An exploratory study into the modernisation and updating of the mortgage process using technology and its implications for customers based on the lender's perspective.

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Abstract

The mortgage lending process is widely regarded as an incredibly complicated and confusing process within the financial services industry. In an industry experiencing new and exciting waves of innovation, customers expect and demand a more efficient home buying journey, yet the mortgage process remains outdated and frustrating to many. Technology has made a breakthrough within the mortgage industry, but how it can be better used to enhance the customer experience remains subject to much debate. This is an exploratory study into the modernisation and updating of the mortgage process using technology and its implications for the customer experience based on the lender's perspective. The research seeks to understand how technology impacts the customer experience during the mortgage process from the perspective of mortgage lenders. The author has selected a mono-method approach and used a qualitative research approach in the form of semi-structured interviews which were conducted online using Zoom and Otter.AI. A non-probability sampling method was used, and six participants were identified. A thematic analysis was the approach used to analyze the data which was obtained from the interviews and used to identify key themes which were analyzed and discussed further. The major findings from the research center around the need to better educate mortgage customers to improve the customer's experience. The author has also identified challenges relating to the customer experience due to regulatory constraints and legal processes that have become outdated and redundant in certain instances. The author has concluded with recommendations for future areas of research that the author believes can be carried out to contribute further to this body of knowledge.

Dedication

I would like to thank my family who has supported me on every step of my MBA journey. Particularly my parents, who continue to provide me with incredible support and encouragement every day. I am incredibly grateful for everything you have done and continue to do for me. This is for you.

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I would like to thank my classmates, who have played such an important role in how much I enjoyed this course. In particular, the "A-team" who I have enjoyed collaborating with and learning from over past the two years.

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List of abbreviations:

API	Application Programming interface
GDPR	General Data Protection Regulation
TTP	Trusted Third Parties
FCA	Financial Conduct Authority

Table of contents

Chapter 1 - Introduction

In developing the research question, the author has examined a wide range of literature, initially to understand the contemporary current state of the mortgage lending process as well as understanding how the customer experience can be impacted by technology from the perspective of mortgage lenders. The mortgage lending process encompasses origination, screening, approval, loan offer, and completion.

According to Wyman (2016), the Mortgage application process is innovating, and underwriting has become increasingly automated via data-rich rules engines and electronic closing, however with customers demanding that technology in the mortgage industry looks a lot more like the rest of the world (Leonard, 2016) the question of how technology can be better used to enhance the customer experience has come to the forefront of discussions within the industry. According to Chaudhary et al. (2001), the choice of which technologies to develop and adopt by lenders have influenced by many factors including cost, ability to comply with industry regulations, attitudes of borrowers and industry professionals, and lack of standards among industry participants but the customer experience needs to be more central in the mortgage process. McKinsey and Co. (2019) argue the home mortgage buying process remains the biggest financial transaction consumers undertake yet it continues to be the most frustrating and lengthy financial transaction they'll ever endure which will be acknowledged and discussed later in the study. It is no surprise, therefore, that only 42% to 67% percent of borrowers say they are satisfied with the mortgage process (Mckinsey, 2019). To add to these already existing technology and customer experience challenges, with the impact of COVID-19, the ability to transact digital mortgage services sufficiently has become even more critical (McCall and Mays, 2020)

Whilst lenders claim to be customer-centric, the reality is it has only been recently that lenders have tried to utilize technology that is designed to assist the customers. Lenders in many markets are now seeing the emergence of disruptors who are not bogged down in antiquated systems and who can embrace the latest technology to enhance the customer experience. Together with outsourcing key functions, these alternative options can lead to cost-effective options and a smooth experience for customers. Lending institutions will need to truly embrace a true customer focus if their market share is not to be significantly eroded by the threats emerging in the financial market and getting the customer experience right is central to maintaining that.

This study seeks to understand how technology can impact the customer's experience during the mortgage process from the perspective of mortgage lenders. The research objectives for this study are outlined below.

1. To identify how technology is being used in the mortgage process today to enhance the customer experience.
2. To understand the perspective of mortgage lenders on where the biggest customer experience gaps are during the mortgage process.
3. To identify through qualitative research, the perspective of mortgage lenders on how technology is impacting the mortgage process today and how technology can be better used to enhance the customer experience

The author has chosen Saunder’s research onion as the framework in developing the research methodology which Saunders et al (2016) describes as a tool that describes the different stages of selecting the correct research methodology. Given the nature of the study, the author has chosen a qualitative research approach in the form of semi-structured interviews to enable the author to gain insights, varied opinions, and thoughts into the area of the research itself. Given the nature of the mortgage lending process, the qualitative analysis enabled the author to get a clearer understanding of the process and the challenges than would have been possible through quantitative research.

Overview and structure of the document

Chapter 1 – Introduction

Chapter 1 will introduce the research topic and aims to justify the reasons why the author has chosen this study.

Chapter 2 – Literature Review

Chapter 2 includes a review of the most relevant literature under investigation which is relevant and applicable to the research question.

Chapter 3 – Research Question

Chapter 3 outlines the research questions, the research purpose, the research aims, and the research objectives.

Chapter 4 – Research Design and Methodology

Chapter 4 discusses the methodology and the approach the author has chosen. The author will discuss the approach using Saunder's research onion. Following this, the author will discuss how data was captured and analyzed during the study as well as the research limitations.

Chapter 5 – Findings and Analysis

Chapter 5 considers the findings of the research through the process of coding, analyzing, and interpreting the data obtained through semi-structured interviews. A review and comparison of the themes identified will be discussed in this chapter.

Chapter 6 – Discussion

Chapter 6 considers and reflects on what has been found in the findings and analysis chapter and relates this relates to the literature base which the author will critically examine.

Chapter 7 – Conclusion and future research

In Chapter 7, the author will conclude the study and summarise the key findings. The author will also suggest potential areas for future research in this area.

Chapter 2 – Literature review

The Mortgage lending process today

Mortgage firms have always been grappling with an existential challenge – rising costs. Following the 2008 financial crisis, a tightened regulatory environment inflated both mortgage origination and service costs, hurting profitability. This is further exacerbated by the fact that mortgages have the least digital penetration compared to any other financial product (Shetty, 2021). Fast-forward to 2021 and like many industries, the mortgage market experienced significant upheaval because of the COVID-19 pandemic.

The challenges in the mortgage lending process

For consumers, the process of obtaining a mortgage is one of the most challenging rites of passage. Consumers are undereducated about the mortgage process and are faced with a heap of jargon that leaves them confused, frustrated, and anxious (Infosys, 2019). It is the expectation of today's borrowers, who are now accustomed to the anytime-anywhere digital experience, that this will be replicated in their mortgage journey also (Infosys, 2020) but despite these borrower expectations, the reality is different, and the mortgage lending process remains at a crossroads. Business as usual no longer cuts it for the lending industry. Today's digital disruption and consumerism require a basic shift beyond the mortgage process front end. Repurposing the back office for front-line value is now critical for lenders to remain relevant and profitable (Accenture, 2021). Many of the issues that stem from outdated processes are consistent with the nature of the mortgage process itself which has many elements which stem from the borrower (who seeks a loan) to the originator (who may be a broker who matches up borrowers and lenders), to the lender (who at least initially funds a loan), to the institutions who underwrite mortgage themselves (Green, 2013). These are all multiple parties and touchpoints involved throughout the mortgage process which adds to its complexity and inefficiencies.

After a long dry spell where lenders, servicers, and end-customers were unwilling to try new ideas, it appears that a corner has been turned and innovation is becoming a new trend in the mortgage market (Mathis, 2017). As a highly regulated environment that has become increasingly challenging for lenders coupled with low-interest rates, projected decreases in volume, and rapidly evolving client needs, innovation is critical in solving these ongoing challenges. Customer demand for transparency and self-service, plus the need for compliance management, means lenders need to reinvent the customer experience (Tompkins, 2016), and whilst the mortgage process hasn't fundamentally changed in decades, Wyman (2016) states highlights those investments are being made in digital capabilities which have become a high priority as lenders seek to create seamless omnichannel experiences for customers in an ever-changing environment (Accenture, 2016). With mortgages being a steady business for lenders for years, innovation and investments were not prioritized. From wowing potential customers with an easy-to-use, interactive, omnichannel experience at origination, to closing the loan through e-signing and e-closing, lenders can re-imagine the way they engage with their customers in a whole new way (Infosys, 2021).

Customer retention in a competitive market

To retain customers, mortgage lenders need to think differently and search for new ways to streamline, automate and simplify processes. According to Accenture (2016) to retain mortgage customers, reimagining the mortgage experience and evolving the approach to consumers by re-defining the interaction model will be of the utmost importance in making significant strives forward. The mortgage industry is experiencing a new wave of innovation never seen before and there is an incredible opportunity for lenders to take advantage of this. Some of the forces that continue to drive technology and process change in the industry include regulations, operational and economic pressures, customer demands (Leonard, 2016) with fast, efficient, and error-free mortgage lending becoming the expectation of today's borrowers. Digital technologies will transform the mortgage loan value chain, and it is vital mortgage providers keep up with this innovation to ensure they stay competitive in the market (Infosys, 2021)

The Emergence of Financial Technology in the Mortgage market

The Financial Services industry structure is becoming more modular, with modern technology making it easier for customers to buy from multiple product providers. This technology is primarily being introduced by financial technology companies known as "FinTech's," who are challenging the current processes and standards across the whole financial services sector.

Broadly, FinTech is an umbrella term for innovative technology-enabled financial services and the business models that accompany those services and relate to businesses who seek to improve the process, delivery, and use of financial services (Raine, Beck, Smits, 2019). FinTech organizations combine innovative business models and technology to enable, enhance and disrupt financial services (Ernst and Young, 2019).

Technological affordances have changed the game. FinTech's have previously grown on their promise to expand access to the financial system by providing services to traditionally unserved or underserved populations. But increasingly, the faster/cheaper/better service models offered by fintech startups and are disrupting the incumbent banking system (Raine, Beck, Smits, 2019) across the board. FinTech lenders are at the forefront of this. Over the past several years, this sector has grown rapidly. According to the

Ernst Young (2019) FinTech report, the global adoption of FinTech services had moved upward from 16% in 2019 to 64% in 2019 and that trend is continuing to grow. The awareness of FinTech is also extremely high. Of 27,000 consumers surveyed, 96% showed awareness of a fintech transfer or payments offering, and three-fourths had used one before (Ernst and Young, 2019).

In the mortgage industry, emerging FinTech's are particularly relevant as they are redefining the ways customers shop for a mortgage, interact with mortgage providers, and apply for loans. The core of the FinTech proposition in mortgages is centered around streamlining processes and lowering costs, characteristics that banks and lenders have been significantly lacking. Understanding how these FinTech’s pose a threat, compete with existing lenders or create an opportunity for existing providers to enhance the customer experience will be important to gauge (Infosys, 2019).

Examples of FinTech’s disrupting the mortgage market

The emergence of several stand-alone FinTech firms as major lenders over the last few years is a strong indicator that fundamental change is underway (Fuster et al, 2018) FinTech disruptors have been challenging the status quo for some time now, with numerous app-only banks presenting challenges to established players in the market.

In the US as an example, Technology-based FinTech lenders increased their market share of U.S. mortgage lending from 2% to 8% from 2010 to 2016 using loan-level data on mortgage applications and originations. FinTech lenders are processing mortgage applications 20% faster than traditional mortgage lenders and providers. When contrasting this from a traditional mortgage lender perspective, the industry average time for loan closing is in the range of 45 to 60 days. Based on the analysis of about 48,000 loans, the average time to close loans for one major firm has been 31 days (about 1 month), with 25% of the loans closing between 37 and 59 days (Brahmaa et al, 2011).

The emergence of FinTech’s in the Mortgage industry creates both a threat but also a significant opportunity. The threat of certain FinTech's offering a direct mortgage service may result in traditional mortgage lenders losing market share. Lenders, however, have an opportunity to embrace these technological advances created by these forward-looking disruptors, and that is where the opportunity lies.

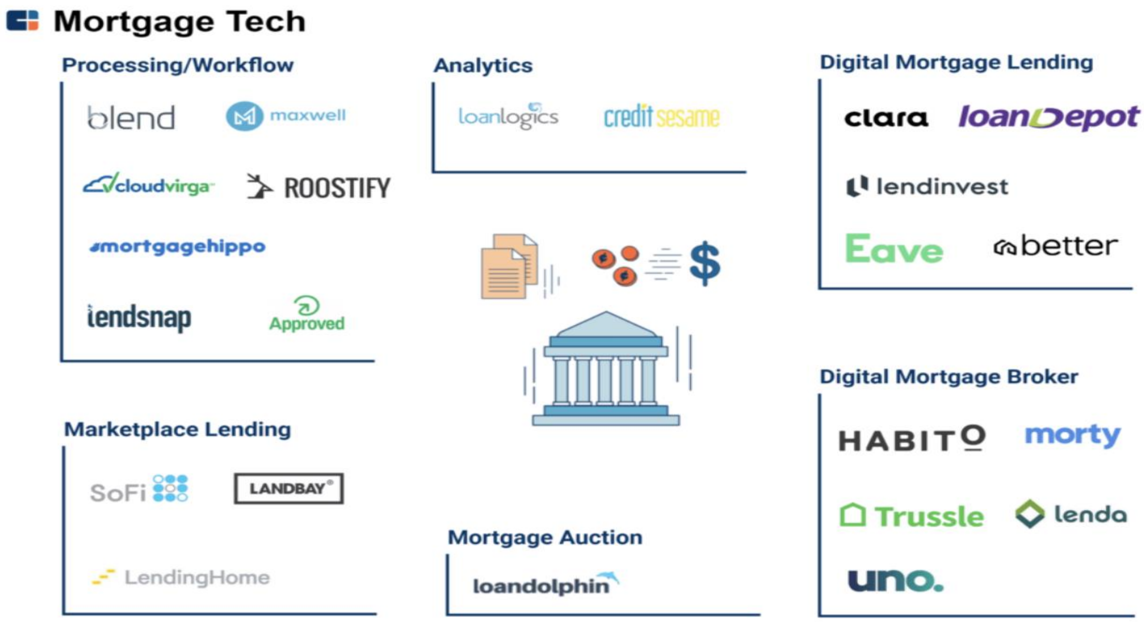

Figure 1: The Mortgage Tech industry is on the rise (CB Insights, 2017)

The graph above outlines several of the prominent technology startups now active across the mortgage industry (CBInsights, 2017).

As the graph above suggests, non-bank lenders are becoming much bigger players in the mortgage market. Whilst the literature suggests traditional lending firms are providing unsatisfactory customer experiences, FinTech lenders, on the other hand, operate on a new business model that keeps the customer at the center of the mortgage lending process. Traditional mortgage lenders may have an opportunity to utilize existing FinTech technology if and where possible to automate or enhance certain aspects of their existing processes and customer journeys. On the other hand, some of these FinTech's may seek to handle the entire mortgage process from end to end which could result in a loss of market share over time for traditional lenders and banks.

The impact of technology on the mortgage lending process

The basis of competition in the mortgage business is clear: Be the low-cost producer of the loan while delighting borrowers with a distinctive and personalized experience. Doing so within a highly cyclical and competitive market calls for delivering a true digital mortgage - the automated kind, of high quality and efficiency (Accenture, 2019). Only by embracing end-to-end digitization, can they transform the customer experience, streamlining the latter’s journey from pre-search to post-close loan servicing (Shetty, 2021).

Customers today expect a simple, quick, efficient, and transparent end-to-end home buying purchase experience. They demand omnichannel tailored services, whenever they want, wherever they are, and however, they interact (Shetty, 2021). The pandemic has permanently changed the way consumers utilize technology, and those looking to buy or refinance a home are seeking lenders who offer online tools to complete their mortgage purchase. The overwhelming majority (99%) of lenders believe that technology can help improve the mortgage application process, citing benefits that include simplifying the entire process (74%), reducing time to close (70%), and minimizing data entry (67%) according to Richardson (2021).

The introduction of online application facilities

A cutting-edge virtual experience helps to break down fear by simplifying what can be a very daunting process. A mortgage, after all, is the largest financial transaction most people undertake (McCall and Mays, 2020) and as circumstances and customer expectations continue to change, digital and accessible mortgage processes are quickly becoming a must-have.

To improve these interactions with clients and to remain competitive in the market, lenders are beginning to invest increasingly in modern technologies such as mortgage online application systems which handle the end-to-end mortgage process on a single platform. The advancements made with this technology have also had a significant impact on the length of time a mortgage application can take and/or be approved in principle. As a result of these advancements, lenders can receive a decision in principles in seconds, with the case automatically populating the full mortgage application if the response is positive which gives lenders back time to focus on other, essential areas of the business, such as the time needed to managing client needs and demands. In the US for example, with the launch of Rocket Mortgages in 2015, Quicken Loans shook the traditional home loan application process by offering customers a mortgage application that can be completed in under 10 minutes (Infosys, 2019).

Mortgage providers who are offering customers new ways of engaging with them through new channels are staying ahead of the game. Maklan et al (2017) argue that the customer experience starts from the time the customer becomes aware of the firm, through all the encounters across all its channels and post-purchase, so lenders need to be able to cater across these different stages and touchpoints. It has also been apparent that providers who are providing customers with multiple options of how to submit applications are benefiting by creating better customer experiences with more choice and control available to customers. In a recent survey conducted, customer respondents who were offered online and/or mobile options by their lenders took advantage of those tools during the mortgage loan process. The results showed that 61% of borrowers used an online application in 2020, slightly up from 58% in 2019. 61%

also used an online portal for electronically signing and notarizing documents, compared to 56% in 2018 (Richardson, 2021).

The role of APIs in the mortgage lending process

Traditional business models across industries are changing. More than ever, customers want to work with a business that enables better customer experiences in a connected digital world. In the mortgage industry, APIs enable lenders to create these experiences by connecting data, services, products, and companies across different systems at high speeds, without user support (Accenture, 2019). Technology has begun to play a pivotal role in the mortgage process through developments such as two-way open application programming interfaces (APIs) which are enabling advice firms to speed up and simplify the mortgage application process, which is also promising great benefits to their clients (Atkinson, C, 2020). One way APIs work is by enabling the seamless flow of information between the system of brokers and that of lenders, or multiple lenders, through a plug-like connection. This would allow lenders to verify customers' identities much more quickly than is possible using many current processes, and to make faster and better-informed credit and affordability decisions. Swift and secure access to verifiably accurate data would also reduce fraud risks significantly (Mortgage's finance gazette, 2020).

The impact of open banking and its significance

Open Banking is a broad term that describes the opening of data at banks and financial institutions for trusted third parties or outside developers (Keane, 2019). Open banking is gradually revolutionizing the lending landscape, as lenders begin to offer more personalized services to customers through instant access to financial data (FW21, 2021). As a relatively new phenomenon within financial services, Open banking could have a profound impact on the mortgage sector as the use of these services would accelerate application and onboarding processes dramatically which would give lenders the ability to gather and analyze large volumes of accurate, valuable customer data to inform business decisions (Open Banking, 2021).

While FinTech's have been working hard to resolve pain points in the mortgage journey – from product selection to application and drawdown – it is Open Banking that holds the key for real change in the market. It opens access to more granular customer data, which will improve decision-making and allow for more bespoke lending simultaneously. Niche lending activities such as buy-to-let for corporates or lending to houses in multiple occupations could become mainstream. It also clears the way for more automation: for example, when customer financial information, data, and automated house valuation can all be accessed and analyzed online, machines can make more reliable, granular underwriting decisions (KPMG: A changing landscape, 2020).

Open banking services would enable the instant, real-time and secure transfer of bank account holders' transaction data to regulated lenders, including in some cases income and expenses data linked to bank accounts held in other countries which could impact a lender's ability to better manage and automate existing processes. This would allow lenders to verify customers' identities much more quickly than is possible using many current processes, and to make faster and better-informed credit and affordability decisions. However, critical to the success of open banking within the mortgage sector is heavily reliant on collaboration and the working together of regulators and lenders, who must create better education around the topic and the benefits of such. This collaboration will build momentum that could transform this sector during the next few years, by increasing efficiency, transparency, and security.

The importance of the customer experience

The term "customer experience" can be loosely interpreted at times. Most companies and businesses strive to create and deliver exceptional customer experiences but many fail to do so. According to PwC (2018), if you give customers a great experience, they'll buy more, be more loyal and share their experience with friends. In the mortgage industry, implementing a customer experience is simply too important to ignore. In a recent McKinsey report, one of the most interesting findings was that most mortgage customers reported that receiving an "exceptional customer experience" was almost as important to them as getting the "best rate" from their mortgage provider (McKinsey, 2019) which indicated that in an increasingly competitive market, getting the customer experience right can create a sizeable difference. Cognizant (2018) believes that competing on only products and services is no longer sufficient; customers will pay more for a better experience and in the mortgage industry, digitization is crucial to that experience. According to PwC (2021), the key fundamentals to providing a great customer experience are speed, convenience, consistency, friendliness, and one big connector: human touch. Advancing technology has made operations within the mortgage process more effective and efficient and has inadvertently shined on this area. Mortgage providers need to relook at existing processes to ensure they can meet changing customer demands. Leveraging and implementing the right technology is central to this.

How digital tools are enhancing the customer experience in the mortgage process

KMPG (2020) defines a digital mortgage as "a holistic experience for the borrower, starting with targeted marketing and lead generation to the initial application to processing to underwriting to closing and beyond with post-close audits and marketing". New digital tools—along with customers' growing comfort using them, make these priorities more achievable than ever. It helps, for example, that about 60 percent of customers say that they are comfortable with a completely online application and that another roughly 30 percent are comfortable with online applications with some combination of phone and/or in-person support (McKinsey and company, 2019).

A changing landscape in COVID-19

The pandemic of 2020 further accelerated this changing landscape by pushing the mortgage industry into a new era of technology born simply from necessity. The idea of smart, integrated user interface systems had been simmering in the background for a while, but work-from-home mandates brought these capabilities to the forefront for many mortgage professionals (Leung, A, 2021) According to McCall and Mays (2020), The COVID-19 pandemic has turbo-charged the need to embrace digital mortgage technology, and customers aren't just along for the ride, their attitudes toward technology use are evolving, too.

The opportunity to improve the customer experience

With the proper use of technology, a "wow" experience for consumers does not have to be incompatible with reduced costs, accelerated processing, and improved compliance. (KPMG: A changing landscape, 2020). Leading organizations stand apart from the rest by the extent to which their customer experience efforts are integrated and connected. In adopting this approach, silos are broken across channels and internal functions (KPMG, 2018) although, in the mortgage process, a way of managing this across the life cycle of the customer journey has not yet been defined. Customers expect an experience that is simply 'frictionless' throughout their journey and customers demand quicker responses and faster turnaround times (Brahmaa et al, 2011) but the reality is that today, mortgages are complex products, and customers must navigate multiple disjoint systems and touchpoints throughout their customer journey. Whilst Some processes remain offline, others are channeled through dispersed systems. There is an incredible opportunity to use technology to improve the customer experience with technology being at the forefront of this, but lenders need to understand how and where the customer experience needs to be improved. As the mortgage process is so fundamental to firms, any improvement in handling this process to enhance the customer experience represents a remarkable opportunity to differentiate from the competition (Brahmaa et al, 2011)

Responding to ever-changing customer demands

In a fast-paced, changing, and unpredictable environment, customer demands are ever-changing, and the customer still wants to control their experience by focusing on value and a tailored approach through the channel that best satisfies their needs (Accenture, 2016). Clients increasingly demand a mobile-centric, omnichannel mortgage experience, and even institutions with a high-touch relationship-based approach are finding they need to provide relationship managers with better tools and technology while also offering customers more choices in how they interact with lenders (Wyman, 2016). There is an increasing pressure on lenders to be able to respond to these ever-changing customer needs in a way that is not only meeting but exceeding these expectations. The global pandemic has changed and reshaped these demands. New experiences need to offer significant incremental value for a change to become permanent – and poor experiences can result in a rapid reversal to past behavior (Swiss Institute, 2020).

Conclusion

With multiple stakeholders throughout the mortgage process and with a lack of real-time information sharing, processes are still working in silos throughout the customer journey which is resulting in low satisfaction and poor customer experiences. Wyman (2016) argues that with the appropriate use of technology, a satisfying experience for consumers doesn’t have to be incompatible with reduced costs, accelerated processing, and improved compliance.

Leonard (2016) suggests that the time is now for the merging of mortgage-related technology, data, and analytics to deliver the advantages lenders need to exceed customers' expectations, although as the literature suggests, customers are not satisfied today, and change is needed. However, with the increased use of technology, there is the potential to accelerate several processes, which will reduce the overall mortgage application time.

Mortgage providers need to understand how this technology translates back to the customer experience and why this is a critical area to address within the lending process itself. It is an ideal time for mortgage institutions to create a distinctive way of interacting with their customers, differentiating themselves from their competitors, while also making their internal operations more efficient and adaptable to changing market conditions and regulations (Wyman, 2016). The winners in the current environment will be the ones that leverage technology to work both sides of the equation, both with the consumer-facing and with internal operations—to differentiate from competitors

Chapter 3 - Research question

Research question:

How does technology impact the customer experience during the mortgage process from the perspective of mortgage lenders?

Research Purpose

The research seeks to understand and explore how technology can impact the customer experience during the mortgage process from the perspective of mortgage lenders.

Research Aims

This explorative research is seeking to understand how technology can impact the customer's experience during the mortgage process from the perspective of mortgage lenders. Semi-structured interviews will be conducted during the research and compared with the existing literature in this area specifically.

Research Objectives

- To identify how technology is being used in the mortgage process today to enhance the customer experience.
- To understand the perspective of mortgage lenders on where the biggest customer experience gaps are during the mortgage process.
- To identify through qualitative research, the perspective of mortgage lenders on how technology is impacting the mortgage process today and how technology can be better used to enhance the customer experience.

Chapter 4 – Research Design and Methodology

Introduction to the Research Methodology

This chapter will outline the methodology which has been selected to carry out the research which aligns with the researcher's aims and objectives whilst aligning the research question with a specific research philosophy that is most suitable. Wilson (2014) stated that research is a set of actions performed to gather, record, and translate useful data. The reason individuals embark on a research journey is to increase their knowledge and their understanding of a given subject (Saunders, Lewis, Thornhill, 2015). However, during the design and the development of the research process, it is paramount to recognize the philosophical differences and inconsistencies that may exist (Saunders, Lewis, Thornhill, 2015)

Saunder's research onion

In developing the research methodology, the "research onion" framework of Saunders et al (2016) was used. Saunders et al (2016) describe the research onion as a tool that describes the different stages of selecting the correct research methodology. The research onion has six different layers which the researcher should peel away until the center of the onion is reached, which is the actual collection of data in the research. The research onion also illustrates the various approaches to research, creating awareness and acknowledgment of assumptions. Saunders et al (2012) claim that these assumptions will underpin your research strategy and the method you choose as part of that strategy. The usefulness of this tool lies in its adaptability for almost any type of research methodology and can be used in a variety of contexts (Bryman, 2012).

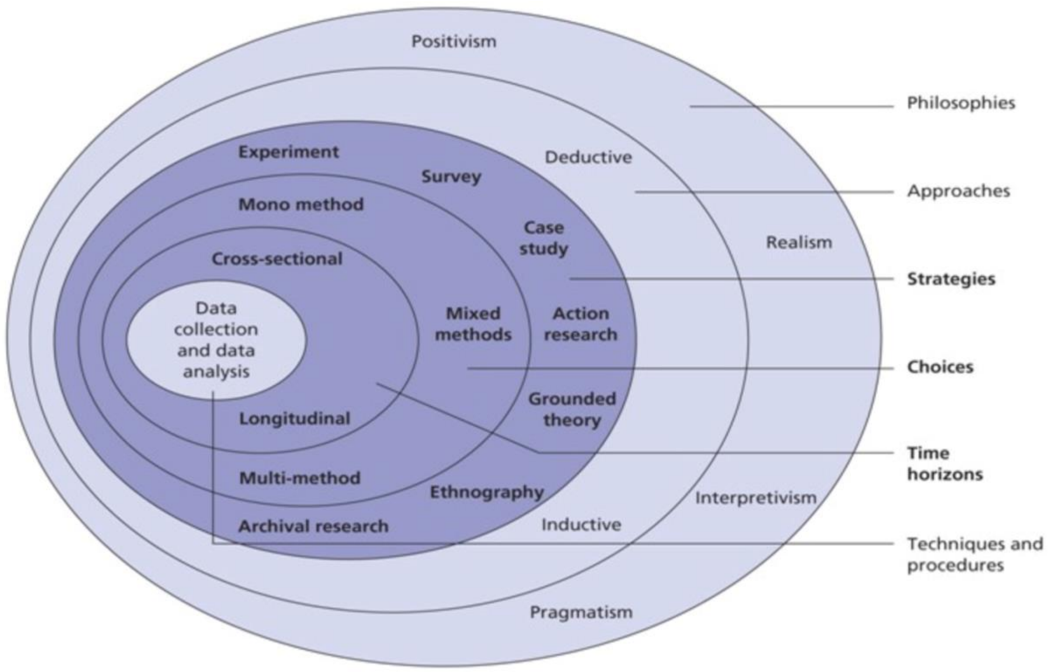

Figure 2: The Research Onion (Saunder, Lewis & Thornhill, 2019)

Research Philosophy

According to Bryman (2012), a research philosophy is the assumed knowledge and beliefs concerning the nature of the topic and phenomena being investigated. Saunders *et al* (2019) assumes that research philosophy refers to the development of knowledge for a specific domain as well as being the umbrella term for knowledge development and the nature of that knowledge in the context of research (Saunders *et al*, 2019). An effective research project requires an appropriate research philosophy and methodology that is well suited to both the theoretical foundations of its subject area, but also aligned to the proposed outcomes and viable methods of collecting and analyzing data as part of the research (Saunders *et al*, 2019).

Oxtoxoloy, epistemology, and axiology allow us to understand and appreciate the research in a mature way by addressing the unspoken and sometimes invisible assumptions that are underpinned by the research and theory conducted. Saunders *et al* (2019) argue that you need to be aware of the depth of difference and disagreements between these distinct philosophies. **Ontology** can be explained as the 'meaning' or 'purpose' of reality which shapes the way in which you see and see and study your research objectives (Saunders *et al*, 2019). Questions related to ontology philosophy include "What exists? What is true and how can we sort existing things? (Gill and Johnson, 2010). Under the ontological umbrellas, there are three philosophical positions: *objectivism*, *constructivism,* and *pragmatism*.

Saunders et al (2009) state that Objectivism incorporates the assumptions of the natural sciences, arguing that the social reality that we research is external to us and others. Constructivism claims that the knower makes the world and focuses on how ideas are created by human interactions and decisions. Pragmatism centers on the approach that there is no single way to learning but instead multiple ways of understanding different realities. Pragmatism links together theories and practices and together.

Epistemology is the philosophy of knowledge or how we come to know the reality (Gortner, 1993) and is used to describe how we come to know something; how we know the truth or reality (Kivunja, 2017). The researcher rejected this approach due to the nature of the research question itself. The nature of this research lends itself to understanding the subjective opinions and perspectives of the participant's responses which aligns with the findings of the literature review in which the literature remains subject to significant debate and further research. Whilst quantitative analysis and areas of the research question can be measured, the research question relies more so on subjective opinions and interpretations to evolve the study further. According to Bryman (2012), *Positivism*, *realism*, and *interpretivism* are the philosophical positions under the epistemology worldview. Positivism prefers quantitative methods such as surveys, structured questionnaires, and statistics as the present accurate, reliable data. Realism questions how reliable scientific knowledge is and believes all theories are subject to continual research to obtain more reliable results. Saunders et al (2019) believe that interpretivism philosophy is focused on the willingness to adopt an empathetic stance in research gathering. Interpretivism tends to use qualitative analysis over quantitative or statistical analysis to obtain subjective views and opinions to yield results.

Axiology centers around the nature of value and answers the question of "what is intrinsically worthwhile" Heron (1996) argues that to demonstrate your axiological skills, one must be able to articulate their values as a basis for making judgments about what research is being conducted and how you go about doing so.

An interpretive approach uses flexible frameworks to allow for subjective, personalized understandings of data or phenomenon (Carson *et al.* 2001) which means observations on the same data from different subjects or sources may differ in perspectives. Interpretivism also emphasizes individual experiences and favors a qualitative approach that aligns with the researcher's approach in investigating a complex area of study with varying perspectives and views on the subject. Therefore, the philosophy deemed most appropriate by the researcher to adopt is Interpretivism.

Research Approach

According to Maylor & Blackmon (2005), the research approach must be aligned and consistent with the proposed research objective or question. For the research approach, the researcher considered both inductive and deductive reasoning. According to Bryman and Bell (2007), choosing between these rationalities are critical to the research process. The deductive and inductive approaches provide a comprehensive approach to analyzing qualitative data. Deduction is regarded as a research approach that involves the testing of a theory or hypothesis by using a research strategy specific to the purpose for which it is being tested (Saunders et al, 2012). Deduction involves the development of a theory that is subject to rigorous testing through a series of propositions (Saunders et al, 2012).

On the other hand, however, Creswell and Plano Clark (2007) define the inductive researcher as someone who works from the "bottom-up, using the participants' views to build broader themes and generate a theory interconnecting the themes".

This research will follow an inductive path which will enable the researcher to form a theory that analyses and observes both the primary and secondary data available and created. Qualitative research can be found to employ inductive thinking since it moves from specific observations about individual occurrences to wider, generalized theories. When applying an inductive research approach, researchers begin with specific observations and then moves towards identifying themes and patterns within the data. The results of the exploration may later lead to general conclusions or theories later (Creswell, 2005).

Research strategies

The third layer of Saunder's research onion is concerned with how a researcher plans to collect the data. The research strategy describes how the researcher intends to carry out the work (Saunders *et al*, 2007) and sets out several approaches to do so. Saunders *et al* (2007) described research strategy as "the general plan of how the researcher will go about answering the research questions" Bryman (2008) defined research strategy as "a general orientation to the conduct of research" Despite the existence of various research strategies, there are significant overlaps among research strategies hence the important consideration would be to select the most advantageous strategy for a particular research study. Saunders *et al* (2019) discuss various forms of research: descriptive, explanatory, and exploratory, which all serve a different end purpose.

Descriptive research is used to show how things are related and to represent a circumstance, individual, or event as it occurs naturally (Saunders et al, 2019). The goal of descriptive research is to describe a phenomenon and its characteristics. Explanatory research aims to understand why certain phenomena work in particular ways and is carried out to investigate a research area never studied before. Saunders et al (2019) state that Exploratory research can be especially important within the frameworks of qualitative research design and seeks to investigate a problem that is not entirely defined. An exploratory approach enables the author to ask open-ended questions to achieve insights and perspective from the participant interviews which is required for this study. This form of research was chosen by the author as it allowed for flexibility during the research process and enabled the researcher to adapt during the interview if required.

Research choice

The fourth layer is concerned with qualitative and quantitative methodologies and the type of method which will be used. The primary data collection methods are Qualitative and Quantitative research (Bryman and Bell, 2007). Quantitative research methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or explaining a particular phenomenon (Creswell, 2013). The author considered a quantitative approach; however, the researcher felt that statistical and numerical data would not have provided enough depth required to address the research question in this investigative study (Bryman and Bell, 2011). Qualitative research enables the author to gain insights, varied opinions, and thoughts into the area of the research itself (Saunders *et al,* 2016) who explain how qualitative research allows for explanations and opinions to be evaluated and clarified to better answer the research question. The research objectives outlined seek to better understand how technology can impact the customer experience in the mortgage lending process. The experiences of the consultants, bank managers, and mortgage administrators will be critical in obtaining the insights and answers needed surrounding these objectives. According to Maylor & Blackmon (2005), a research approach must be aligned and appropriate to the identified research objectives, Therefore, the author has chosen a qualitative approach for this project because the in-depth analysis of the views and opinions which the researcher believes is crucial is examining this is of research further.

The author has chosen a mono-method research approach using qualitative analysis in the form of Semi-Structured Interviews. The time and effort required to carry our semi-structured interviews is considerable (Adams, 2015) and entails analyzing significant volumes of notes and many hours of transcripts which are acknowledged by the researcher. Semi-structured interviews employ a blend of closed- and open-ended questions, often accompanied by follow-up why or how questions. The dialogue can meander around the topics on the agenda—rather than adhering slavishly to verbatim questions as in a standardized survey—and may delve into unforeseen issues (Adams, 2015). The semi-structured interviews allow for varying experiences and interpretations throughout the interview process, allowing respondents to explain their answers allowing their experiences, feelings, and the rich information to flow (Yin, 2009). These, according to the researcher, are reasons for adopting a qualitative methodology of semi-structured interviews.

The process of these interviews is outlined below:

(1) The data collection involved six interviews.

(2) Each participant took part in a 45-minute interview session.

(3) Participants chosen for the study were mortgage consultants/administrators who had a significant understanding of the mortgage process, how technology is impacting the mortgage process today and how technology impacts the customer experience during the mortgage process.

(4) The purpose is to gain participants' perspectives across eight questions related to the research question.

Time horizons

Time horizons are needed for the research design independent of the research methodology used (Saunders *et al*, 2007) define the time frame for the research – cross-sectional or short-term study, involving the collection of data at a specific point of time; longitudinal – a collection of data repeatedly over a long period to compare data (Melnikovas, 2019).

A cross-sectional time horizon is referred to as a 'snapshot' at a point in time, according to Saunders *et al* (2019). Longitudinal times horizons refer to collecting data repeatedly over an extended period which then is used as an important factor in examining change over time (Goddard & Melville, 2004).

With the impact of time constraints, a cross-sectional study was adopted by the author with data collected over an 8-week period. The author acknowledges that a longitudinal approach may have been beneficial by observing data trends over time which may be more suitable for a broader study in this research area.

Data collection and analysis

The final layer of Saunders onion centers around data collection and analysis. The method used at this point of the analysis makes a major contribution to the study's overall reliability and validity (Saunders *et al*, 2007) According to Bryman (2012), the analytical methodology is used to determine how data is collected and analyzed. The two types of data consist of primary data and secondary data. Reliability and Validity are used to measure the quality of research. Reliability is concerned with repeatability and the extent to which it can provide consistent and repeatable results. If a method can be measured consistently under constant conditions, it is said to be reliable. Validity explains how well the collected data covers the actual area of investigation (Ghauri and Gronhaug, 2005)

Qualitative Primary Data

Gathering data from qualitative research requires fieldwork and connecting with individuals who experience real-world scenarios (Yin, 2016) Primary research data was acquired through In-depth interviews with research participants who held the relevant experience and expertise surrounding the research areas. The use of interviews can help the researcher to gather valid and reliable data that are relevant to his/her research and Saunders *et al* (2016) argue that semi-structured interviews are useful where the research is exploratory and where the researcher may need to probe for further information or deviate from the planned questions. This is consistent with the views of Nygaard (2017) who believes the use of semi-structured interviews allows the researcher to obtain valuable insights through the exploration of interviews.

Qualitative researchers must demonstrate that data analysis has been conducted in a precise, consistent, and exhaustive manner through recording, systematizing, and disclosing the methods of analysis (Nowell *et al*, 2017) To do so, a thematic analysis approach was used to analyze the data obtained from the interviews which enabled the author to identify key themes from the data collection. Thematic analysis is a method for identifying, analyzing, organizing, describing, and reporting themes found within a data set (Braun and Clarke, 2006) and was selected as it provided the researcher flexibility in their approach.

The six steps outlined by Braun and Clarke (2006) were followed by the author as a concise method and approach to analyzing the data.

Phase	Description of the process
1. Familiarising with data	Transcribing, reading and re-reading the data, nothing down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Gathering data and collating codes into potential themes.
4. Reviewing themes	Checking the themes in relation to the coded extracts and the entire data set, generating a thematic 'map' of the analysis.
5. Defining and naming Themes	Ongoing analysis to refine each theme and generate clear definitions and names for each theme.
6. Producing the report	Selection of vivid, compelling text extracts relating to the analysis to the research question and literature, producing a scholarly report.

Figure 3. Phases of thematic analysis Braun and Clarke (2006) p. 35

During the first step, the researcher got familiar with the data during the transcribing phase and by re-reading the handwritten notes captured during the interviews. All Interviews were transcribed using Otter.AI, a cloud-based technology that develops speech-to-text transcription and translation, and this was further analyzed within 24 hours post-interview. During the second step, the researcher began coding to identify interesting and insightful features within the data. An advantage of thematic analysis is that its approach is relatively flexible which provided the researcher with flexibility in interpreting the data obtained (Braun and Clarke, 2006). The author agrees that it is necessary to read the complete set of data, before coding, to obtain an overall understanding (Javadi and Zarea, 2016) of the findings to produce the most significant themes. The third stage of this thematic analysis was to start identifying themes that were identified through the transcripts. The fourth step was to review and develop the preliminary themes identified in step 3 by gathering the data that was relevant and applicable to each theme. The author read the data associated with each theme to consider whether the data supported this and whether these themes were supported by the literature. The themes and sub-themes were refined during the fifth stage and the researcher ensured the themes were relevant and aligned to the research topic. The final stage of the thematic analysis is extracting these themes and incorporating them into the dissertation.

Limitations in thematic analysis

It is important to recognize that the flexibility this thematic analysis provides can also prove to be a limitation as it can lead to inconsistency and a lack of coherence when developing themes derived from the research data (Holloway and Todres, 2003). Thematic Analysis makes developing specific guidelines for higher-phase analysis difficult and can be potentially paralyzing to the researcher trying to decide what aspects of their data to focus on (Braun and Clarke, 2006).

Secondary data

According to Saunders *et al* (2007), the secondary data consists of both quantitative and qualitative data. It contains both raw data and published data and should be conducted subjectively and with caution (Bryman and Bell, 2007). Secondary data helps us structure ideas, develop new concepts, widen new directions to data, sketch populations, and organize an appropriate approach to the research itself (Bryman and Bell, 2007). It is important to view secondary data with the same caution that we view the primary data (Saunders *et al*, 2007). The author took this approach through a careful and critical review of the existing literature in this research area. The literature was gathered through a variety of sources found in the college library which included ESBCO, O'Reilly learning, Sage Research Methods, Science direct, and others. The author also used articles obtained through the Harvard business publishing collection which is accessible through the NCI library.

Pilot study

According to Creswell (2007), a pilot study is critical to the research and should be undertaken before the interviews commence. This approach was adopted by the researcher before conducting the actual interviews which would be used to gather the data. The pilot study enabled the researcher to ensure the interview questions were relevant and to avoid duplications. The pilot study was conducted with an individual who is working at a mortgage brokerage. The pilot interview lasted 28 minutes. Initially, the researcher wanted to schedule 30-minute interviews, however, given the tight timeline established in the pilot interview, 45 minutes interviews were subsequently scheduled for the follow-up interviews. The author also piloted the use of Otter.AI which was successful and gave the researcher the confidence to use this technology as a transcribing tool for the follow-up interviews. All interview questions were successfully piloted and used in the follow-up interviews which and can be found in appendix A.

Sample selection

The author chose a non-probability sampling method which would allow the researcher to gain rich insights and information from a small number of participants. According to Saunders *et al* (2016), when adopting this approach, there are no rules for sample size as the logical relationship between the sample selection technique and the purpose and focus of your research is what is most important. The author used judgmental sampling which entails the interviewer using their judgment to choose cases that would most usefully lend themselves to answering the research question and fulfilling the research objectives according to Saunders *et al* (2007).

To identify participants for the interviews, the author used their personal and professional network to get potential candidate introductions and a LinkedIn search was conducted using specific criteria to identify potential candidates. Out of the six participants who took part, 2 participants were female, and 4 participants were male. The age ranged between 28 and 62 years of age. Out of the 6 participants, only 2 of these participant's worked in the same company.

Ethical considerations and consent:

Saunders *et al* (2016) describe ethics as the behavioral standards that guide an individual's conduct concerning the rights of participants who could be affected by the research. Following college guidelines, an ethics form was submitted as part of the dissertation proposal and filed with NCI. The Code of Ethical Conduct insists the researcher assesses the full impact to all participants which is critical to the integrity of the research (Bryman and Bell, 2007). The author had sent a consent email before any interviews were conducted with each participant (see Appendix B). All participants were given an overview of the researcher's role and title, the research topic, and an overview of the aims and objectives of the research. Interview questions were also shared which Saunders *e*t al (2019) believe promotes validity and reliability whilst allowing a participant to prepare. All participants agreed and consented to video interviews via Zoom as well as the recording of interviews which would be stored and transcribed via Otter.AI. The researcher made it clear to all participants that any data collected would be anonymized. All data would be stored and used by the author for a short period following the interviews and all data would then be deleted in accordance with the Data Protection Acts and is consistent with Saunders *et al* (2016) recommendation that information provided by participants should only be shared with bodies that have been previously disclosed to them. The researcher also confirmed that the findings would be completely anonymous, meaning the names of all participants who have taken part would not be shared. Participants were also given the option to extract any statements, pass on any questions or end the interview at any time.

Research Limitations

A limited sample size was evident with six interviews taking place. With a limited sample size, the author acknowledges findings may not be fully conclusive with the possibility for bias and subjectivity.

The researcher acknowledges Yin (2016) who claims that even with the inclusion of a single participant, a research study gains value and according to Sandelowski (1996), samples in qualitative research tend to be small to support the depth of case-oriented analysis which is fundamental to this mode of inquiry.

The author scheduled and conducted six video calls via Zoom which all participants agreed and consented to. Ideally, interviews would have been conducted face to face but to COVID-19 constraints, this was not a possibility. Not being able to observe facial expressions or body language in response to certain questions (Bryman and Bell, 2011) can be a disadvantage that the author acknowledges and resonates with.

Chapter 5 – Findings and analysis

Both the primary and secondary data provided a broad insight into the current issues regarding technology in the mortgage process and how this impacts the customer experience. Perhaps not surprisingly, the interviews conducted provided a more practical assessment of the impact and state of technology in today's market. On the other hand, the literature had identified the main broad issues, ranging from open banking to technological disruption to the emergence of FinTech companies. In recent years, digital disruption has been emerging across the financial services industry with many of the traditional lenders moving slowly in the face of the challenges against the status quo. A market that was in the past very difficult to enter can now be accessed very quickly using digital technology. Revolut, for example, has completely disrupted the payments industry by giving customers a superior experience.

Themes

1. Striking a balance between technology and user interaction

2. Customer education as an enabler for the customer experience

3. The role of technology in a highly regulated environment

Theme 1 - Striking a balance between technology and user interaction

Mortgages are complicated. Unlike routine financial services transactions, such as setting up a credit card, organizing a car loan, or opening a current account, mortgages present a unique set of challenges involving many parties, extensive compliance requirements, emotional considerations, and quite often, dealing with unforeseen events during the process. Technology has evolved and continues to evolve to deal with many aspects of the mortgage process, including online applications, digital documentation uploading, automated credit scoring, and back-office processing systems to manage the mortgage life cycle from origination through to completion. However, despite these technological advancements, a recurring theme that appeared is how lenders can optimize the relationship by minimizing the need for human interaction.

Participant 5 comments how ***"the mortgage landscape 10 years ago is not what it is today, it is completely different. More customers and particularly first-time buyers have become more technologically savvy. Yet, in terms of what they want, they want to have a combination of advice, and technology through the channel that suits them best"*** The perfect home buying journey is stress-free, transparent, safe, secure, simple, and tailored to them (Bookallil and Birkby, 2017) and mortgage lenders are beginning to acknowledge that not one customer journey does fit all. Lenders need to be able to offer new engagement channels through which suit the customer best.

According to participant 1, following a survey conducted at a large Irish bank, customers want and need options. ***"About 10% want the full self-serve journey, about 40% want a fully assisted journey, and about 50% want an assisted journey where they want to be able to talk to mortgage specialists and get advice"*** Interestingly, these findings are consistent with findings from the literature which suggests that even though 90% of prospective homebuyers search online as they look for a place to call their own, less than 10% of lenders offer a complete digital mortgage experience from application to closing (Morales and Trinidad, 2019).

As participant 3 highlights ***"we're still not seeing the level of customer take-up for a fully digitized journey"*** which further highlights the fact that lenders need to invest in optimizing the customer experience regardless of what channel the customer interacts through.

According to Participant 4, end-to-end technology is not the solution. "***Trying to digitize the entire process completely is incredibly difficult, but that is not to say digitizing the mortgage journey end to end is impossible, but the system must be flexible"*** which is consistent with the Infosys (2020) findings who comment that implementing an end-to-end mortgage process is complex and can increase risk and liability for lenders.

According to participant 3 **"*Getting the balance right between people and technology is crucial. Digital enhances what is there already, but the relationship is front and center which is why we are trying to become a digital relationship bank. If you take the relationship out of that phrase, a digital bank is a faceless bank"***

Participant 3 believes ***"There will always be at some point in the journey, either at the start or throughout the journey, a point in which somebody is going to need some kind of intervention or request or check-in"***. Participant 4 highlights how ***"a mortgage, is not a standard financial commodity, it should be. But it is not because, over many years, we've made it more complex than it needs to be"***.

In conclusion and from analyzing this data further, the interactions are primarily related to satisfying the information requirements of lenders in terms of the provision of supporting evidence or concerning statutory/regulatory requirements and to a lesser extent, in terms of time, personal advice around the product itself.

Theme 2 - Customer education as an enabler for the customer experience

The second theme which emerged from the discussions was the general lack of knowledge that customers had regarding the whole area of mortgages, from mortgage product options to the mortgage process itself. It became apparent during these discussions that tackling customer education and mortgage preparation was a key area where the customer journey could be improved, particularly through technology.

Participant 2 comments that "***Customers might fill in a form and it looks slick on an interface, but then it just folds up into a pile of paper at the back end. There are still manual processes that lenders need to look after that those customers aren't aware of."***

Participant 3 highlights that: ***"Customers don't understand the full process, nor should they, which means they are unsure about what the process looks like within the actual mortgage application. When customers submit paperwork, there is a misconception that resources are pouring over this application in a branch trying to decide whether they will or won't lend. That is not what happens. There's an assessment process and a back-office process in terms of matching documents to the back-office system and running credit checks which are going into an underwriting queue where somebody is making a decision. Customers don't understand how labor-intensive this process is which leads to frustration"***. Tompkins (2016) believes that it is the responsibility of lenders to provide individuals with the information they want within the right context, and when and how they want it, in a format that is meaningful to them. Interestingly, the concept of customer education is a topic that emerged multiple times during the interview process, but limited literature exists to address this fundamental problem. In making one of the biggest financial decisions of their lives, customers should have basic knowledge in several areas including mortgage interest rates, lender choice, affordability, financial management, employment consideration and to understand why quality documentation is required to support an application. Participant 5 further comments that ***"from a customer's perspective, the thing they need to understand most is what's the status of my application and where is it in the process. Is the bank waiting on me to do something, or am I waiting on the bank to do something? The lack of clarity confuses the customer."*** *This response also resonated with Participant 6 who* highlighted ***"there are hundreds of touchpoints in the mortgage journey, and the customer never really knows which point there are on***. Participant 4 also highlights that ***"Lenders need to be using technology to preempt what a customer's key challenges are likely to be and to get ahead of that.***

According to Bookallil and Birkby (2017), lenders continue to focus investment on the simplification of back-processes and the development of new online customer journeys. In building the relationship with customers, lenders need to educate the customer that successful mortgage applications are based on evidence they are presented to the lenders during the application process. It is important to highlight however that in practice, not every mortgage applicant is highly organized which presents challenges. The mortgage is a serious financial transaction and requires reasonable levels of organization for customers to get the best mortgage deal available and the smoothest journey along the way. It is important to strike the balance between not frightening off potential clients with long lists of requirements and underselling the importance of the provision of information.

Theme 3 – The role of technology in a highly regulated environment

One of the more surprising themes that emerged during the interviews was around the concept of regulation and how it impacts many of the processes which leads to customer dissatisfaction and frustration. The theme of regulation emerged through the interviews, particularly through the questions focused on how disruptors will improve the mortgage journey and customer experience and by investigating the participant's views on the role of data security on the customer's mortgage journey.

According to participant 1 "***Under the current rules and regulations, many improvements to the mortgage process are not possible through barriers which govern much of the financial regulation in this area. So, many of these potential improvements are hindered by what can be done on the legal side"*** is important to recognize that mortgage lenders are regulated by institutions in their respective countries that oversee the banking systems. For example, mortgage lenders in Ireland are regulated by the Central bank, whereas in the UK, mortgage lenders are regulated by the FCA (Financial conduct authority). Understanding the lenders' ability to use and implement technology to enhance the customer experience is subject to existing laws and regulation. For example, in Ireland, the main regulations that impact the mortgage process are GDPR, Central bank regulations, the consumer credit act, macro-prudential rules on maximum mortgage lending, and anti-money laundering regulation. Each one of these rules will have an impact on the customer's journey in some way and need to be recognized as being central to the mortgage process.

Participant 6 comments on the Irish regulatory landscape compared to other jurisdictions are more advanced by highlighting that ***"there is so much heavy regulation in Ireland which the Central bank oversees. The FCA, the UK regulator, was able to implement open banking policies a lot quicker than Ireland and UK banks and customers are starting to enjoy the rewards with smoother processes and an enhanced customer experience. There is a tightly knit regulatory environment, which prevents lenders from actually streamlining a lot of their existing process online, which adds to its complexity."***

Participant 4 validates this by commenting that ***"there are many technological solutions that can improve the customer journey, but whether you can stitch them together and remain compliant, is another thing"*** According to Bookallil and Birkby (2017), business strategies within customer segments need to be based on the interpretation of regulations. It is an ideal time for mortgage institutions to create a distinctive way of interacting with their customers, differentiate themselves from their competitors, while also making their internal operations more efficient and adaptable to changing regulations (Morales and Trinidad, 2019)

Chapter 6 - Discussion

Discussion - Theme 1- Striking a balance between technology and user interaction

Theme one emerged as it was evident that achieving a balance between technology and human interaction in the mortgage process presents a challenge, and a frustrating challenge at that, for customers. As discussed in the findings, the key interactions within this mortgage process relate to satisfying the information requirements of lenders and to a lesser extent, in terms of time, advising clients around product selection.

The real question, therefore, is how we go about achieving this balance. It is accepted that there will be human interaction during this mortgage journey, but ultimately the interaction needs to be minimized whilst at the same time providing a satisfactory customer experience. To truly understand what these interactions are, lenders need to research exactly why it is necessary to engage clients at certain touchpoints along the journey, or why the client wants to engage with the lenders. There will be a plethora of reasons for these touchpoints, but ultimately, the author expects that the reasons will relate to either providing the customers with advice or seeking or clarifying evidence supporting an application.

Touchpoints generally fall into these two categories. As will be discussed further, with proper customer education, the level of evidential requirements leading to queries will be dramatically reduced. It is also important that lenders establish what is the preferred format for customer contact. There are a range of different communication tools available, and lenders need to be able to adopt appropriate communication formats based on customer preferences and security and compliance considerations.

Discussion - Theme 2 - Customer education as an enabler for the customer experience

The second theme to discuss is the concept of customer education. The author has found that there is a direct correlation between positive customer satisfaction and the level of preparatory work completed by the customer and their knowledge of the process. According to participant 3, a ***"quicker, faster, better mortgage"*** is what the end goal is, but to get that point, lenders need to better nurture customers and manage expectations. The questions that pop up on an online mortgage application can feel excessive and intrusive to many customers, who tend to have high levels of discomfort surrendering private financial information. They are protective of their financial privacy and, without a clear understanding of the mortgage process, want to know why they are being asked for every jot of information (McCall and Mays, 2020) During the interview process, participant 1 agreed with this point who commented that information and communication is the biggest frustration for customers by not knowing where they're at and what their next step is. According to McCall and Mays (2020), an intuitive and appealing customer-facing experience is a critical feature of any digital lending platform which will enable bankers and their customers have a clear preference for a streamlined product that makes it easy to register and sign in, showing customers where they are in the process every step of the way, and this is further outlined by McKinsey and Co. (2019) who believe banks need to move beyond their reliance on traditional systems and modernize their online customer portals (e.g., with clear propositions and processes, better user experiences and user interfaces, and digital applications).

Additionally, lenders are starting to better use technology to educate customers along this journey, For example, some lenders are using artificial intelligence (AI), in the form of machine and deep learning, to not just automate tasks, but to help drive insights and make decisions based on data, experience, and interactions, creating more opportunities for process improvement (Scislowicz, C. Newlin, 2019)

In the article “lessons from the Royal Bank of Scotland” Maklan et al (2017) believe that often, discussions about customer experience and management focus overly on issues of technology and technology-enabled systems. The author agrees with this and believes that before a lender designs a technological process to enhance the customer experience, ensuring that the customer understands what is required of them is equally as critical to its overall success. According to McCall and Mays (2020), a well-designed customer experience addresses this challenge through crisp, clear design showing exactly why information is being requested, without overloading the borrower with extraneous detail.

Customers need to understand why knowledge of the mortgage process is important from the outset. This will ensure that the applicant has a better prepared and presented file which will lead to faster processing whilst creating a positive image of the lenders from the client's perspective. Preempting customer challenges by better educating customers will have a direct impact on the customer's experience. In designing a customer education system, it is important to consider the phycology that the customer understands why this is important. Consideration needs to be introduced so lenders understand the ways of getting customers' buy-in into this process. This may include new additions to the customers' journeys such as customer knowledge videos that demonstrate the benefits of the best practices.

In conclusion, early-stage customer nurturing and education should be one of the foundations in building an efficient and modern mortgage process.

Discussion – Theme 3 - The role of technology in a highly regulated environment

One of the more surprising themes that emerged during the interviews was around the concept of regulation and how it impacts many of the processes which leads to customer dissatisfaction and frustration. It is not surprising that the Central Bank is extremely strict regarding adherence to these rules. The question is whether there is scope for using technology to enhance the customer journey whilst still correctly adhering to the various regulations around mortgages.

For example, the Central bank rules require detailed documentary evidence to support all aspects of a customer's financial affairs. As noted above, educating the clients about these requirements will enhance the customer journey. Regarding GDPR, the protection of an applicant's data is at the core of this legislation. Customers are very aware of this legislation and lenders should use their robust data security arrangements as a key element of their product markets, which again enhances customers satisfaction. The consumer credit act revolves around ensuring that customers get the most suitable product which is in the case of mortgages is primarily based on affordability. In terms of customer education, there is no requirement more important than signing up for a mortgage that a customer can reasonably afford. Macroprudential rules are frustrating for clients as they limit what they can borrow to three and a half times their gross income in most circumstances. The reason for introducing these rules was to try and avoid house prices rising too quickly and customers borrowing more than they could reasonably afford.

Knowing the customer and verifying the customer's identity is incredibly important. Technology has now advanced that this whole process can be completed very effectively with digital technology and certainly a standardized approach in this regard from all mortgage providers would enhance customer satisfaction levels and should be perused by the industry. Mortgage lenders are constantly subject to new regulatory frameworks and these frameworks limit how technology can be used to store and manage sensitive customer data. This study does not seek to question certain rules of regulatory requirements; however, the author does acknowledge that these regulatory constraints play a role in preventing the customer experience from being enhanced in certain areas of the journey. In addition to the regulation itself, standardization of the interpretation of these regulations would go a long way in enhancing the customer journey.

Chapter 7 - Conclusion

From a lender's perspective, the advancement of digital technology and the ease of access to information presents a huge challenge to the banking industry. The arrival of digital lenders presents an even greater challenge for those lenders that can fail to adapt and place the customer at the center of their processes. Times have changed dramatically since the 200-dot com bubble, where customers no longer have to walk into banks to satisfy their financial needs. Information technology and the internet now allow customers to compare rates and check whether their existing banks are competitive, allowing them to make decisions based on price and service rather than loyalty alone. The customer's experience now starts long before the planned walk to the bank. Customers engage and discuss experiences on social media, browse websites, compare rates, and generally have less loyalty. Customers want fast service at the best price.
This research focused on how technology can improve the customer journey and the findings suggest that the biggest barriers to satisfaction are speed and a lack of education about the process which could be reasonably controllable in the provision of supporting information before the mortgage journey itself.

Many customers generally have a poor understanding of the reasons for all the information requirements and do not appreciate that a file slows down if the information is not provided, nor do they understand that new information may be requested or generally the importance of being well prepared for the process. Customers will not place the blame on themselves (nor should they) for these shortcomings where expectations have not been managed properly by mortgage lenders. This is another key reason behind the importance of focusing on education to provide a pleasant experience that will dramatically reduce the stress involved in the process with less need for constant communication.

The author was surprised with the finding that a well-presented file with full supporting evidence was the most prominent issue in creating customer satisfaction and speeding up the mortgage process. It was also surprising to observe how little is being done in the area of standardization with lenders having completely different rules when it came to the acceptance of digital signatures. The research also identified a disappointing finding in the legal process which reveals how cumbersome and outdated this process is today and the lack of innovation and digitalization which has taken place in this area specifically. The research looked at this question from a lender's perspective and concentrated the primary research on individuals who have extensive knowledge in this area. While the data collected from the perspective of the lenders was incredibly valuable, the author would be very keen to corroborate these findings with individuals who had been through the mortgage process as customers and who have experienced these challenges.

Potential areas for future research:

This study has highlighted that there is still significant research to be carried out in this field which can contribute further to this body of knowledge.

The research has identified that the customer journey is impacted significantly by the need to have human contact over a whole range of issues. On further investigation, a significant amount of these touchpoints relates to the provision of adequate evidence to support an application and keep customers informed on where they are during the mortgage journey. The author recommends further detailed research using a suitable sample to understand exactly how many of these touchpoints can be satisfied digitally through better education and automation.

The second recommendation for further research in this area is focused on the standardization of documentation and requirements to adhere to current legislation, taking account of the new digital age. The stakeholders in this industry in conjunction with the regulatory authorities should endeavor to have as much standardization as possible to meet various legal requirements. This could be achieved by forming a high-level committee of stakeholders within the industry with the power to make real changes in the mortgage process. The author recommends further detailed research be carried out to understand what the impact of non-standardization is, both for customers and providers. The author also suggests understanding how the implementation of standardization practices would benefit the various partners involved.

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Appendix A: Interview questions:

1. What technological steps have you taken to improve the customer's experience in the origination process?
2. What additional technology do you feel can improve the customer journey?

3. What do you consider to be the benefits of open banking in enhancing the customer experience?
4. How do you think technology can be used better to coordinate the interests of the various parties *i.e. the customer, the solicitor, compliance within the bank, etc*
5. How do you think disruptors will improve the mortgage journey and customer experience? FinTechs such as Revolut, Amazon?
6. What are your views on whether technology may reduce trust traditionally formed through personal relationships?
7. During the mortgage process, what do you see are the biggest frustrations for customers?
8. What are your views on the role of data security in the customer's mortgage journey?

Appendix B: Email Template

Hi [redacted]

Hope you are well and enjoying your summer?

I am in my final year MBA writing my Dissertation titled:

"An exploratory study into the modernisation and updating of the mortgage process using technology and its implication for customers based on the lender's perspective"

The interview questions would be as follows:

- What technological steps have you taken to improve the customer's experience in the origination process?
- What additional technology do you feel can improve the customer journey?
- What do you consider to be the benefits of open banking in enhancing the customer experience?
- How do you think technology can be used better to coordinate the interests of the various parties *i.e. the customer, the solicitor, compliance within the bank etc*
- How do you think disruptors will improve the mortgage journey and customer experience? FinTechs such as Revolut, Amazon ?
- What are your views on whether technology may reduce trust traditionally formed through personal relationships?
- During the mortgage process, what do you see are the biggest frustrations for customers?
- What are your views on the role of data security on the customer's mortgage journey?

As someone who is very knowledgeable in this area, I was wondering if I could 'interview' you for 45 minutes which would prove invaluable in my research. Please note I will not be referencing you within my dissertation. The findings will be completely anonymous also meaning I will not be naming any of the participants who have taken part.

Please note: I will also be recording the interviews which will be stored in a secure cloud location, Otter.AI, a cloud-based technology which develops speech to text transcription and translation and will be used to further analyze the findings within 24 hours post interview. Please note you have the option to extract any statements, pass on any questions or end the interview at any time.

Would you be willing to participate? If you would be kind enough to do so and if you would kindly propose some times that would suit you over the next two weeks, I will schedule some time in your calendar.

Many thanks,

List of tables:

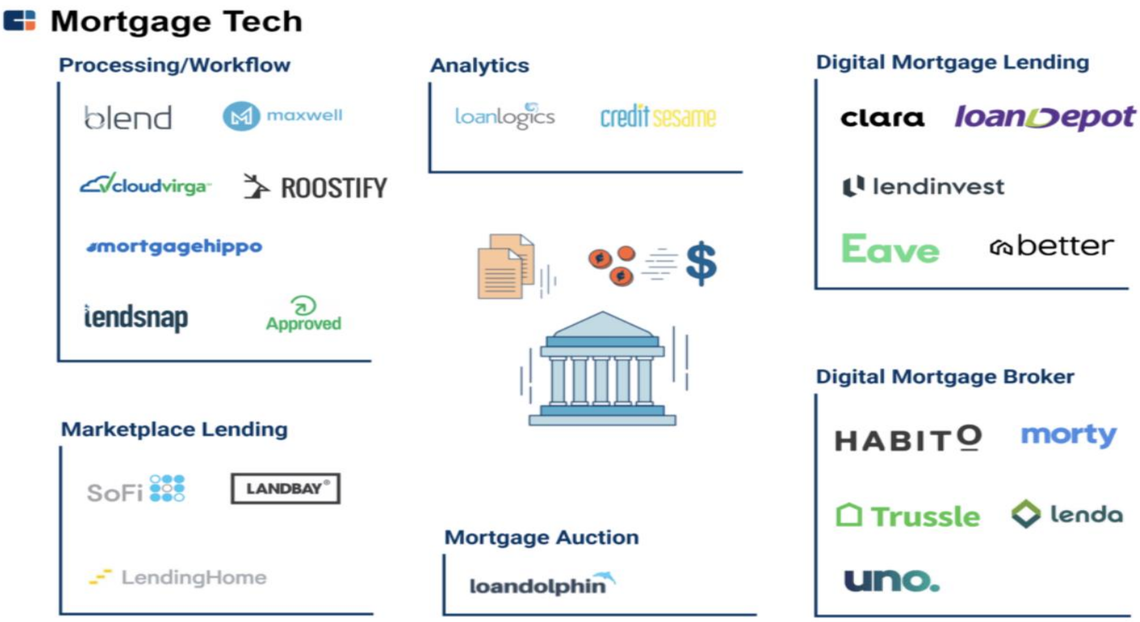

Figure 1: The Mortgage Tech industry is on the rise (CB Insights, 2017)

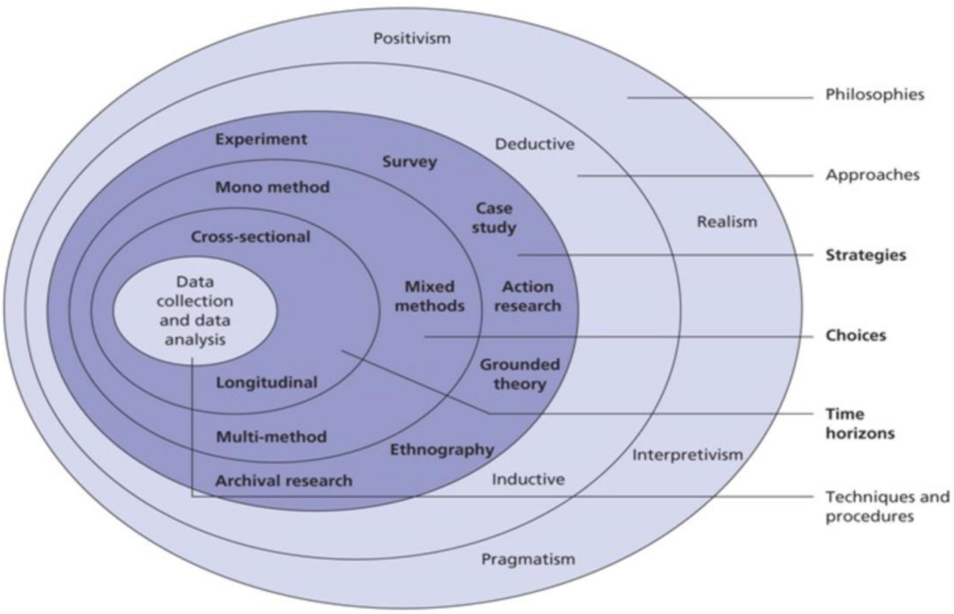

Figure 1: The Research Onion (Saunder, Lewis & Thornhill, 2019)

Phase	Description of the process
1. Familiarising with data	Transcribing, reading and re-reading the data, nothing down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Gathering data and collating codes into potential themes.
4. Reviewing themes	Checking the themes in relation to the coded extracts and the entire data set, generating a thematic 'map' of the analysis.
5. Defining and naming Themes	Ongoing analysis to refine each theme and generate clear definitions and names for each theme.
6. Producing the report	Selection of vivid, compelling text extracts relating to the analysis to the research question and literature, producing a scholarly report.

Figure 3. Phases of thematic analysis Braun and Clarke (2006) p. 35