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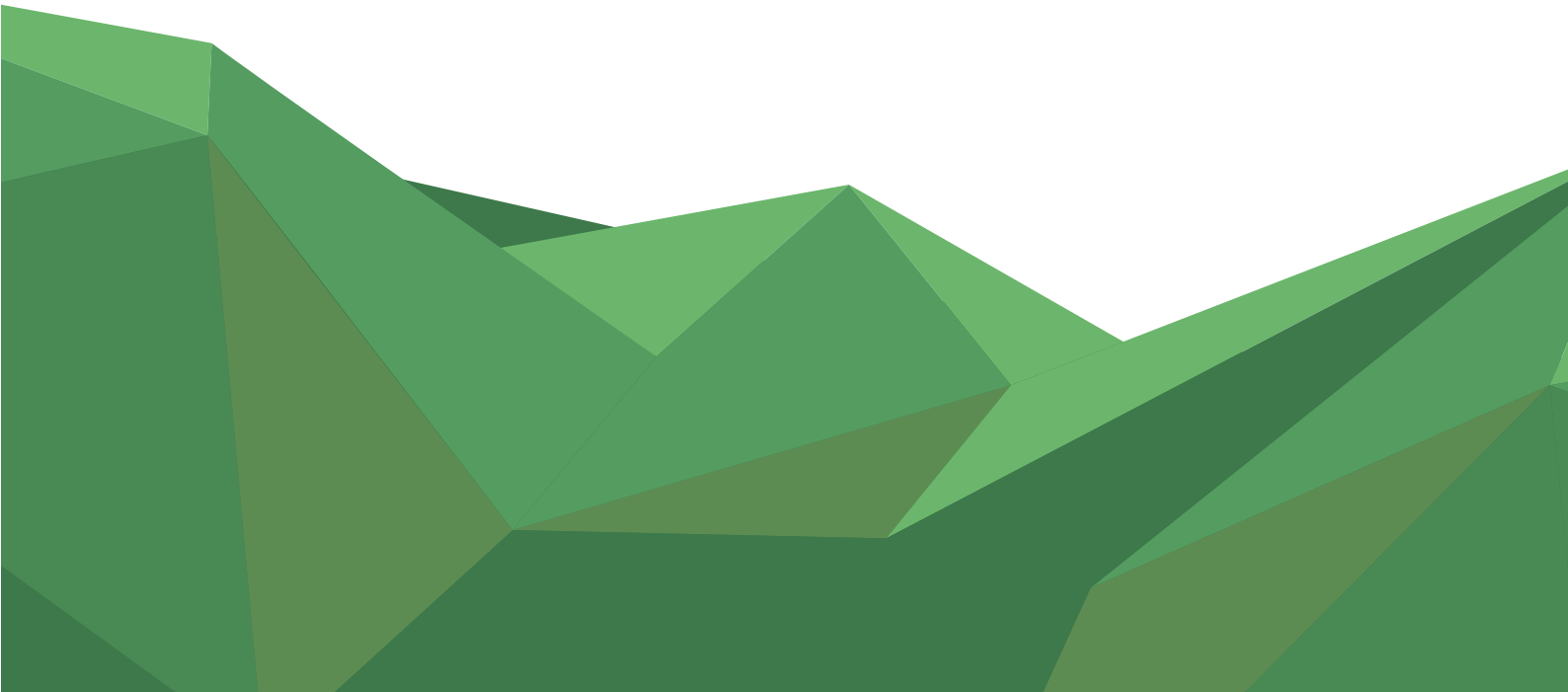
Digital Change and Mortgage Borrowers

Stirling Bookallil and Vicky Birkby

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About the authors



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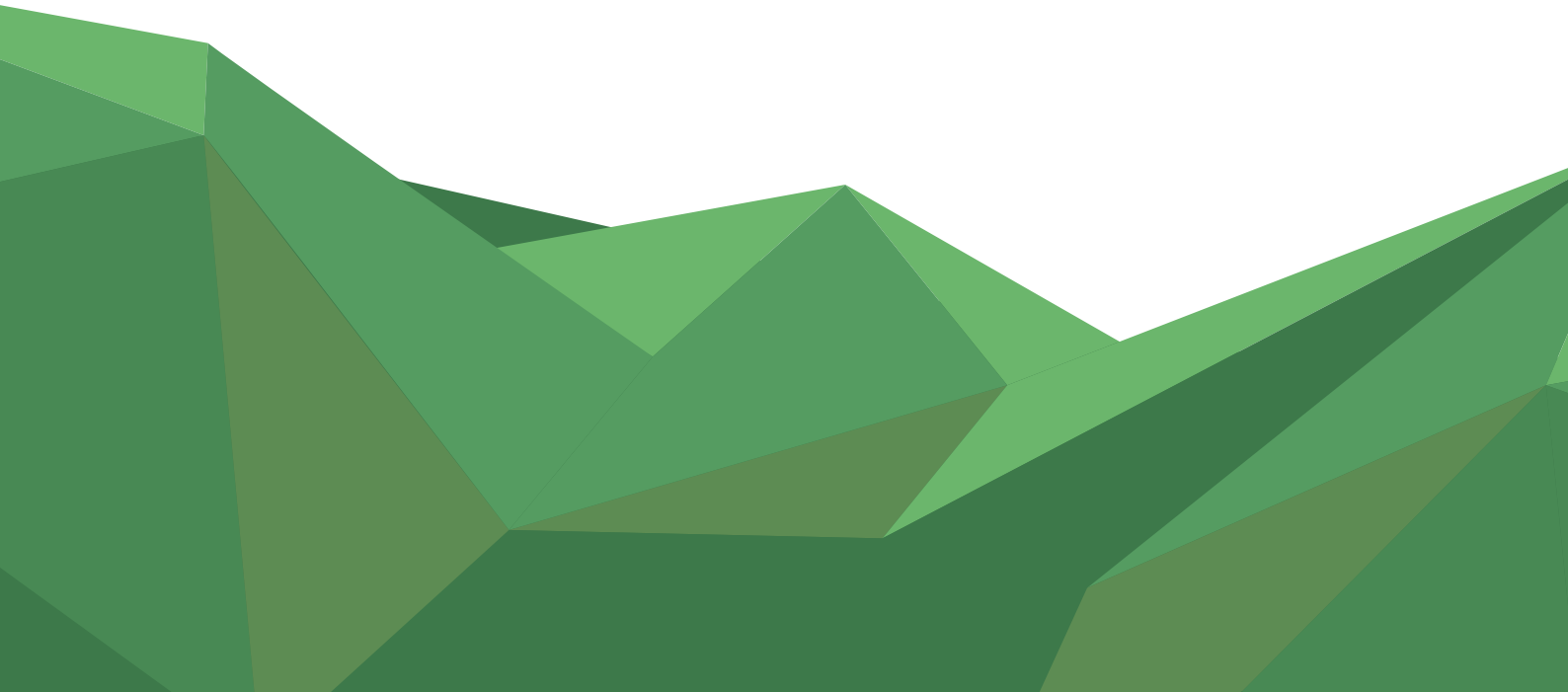
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The views expressed in this report are those of the authors and do not necessarily reflect those of the Council of Mortgage Lenders.



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Chapter I: Executive Summary



Executive Summary

Digital change has radically altered consumer expectations and business models across many industries, such as transport, entertainment, communication and public services. These changes are raising the bar for what borrowers expect from their home buying and owning experience. While a shift to digitally enabled experiences in the mortgage market will not happen overnight, change is certainly happening. Outside the UK, mortgage companies have demonstrated how new technologies can fundamentally change user experiences, create new offerings and significantly reduce the effort required to progress key mortgage activities.

In the short term, service differentiation will enhance competitiveness in the UK market. Digitally enabled mortgage experiences will become the norm in the longer term. Companies across the industry will continue to invest in digital innovation to enhance their customers' experience, optimise operational efficiency and improve profitability. UK mortgage companies must consider their strategies for today against this context. They must also ensure they are ready to react with agility to future changes to remain relevant to customers in a constantly evolving landscape.

Focus of this paper

Our research provides an industry-informed view of how mortgage customer expectations are developing, and how digital changes are improving experiences and further enhancing operational efficiencies.

The paper summarises the digital changes seen across the mortgage industry to date, and sets out the key opportunities and challenges viewed by companies involved in the mortgage process. A wider consumer market and global mortgage analysis is presented, based on research from ten different markets. Case studies are also provided to demonstrate how new technologies and innovative design approaches are being applied today.

We summarise the different ways the industry is approaching digital change and the key technologies helping companies achieve their visions, whether today, through the development of existing capabilities, or looking further ahead.

In this paper, we identify trends from three sources: interviews conducted with 28 companies from across the mortgage lifecycle, a selection of mortgage borrower interviews, and further research and data analysis to explore the themes identified.

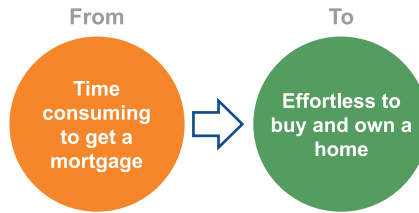
We would like to thank all of the companies who supported the research for this paper. Between them, they represent a significant proportion of the market within their areas of expertise, across lenders, intermediaries, conveyancing, valuation and surveying, property searching, technology partners and trade associations.

1.1 Key Findings

Our research uncovered a number of important findings on the impact of digital change on customers, on industry providers, and on regulatory compliance. Each of these areas is explored in more detail in Section 4.1.

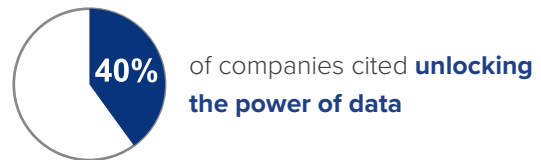
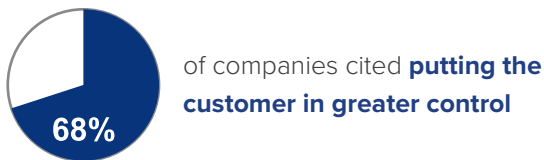
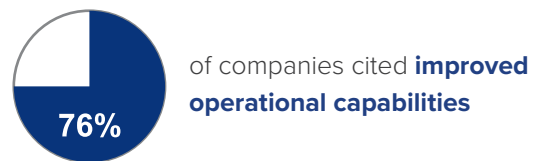
Digital Change¹

Digital change in the UK mortgage market is happening gradually and incrementally. It comes in many forms. It can be familiar and visible to the customer, improving their experience and interaction, or it can facilitate efficiency improvements to back-office processes, particularly through greater use of automation. Investment will also continue to enhance data-sharing capabilities between lenders and intermediaries. The main obstacles to digital change are legacy systems and thinking. Companies recognise the need to address these challenges to keep pace with digital advances beyond mortgages.

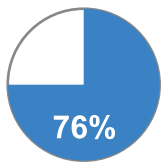


The companies we spoke to see a host of opportunities from digital change, as well as a number of challenges inhibiting it. The most frequently cited, and the proportion of companies that cited them, are set out below and explained in more detail in Sections 2.6 and 2.7:

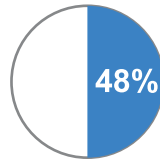
The key opportunities:



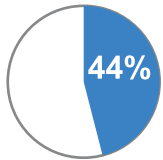
... and the biggest challenges:



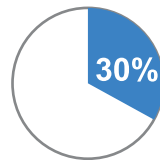
of companies cited **legacy systems and thinking**



of companies cited **greater collaboration externally**



of companies cited **regulation and compliance as a potential inhibitor of the rate of change**

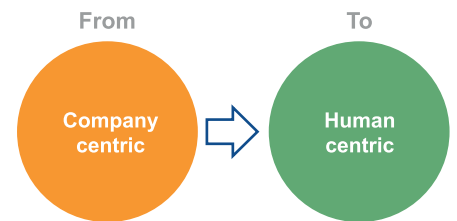


of companies cited **keeping pace with the rate of digital advancement as a potential risk**

There was a greater degree of agreement about the opportunities than the challenges. This shows that, while companies recognise they generally want to get to the same goals, their approaches and their starting points all vary.

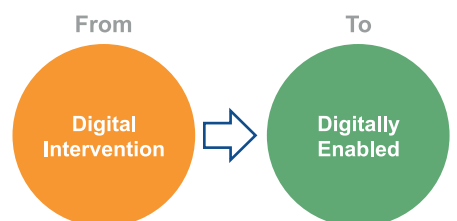
 **Customers²**

For customers, a mortgage is a means to an end – what they really want is to buy a home. While they appreciate today’s mortgage experiences are relatively fast, and provide useful services like online tracking, many still experience frustration. Their perfect home buying and owning journey is one that is stress free, transparent, safe, secure, simple and tailored to them. Companies are using a variety of strategies to meet these aspirations (see Section 2.4 for details). Most recognise the need to offer a choice of digital and physical interactions, across multiple channels, which allow customers to progress at their own pace and feel in control of the process.



 **Industry Providers**

The uptake of digital change will lead to more customer-centric thinking across the industry. Companies are motivated to free up organisational capacity by removing non-value adding activities, for example through automation. In the short term, this will most likely promote a standardisation of business practices as firms try to do the simple things well. In the long term, there will be more bespoke offerings and market differentiation. Companies expect their business aspirations to naturally evolve alongside wider digital change.



Property search and sales providers, intermediaries, lenders, conveyancers and valuers and surveyors form the key areas across mortgage industry providers.

Property Search and Sales

Property portals and other digital tools have expanded their scope in recent years, and now offer significantly more than just a simple property search. Data is driving new ways of empowering customers, from helping them make more informed decisions earlier in the home buying process, to supporting them post completion, in areas like home maintenance and reducing property running costs.³

Intermediaries

Intermediary businesses have invested in digital capabilities to further improve customer journeys and internal operational efficiency.⁴ With over two-thirds of UK mortgages originating from intermediaries, lenders have continued to improve the way they interact with these businesses. For example, online decisions in principle, case tracking and scan and attach document upload are now standard.⁵ Intermediaries and lenders alike plan to continue improving their ability to share information digitally.⁶

Digital intermediaries are now entering the market. They offer customers a real-time view of bespoke and eligible products, and let them complete online applications with the support of a robo (i.e. digital) mortgage adviser. Post completion, they run daily checks to ensure the customer is still on the best deal for their needs.

Lenders

Lenders have been focusing investment on the simplification of back-office processes, the development of new online customer journeys across multiple product types and improving lender-to-broker interactions. Tools like affordability calculators and real-time decisions in principle have become market standards. New entrants are providing digitally supported home buying and owning journeys. Lenders say they will continue to invest in digital changes to realise their customer experience strategies, enhance revenues and minimise operational costs.⁷

Conveyancing⁸

Digital investments are improving the conveyancing experience and modernising a highly manual legal process. These have focused to date on online portals, electronic offers, e-signatures and electronic certificates of title (COTs). HM Land Registry and the Conveyancing Association are committed to using digital technologies to support a smoother and less time-intensive conveyancing process.

Valuations and Surveying⁹

Lender uptake for automated valuations continues to. The quality of physical valuations and surveys is being improved. For example, surveyors can now complete and sign off property reports on site. In addition, valuation providers and lenders alike are considering the potential of desktop studies for a subset of drive-by valuations – where a fully qualified surveyor reviews a property from available digital information, rather than a site visit.



Regulation and Compliance

Companies say significant regulatory change can impact innovation. Resources and budgets often need to be directed to regulatory compliance. And lenders can be hesitant about investing in innovations that might be overtaken by regulatory change. Innovation is therefore easiest within a stable regulatory environment.



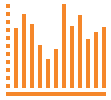
Assuring customer
outcomes and
fostering innovation

Companies believe compliance checking will be moderately impacted by digital changes over the next three years. That will include more consistent outcomes and faster decision making, a full audit trail and improved customer experience.¹⁰

The regulator wants to ensure good customer outcomes, foster innovation and promote market competition. The FCA has set up Project Innovate and a sandbox, both of which are central to the development of innovation policy and RegTech.¹¹ The Bank of England also has a FinTech Accelerator programme that works with firms to understand how new technologies can be applied to central banking.¹²

1.2. Recommendations

Our research led us to a set of actionable items for companies across the mortgage industry to consider as they look to leverage digital change. Each is explained in more detail in Section 4.2.



Tailor digital change to achieve individual business strategies

View digital as an enabler, not an end in itself. Base business strategies on customer segments and the interpretation of regulations. Consider the application of digital changes beyond the mortgage transaction itself.



Ensure the customer is central to your thinking

Continue to improve customer experiences and offer customers a mix of digital and human interactions. Keep abreast of changes beyond the mortgage industry and understand how they may impact customer expectations within it.



Overcome legacy challenges to change your technology at pace, and adapt your organisation quickly

Recognise how legacy technologies, thinking and cultures may be holding your organisation back. Become an agile business to deliver future changes at pace.



Use digital to improve operational efficiency

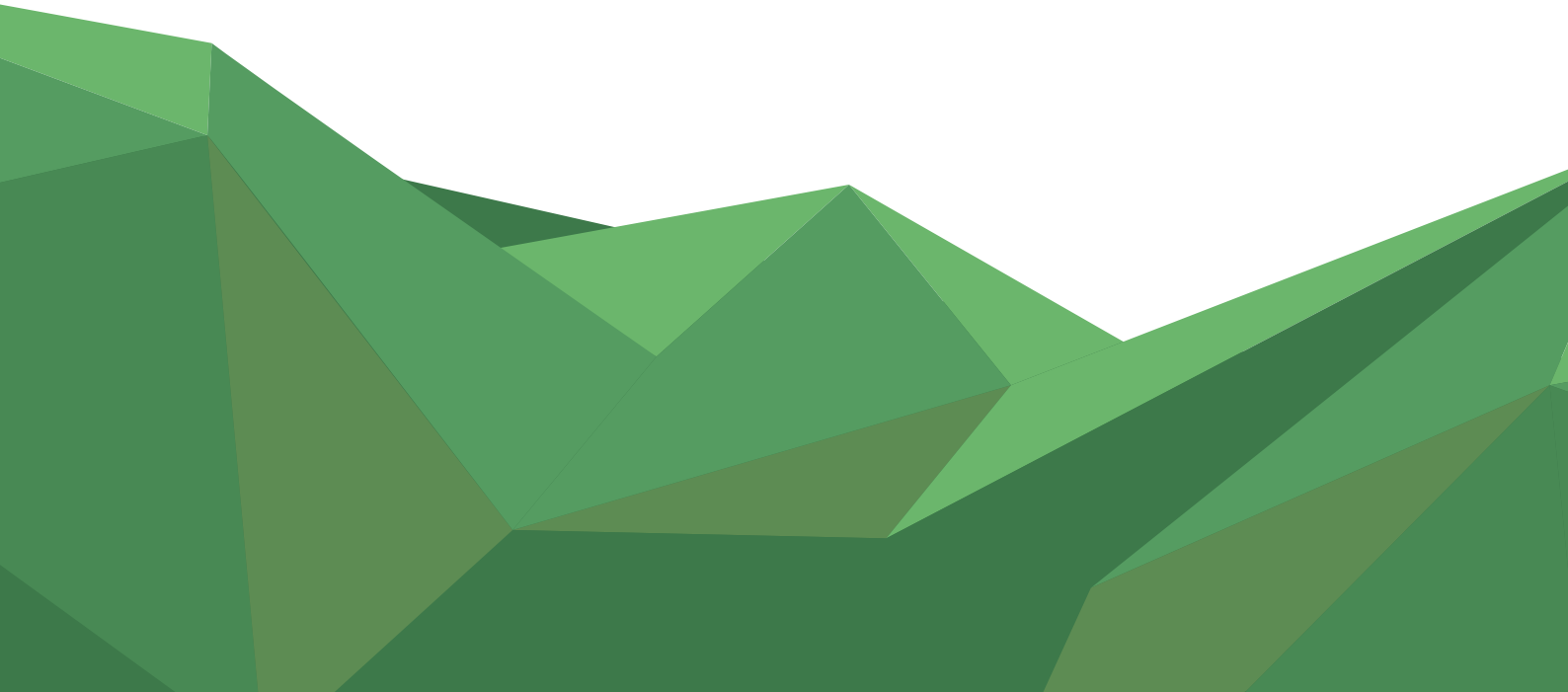
Continue to improve operations. Use new technologies to free colleagues to add greater value to the customer or to the business. Keep regulator and risk appetites in mind.



Collaborate to keep pace

Understand what your company is good at and seek opportunities to work with third parties who can complement or enhance your existing capabilities or add new ones. Form a working group to bring together trade associations, regulators and governing bodies to discuss and overcome industry challenges.

Chapter 2: Digital Evolution in the UK Mortgage Market and Beyond



Digital Evolution in the UK Mortgage Market and Beyond

2.1. Introduction

Changes beyond the mortgage market have an impact on what customers expect from their mortgage experiences. Mortgage companies are thus redesigning their business models to meet new customer demands.

This chapter sets out:

- The digital changes evident across wider consumer markets, including examples of how new technologies and consumer demand has changed industry business models and the key themes evident across so-called 'disruptors'.
- How global mortgage markets are adopting new technologies.
- Where changes have already been made across the UK mortgage market, including how customers perceive their experiences.
- The key opportunities and challenges for the UK mortgage industry.

2.2. Digital Evolution: Wider Consumer and Global Mortgage Markets

Wider Consumer Markets

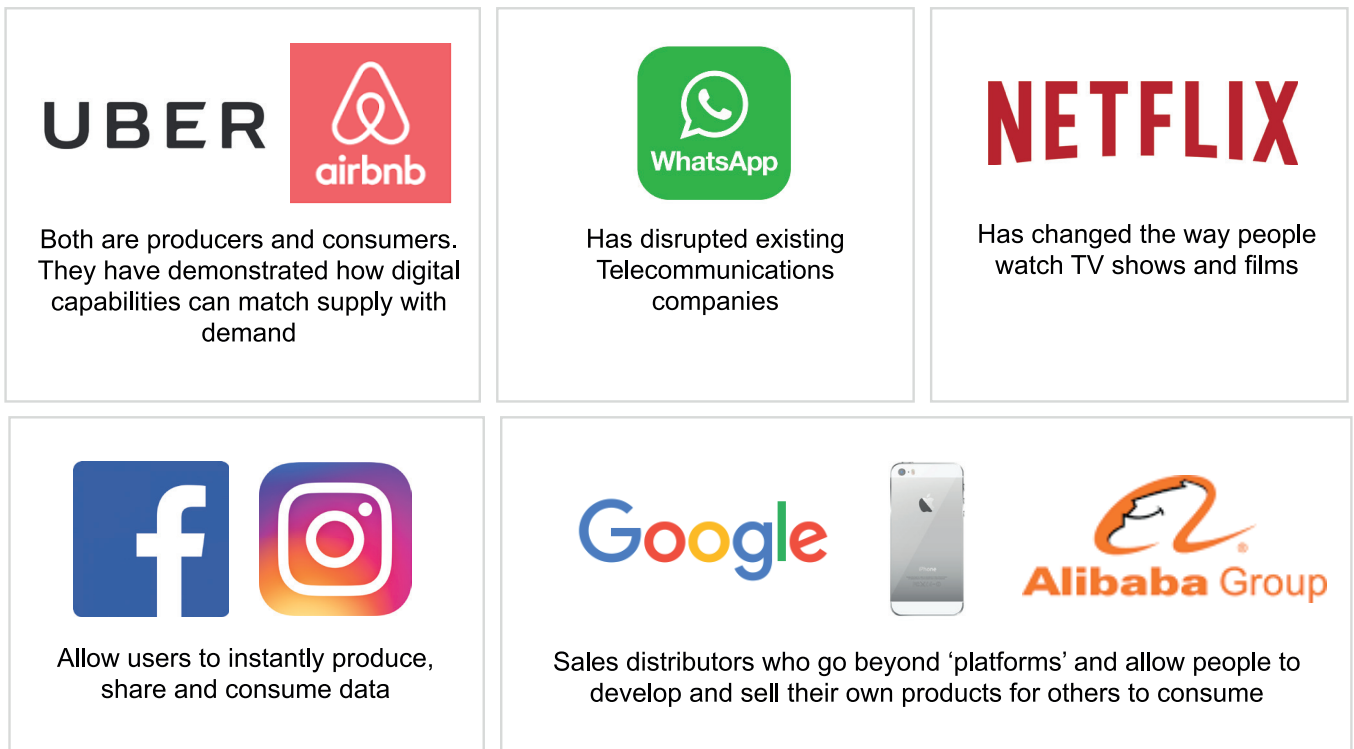
It is widely recognised that we are in a period of revolutionary change.¹³ Multiple strands of technologies are advancing at pace, and in parallel, enabled by improvements in cognitive computing (digital capabilities that integrate the best of computer and human problem solving).

Digital change is happening faster than ever. The ease, speed and simplicity of new technologies are fundamentally changing customer expectations. No longer required to wait for a third party to complete activities for them, the customer is now in control. And they expect each experience to be in line with their best last experience, regardless of the cross-over between industries. Mobile technologies have been a significant catalyst for this shift in expectations: billions of people can access information and complete activities at the touch of a fingertip. In just three decades, the number of mobile devices in the world has exceeded the number of humans.¹⁴

The speed of customer uptake today is also vastly faster than ever before. It took 75 years for the telephone to connect 50 million people. And 13 years for the television. Yet Facebook achieved 50 million users in 3 years. And gaming apps can achieve it in just 35 days.¹⁵

Across the globe, new players are entering well-established markets and demonstrate how new technologies and simple ideas can transform distribution models and reach audiences more quickly than ever before.

Figure 1:
Examples of consumer market disruption across industries



While the level of disruption has varied across different industries, technologies and customer experiences, there is a series of common themes that are re-shaping the world around us. The most important of these are explained in Figure 2

Figure 2:
Key disruptor themes



Changes across multiple consumer markets around the globe are raising the bar for user experiences and resetting expectations. As more day-to-day activities are completed or enabled digitally, consumer behaviour, and their trust in online transactions, are changing in parallel. New players are entering new markets to meet these new needs. And established companies are investing in digital changes to remain competitive and relevant to their customers.

Banking is experiencing its own digital shift. While branch and online use has remained relatively unchanged year-on-year since 2010, the proportion of customers regularly using a banking app has increased from 8 per cent in 2010 to 47 per cent in 2016.¹⁶

Within the global mortgage market, investments continue to improve digital capabilities in order to meet new customer demands. For lenders in particular, digital change can help them to leverage their online customer banking footprint to further capitalise on lead generation.

However, the scale and complexity of getting a mortgage means customers will continue to value human interaction. This was a clear and common trend seen throughout both the company and customer interviews conducted for this paper. Companies therefore need to develop a choice of approaches that allow for customer flexibility, across multiple channels of interaction, throughout their home buying and owning journeys.

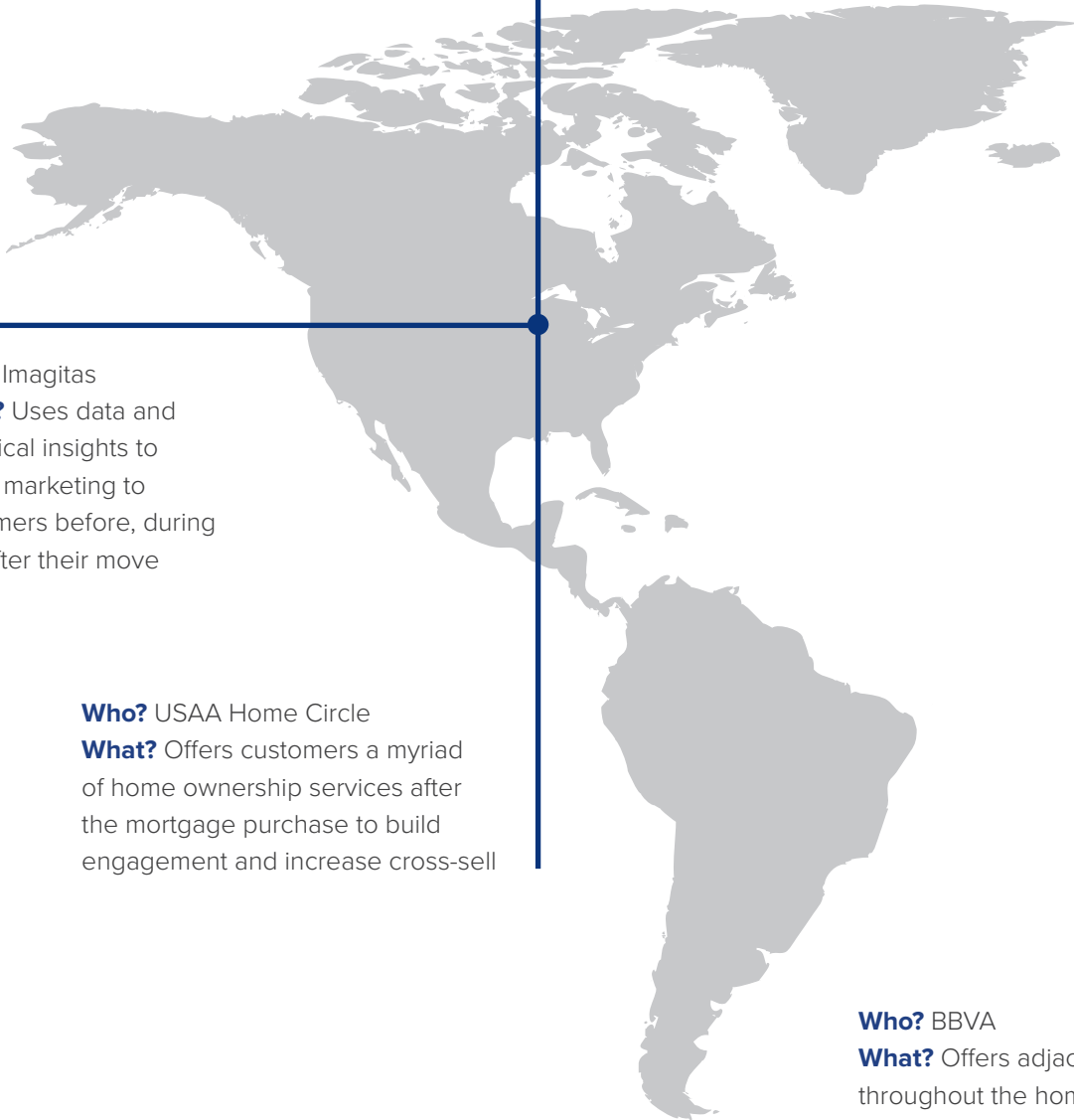
Global Mortgage Innovation

Across the globe, we have already seen investment in digital capabilities significantly enhance customer experiences. Figure 3 sets out some of the most innovative examples. These companies are striving for an ultimate vision of a customer-centric, 24/7 omni-channel mortgage service. The UK industry can gain valuable insights from its global peers.

Figure 3:
Spotlight on global innovation

Who? Rocket Mortgages, by Quicken Loans
What? “Push Button, Get Mortgage” providing a customer with a loan amount that they qualify for in 8 minutes. The fully digital solution can instantly verify income and user identification and provides robo-advice for conveyancing

Who? Danske Bank’s Sunday
What? Customers can search for properties that match their budgets and needs, and can get finance there and then



Who? Imagitas
What? Uses data and analytical insights to target marketing to customers before, during and after their move

Who? USAA Home Circle
What? Offers customers a myriad of home ownership services after the mortgage purchase to build engagement and increase cross-sell

Who? BBVA
What? Offers adjacent services throughout the home moving and owning journey. BBVA has also acquired FinTechs to increase digital capabilities

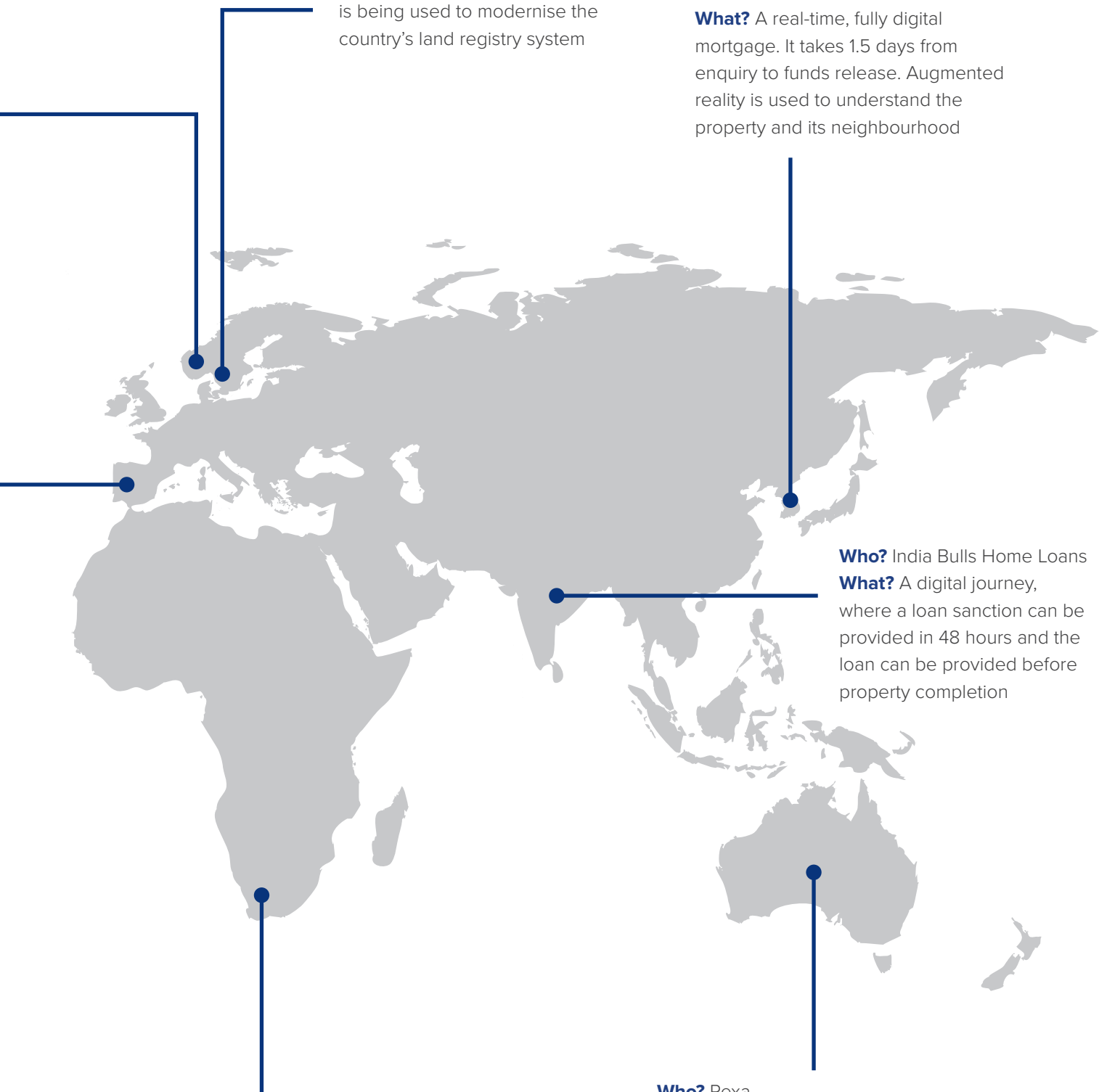
Who? Swedish Land Registry
What? Blockchain technology is being used to modernise the country's land registry system

Who? Hana Bank
What? A real-time, fully digital mortgage. It takes 1.5 days from enquiry to funds release. Augmented reality is used to understand the property and its neighbourhood

Who? India Bulls Home Loans
What? A digital journey, where a loan sanction can be provided in 48 hours and the loan can be provided before property completion

Who? South African Lenders
What? A customer's existing bank account information is used to pre-populate their mortgage application form

Who? Pexa
What? Provides a digital property exchange with electronic settlement, fast access to cleared funds, e-signatures, real-time document logging and transparency throughout



Case Study: Australia

Market Context:

- Direct to consumer: while intermediary use is increasing, most customers go directly to a small number of key Australian lenders. Property purchase is done via auction, where the customer must have proof of funds to bid.
- Products: switching accounts for 20 to 30 per cent of mortgage volumes, where customers are looking to move or get a better rate.
- Process: Most of the main banks offer online applications, and they continue to streamline and automate their supporting back-office processes.
- Lender focus: cost reduction; protecting/increasing market share; improving customer relationships to aid retention.

Market Trends:

- Customer-centricity: this is at the heart of the transformation agenda, with a focus on reducing application-to-offer times and improving the overall home buying experience.
- Change: although predominantly focused on incremental improvements over recent years, banks are now looking to invest in core banking platforms and mortgage origination processes. There is a move to fully digitalise the process of transferring property and starting a loan.

Innovation Examples:

- Dreaming of buying a home: Westpac Wonder helps customers understand what they can afford and search for properties within their budget.
- Understanding the options: digital intermediaries such as Lendi and iSelect provide online product comparisons.
- Auction with confidence: ANZ Bank customers can use an app to provide the guarantee for properties being purchased through an auction.
- Augmented reality: Commonwealth Bank has developed a property search and home financing app that provides customers with a view of past sales history, current property listings and recent sales of properties as they walk down the street.
- Customer interaction and transparency: Commonwealth Bank uses alerts and nudges to communicate with customers from the beginning of their journey.

Case Study: United States

Market Context:

- Regulation: over the past 7 to 10 years, multiple regulatory changes have cost the industry billions of dollars to implement. The best lenders progress an application to closing in 30 days.
- Innovation: over the past 2 years, funding and change capacity has become available for optimisation and innovation. Regulating bodies are promoting the use of digital capabilities. Many FinTechs have emerged, providing a best-in-class experience. Existing lenders are either partnering or acquiring FinTechs, or are developing their own digital capabilities.
- Customer experience: customers want the home buying journey to be simplified, citing this as a top-three driver of their loyalty. Currently, one in five customers does not use any form of digital capabilities during their mortgage origination process.
- While existing lenders have made digital investments to improve customer interaction methods, some back-office processes are still highly manual, delaying application fulfilment.
- Transparency: increased use of customer communications, including SMS and online. Timing expectations are set early with customers.
- Post completions: some companies have started to develop partnerships with third parties to provide recommendations and discounts to customers.

Innovation Examples:

- Roostify: a dynamic and digital application system that can be completed in minutes, capturing information that drives decisioning. Customers can submit their documents, collaborate with third parties and see loan progress digitally. Roostify has a streamlined workflow, reducing manual intervention and multi-party co-ordination.
- Full service lenders: Better Mortgages pre-approves customers in 3 minutes. Easy Mortgage Lenders allows customers to apply with one easy form.

Market Trends:

- Customer desire: in the US, 84 per cent of mortgage customers want an expedited mortgage process, with almost half saying they wanted to close in 2 to 4 weeks.
- Transformation: two-thirds of the top 30 lenders have replaced their loan origination systems, including capabilities for automated valuation models (AVMs) and straight through processing. In addition, lenders are using robotic process automation (RPA) for standardised, rules-based activities across originations and servicing.

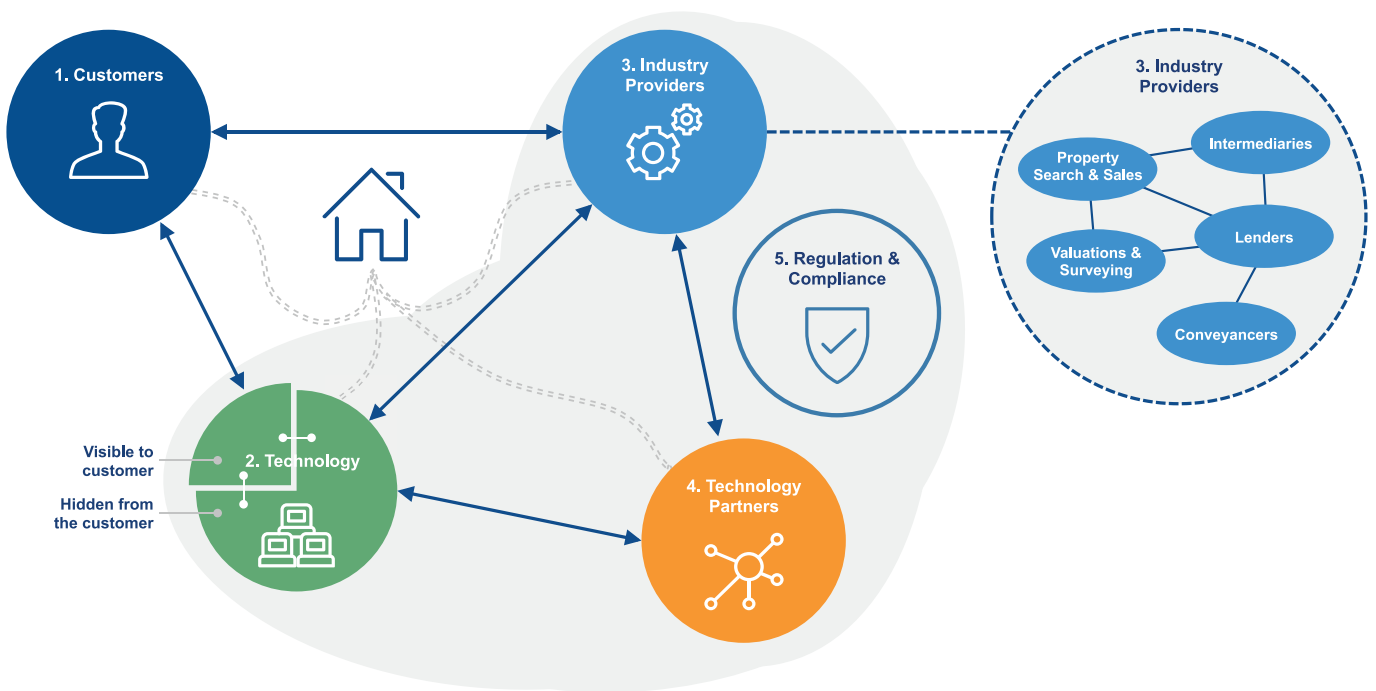
2.3. Digital Evolution: The UK Mortgage Market Context

The UK home buying and owning ecosystem comprises five key components:

1. Customers
2. Technology
3. Industry Providers
4. Technology Partners
5. Regulation and Compliance

This ecosystem represents the key activities that take place throughout the end-to-end lifecycle of purchasing, renting or living in a property. These components form the framework for considering current and future developments in customer experience and digital change throughout this paper.

Figure 4:
The home buying and owning ecosystem



The UK mortgage industry has been focused on overcoming challenges and making changes in recent years: integrations, divestments, regulatory changes, new market entrants and improved lending controls. The Mortgage Market Review (MMR) and the Mortgage Credit Directive (MCD) regulation have provided the industry with an enhanced level of assurance and customer protection. However, the changes have sometimes been made at the expense of customer experience and colleague usability. For example, it can take between 30 and 45 days for an application to progress to offer,¹⁷ and there may be further delays from offer to completion, including as a result of the buying chain.

Following this period of change, regulators continue to drive enhanced customer outcomes by improving the way the market operates and how companies conduct their business. But they are also supportive of innovation in the industry.

While three-quarters of companies interviewed for this paper agreed that the digital changes seen to date have been predominantly focused on incremental improvements and initial interaction with the customer, all agreed that digital change in the future will have a wider positive impact on customer experience. And all said they are likely to continue to invest in digital changes to enhance their business strategies, with the most common areas of focus being:

- Customer satisfaction;
- Cost reduction and improved efficiency; and
- Increased profitability and market share.

A frequent discussion point throughout our interviews was that digital changes will “focus on realising customer experience strategies and operational efficiency, rather than impeding them”.¹⁸

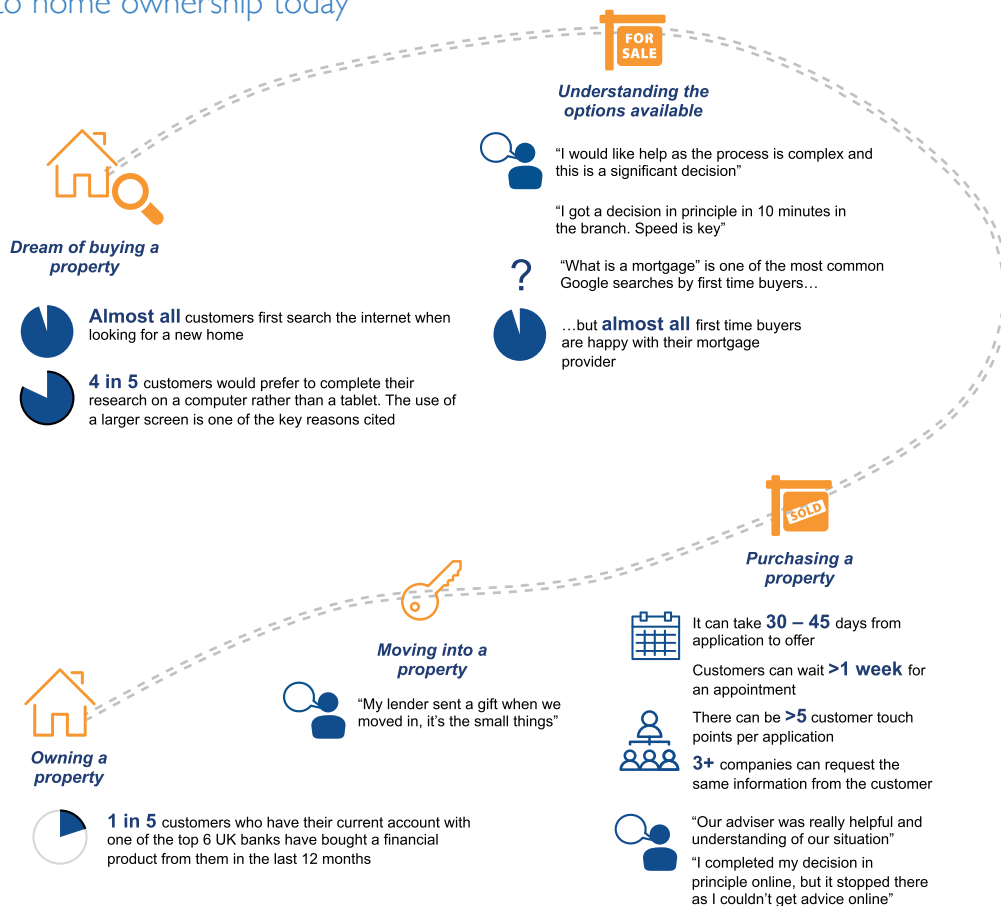
2.4. Digital Evolution: The Customer Experience

Customers see “a mortgage as a means to an end”. Their most important outcome is “to get the property I want in my preferred location.” This section, which is based on customer and company interviews, articulates customer perceptions of today’s mortgage experience, as well as key considerations for the future.

Today’s Customer Experience¹⁹

As part of their path to home ownership (see Figure 5), today’s customers find their mortgage experiences “relatively quick” and allow them to “do most things from home, including tracking the status of the application online”. However, some do find their experiences frustrating. For example, one re-mortgaging customer said “we currently have all our accounts and our current mortgage with our lender, but they still asked me for a copy of my bank statements, and I had to resubmit these to them four times.”

Figure 5:
The path to home ownership today



The Future Customer Experience

Looking to the future, customers want a variety of things from their mortgage process. One clear need is for a choice of interaction methods: two in five customers want to interact over a blend of physical and digital channels.²⁰ Figure 6 sets out some of the other most commonly cited customer needs.

Figure 6:
What customers want



For some customers, digital uptake will be gradual. 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. For others, uptake will be faster. For example, two in five customers already think robo advice will be faster and more convenient than human advice.²¹

Customer uptake for new digital capabilities also has the potential to grow at pace. Lenders have already seen how, when they provided online product transfers, customers were quick to realise how well digital could support them. Three in five customers say they would like to see their mortgage lender provide an app. And two in five would be willing to use an app to buy their mortgage.²²

Companies are responding to these needs. Figure 7 notes some of the key industry customer experience strategies.

Figure 7:
Customer strategy trends



However, specific strategies and investment priorities will vary from company to company. A frequent discussion point in our interviews for this paper was the need for companies to develop ‘user journeys’ for their identified customer segments. These user journeys would reflect the generic end-to-end experience of a subset of customers, and would continually evolve. Companies also cited the need for their supporting technical architecture to allow flexibility, enabling customers to transition across channels of interaction seamlessly.

2.5. Digital Evolution: Industry Providers

This section provides further context on the mortgage industry as we know it today. It describes the key digital changes identified through interviews held with companies across industry provider groups, from property search and sales to intermediaries and lenders, and conveyancing and valuation and surveying. It also offers an innovation case study from each group, and an overview of future investment trends.

Figure 8:
Industry provider groups



Property Search and Sales

Context

Many house sales still progress through traditional estate agents. But the industry has seen a gradual increase in online searches for buying, selling or renting properties. And the emergence of some providers who offer a blend of digital and human support. Today, 95 per cent of customers looking for a new home complete their initial searches on the internet,²³ where they have a large amount of data at their fingertips.

Property portals such as Zoopla and Rightmove support the customer throughout their journey, offering significantly more than a simple property search. Customers can easily get an understanding of commuting travel times, the nearest schools, local crime rates, population age groups and indicative monthly running costs. Support is also provided for property ISAs and peer-to-peer lending, with a view to helping customers save for a future property.

Spotlight on Innovation

Several companies are looking to make the rental market more transparent and simple. Movebubble is an app which lets prospective renters search for a property, view other users' feedback, book viewings and make offers with a clear view of rental costs. While currently focused only on the London market, the Movebubble app already has over 10,000 users per month.²⁴

Future Focus²⁵

There will be a greater use of data to further empower the customer. For example, providing a view of "personal and property risk as soon as possible in the process" to help customers make informed decisions, ideally before investing too much time and money. Customers will also gain more control of their data, aided by new regulations such as the General Data Protection Regulation (GDPR).

Property portals will continue to develop their capabilities. For example, ensuring customers still have the most appropriate insurance for their needs, providing contacts for home renovations and extensions, and supporting customers in reducing property running costs.

Intermediaries

Context

Over two-thirds of today's UK mortgage originations are completed by intermediaries. And in recent years, intermediaries have invested in their digital capabilities to support optimal customer journeys. Online customer applications have been developed, including bespoke product sourcing based on a customer's circumstances and lender eligibility.

Lenders have also invested in improving the ease with which intermediaries can interact with them. For example, they now provide much greater transparency of an application's progress. 70 per cent of lenders now offer an online intermediary dashboard summarising outstanding application stages and case requirements (up from just 38 per cent in 2016).

But further enhancements are required in intermediary-to-lender interactions. For example, eight out of ten intermediaries still need to call a lender between three and six times per case.²⁶

Spotlight on Innovation

The industry has seen the inception of new intermediary start-up companies such as *Habito* and *Trussle*, who are aiming to use digital technologies to make the customer home buying and owning journey as simple and as seamless as possible:

- They offer 24/7 customer access.
- Customers receive a view of product options that are tailored to them, sourced from across the market.
- Digital self-service capabilities let a customer get a lender-backed decision in principle in 7 to 10 minutes. And then submit a full application, with the option to speak with a human at any time via webchat or over the phone if desired or required.
- Post completion, daily market reviews flag better deals available to the customer, not just when their fixed term comes to an end.
- Technology has been developed to allow easy integration with third-party systems.

Established intermediaries recognise the potential that digital third parties provide. For example, the *Mortgage Advice Bureau* has invested in Sort Refer, an online conveyancing portal that aims to speed up the conveyancing process and improve the quality of outputs.

Future Focus²⁷

All intermediaries agreed they will continue to invest in digital changes to further improve customer experiences. And five of the seven interviewed said they will be putting a greater emphasis on customer retention by maintaining customer relationships after completion.

Intermediaries also said their ideal interaction with a lender would be the “path of least resistance”, where they “can obtain the best and quickest decision for their customer”. All the companies interviewed agreed that digital mortgage changes will have a positive impact on lender-to-intermediary interaction, and that they will be continuing to invest in digital changes over the next three years. The areas cited for investment include making the process easier, automating the exchange of data (enabled by technologies like application programming interfaces (APIs) and robotic process automation) and further improving transparency around case progression, information requests and decisions.

Lenders

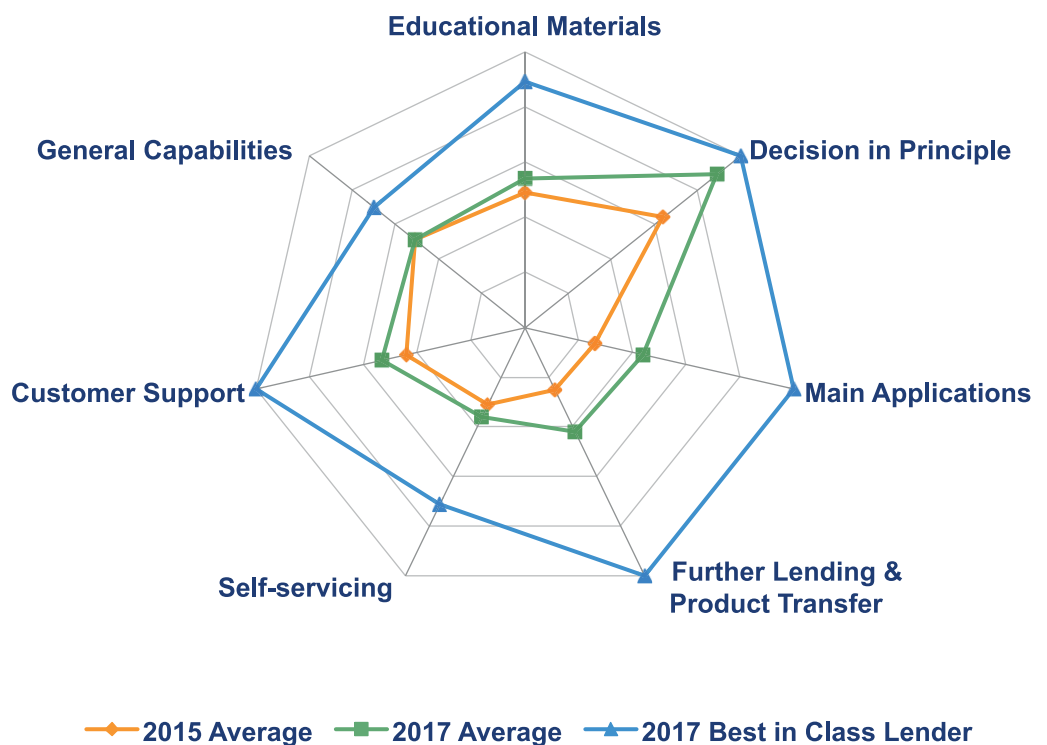
Context

Accenture's annual lender benchmarking survey assesses the maturity of lenders' digital customer-facing capabilities through seven lenses:

- Educational materials
- Decision in principle
- Main applications
- Further lending and product transfer
- Self-servicing
- Customer support
- General capabilities

Figure 9 shows how these capabilities have evolved over the past two years. While, on average, lenders have made limited enhancements to educational materials, self-servicing, customer support and general capabilities compared to 2015 levels, there has been notable investment in real-time decisions in principle. Indeed, this capability is now standard across direct-to-customer and intermediary journeys. Figure 9 also shows the best-in-class lender in 2017, demonstrating the future potential for the rest of the industry across all seven lenses.

Figure 9:
Accenture's digital customer-facing capabilities benchmarking 2015-2017



Lenders have introduced new channels of remote advice to bring together the best of branch and telephony, accepting that most customers still need to progress with the support of human advice. That said, lenders are enabling a certain segment of customers to complete online applications without receiving advice (this is known as execution only), while recognising this channel needs to be carefully monitored to ensure only suitable customers can proceed.

Changes have also been made to simplify back-office processes and improve intermediary interaction. Investment in intermediary portals continues, focused mainly on application and fulfilment. However, this year's Intermediary Mortgage Survey Report concluded that investment is still required to further enhance "functionality-rich portals that lack ease of use and an overall intuitive experience", calling for them to be "more user-friendly, clearer and simplified".²⁸

Spotlight on Innovation

Alongside the investment in online customer and intermediary journeys, new challenger lenders have entered the market, both in traditional and peer-to-peer lending.

Atom Bank, the first fully mobile mortgage lender opened for business in December 2016. Atom aims to provide the best customer outcomes through a fully self-served, transparent mortgage journey, accessed via a mobile app, with advice provided by impartial mortgage intermediaries. Atom has looked to digitalise as much of the end-to-end process as possible, with only limited manual intervention required. Atom can provide an offer in three hours, and has progressed an application to completion in nine working days.²⁹

Landbay, a peer-to-peer buy-to-let lending platform entered the market in 2013. By 2015 it was the fastest-growing peer-to-peer platform in the UK. Its business model matches investors' funds to buy-to-let mortgages, thus all loans are secured by residential property. The whole process is digitally enabled and supports a smooth and transparent customer experience.

Future Focus³⁰

All lenders interviewed agreed that they will continue to invest in digital changes to realise their customer experience strategies. And all agreed they are likely to invest in digital changes to their intermediary interactions over the next three years. In addition, all cited improved operational efficiency as a priority, with a view to either increasing capacity for greater lending volumes or reducing operational costs.

Lenders will increasingly use new technologies to enable their business strategies. Three in five see robo advice as an opportunity.³¹ All recognise the opportunities that Open Banking and application programming interface (API) developments provide, including the ability to access customer data (with their consent) in real time and thus speed up the decision process. However, a recurring theme in lender interviews was the need to ensure a seamless balance across both digital and physical interactions.³²

Conveyancers

Three-quarters of companies interviewed said that conveyancing is currently a largely manual process, and that there are opportunities for further digital changes.³³

A recent report by The Conveyancing Association cited several factors causing delays in the offer-to-completion phase: property chains, fraud and anti-money laundering checks, the provision of property information to conveyancers, leasehold sales processes, enquiries, local authority searches and mortgage instructions. The report also highlighted areas of opportunity. First, to improve transparency around the information available to and being shared with key stakeholders in a timely manner. Second, to address the current lack of certainty where there is no binding offer, changing move dates, and last-minute exchanges and completions.³⁴

Yet there have been improvements to conveyancing processes in recent years. The industry has seen an increase in the availability and uptake of online conveyancer portals. LMS, a provider of conveyancer panel management services, cited an increase in customer uptake from 55 per cent three years ago to 92 per cent in 2016 on their online portal.³⁵ Portals provide customers with greater convenience, ease and transparency. They are also supplemented with automated SMS/email notifications to advise customers on progress or where action is required.

Spotlight on Innovation

In April 2017, the first digital e-signature was used to exchange contracts for a residential property sale and purchase. Not only does this innovation speed up the process of buying and selling a home, it also reduces the threat of identity risk and fraud.³⁶

HM Land Registry is exploring how it can use blockchain technology to register properties. The organisation has recently committed to being “the world’s leading land registry for speed, simplicity and an open approach to data.” It will shortly live test a “digital street” which will “enable the ownership of property to be changed close to instantaneously [and] allow Land Registry to hold more granular data than is possible at present”.³⁷

Future Focus

Industry interviews for this paper revealed the work underway to continue addressing concerns around delays, transparency and certainty. In the short term, companies said that there will be an increased use of electronic offers and e-signatures. The electronic certificate of title (COT) will also be introduced. In the medium term, companies thought digital technologies would be used to help conveyancers obtain more data up front, allowing them to hit the ground running as soon as they receive a lender offer. In the longer term, technologies like blockchain can be used to speed up the property registration process.³⁸

Both the Conveyancing Association and HM Land Registry are committed to supporting the use of digital technologies to enable a smoother and less time-intensive conveyancing process.

Valuation and Surveying Providers

Context

Lenders and customers have different requirements from the completion of a valuation or survey. The lender wants to ensure they have the right level of security against the loan they are providing. The purchasing customer wants peace of mind, and will invariably request a physical valuation or full building survey.

The industry has seen an increased use of automated valuations (AVMs). Best-in-class lenders can automate almost all of their further lending cases, up to three-quarters of remortgage cases and up to a fifth of home purchases. AVMs enable the lender to obtain real-time property price information, and therefore make an instant decision on their lending risk. However, customers may still opt for a physical valuation or a full survey.

Spotlight on Innovation

Where a physical valuation or survey is required, the technology that links surveyors to lenders has been greatly improved. Surveyor tablet solutions, such as Landmark's Q-Mobile solution, drive quality by ensuring that all required information is captured by the surveyor. They also provide real-time data sharing to the lender once all data points and associated photos have been gathered.³⁹

Future Focus⁴⁰

AVMs are already commonplace for many lenders, and the companies interviewed for this paper noted that, as risk appetites and trust in AVMs increases, a greater volume of industry valuations will be completed automatically.

Industry interviews also identified that providers and lenders alike are considering the potential of desktop studies for a subset of drive-by valuations, whereby a fully qualified surveyor would review a property from the digital information available to them, rather than physically visiting the site.

Yet, the feedback from customers is clear. Particularly when moving properties, they are keen to obtain a full valuation to ensure they are making a sound investment.

2.6. Digital Evolution: Opportunities for the UK Mortgage Market

The key opportunities for digital change across the UK mortgage industry were discussed with all companies during the interviews conducted for this paper. The opportunities cited most frequently are summarised below.



Improve customer experiences and relationships

84 per cent of companies agree

Each customer is unique. And each should be able to get the best outcome for their needs, with minimal effort, at the pace that they choose and through a channel they prefer. To support this, companies cited using customer research to design user journeys associated with defined customer segmentations, as well as developing technology that provides the flexibility for customers to seamlessly transition between channels of interaction.

Quality of service and accurate decision making was cited as imperative, including early visibility on the lending decision and status of the property. Over half of companies interviewed thought that increasing transparency, and a more regular dialogue with customers, would help build and maintain customer relationships, ultimately aiding retention.



Put the customer in greater control

68 per cent of companies agree

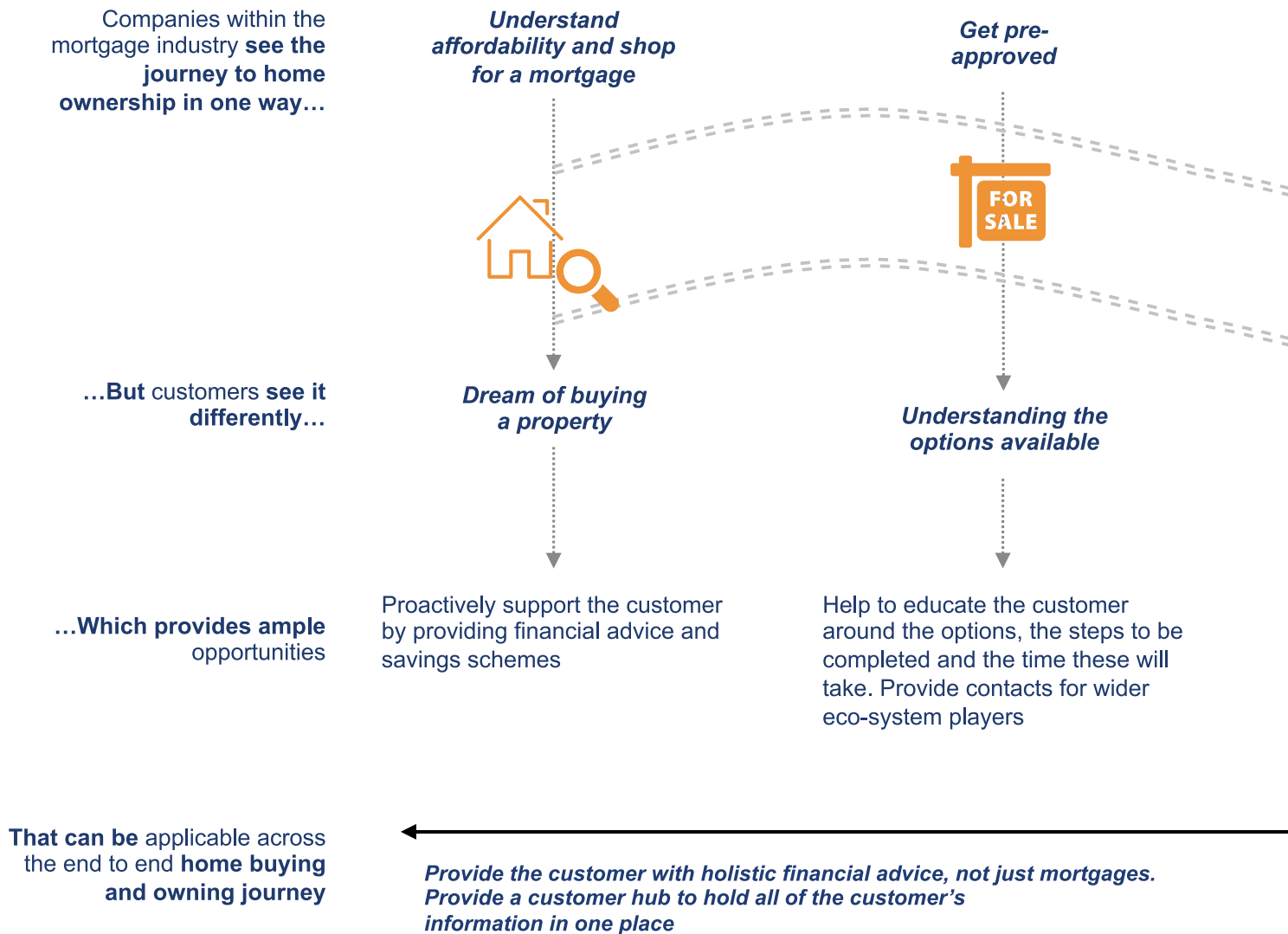
Companies noted that increased data availability, combined with digital capabilities, can help put the customer in control 24/7, and provide them with more information to make their decision. New regulations such as the General Data Protection Regulation (GDPR) and Open Banking will further reinforce this. A key investment trend is the ongoing increase in the volume of self-serve tools available.

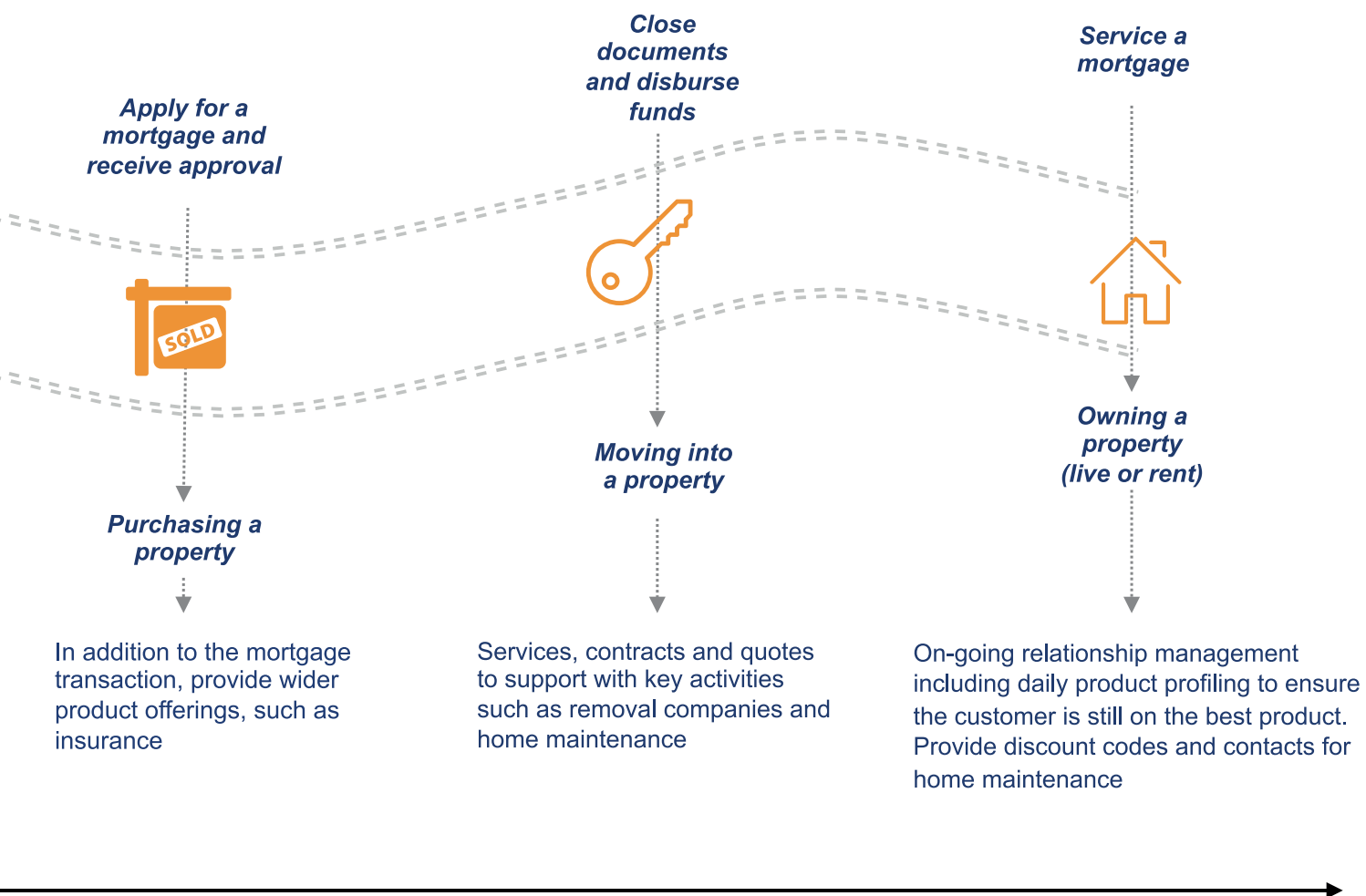
Almost half the interviewees saw an opportunity for the development of a customer hub, or personal finance management platform (PFM), which would combine all the customer's data in one place, and allow them to share that information with third parties.

A 'friction right' experience will ensure the right level of security without being too complex or time consuming.

In addition to the mortgage transaction itself, companies see opportunities to add further value to the customer throughout their wider journey. These opportunities are set out in Figure 10.

Figure 10:
Adding value to the wider customer journey







Improve operational capabilities

76 per cent of companies agree

Almost all companies interviewed strongly agreed that the customer experience can be further enhanced through a digitally enabled end-to-end home buying experience, where the front-end customer experience is supported by a digitally enabled back office.

Industry research completed for this paper has identified that there is still a large amount of manual activity across the mortgage industry today. Companies agreed that customer- and colleague-centric design can streamline processes. And that new technologies can automate standard, rules-based activities. The key benefits cited included reduced operational overhead, quicker and more consistent decision making and increased adviser capacity to focus on adding value for the customer or business, rather than completing simple administrative activities.

All companies agreed that digital mortgage changes will have a positive impact on lender-to-intermediary interactions, and that they will continue to invest.



Unlock the power of data

40 per cent of companies agree

Companies interviewed said that data can be used to enhance operational efficiency (for example, through real-time reporting), or to enhance customer and colleague experiences. Where applicable, established companies cited a need to connect disparate systems.

Open Banking and application programming interfaces (APIs) will help speed up internal and external data sharing. Externally, they will allow real-time data gathering, which, when combined with other technologies, can provide instant data analysis. This can allow pre-population of application information, or automated checks, such as customer affordability validation.

During the home buying and mortgage application process, companies also noted that data could be used for targeted marketing campaigns and to offer bespoke product offerings to the customer.

A third of companies also cited the value of data post completion, to help a customer manage their property and to ensure they remain on the best deal for their circumstances. In addition, data can be used to proactively assess when a customer may be getting into financial difficulty.

2.7. Digital Evolution: Challenges for the UK Mortgage Market

The key challenges inhibiting digital change across the UK mortgage industry were also discussed with all companies during the interviews conducted for this paper. The challenges cited most frequently are summarised below.



Legacy systems and thinking

76 per cent of companies agree

As was noted during one interview, the key challenge for established companies is “how do they make their vision a reality?”

Companies said that legacy technologies constrain agility and make it hard to innovate, leading established businesses to rely on incremental improvements. And, due to the complexities and size of legacy systems, well-established companies have a backlog of changes and incur significant costs to realise change and run their IT systems. While established lenders do have more capital for investment and/or acquisition, new challengers are less constrained, making it easier for them to make changes with agility and get to market quickly.

To overcome legacy challenges, companies can continue to make incremental improvements to legacy technology. Or they need to start again, outside of the legacy technology.

In addition to systems constraints, companies need to ensure that they have the right skills mix. They should also keep colleagues aware, or involved, in changes being made and provide them with training opportunities.



Regulation and compliance can inhibit the rate of change

44 per cent of companies agree

Significant regulatory change can impact lenders’ ability to innovate. Both because resources and budget need to be directed towards regulatory compliance, and because lenders are hesitant about investing in innovations which may be overtaken by regulatory change. Innovation is therefore easiest within a stable regulatory environment.

The FCA has made fostering innovation a priority. This is reflected in their investment in Project Innovate, the FCA sandbox, and the development of innovation policy and RegTech. In addition, the Bank of England has a FinTech Accelerator programme that works with firms to understand how new technologies can be applied to central banking.

The regulator will need to remain fully involved, and assist companies as digital technology adoption increases, to ensure positive customer outcomes. Companies felt the key topics for discussion with the regulator included:

- Data access and use,
- Cyber-security and fraud,
- How quickly customers can access funds,
- Ensuring that algorithm-based technologies are in line with risk appetite or refer as an exception,
- Conducting conveyancer interactions through increasingly digital means.



Greater collaboration externally

48 per cent of companies agree

Three-quarters of global industry executives agree that competitive advantage will not be determined by an organisation alone, but by the partners and ecosystems they choose.⁴¹

Some mortgage industry providers interviewed said that, to remain competitive and evolve in line with the pace of digital technology, they will likely need to collaborate with third parties to provide the latest technologies and services.

In addition, there is a recognition across the industry that, regardless of whether you are a well-established company or a new challenger, there are common pain points across the process that are inhibiting an end-to-end digital home buying and owning journey. Examples include the differing data requests and data formats shared, the conveyancer process and the lack of a central asset repository for customer information.

These challenges will only truly be overcome through a collaborative industry approach. Several companies said that adopting more of a “Silicon Valley” mentality will help to foster innovation.



Keeping pace with the rate of digital advancement

30 per cent of companies agree

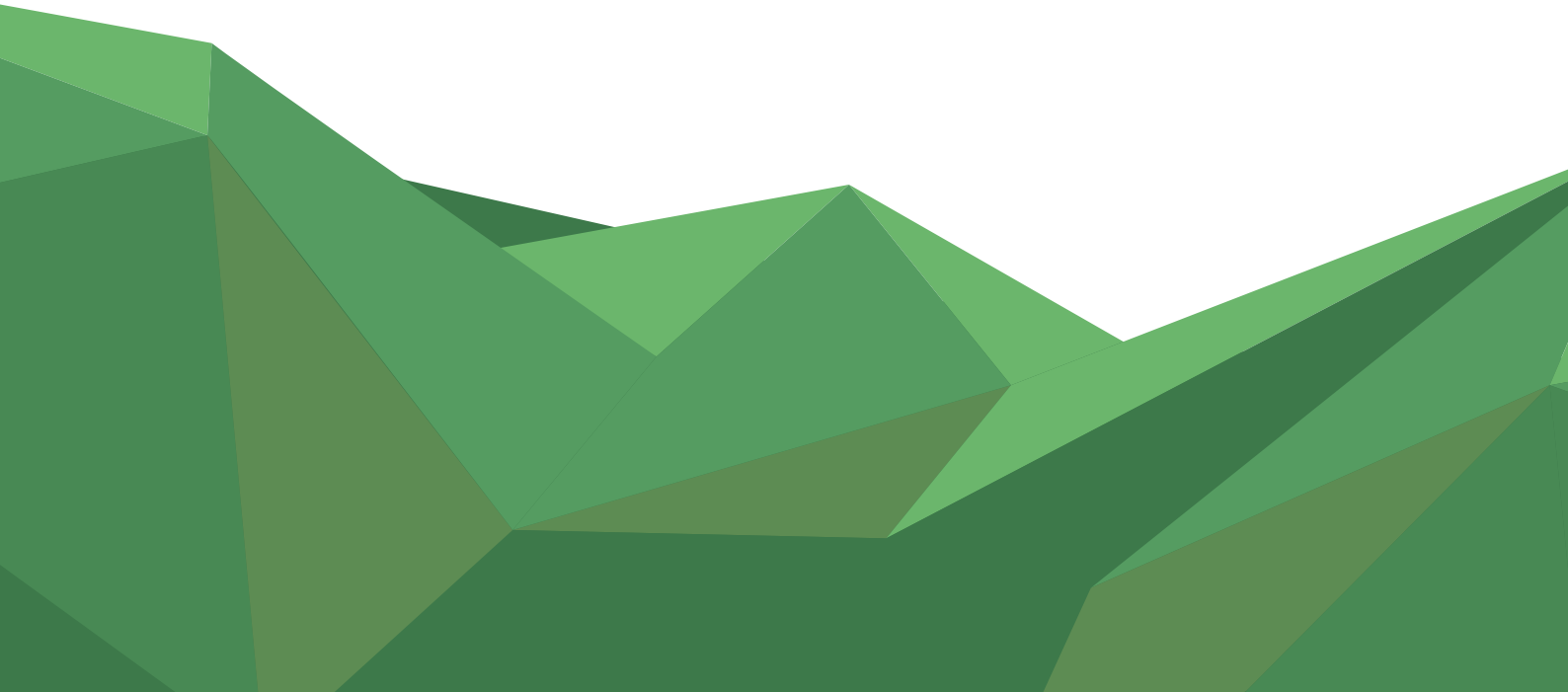
There is an acceptance across the industry that customer, and colleague, uptake for digital interventions will take time. Steps need to be taken to educate both groups on the benefits that digital can provide, even if human interaction is still required at some stage in each journey.

Gradually, however, so-called disruption will become the norm, which will set an expected level of service. At that point, inefficiencies will no longer be accepted.

The rate of digital advancement is faster than ever. Many strands are evolving in parallel, from mobile, cloud, big data, analytics, automation to smart machines.

Companies interviewed recognised that the world will not stand still. New technologies need to be used in conjunction with customer and colleague research to continue to evolve offerings and remain relevant and competitive. In addition, companies cited the need to ensure they were set up for future success by increasing their agility and speed to market when future technology changes occur.

Chapter 3: Enabling the Vision

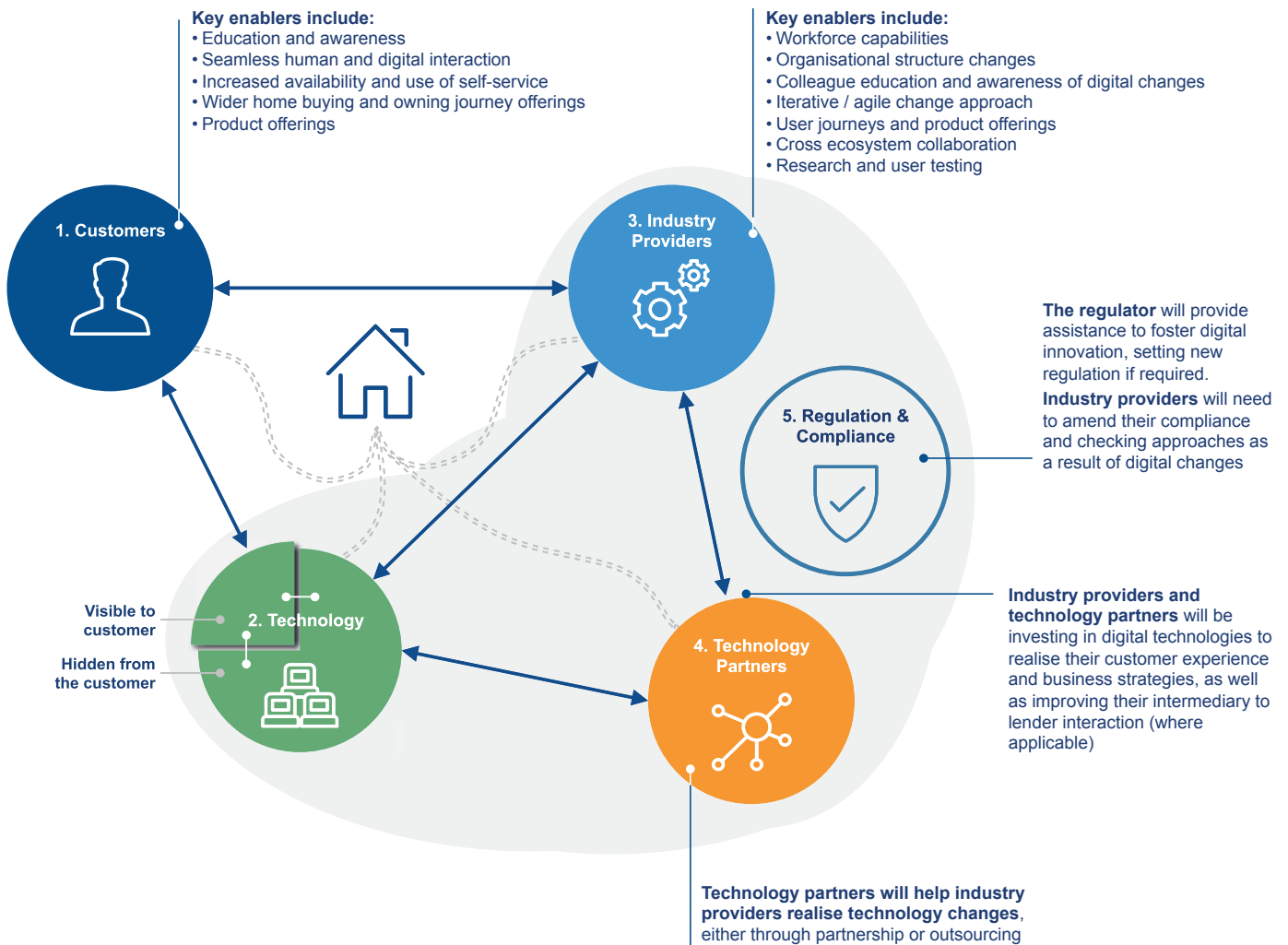


Enabling the Vision

3.1. Introduction

Across the industry, there is a recognition that customer experience and operational efficiency can be enhanced through a digitally enabled end-to-end home buying experience.⁴² There is a set of key enablers that are required to achieve this vision, to varying levels of maturity, and overcome its challenges (see Figure 11). The speed at which these enablers are considered and implemented will depend on the appetite for change across industry providers and technology partners. A fifth of companies interviewed have an aspiration to evolve their speed to market and become either a trailblazer (the first to deploy new products, services and technologies through the design of innovative and new experiences for colleagues and/or customers) or a leader (one of the first to deploy new market offerings).

Figure 11:
Key enablers of digital change



This chapter provides further context for companies on how they can achieve their aspirations:

- Support and improve customer uptake for digital capabilities;
- Proactively plan for large-scale digital change across the industry;
- Consider the approach to change; and
- The key supporting technologies.

3.2. Enabling the Vision: Supporting Customer Uptake

Customers will take varying amounts of time to embrace digital technologies. Indeed, some may never wish to use them. Whereas others may want to use them exclusively. The key enabler for companies is to understand what their customer segments want, to design journeys that will suit them, and to allow for flexibility across and between these journeys. Customers need to have a choice. And they need to be able to seamlessly transition, when they require or want to, between digital and human interactions.

This is particularly important for customers in financial difficulty. From our discussions with companies for this paper it was clear that providing multiple options for lender–customer interaction increases the chances of finding a method of interaction that best suits a customer and their circumstances. Companies also noted that, as data analysis continues to evolve, lenders will be able to more proactively manage customers before they get into financial difficulty.

A key consideration for customer uptake is their awareness and understanding of the digital tools available, and the benefits they could bring. This is not to say that every customer will always progress through a fully digital journey every time. But there will certainly be components that will give them a smoother and simpler journey. Indeed, some of these components may be fully hidden from view.

Understanding what the customer wants, and what drives their behaviour, is imperative to ensuring the success of future offerings. Key methods include:

- Undertaking customer research and surveys;
- Holding round tables and focus groups to discuss hot topics, gain a greater understanding of what is driving customer behaviour and what future opportunities may be;
- Testing prototypes with user groups (both customers and colleagues) to refine offerings prior to full scale roll out and ensure they meet the demands and needs of the end user;
- Utilising professional knowledge, such as speaking with industry experts and reading published points of view.

In summary, it is important that companies design their offerings to meet the changing needs of their customers, while also increasing customer awareness of the digital capabilities that are available to them. After all, customers “want to buy a home, a mortgage is a means to an end.”

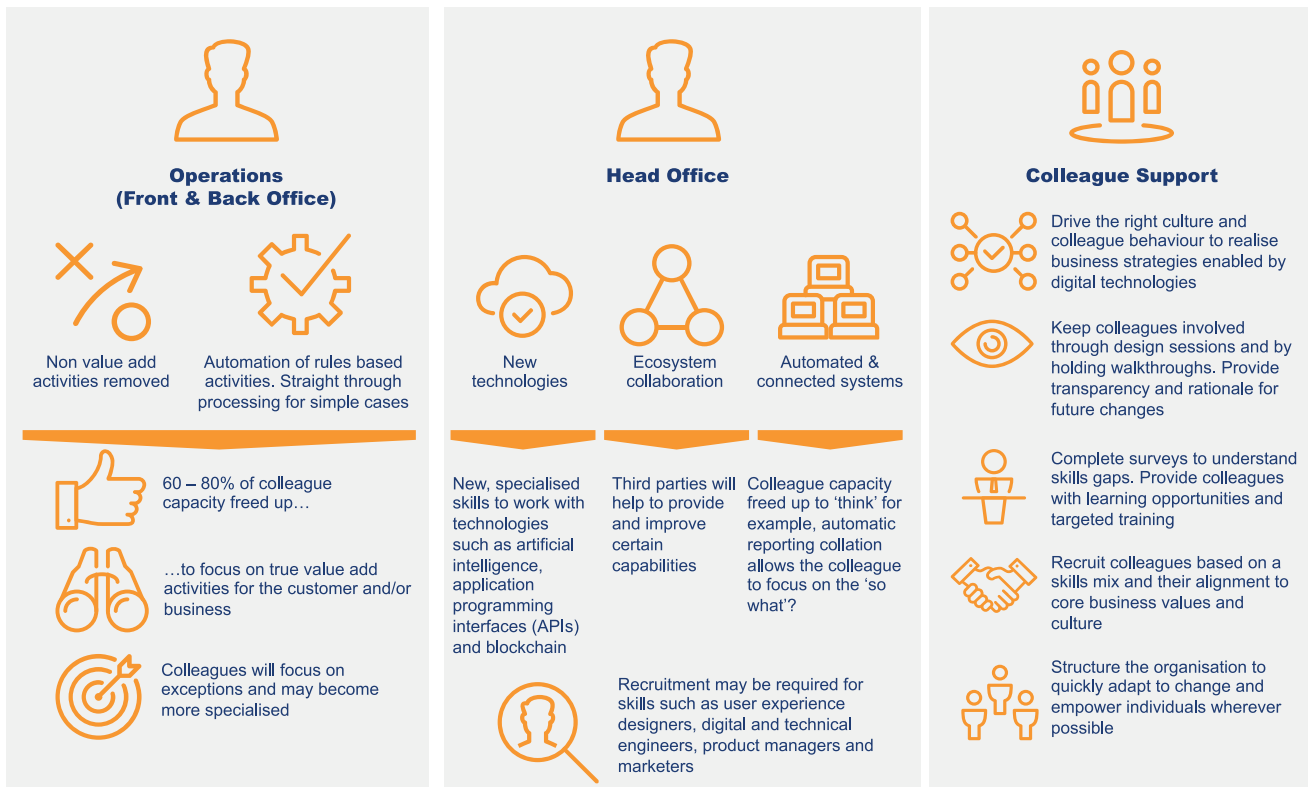
3.3. Enabling the Vision: Planning for Digital Change

Four-fifths of companies interviewed agreed that digital changes would result in a moderate amount of change to their business over the next three years. A key trend that emerged from our interviews was that digital changes won't happen overnight. Instead, it will be a gradual evolution. However, companies still need to be proactively planning to ensure their businesses are organised to achieve their strategies, and quickly adapt to wider industry changes.

Colleague Capabilities and Organisational Design

Almost three-quarters of companies interviewed thought digital change would require at least a moderate amount of adjustment to their organisational design and colleague capabilities. Figure 12 highlights the trends identified throughout these company interviews, including key benefits and action points for future consideration.

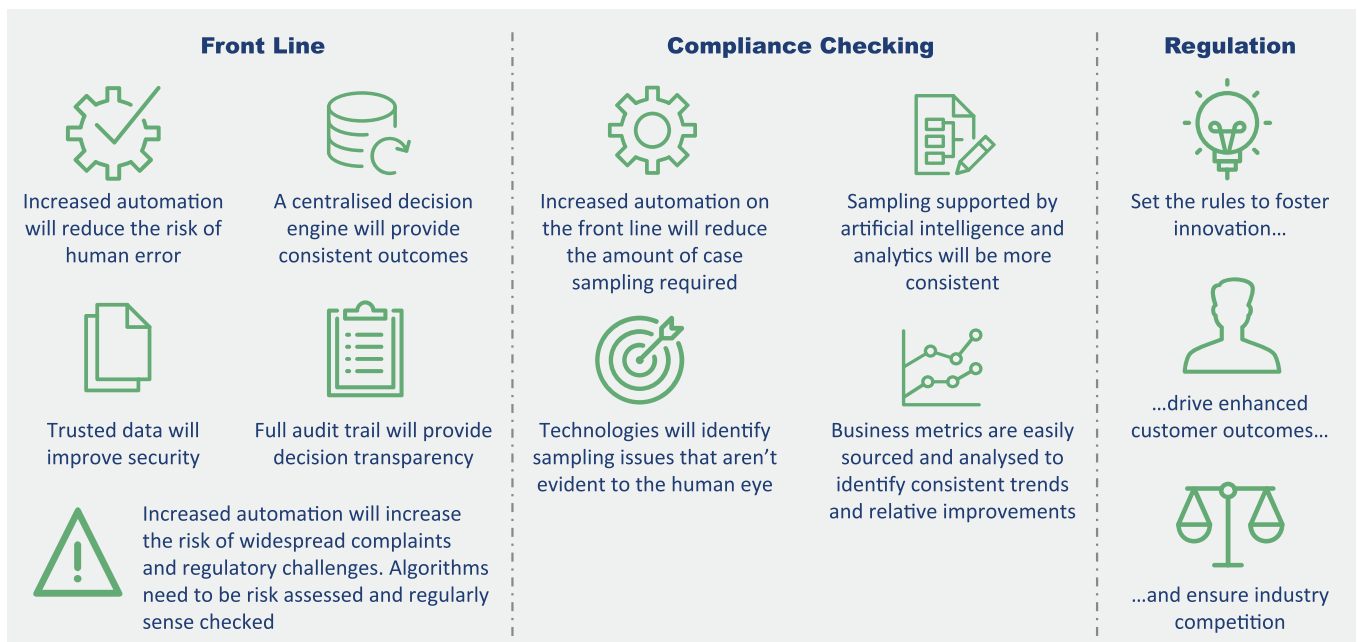
Figure 12:
Enabling your organisation



Regulation and Compliance Checking

All of the companies interviewed that undertake compliance checking today agreed that digital changes would result in an impact to their existing compliance checking approach. While the ‘what’ (such as risk appetite and compliance checks) will stay the same, the ‘how’ will change. The key impacts identified from our company interviews are summarised in Figure 13.

Figure 13:
Assuring your operation



Overcoming Legacy Challenges

Legacy technology is a key inhibitor to digital change. Technology partners are establishing new ways to help lenders and intermediaries overcome this challenge. Their help can range from supporting gradual improvements to existing legacy platform capabilities, to starting again outside the existing legacy system. The principal considerations cited by the technology partners interviewed for this paper include:

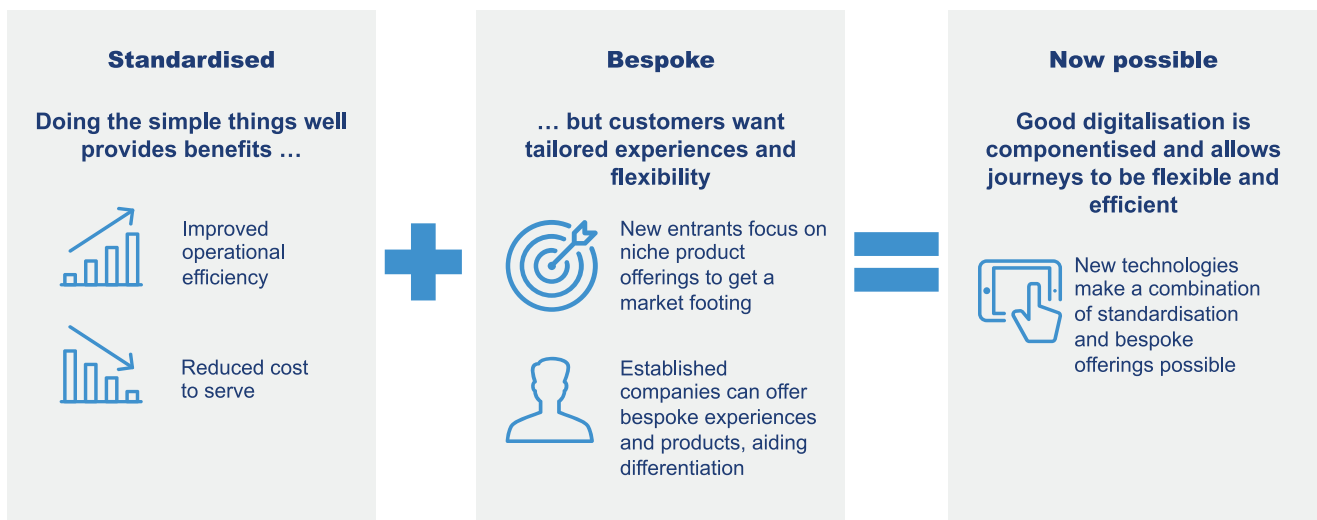
- The development of a ‘middleware’ layer (that is, something that connects new digital technologies to legacy systems) to improve digital agility.
- Utilising modular technology architecture, much like a series of jigsaw pieces, to allow companies to adapt with ease as new technologies enter the market.

- Developing a capability to share data securely, through application programming interfaces (APIs), both internally and with external third parties, to help speed up decisioning and support data sharing between intermediaries and lenders.
- Collaboration with third parties, including FinTech and PropTech providers, to improve or add to existing capabilities.
- Leveraging data to better inform company decisions and improve customer and colleague experiences.

Approach to Product Development

Companies interviewed for this paper were split as to whether they would prioritise standardised or bespoke products. However, a key trend that emerged in our discussions was the way new technologies, when applied correctly, can combine the efficiency of standardisation with the personalisation of bespoke offerings (see Figure 14).

Figure 14:
Companies' views on standardised versus bespoke offerings



Companies know that customers still want the best rate. A better deal can make a significant difference to their long-term financial situation. However, the companies interviewed for this paper felt that, in the short term, those who lead the way on providing differentiated customer service will be in the most competitive position for increased market share, across both direct-to-consumer and intermediary channels. And in the longer term, when improved service levels become the norm, they recognised a need to have a combination of price and service levels, and potentially provide more bespoke product offerings or risk-based pricing.

Monitoring Experiences

All companies interviewed said they will continue to use the same approaches for monitoring customer and intermediary experiences. For any changes being made, a business baseline should be articulated to enable companies to monitor the impacts.

However, when companies reconsider their ultimate end-to-end business vision and strategy, they may also wish to challenge existing key performance indicators (KPIs) to ensure they remain relevant to what the business is trying to achieve. For example, is it important to understand elapsed application-to-offer time? Or whether the offer was provided to the customer in line with their desires and expectations?



Methods to monitor customer satisfaction include: surveys and feedback, complaint trend analysis, net promoter score (NPS), industry reports, key performance indicators (KPIs), and app store ratings.



Methods to monitor intermediary satisfaction include: surveys and feedback, complaint trend analysis, industry reports and key performance indicators (KPIs).

3.4. Enabling the Vision: Approach to Change

Companies interviewed agreed it is important to ensure change is delivered with minimal impact on business as usual, particularly for 'in-flight' customers. That said, they also noted the importance of keeping customers and/or colleagues aware of changes being made, including relevant communications and marketing plans where appropriate.

Companies such as Amazon and Facebook update their digital capabilities multiple times a day. While recognising legacy constraints may impact speed to market, interviewees acknowledged that steps should be taken to improve their delivery speed and undertake change through iterative methods. A summary of the key approaches discussed is shown in Figure 15.

Figure 15:
Change considerations

	FROM...	TO..
Speed to market	Traditionally long	Small and fast , delivered incrementally / through agile methodology
Ultimate outcome	Defining the end state vision at the start	Recognising the end state vision will evolve as you learn more
Focus	Company centric , focused on cost reduction or profitability growth	Human centric , putting the end users and customers at the core of everything you do
Realising strategies	At times siloed , and potentially focused on individual team goals	Cross functional and collaborative teams working towards a combined goal
Delivery approach	Full scale delivery in one go , also known as a 'big bang' approach	Evolving end user value gradually , developing from a minimum viable product (MVP)
Company culture	Limit the risk of failure , given size and resources devoted to a long-term change project	Fail fast , getting early feedback from end users and customers for next iterations
Assurance	Test and fix technical changes in a controlled, internal environment	Test and learn in a ring-fenced but real, customer facing environment, refining before full scale out

As part of their approach to realising change, it is important for companies to understand the risks of unintended consequences and any subsequent mitigating actions. To help protect against these potential risks, interviewees cited the importance of detailed analysis to truly understand what customers want or need, and to understand the upstream and downstream, possibly even external, impacts of any potentially disruptive digital changes.

There is also a risk that, as digital innovation continues to push boundaries, it negates certain risks and creates new ones. Across global industries, 65 per cent of executives believe industry regulations have failed to keep pace with advances in technology.⁴³ As a result, regulatory bodies or the courts have been known to stop or challenge digital innovation that doesn't align with traditional market rules, preventing the customer getting what they want. For example, in the UK, Uber's classification of its drivers as self-employed was overruled by a landmark employment tribunal.⁴⁴

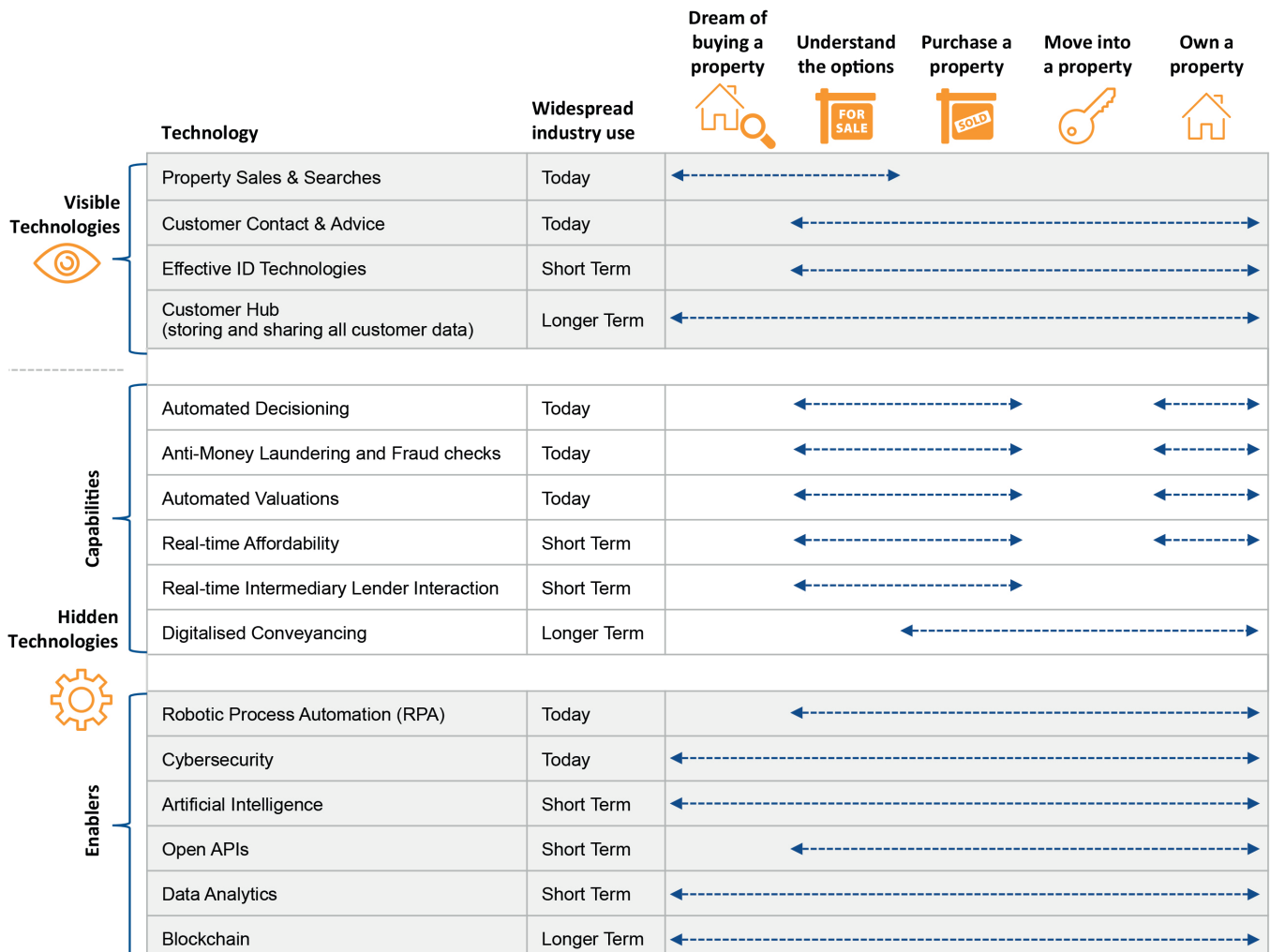
Industry trailblazers must seize opportunities to establish rules and standards for the use of innovative technologies, working closely with governing bodies, regulators and trade associations, to make digital change a reality.

3.5. Enabling the Vision: Mortgage Technologies

All companies interviewed for this paper said they will continue to invest in digital technologies to realise their customer strategies and optimise their operational efficiency. Figure 16 sets out the key technologies they cited, and shows how those technologies are used, or will be used, throughout the end-to-end home buying and owning journey.

Some digital capabilities can be ‘felt’ by the customer – they interact with them throughout their journeys. However, a large number are hidden from customer view. But, while they may not see the cogs physically turning, or might not choose to interact digitally, they will certainly reap the benefits of an easier, more transparent and faster experience. For example, Open Banking will let a lender access a customer’s bank account information in real time (once the customer has provided their consent) and verify their mortgage affordability instantly, rather than requesting they submit multiple physical documents, followed by manual assessment.

Figure 16:
Key technologies supporting the home buying and owning journey





Companies have made significant investments in digital technologies over recent years to improve the quality and tools available to customers. This has enhanced customer journeys, providing greater ease, simplicity and transparency.

As new technologies emerge, and as customer expectations continue to change, there will be ongoing investment to increase the amount of self-service activities a customer can complete, from initial property search through to ongoing management of their account. In the longer term, technologies will consolidate customer information in a central location. That will enable the customer to share their data with parties across the home buying and owning ecosystem.

Effective ID Technologies

More than 770 million biometric authentication applications will be downloaded each year by 2019, up from just 6 million in 2015⁴⁵

What is it? Using biometric technology for real-time customer identification, including fingerprint, voice and facial recognition or monitoring keyboard and touchscreen behaviour. It is important for businesses to know who is at the end of a digital device.

What will it replace? 35 per cent of customers drop out of digital onboarding processes when they can't confirm their ID.⁴⁶ Most customers will no longer need to provide multiple hard copies of documents to prove who they are.

Where has it been used?⁴⁷

- Facial recognition: matches a customer against their ID. Success rates range from 20 to 75 per cent. An example: Mastercard's 'selfie pay'.
- Voice biometrics: up to 90 per cent success rate. It can be passive (a user can say anything) or active (ask the user to recite specific words). An example: Nuance.

- Fingerprint recognition: used on mobile and tablet devices. Average response times vary from 0.8 to 1.6 seconds to unlock. An example: TouchID.
- Nymi Band uses a customer's heartbeat for identification.

How can it be applied to mortgages? Digital authentication can be used across all methods of interaction, either by a customer at home or supported by a colleague in branch

What are the benefits?



Customer Hub

What is it? A central repository for customer information. Data can be added at any time and shared instantly with third parties (intermediaries, conveyancers, insurers, lenders). It relies both on customer consent and on technologies such as open application programming interfaces (APIs) that enable instant data sharing.

What will it replace? Today, customers must manually share their information with separate companies across the mortgage ecosystem.

Where has it been used? MySmart captures all the customer's information in one place.

How can it be applied to mortgages? There are two use cases. First, to consolidate all of a customer's home buying and owning information in one place. Second, and in the longer term, to expand this data consolidation beyond mortgages into a Personal Finance Management (PFM) platform. This will allow the customer to hold all their information in one place and take it to providers to make instant decisions. Or reverse the market and allow lenders to bid for business, rather than the customer applying to the lender.

What are the benefits?



Customer Contact and Advice

What is it? The method by which a customer interacts throughout their home buying and owning journey. It includes both active interactions (to progress required actions) and passive interactions (to receive timely, intuitive and helpful updates). A customer should be provided with a choice of interaction methods, and receive transparency on the latest progress of any actions. Both digital and physical interactions should be as fast and seamless as possible, with digital channels available for self-service 24/7.

What will it replace? Greater transparency and expectation management will reduce the number of queries raised. That will, in turn, reduce the amount of time spent on mortgage-related activities by both customers and colleagues. A choice of interaction methods will allow the customer to select the best option for their needs, and move between channels throughout their journey. Currently, a customer can wait over a week for an available appointment and must interact at least five times in each mortgage application.

Where has it been used?

- Transparency: online portals are used by MINI to let a customer track the production of their new car. Customers also receive nudges and reminders to pick their car colour before it enters the relevant point on the production line.
- Robo advisers: these are extensively used within wealth management. An example: Fiver-a-day, who provide online investment advice as well as a platform for making investments.

How can it be applied to mortgages?

- Connected customer relationship management (CRM) can be used to provide transparency to the customer on current progress, to set expectations early, and guide them through slow moving aspects of their journey. The CRM can also be used as a portal for the customer to upload documentation.
- Online chatbots can help answer customer queries. If the customer doesn't get the answer they want, they can be passed through to a human agent.
- Video conferencing (remote advice) combines the best of branch and telephone channels, and is being used by major lenders. This increases mortgage adviser productivity, providing faster appointment times, and allows the customer to have a conversation from the comfort of their own home.
- Robo advisers are already being used by new entrant digital intermediaries. Capabilities will gradually evolve across lenders and traditional intermediaries. In the short term, robo advisers are likely to be used alongside human advisers. But as confidence and trust improves, a greater volume of customers will use them directly. Ultimately, robo mortgage advice can develop into more holistic financial advice for the customer.
- Prior to the widespread use of robo advisers, direct-to-lender self-service applications (known as execution only) volumes may grow as customers choose to transact online. However, lenders still need to carefully monitor this channel to ensure that only suitable customers can proceed.

What are the benefits?





Hidden Technologies – Capabilities

As noted throughout this paper, companies have already streamlined their operational processes. Looking ahead, investments in digital and automated capabilities will continue to increase the number of customer applications and requests that can be supported by digital technologies, and enable new services to be offered. Lenders are looking to a combination of technologies to enable straight-through digital processing capability for simple applications. These are:

- Automated valuations
- Automated anti-money laundering (AML) and fraud checks
- Automated decisioning (further detail below)
- Real-time affordability (further detail below)
- Automated offer generation and distribution (with digitalised acceptance)

This capability will allow operational colleagues to focus on managing complex cases and exceptions. That said, the scope of automation will need to align with company risk appetites and must ensure regulatory compliance.

In addition, digital interactions with third parties, such as conveyancers and intermediaries, will continue to be improved.

Automated Decisioning

What is it? A rule-based decision engine to speed up decisioning and provide greater consistency. It will provide an ‘accept’, ‘reject’ or ‘refer’ decision, and can be tailored to meet specific lending criteria. Several lenders are already using this capability.

What will it replace? A significant amount of underwriter time to review applications and make a decision based on lending criteria. Simple decisions, either ‘accept’ or ‘reject’ will be automatically provided, increasing underwriter capacity to focus on exceptions or referrals to ensure the customer receives the best outcome.

Where has it been used? Progress, a rule-based software company, automates applications and decisions in healthcare. It improves customer outcomes, including the accuracy of patient diagnosis and personalised patient plans. It also improves operational efficiencies and can reduce business rule development and deployment cycles by as much as 90 per cent.

How can it be applied to mortgages? Best-in-class lenders already automate 85 per cent of their decisions.

What are the benefits?



Real-time Affordability

What is it? With their consent, customers' financial information can be automatically sourced and a trend analysis completed instantly. It allows a lender to see if a customer is able to afford the loan value and monthly repayments they are requesting. This is enabled by the Open Banking regulation and application programming interfaces (APIs).

What will it replace? Significant manual sourcing and reviewing of documentation, taking up a great deal of colleague time (the outcome of which is scrutinised by compliance teams) and driving large operational costs. Over a third of application-to-offer delays are caused by waiting for customer documentation.

Where has it been used? Byblos Bank offers quick car loans with "one touch, one swipe and two taps". Yodlee provides an account consolidation view.

How can it be applied to mortgages? To make instant, informed assessments of customer affordability. Taken one step further, it can be used to develop individual risk-based pricing, as the lender will be able to see historic income and spending trends, and use analytics to understand future scenarios for customers with a similar history.

What are the benefits?





Hidden Technologies – Enablers

Digital technologies are advancing faster than ever, enabled by an improvement in cognitive computing capabilities. With this rapid evolution comes greater maturity and trust in digital. While the technologies outlined below aren't mortgage capabilities in their own right, they can be applied to enable greater levels of automation, transparency, self-service and security.

Artificial Intelligence (AI)

Everything invented in the past 150 years will be reinvented using AI within the next 15 years⁴⁸

What is it? AI has been around for many years, but is now coming of age. It is evolving and is taking on more sophisticated roles. Companies appreciate the potential of 'smart' machines to provide greater efficiency and support customer and colleague journeys. AI is a collection of technologies that create a computer-powered mind, one that can think like a human. It is a computer that can sense, comprehend, act and learn, either on its own or to augment human activities.

What will it replace? AI will either complete activities instead of a human, or augment them. It will improve efficiency, consistency and speed.

Where has it been used? Apple's Siri and Facebook's Friend Recommendations. In the insurance industry, AI is being used to process simple claims, freeing up agent time to concentrate on a subset of claims where human expertise is needed.

How can it be applied to mortgages? Throughout the mortgage process to support and advise the customer. Digital mortgage advisers are already being used by online intermediaries Habito and Trussle. And chatbots can be used to support self-service customer activity. From a business perspective, AI chatbots can also be used to support colleagues. For example, if they have a lending or compliance query. In addition, AI can be used to spot fraudulent activity, flagging a case for a colleague to investigate.

What are the benefits?



Robotic Process Automation (RPA)

RPA has resulted in a 30 to 70 per cent reduction in transaction times and accuracy improvements of between 70 and 90 per cent⁴⁹

What is it? RPA uses technology to replicate highly repetitive, standard, rule-based activities. The technology will interact with, and between, legacy systems in the same way a human does today. It can therefore be used without a complex system integration. Intelligent automation is a further development of RPA that uses cognitive computing to go beyond simple, mechanical automation to new levels of judgment-based automation, enabling greater productivity and accuracy.

What will it replace? Process steps that are currently manual, but standard or rule-based. RPA can provide rapid cost reduction and free up adviser capacity to focus more of their time on valuable customer discussions. Back-office colleague capacity will be freed up to focus on more complex activities.

Where has it been used? Within the UK insurance industry, where organisations can see a payback on their RPA investments in as little as three to six months.

How can it be applied to mortgages? Across the mortgage ecosystem, to automate any standard, rule-based activities. Examples include rekeying information between different systems, sending correspondence to customers and supporting business reporting and intelligence activities.

What are the benefits?



Cyber-security

Almost half of UK firms, and seven in ten large companies, were hit by a cyber breach or attack in the last year⁵⁰

What is it? Cyber threats today take many forms and can happen at any time. Companies must embrace a holistic approach where security is an integral part of their business model. That includes risk management and the development of digital trust on an ongoing basis, both internally and with third parties. Digital technologies can be used to support the prediction, detection, response to and remediation of digital attacks. Security professionals should work in tandem with all other areas of the business to embrace a digital security culture and establish sustainable trust.

What will it replace? It will not replace, but further enhance existing security as more data is recorded digitally and cyber threats become more sophisticated.

Where has it been used? The UK government is investing up to £20 million in its Cyber Schools Programme to help 14 to 18 year olds develop key skills to help defend the nation's businesses against online threats.⁵¹

How can it be applied to mortgages? While lender and intermediary systems, and their interactions with third parties such as conveyancers, are set up to make it hard for fraudsters to intercept monetary transactions, there is a security risk associated with a customer sending their deposit money directly through to a conveyancer.

What are the benefits?



Application Programming Interface (API)

90 per cent of companies either have an API strategy in place or will do so by the end of the year⁵²

What is it? An API is a technology that allows two systems to connect and interact. An API is essentially a messenger. It receives a request for information from system A and then takes this request to system B. System B then provides a response, and the API takes the response back to system A. A useful analogy is a waiter in a restaurant. A customer places their order with a waiter, who then takes this order to the kitchen. When the food is ready, the waiter returns it to the customer's table.

What will it replace? Not so much replace, but enable. APIs enable the instant sharing of information. The Open Banking regulation will increase the availability of open and secure APIs in the UK banking industry.

Where has it been used? Expedia allows its partners to access travel booking services through an API, a new revenue stream that contributes \$2 billion to annual revenues.⁵³ Intuit, a company that owns Quickbooks (an accounting program for small businesses) and TurboTax (a consumer tax preparation application), allows customers to 'opt in' to a service that sources customer information directly from their bank account through APIs.

How can it be applied to mortgages? To make the customer journey smoother by eradicating and automating steps. Examples include pre-populating a mortgage application, completing real-time affordability assessments, and sharing data between intermediary and lender systems.

What are the benefits?



Blockchain

Nine in ten banks in the US and Europe will be exploring blockchain for payments in 2017

What is it? Blockchain is a technology that allows a transparent, trusted and digital record of an asset, without the need for a trusted third party. When a change is made to the asset, a new record is added to the blockchain, creating another entry on a sophisticated and visible audit trail for all independent parties to see. The original blockchain was the cryptocurrency Bitcoin. The technology has since evolved and use cases are now appearing across numerous industries globally, with investment continuing.

What will it replace? Manual processes required to transfer information and funds securely between multiple third parties.

Where has it been used? Everledger uses blockchain technology to track a diamond's cut and quality and ensure it has been sourced reputably. Blockchain is also used to track coffee beans from field to cup, guaranteeing quality and ensuring farmers get a fair price.

How can it be applied to mortgages? HM Land Registry is exploring how blockchain technology can be used to register properties and change ownership almost instantaneously.

In addition, it can be used to provide transparency and audit trails of customer decisions and advice provided across multiple product lifecycles and to support mortgage securitisation activity.

What are the benefits?



Data Analytics

The world's most valuable resource is no longer oil, but data⁵⁴

What is it? Unlocking the power of the data that companies hold. Consolidating multiple data sources in real time and analysing data outcomes will provide insightful trends for future actions to improve customer experience, tailor customer offerings and optimise business performance. Visual analytics is a technology that presents interactive graphical representations of data analytics to gain insights into complex business areas.

What will it replace? Across a large portion of the industry today, data is not used to its full potential. Legacy architecture makes it challenging for businesses to combine their data into centralised outcomes.

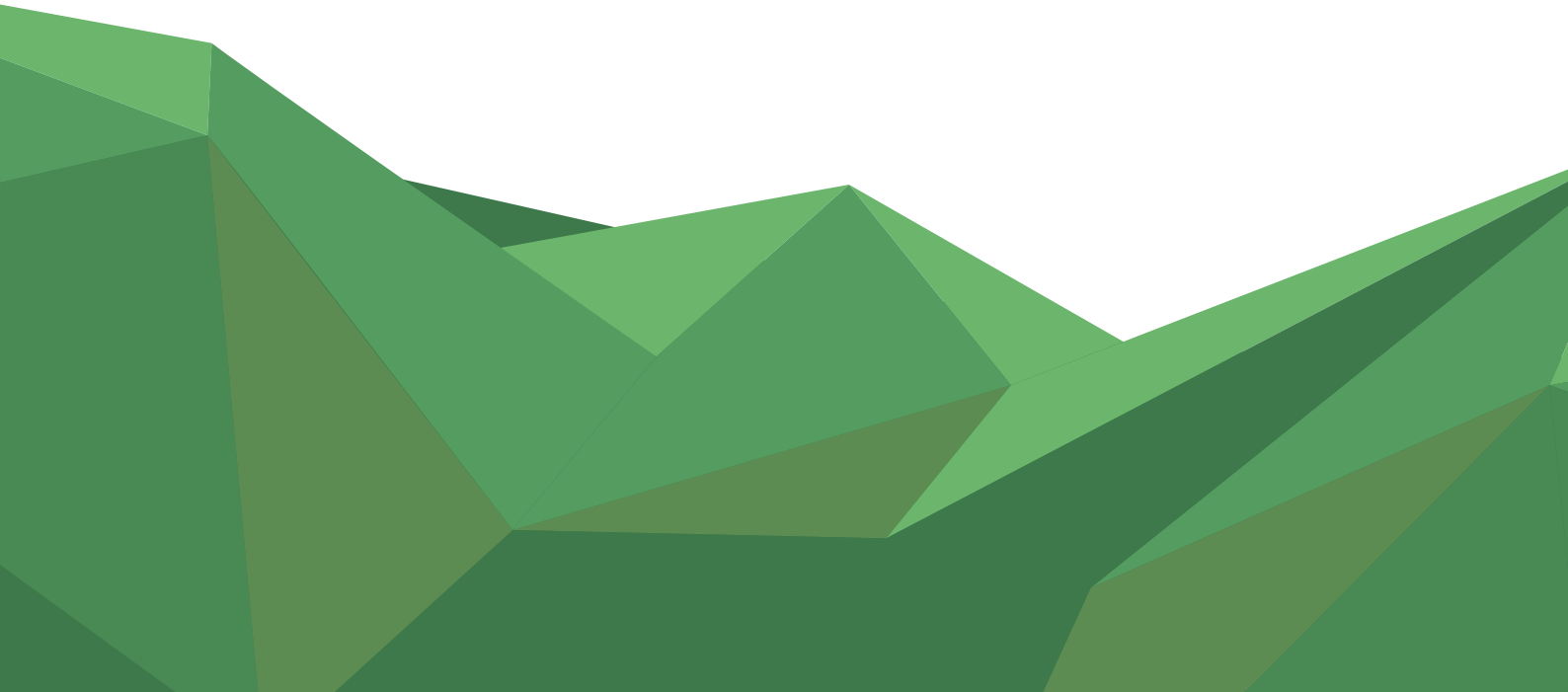
Where has it been used? Across all industries, globally. Airline and leisure industries optimise value return and tailor customer proposition offerings. And Amazon uses predictive analytics to facilitate recommendations or personalisation of a customer's buying experience.

How can it be applied to mortgages? Data analytics, combined with cognitive computing, provides significant opportunities across the home buying and owning ecosystem. Examples include targeted marketing campaigns, faster and smarter judgement on returns, operational metrics to target areas for future investment, early identification of customers who may be getting into financial difficulty and providing daily market and personal circumstance analysis to understand if a customer could be eligible for a better product. A longer-term use case exists around risk-based pricing based on customer profiling.

What are the benefits?



Chapter 4: Findings and Recommendations



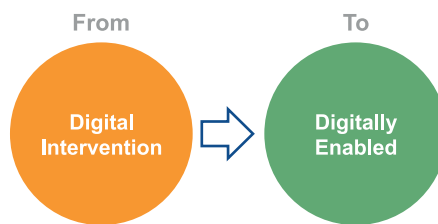
Findings and Recommendations

4.1. Key Findings

Digital changes across the UK mortgage market are happening gradually and incrementally. The industry will continue to focus investment on further enhancing customer experiences and operational efficiency. Over the short to medium term, companies will change their business models as they strive to remain relevant to changing customer demands and ensure competitiveness. Trade associations and the regulator are supportive of companies using advances in digital technologies to further enhance the industry, so long as customer outcomes are not compromised.

Digital Change

Companies will continue to improve customer interaction through visible technologies such as enhanced property sales and search capabilities, customer contact and advice, and effective identification technologies. They will also use a customer hub or online portal to enable a customer to store all their information, track progress and interact with the mortgage provider.



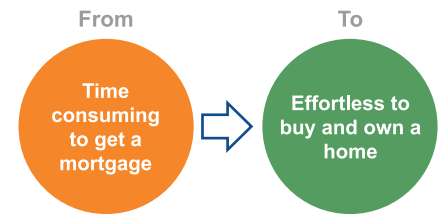
Companies will continue to enhance their operational systems to optimise business capabilities. Examples include an increased volume of cases passing through automated decision models, automatic anti-money laundering (AML) and fraud checks, automated valuations and real-time affordability. Lenders and intermediaries will continue to invest in their data-sharing capabilities.⁵⁵

Industry providers and technology partners recognise that there is a core set of digital technologies to enable their customer-facing and operational visions. These are artificial intelligence, robotic process automation, cyber-security, open application programming interfaces (APIs), data analytics and, looking at the longer term, blockchain.

Given the pace at which digital advances are occurring, companies recognise that they need to address their legacy technology challenges. Either by incrementally improving their current technology, or starting again with a modular, componentised architecture. Without investment, a lack of agility and slow pace of change risk becoming ever-increasing inhibitors to established companies capturing and maintaining market share.

Customers

Over half of companies interviewed viewed the perfect customer journey as one in which the customer is provided with a choice of interaction methods, supported by a comprehensive omni-channel capability, which allows them to progress at their own pace and feel in control. A third of interviewees also said that, to ensure the best experience, customers want regular and timely updates, and an ability to track and manage their mortgages online.

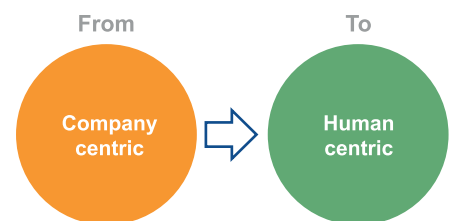


Technology partners also highlighted that, with customer consent, companies will soon be able to access their data digitally and instantly, either from internal sources or from external third parties. This will reduce the amount of effort required from the customer to provide significant amounts of paperwork. In addition, central decision engines will be further used by lenders to provide consistent and faster decisions.

Companies will need to ensure customers are aware of the benefits of a digitally enabled journey. But they must also provide assurance that this method of interaction is secure. Customer feedback suggested they want “a greater education around security, particularly when sharing my data online or through my mobile”.

Industry Providers

Changes to customer experiences beyond mortgages are shifting borrower demands. Industry providers are therefore focusing their strategies on human-centric design, ensuring the best experience for both customers and colleagues. Companies are using research and a deeper understanding of human behaviour to inform and refine their offerings.



Companies recognise the value that new technologies can bring and will continue to invest in digital capabilities, including automation, to improve operational efficiency and provide additional capacity for colleagues to spend more time focused on adding value to the customer or to the business.

Companies in the industry are moving towards the same ultimate goals, but each is starting from a different point in the journey, and each has a different audience. They also recognise that their roadmaps will evolve as they learn more, and as changes continue to occur in the wider environment.

Regulation and Compliance

The regulator wants to ensure customer outcomes, foster innovation and promote market competition. The FCA is encouraging companies to seek assistance to help deliver digital changes in a way that ensures positive customer outcomes.



The Bank of England is also supporting digital innovation. It has set up a FinTech Accelerator programme that works with firms to understand how new technologies can be applied to central banking.

Companies think digital changes will have a moderate impact on compliance checking over the next three years. While risk appetites and the nature of fundamental checks are unlikely to alter, there will be changes to how compliance checking is done, as well as enhancements to front-line and back-office approaches.⁵⁶ In addition, there is a risk that as digital innovation continues to push boundaries, it negates certain risks and creates others. Hence, it is important for companies to work with the regulator to understand where existing rules should be changed, or new ones added.

4.2. Recommendations

The recommendations below highlight actionable items for companies across the mortgage industry to consider as they look to digital changes to improve customer experiences and further enhance operational efficiency.



Tailor digital change to achieve individual business strategies

- View digital change as an enabler of your business strategies, not as an end in itself. Note the high-level consistent themes seen across customer experience strategies in the industry.
- However, recognise that you may do things differently. Companies acknowledged they would develop journeys based on their own customer segments, and change their businesses in line with their own strategies, constraints and interpretation of regulations.
- Consider the application of digital changes beyond the mortgage transaction itself. Some companies are exploring the possibility of expanding their offerings into the wider end-to-end home buying and owning journey, adopting new revenue streams.



Ensure the customer is central to your thinking

- Continue to improve customer experiences. Customer satisfaction was cited as a clear priority for the intermediaries and lenders interviewed for this paper. A majority of companies also agreed that a digitally enabled end-to-end home buying experience will improve customer experiences.
- Offer customers a mix of digital and human interactions. And make their experiences as simple and as effortless as possible.
- Keep abreast of changes beyond the mortgage industry and understand how they might impact customer expectations within it. All companies interviewed recognised that changing customer experiences beyond mortgages will alter how expectations need to be met within the mortgage industry.



Overcome legacy challenges to change your technology at pace, and adapt your organisation quickly

- Recognise how legacy technologies, thinking and cultures might be holding your organisation back. Three-quarters of companies interviewed cited legacy challenges as one of the key inhibitors of the adoption of digital change.
- Consider completing a colleague skills survey to identify potential knowledge gaps against new digital technologies and organisational changes.
- Become an agile business. As digital technologies advance more quickly than ever in the world beyond mortgages, speed to market is becoming ever more important.



Use digital to improve operational efficiency

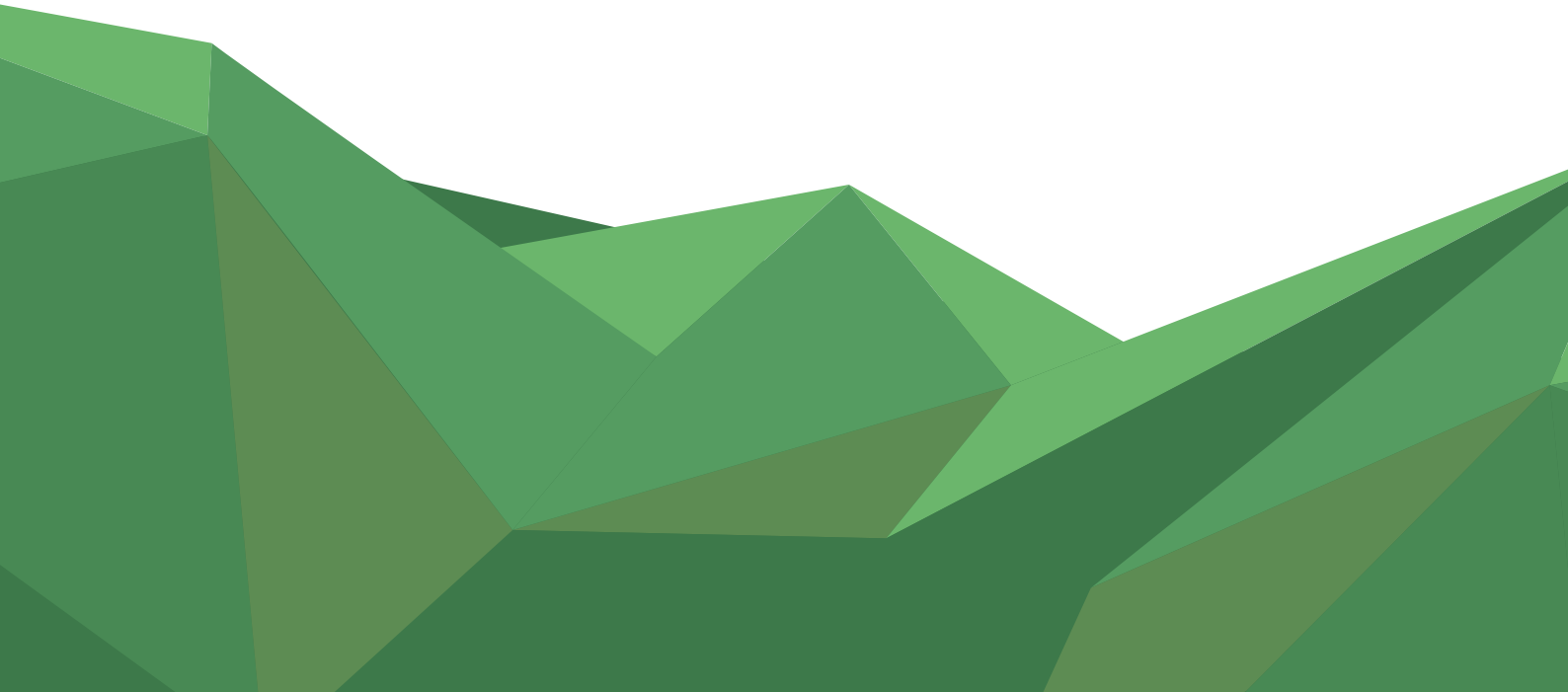
- Continue to improve operational efficiency. Use that efficiency to improve customer experiences, reduce costs and/or increase capacity. This was cited as a priority for all companies interviewed.
- Use new technologies, such as automation and cognitive computing, to free colleagues to add greater value to the customer or to the business. Be prepared to adapt organisational structures, colleague capabilities and compliance approaches as a result of digital change.
- Keep in mind regulator and risk appetites. Having confidence in digital tools, and having trust in data obtained from or provided by internal teams and external parties, is critical.



Collaborate to keep pace

- Understand what your company is good at, and recognise where you might need help from specialists.
- Seek opportunities to work with third parties who can complement or enhance your existing capabilities or add new ones. Half of the companies interviewed highlighted collaboration as an important means of overcoming industry-wide challenges.
- Form a working group to bring together trade associations, regulators and governing bodies to discuss and overcome industry challenges. In other geographies, industry or government bodies have intervened to accelerate the pace of change.

Chapter 5: Appendix



Appendix

5.1. Aims and Objectives

The aim of this study was to improve understanding of the opportunities for digital change throughout the mortgage industry. It also sets out to explain the key trends and considerations for companies looking to invest in digital change, or to improve their customer experiences. The paper’s key findings and recommendations have been summarised as key takeaways for companies involved in the mortgage industry.

5.2. Research Methods

This paper is based on research into the UK and global mortgage markets, as well as wider consumer markets. The following methods were employed:

Interviews with key UK industry providers and partners

Interviews were held with 28 participating companies from across the mortgage ecosystem. They kindly provided their insights and opinions on how digital change has impacted mortgage borrowers to date, and their thoughts on future digital changes, opportunities and challenges.

We wish to thank all of the participating companies who between them represent a significant proportion of the market within their areas of expertise across lenders, intermediaries, conveyancing, valuation and surveying, property searching, technology partners and trade associations:

Lenders	Intermediaries	Wider Mortgage Ecosystem Providers and Partners
Atom Bank	Countrywide	Accenture
Bank of Ireland	Habito	Capita
HSBC	Intrinsic	Computershare
Landbay	Legal & General	Council of Mortgage Lenders (CML)
Lloyds Banking Group	London & Country	Experian
Leeds Building Society	Mortgage Advice Bureau	Hometrack
Royal Bank of Scotland	Trussle	Intermediary Mortgage Lenders Association (IMLA)
UK Asset Resolution		IRESS
Yorkshire Building Society		Landmark Valuation Services
		LMS Conveyancing
		Unisys
		Zoopla

Interviews were also held with Accenture's global mortgage practitioners to understand what market conditions and digital innovations are being seen around the world: United Kingdom and Ireland, United States, Canada, Australia, New Zealand, Asia, Latin America, India, France and wider Europe.

Interviews with customers

Interviews were conducted with a selection of mortgage customers, and prospective customers, to understand their most important needs in obtaining a mortgage and buying a home. These interviews were supported with research insights from Accenture's 2016 Mortgages Consumer Survey and 2017 Global Consumer Banking Study.

Data Analysis

In addition to the interviews held, further insights were gained from Accenture's research teams and industry points of view published on future digital changes and the impact across the mortgage market and wider global consumer markets. Further desktop data analysis complemented the industry trends obtained from interviews, with references quoted accordingly.

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The Council of Mortgage Lenders

The Council of Mortgage Lenders (CML) is the trade association representing the mortgage industry. Its members comprise banks, building societies, insurance companies and other specialist residential mortgage lenders, which together represent around 98% of the UK mortgage assets.

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