banking, this ability to access financial information rather than asking the borrower to provide it directly should become much more widespread. The end result of these changes should be a much more streamlined process by which a broker can identify a suitable loan and receive a firm offer for their client much more quickly.

## 1.6 Lender direct to consumer offerings

Many lenders see digital technology providing an opportunity to reach more borrowers directly and to build longer term direct relationships with these customers. They have invested heavily in digital self-service systems typically starting with a straightforward product transfer offering on an execution-only basis. Here the customer will be informed of a new offer before their current deal expires and if they want to transact completely online they can do so and complete a transaction in minutes. In Q2 2018, UK Finance data show that 45% of product transfers were execution only.

But lenders are now moving their digital offerings beyond simple product transfers into remortgages and even house purchase transactions. Remortgages where there is no increase in borrowing is the most straightforward segment. Customers fill out an application form online and where the property is valued by an AVM a decision in principle can be made in minutes. Even mortgage applications for house purchases can be carried out entirely online with some lenders but, with the additional complexity of the house buying process, few customers currently feel confident undertaking the transactions without any human contact at the lender.

Santander has been one of the lenders leading the move into online direct to customer offerings. It offers the 30 minute online remortgage and states: "*Customers can save their application and resume at a time convenient to them, as well being able to choose from Santander's full mortgage range. Any documents that are required to support the application can be uploaded immediately and customers are kept updated on the progress of their application by email*."

New mortgage lenders such as Landbay and LendInvest may be thought of as being online but in practice they operate much the same as other lenders, offering mortgages mainly through brokers but with online and telephone channels also available and these firms only operate in the buy-to-let market.

# 2. Digitisation behind the scenes: the potential for change in house buying and mortgage processes

## 2.1 Digitisation of the mortgage process

The digital revolution is not simply about making it quicker and easier for the consumer to transact. It is about streamlining the whole process that sits behind these transactions. For example, in the airline industry many customers now purchase tickets online but behind this, computers keep track of seat availability, provide the customer with an e-ticket and flight information via email and adjust pricing based on changing levels of demand. In other words, back office processes have become highly automated with limited human involvement.

The mortgage industry has already automated many back office functions with most lenders now routinely scanning all paper documents to improve the efficiency of admin staff and building portals to communicate with counterparties such as brokers and conveyancers. But in most lenders the loan origination process is far from fully automated and where lenders are moving to full automation, unsurprisingly, they are starting with the simpler transactions. Still IMLA's survey of summer 2018 showed that 35% of members expect to be able to provide a paperless mortgage by 2020.

For **product transfers** some lenders have built fully automated processes that allow an existing mortgage customer to apply for a new deal online with the back office processes that support that product transfer requiring no human intervention. The customer will automatically receive confirmation of the new rate and monthly payment via email or computer-generated letter.

**Remortgages** between lenders are somewhat more complicated because they involve other parties: a conveyancer, a valuer and usually a broker as well. However, most lenders use a panel system so that any valuer or conveyancer involved in the process will have an on-going commercial relationship with the lender. This gives the lender the opportunity to work with these firms to automate their processes and the interface between them and the lender.

**House purchase transactions** are the most complex and hardest to fully automate because there are more parties involved and some of these can be firms the lender has no ongoing commercial relationship with. For example, many buyers still choose their own local solicitor to act as conveyancer and such firms may lack the resources to automate their role.

A key part of the origination process is loan underwriting, which larger lenders in particular have also been trying to automate. A fully automated underwriting system sees customer information automatically assessed against lending guidelines (such as loan-to-income limits) with customer status determined by automated access to credit score data. This approach can work for straightforward cases where the borrower has a stable salaried income and good credit score. But manual underwriting remains a feature of the market because so many borrowers do not fall into this straightforward category, requiring underwriting to be at least partially bespoke.

## 2.2 Digitisation of the house buying process

A far larger task lies in moving the house buying and selling process into the internet era. Despite elements of automation, the system as a whole remains cumbersome and slow. It could be said that a property transaction moves at the speed of the slowest participant so automation by the lender, the broker or any other party in isolation might not make the overall process any more streamlined.

However, there are numerous innovations and initiatives taking place. Perhaps the best known of these is the **online estate agent** model. Although it is possible to move the house selling process completely online, in practice these firms, such as Purple Bricks and Yopa, have found that it is necessary to retain a human element given the complexity of the process and the need for the agent to act as ringmaster, ensuring that all the other parties are proceeding as necessary. Online agents have grown rapidly but still have less than 10% of the market in housing transactions.

**Valuers.** Automated valuation models (AVMs) or so-called desktop valuations have been in use for many years. After the financial crisis some lenders curtailed their use because of fears that reliance on an AVM increased risk. But more recently, as these models have improved, lenders have become increasingly confident about their accuracy and AVMs are now widely used on low LTV transactions and remortgages. Another strand of innovation has been technology to support the valuer. Devices that allow a valuer to record a description of a property on site in real time have improved valuers’ efficiency.

**Conveyancers.** Although conveyancers have been criticised for being slow to adopt digital technology the larger conveyancers have invested heavily in automation, using innovations such as case management tools, automated client update services and intelligent search ordering platforms. The Land Registry and local authority search processes have also belatedly started to be digitised.

In April 2018 the first digital mortgage deed was entered into the Land Register, eliminating the need for a paper signature that needs to be witnessed. The registration was the result of collaboration between HM Land Registry, Coventry Building Society and Enact Conveyancing. And in September 2018, HM Land Registry’s new digital Local Land Charges Register went live with the first digitised local land charge search result being provided by Liverpool City Council. But this project illustrates how difficult it can be to make progress when many parties are involved – only Liverpool and Warwick currently offer digitised local land charge searches and the project is not expected to be completed until 2025, with some experts seeing even that deadline as ambitious.

# 3. The regulator's response to technological change

## 3.1 Project Innovate

Although FCA rules are designed to be technologically neutral, as new technologies come into use in retail financial services the FCA is keen to ensure that regulation is not a barrier. So in October 2014, the FCA set up Project Innovate, which includes the Sandbox, where firms can trial new technologies in a controlled setting, and the Advice Unit, which helps firms to understand whether a new technology fits within the existing regulatory structure. Until June 2017, the Advice Unit focused on investments, pensions and protection but then was broadened to include mortgages, debt and general insurance.

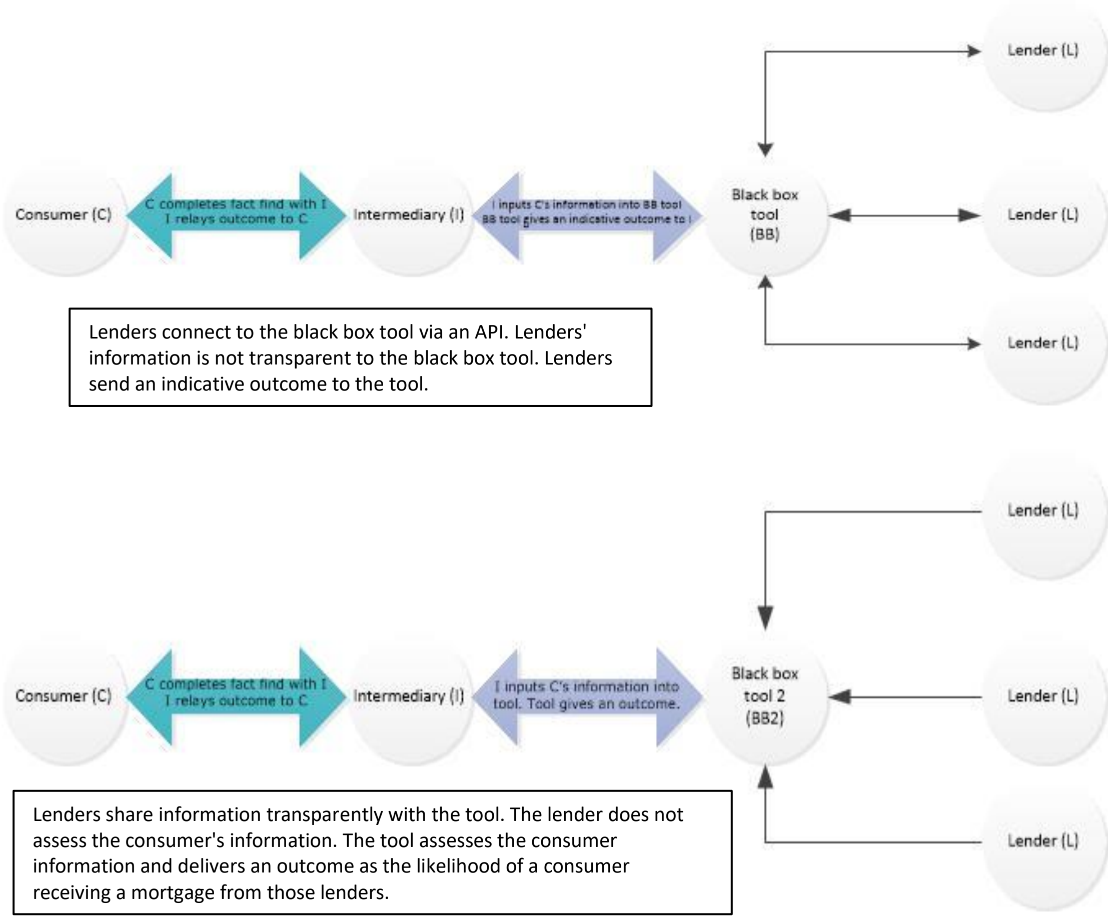
## 3.2 Mortgage Market Study

The FCA Mortgage Market Study Interim Report published in May 2018 was a holistic analysis of the mortgage market undertaken to see if there were any areas that could be made to work better. As such it was an opportunity for the FCA to outline its thinking on digital technology and one of the key findings was that it found limitations to the effectiveness of the tools available to help consumers choose a mortgage.

In particular, the FCA felt that a key concern is that consumers cannot easily identify at an early stage of their search which mortgages they will qualify for. Turning to possible solutions the Report stated "*The development of new and innovative tools could provide consumers with opportunities to better compare products, get support (including advice), and apply for a mortgage."*

Market developments (see Diagram 1) mean there are now systems in use which have the potential to address consumers' difficulty identifying which mortgages they qualify for at an early stage. In the first version, the black box includes an API that can access lenders' systems to determine whether a mortgage application meets their criteria. In the second version (black box tool 2), lenders provide their eligibility criteria to the black box so that it can determine which lenders will approve which applications. In both cases the lender's exact lending criteria remain 'hidden' from brokers, preventing them from gaming these criteria.

**Diagram 1 – APIs allow consumers to know which mortgages they could qualify for**




In the Interim Report the FCA also provided some insight into how it felt technological changes might require a rethink of advice rules: "*If consumers have the opportunity to decide how much support they need, and in what form, this could drive more effective decision-making and greater convenience. However, our existing advice rules and guidance may act as a barrier to this*."

The mortgage industry has responded cautiously, concerned that consumers would find it difficult to understand the implications of any nuancing of the advice rules. For instance, IMLA's response of 31 July 2018 stated:

"*By definition, we don't know what we don't know – and some consumers might be tempted to assume that they have greater knowledge than is the case – and deny themselves some important information which could influence their eventual mortgage choice. A skilled adviser will soon discover which areas need more explanation, or which areas can be dealt with relatively quickly. It could be very challenging for lenders, intermediaries and their respective compliance colleagues to design processes which enabled consumers to choose where they did and didn't want to receive advice*."

It seems there are two issues behind the Interim Report's thoughts on regulatory barriers. First, the FCA wanted to hear from lenders on whether the advice rules act as a barrier to robo-advice but so far there is no indication that this is the case. Second, with consumers starting to access mortgages on an execution-only basis using lenders' own direct-to-consumer portals the FCA is keen to ensure that questions from borrowers that do not relate to the mortgage product (such as technology-related questions) are not seen to constitute interaction as defined by MCOB 4.7, which would then require the loan to become advised. Indeed, the FCA says it is relaxed about more consumers choosing execution-only online mortgage deals online.

## 4. Conclusion

Digital technology, which includes the internet, the computing systems behind it and AI or machine learning, has already radically altered lifestyles and the way we do business but no one doubts that the revolution has much further go to. Retail financial services have been transformed as customers have shifted to routinely managing their current accounts online and purchasing personal loans and insurance online. Mortgage transactions are more complex, especially where they fund a property transaction, and this has held back digitisation but the digital revolution is starting to make a real impact on the mortgage market.

We have already seen the first online execution-only mortgage product transfers, the first online execution-only remortgages and house purchase transactions, the first digital mortgage deed and the first digital local land charge search. Now, with AI we are seeing computers start to mimic some of the more complex problem-solving attributes of humans which opens the door to robo-advice, where algorithms dispense advice online on the best deals in a fully automated mortgage application process. But computers cannot currently replicate the softer skills of the human broker who can determine whether a customer understands product features and whether they might be unsure about what choices to make.

In the immediate future, the most significant major change that is approaching is in the use of APIs that allow a broker or robo-broker to use a single set of customer information to generate a lending decision in principle from multiple lenders almost instantaneously. In this way, once a customer has provided the necessary information to their broker or online broker they will discover exactly which mortgages they should qualify for, greatly speeding up the process of selecting a loan.

## Media contacts

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## About IMLA

The Intermediary Mortgage Lenders Association (IMLA) is the trade association that represents mortgage lenders who lend to UK consumers and businesses via the broker channel. Its membership unites 43 banks, building societies and specialist lenders, including 16 of the top 20 UK mortgage lenders responsible for almost £180bn of annual lending.

IMLA provides a unique, democratic forum where intermediary lenders can work together with industry, regulators and government on initiatives to support a stable and inclusive mortgage market.

Originally founded in 1988, IMLA has close working relationships with key stakeholders including the Association of Mortgage Intermediaries (AMI), UK Finance and the Financial Conduct Authority (FCA).

Visit www.imla.org.uk to view the full list of IMLA members and associate members and learn more about IMLA's work.

## About the author

Rob Thomas is a Director of Research at Instinctif Partners. He previously served as an economist at the Bank of England (1989-1994), a high profile analyst at the investment bank UBS (1994-2001) and as senior policy adviser to the Council of Mortgage Lenders (2005-12). He was also the project originator and manager at the European Mortgage Finance Agency project (2001-05) and created the blueprint for the government's NewBuy mortgage scheme.